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RMS/Online — Technical Reference

V11.35

1980 - 2012

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Publication Information

Publication Name:	RMS System Reference Manual
Publication Number:	0013.00a
RMS Release:	11.35
Original Publication Date:	September, 1997
P/N:	RMS012
Revised:	Sunday, November 24, 2013

Table of Contents

Chapter 1

THE REPORT MANAGEMENT SYSTEM

Introduction **25**
Historical Perspective on Report Management Systems 25
High Performance RMS Characteristics 26
Functional Component Capabilities 27
RMS/Online 27
RMS/Spool 27
RMS/DeskTop 29
RMS/DeskTop Makes Reports Useful 29
RMS Architecture 31
What is the repository? 31
What are the limits? 31
What is the Controller? 32
What is stored in the repository? 33
How is the repository managed? 33
How is report data placed in the repository? 33
Subsystem Interface (MVS) 33
External Writer Interface 34
How does the user access the report information? 34
RMS Capabilities 34
Administrative Services 34
Distribution Definition 35
Packaging Capabilities 35
Media Control 35
Report Viewing 36
Report Printing and Reload 36
Archive / Recovery 37
Help Facilities 37
Report Processing Cycle 38
Capture 38
Distribution Definition 39
Index for Base Datasets 39
Archive Retention-based for Base Datasets 39
Distribution 39
Index for Distributed Datasets 40
Archive for Distributed Datasets 40
Viewing / Printing / Recovery / Reload for Distributed and Base Datasets 40

Index Maintenance for Distributed and Base Datasets 40
Archive Demand for BASE Datasets 40
Purge Storage space release 40
Operating Environment 40
Software Requirements 40
Hardware Requirements 41

Chapter 2

REPORT DATA CAPTURE

Quick Start Checklist 43
Placing Reports in the RMS Repository 43
Assigning Meaningful Names to report datasets 43
How Repository Attributes Are Assigned 44
Data Capture Schematic 46
Capturing Report Datasets with the Subsystem Interface 47
Specifying Capture Criteria 47
Selection Attributes 47
Completing Selection Fields 48
Attributes To Be Assigned 48
Capturing JOBLOG Datasets 50
Capturing Report Datasets with the External Writer Interface 50
Method 1 - Routing Individual SYSOUTS 51
Routing SYSOUT to RMS and Assigning Unique Names: 51
in //ddname1 statement: 51
Method 2 - Routing All SYSOUT Data for a Job 51
Routing All Job SYSOUT to RMS 51
in //jobname statement 52
in //ddname statements 52
RMS Controller 52
Overview 52
Task / File Relationship Schematic 54
Specifying Options 55
Starting, Modifying, and Stopping the Controller Task 57
Task Initiation 57
Task Processing Criteria Modification 58
Task Termination 59
SYSOUT Selection 60
Log File Management 60
MVS 60
VSE 60

Chapter 3

IMPLEMENTATION STRATEGY

Overview 61
Administrator Responsibilities 61
  Determining Report Management Requirements 61
  Planning a Managed Report Environment 62
  Report Management Database 62
  System Security 62
  Repository Management 63
Distribution Capabilities 63
  Consolidation of Reports 63
  Copy Variation 63
  Priority Output 63
  Sending Reports 63
  Assignment Of Specific Output Attributes 63
  Data Stream Insertion 63
  Deletion of Unwanted Report Data 64
  Selection of Total/Control Data Pages 64
  Production Of Output Separators 64
  Media Control - Softcopy, Desktop, Hardcopy, etc. 64
Steps in Creating a Distribution Definition 64
    Step 1 - Obtaining the Necessary Information 64
      RM80004 Sample Job Control 64
      Class and/or destination ID serviced by the External Writer 64
    Step 2 - Selecting a Group of Reports 65
      Identifying a Distribution Report Group 65
      First Time Users - Selecting a Benchmark Group 65
    Step 3 - Capturing Selected Sysout Datasets 65
      Report Creation for OS/MVS 65
      Report Creation for VSE 66
    Step 4 - Determining Distribution Requirements 67
      Interview Sessions 68
      Report Ownership 68
      Report Breakdown 68
      Special Handling 68
      Output Media Format 68
      Distribution Hierarchy Definition 68
    Step 5 -Producing Report Maps 69
    Step 6 -Entering the Distribution Instruction Set 69
      Base Dataset Names 69
      Define Distribution Requirements 69
      Maps of the Reports 69
RM80004 Processing Summary 70
RM80004 Processing Flow 70
  Scan Phase 71

        Principle 1. Page Delineation 71
        Principle 2. Determination of Ownership 71
        Principle 3. Ownership Information Location 71
        Principle 4. Report Identification 71
        Principle 5. Page Ownership 71
        Principle 6. Output Sequence Determination 72
    Order Phase 73
    Output Phase 73
Distribution Instruction Sets. 73
    The RMS Distribution Definition Facility 73
    Instruction Set Records - A Functional Description 73
        Distribution Options 74
        Copy Control 74
        Send Report 74
        Translate 74
        Package Control 74
        Dataset Selection 74
        Report Definition 74
            Explicit Definition 74
            Implicit Definition 75
Creating A Distribution Definition 75
    RMS/DD Transactions 75
    Terminology 76
    Step by Step 77
        Access Authorization Panel 78
        Primary Menu Panel 79
        RMS/Distribution Definition Primary Menu Panel 80
        Distribution Options Panel 81
            Media Production Priorities 81
            ORD(er) 81
            Recipient Field - Name/Length/Notes 82
        Distribution Options Panel (continued) 82
            General Options 82
            RMS/Online Options 83
            Process Code Options 84
            Mapping Options 84
        Custom Report Definition Panel 85
            Recognizable Characteristics: 85
            Report Recognition Information 87
            Recipient Field Line Column/Coordinate 88
        Send Report Panel 90
        Dataset Selection Panel 91
            Process Code/Condition 92
        FCB Requirements Summary 93
        Custom Packaging Panel 94

            Output Priority Panel 96
            Recipient/Location Equate Panel 97
            Auto Report Definition Panel 98
            Content/Recipient Conversion Panel 99
            Recipient/Recipient Convert Panel 100
            Automatic Packaging Panel 101
            Data Insertion Panel 103
            Insertion Information 105
    Testing Your Instruction Set 106
            Testing is performed at several levels. 107
    Instruction Set Reorganization 107
            Set Reorganization Panel 108

Chapter 4

REPOSITORY MANAGEMENT

Concepts 109
    Types of Repository datasets 109
    RMS Archive Types 110
        Base Archive Creation / Life Cycle 110
        Packet Archive Creation / Life Cycle 111
        Retention-Based Archive Creation / Life Cycle 112
    FileSet Backup and Restore 112
        RM90007 (Backup) Processing 112
        RM90008 (Restore) Processing 113
        Recommendation 113
            Daily Backup / Restore 113
            Weekly and/or Monthly Backup / Restore 113
    Repository Sharing among Filesets 114
    RM80001 - Base Dataset Management Utility 115
        Guide to Commands 115
        System Facilities 115
            Typical uses: 116
    RM80001 Use 116
        Selecting Datasets 116
        Archive Scheduling 117
    RM80001 Control Statements 117
        Notation Conventions 117
        Control Statement 118
            Types 118
                Option 118
                Select 118
            Order 118
            Syntax 118

Parameters 118
Continuation 119
Command Descriptions 119
INSERT*DATA*STREAM 119
INSERT*DATA*STREAM PARAMETERS 119
Optional Parameters 119
Notes on INSERT*DATA*STREAM 121
OUTPUT*CONTROL 121
OUTPUT*CONTROL Command Summary 121
OUTPUT*CONTROL PARAMETERS 122
Required Parameters 122
Optional Parameters 122
RUN*MODE (ARCHIVE Mode) 123
RUN*MODE Command Summary (ARCHIVE Mode) 124
RUN*MODE PARAMETERS 124
Required Parameters 124
Optional Parameters 124
RUN*MODE (RECOVER Mode) 124
RUN*MODE Command Summary (RECOVER Mode) 124
RUN*MODE PARAMETERS 124
Required Parameters 124
Optional Parameters 124
RUN*MODE (RETRIEVE Mode) 124
RUN*MODE Command Summary (RETRIEVE Mode) 124
RUN*MODE PARAMETERS 125
Required Parameters 125
RUN*OPTIONS 125
RUN*OPTIONS Command Summary 125
RUN*OPTIONS PARAMETERS 125
Required Parameters 125
Optional Parameters 125
Notes on Process Codes: 126
Select 126
select Command Summary 127
Select PARAMETERS 127
Required Parameters 127
Optional Parameters 127
RM80001 Control Statement Examples 129
OS/MVS Command Examples 129
File Create Examples 129
Specific Report Retrieval 129
Specific Report Retrieval Qualified by Destination and Forms 129
Specific Report Dataset Retrieval by Class and Form Identifier; User Exit Output 130
Generic Report Retrieval. Qualified. Print Image Tape Output. 130
“ALL” Generic Retrieval. Print Image Tape Output 130

Obtain an Alphabetical Cross Reference Listing of the Entries in the Repository 130
Report Archive Examples 130
Generic Archive 131
Archive and Purge 131
Specific Archive 132
Report Recovery 132
Specific Report Recovery with Reload to repository. 132
Multiple Report Recovery 133
Additional Command Examples 133
Microfiche File Create Examples 133
Generic Report Retrieval 134
Obtain an Alphabetical Cross Reference Listing of the Entries in the Repository 134
BASE Dataset Archive Examples 134
Generic Archive 134
“ALL” Archive 134
Specific Report Archive 135
Report Recovery 135
Specific Report Recovery 135
Report Recovery Using List Attribute Record 135
Multiple Report Recovery 136
Recreating an Archive Directory List 136

Chapter 5

SYSTEM ADMINISTRATION

Additional Administrative Transactions 137
Administrative Control Dataset Records 137
Access Group Master 137
User Master 137
Location Master 137
Retention Control 137
Administrative Transaction Characteristics 137
Panel Format 137
PF Keys 138
Template Use 138
Multi-panel Transactions 138
Help Facilities 139
Administrative Transactions 139
Access Authorization 139
Primary Menu 139
Administrative Menu 139
Add Transactions 139
Inquire Transactions 140
Change Transactions 140

        Delete Transactions 140
        List Transactions 140
Building A Management Database 140
    Collecting the Required Information 140
    Creating System Control Records 141
        Access Authorization Panel 141
        Primary Menu Panel 142
System Administrative Panels 142
        Administrative Menu Panel 144
        Access Group Master Panel 145
        User Master Panel 146
Security Profile 147
        User Master Panel (continued) 149
Job Statement Information 149
        Location Master Panel 150
        Location Master Panel (continued) 151
        Retention Control Panel 152
        Output Definition Panel 153
        System Customization Panel 157
Output Definition 158
    Output Definition Highlights 159
Adding An Output Definition Record 159
    Verification Report 161
    Output Request 161
    Linking Output Definition Panels 162
WebAccess Document Groups 162
    RMS WebAccess Highlights 163
    Docgroup Definition 163
    Adding a Docgroup Profile Record 164
        Linking DOCGROUP Panels 167

System Administration Case Study 169

    The Requirements 169
        The System 169
        The Reports 169
    Data Entry 169
        Administrative Menu Panel 170
        Access Group Master Panel 171
        Administrative Menu Panel 172
        Location Master Panel 173
        Location Master Panel (continued) 174
        Administrative Menu Panel 175
        Location Master Panel 176
        Location Master Panel (continued) 177
        Location Master Panel 178
        Location Master Panel (continued) 179

Administrative Menu Panel 180
User-1 Master Record 181
User-1 Master Panel (continued) 183
User-2 Master Record 184
User-2 Master Record (continued) 186
User-3 Master Record 187
User-3 Master Panel (continued) 189
Resource Security 189
Resource Security Panel 190
Canceling Reports 198
Retention-Based Archive 199
System Administration Panel 200
Retention Control Panel 201
Retention Control Panel - RMODEL Record 201
Retention Control Panel - Report Record 203
Submitting Jobs from RMS 204
Help Management 205
Help Maintenance Menu 205
Help List Display 205
Help Information for Help 205
Help Format Information 205
PF Key and Option Field Assignments 205
Reserved Word List 206
Help Characters 206
Help Variables 206
Leaflets 207

Chapter 6

SYSTEM SECURITY

Definition of Terms 209
Security Level Definition 209
System Security 209
Access Group Level Security 209
User Level Security 209
Resource Level Security 209
Security Maintenance 210
Access Group Master Panel 211
Security Considerations 211
Security Considerations for User Records 212
Security Considerations 212
Transaction Security Add/Delete/Inquire Panel 213
Transaction Security 213
Location/Report Security Add/Delete/Inquire Panel 214

Transaction Security 214
Security Examples 214
Step 1. 215
Step 2. 216
Step 3. 217
Step 4. 218
Step 5. 219
Step 6. 220
Step 7. 221
Step 8. 222
Step 9. 223
Step 10. 224
Step 11. 225

Chapter 7

DISPLAY PRINT FACILITY

Introduction 227
Access 227
Report Access 227
System Access 227
Communicating Your Report Access Requirements 229
Requesting On-line Report Access 229
Report Title and Originating System 229
Viewing Capabilities 229
How to Use RMS/DPF 230
Panel Management Characteristics 230
Panel Format 230
Selection Characteristics 230
Scrolling Characteristics 230
Program Function Key Utilization 231
System Help Facilities 231
System User Panels 231
Session Example 1. 232
Objective 232
Session Example 2. 232
Objective 232
Session Example 3. 233
Objective 233
Access Authorization Panel 234
Primary Menu Panel 235
Display/Print Menu Panel 236
Index Panel 237
Versions Panel 238

Display Panel 239
Command Description 240
Line Positioning/Scroll Operations 245
Recover / Print Panel 246
RMS Note Pad Facility 246
Note Pad Panel 247
RMS Security for Note pad access 248
Note pad Usage Step by Step 251
Note pad Usage – Reload from Group Archive 265
Task/Panel Cross Reference 276
Using the Display for the First Time User 276
Important Keys 276
System Help Facilities 276
How to get started 276
Primary Menu Panel 277
Display/Print Menu Panel 278
Index Panel 279
Versions Panel 280
Display Panel 281
Report Viewing Features 281
Report Formatting 282
Saving Your Format for Later Use 283
Line Positioning/Scroll Operations 283
Locating Information Within the Report 284
Using the Windowing Features 285
Informational Commands 286
Using the Note Pad Capability 287
Selective And Full Version Printing 287
Printing an Entire Report 288
Recover / Print Panel 289
Printing Selective Pages 289

Chapter 8

PROBLEM DETERMINATION AND RESOLUTION

Common Problems /Solutions 291

Chapter 9

MESSAGES AND CODES

RMS Messages 297
Introduction 297
Explanation of Message Format 297

Messages 298
    RM Codes 298
RMS Abend Codes 415
Call Status Codes 423
        From ESFOPEN/ESFOPNC Interface 423
From ESFCLOS Interface 425
From ESFWRIT Interface 425
From ESFREAD Interface 427
From ESFSTAT/ESFSTAC Interface 428
From ESFPURG/ESFPURC Interface 428
From ESFROUT/ESFROUC Interface 430
From ESFNECT Interface 430
From ESFCOMI Interface 432
Dynamic Allocation Return Codes 433

Chapter 10

TUTORIAL

Report Distribution Tutorial 435
Distribution Problem Definition and Results 435
    Example 435
        Screen 1 - Define the Distribution Options 436
        Screen 2 - Define the “Stock” Report 437
        Screen 3 - Define the “VENACT” Report 438
        Screen 4 - Define the “PROFIT” Report 438
        Screen 5 - Adjust Stock Report Copies for Client 002 439
        Screen 6 - Send Client 001 Profit Report to Client 003 440
        Screen 7 - Define Client 001 Packaging Requirements 441
        Screen 8 - Define Client 002 Packaging Requirements 442
        Screen 9 - Define Client 003 Packaging Requirements 442
Dataset Profile (MVS only) 443
    Specifying Capture Criteria 443
Selection Attributes 444
    Completing Selection Fields 445
Attributes to be Assigned 445
Examples of Sysout/Report Management Coding 447
    Existing Customer 447
Viewing Dataset Profiles 449
Using the Primary Menu 450
        Creating a Packet Containing a Single Report 451
Distribution Options Panel 456
Dataset Selection Panel 459
Custom Report Definition Panel for Sales Activity Report 463
Custom Packaging Panel for Sales Activity Report 469

Chapter 11

INSTALLATION

MVS System Installation/Verification 475

Introduction 475
Release Level Upgrade 475
RMS MVS Installation Checklist 476
  Task 1 477
    Upload install files 477
  Task 2 479
    Installing the System 479
  Task 3 482
    Prepare Repository/Start RMS Subsystem 482
    132 Column Support CICS Table Parms 485
    TSO Environment Preparation 485
  Task 4 486
    System Verification 486
    Initial User ID/Password 488
  Task 5 489
  Task 6 490
    RMS/WebAccess Installation 490

VSE System Installation/Verification 498

Introduction 498
  Late-breaking Installation notes 498
  System Requirements 498
Release Level Upgrade 498
RMS VSE Installation Checklist 500
  Task 1 501
    Download Install Job 501
  Task 2 502
    Installing the System 502
  Task 3 504
    Prepare Report Repository/Start RMS Subsystem. 504
  Task 4 505
    CICS Environment Preparation 505
  Task 5 506
    JCL Preparation 506
  Task 6 509
    Installation Verification 509
    Initial User ID/Password 509
  Task 7 510
    CICS Transaction Gateway and RMS/WebAccess 510

Component Configurations 516

Archive / Distribution Component Configuration 516
    NOTES: 517
Online Component Configuration 517
    Initial User ID/Password 520
Control File Configuration 520
    Directives 520
        fsname - File set name 520
        fencePrimary - Fence the primary subsystem. 520
        ignoreAux - Ignore Auxiliary Subsystems if down (for write operations) 521
        drain - Drain a subsystem 521
        useOrder - Use order of cache array members 521
        maxpercent - Maximum percentage utilization (before NOT being considered) 522
        minfreeBlk - Minimum free blocks (before use) 522
        minfreeFqe - Minimum free file queue elements (before use) 522
        tmessageLevel - Trace message level 522
    RMS Integrity via QXCNTRL 523
    Sample QXCNTRL Definition (INST02) without an array. 523
    Adding an auxiliary subsystem to cache array 524
    Sample QXCNTRL Definition (INST02) with an array. 524
Multiple Filesets 525
        Additional Filesets 525
        Let's Recap 525
        RvvrmCTL Startup: The FSETnn is an entry in QXPARMS DD 527
        Controller startup 527
        Parm Member: RvvrmCTP 527
        Multiple Fileset DDNAMES: Site oriented 528
VSAM Dataset Configuration 529
    VSAM Space Allocation 529
    Description and Suggested Placement of VSAM Datasets 529
        QXACDS 529
        QXRCDS 529
        QXDCDS 529
        QXWKDS 529
        Placement 529
RMS Controller Configuration 530
CICS front end for RMS/Online 532
RMS/WebAccess CICS Security Management 533
    Overview 533
    Dependencies 534
    Sign-On Security 534
    Access Security 534
    ESM Definitions 534
    $RMSVIEW Security Class 535
    $RMSCMD Security Class 535
    Exit Modifications 536

Compile and Link Exit 536
Parameter List: Sign-On Request 536
Returned Messages: Sign-On Request 536
Parameter List: Report Access Request 537
RMS SVC 537
SVC Installation 537
JES Exits 539
JES Exit Installation 539
NOTES: 540

RMS Subsystem Initialization 541

Overview 541
Space Allocations 541
Initialization Parameters 542
Syntax Rules 543
RMS Initialization Parameters 545
Initialization Parameter Description 546
Multi-access Spool (MVS only) 551
Configuration 552
Starting the Multi-access SPOOL Configuration 552
There are three types of warm starts: 552
File Creation and Queuing 553
RMS Initialization Options 553
Starting and Stopping RMS 553
Recovery and Warm Start 554
RMS Operator Commands 554
MVS 554
VSE 554
Commands 555
CHKPT Force Checkpoint 555
DA Display Active 555
DF Display File 555
Disk 555
DS Display Status 555
ESYS Restart/Reset System (MVS only) 556
LSYS List System Status (MVS Only) 556
SHUTDOWN Terminate RMS 556
WRITELOG 556

RMS/WebAccess Application Server Notes 557

Supported Platforms 557
....557
Load Balancing 558

Appendix-A

SYSTEM EXIT PROGRAMS

What is an Exit? 561
Exit Summary 561
General Exit Characteristics 561
The Parameter List 561
RM00 RMS/Online Exits 562
Linking the Exits 563
Security Exit Parameter List 564
Print Characteristics Exit Parameter List 564
RM80000 (External Writer) Exits 564
Input Exit 565
Loading The Input Exit 565
Input Exit Processing 565
Input Exit Data Area Definition 566
SMF Exit 567
SMF Exit Processing 567
SMF Exit Data Area Definition 568
RM80001 (Archive/Recovery) Exits 568
Security Exit 569
Potential Uses 569
Security Exit Processing 569
Output Exit 570
Potential Uses 570
Loading Output Exit 571
Output Exit Processing 571
Output Exit Data Area Definition 571
MVS Accounting Data 572
Additional Output Exit Considerations 572
RM80004 (Distribution Component) Exits 572
Security Exit 572
Potential Uses 572
Security Exit Processing 573
Security Exit Data Area Definition 573
RMS User Exit Parm List 574
RMS/WebAccess CICS Security Management 575
Security Management 575
Overview 575
Dependencies 575
Sign On Security 575
Access Security 575
ESM Definitions 575
$RMSVIEW Security Class 576
$RMSCMD Security Class 576
RMS Interregion Operating Considerations 577
Exit Modifications 577

Compile and Link the Exit 577
Parameter List - Sign On Request 578
Possible Returned Messages from Sign On Request 578
Parameter List - Report Access Request 579
RMS/Online Security Calls 579

Appendix-B

FIELD LEVEL SECURITY

Transactions 581
Access Group Security for DD: 584

Appendix-C

DISTRIBUTION INSTRUCTIONS

Using Keyword Commands 585
MVS 585
VSE 585
Distribution Key Definition and Development 585
Selecting Base Datasets for Distribution 587
Getting Started 587
Control Statements 588
Option Commands 588
Definition Commands 588
Task/Command Cross Reference 589
Command Order 589
Language Considerations 590
Parameter Set 590
Command Continuation 590
Reserved Words 591
Field Comparison/Replacement 591
Process Control Commands 591
Notation Conventions 591
Distribution Definition With Keywords Tutorial 592
Begin Coding 592
Understanding Each Command 592
Identifying the Report 593
Controlling the Output 594
Creating the Packet to Contain the Report 594
Selecting the Dataset 595
Some New Requirements 595
The new code / new concepts. 596
Sending Additional Copies 597

The current code is shown below: 600
The new code with new requirements shown in bold type: 600
Other Considerations 602
Inserting Data 603
Distribution Instruction Sets Examples 604
Keyword Command Summary 609
DEFINE*KEY 609
DEFINE*KEY Command Summary 609
DEFINE*KEY PARAMETERS 609
RECOVER 610
RECOVER Command Summary 610
RECOVER PARAMETERS 610
RUN*OPTIONS 611
RUN*OPTIONS Command Summary 611
RUN*OPTIONS PARAMETERS 611
Input Process Commands 614
BROADCAST 614
BROADCAST Command Summary 615
BROADCAST PARAMETERS 615
COPY 616
COPY PARAMETERS 616
FORM*CONTROL*BUFFER 617
FORM*CONTROL*BUFFER Command Summary 617
FORM*CONTROL*BUFFER PARAMETERS 618
NOTES on FORM*CONTROL*BUFFER: 618
IDENTIFY*REPORT 618
IDENTIFY*REPORT Command Summary 618
IDENTIFY*REPORT PARAMETERS 618
Optional Parameters 620
SELECT 623
SELECT Command Summary 623
SELECT PARAMETERS 623
Optional Parameters 623
Notes on PROCESS*CODE: 624
TRANSLATE 625
TRANSLATE Command Summary 625
TRANSLATE PARAMETERS 626
Optional Parameters 626
OUTPUT PROCESS COMMANDS 627
INSERT*DATA*STREAM 627
INSERT*DATA*STREAM PARAMETERS 627
OUTPUT*CONTROL 630
OUTPUT*CONTROL Command Summary 630
OUTPUT*CONTROL PARAMETERS 630
PRIORITY 632

RO_Reference_Guide(v11r35m1)TOC.fm: Revised Sunday, November 24, 2013

PRIORITY Command Summary 633
PRIORITY PARAMETERS 633
CREATE*PACKET 633
CREATE*PACKET Command Summary 633
CREATE*PACKET PARAMETERS 634

Appendix-D

RESOURCE SECURITY CATEGORIES, TYPES AND CODES

Transaction Security 637
Resource Types with Associated Resource ID's 637
Resource Type HM - Help Management 638
Resource Type SA - System Administration 638
Resource Type RS - Resource Security 639
Resource Type DD - Distribution Definition 640
Administrative Documents 642
Access Group Master 642
Security Profile 643
User Master 643

Appendix-E

LEAFLET

Prototype 645
Leaflet Variable Symbol 646

Appendix-F

JCL VARIABLE SYMBOLS

Variable for PRT.JOB.PRINT Substitution 649
Cancel Job Stream Variable Symbols 650

Appendix-G

RMS/BASIC

File and Job Control Requirements 651
RM80001 File/Job Control Requirements 651
File Requirements 651
RMS Repository Files 651
RMS SYSIN File 651
RMS SYSOUT File 651

Utility Input/Output Files 651
RM80004 File/Job Control Requirements 652
File Requirements 652
RMS Repository Files 652
RMS SYSIN File 652
Calculating Disk Work Space Requirements 653

Appendix-H

CONVERSION FROM POSITIONAL COMMANDS

Overview 655
Conversions 655

Appendix-I

REPORTS

System Reports 659
RMS/Online Reports 659
RMS/Online Reports on File by Location 659
RMS001 659
RMS/Online Reports on File by Report 660
RMS002 660
RMS/Online System Administration Archive Datasets 660
RMS003 660
RMS/Online Distribution Definition Reports within Instruction Set by Report 660
RMS004 660
RMS/Online Distribution Definition Reports within Instruction Set by Instruction Set 660
RMS005 660
RMS/Online Distribution Definition Datasets Processed by Instruction Set 661
RMS006 661
RMS/Online System Administration User List 661
RMS007 661
RMS/Online System Administration Locations 661
RMS008 661
RMS/Online System Administration Access Groups 661
RMS009 661
RMS/Online System Administration Security Groups (Transactions) 661
RMS010 661
RMS/Online System Administration Security Groups (Locations) 661
RMS011 661
RMS/Online Send Report by Report ID 662
RMS012 662
RMS/Online Reports on File by Location 662
RMS013 662

RMS/Basic Statistical Reports 662
RMS200 662

Appendix-J

RMS UTILITIES

RM90044, RM90046 and Weekly VSAM File Maintenance 663
Overview 663
PRINT PUNCH (Program RM90044) 663
DEFPRPU JCL MEMBER 663
DEFPRPU JCL MEMBER 664
FROM: 665
TO: 665
COPYISN (Program RM90046) 666
Sample of COPYISN executed from a proclib: 667
WEEKLY VSAM FILE MAINTENANCE (MAINT01) 667
MAINT01 668
IDCAMS: DELETE/DEFINE 668

Glossary

REPORT MANAGEMENT

Terminology 669
Archiving 669
Automatic Packaging Panel 669
Auto Report Definition Panel 669
Base Dataset 669
Broadcast 669
Broadcasting 669
Checkpoint Dataset 670
Common Definitions 670
Content/Recipient Conversion Panel 670
Copy Control Panel 670
CREATE*PACKET 670
Custom Packaging Panel 670
Custom Report Definition Panel 670
Data Insertion Panel 670
Dataset Selection Panel 671
Define*Key 671
Distribution Endpoint 671
Distribution Key 671
Distribution Key Element 671
Distribution Options Panel 671

Extracting 671
FORM*CONTROL*BUFFER 671
IDENTIFY*REPORT 671
INSERT*DATA*STREAM 672
Key Element 672
Mapping 672
ORDER PHASE 672
OUTPUT*CONTROL 672
Output Phase 672
Output Priority Panel 672
Page Format Data 672
Priority 673
Recipient/Location Equate Panel 673
Recipient/Recipient Convert Panel 673
Report 673
Report Mapping 673
Report Top of Form 673
RMS/ARC 673
RUN*OPTIONS 673
Scan Phase 673
SELECT 673
Send Report Panel 674
Set Reorganization Panel 674
TRANSLATE 674
WAITARC 674
WAITARCINDX 674

Chapter 1

THE REPORT MANAGEMENT SYSTEM

Introduction

Congratulations! The fact that you are reading this means that you have already selected, or may be engaged in the process of selecting or replacing, a report management system for your enterprise. If you are a key figure in the selection or implementation process, you have before you one of the best opportunities of your business career to achieve significant cost saving for your organization. Your efforts will result in significant improvements in the use and availability of information essential for your business operations, increase the “velocity” of that information and increase its value by making it more timely.

If your organization is now one of the hundreds that are replacing a report management system that looked good on paper but didn’t work as well in the real world, don’t be discouraged. The fact that your company possessed the business savvy to be an early adopter of report management software means that it has already benefited tremendously, even if the system used represented a less-than-optimum solution.

This chapter will present overview information on RMS. It will attempt to give you a historical perspective on the origins and architectural underpinnings of the major systems now in the marketplace.

HISTORICAL PERSPECTIVE ON REPORT MANAGEMENT SYSTEMS

In 1981, Mantissa produced the first general-purpose system for the distribution, archive, and recovery of reports. Before the introduction of RMS, numerous attempts to deal with the problems by changing application systems to support report management functionality. The prevailing wisdom now is that any such implementation though well intended is a mistake since there are numerous report management products that achieve the desired functionality *without having to alter the application system* producing the reports.

Since the advent of the general purpose report management system, the prediction has been that there would be no long-term need for such systems since the report as we know it would become an outmoded relic. It hasn’t happened. The problems related to report management are today more complicated than in 1981. For example, the prospect of giving a specific recipient the option to receive reports on CD was unheard of at that time. Microfiche and hardcopy were the only media types available at that time.

Between 1981 and 1985 two other products dealing with report management appeared. During 1985 (after Mantissa had approximately 300 installations in the United States), other software (and some hardware) companies began to realize that report management was a *new product category.* Suddenly, every company that had anything to do with displaying reports or printing had a report distribution system.

That year, Mantissa continued its innovation with the introduction of RMS/Online a system for storing and viewing distributed reports. Shortly after the introduction of this product, other products that had originally appeared as JOBLOG management and display systems were updated to handle distributed reports.

In 1987 Mantissa released RMS/Spool, a system for printing, viewing and management of reports in a mainframe environment. A significant feature of RMS/Spool is the SUBSYSTEM technology used by system. This system was enhanced in 1989 to include unattended delivery of reports distributed by RMS (or other distribution systems) to mainframe connected PCs.

In 1989, Mantissa introduced the first report management system for LAN/WAN stand-alone PCs. The system, RMS/DeskTop, featured four major components: 1.) Report Viewing and version management, 2.) Data Extraction, a data mining feature for reports, 3.) Automated printing for printing select reports as they are delivered to the remote site, and 4.) Optical Archive for the optical media storage of reports. This system, caused a major ripple in the industry and forced competing companies to release products that delivered or appeared to deliver the same type of functionality. Unlike the current Windows version of DeskTop, the first release of the product was a DOS-based application.

The most recent releases of RMS/DeskTop continues to distinguish itself from other competing products by providing full management of reports, optical archive, data extraction capabilities, and a system that really manages the report usage cycle. RMS also provides a feature called Document Retreival System (DRS) which allows the RMS/DeskTop user the capability of retrieval of reports from RMS directly without having to leave RMS/DeskTop./

HIGH PERFORMANCE RMS CHARACTERISTICS

The characteristics of multi-tasking and functional overlap that make a great operating system are equally important in the performance of a report management system. These characteristics manifest themselves in many different ways within RMS, but the net effect is increased throughput and extraordinary system capacity. The following is a recap of those characteristics that are significant architectural facets of RMS:

- Cache Array Support
  Multiple sub-systems supporting one fileset.
- Large Dataset Support
  RMS now supports SPOOL repository dataset extents greater than 65K tracks (maximum 983000 tracks) in size and may be located any where within the first 983000 tracks on a 3390 disk.
- MAS (Multi-access System) repository support.
  The system supports up to 7 CPUs in a complex.
- Extensible Repository.
  The system supports small and large (up to 8/10 terabyte) with equal ease.
- Asynchronous repository write operations.
  Tasks do not wait on repository write operations to proceed.
- Asynchronous repository dataset deletion requests and space release.
  Tasks should never be suspended by purge requests or free space requests.
- The system scales well..
  The system will operate well in a small environment of 500 users and a much larger environment of eight (8) thousand users.
- Multiple index fileset support
  The physical repository is capable of being shared by any number of index filesets to avoid space management and administrative overhead.
- Single image index update.
  All index updates regardless of the originating task or CPU can be performed on a single CPU.
- Simultaneous distribution tasks.
  The architecture does not limit the number of tasks that can be employed to meet scheduling deadlines. Distribution tasks, regardless of the number active, operate unimpeded by the other tasks. There are no long waits or enqueue holds that will suspend the tasks.
- Efficient large directory support.
  The system will scale well when the number of active report directory entries increases substantially. The repository should support a million active datasets as well as it supports 10,000 datasets.

FUNCTIONAL COMPONENT CAPABILITIES

RMS is a fully automated report distribution and management solution for mainframe and LAN/WAN/Standalone PC environments. RMS is comprised of three products designed to work together to effectively automate the distribution and management of reports. The RMS family of products includes:

- RMS/Online
- RMS/Spool
- RMS/DeskTop

RMS/Online

- Provides repository structure for the storage of reports.
- Provides a means of efficiently moving reports to the repository.
- Distributes and creates packets in accordance with user-defined criteria.
- Provides full media support for all distributed reports.
- Provides archive and recovery facilities for all distributed reports regardless of media.
- Automates the distribution definition process.
- Enables report viewing, selective printing, and tracking of all distributed reports.
- Maintains the database necessary to view reports, set retention thresholds, and define report datasets to be managed by the RMS subsystem.
- Provides integrated Help management facilities.
- Provides ***Resource Security*** for the protection of reports and transactions.
- Includes a Dataset ***Profile Management*** enabling selective management of application reports without changes in application JCL.

RMS/Spool

RMS/SPOOL is a complete, independent spooling system implementing general spooling facilities for 3270-type printer devices, IP Printers, PCs and offering full end-user control with a high degree of automation. In addition, RMS/SPOOL offers powerful facilities for job submission, inter-program data interchange, and multi-CPU environments.

Distributed control is implemented by collecting the printers and display terminals into network groups. The network group is a collection of printers, display devices, and print files forming a logical unit defined by the individual installation. Printers and display terminals may be added or deleted while RMS/SPOOL is running. Attributes for a device will be partly obtained from VTAM or TCP/IP and partly from installation-dependent default values.

- Within the network group, the end user is unaware of the other parts of the network, is independent of the system operator, and is in total control of his own (and only his own) printers and print files.
- Without any need of manual intervention, RMS/SPOOL will perform the tasks outlined below:
  - Whenever a spool file is ready for processing, a printer is automatically acquired.
  - Depending on the particular printer setup, number of print lines, classes, etc., the highest priority print task is selected.
  - The user is notified when another form should be mounted.
  - The physical printing is performed with full FCB support.

  - The printer is released when no more work is pending or on request by another application.
  - Printed spool files may be kept in the system after printing. The retention period for printed files can be specified for the individual file, for the destination, or for the whole system.
  - Spool files left open by an abnormally ended CICS application program are automatically closed.
- If required, the end-user may:
  - Change spool file attributes (class, form number, FCB, file name, etc.).
  - Change printer-selection criteria (process other classes, etc.).
  - Route spool files to another printer or to JES2/JES3 or VSE Power.
  - Re-queue processed spool files for reprinting.
  - Intervene during the automatic printer handling (halt a printer, backspace, forward space, etc.).
    - Report when a requested setup is complete (if RMS/SPOOL requires a new form to be mounted).
- Access to the network groups is controlled via user id. The system programmer can either choose internal security or external security systems such as RACF, TOPSECRET or ACF2.
- The end user communicates with RMS/SPOOL either through the RMS/SPOOL Menu System or through a RMS/SPOOL console via an ordinary 3270-type VTAM-controlled display terminal. The Menu System makes it possible to use RMS/SPOOL without knowing the syntax of the underlying commands. The operator panel on SCS printers can also be used to communicate with RMS/SPOOL.
- The installation may also choose to further automate the operation or develop its own user dialogue using the Advanced Communication Interface, which will open a full console session with an application program. Please refer to chapter 3 for further details.
- Programmers may use the standard call interface of RMS/SPOOL or the SUBSYS Interface for creation or recreation or retrieval of spool files. The SUBSYS Interface allows RMS/SPOOL facilities to be used by application programs or standard IBM utilities without modification.
- The NJE Interface makes RMS/SPOOL a true member of NJE Interface the NJE product family and lets RMS/SPOOL receive files from and send files to JES2, JES3/BDT, RSCS and POWER. The product MVS/BDT V2 is a prerequisite for JES3, because current JES3 versions do not support SNA NJE conditions.
- The Virtual Printer Interface allows programs to create RMS/SPOOL files without any changes to the existing program at all. It is especially intended for CICS and IMS environments, where it can be difficult to make application program changes.
- The PSF interface lets RMS/SPOOL work as the system spool for PSF, so the end user can control his own AFP printers.
- RMS/SPOOL offers a highly efficient method of creating batch jobs and submitting them for execution from an application program. Application programs may also make use of spool files as interim storage for data to be used later on in the same program or another online or batch program.
- Via the GDDM Interface it is possible to place GDDM output files under RMS/SPOOL control. It is thereby possible to archive, reprint, and reroute GDDM output like any other RMS/SPOOL file.
- The HP-LaserJet Interface gives support for printing of IBM 3800-1 generated DCF files on HP-LaserJet printers.
- The spool-file transfer program ESFSPTP is used to create backup or archive copies of all or a subset of the spool files.

- The general print utility ESFPRINT is used to create a spool file from an ordinary OS dataset. It contains complete, functional replacements for the IBM DSPRINT, PRINTDS, and PRINTOFF commands.

RMS/DeskTop

RMS/DeskTop *Version 3.x is a powerful industrial-strength report management system which automatically and transparently receives your reports from your organization's mainframe, minicomputer, or PC and stores them on your PC's media (or LAN file server's media), providing you with access to view, browse, search, mark, reorganize, mine, export and print any data contained within those reports*. But its real strength lies in its advanced architecture for performing these functions!

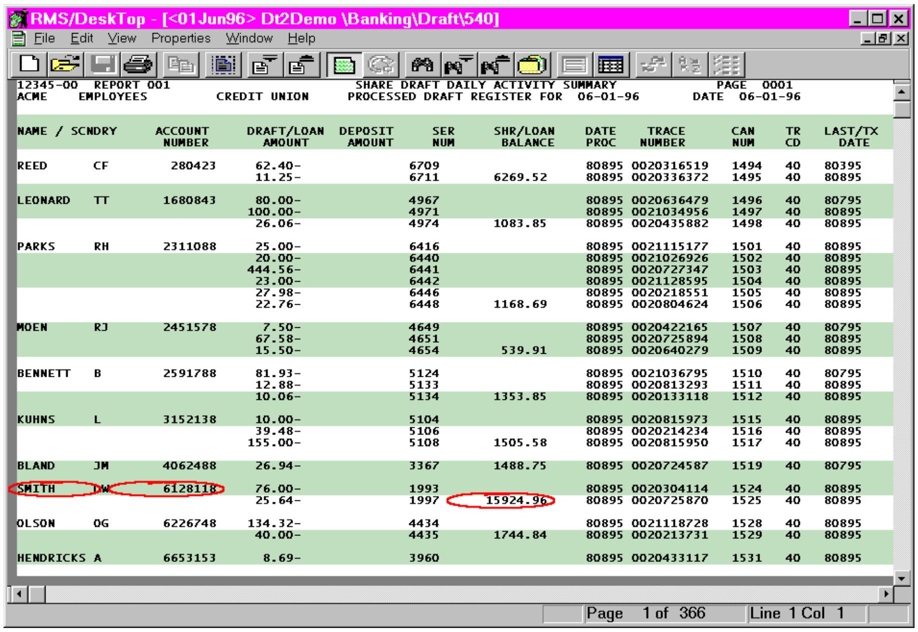
A few of **RMS/DeskTop**'s architectural strengths include:

- An *user definable report explorer* for quick and easy access to reports. The *explorer* features include:
  - Date range filtering and selection.
  - Prior version range selection.
  - Hierarchal method for exploring report categories.
  - Annotation features.
  - Ability to import or export various other file types.
- Report Cataloging which provides *transparent access to reports*, without having to know where the reports are stored *(regardless of storage media)*.
- Powerful new repository techniques, including automatic low-level indexing and media bridging
- A shared magnetic cache controller, with up to four cache levels

You can think of **RMS/DeskTop** as a file security agent, file cabinet, filing clerk, and research assistant, all rolled into one.

RMS/DeskTop *Makes Reports Useful*

RMS/DeskTop allows you to display and analyze report data that has previously been printed to disk as a print or spool file. In a business environment, these files are usually distributed through a communications interface, magnetic tape, CD-ROM, or diskette.



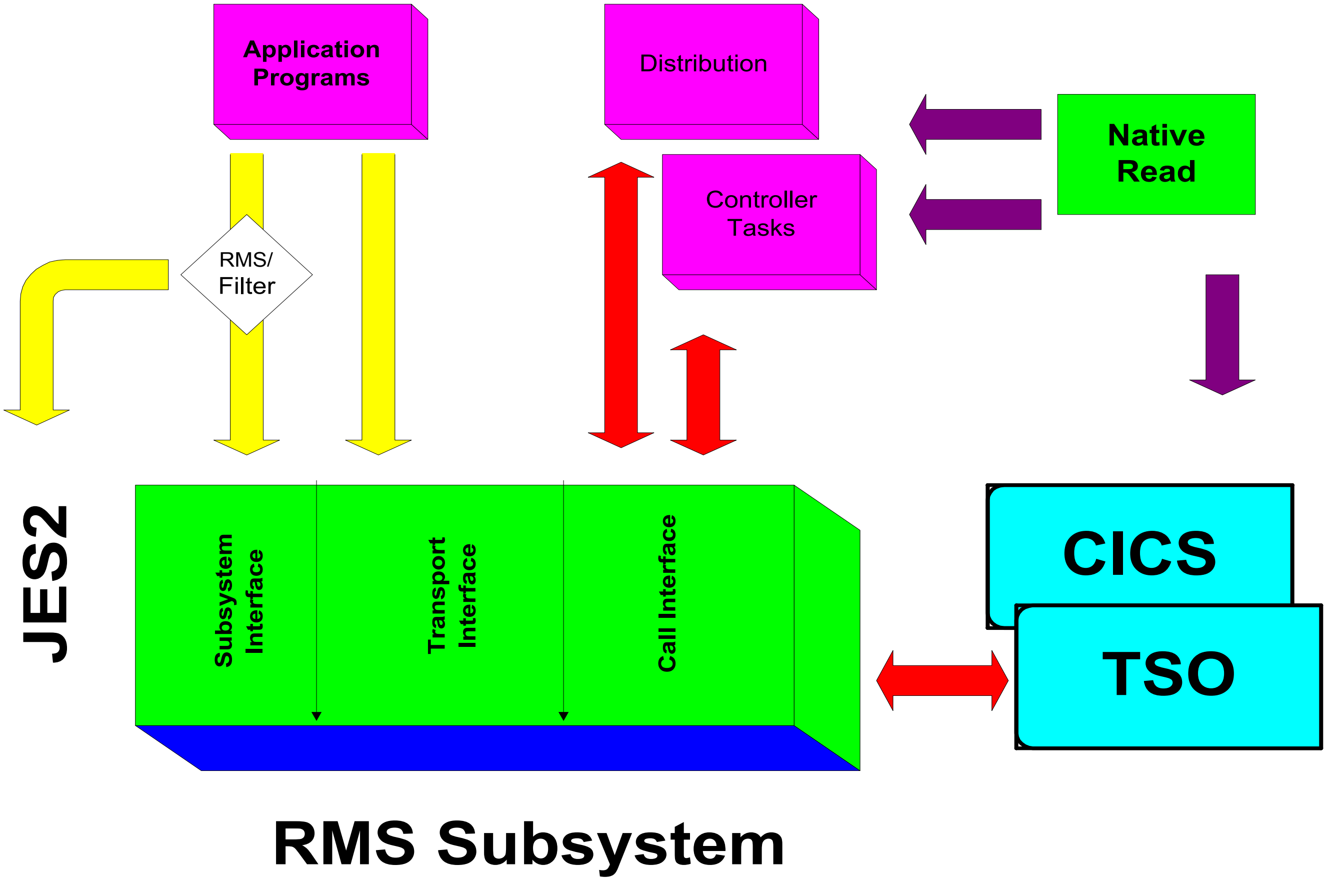
```
12345-00  REPORT 001                        SHARE DRAFT DAILY ACTIVITY SUMMARY             PAGE  0001
ACME    EMPLOYEES         CREDIT UNION     PROCESSED DRAFT REGISTER FOR  06-01-96       DATE  06-01-96

NAME / SCNDRY     ACCOUNT     DRAFT/LOAN  DEPOSIT     SER     SHR/LOAN    DATE    TRACE      CAN    TR    LAST/TX
                   NUMBER       AMOUNT     AMOUNT     NUM      BALANCE    PROC   NUMBER      NUM    CD      DATE

REED      CF        280423     62.40-              6709                   80895 0020316519   1494   40    80395
                               11.25-              6711       6269.52     80895 0020336372   1495   40    80895

LEONARD   TT       1680843     80.00-              4967                   80895 0020636479   1496   40    80795
                              100.00-              4971                   80895 0021034956   1497   40    80895
                               26.06-              4974       1083.85     80895 0020435882   1498   40    80895

PARKS     RH       2311088     25.00-              6416                   80895 0021115177   1501   40    80895
                               20.00-              6440                   80895 0021026926   1502   40    80895
                              444.56-              6441                   80895 0020727347   1503   40    80895
                               23.00-              6442                   80895 0021128595   1504   40    80895
                               27.98-              6446                   80895 0020218551   1505   40    80895
                               22.76-              6448       1168.69     80895 0020804624   1506   40    80895

MOEN      RJ       2451578      7.50-              4649                   80895 0020422165   1507   40    80795
                               67.58-              4651                   80895 0020725894   1508   40    80895
                               15.50-              4654        539.91     80895 0020640279   1509   40    80895

BENNETT   B        2591788     81.93-              5124                   80895 0021036795   1510   40    80795
                               12.88-              5133                   80895 0020813293   1511   40    80895
                               10.06-              5134       1353.85     80895 0020133118   1512   40    80895

KUHNS     L        3152138     10.00-              5104                   80895 0020815973   1515   40    80895
                               39.48-              5106                   80895 0020214234   1516   40    80895
                              155.00-              5108       1505.58     80895 0020815950   1517   40    80895

BLAND     JM       4062488     26.94-              3367       1488.75     80895 0020724587   1519   40    80795

SMITH     DW       6128118     76.00-              1993                   80895 0020304114   1524   40    80895
                               25.64-              1997      15924.96     80895 0020725870   1525   40    80895

OLSON     OG       6226748    134.32-              4434                   80895 0021118728   1528   40    80895
                               40.00-              4435       1744.84     80895 0020213731   1529   40    80895

HENDRICKS A        6653153      8.69-              3960                   80895 0020433117   1531   40    80895
```

RMS/DeskTop allows you to select a report file that has been stored on disk and display it on your computer monitor in the format it was originally printed or stored. But this is only the beginning of your **RMS/DeskTop** experience.

RMS ARCHITECTURE

What is the repository?

The repository is a high-speed storage tier of DASD managed by the RMS subsystem. The system permits storage of up to 1+ million active datasets. Datasets are spread evenly across all extents in the storage tier to level access I/O contention. The diagram below depicts the relationship between RMS distribution tasks, your application systems which generate reports to be managed by RMS, JES, and the CICS/TSO user environment.



What are the limits?

Realistically there are no limits. Our largest customer manages over 11 billion lines per month with RMS and has about 70 DASD volumes committed to report storage. This represents less than 28% (a repository may be almost a terabyte) of the potential capacity for just one subsystem! There can be any number of subsystems active. With the addition of Cache Array Support, one controller can load multiple repositories.

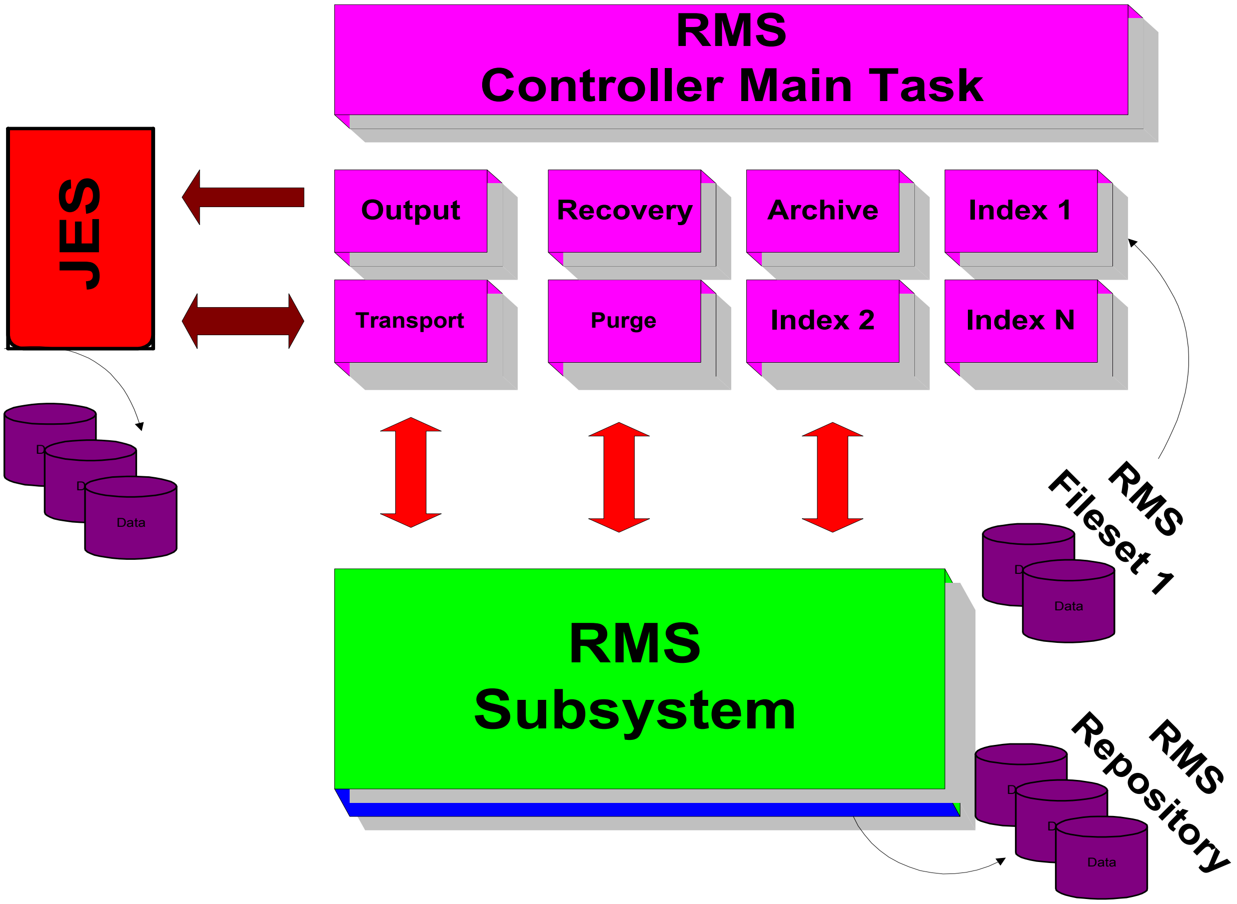
This same user processes over 750,000 RMS transactions per day in a CICS environment. With the exception of find operations in the viewing transaction, all transactions have sub-second response times.

Your application may create files to be viewed or distributed (or both) of any length. No limits exist on the size and complexity of the distributions, number of recipients, etc.

What is the Controller?

Notice the block in the previous diagram labeled “Controller”. The diagram below depicts the relationship between the RMS controller task, the RMS subsystem, and JES2.The controller main task and the associated sub-tasks perform the following functions:

- Transport Subtask:
  External writer support to add JES datasets to the repository.
- Archive Subtask:
  Group (retention group) support for reports.
    - Purge Subtask:
      Dataset deletion support.
    - Index Subtask:
      Index management (addition, deletion, update) support (for up to 8 filesets per subsystem).
    - Output Subtask:
      Service for selective and print-on-demand requests.
    - Recover Subtask:
      Support for restoring archive datasets to viewing status within Online.


RMS
Controller Main Task
JES
Output
Recovery
Archive
Index 1
Transport
Purge
Index 2
Index N
Data
RMS
Fileset 1
Data
RMS
Subsystem
RMS
Repository
Data

What is stored in the repository?

The repository holds two types of datasets, "BASE" and "DISTRIBUTED". Base datasets are captured by RMS either through the RMS Subsystem interface or the external writer interface. They represent the original report information produced by an application system.

Base datasets may also be viewable. Viewing status for base datasets is contingent on whether or not they were assigned a fileset name by the external writer or subsystem interface. However, the main characteristic that distinguishes a base dataset is that a base datasets can be *distributed (used as input to the RMS distribution component (RM80004))*. The fileset name is assigned in the RMS Controller Parms.

A normal by-product of the distribution process is the creation of distributed or Softcopy datasets. These distributed datasets remain in the repository along with base datasets until removed by subsequent backup, update or restore cycle activity. All stored reports have unique names and are indexed by report within a location within access group. Any number of versions may be maintained to provide the desired level of availability. Expiration based on a specific number of versions of a report and/or expiration by days resident in the repository are supported.

How is the repository managed?

The repository is maintained by a functional subsystem and the RMS controller. The subsystem features Multi-Access-Spool (*MAS*) support that permits concurrent distribution, viewing access, archive, and recovery from up to 7 CPUs.

The subsystem repository consists of from 1 to 255 files. Each file consists of contiguous DASD space and may be as small as a single cylinder or as large 64,000 tracks on any disk device supported by the host system. The subsystem maintains a sparse index of entries in the repository which is updated any time there is an addition or modification to the repository. This sparse index yields high speed access to any of the entries.

How is report data placed in the repository?

Subsystem Interface (MVS)

The RMS Subsystem Interface (SSI) provides a direct link to the RMS repository for output from the application program. SYSOUT data can be routed to the SSI rather than to JES. No JCL changes are required. There is no drain time for moving data through JES. Moving the data once, rather than to the JES spool then to the repository, minimizes overhead and is transparent to the user.

Intermediate storage requirements are significantly reduced and read/write operations are minimized since the SYSOUT is received directly from the application. The data is compressed as it is being transferred and SYSOUT processed by the subsystem interface are available for further processing immediately after the file is closed by the application program. The SSI manages space allocation, purge, and status presentation and has clear advantages over using the external writer interface.

The RMS ***Dataset Profile*** capability enables the user to select which SYSOUT datasets are to be processed by the RMS subsystem. Specific attributes are maintained in a profile table. As application JCL is processed, attributes of the Job and individual DD statements are presented to JES Exit 6 where SYSOUT attributes are compared to the profile table attributes. A match condition between attributes of the dataset and profile attributes will route the SYSOUT directly to the repository. If there is no match the SYSOUT is routed to JES.

External Writer Interface

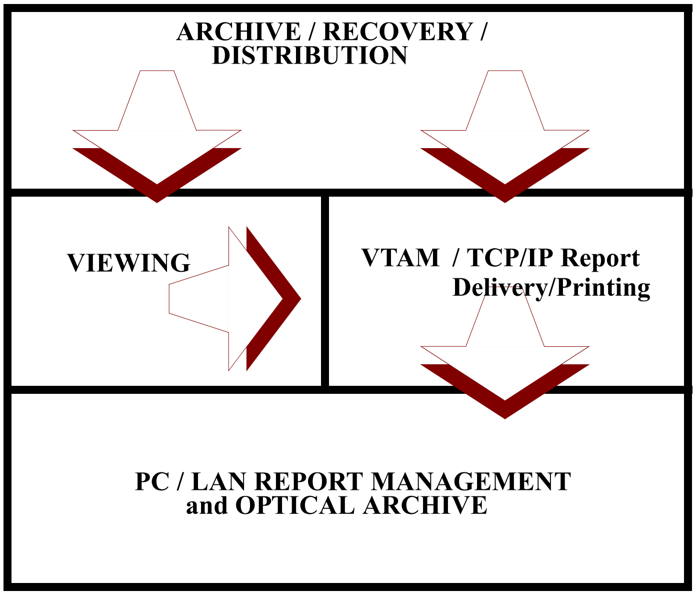
The external writer interface (EWI) is used to place JES2 datasets in the RMS repository. The only job control modifications necessary to route reports to the RMS Repository via the external writer are to the SYSOUT DD statements. Datasets may be routed to the external writer based on SYSOUT class, destination ID or a combination of these attributes. Of course, program output can be directed to any combination of classes and destinations. The SYSOUT from an entire job, or from specific DD statements within the job, may be routed to RMS.

How does the user access the report information?

Once a user has entered proper identification, RMS can provide an index of reports available for viewing. The Report Index shows all the reports available (security considered) for a specific user. RMS also provides a report tracking facility that permits inquiry based on the media type of the report. RMS can thereby provide instant historical information (*and ability to recover*) for all reports regardless of their original media.

RMS CAPABILITIES

A report management system orders, consolidates, routes, archives, recovers and provides complete media control of report information. The following diagram indicates how the interlocking capabilities of RMS support enterprise output management requirements.


ARCHIVE / RECOVERY / DISTRIBUTION
VIEWING
VTAM / TCP/IP Report Delivery/Printing
PC / LAN REPORT MANAGEMENT and OPTICAL ARCHIVE

Administrative Services

This on-line facility enables you to describe the report management environment. Using administrative services you can define:

- Access groups (*application report groups*).
- Locations (*physical and/or logical distribution endpoints*).

- Users of reports.
  Please note that RMS has a signon exit that permits definition of users "on the fly" based on your security profile for a particular user.
- Report retention characteristics for reports and tracking information.
- Resource security permits you to control access to reports, transactions, and system facilities. A convenient exit facility is provided that enables you to interface with your current security system.

Distribution Definition

- Distribution definition is accomplished through a menu-driven, distribution definition facility that operates under CICS and TSO.
- A report mapping facility that takes the guess work out of the definition process.
- Lowest data entry requirements of any available system. We call this implicit definition. This type of definition can mean as much as a 100 to 1 reduction in the initial and ongoing data entry requirements of other available systems.
- Copy control at the report level for each recipient and output media type.
- Zero copy capability to delete reports for specific recipients.
- An entire report or any part of a report may be BROADCAST to any number of additional recipients. The copy count and media may be varied for each additional recipient.
- Data Insertion. Any data string may be inserted in the output. Uses include the control of 3800 printers in an advanced function printing environment, DJDE control information insertion for 9700/8700 control, and control information insertion for any of the popular on-line/off-line microfiche systems.
- Dated override capability. Many definition panels permit effective date overrides. Such variables as copy count for a report/recipient combination may be placed in effect for a specific number of days. After the change is no longer relevant, the system discards this type of change and reverts to the standard copy count.

Packaging Capabilities

- Unique packet(s) may be created for each user.
- Each packet may have a customized banner page with name and address if desired.
- Reports within packets are collated in the same order each day to reduce confusion and reduce the search time for a report.
- By default, each packet is a unique dataset. Laser printer output is therefore separated by a 'BOT' marker or tray offset simplifying the distribution process.
- Packets contain a manifest list at the end showing exactly which reports were distributed, along with the number of pages/lines. Users can verify receipt/content in minutes.
- Any combination of reports from any system(s) may be included in a distributed packet. The number of reports and pages is unlimited.

Media Control

- Support of up to eight media categories in a single execution. Recipients may receive report packets in any or all media types.
- Automatic routing support for RJO printers/terminals.
- No JCL is necessary because dynamic allocation facilities are used to create print datasets. Individual packets may be routed to DASD/TAPE files at will.

- Priority may be given to packets which have time-constrained delivery, increased importance, or the need to meet courier deadlines.
- Each distribution produces a GLOBAL MANIFEST list that provides detailed information on all reports distributed by media type.
- Selective display of manifest information by media type is available on-line.

NOTE: Reports may be delivered to any output media supported by your operating system.

Report Viewing

- Notes may be attached to any line of a report.
- 80 and 132 character screen support.
- Index/version list of each report.
- Report reformat via column selection.
- Simultaneous viewing in up to four windows (8 reports in each window). Both horizontal and vertical aspect viewing are supported.
- Scroll left/right up/down in both LINE and PAGE mode.
- Secured viewing by user/location permits a user to view only certain columns of a report.
- USER VIEWS that can perform automatic formatting of a report at the time the report is accessed. Any number of USER VIEWS can be stored and retrieved by each user.
- FIND character string (*FIRST, LAST, NEXT, PREV*).
- NOTE (*bookmark*) a specific report page/line/column.
- RECALL a noted location.
- ZOOM a window (*expand to full screen, contract*).
- Header hold and scale line.

NOTE: *RMS gives you true windowing, not just split-screens. Up to four windows at one time. Screens can be split vertically, making it easy to compare one report to another.*

Report Printing and Reload

- All reports distributed by RMS, regardless of the media, may be printed/reprinted as required. Reports which are no longer on-line are retrieved from the appropriate archive dataset.
- On-line reports may be printed by selective page range. All the user need do is mark the page ranges to be printed during the viewing session.
- Selectively printed reports may be reformatted using the column select command. Reports secured by a system administrator using the Administrative Format Save command are printed in column secured format.
- Reports which have been de-staged from the repository may be reloaded for viewing. Reloaded reports appear in the same access group and location as the original report. All reloaded reports are placed under the report ID “RELOADED”. Reloaded reports that show up in this scratchpad area will appear on the index list with a description that indicates the original report id, and distribution date and time.

NOTE: Any report packet or page range of any packet may be placed on-line or downloaded automatically to a personal computer attached to your network.

Archive / Recovery

RMS supports BASE archive, Packet archive, and Retention-based archive. The characteristics of these will be discussed in detail in Chapter 4. Some of the significant archive characteristics include:

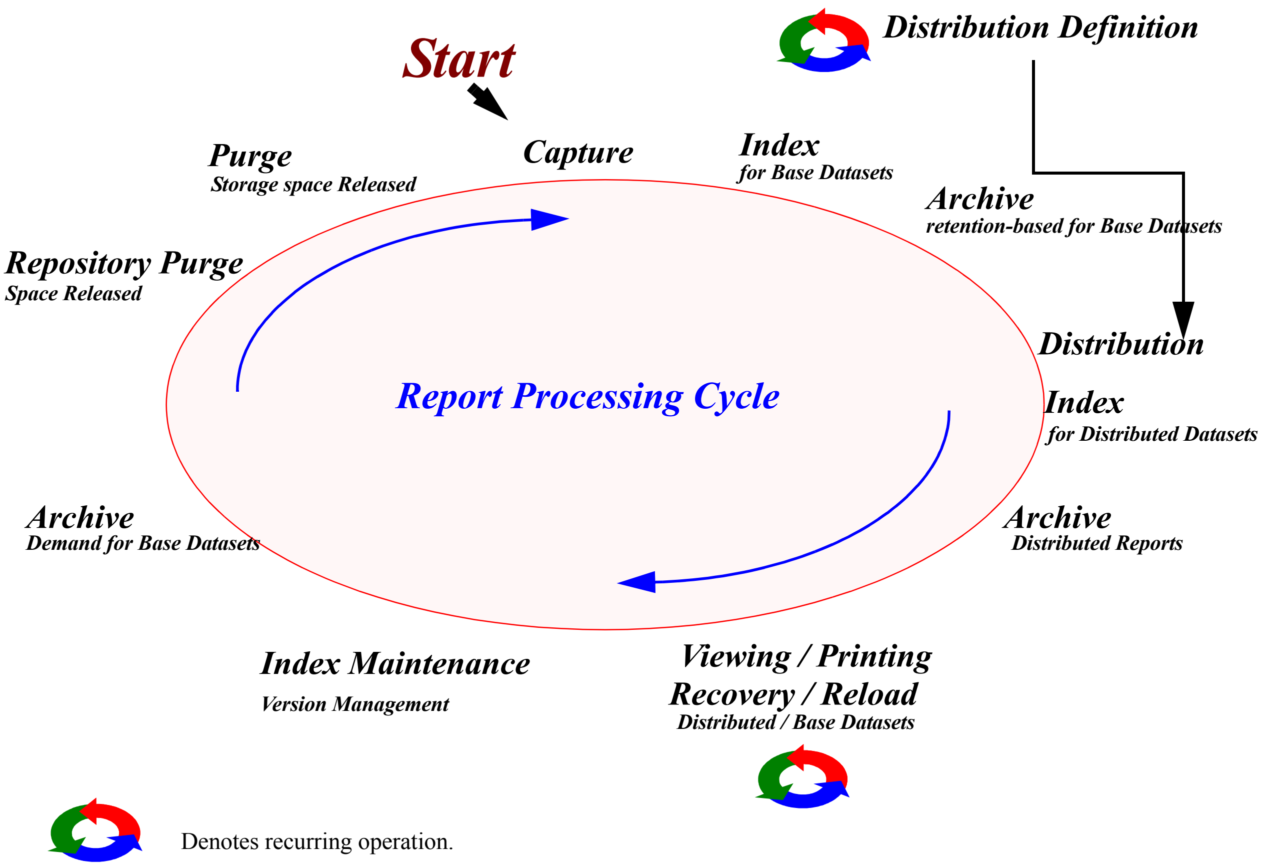
- Archived reports are compressed for storage efficiency (30 to 70%).
- Packet archive for a snapshot of all reports for all medias in the entire distribution.
- Group archive that stores like-retention data in the same data set. SMS compatible.
- Any report you distribute, regardless of the media type, can be recovered.
- Recovered reports retain original production attributes unless overridden.
- Recovered reports may be reloaded to viewable status.
- In the case of the recovery of an entire packet, original packet structure is retained.

Help Facilities

RMS contains a fully integrated HELP management system that puts usable information on the system at the operator's fingertips. Additional help facilities may be added by the installation and customized for its environment.

REPORT PROCESSING CYCLE

Discussions in this book relating to the management of reports by RMS relate directly to the report processing cycle outlined in the following diagram. This diagram is useful in giving you a big picture of the order and objectives of each step in the processing cycle. Take the time to review this diagram and the short descriptions of each process in the cycle.


Start
Distribution Definition
Purge
Storage space Released
Capture
Index
for Base Datasets
Archive
retention-based for Base Datasets
Repository Purge
Space Released
Distribution
Report Processing Cycle
Index
for Distributed Datasets
Archive
Demand for Base Datasets
Archive
Distributed Reports
Index Maintenance
Version Management
Viewing / Printing
Recovery / Reload
Distributed / Base Datasets
Denotes recurring operation.

Capture

RMS automatically recognizes and captures report datasets placed under its control. This capture process is accomplished either through a subsystem interface or the external writer interface facility provided by your job entry system (JES2/JES3 or VSE/Power).

The ***RMS subsystem interface*** bypasses JES completely and captures SYSOUT directly from the application system. RMS subsystem intercepts the report information the same way as JES2.

The ***external writer interface*** offers another method of placing report information to be managed in the RMS repository. The external writer operates as a started task in the RMS Controller Region and retrieves application reports based on the selection criteria it has been requested to service. Output from multiple applications may be directed to RMS concurrently. Once the dataset created by the application has been successfully compressed and stored in the RMS repository, the original entry is purged from the JES spool.

Distribution Definition

The distribution definition process is accomplished using the Distribution Definition component of RMS. Distribution definition is a recurring operation that is as dynamic as your environment. Search arguments are compared to data on each page of the application output to determine page ownership. Pages with like ownership attributes form report packets. Each packet contains ordered report pages bundled by recipient.

During RMS processing, each packet receives an identifying banner page followed by the report data, in the requested sequence, with the correct number of copies of each report, as defined in RMS/DD. These packets are then placed back into the JES spool using dynamic allocation or VSE segmentation.

Index *for Base Datasets*

As each base dataset is placed in the repository, it is assigned a fileset attribute. If the fileset attribute is null, no index processing takes place. If a fileset attribute is assigned as the result of the fileset attribute value in the dataset profile (for SSI processed datasets), or as the result of the DEFAULT*FILESET parameters in the RMS Controller start-up, the file will be indexed by the index task processing datasets with that fileset attribute.

NO FILESET = NO INDEX = NO ARCHIVE = NO AUTOMATED RECOVERABILITY

Archive Retention-based *for Base Datasets*

If the Base dataset is not assigned a fileset, there can be no retention-based archive processing. The fileset identifier is assigned using the dataset profile capability in the case of SSI processed datasets, or the DEFAULT*FILESET value in the case where the datasets are processed by the external writer interface.

If a fileset attribute is assigned to a base dataset, the dataset first has an index record created. At this point, the index task determines whether the dataset should be archived by analyzing the retention control records for the fileset it is servicing. If the index task determines that archive is necessary, it creates a memo for the archive task group requesting that an archive be created for this base dataset.

Distribution

Distribution processing is usually organized around application systems. Since the successful completion of a processing cycle is usually a significant sync point in the operations cycle, distribution is usually scheduled at the end of an application system processing cycle or at selected points in the processing cycle. A given execution of the distribution component may create output for any number of recipients in any and all of the media types.

Distribution processing creates an Index update set for processing by the RMS Controller index task servicing the fileset matching that of the distribution run. The fileset for the distribution run is taken from the FSNAME value in the QXCNTRL file. This control file must be the same control file referenced by the Control region for that fileset.

Distribution processing analyzes the reports being distributed to determine whether or not any of the reports are subject to retention-based archive processing. If any of the reports are to be archived, a summary file for each retention-based archive group is created. These archive group files are subsequently used as input to archive processing for distributed datasets.

Distribution processing may also create a packet archive. Packet archives represent a great way to achieve the recovery of an entire packet for any reports distributed. Packet archive is forced for SOFTCOPY processing and required if any retention-based archive processing is to take place.

Index *for Distributed Datasets*

The index file created in the Distribution run is processed by the index sub-task processing index data for the fileset assigned by the distribution run. This fileset value is taken from the FSNAME field in the QXCNTRL file that was used in the distribution run.

Archive *for Distributed Datasets*

The archive summary files created by the distribution process serve as input to the RMS Control region archive tasks. These tasks use these archive summary files to gather reports referenced in the summary files and allocate archive files with the appropriate retention and dataset name.

Viewing / Printing / Recovery / Reload *for Distributed and Base Datasets*

At this point in the life cycle, base datasets that had an associated fileset and distributed datasets may be viewed or printed. Softcopy datasets which have been purged from the repository but which still have index versions may have the archive data reloaded for viewing or simply printed from the archive file.

Index Maintenance *for Distributed and Base Datasets*

Usually performed daily, index maintenance takes the form of a fileset backup (RM90007) followed by an update mode restore (RM90008). The backup creates a snapshot of the fileset. A fileset consists of all the VSAM files, (Administrative Control Dataset, Distribution Control dataset, Report Control dataset), and the associated data objects in the repository. Once this snapshot is safely in hand, the restore program analyzes the index records on the backup file and creates an index maintenance file that tells the index and purge tasks in the RMS control region whether to delete the index, delete the data, or both.

As output packets are created, the report information may be placed on a Packet Archive. These reports may also be placed in another type of archive called a Retention-Based archive. If the need to recreate a report arises, it may be retrieved directly from the appropriate tape at a specific report/recipient level. For example, reproduce Trial Balance for Cost Center 4 only. Any report processed by RMS can be recovered.

Archive *Demand for BASE Datasets*

Base datasets must be processed by the base dataset utility program RM80001 to be deleted from the repository. Specifically, they must be archived with the PURGE option. Doing this marks the datasets to be deleted by the purge sub-task in the RMS Controller region. Archive may take place by application or by dataset process code. A process code is a unique 11 character stamp that is used to mark distributed or 'spent' datasets. If process code management is used, the archive can simply retrieve all datasets that bear a specific process code with the assurance that the dataset is no longer needed by any other distribution tasks.

Purge *Storage space release*

Operating system files space is released for archive datasets. Repository space is released on a demand basis to achieve the desired retention for on-line datasets.

OPERATING ENVIRONMENT

Software Requirements

- MVS JES2 and JES3 or VSE
- CICS or TSO

- VSAM

Hardware Requirements

- A processor that supports either MVS or VSE
- IBM 3270 display terminals (*3277 model 2, 3278 models 2-5, 3279 models 2-3, 3178*) or compatible terminals with program function keys
- A method of uploading binary files to the mainframe
- 15 megabytes of DASD space to store the distribution libraries.

Chap_01(v11r35m1).fm: Revised Sunday, November 24, 2013

Chapter 2

REPORT DATA CAPTURE

Quick Start Checklist

This chapter contains detailed information relating to how you capture report data for subsequent management by RMS and how to manage the RMS/ Controller.

Are you on track? By now you or someone assisting you in the installation of RMS should have completed the following tasks.

System Installation. This includes program installation and customization of the system. See the installation manual for complete details.

1. See that you have started the subsystem.
2. Test files are loaded. This is part of the installation procedure.
3. RMS/Online System Administration should be available through CICS or TSO.
4. The RMS Control region is active. Make sure ***before starting the control region***, that you clearly understand the implications. Starting the control region with a class/destination selection attribute that is in use as a production class will cause information in that class to be accessed, placed in the repository, and deleted from JES. At best you will irritate a lot of people. At worst you could cost yourself hours of time trying to figure out what happened to the reports. If at all possible, select a class or class/destination that is not currently in use.

At a minimum, you should know or have access to the following information:

SYSTEM VALUE/ATTRIBUTE	VALUE /ATTRIBUTE YOUR INSTALLATION	EXAMPLE
Subsystem ID	___________	**R135**
Subsystem Task Name	___________	**R1135SUB**
Controller Task Name	___________	**R1135CTL**
Selection Class/Destination	**Class ____ Dest________**	**R Class LOCAL Dest**

PLACING REPORTS IN THE RMS REPOSITORY

Assigning Meaningful Names to report datasets

Before we discuss how to place reports in the RMS repository, let's spend a moment on what they will be called once they get there. The naming scheme for reports processed by RMS should follow a convention that is meaningful and designed to allow the installation to take advantage of selection options used by the various RMS systems. Reports moved from the application program to the RMS repository are named by the SYSOUT DD statements in an application's job control or by using the RMS dataset profile facility. This allows for easy retrieval and processing within the RMS system.

EXAMPLE: **BASE Dataset Name**

`CAG10001`

where:

CA	User application cost accounting
G1	Processing group one (1) i.e., district, region, courier deadline
0001	Serial number of report within the processing flow.

A dataset name similar to this example is meaningful since the elements that make up the dataset name include an application prefix (*CA*) and a processing group identifier (*G1*). This makes it immediately recognizable. In addition, it provides for two levels of report selection using generic qualifiers:

All datasets having the application prefix CA

```
DS PREFIX = =>CA
```

or

All datasets having the application prefix CA and the processing group ID G1:

```
DS PREFIX = =>CAG1
```

or

All reports with names containing the processing group ID G1:

```
DS PREFIX = =>**G1
```

Special care should be taken to ensure that the national character “@” is not used as the first character of the name. This character is reserved for RMS checkpoint datasets.

How Repository Attributes Are Assigned

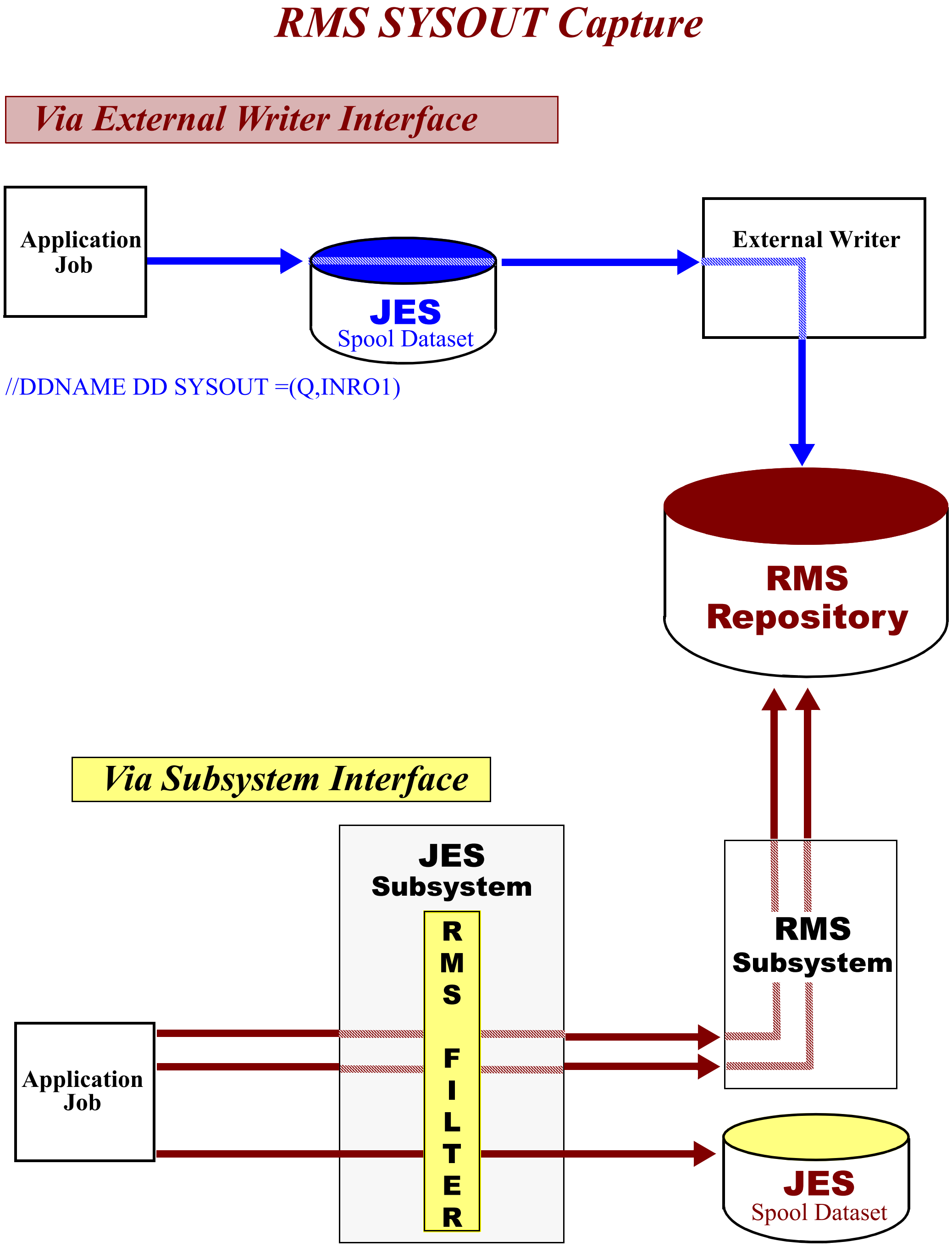
As the selected SYSOUT datasets are stored in the repository, they are assigned report attributes. These attributes define the logical and physical characteristics of the report. These attributes and their origin are as follows:

BASE DATASET NAME	A 1 to 8 position name used with the dataset number to uniquely identify a dataset. This name originates from the report name sub-parameter of the DD statement used to define the SYSOUT file to the spooling subsystem. If the report name sub-parameter was omitted, the report name defaults to the name of the job that created it.
DATASET NUMBER	This is a 7 digit number assigned by the RMS Subsystem to ensure report identifier uniqueness.
REPOSITORY DATE AND TIME	This is the date and time the writer stored the first line of the dataset. These attributes are used internally by the Report Management Software.
CLASS	This is the output class of the report.
FORM IDENTIFIER	The forms code specified in the Job Control DD statement at

	the time the report was spooled to the Host Subsystem.
COPY COUNT	The number of report copies specified in the Job Control statement.
DESTINATION	The Remote Job Entry Site identifier specified in the DEST sub-parameter of the Job Control DD statement that created the SYSOUT dataset.
JOB NAME	The name of the job executed to create this report entry.
JOB NUMBER	The JES job number of the creating job.

Data Capture Schematic

Refer to the following schematic when reading the paragraphs relating to capture of datasets.


RMS SYSOUT Capture
Via External Writer Interface
Application Job
JES
Spool Dataset
External Writer
//DDNAME DD SYSOUT =(Q,INRO1)
RMS Repository
Via Subsystem Interface
JES Subsystem
R M S F I L T E R
RMS Subsystem
Application Job
JES
Spool Dataset

Chap_02(v11r35m1).fm: Revised Sunday, November 24, 2013

Capturing Report Datasets with the Subsystem Interface

The RMS Dataset Profile capability permits you to select which SYSOUT datasets are to be processed by the RMS subsystem. Specific dataset attributes are established in a table of dataset profiles. As application JCL is processed, attributes of the Job and individual DD statements are presented to JES Exit 6 where SYSOUT attributes are compared to the dataset profiles. A match in attributes will route the dataset directly to the subsystem repository or they may be routed to RMS/Spool for subsequent delivery to a VTAM printer, attached PC, or FTP node. If there is no match the dataset is routed to JES. The Dataset Profile panel in the RMS/Online facility is used to enter a dataset profile or alter an existing profile. The following discussion will specify how this optional redirection takes place.

NOTE: It is NOT possible to send the same SYSOUT dataset to both subsystems.

Dataset profiles are used by JES Exit 6 to re-route JES output to the RMS or ESF subsystem.

To view all existing dataset profiles, select option 4 (*Sysout/Report Management*) from the main on-line menu and then specify "**LP**" for (*List Dataset Profiles*). A listing of all existing profiles will be displayed. You may change a profile by placing a "**C**" in the column next to the profile to be changed. The Dataset Profile section of RMS/Online works the same way as all other System Administration transactions.

Specifying Capture Criteria

From main menu option 4 (*Sysout/Report Management*), enter "**AP**" for Add Dataset Profile. A blank Dataset Profile panel will be displayed. The screen has two major parts: Selection Attributes and Attributes to be Assigned. The following discussion will explain the use of each panel.

Selection Attributes

JES Exit 6 compares all SYSOUT datasets against a storage resident table of the dataset profiles. The comparison is against the selection attributes of each dataset profile record. The exit makes its comparison such that a more specific selection specification for a SYSOUT dataset will be used before a more general one. This allows you to specify default selection attributes for SYSOUT datasets. The following table summarizes the order in which JES Exit 6 groups the dataset profile Selection Profiles for comparison against the JES SYSOUT datasets. Dataset profiles which specify more selection attribute fields are compared first and dataset profiles which only specify an output class are compared last. An 'X' in the tablerepresents a comparison. If therw is no 'X', a comparison will not be made. For example, if FCB was to be checked, all other values must be specified in the dataset profile.

	COMPARISON ORDER								
ATTRIBUTE	1	2	3	4	5	6	7	8	9
Job Name	X	X	X	X	X				
Proc Name	X	X							
Step Name	X	X	X	X					
DD Name	X	X	X	X					
Class	X			X	X	X	X	X	X
Destination	X			X	X	X		X	
Form	X								
FCB	X								
Writer Name	X					X	X		

Completing Selection Fields

The fields for selection attributes correspond to the actual SYSOUT attributes. At least one field must be entered. Spaces in a field specify that the attribute is not to be used in the comparison. Some fields allow a variable designation. This means that the field will return a match condition in the comparison if any value exists in that attribute for the SYSOUT dataset. Those fields and the appropriate variable designation are summarized in the following table. These designations may be used to complete the assigned attributes described later.

ATTRIBUTE FIELD	VARIABLE NAME
Job Name	&JOB
Proc Name	none
Step Name	none
DD Name	none
Class	none
Destination	&DEST
Form	none
FCB	none
Writer Name	&XWTR

Job Name may contain the prefix indicator ‘*’. This allows a selection based upon a beginning portion of the Job Name. The following are valid wild card designations:

A*	Select all datasets whose job names begin with A.
ABC*	Select all datasets whose job names begin with ABC.
ABCD*	Select all datasets whose job names begin with ABCD.

Attributes To Be Assigned

Once JES Exit 6 determines that a sysout dataset matches an entry in the dataset profile table, the SYSOUT dataset may have certain attributes assigned to it. Some of these attributes are specific to RMS/Online and others are replacements for standard JES SYSOUT attributes. The bottom portion of the Dataset Profile panel allows you to specify as few or as many of these attributes as you wish. If an attribute field is left blank the default value is assigned. The attributes and defaults are:

ACCESS GROUP	Specify the Access Group in which to place this SYSOUT dataset. The default value is “DEFAULT”. So that these are common across all installations, please use RMSC0000.
LOCATION	Specify the Location in which to place this SYSOUT dataset. The default value is “DEFAULT”. So that these are common across all installations, please use RMSC0000.
REPORT ID	The report ID to assign to this SYSOUT dataset. The default value is “DEFAULT”.
DATASET NAME	The report repository Dataset Name to assign to this SYSOUT dataset. This is the name used by the RM80001 and RM80004 programs in the SELECT statements. Default value is “DEFAULT”.
CLASS	The class to associate with this dataset. The default value is the JES class. If Owner is RMSCBASE, and Destination is RMSC0004 and the Class is left blank, the default is P to indicate that the dataset should have an index entry added to the RCDS (*Report Control Dataset*).
FORM	The form name to associate with this dataset. The default value is the JES form name.

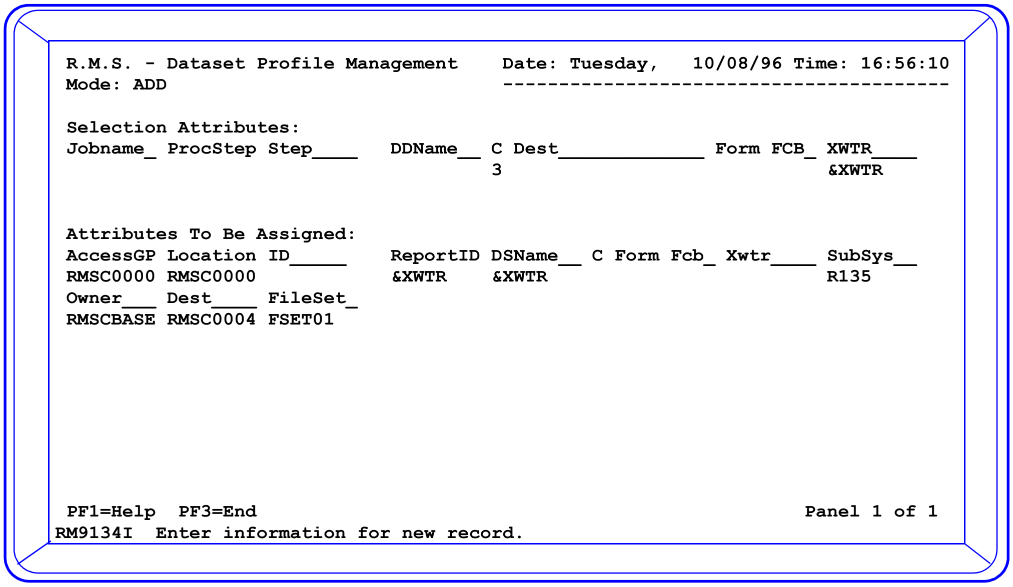
FCB	The FCB name for this dataset. The default value is the JES FCB name.
EXTERNAL WRITER NAME	This is an alternate external writer name to give to the dataset. This is useful if the dataset is going to RMS/SPOOL and a different external writer name is needed.
SUBSYS	This is the subsystem to pass the dataset to after assigning new attributes. To place the SYSOUT dataset into the RMS report repository specify your site's name assigned to the RMS subsystem. In order to send a dataset to RMS/SPOOL, specify your site's Subsystem ID for the RMS/SPOOL subsystem. ***A default value may be passed via the 'S=' parameter on the INST11 JOB. (Reference the Installation section of this manual). If a value is not entered and no default set, the dataset will remain in JES.***
OWNER	Specifies the owner of the dataset. This must be equal to "RMSCBASE" for all datasets sent to the RMS Subsystem. Other values are acceptable if the dataset is going to RMS/SPOOL.
DESTINATION	This specifies the destination of the dataset. This must be equal to "RMSC0004" for all datasets sent to the RMS Subsystem. If the dataset is going to RMS/SPOOL, specify the printer node to receive the dataset.
FILESET	Specifies the fileset to associate the sysout dataset(s) to. A fileset consists of a QXCNTRL dataset and a set of VSAM files (i.e., QXACDS, QXDCDS, QXRCDS).

Some output fields accept variables for their value. This decreases the number of specific dataset profiles needed. The valid variable names are specified in the Selection Attribute discussion. The fields accepting variables are summarized in the following table.

ATTRIBUTE	ACCEPTED VARIABLES
Access Group	none
Location	none
Report ID	&XWTR; &JOB
Dataset Name	&XWTR; &JOB
Class	none
Form	none
FCB	none
XWTR	none
SUBSYS	none
Owner	none
Destination	none
FileSet	none

NOTE: The source code for JES Exit 6 is included in the source library supplied with the product. It is possible to change the manner in which SYSOUT datasets are handled in this exit.

The following example of a Dataset Profile panel is used to select the SYSOUT for all SYSOUTs having an external writer name and a class designation of **3**. These SYSOUT datasets will be placed into the report repository for immediate viewing under Access Group RMSC0000 and Location RMSC0000. The Report ID will be the same as the external writer name. The dataset name referenced by RM80001 and RM80004 will be the same as the external writer name.



```
 R.M.S. - Dataset Profile Management    Date: Tuesday,   10/08/96 Time: 16:56:10
 Mode: ADD                              ----------------------------------------

 Selection Attributes:
 Jobname_ ProcStep Step____   DDName__ C Dest_____________ Form FCB_ XWTR____
                                       3                             &XWTR


 Attributes To Be Assigned:
 AccessGP Location ID_____    ReportID DSName__ C Form Fcb_ Xwtr____ SubSys__
 RMSC0000 RMSC0000            &XWTR    &XWTR                         R135
 Owner___ Dest____ FileSet_
 RMSCBASE RMSC0004 FSET01









 PF1=Help  PF3=End                                                 Panel 1 of 1
RM9134I  Enter information for new record.
```

Capturing JOBLOG Datasets

A JOB statement MSGCLASS may be captured and routed to an alternate JES Writer Class. This capability is implemented by adding a Dataset Profile record with the Selection Attributes of DDName “MSGCLASS” along with the selected class and the Selection Attributes To Be Assigned as the Class to be substituted. Only these three fields in the Dataset Profile record should be coded for the substitution to function properly.

As an example, suppose we want to route any jobs with the JOB statement MSGCLASS specified as U to be routed to Class V. Through the RMS/ONLINE Dataset Profile Management, create a record with the Selection Attributes of DDName, MSGCLASS and Class U and specify in the Attributes to Be Assigned area, Class V.

Capturing Report Datasets with the External Writer Interface

The most important aspect of the Transport processing subtask is the designation of the report selection criteria. Selection may be based on SYSOUT class(es) or destination id. If selection is by class, the Transport subtask will retrieve all reports within the designated class(es). Conversely, if only a destination is used, then reports for that destination will be retrieved regardless of SYSOUT class. A combination of class(es) and destination will service only those reports for the specified class(es) and destination. Whatever the selection criteria used, it is important that only those reports to be processed by RMS have these selection characteristics.

The reason for routing reports to RMS may be for back-up purposes only. In this case the best approach for selection might be to use destination selection. This would allow the installation to insert an “OUTPUT” JES statement in jobs requesting dual routing, one for local print, the other for writer selection.

The job control modifications necessary for storing reports in the RMS Repository are limited to SYSOUT DD statements. In order to route a report to RMS, its SYSOUT DD statement must be changed to match the writer selection criteria. In addition, whenever applicable, the "FREE=CLOSE" parameter should be specified to direct JES to schedule the SYSOUT for output dispatching at the time it is closed instead of waiting for job termination. Doing this will enable the dataset drain by the Transport subtask to overlap production processing.

The SYSOUT from an entire job, or from specific DD statement within the job, may be routed to RMS. The two methods that can be used to route report data are outlined in the following paragraphs.

Method 1 - Routing Individual SYSOUTS

In order to route selective reports from a job, the user would simply change the SYSOUT value(s) of the desired reports.

This method is preferred because it creates a more concise and manageable directory of repository datasets. For example, if 15 entries were created during a job, they would all have the same name using Method 2. This creates serious limitations in the management, selection, and recovery of these datasets. Method 1, on the other hand, permits the assignment of unique names to each entry giving maximum management flexibility.

Routing SYSOUT to RMS and Assigning Unique Names:

```
//jobname         JOB(whatever),MSGCLASS=A
//STEP1           EXEC PGM=pgmname
//ddname1         DD SYSOUT=(X,reportname),FREE=CLOSE
//STEPn           EXEC PGM=pgmname
//ddname3         DD SYSOUT=(X,reportname),FREE=CLOSE
```

where:

in //ddname1 statement:

X	is the class assigned.
(reportname)	is an optional report name that the user can assign to uniquely reference the report(s) created by this DD statement. If omitted, the report name defaults to jobname.
FREE=CLOSE	permits early writer processing.

NOTE: If a SYSOUT dataset is opened and closed multiple times during the job execution FREE=CLOSE must be omitted.

Method 2 - Routing All SYSOUT Data for a Job

In order to route all of a job's report output to RMS, the user need only specify a class being serviced by the writer in the appropriate Job Control Language statement.

This could be as simple as specifying the output class on the Job Card, for a job using only one class.

Method 2 is NOT the recommended method. Method 1, using the reportname field in the SYSOUT DD statement, is the preferred approach because of the additional report management capabilities it provides.

Routing All Job SYSOUT to RMS

```
//jobname         JOB (,,,,FFFF,CCC),MSGCLASS=X
//STEP1           EXEC PGM=pgmname
//ddname          DD SYSOUT=*,FREE=CLOSE
```

```
//STEP2           EXEC PGM=pgmname
//ddname2         DD SYSOUT=(*,,FFF2),COPIES=1,FREE=CLOSE
```

where:

in //jobname statement

FFFF	is the default forms type to be used if one is not specified on the SYSOUT DD statement.
CCC	is the default copy count to be used if once is not specified on the SYSOUT DD statement.
X	is the class to be used for all SYSOUT report routing unless overridden on the SYSOUT DD statement.

in //ddname statements

*	indicates that the class specified in the MSGCLASS parameter on the JOB card is to be used for the routing of this report.
	uses the installation forms, etc. or job card overrides.
FFF2	is an overriding forms type to be used for this report.
COPIES=1	is an overriding copy count for this report.

NOTE: For a more detailed description of these fields, see the Job Control Language Reference Manual for your OS/MVS operating system.

RMS CONTROLLER

Overview

The following functional components operate under the started task name of RvvrmCTL (where vvrm is the version and release level). This is the name of the procedure delivered as part of the installation material for RMS. The controller manages the following tasks:

1. Transport processing (writer)
2. Purge processing
3. Index processing
4. Output processing (services all Online print requests)
5. Recovery processing (processes archived datasets for reprint/restore)
6. Archive processing (manages datasets with an associated fileset)

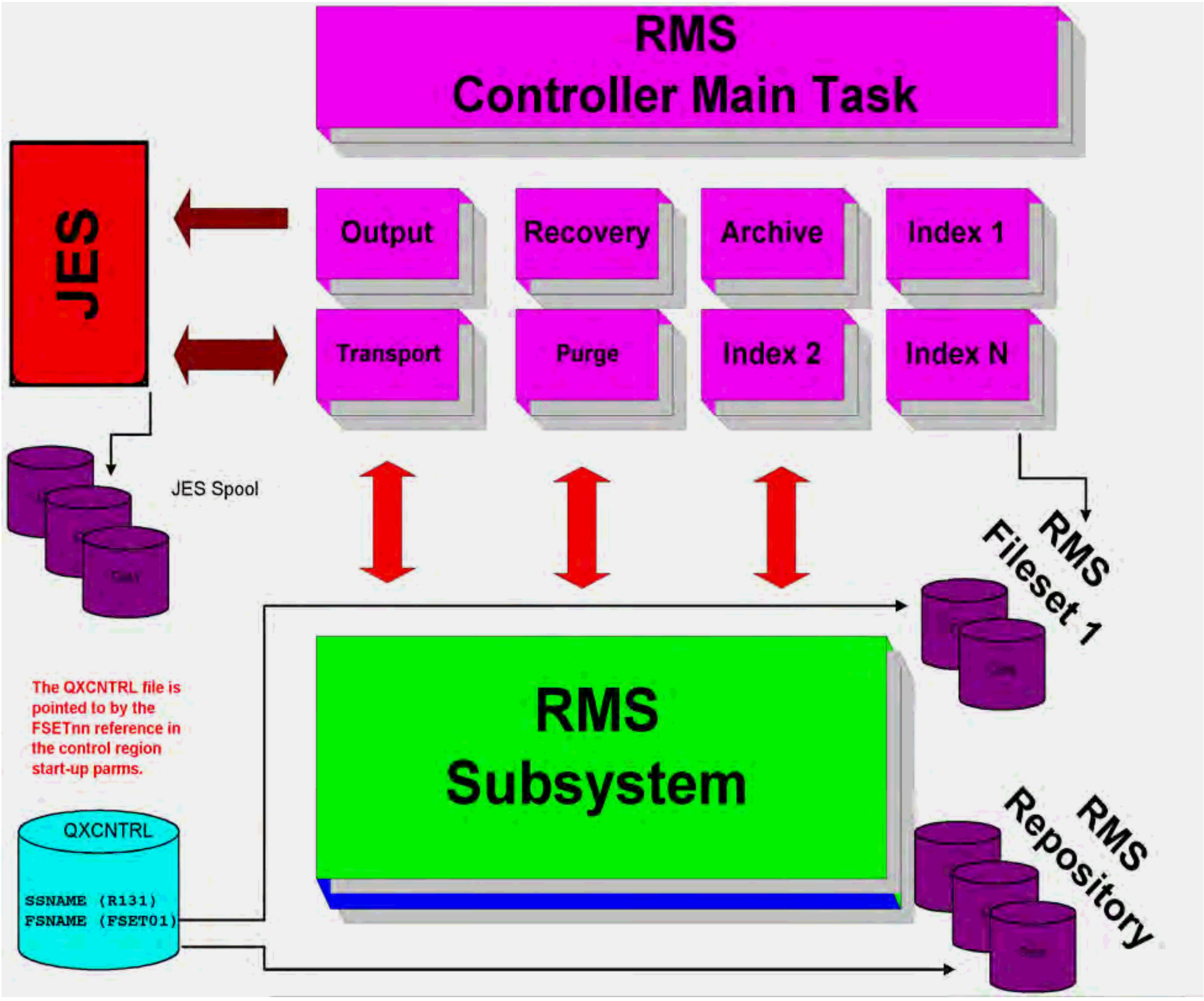
The Transport subtask component of RMS provides communication and data transfer functions between the Job Entry Subsystem (JES) and the repository. The subtask requests SYSOUT datasets from JES based on the selection criteria specified by the user. These requests use the standard subsystem interface.

The selection process is based on SYSOUT class and/or destination ID parameters supplied by the user. The selection values are specified at the time the RvvrmCTL procedure is started. In addition, new selection values may be entered at any time using the MVS MODIFY command.

Once a SYSOUT has been selected, it is moved from JES to the RMS repository. This repository is managed by the RMS Subsystem. If the dataset does not have the same class as designated in the JOBLOG*CLASS parm of the RvvrmCTL started procedure, it is added to the repository as a BASE dataset.

Task / File Relationship Schematic

From the standpoint of task structure and file relationships, the control region is structured as indicated in the following diagram.


RMS
Controller Main Task
JES
Output
Recovery
Archive
Index 1
Transport
Purge
Index 2
Index N
JES Spool
RMS
Fileset 1
The QXCNTRL file is pointed to by the FSETnn reference in the control region start-up parms.
RMS
Subsystem
QXCNTRL
SSNAME (R131)
FSNAME (FSET01)
RMS
Repository

Specifying Options

The RMS Controller accepts options from SYSIN, the execute PARM field, or both. Some of the options are valid only at initial start-up of the controller. Others may be specified on the modify command (MVS) or in response to an outstanding message number in the case of VSE. The commands fall into two categories; Process control commands and Log control commands. The following table contains information relating to the commands and the point at which the parameter may be entered.

RVVRMCTL PROCESS CONTROL COMMANDS			
COMMAND	FUNCTION	ACCEPTABLE VALUES	MAY BE CHANGED WITH MODIFY COMMAND
ARCHIOFF	Used to turn off archive processing.	N/A	No
ARCHnOFF	Used to turn off a specific archive task. N = 1-3.	N/A	No
CLASS **C**	Used to control writer dataset selection.	From 1 to 8 classes; CANCEL	Yes
DEST **D**	Used to control writer dataset selection.	Valid Destination; CANCEL	Yes
EXIT (eeeeeeee)	Used to designate the name of the processing exit for each dataset retrieved by the writer.	Load Module Name. Note: must be authorized. CANCEL	No
DEFAULT*FILESET	FileSet name for WRITER datasets.	1 - 8 character fileset name to be assigned to all datasets. Blanks and special characters are not allowed.	No
FS01 - FS08	Used to specify the FileSet association for viewable datasets.	1 - 8 character alphameric name of a DD statement in the control region JCL which points to the control file for a fileset. Blanks and special characters are not allowed.	No
INDEX*LOCK*SPAN (nnnnn)	Sets the number of consecutive write operations to the FILESET RCDS file before the file is de-queued.	100-10000	No
INDEXOFF	Used to turn off index processing.	N/A	No
INDXnOFF	Used to turn off a specific index task. n=1-8.	N/A	No
JOBLOG*CLASS **JC**	Used to control writer dataset selection.	From 1 to 8 classes; CANCEL	Yes
OUTPTOFF	Used to turn off output processing.	N/A	No
OUTPnOFF	Used to turn off a specific OUTPUT task. N= 1-2.	N/A	No
PROCESS*GROUP **PG**	Used to establish writer process group.	1 to 4 character process group identifier.	No

RVVRMCTL PROCESS CONTROL COMMANDS			
COMMAND	FUNCTION	ACCEPTABLE VALUES	MAY BE CHANGED WITH MODIFY COMMAND
PURGEOFF	Used to turn off purge processing	N/A	No
RECOVOFF	Used to turn off recover processing.	N/A	No
RECOnOFF	Used to turn off a specific recovery task. N= 1-2	N/A	No
TPORTON	Used to turn on writer processing.	N/A	No
TPORTOFF	Used to turn off writer processing.	N/A	No

RVVRMCTL LOG CONTROL COMMANDS			
COMMAND	FUNCTION	ACCEPTABLE VALUES	MAY BE CHANGED WITH MODIFY COMMAND
ARCHIVELOG*LIMIT **ALL**	Used to control the number of lines written to the ARCHIVE log file before the log is closed and re-opened.	500 - 999,999	Yes
INDEXLOG*LIMIT **ILL**	Used to control the number of lines written to the INDEX log file before the log is closed and re-opened.	500 - 999,999	Yes
OUTPUTLOG*LIMIT **OLL**	Used to control the number of lines written to the OUTPUT log file before the log is closed and re-opened.	500 - 999,999	Yes
PURGELOG*LIMIT **PLL**	Used to control the number of lines written to the PURGE log file before the log is closed and re-opened.	500 - 999,999	Yes
RECOVERLOG*LIMIT **RLL**	Used to control the number of lines written to the RECOVER log file before the log is closed and re-opened.	500 - 999,999	Yes
STATSLOG*LIMIT **SLL**	Used to control the number of lines written to the STATUS log file before the log is closed and re-opened.	500 - 999,999	Yes
TRANSLOG*LIMIT **TLL**	Used to control the number of lines written to the TRANSPORT log file before the log is closed and re-opened.	500 - 999,999	Yes

RVVRMCTL LOG CHARACTERISTIC COMMANDS			
COMMAND	FUNCTION	ACCEPTABLE VALUES	MAY BE CHANGED WITH MODIFY COMMAND
STATS*CLASS	Used to control the output CLASS of the control region logs.	N/A	N
STATS*DEST	Used to control the DESTINATION of the control region logs.	N/A	N
WL (*ALL*)	Used to close and re-open all the log files. To close and open individual log files enter the first three bytes of the log file name (i.e., PUR, REC, TRA, ARC, IND, or OUT).	N/A	Yes

Starting, Modifying, and Stopping the Controller Task

The Controller Task is managed with the following commands:

Start (S)	Initiate Processing
Modify (F)	Modify Processing Criteria
Stop (P)	Terminate Processing

Task Initiation

The controller is initiated by entering a standard start command from the operator console. The format of this command is as follows:

```
START/S PPPPPPPP,OPTION='keywords'
```

where:

- PPPPPPPP identifies the procedure name. If utilizing the procedures supplied on the installation tape, this name is RvvrmCTL.
- OPTION= allows entry of controller processing criteria to replace those specified in PROC statement symbolic defaults. The symbolic label is OPTION, and the entry format is:
- OPTION='keyword(value) keyword(value)'
- Keywords are used to specify report selection criteria to be used in place of the default specified in the PROC statement.

EXAMPLE:

1. Start RvvrmCTL
   In this example, RvvrmCTL will be started as part of the RMS control region using the default selection criteria specified on the PROC statement:
2. S RvvrmCTL,OPTION=’CLASS (Z)’.
   The value entered will cause all JES SYSOUT class Z to be processed. In this example, the writer will be started as part of the RMS control region. Notice that the options specified will override those on the RvvrmCTL procedure statement.
3. S RvvrmCTL,OPTION=’CLASS(PN)’
   This command utilizes keyword operands to specify the selection criteria. The operands shown in this example will result in the processing of JES SYSOUT for classes P and N destined for local routing.
4. S RvvrmCTL,OPTION=’CLASS(PN) PROCESS*GROUP(P1)’
   This command utilizes keyword operands to specify the selection criteria. The operands shown in this example will result in the processing of JES SYSOUT for classes P and N destined for local routing. The PROCESS*GROUP command assigns a process identifier to the writer subtask. This process identifier is used to coordinate processing among writers started with like selection criteria.
5. S RvvrmCTL,OPTION=’CLASS(PN) INDEXOFF’
   This command utilizes keyword operands to specify the selection criteria. The operands shown in this example will result in the processing of JES SYSOUT for classes P and N destined for local routing. The INDEXOFF option causes the main task not to initiate index processing for this execution of the controller.
6. S RvvrmCTL,OPTION=’CLASS(PN) INDEXOFF PURGEOFF’
   This command utilizes keyword operands to specify the selection criteria. The operands shown in this example will result in the processing of JES SYSOUT for classes P and N destined for local routing. The INDEXOFF option causes the main task not to initiate index processing for this execution of the controller. The PURGEOFF option causes the main task not to initiate purge processing for this execution of the controller.

Task Processing Criteria Modification

The processing criteria used to initiate the writer may be changed at any time via the entry of a modify command. The command format is:

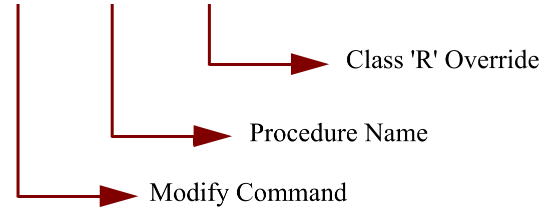
```
MODIFY/F PPPPPPPP,keywords
```

where:

- PPPPPPPP is the procedure name specified on the start command.
- “Keywords” are the keywords and their associated values for the selection criteria to be changed. When “CANCEL” is specified (where it is valid), it will disable that function.

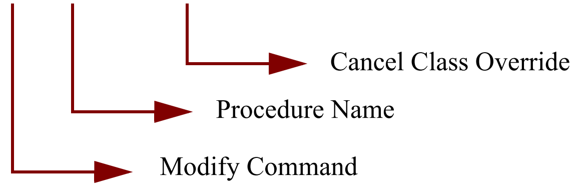
EXAMPLE: **Modify Commands**

1. `MODIFY RvvrmCTL,CLASS(R)`


Class 'R' Override
Procedure Name
Modify Command

In this example the selection criteria is changed to Class R.

2. `F RvvrmCTL,CLASS(CANCEL)`


Cancel Class Override
Procedure Name
Modify Command

Here, a previously entered class selection is cancelled. If selection by destination was also specified, processing continues with it as the criteria. (i.e... DEST(xxxx))

Task Termination

Once the writer has been started, it will continue to execute until a stop command is entered to terminate it:

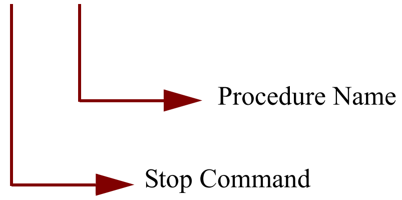
```
STOP/P PPPPPPPP
```

where:

```
PPPPPPPP is the procedure
```

EXAMPLE: **Stop Command**

1. `P RvvrmCTL`


Procedure Name
Stop Command

Modify/Stop commands are not acted upon until processing for the current SYSOUT dataset has been completed. Be patient when a stop command is entered. All the active tasks must stop before the started task will end.

NOTE: The RvvrmCTL region should NEVER be cancelled. Doing this may damage the INDEX file (RCDS).

SYSOUT Selection

The SYSOUT selection process is based on the following criteria:

- Selection is based on output class and/or destination identifier.
- Classes 0-9, A-Z may be selected.
- No more than eight (8) selection classes per writer.
- Any valid JES destination id may be specified.
- Classes/Destinations are specified in the execute parm list or the console start command.
- Classes/Destinations may be changed during processing via the modify command.
- Held SYSOUT datasets are not selectable.

SYSOUT datasets are presented to the Transport processing subtask as discrete datasets by JES. If the JOBLOG*CLASS parameter is included, all datasets of the specified class that do not have a specific name will be concatenated to form one repository dataset for a job.

Log File Management

Each RMS Controller Task dynamically creates a log file to inform the user of actions taken by the task. The log files are produced in a format easily printed or viewed.

Log files are spin disposition sysout datasets. These files are automatically closed and re-opened every nnn lines depending on the value for the log limit set for the subtask in the start-up parms for the Controller. You may force the log file closed by entering a modify command for the controller task using one of the following:

MVS

F RvvrmCTL,WL(ALL)	Write ALL LOG FILES
F RvvrmCTL,WL(abc)	Write INDIVIDUAL LOG FILES Where abc is equal to the first three positions of the log file name (ARC, IND, OUT, PUR, REC, TRA).

VSE

(msg #) WL(ALL)	Write ALL LOG FILES
(msg #) WL(abc)	Write INDIVIDUAL LOG FILES Where abc is equal to the first three positions of the log file name (ARC, IND, OUT, PUR, REC, TRA)

Log files are routed based on the information in the STATS*CLASS and STATS*DEST parameters in RvvrmCTL.

Chapter 3

IMPLEMENTATION STRATEGY

Overview

RMS performs ordering, routing, and output media control of report data in accordance with distribution definition information. RMS/DD, a component of RMS/ONLINE is used to provide the information necessary to consolidate, package, and create index information for reports that are to be distributed.

In this section we discuss the use of RM80004 as it relates to the Distribution Definition component of RMS/Online. As such, we define a step-by-step process necessary to prepare an instruction set to distribute a group of reports. Think of it as a cook book approach for utilizing RM80004 to meet your distribution needs.

We assume that all necessary software installation has been performed. (*See RMS Installation Guide* in Chapter 11.

At this point, the actual implementation of the distribution system is ready to begin. It is your responsibility to select a group of reports for distribution by RM80004. This chapteris intended for use by the RMS/Online system administrator and/or access group administrator.

ADMINISTRATOR RESPONSIBILITIES

Installations considering the implementation of RMS/ONLINE should note that the system requires that someone be designated to define, control, and manage the viewing environment. Therefore, it is worth designating someone to act as a focal point for the addition of new reports and the overall security of the reports. The system administrator for RMS has the following major areas of responsibility:

- Determination of report distribution requirements
- Defining a report management structure
- Creating and maintaining a report management database
- System Security
- Establishing and adjusting retention thresholds
- Establishing archive retention requirements for reports
- Assisting users in answering questions about RMS

Some of the tasks performed by the distribution administrator are outlined below.

Determining Report Management Requirements

The results of any effort to add structure, efficiency and effectiveness to the management of your organization's reports will be questionable at best if they don't match the real needs of the users of those reports. Very few installations will be able or willing to quickly commit the majority of their reports for on-line viewing. Within the framework of a management policy regarding what types of report data will be available for viewing, the system administrator must determine those reports where on-line viewing is the most cost effective and efficient method of presentation. Factors relating to timely presentation, availability, training of users, and number of users must be considered.

Planning a Managed Report Environment

Users of RMS have already made a decision to aggressively pursue a structured report management environment. These users have logical groups of reports that, in the majority of cases, fall into application or time-slot categories.

RMS will allow you to add structure and organization to your output management cycle. It permits you to bring one report at a time under its control until the desired results are achieved.

Report Management Database

You describe the basic structure of your report distribution environment to RMS/ONLINE by creating the following types of records.

Access Group Master	This record is used to control use of certain system resources.
Location Master	The Location Master record contains data that uniquely identifies a distribution location in your organization. It also contains default print characteristics for that particular location.
User Master	The User Master record contains the user ID and sign-on data for a valid user of the system. The User Master also contains security profile information.
Retention Control	Retention Control records are used to designate the retention criteria for resident reports and report tracking information.
Distribution Definition	Defines the distribution requirements for a specific set of users.

System Security

RMS Resource Security permits the use of no security, user-defined security (*via an exit facility*), and security at the access group, location and report level.

The user identification must be defined to the system unless a sign-on exit is used which provides this identification. This user identification may be from 1 to 8 characters and you may elect to use the CICS or TSO user ID.

If a User Master is created without a password, security checking at sign-on is bypassed. In order to use any administrative function, a particular user must be defined as an administrator.

RMS/ONLINE provides security on a promotable basis. Consider the basic security hierarchy defined in the user master record:

ACCESS GROUP	a controlled group of reports
SECURITY GROUP	one or more users
RESOURCE TYPE	transaction, location, report
ACCESS TYPE	all or partial

A particular user is granted partial or complete access to a given resource for a given access group and security group.

Transactions and reports may be secured for given security groups. The user master record provides the basic level of control. It specifies the access group/security group/resource combinations that are valid for a particular user. The user may be assigned one of two types of access to a particular access group/security group/resource combination. Type “A” (*all*) access permits access to all of a particular resource in an access group. Type “P” (*partial*) access causes the system to validate access to the transaction or report by reading the security profile records for that resource.

Consult the documentation for Resource Security for an overall discussion of the interaction between user profile information and security information.

Repository Management

The system administrator is responsible for controlling RMS and the reports managed by the system. Depending on the installation, the administrator may be called upon to increase space allocations for the repository. Chapter 4 contains a discussion of additional administrative tasks relating to repository management.

DISTRIBUTION CAPABILITIES

Taken together, all components of RMS represent 350 years of development and a lot of knowledge from our customers. There is very little in the way of report management that can't be done with RMS. Getting the big picture is important for your success, and for the successful implementation of the system. Your knowledge of the system and its capabilities will have a tremendous effect on the return on investment for your enterprise.

The RMS distribution component provides the following capabilities.

Consolidation of Reports

RM80004 will combine the data from selected reports so that the reports for each distribution endpoint can be output as one continuous stream of data. This dramatically reduces both the distribution work load and the possibility of error. Other uses include the production of composite microfiche, mainframe mastered CDs, and transmission files.

Copy Variation

Each distribution endpoint may be given a different number of copies of the same report. This copy flexibility permits easy response to the changing needs of the distribution network without waste or overhead.

Priority Output

Through the use of the priority command, high priority distribution endpoints may be assigned a priority to cause their output to be produced before other endpoints. The priority scheduling of output can be useful in meeting courier or transmission deadlines. High priority remote output might be handled in this manner.

Sending Reports

The Send Report capability permits report data destined for a particular distribution endpoint to be sent to additional endpoint(s). Broadcast is useful when one report has to be routed to multiple end users.

Assignment Of Specific Output Attributes

Output attribute assignment is an important distribution capability. For instance, it implies that the report data for multiple distribution endpoints can be produced in one sysout and have individual attributes such as class, disposition, form, and copy count may also be assigned.

Data Stream Insertion

Through the use of simple commands, information can be inserted before, on, or after individual reports. The insertion can be specific, limited to a report for a user, or global, all reports for all users, or any combination of the two. This facility can be especially useful in the use of output devices that require in-stream definition commands, i.e., page printers, on-line microfiche units. In addition, a user can customize his separator pages, supplying a report use description or additional distribution instructions.

Deletion of Unwanted Report Data

Report data that is no longer desired may be deleted. This may be accomplished by specifying a page format identification record that indicates the deletion of an entire report, or by specifying copy count of zero for a particular report/endpoint combination.

Selection of Total/Control Data Pages

The total or control pages of a report entry may be separately selected for distribution. Another potential use for this facility is for the creation of a “statement of condition” report for the processing installation by extracting total or file balancing data pages from the spooled report entries. In this way, a small report can be produced on a daily basis that serves as an installation check-point document.

Production Of Output Separators

Distribution separators containing up to 8 blocked letters for flag data, and user defined message data may be produced for each endpoint.

The number and presence of separators are optional. The front separator contains the word ‘START’, the date and time the packet production was started, and the message data. The trailing separator contains the word ‘END’, the date and time the packet production was ended and the message data.

Media Control - Softcopy, Desktop, Hardcopy, etc.

RMS supports 8 standard medias making a report available on-line is as easy as distributing that report to a user with a media type of SOFTCOPY, Desktop delivery or reports works the same way

STEPS IN CREATING A DISTRIBUTION DEFINITION

In order to ensure a successful report management implementation, you must first identify the information necessary and all the tasks to be performed. The following presents a possible project plan that could be used to implement RM80004.

Step 1 - Obtaining the Necessary Information

The first task in our implementation consists of gathering information that will be needed in subsequent points in the project cycle. This information is:

RM80004 Sample Job Control

Included on the RMS installation tape are two example job control streams. These job streams can be used as models for your production RM80004 execution streams. They are in-stream procedures and are named:

RMSMAP	example RM80004 map job.
RMSRUN	example RM80004 distribution job that will distribute the case study reports.

Class and/or destination ID serviced by the External Writer

The Job Entry System Interface is accomplished using the external writer. The writer is designed to retrieve data from the Job Entry System based on pre-determined classes and/or destination ID. In order to make the job control changes required to identify reports to be serviced by the writer, this class and/or destination must be known. This class/ destination ID was selected when the product was installed. Use of a unique destination is strictly optional. The class used may be any class not being used by other applications.

Step 2 - Selecting a Group of Reports

In this task we select the reports to be distributed by RM80004. This selection process involves the following steps:

Identifying a Distribution Report Group

A distribution report group consists of those reports that, due to some specific relationship, should be distributed together. Each report group represents a logical point in the processing cycle where distribution should occur. The relationships on which this grouping is based could be any of the following:

- Processing schedules which require that we process groups of users for a given application. This could occur when the input to an application is available based on a delivery schedule. In this case, distribution could be performed by processing group.
- Output availability schedules that require that certain reports be available for distribution at specific times during the processing cycle. This would occur in situations where output shipment is tied to deadlines, for example, remote transmissions, or courier routes.
- Related information could also constitute a grouping, for example, all reports for an application processing cycle.

First Time Users - Selecting a Benchmark Group

We should start with a few reports, maybe a small application. Remember, during the trial period we are working within a finite time frame. Also, limiting the number of reports allows us to implement quickly, gaining confidence, and the knowledge necessary to apply the concepts to larger conversions.

- Upon completion of this task, copies of the selected reports must be available in the repository. Therefore, the reports we choose must be easily reproduced, preferably by a controlled rerun or from some type of backup media.
- Select reports that provide the most return from your implementation efforts. The reports we choose should be ones that cause problems for the normal distribution process. Benefits resulting from the implementation of RM80004 will be more evident with these types of reports.

Step 3 - Capturing Selected Sysout Datasets

In this task, the base datasets containing the selected reports are placed in the repository. These datasets must be available for use in subsequent tasks. The creation of base datasets may be accomplished in any of the following manner:

- Produced from a previously created back-up source
- Produced as the result of a controlled re-run
- Produced during the normal production processing cycle.

The effort involved in any of these methods depends on the operating system environment.

Report Creation for OS/MVS

Report entries are placed in the RMS repository using the external writer interface or RMS Subsystem Interface. This processing occurs when the JES spooling sub-system encounters a report stream assigned an output class and/or destination ID designated for processing by the RMS writer. The class and/or destination assignment is made via the JCL SYSOUT DD statement associated with desired reports. The JCL changes necessary to trigger writer processing are as follows:

EXAMPLE: **SYSOUT DD Statement**

```
//PRINT DD    SYSOUT=(X,REPTNAME,STK1),
//            DCB=(RECFM=FA,BLKSIZE=133),
//            FREE=CLOSE
```

where:

`X`	indicates the SYSOUT class serviced by the writer
`REPTNAME`	is the unique name to be assigned to the base dataset from the SYSOUT DD,
`STK1`	indicates the form name

Report Creation for VSE

Report entries are placed in the RMS repository using the transport server interface. This processing occurs when POWER receives a report assigned to an output class/or destination ID designated for processing by the RMS transport server. The class and/or destination assignment is made via the POWER JECL LST statement.

EXAMPLE: **LST statement**

```
* $$ LST CLASS=X,DEST=(RMS,REPTNAME)
```

where:

`X`	indicates the class serviced by the transporter.

Regardless of the method used to produce the reports, the previously outlined JCL changes must be made. The following procedure can be used in making these changes.

First, obtain copies of the JCL procedures that will be used to create the reports. Using these copies, we can make the necessary changes and thoroughly test them without impacting normal production processing. In the case of the controlled re-run or normal production cycle report create, the JCL copies can be retained for use when we place RM80004 into production.

For MVS, scan the JCL copies to locate the SYSOUT DD statements containing the selected reports. As we encounter these DDs, the SYSOUT class and/or destination ID are changed to indicate RMS processing.

For VSE, adding appropriate POWER JECL LST statements will segment the report(s) and allow the transporter to process them via class/and/or destination ID.

We can also assign names to each of the SYSOUT datasets. In addition, they should be constructed in a manner that will allow the user to take advantage of name selection options used by RM80004.

EXAMPLE: **Report name**

SLG10001

where:

`SL`	user application sales accounting
`G1`	processing group one (1), i.e., district, region, courier deadline
`0001`	serial number of report within application processing flow.

A report name patterned along the lines of this example is meaningful since it indicates the creating application system (SL), and the processing group (G1). This makes it immediately recognizable by the operations staff for reference purposes.

It also provides for two levels of report selection through the use of GNAME qualification. This allows the user to specify selection of all reports whose names carry the application prefix:

```
DS PREFIX ==> SL
```

or

All reports whose name is prefixed by the application and processing group values:

```
DS PFEFIX ==> SLG1
```

or

All reports whose name includes the processing group ID:

```
DS PREFIX ==> **G1
```

and

Of course, full name selection may also be used:

```
DS NAME ==> SLG10001
```

Special care should be taken to ensure that the character “@” is not used as the first character of a base dataset.

Once the JCL changes have been made and tested, we should schedule an actual report creation run.

- Ensure that the writer task is started during the report creation process. This is necessary in order for JES/POWER to route the report data streams to the repository.
- If reports produced as the result of a normal production processing cycle must be printed in addition to being placed in the managed dataset, you must run a RMS/ARC report print execution that returns a copy of the report(s) to JES/POWER for subsequent printing. The managed dataset copy is left intact.

Step 4 - Determining Distribution Requirements

In this task, we gather the information necessary to define our distribution requirements to RM80004. This information may be obtained via interview sessions with the individual currently responsible for distribution. The report recipient is an even better source of information. Many times reports are produced which are no longer needed and a telephone interview with the user will uncover their real needs. Upon completion of the interviews, we should have the data necessary to define our distribution key format to RM80004.

Interview Sessions

The majority of our questions are directed to those currently handling output distribution. However, depending on any microfiche and/or RJE transmission requirements, there may be individuals in other areas to interview (i.e., Technical Support, Application Programming, Production Control).

Several pages of subject reports may be needed for reference as we conduct our interviews. As a result of the previous task, our reports are now in the repository. We simply need to request a copy of each to be printed. This can be accomplished by:

1. Submitting a report print job. *S*ince an RMS/ARC print request does not delete reports, they will be available for later use.
2. Viewing the captured report at a terminal.

We are now ready to begin our interview sessions. The following questions provide an outline for the topics to be discussed:

Report Ownership

1. To whom are the reports distributed?
2. What information from the report pages, if any, do you use in determining ownership (*i.e., client name/number, department name/number, etc.*)?
3. What external information sources, if any, do you use in determining report ownership (*i.e., distribution control list, memory, etc.*)?

Report Breakdown

1. Does every distribution recipient receive complete copies of each report?
2. Do the reports require further breakdown based on values from each report page (*i.e., by company, department, bank, branch, etc.*)?

Special Handling

1. What is the normal number of copies of each report the distribution points are to receive?
2. Which distribution endpoints receive a number of copies differing from the norm?
3. Are copies of an endpoint report distributed to another endpoint?
4. Are there any special routing instructions for any of the endpoints?

Output Media Format

1. What type of output is to be produced *(i.e., print, microfiche, remote transmission*)?
2. By distribution endpoint, what are the output media requirements?
3. What remote destination ID's are used for remote transmission?
4. What is the relationship of endpoints to the remote destination ID's (*which endpoint(s) goes to each remote ID*)?
5. What report output classes are to be used for printed output?
6. Are there any other output media types that have not been discussed?

Distribution Hierarchy Definition

The information obtained from the interviews now allows us to determine the data elements necessary to distribute our reports. Review of this information will provide the answers to these questions:

1. Does our distribution involve multiple output types (*i.e., print, microfiche, remote transmission, etc.*)?

2. Are we distributing to multiple endpoints (*i.e., company, bank, plant, division, region*)?
3. Are there additional subordinate levels of distribution breakdown within each endpoint (*i.e., department within company, branch within bank, client within region*)?

Answering the above questions will dictate the recipient fields that will make up our distribution key. Each of these elements represents a level potential distribution breakdown that is used to cluster report pages into related groups *(i.e., all report pages for the same output type, all report pages for a client within an output type, all report pages for a client within a region within an output type*).

Record your findings for future entry on the Distribution Options panel. Once we have determined the recipient fields and distribution order, we enter this information using the Distribution Options panel of RMS/DD. Distribution Instruction Sets must have a unique name assigned. This name is from 1 to 16 contiguous alphanumeric characters. The Distribution Options record is always the first record created in each instruction set.

Step 5 -Producing Report Maps

At this point in our implementation we are ready to begin entering the distribution definition. In order to define reports, it is necessary to have mapped copies of our reports.

The purpose of the report map is to provide the page coordinates of the information to be used by RM80004 for report identification and recipient field development. This information is provided to RM80004 via the Custom Report Definition Panel.

Maps are produced by RM80004 using a RUN*OPTIONS command specifying the MAP operand (*see RUN*OPTIONS command, located in the Appendix section of this manual*) and the SELECT command to indicate the BASE dataset entries to be mapped.

The production of a map requires the use of one of the job control unloaded from the install tape in the first installation task. The name of this job stream is RMSMAP. Before submitting this job, review the JCL parameters making any necessary changes required by your installation. You must also change the RM80004 command stream to include the SELECT commands that refer to base dataset entries produced at your site.

Step 6 -Entering the Distribution Instruction Set

As the result of previously completed tasks, you now have the information necessary to enter the distribution instruction set. This information includes:

Base Dataset Names

These are the names of the report SYSOUT datasets placed in the repository. These names are assigned based on methods discussed earlier.

Define Distribution Requirements

The information gathered from our interview sessions provides an explanation of how the reports are to be distributed.

We have determined the distribution order and recipient of the key elements necessary to produce our reports in the appropriate sequence/groups.

Maps of the Reports

The previously created report maps define the page coordinates of the data on each report.

RM80004 PROCESSING SUMMARY

The distribution component of RMS (RM80004), interprets the distribution instruction information prepared using RMS/DD.

For example, reports produced by an application system may contain report information for ten divisions within a single company, each of these with different routing and distribution requirements (*i.e., some may be at remote locations, others are local, other divisions may have different media requirements such as hardcopy and/or microfiche).*

Ideally, this data would be consolidated by division and then each division's report "packet" made available for any unique routing and distribution requirements. RMS allows complete distribution customization by endpoint without application or system software changes.

No matter what the distribution requirements, the following steps take place for reports distributed by RMS.

1. Your application systems produce reports. These reports are placed directly into the RMS repository if the subsystem interface is used, or moved from the JES spool to the repository if the external writer interface is used.
2. RM80004 distributes a selected set of reports using the instruction sets produced by RMS/DD. There is no limit to the number of report datasets that may be distributed in a single invocation of this program.
3. The RMS Controller INDEX task adds the index information by RM80004 to the appropriate index files set.
4. The RMS Controller Archive task(s) create retention-based archives for all the reports identified during the distribution as candidates for this type of archive.

RM80004 PROCESSING FLOW

As reports are created by application programs, they are placed in the report repository by the external writer interface or subsystem interface. Once all reports for a distribution group are available in the repository, RM80004 is invoked to distribute reports in that distribution group.

The distribution process has two input sources, RMS/DD instruction sets and the repository containing base datasets to be distributed. Instruction sets are used to define and tailor each execution for a specific group of reports. These instruction sets produce commands which can be logically grouped into three categories.

COMMAND TYPE	EFFECT ON SYSTEM
Process Control	Commands in this category are used to define processing options applicable for a given RM80004 execution. These records provide system control values (*i.e., command buffer space*) and output limits (*i.e., maximum output pages*). Also included in this group are commands which define the distribution hierarchy.
Input Process	These commands are used to identify the base datasets that are to be processed. Once report selection has occurred, other commands supply the information necessary to distribute reports (i.e., page coordinates of any recipient identifier field, and so on).
Output Process	Output process commands are used to identify each distribution location and to assign output attributes (*i.e., output class, destination ID, record length, etc.*). Another command in this category is used to insert external data at specific points in the output stream. Through the use of these commands, page printer and microfiche unit control information may be inserted before or after any report and/or endpoint

The distribution process performed by RM80004 proceeds in three distinct phases. These phases are Scan, Order and Output.

Scan Phase

In the scan phase, all commands are read, edited, and stored in the system command buffer. The selected base datasets are read, the retrieved report pages are interrogated and distribution keys developed. During this phase, RM80004 operation is based on the following principles:

Principle 1. Page Delineation

A base dataset report is a collection of pages which can be individually identified by a top-of-form print control character (usually channel 1).

Page 1	Top of Form
Page 2	Top of Form

Principle 2. Determination of Ownership

For each page of a base dataset, RM80004 can determine the ownership by one of the following:

1. The base dataset name.
2. A unique data string on the page, such as a title.
3. The actual ownership information, such as company 001.

4. A combination of the above.

Principle 3. Ownership Information Location

The ownership information for each page within a report is in a consistent location.

Line 1==> Line 3==>	Trial CO 001
Line 1==> Line 3==>	Trial CO 002

Principle 4. Report Identification

For each different page of a report there exists a data string that will enable RM80004 to determine the ownership. This data string is called **Report Identification Data**.

Line 1==>	Trial CO 001	The occurrence of the data string “TRIAL” on Line 1 indicates the company number is on Line 3 starting in Column 5.
Line 1==>	Journal CO 001	The occurrence of the data string “JOURNAL’ on Line 1 indicates the company number is on Line 3 starting in Column 128.

Principle 5. Page Ownership

For each page of a report, RM80004 can construct a “key” that will contain the ownership or routing information.

Report Page(s)-- Distribution Key(s)--------------

Trial CO 001		Page 1 BR 88	00188	
Trial CO 001		Page 1 BR 89	00189	

Principle 6. Output Sequence Determination

The information in the key determines the sequence of the output. The lowest keys are output first. Pages having like keys are adjacent to each other in the output stream.

Report Page(s)-----------------------------------Distribution Key(s)-------------------

Trial CO 001 BR 88	00188
Edit CO 001 BR 88	00188
Trial CO 001 BR 89	00189

Using the preceding concepts, the scan phase of RM80004 develops a distribution key for each report page to be received by a distribution endpoint. In many cases, multiple distribution keys may be developed for a single page. This occurs when an endpoint is to receive more than one copy of a report.

EXAMPLE: **Branch 88 receives two copies of its TRIAL report.**

Report Page(s)---------------------------- Distribution Key(s)----------------------

Trial Page1 CO 001 BR 88	00188 (copy 1) 00188 (copy 2)
Trial Page 1 CO 001 BR 89	00189 (copy 1)

Multiple distribution keys for the same report page are also generated for a report page that is to be distributed to multiple endpoints.

EXAMPLE: **Branch 89 receives one copy of Branch 88's Trial Report.**

Report Page(s)---------------------------- Distribution Key(s)-----------------------

Trial Page 2 CO 001 BR 88	00188 (Branch 88 copy 1) 00188 (Branch 88 copy 2) 00189 (Branch 89 copy 1)

As the distribution keys are developed, they are placed in very small records to be sorted by the order phase. Along with the distribution keys, these records contain the location of the report page in the base dataset.

Order Phase

Once the scan phase has been completed, RM80004 dynamically invokes the installation sort program to order the distribution records. The output of the order phase is a file sequenced by distribution endpoint. It should be noted that at no time is the actual report data sorted. Only the generated distribution keys are sorted.

Output Phase

In the output phase, the sorted distribution records are read. The report page location stored in the record is used to retrieve the report page from the managed dataset. The contents of the sort record distribution key are analyzed and then packaging requirements are determined.

Packaging requirements are determined by comparing the distribution key values with the values specified in the Custom Packaging and Automatic Packaging records. Each time a match occurs, the corresponding report page is written to an output report file with the desired attributes (*i.e., class, destination ID, etc.*). Since the distribution keys have been sorted by ownership, the result of the output process is that all the report pages for each distribution endpoint are now together in a single output stream.

DISTRIBUTION INSTRUCTION SETS.

The RMS Distribution Definition Facility

RMS/DD permits you to enter and maintain detailed instructions relating to your report distribution environment using a series of formatted panels. You can view these instruction sets as automated replacement for the manual instructions you may now maintain in a notebook in the distribution area. RM80004 uses the instruction set entered in the INSTRUCTION*SET*NAME parameter in the RUN*OPTIONS command.

Instruction Set Records - A Functional Description

Distribution set records are used to perform the following:

1. Establish a distribution hierarchy
2. Set run-time distribution options

3. Designate which datasets are to be distributed
4. Define packaging and output characteristics and order

Distribution Options

This record contains a definition of the distribution hierarchy, media production priorities, and indicators outlining the various system run-time options (*diagnose, for instance*) selected by the distribution administrator. It is the first record constructed for each distribution set.

Copy Control

Copy Control records contain information relative to the non-default copy variation requirements for the report group processed by the instruction set.

Send Report

Send Report records permit the shipment of a report to alternate recipients in the distribution network. There is one record for each unique alternate endpoint/report combination.

Translate

Translate records are used where information appearing on the report does not permit correct collation or routing of the report.

Package Control

These records control the packaging of output.

Dataset Selection

These records designate which repository datasets contain the reports to be distributed during the distribution system execution.

Report Definition

Actually, there are two types of report definition records, one for custom definition and another for automatic definition. These records define the individual reports that will be distributed by RM80004.

Report definition with RMS/DD is accomplished using “Implicit Definition”. The RMS system is the only report management system, to our knowledge, that uses this technique. Other systems use “Explicit Definition”. The differences between these two techniques are subtle and somewhat difficult to understand. It is, important, however, that you comprehend the differences.

Explicit Definition

Let’s start with Explicit Definition. Explicit Definition is nothing more than using a formatted screen to update a distribution database with unique records containing search argument information for every possible search argument iteration or combination that might ever be encountered when the distribution system is processing any of your report data.

For example, suppose you had twenty reports identified as Reports A through T and the reports are to be distributed to 100 endpoints (*bank branches 1 through 100*). With Explicit Definition, it would be necessary for you to build 2,000 database records containing the equivalent of ReportA/Branch 1, ReportA/Branch 2 - ReportA/Branch 100. You would then do the same for Report B through Report T.

If you required additional output media for the Report/Endpoint pair (*such as microfiche, in addition to hardcopy*), it would be necessary to repeat this process in its entirety.

Explicit Definition has two major drawbacks:

1. Voluminous data entry.
2. Equally heavy on-going maintenance.

Implicit Definition

Implicit Definition uses Default/Exception processing as its basis. In the previous example using Implicit Definition, each report would be described only once *(in this case 20 updates to the database)* and the 100 recipients (*bank branches 1 through 100*) would be described only once (in this case 100 updates to the database). The record pairs that are normally created by the data entry process using the Explicit technique are now created dynamically using the Implicit technique. All dynamically created record pairs are assigned a default set of output attributes. Only exceptions to those defaults would require additional entries into the distribution database.

For instance, if 98 of the 100 branches wanted 2 copies of report A, then the record defining that report would contain a default copy count for all branches of COPIES=2. The exceptions, in this case, branches 99 and 100, would be entered into the database as exception records for Report A indicating that in processing Report A, if branch number equals 99, then send 1 copy of Report A to that branch, and if branch number equals 100, send 3 copies of Report A for that branch. The distribution database would contain only 122 records in this example of Implicit Definition.

In order to give you some idea of the significance of the difference in data entry requirements of these two techniques, we have provided the formulas to calculate the number of screens of one of the more popular Explicit Definition systems along with the formula to calculate screens using Mantissa’s RMS system.

EXPLICIT	IMPLICIT
Reports x 2 x # Recipients = # Screens	Reports + # Recipients = # Screens

Applying these formulas to our example of 20 reports for 100 recipients (bank branches), the results would be:

EXPLICIT	IMPLICIT
20 x 2 x 100 = 4,000 records	20 + 100 = 120 records

If you try to use RMS/DD as an Explicit Definition system, you create tremendous overhead both for yourself and your processing center.

CREATING A DISTRIBUTION DEFINITION

RMS/DD Transactions

Before getting into a detailed description of the individual transactions, it is worth the time to discuss the application flow for administrative transactions. If you use the menus, gaining access to the RMS/DD facilities requires the following steps:

Step 1 Sign-on to RMS/Online. The Primary Menu is presented.

Step 2 Select Option 3 on the Primary Menu. The Distribution Definition Primary Menu is displayed.

Step 3 Select the desired transaction. Entering ADO would cause the Add Distribution Option panel to be presented.

After the requested operation is performed, the user is prompted for entry of the next field. You may use the End PF key in order to return to the Administrative Menu or the Return PF key to exit RMS/Online.

Access Authorization

The user's first interaction with RMS/Online for each session (*a session is the time between sign-on and sign-off*) is through the Access Authorization panel. The Access Authorization panel may be by-passed completely by entering the user ID and password (*if any*) after the transaction code.

The transaction code necessary to invoke RMS/Online is assigned by your installation. The Access Authorization panel appears after entering this transaction identifier. Information entered on the panel is used to establish the Access group and the identity of the user. If security is used, the password field is compared to either the password field in the User Master record or to the password in the installation security system for access verification.

The NEW and VERIFY passwords may be entered by the user to establish a new password.

Primary Menu

Depending on RMS/Online installation options, the Primary Menu may be presented immediately after sign-on. As the name suggests, this menu is the initial entry point for all RMS/Online transactions. In the case of Distribution Definition, Option 3 is selected.

RMS/DD Menu

After selecting Option 3 on the Primary Menu, the Distribution Definition Menu is displayed. Transactions are available for the records maintained by the RMS/DD component of RMS/Online: Add and List. The first character of various options indicates the type of transactions: A, L, for Add and List transactions respectively.

Add Transactions

If you select one of the Add transactions, "ADO" (*Add Distribution Options*) for instance, the Distribution Options Panel is presented with a message asking for record information. When the data has been entered, pressing Enter will complete the transaction.

List Transactions

List transactions permit you to select various record types on a generic basis. Once the list is presented, you may then key A, C, D, and I for Add, Change, Delete and Inquire, respectively, in the ID field on the list panel. The advantage of using the List transactions is the reduction in the amount of keystrokes necessary to retrieve and update Instruction Set records.

Terminology

Now that you are ready to create your first distribution instruction set. In order to understand the concepts presented by this material, it is necessary that you understand the following terms:

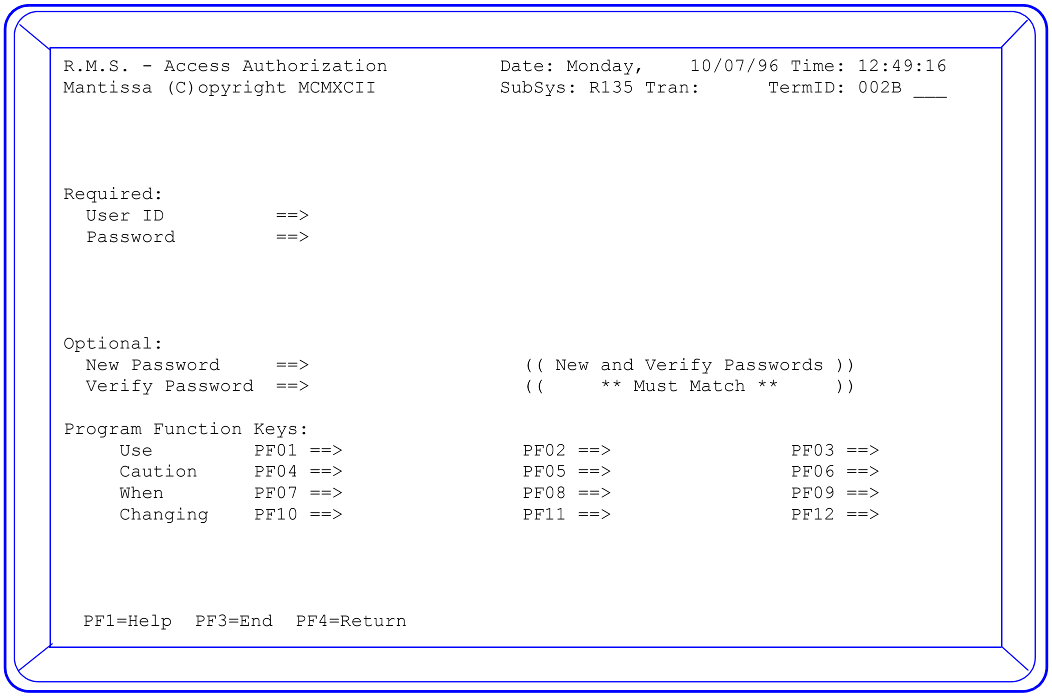
Distribution Key	Up to 30 characters of user defined information that identifies ownership of a group of report pages. The key information can be made up of data residing on the report and/or constant data supplied by the user. The 30 characters can be subdivided into a maximum of 9 separately accessible recipient field elements. Distribution key definition is performed using the Distribution Options panel. RM80004 assigns a distribution key for each report page distributed.
Logical Report	Each unique page format that can be identified to RM80004. A sysout dataset can contain 1 or more logical reports.

Instruction Set	A set of instructions that control one execution of RM80004. This set of instructions will: 1. Determine the datasets selected for processing from the repository. 2. Define the logical reports within the selected datasets. 3. Define the output media requirements for the processed reports.
Recipient Field	One element of a Distribution Key that will determine the output sequence of reports processed by RM80004. These usually represent the hierarchy of an organization. For instance, if your organization consists of divisions that are subdivided into regions, your distribution recipient fields can be DIVISION and REGION. The recipient fields are described on the Distribution Option panel (*ADO from the main menu*).
Packet Manifest	A report produced (*optionally*) at the end of each packet. It contains information about each report within that packet. Sometimes called an INDEX Report.
Global Manifest	A packet that contains a copy of all packet manifests for a given RM80004 execution. It is dynamically created and will be placed in Class A with a name of MANIFEST.
Base Dataset	Refers to a report entry residing in the managed dataset. Each of these base datasets consists of the report data for each sysout produced by the program.
Report Page	A group of report lines that is preceded by a top-of-form printer carriage control character (*usually channel 1*).
Report Page Format Data	Any contiguous string of characters, including blanks, appearing on the report page that allows distinction of one report from another, i.e., report titles.
System Command Buffer	Storage area used to store RM80004 commands. The command buffer size can be varied by RM80004 execution.

Step by Step

We are now ready to begin the actual data entry for the selected report group. If you are familiar with RMS/Online, you may bypass the following pages relating to system sign-on and menu selection.

Access Authorization Panel



```
R.M.S. - Access Authorization          Date: Monday,    10/07/96 Time: 12:49:16
Mantissa (C)opyright MCMXCII           SubSys: R135 Tran:      TermID: 002B ___





Required:
  User ID          ==>
  Password         ==>





Optional:
  New Password     ==>                   (( New and Verify Passwords ))
  Verify Password  ==>                   ((     ** Must Match **     ))

Program Function Keys:
     Use         PF01 ==>                PF02 ==>                PF03 ==>
     Caution     PF04 ==>                PF05 ==>                PF06 ==>
     When        PF07 ==>                PF08 ==>                PF09 ==>
     Changing    PF10 ==>                PF11 ==>                PF12 ==>




  PF1=Help  PF3=End  PF4=Return
```

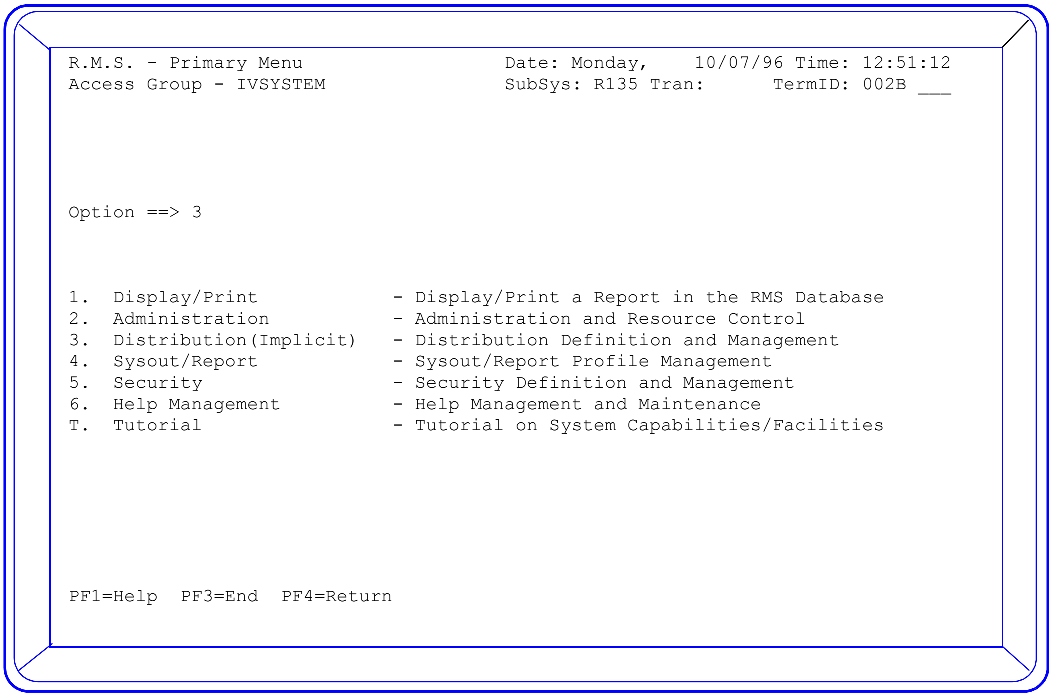
Figure 1. Access Authorization Panel

The user's first interaction with RMS/Online for each session is through the Access Authorization panel. The Access Authorization panel may be by-passed completely by entering the user ID and password (*if any*) after the transaction code.

The transaction code necessary to invoke RMS/Online is assigned by your installation. The Access Authorization panel appears after entering the transaction identifier. Information entered on the panel is used to establish the Access group and the identity of the user. If security is used, the Password field is compared to either the Password field in the User Master record or to the password in the installation security system for access verification.

The NEW and VERIFY passwords may be entered by the user to establish a new password.

Primary Menu Panel



```
R.M.S. - Primary Menu                  Date: Monday,    10/07/96 Time: 12:51:12
Access Group - IVSYSTEM                SubSys: R135 Tran:      TermID: 002B ___




Option ==> 3



1.  Display/Print           - Display/Print a Report in the RMS Database
2.  Administration          - Administration and Resource Control
3.  Distribution(Implicit)  - Distribution Definition and Management
4.  Sysout/Report           - Sysout/Report Profile Management
5.  Security                - Security Definition and Management
6.  Help Management         - Help Management and Maintenance
T.  Tutorial                - Tutorial on System Capabilities/Facilities







PF1=Help  PF3=End  PF4=Return
```

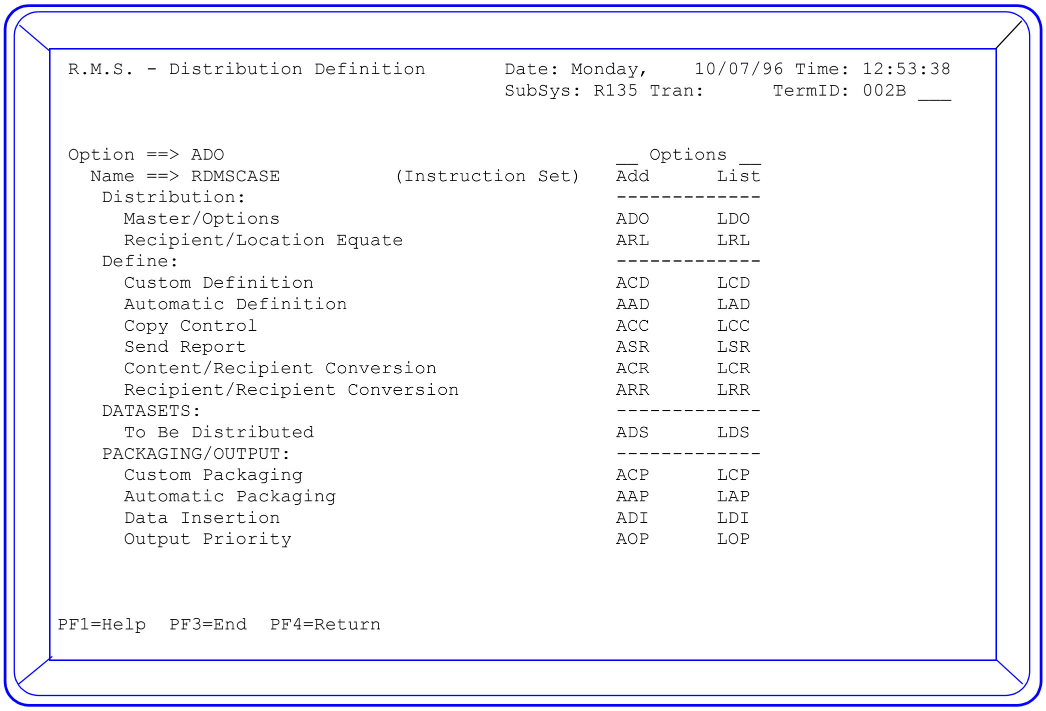
Figure 2. RMS/Online Primary Menu Panel

The PRIMARY MENU is presented immediately after the Access Authorization panel. All major system functions are accessible from this panel. The available options are:

1. Display/Print	Display/Print a Report in the RMS Database
2. Administration	Administration and Resource Control
3. Distribution	Distribution Definition and Management
4. Sysout/Report	Sysout/Report Profile Management
5. Security	Security Definition and Management
6. Help Management	Help Management and Maintenance
T. Tutorial	Tutorial

Enter 3 in the option field and press Enter to select the Distribution Definition menu.

RMS/Distribution Definition Primary Menu Panel



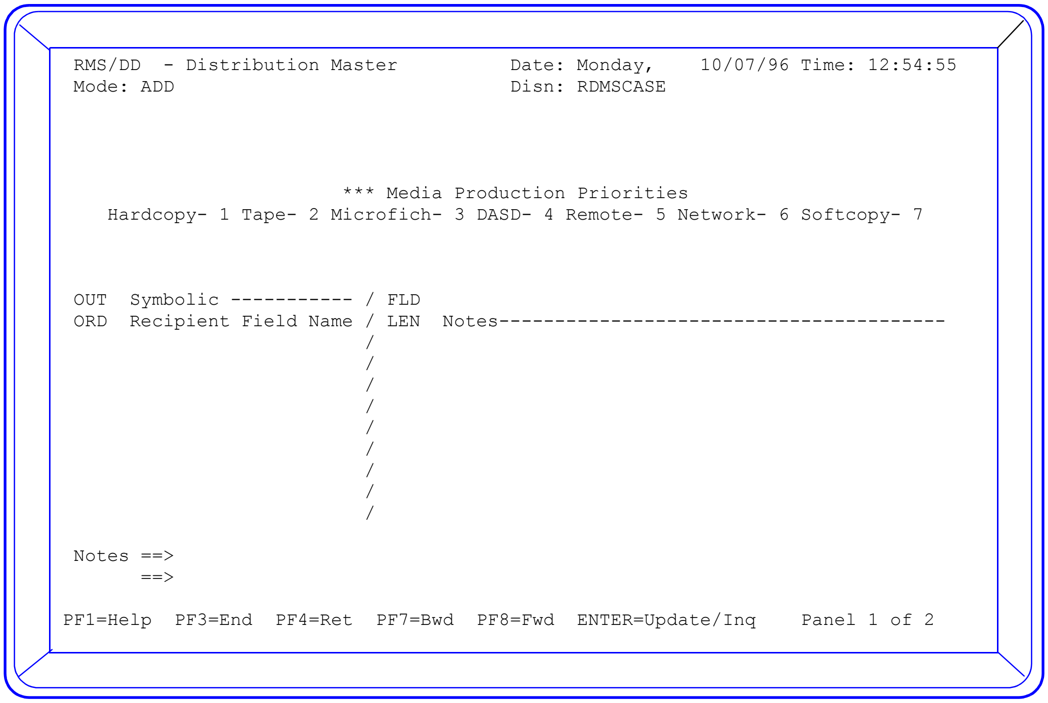
```
 R.M.S. - Distribution Definition       Date: Monday,    10/07/96 Time: 12:53:38
                                        SubSys: R135 Tran:      TermID: 002B ___


 Option ==> ADO                                              __ Options __
   Name ==> RDMSCASE          (Instruction Set)   Add      List
    Distribution:                                            -------------
      Master/Options                                         ADO      LDO
      Recipient/Location Equate                              ARL      LRL
    Define:                                                  -------------
      Custom Definition                                      ACD      LCD
      Automatic Definition                                   AAD      LAD
      Copy Control                                           ACC      LCC
      Send Report                                            ASR      LSR
      Content/Recipient Conversion                           ACR      LCR
      Recipient/Recipient Conversion                         ARR      LRR
    DATASETS:                                                -------------
      To Be Distributed                                      ADS      LDS
    PACKAGING/OUTPUT:                                        -------------
      Custom Packaging                                       ACP      LCP
      Automatic Packaging                                    AAP      LAP
      Data Insertion                                         ADI      LDI
      Output Priority                                        AOP      LOP



PF1=Help  PF3=End  PF4=Return
```

Figure 3. RMS/DD Primary Menu Panel

The Primary Distribution Definition panel is used to gain access to basic distribution functions. You must enter the Distribution Set name and select an option to proceed. The Distribution Instruction Set name may be 1 to 16 characters long and must be unique. This name is used by RM80004 to retrieve the instruction set. If you are creating a new instruction set, your first transaction must be ADO (*Add Distribution Options*).

If you are updating an existing set, use the LDO option to list the instruction sets available.

Distribution Options Panel



```
 RMS/DD  - Distribution Master          Date: Monday,    10/07/96 Time: 12:54:55
 Mode: ADD                              Disn: RDMSCASE




                        *** Media Production Priorities
    Hardcopy- 1 Tape- 2 Microfich- 3 DASD- 4 Remote- 5 Network- 6 Softcopy- 7



 OUT  Symbolic ----------- / FLD
 ORD  Recipient Field Name / LEN  Notes----------------------------------------
                           /
                           /
                           /
                           /
                           /
                           /
                           /
                           /
                           /


 Notes ==>
       ==>

PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 2
```

Figure 4. Distribution Options Panel (1 of 2)

The Distribution Option record is constructed using information gathered in steps discussed earlier. It permits the definition of the media production priority, consolidation hierarchy (*recipient field identification*), and other run-time options. (*See panel 2 of 2*.)

Media Production Priorities

The values assigned here will govern the output priorities for the various medias. Each media must have a unique priority. The defaults are:

Media	**Priority**
HARDCOPY	1
TAPE	2
MICROFICHE	3
DASD	4
REMOTE	5
NETWORK	6 (*RESERVED for RMS/Desktop*)
SOFTCOPY	7

ORD(er)

This field governs the order in which report pages will be ordered within media category.

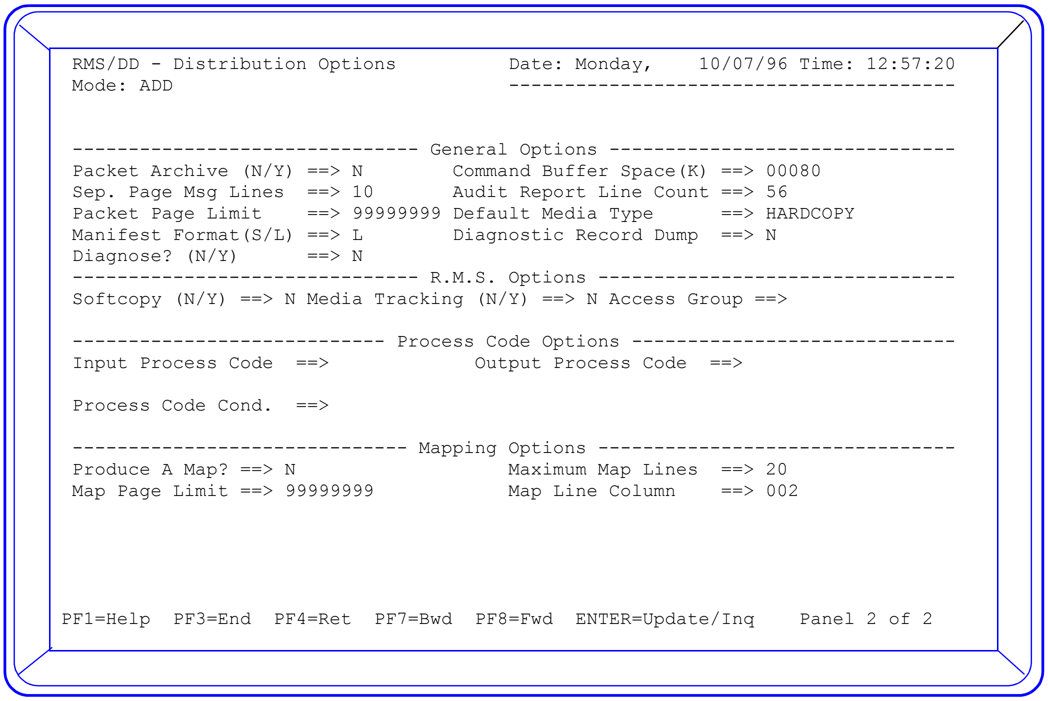
Recipient Field - Name/Length/Notes

These fields permit the specification of up to 9 recipient fields which can be used to produce the desired order and packaging of reports. This will define the key structure.

The fields are usually common information appearing on reports to be distributed. For manufacturing, you might have a plant number on reports that would be the source of information to be used in consolidation/distribution. Keep in mind that the fields do not have to be the names of common fields on your reports. Constant information can be used and mixed with report fields to attain the desired results.

NOTE: Once a distribution options record is added all fields except the OUT ORD and FLD LEN may be maintained. In order to change these fields or delete/add symbolic recipient field names, you must reorganize the distribution instruction set. Refer to the section on Instruction Set Reorganization and Copy for details.

Distribution Options Panel (continued)



```
RMS/DD - Distribution Options          Date: Monday,    10/07/96 Time: 12:57:20
Mode: ADD                              ----------------------------------------


------------------------------- General Options -------------------------------
Packet Archive (N/Y)  ==> N        Command Buffer Space(K) ==> 00080
Sep. Page Msg Lines   ==> 10       Audit Report Line Count ==> 56
Packet Page Limit     ==> 99999999 Default Media Type      ==> HARDCOPY
Manifest Format(S/L)  ==> L        Diagnostic Record Dump  ==> N
Diagnose? (N/Y)       ==> N
------------------------------- R.M.S. Options --------------------------------
Softcopy (N/Y) ==> N Media Tracking (N/Y) ==> N Access Group ==>

---------------------------- Process Code Options -----------------------------
Input Process Code  ==>             Output Process Code  ==>

Process Code Cond.  ==>

------------------------------ Mapping Options --------------------------------
Produce A Map? ==> N                   Maximum Map Lines   ==> 20
Map Page Limit ==> 99999999            Map Line Column     ==> 002





PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 2 of 2
```

Figure 5. Distribution Options Panel (2 of 2)

General Options

PACKET ARCHIVE (N/Y)	DEFAULT: N Specification of 'Y' will cause RM80004 to produce a packet archive of all reports distributed. 'Y' is suggested since the packet level archive permits recovery of specific reports for a given user. YES is forced if SOFTCOPY = Y is selected. The value must by "Y" for retention-based archive to work.

COMMAND BUFFER SPACE (K)	DEFAULT: 80 The command buffer space specification is used to cause RM80004 to acquire appropriate buffer space for processing of the instruction set.
SEP PAGE MSG LINES	DEFAULT: 10 Used to control the number of message lines printed on the start and end separator pages for each packet. The value may range from 00 to 25.
AUDIT REPORT LINE COUNT	DEFAULT:50 Used to set the maximum line count for the RM80004 (QXSTATS DD) system report. Acceptable line count values are 20 through 66.
PACKET PAGE LIMIT	DEFAULT: 99999999 Used to limit the total output for each copy of each report in a packet to the value specified for page output limit. The minimum is 1. The maximum and the default is 99999999 pages.
DEFAULT MEDIA TYPE	*** Not Currently Used ** Reserved. Used to establish a default media for comparison field in the distribution definition panels.
MANIFEST FORMAT S/L	DEFAULT: (L)ong Indicates that the long form of the packet manifest (INDEX) will be created. The short manifest does not include information about the JES job that created the report.
DIAGNOSTIC RECORD DUMP	DEFAULT: N Used to cause RM80004 to produce a listing of all distribution keys generated from the run. These will be printed on the Dataset Selection report from DD statement QXSTATS.
DIAGNOSE (N/Y)	DEFAULT: N Used to cause RM80004 to produce command-format edit information only. No reports will be processed when this option is set to “Y”.

RMS/Online Options

SOFTCOPY (N/Y)	DEFAULT: N Used to indicate that RM80004 is to place reports in the repository for viewing. Use of this parameter forces the ARCHIVE option to be activated. Your RM80004 JCL must include the DD statements for QXARCHO, if this option is used.
MEDIA TRACKING (N/Y)	DEFAULT: N Used to request that report tracking information be added to QXRCDS.

ACCESS GROUP	DEFAULT: None This is a required parameter used to specify the access group qualifier for viewable (SOFTCOPY) and tracked reports (See MEDIA*TRACKING). The Access Group MUST be defined before an instruction set can be created referencing this value.

Process Code Options

INPUT PROCESS CODE	DEFAULT: None This is an optional parameter used when re-processing data that has been processed and stamped with a process code using the Output Process Code option.
PROCESS CODE CONDITION	DEFAULT: None This field is used to specify a condition for a match when using the Input Process Code field. Choices are: EQ - Equal GE - Greater Than or Equal GT - Greater Than LE - Less Than or Equal LT - Less Than NE - Not Equal
OUTPUT PROCESS CODE	DEFAULT: None | ccc....ccc | GENERATE Used to provide a value that is to indicate the selected base datasets have been processed. Upon successful job completion, each selected dataset is updated with the specified value. Of the two possible values, character string is a user supplied value from 1 to 11 characters in length. A value of GENERATE indicates that RM80004 is to automatically assign a value. The value will be the date and time the first dataset was processed by RM80004. This assigned value will be in the form of: **YYDDDHHMMSS**

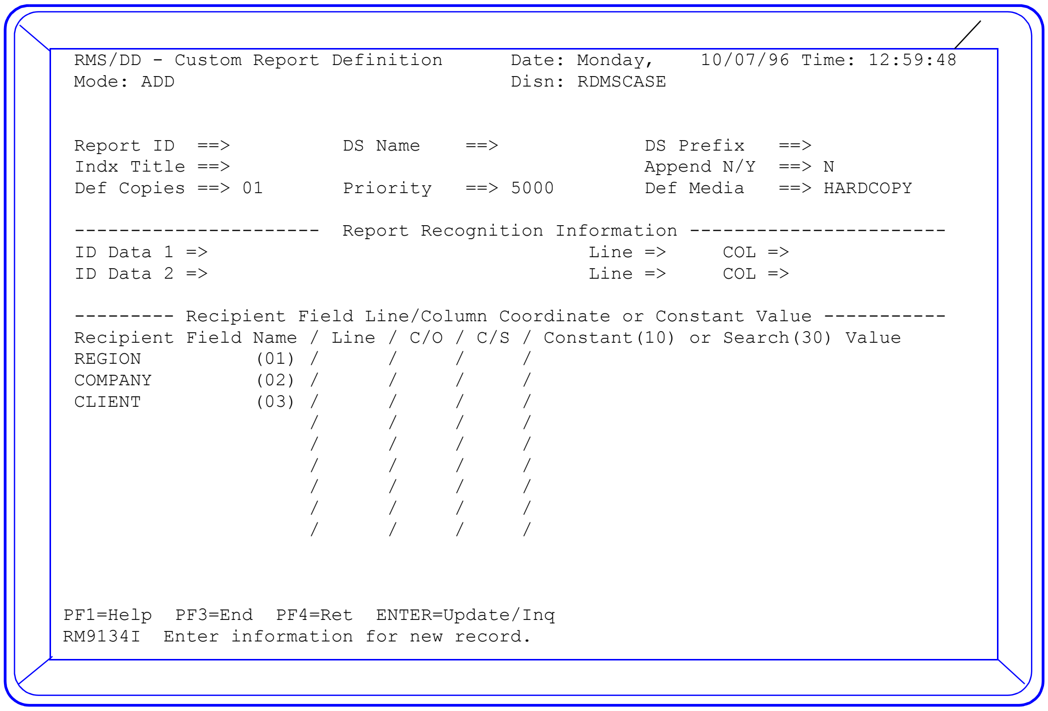
NOTE: Once an entry has been assigned a process code, it can only be reprocessed by its specific process code value via the Input Process Code or the Process Code Fields on either the Distribution Options Panel or Dataset Select panel.

Mapping Options

PRODUCE A MAP?	DEFAULT: N “Y” causes all datasets processed to be mapped. Mapping reproduces the first n lines (see MAXIMUM MAP LINES) of each page with the line number printed in the position you designate (see MAP LINE COLUMN) and a column scale across the top of the page.
MAXIMUM MAP LINES	DEFAULT: 20 Used to set the number of lines on each physical report page that will be mapped. Many applications require that only the first 5 lines be mapped.

MAP PAGE LIMIT	DEFAULT: 9999999 Used to limit the number of pages mapped for each base dataset.
MAP LINE COLUMN	DEFAULT: 2 Used to indicate the starting column number to print the line number in for mapped output. The maximum value that may be specified is 204.

Custom Report Definition Panel



```
 RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 12:59:48
 Mode: ADD                              Disn: RDMSCASE


 Report ID  ==>          DS Name    ==>             DS Prefix   ==>
 Indx Title ==>                                     Append N/Y  ==> N
 Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

 ----------------------  Report Recognition Information -----------------------
 ID Data 1 =>                                 Line =>     COL =>
 ID Data 2 =>                                 Line =>     COL =>

 --------- Recipient Field Line/Column Coordinate or Constant Value -----------
 Recipient Field Name / Line / C/O / C/S / Constant(10) or Search(30) Value
 REGION          (01) /      /     /     /
 COMPANY         (02) /      /     /     /
 CLIENT          (03) /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /



PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

Figure 6. Custom Report Definition Panel

Each report to be processed by RM80004 must have its unique recognition characteristics defined. This is done by using the custom report definition panel. Each custom definition takes the following into consideration:

Recognizable Characteristics:

1. A unique 8 character REPORT ID must be assigned to this logical report. This name will appear with the INDX TITLE on the packet manifest report.
2. You must define to RM80004 the base dataset entry that contains the logical report identified in this panel. This is done by specifying the full name in the DS NAME field or the prefix qualified name in the DS PREFIX field.
3. Use the ID DATA 1 and ID DATA 2 fields (*if necessary*) provided the page coordinates of the report fields can be used to uniquely distinguish this logical report from other reports that may appear in the same queue dataset. This is typically a report title or report number on the page.
4. The Recipient Field Line/Column information is used to define the line column coordinate or alternatively constant data that will be transferred to the recipient fields of the distribution key.

  - If recipient data is to be taken from the actual report page (*plant number, perhaps*), you define the line/column coordinates of the report field used as the source of the recipient field data. These coordinates are obtained from the report map. In some cases, the report data is not suitable for the formation of a consistent recipient field that would yield the desired ordering. A Content/ Recipient conversion facility is provided to overcome this problem.
  - Recipient fields may also have a source other than the report page. You may omit the Line/Column values, place a ‘C’ in the C/S field and up to 10 characters in the Constant (10).... field.

5. Determine the standard number of copies of the report each primary endpoint is to receive. This value is entered in the Copies field.

Having completed the Custom Report Definition panel, you have entered the information necessary to construct the primary ownership identification for each page of the logical report. Next, you may address the customization of distribution for this report for each endpoint. Using the requirements gathered during the interview sessions, you can determine:

If there are special situations requiring alteration of our generated distribution keys.

- If any of our endpoints require copy counts differing from the established default copy count, use the Copy Control panel to designate these variations.
- Whether the report is to be distributed to additional endpoints not defined by the primary distribution key. In this case, use the Send Report panel to route the report to alternate distribution endpoints.

Steps 1 through 5 are repeated for each logical report to be distributed.

REPORT ID	DEFAULT: None Assigns an internal use mnemonic to the logical report defined by this panel. Report identifier may be an alphanumeric value, from 1 to 8 characters in length. No special characters are permitted. This name may be used for recovering individual reports from archived segments to RMS/ARC. The REPORT ID is used in conjunction with the INDX TITLE operand to provide logical report descriptions on the manifest reports and ONLINE Index and Versions panels.
DS NAME	DEFAULT: None This value is the name of the dataset containing the report defined by this panel. DS NAME or DS PREFIX (but not both) must be specified.
DS PREFIX	DEFAULT: None This value is the prefix of the datasets containing the report defined by this panel. This is a convenient way to search multiple datasets for a common report.
INDX TITLE	DEFAULT: None This value provides the descriptive title to be used in the packet and global index report. Specifying * or ID1 causes the system to use the character string coded in ID Data 1 as the title. Specifying ID 2 causes the system to use the character string coded in ID Data 2.

APND N/Y	DEFAULT: N Specifying Y causes all pages matching the custom report definition to be assigned the same distribution characteristics as the previous page. One use for this option would be to define a totals page and send a copy of the totals page to another endpoint, but append the original page to the body of the report.
DEF COPIES	DEFAULT: 01 Designates the default number of copies to be produced for the report. From 0 - 99 may be specified.
PRIORITY	DEFAULT: 5000 Used to assign the priority of a report within an output segment. The lower the priority assigned, the closer to the front of a packet the report will print. Report priority must be a numeric value from 0 to 9999.
DEF MEDIA	DEFAULT: HARDCOPY Default media is used for the logical media category. RM80004 supports 7 logical media groupings for the segregation of reports/endpoints during output. Valid media specification(s) are:
HARDCOPY	TAPE MICROFICHE DASD REMOTE NETWORK SOFTCOPY
	All categories except SOFTCOPY indicate output is to be in the form of print line images with IBM machine control characters. The output is directed to the dynamically allocated or in-stream DD statement designated with a custom packaging or automatic packaging transaction.

Report Recognition Information

Report recognition information is used to designate the unique recognition characteristics of a report. The first level of qualification is the dataset name or name prefix. ID DATA 1 and ID DATA 2 add additional levels of qualification.

ID DATA 1...ID DATA 2	This is a string of characters that uniquely identifies a particular logical report. This data is usually, but not always, report title information. The maximum character string length is 30. When spaces are included at the end of the character string or the entire character string is spaces, then the string must be enclosed in parenthesis.
LINE	This is the line number on which the character string appears. Line 1 through 88 may be designated.

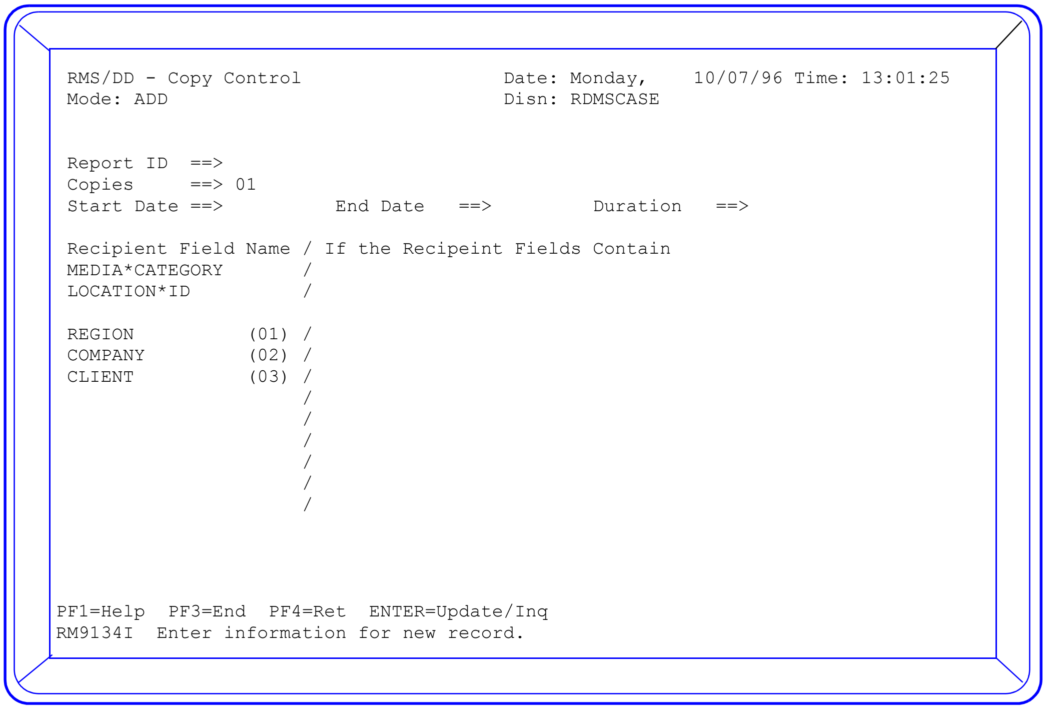
COLUMN	This is the column number of the first position of the character string. If column is omitted, the system performs a search on the designated line for the character string. Valid column numbers are 2 - 204.

Recipient Field Line Column/Coordinate

In this section of the custom report definition panel, you supply the location or value of the various recipient fields comprising the distribution order information.

RECIPIENT FIELD NAME	Supplied by system from data entered in the distribution options panel.
LINE	Is the line number on which the recipient identification data appears.
C/O	Either the column coordinate at which the recipient data resides or the Offset from the beginning of the search value at which the recipient value begins.
C/S	Enter C(ONSTANT) in this field and omit the line/column values if you want the recipient field value to be the constant entered in the 'Constant or Search'. Enter S(EARCH) in this field if you want the system to search the specified line for the value entered in the 'Constant or Search' field.
CONSTANT (10) or SEARCH (30) VALUE	Use this field if you place C (for constant) or S (for search) in the C/S field. Search character strings may be up to 30 characters. If you have a search string with spaces, enclose the entire value in quotes.

Copy Control Panel



```
 RMS/DD - Copy Control                  Date: Monday,    10/07/96 Time: 13:01:25
 Mode: ADD                              Disn: RDMSCASE


 Report ID  ==>
 Copies     ==> 01
 Start Date ==>          End Date   ==>         Duration   ==>

 Recipient Field Name / If the Recipeint Fields Contain
 MEDIA*CATEGORY       /
 LOCATION*ID          /

 REGION          (01) /
 COMPANY         (02) /
 CLIENT          (03) /
                      /
                      /
                      /
                      /
                      /
                      /



PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

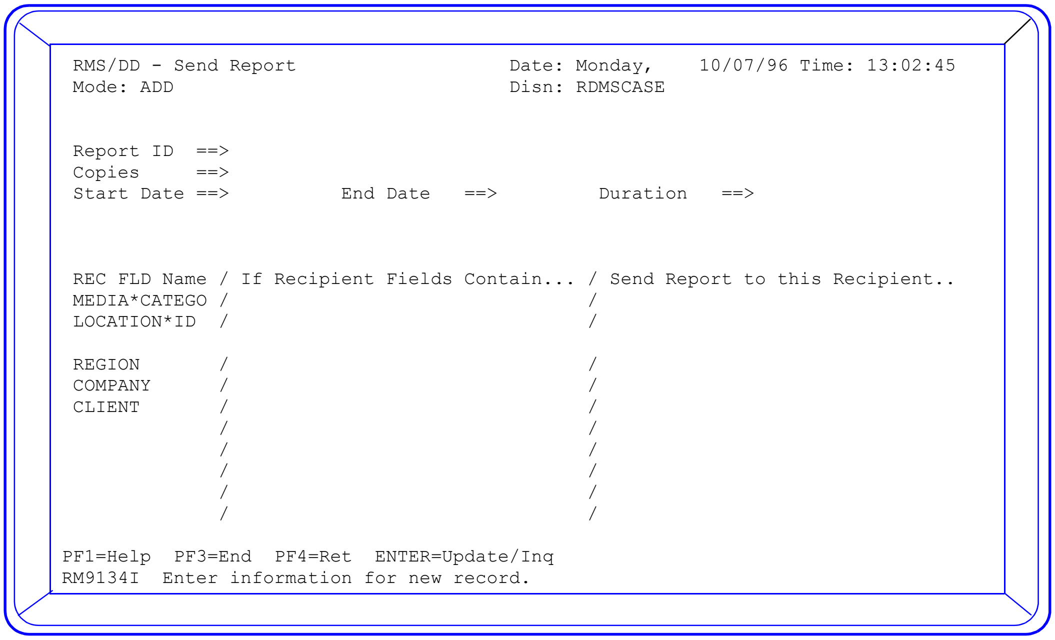
Figure 7. Copy Control Panel

The Copy Control panel is used to specify the report copy requirements that vary from those prescribed in the custom report definition panel. Report ID is the same value assigned in the Custom Report Definition transaction. The report may be eliminated for a particular endpoint by specifying 00 in the copies field. Use the START DATE/END DATE/ DURATION fields only for override records. Base (standard) records should have these fields omitted. Media category refers to the DEF(AULT) Media assigned in the Custom Report Definition transaction. Specify a Location Value only if you have used the Recipient to Location Equate transaction (*see Advanced Function*) to define such a location.

REPORT ID	DEFAULT: None This field identifies the report to have the number of copies varied.
COPIES	DEFAULT: 01 Used to specify the number of copies produced for a viewpoint. Valid copy values are 00-99.
START DATE	DEFAULT: None Use the Start Date (YYMMDD) field to indicate the beginning date that this Copy Control record should become effective. Copy control records that specify the standard number of copies should not have a start date.
END DATE	DEFAULT: None Use End Date (YYMMDD) to invalidate this copy control record after a specific date.

DURATION	DEFAULT: None You may specify the duration in days of the Copy Control record instead of the End Date. If both End Date and Duration are specified, End Date takes precedence.
RECIPIENT FIELD NAME	DEFAULT: None These are initialized by the system and contain the recipient field names entered in the Distribution Options panel.
IF RECIPIENT FIELDS CONTAIN...	DEFAULT: None Enter values here which uniquely identify the recipient to which this Copy Control record applies.

Send Report Panel



```
 RMS/DD - Send Report                   Date: Monday,    10/07/96 Time: 13:02:45
 Mode: ADD                              Disn: RDMSCASE


 Report ID  ==>
 Copies     ==>
 Start Date ==>          End Date   ==>         Duration   ==>



 REC FLD Name / If Recipient Fields Contain... / Send Report to this Recipient..
 MEDIA*CATEGO /                                /
 LOCATION*ID  /                                /

 REGION       /                                /
 COMPANY      /                                /
 CLIENT       /                                /
              /                                /
              /                                /
              /                                /
              /                                /
              /                                /


PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

Figure 8. Send Report Panel

The Send Report panel is used to specify those recipients to receive copies of another distribution recipients report. Up to 99 copies of a report can be sent to the alternate endpoint.

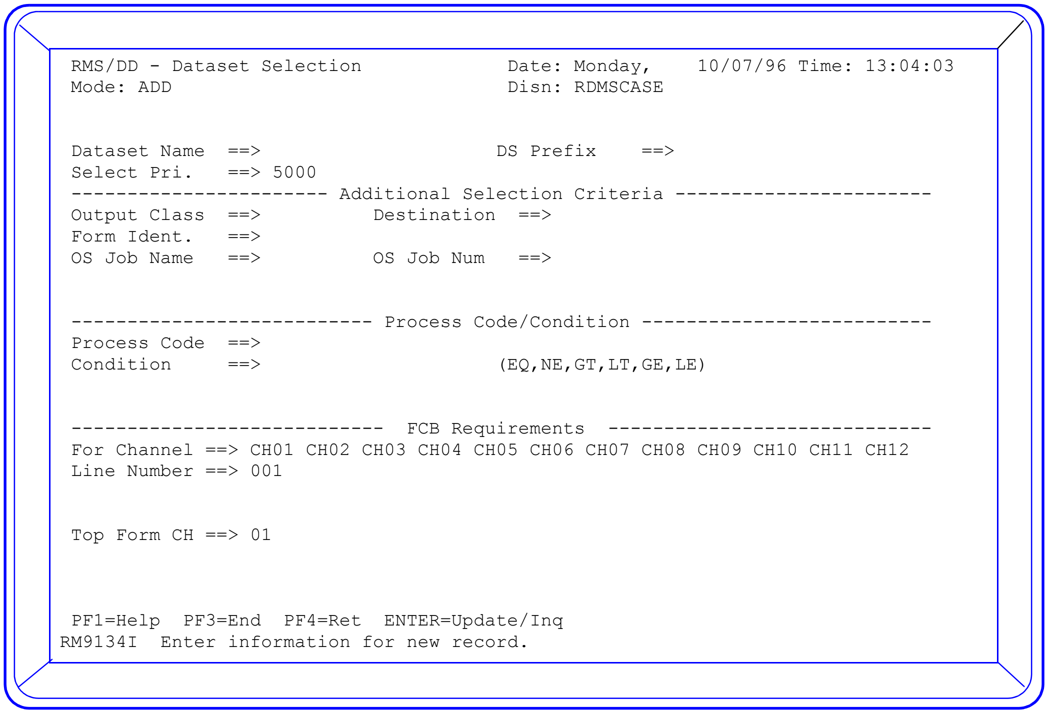
NOTE: Do not use the Send Report to send a report to the same recipient. Use the Copy Control panel to accomplish this.

A report which has had its copy count reduced to zero by default (custom definition/or override (Copy Control)) may still be sent to any number of additional endpoints.

REPORT ID	DEFAULT: None This field identifies the report to be sent to an additional recipient. It should match the Report ID entered on the Custom Report Definition panel.

COPIES	DEFAULT: 01 Used to specify the number of copies sent to the additional recipient.
START DATE	DEFAULT: None Use the Start Date (YYMMDD) field to indicate the beginning date that this Send Report record should become effective.
END DATE	DEFAULT: NoneUse End Date (YYMMDD) to deactivate this Send Report record after a specific date.
DURATION	DEFAULT: None You may specify the duration of this Send Report record instead of the End Date. If both End Date and Duration are specified, End Date takes precedent.
IF RECIPIENT FIELD CONTAINS....	DEFAULT: None Enter values here which uniquely identify the recipient from which the report is sent.
SEND REPORT TO THIS RECIPIENT....	DEFAULT: None Enter values here which uniquely identify the endpoint to receive the report. Any recipient field not designated in these fields will be given values equal to the recipient from which the report was sent.

Dataset Selection Panel



```
 RMS/DD - Dataset Selection             Date: Monday,    10/07/96 Time: 13:04:03
 Mode: ADD                              Disn: RDMSCASE


 Dataset Name  ==>                     DS Prefix    ==>
 Select Pri.   ==> 5000
 ----------------------- Additional Selection Criteria -----------------------
 Output Class  ==>          Destination  ==>
 Form Ident.   ==>
 OS Job Name   ==>          OS Job Num   ==>


 --------------------------- Process Code/Condition --------------------------
 Process Code  ==>
 Condition     ==>                     (EQ,NE,GT,LT,GE,LE)


 ----------------------------  FCB Requirements  -----------------------------
 For Channel ==> CH01 CH02 CH03 CH04 CH05 CH06 CH07 CH08 CH09 CH10 CH11 CH12
 Line Number ==> 001


 Top Form CH ==> 01



 PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

Figure 9. Dataset Selection Panel

Base datasets are selected for processing using the qualifying information specified on this panel. Two types of selection are permitted: specific name or generic prefix. Both types permit positions in the name to be ignored by placing an asterisk (*) in those positions of the name or name prefix.

Any number of base datasets may be selected for processing in a single RM80004 job. Selection and full name may be intermixed to attain the desired results. Generic selection of datasets causes processing in alphabetical sequence.

OUTPUT CLASS	DEFAULT: None Used to limit selection to those entries with a matching class. Valid classes are A-Z, 1-9.
DESTINATION	DEFAULT: None Used to limit selection to those entries with a matching destination identifier. NJE users should use the short format specification for NODE:REMOTE destinations (NnnnRnnn).
FORM IDENT	DEFAULT: None Used to limit selection to those entries with a matching forms identifier.
OS JOB NAME	DEFAULT: None Used to limit selection to those entries created in the JOB matching the supplied name.
OS JOB NUMBER	DEFAULT: None Used to limit selection to those entries created in the OS/VS job matching the designated job number.
DS NAME	DEFAULT: None Used to specify the full dataset name of from 1 to 8 characters. If there is more than one base dataset with the specified name, the entry most recently created is selected for processing.
DS PREFIX	DEFAULT: None A parameter used to select by name prefix. Selection by prefix always implies selection of every base dataset having this prefix.
SELECT PRI	DEFAULT: 5000 Used to specify the selection processing sequence. Note: When utilizing checkpoint processing, the Select PRI would be “1”. The lowest number will be the highest priority; “1” equals first.

Process Code/Condition

Process codes are used to restrict RMS selection of datasets. A character string specified as the comparison value may be from 1 to 11 characters. This value is compared to the process code value contained in each base dataset matching all other selection characteristics. A match condition is determined using the operation code operand. The possible operation codes are:

EQ - equal to (default)
GE - greater than or equal to
GT - greater than
LE - less than or equal to
LT - less than
NE - not equal

The use of the masked comparison character “*” in any comparison value position causes that position to be ignored in the comparison operation. This would allow the selection of groups of process codes, i.e.,

```
PROCESS CODE==> A**********
CONDITION==> NE
```

Would cause the selection of all processed base datasets not having an “A” in the first position of the process code.

PROCESS CODE	DEFAULT: None Any character string from 1 to 11 contiguous bytes can be used to limit dataset selection.
CONDITION	DEFAULT: EQ Specifies the condition code for the selection process.

NOTE: Once a dataset has been assigned a process code it can only be selected for further processing using the PROCESS CODE ==> field on the dataset selection panel or the INPUT PROCESS CODE ==> field of the distribution options panel.

The OUTPUT PROCESS CODE ==> field on the distribution option panel is used to assign process codes to base datasets.

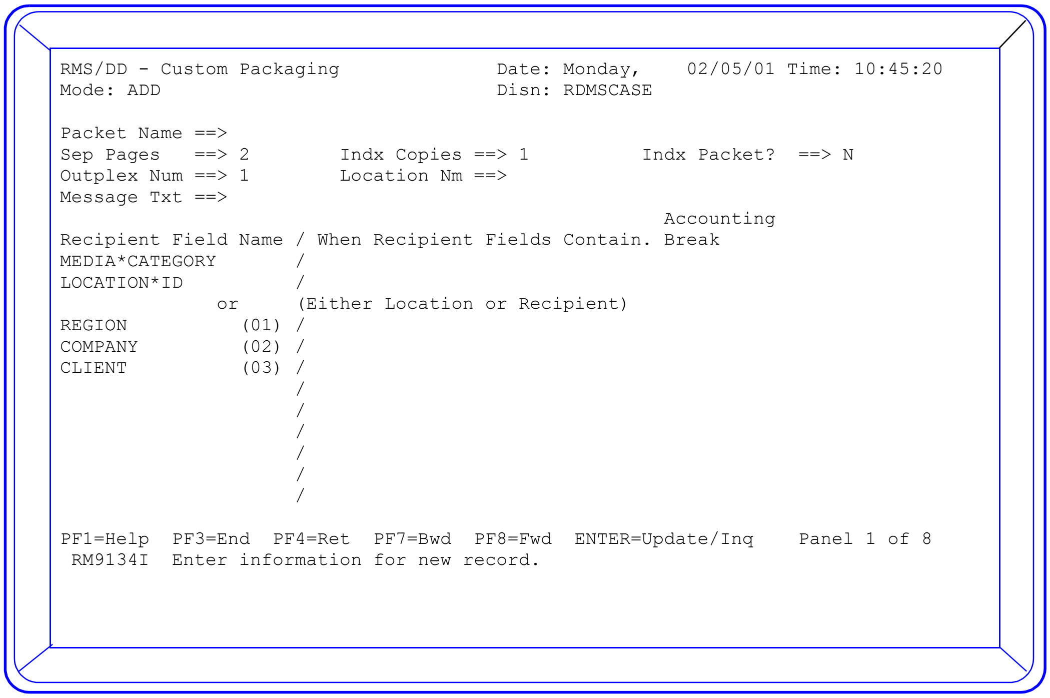
Process code specifications on the dataset selection panel override the INPUT PROCESS CODE specification of the distribution option panel.

FCB Requirements Summary

This section of the panel is used to describe the channel control characteristics of a group of queue datasets to RM80004. Channel control descriptions are necessary for RM80004 to map and/or extract key data from report pages if multiple form types are processed.

CHANNEL	DEFAULT: None CH01 - CH12 establishes a channel/line number relationship.
LINE NUMBER	DEFAULT: 01 (For Channel 1) The line number of the individual channels.
TOP FORM CH	DEFAULT: 01 The top of form channel is used to specify the channel number that represents the top of form for this dataset.

Custom Packaging Panel



```
RMS/DD - Custom Packaging              Date: Monday,    02/05/01 Time: 10:45:20
Mode: ADD                              Disn: RDMSCASE

Packet Name ==>
Sep Pages   ==> 2       Indx Copies ==> 1          Indx Packet?  ==> N
Outplex Num ==> 1       Location Nm ==>
Message Txt ==>
                                                     Accounting
Recipient Field Name / When Recipient Fields Contain. Break
MEDIA*CATEGORY       /
LOCATION*ID          /
              or     (Either Location or Recipient)
REGION          (01) /
COMPANY         (02) /
CLIENT          (03) /
                     /
                     /
                     /
                     /
                     /
                     /

PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 8
 RM9134I  Enter information for new record.
```

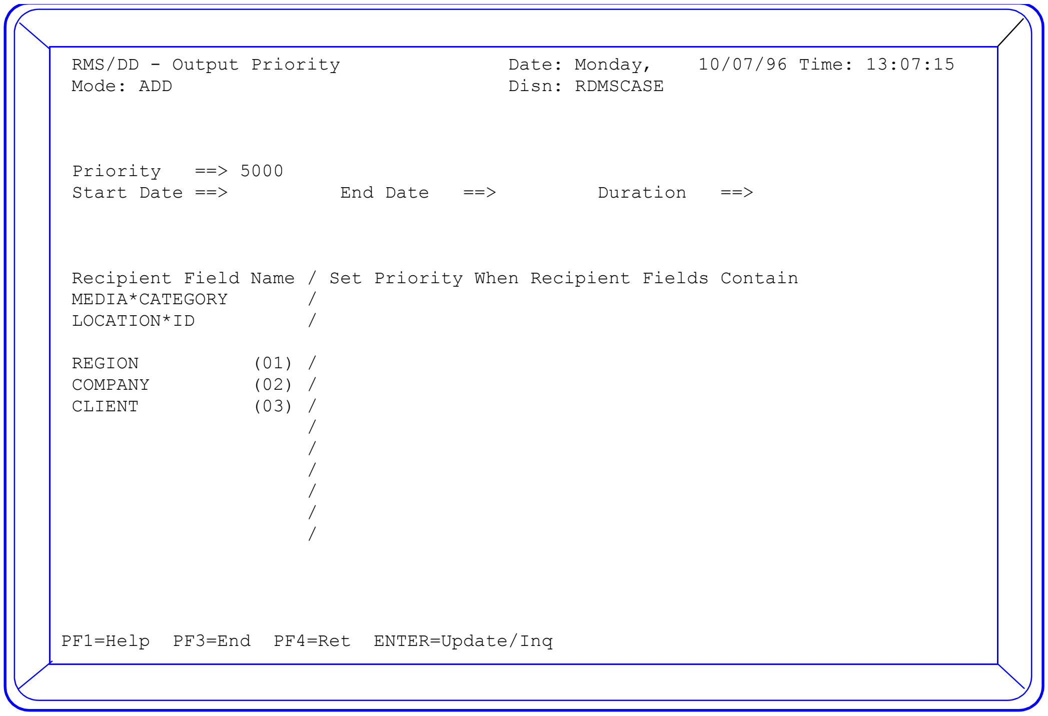
Figure 10. Custom Packaging Panel

The Custom Packaging panel provides a way to partition the RM80004 output into packets with varying separator page block letters, message data and output attributes. During the Output phase of RM80004 processing, data entered via the Custom Packaging panel is compared to the content of the distribution key data associated with each report page. When all the conditions specified have been met, the current output file is closed and a new packet is created.

PACKET NAME	DEFAULT: None This field is required and is used to assign the name of the packet. This name is 1 to 8 characters long and must conform to OS/MVS DD naming conventions.
SEP PAGES	DEFAULT: 2 This field is used to override the default number of RM80004 separator pages. From 0 to 9 pages may be generated for each packet. This value may be overridden if separator are specified on the corresponding output characteristics panel (panels 2-8) for the media specified.
INDX COPIES	DEFAULT: 1 Use this field to designate the number of copies of either the global index (if INDX PACKET = Y) or the packet index (the default). From 0-9 may be specified.
INDX PACKET (N/Y)	DEFAULT: N May be used to indicate that this Custom Packaging panel describes the global index packet. This packet will contain a copy of each packet manifest produced within this run of RM80004.

OUTPLEX NUM	DEFAULT: 1 Specification of ‘N’ indicates that this Custom Packaging panel describes a packet that is to have the reports aligned on even page boundaries in the packet. This will cause all reports to be produced with an even number of pages. Specification of 2,4,6,8 is also supported.
LOCATION NM	DEFAULT: PACKET NAME This field designates the name of the location receiving the report packet. A location name must be an alphanumeric character string of from 1 to 16 positions. Spaces are not permitted in the location name.
MESSAGE TXT	DEFAULT: None Used to designate up to 30 characters of text data to be printed on packet separator pages.
RECIPIENT FIELD/SET PRIORITY WHEN RECIPIENT FIELDS CONTAIN	These fields specify the conditions under which the packet defined by this panel is to be created. Media category refers to the DEF(AULT) media assigned in the Custom Report Definition panel. If multiple media have been generated, then one Custom Packaging panel may be used to describe all media. In this case the MEDIA*CATEGORY field may contain an * followed by the first letters of all the media. For example, if hardcopy, softcopy and microfiche media were used, then the MEDIA*CATEGORY field could be coded “*HSM” and the appropriate panels 2-8 used to describe the output characteristics. Specify a Location value only if you have used the Recipient to Location Equate or Send Report transaction to equate the referenced location.
ACCOUNTING BREAK	DEFAULT: Packet level accounting The Accounting Break field is used to specify sub-accounting breaks for the packet INDEX report. Enter Y on the same line as the recipient field(s) for which you desire sub-accounting. Each time any of the indicated recipient fields change total lines and pages are printed for that report on the packet index.

Output Priority Panel



```
 RMS/DD - Output Priority               Date: Monday,    10/07/96 Time: 13:07:15
 Mode: ADD                              Disn: RDMSCASE



 Priority   ==> 5000
 Start Date ==>          End Date   ==>         Duration   ==>



 Recipient Field Name / Set Priority When Recipient Fields Contain
 MEDIA*CATEGORY       /
 LOCATION*ID          /

 REGION          (01) /
 COMPANY         (02) /
 CLIENT          (03) /
                      /
                      /
                      /
                      /
                      /
                      /




PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
```

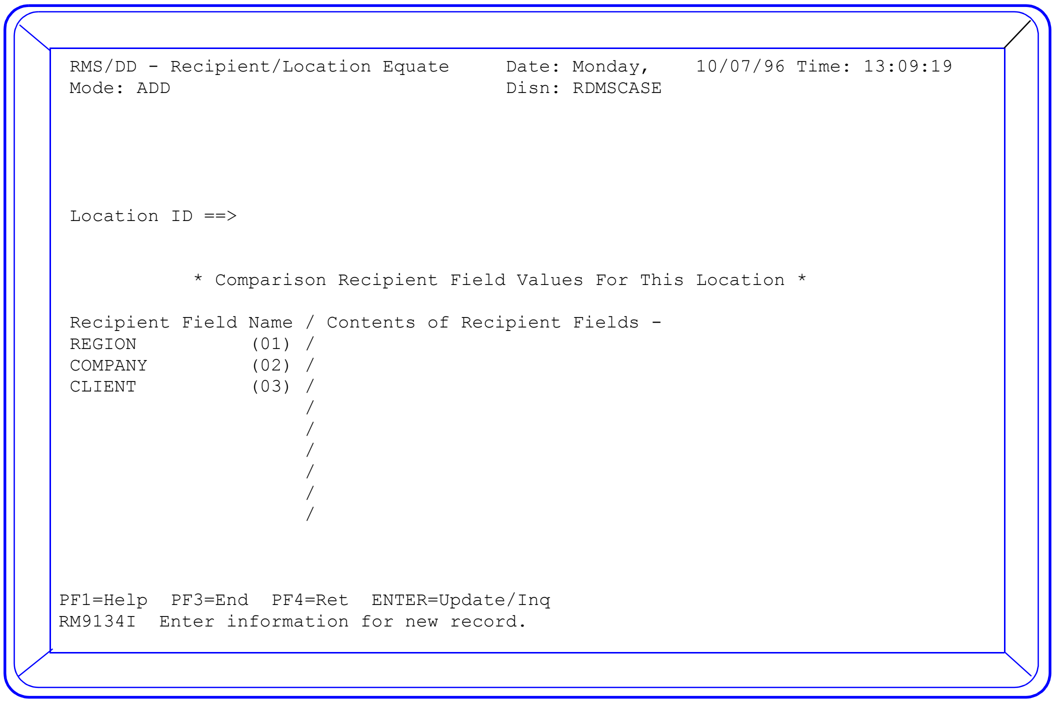
Figure 11. Output Priority Panel

The Output Priority panel is used to control the output production priority for report pages having specific recipient field values.

PRIORITY	DEFAULT: 5000 This field establishes the output priority of the distribution keys matching the recipient field values entered. Keep in mind that output priority supersedes all other location/recipient qualifiers in determining the output order to the distributed report stream.
START DATE	DEFAULT: None Use the start date field (YYMMDD) to indicate the beginning date that this record should become effective. Records that specify the standard priorities should not have a start date.
END DATE	DEFAULT: None Use end date (YYMMDD) to invalidate this record after a specific date.
DURATION	DEFAULT: None You may specify the duration instead of the end date. If both end date and duration are specified, end date takes precedence.
RECIPIENT FIELD NAME	These are initialized by the system and contain the recipient field names entered in the Distribution Options panel.

IF RECIPIENT FIELDS CONTAIN...	Enter values here which uniquely identify the recipient to which this priority record applies.

Recipient/Location Equate Panel



```
RMS/DD - Recipient/Location Equate     Date: Monday,    10/07/96 Time: 13:09:19
Mode: ADD                              Disn: RDMSCASE




Location ID ==>


           * Comparison Recipient Field Values For This Location *

Recipient Field Name / Contents of Recipient Fields -
REGION          (01) /
COMPANY         (02) /
CLIENT          (03) /
                     /
                     /
                     /
                     /
                     /
                     /



PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

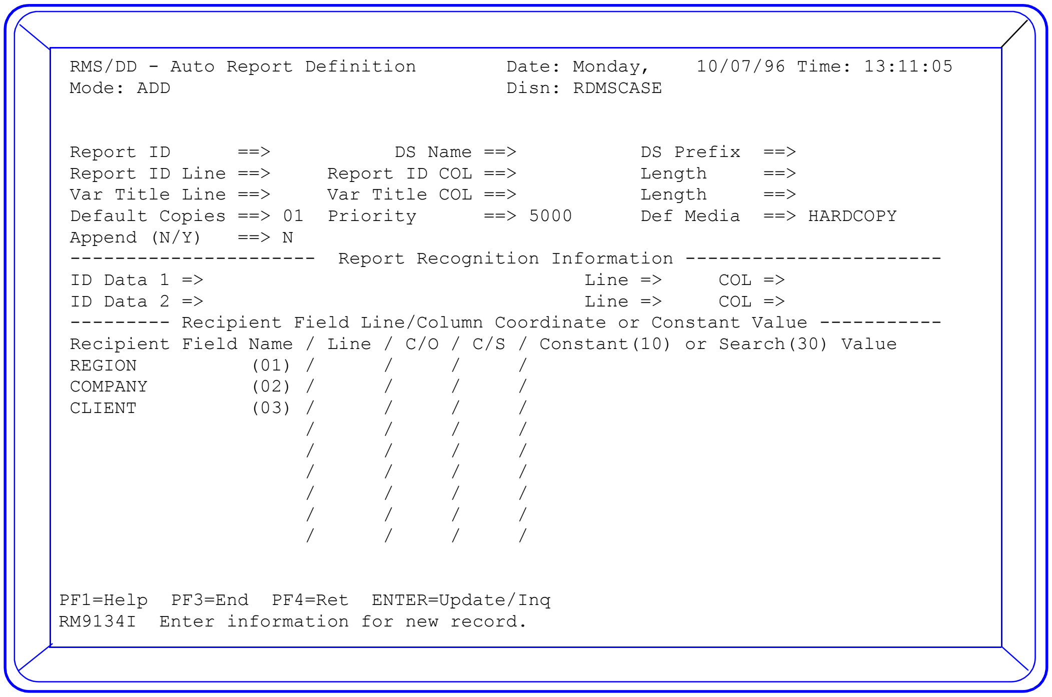
Figure 13. Recipient/Location Equate

The Recipient/Location Equate panel provides a way to assign a short form reference *(the location name*) for the various recipient field combinations that will be used within the definition. Use of the Recipient/Location Equate can also add to the clarity of the definition since you only have to enter the unique combination of key elements once. All other references are made using the Location ID.

LOCATION ID	Enter the identifier to be assigned to the location. It must be 1 to 16 alphanumeric characters. Spaces are not permitted in the location name.
COMPANION RECIPIENT FIELD VALUES....	Enter the recipient field values which should be equated to this Location ID.

Once you have equated a Location ID to a specific set of Recipient field names, you may use this value on those panels permitting specification **LOCATION NM.**

Auto Report Definition Panel



```
 RMS/DD - Auto Report Definition        Date: Monday,    10/07/96 Time: 13:11:05
 Mode: ADD                              Disn: RDMSCASE


 Report ID      ==>           DS Name ==>           DS Prefix  ==>
 Report ID Line ==>     Report ID COL ==>           Length     ==>
 Var Title Line ==>     Var Title COL ==>           Length     ==>
 Default Copies ==> 01  Priority      ==> 5000      Def Media  ==> HARDCOPY
 Append (N/Y)   ==> N
 ----------------------  Report Recognition Information -----------------------
 ID Data 1 =>                                Line =>     COL =>
 ID Data 2 =>                                Line =>     COL =>
 --------- Recipient Field Line/Column Coordinate or Constant Value -----------
 Recipient Field Name / Line / C/O / C/S / Constant(10) or Search(30) Value
 REGION          (01) /      /     /     /
 COMPANY         (02) /      /     /     /
 CLIENT          (03) /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /


PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

Figure 14. Auto Report Definition Panel

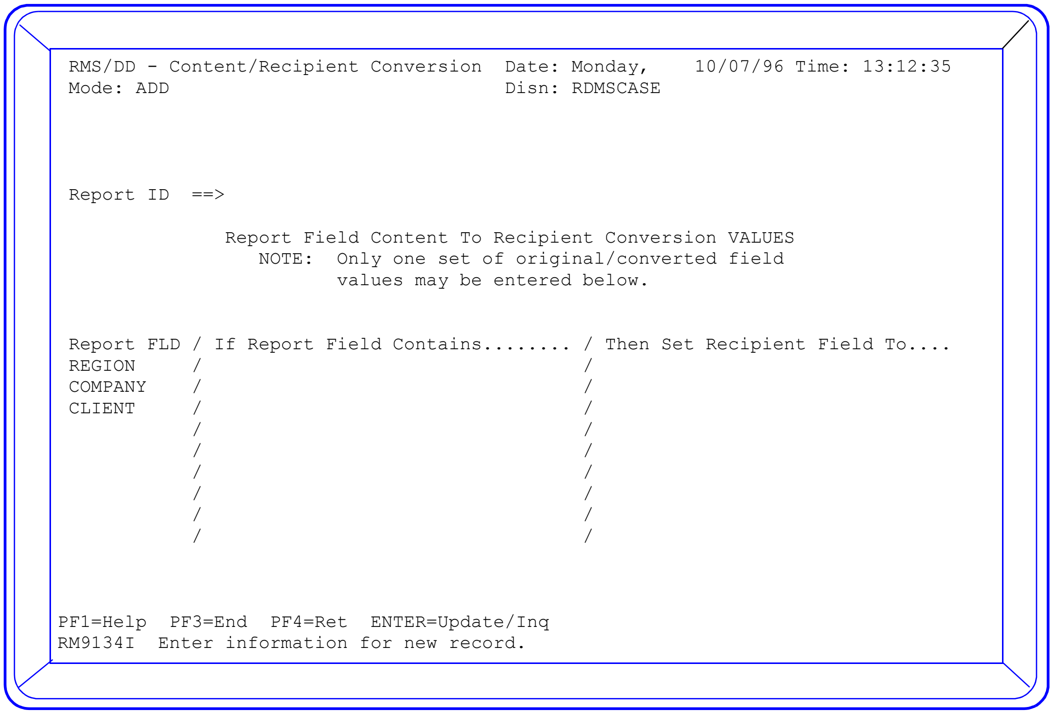
The Auto Report Definition panel provides powerful facilities for defining multiple reports with one panel. Many of today's application systems, especially packaged systems, have very consistent report formats. Such formatting lends itself to definition using the Auto Report Definition panel. When you use this panel, you are basically saying that the formatting of the report is consistent enough to provide the report ID and index titling information on a global basis. You will notice that the Auto Definition has Report ID Line and Variable Title Line fields which permit you to specify where RM80004 should look for these fields. Each time the indicated report ID data in the actual report changes, RM80004 generates an internal definition for a new report.

NOTE: For Auto Report Definition fields not documented below, consult the Custom Report Definition panel field descriptions.

REPORT ID LINE	DEFAULT: None This field specifies the line number of the report ID field on the application report. This line number is obtained from the RM80004 Map.
REPORT ID COL	DEFAULT: None This field specifies the column number of the Report ID field on the application report. This column number is obtained from the RM80004 Map.
LENGTH:	DEFAULT: None This field contains the length of the Report ID to be taken from the report page. This length is used by RM80004 to determine when a new report definition should be internally generated.

VARIABLE TITLE LINE	DEFAULT: None The field specifies the length of the title information to be obtained from the report.

Content/Recipient Conversion Panel



```
RMS/DD - Content/Recipient Conversion  Date: Monday,    10/07/96 Time: 13:12:35
Mode: ADD                              Disn: RDMSCASE



Report ID  ==>

              Report Field Content To Recipient Conversion VALUES
                 NOTE:  Only one set of original/converted field
                        values may be entered below.


Report FLD / If Report Field Contains........ / Then Set Recipient Field To....
REGION     /                                  /
COMPANY    /                                  /
CLIENT     /                                  /
           /                                  /
           /                                  /
           /                                  /
           /                                  /
           /                                  /
           /                                  /



PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

Figure 15. Content/Recipient Conversion Panel

The Content/Recipient Conversion panel is used to substitute some value for a recipient element. Most applications do not require this capability. The panel is used to alter otherwise unsuitable key elements to achieve the proper sort sequence of distribution keys. For example, consider an application where 3 reports are to be distributed for 2 endpoints.

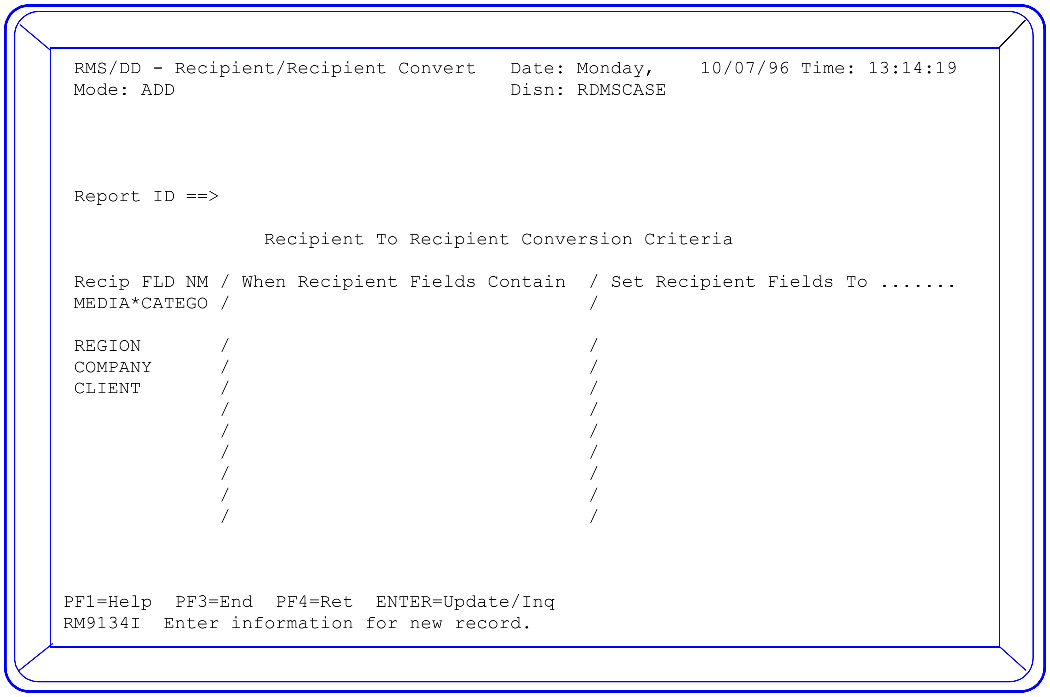
If one of the 3 reports had an endpoint name rather than the actual endpoint number (*bank number, department number, etc.*), then the Content/Recipient panel could be used to substitute the endpoint number for the non-usable name on that report.

NOTE: Only one set of fields may be entered per panel. These fields must be on the same panel row.

REPORT ID	DEFAULT: None This field identifies the report to which the content to recipient conversion applies. An * may be used here to make this conversion apply to all Report ID's.
REPORT FLD	DEFAULT: None This field is initialized by the system and contains the name of the recipient field entered in the Distribution Options panel.
IF THE REPORT FIELD CONTAINS	DEFAULT: None Enter the value here that you wish to have converted.

THEN SET RECIPIENT FIELD TO...	DEFAULT: None Enter the converted value to be placed into the recipient field identified by “Report FLD.”

Recipient/Recipient Convert Panel



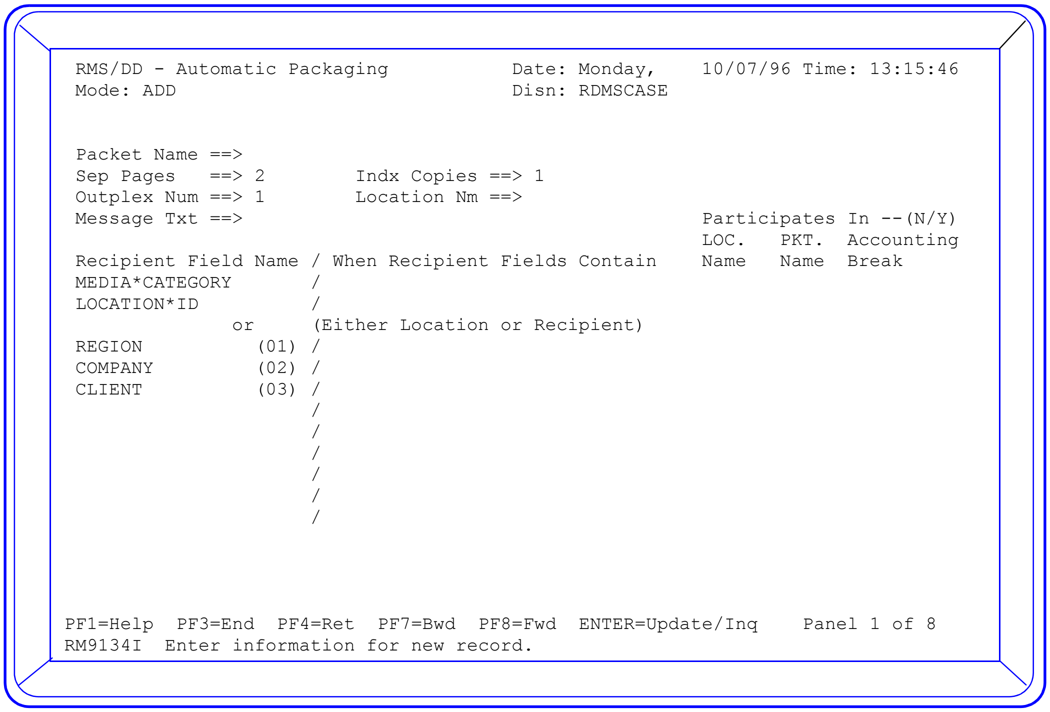
```
RMS/DD - Recipient/Recipient Convert   Date: Monday,    10/07/96 Time: 13:14:19
Mode: ADD                              Disn: RDMSCASE




Report ID ==>

                 Recipient To Recipient Conversion Criteria

Recip FLD NM / When Recipient Fields Contain  / Set Recipient Fields To .......
MEDIA*CATEGO /                                /

REGION       /                                /
COMPANY      /                                /
CLIENT       /                                /
             /                                /
             /                                /
             /                                /
             /                                /
             /                                /
             /                                /



PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

Figure 16. The Recipient/Recipient Convert Panel

This panel permits the conversion of one or more recipient field elements from one value to another. You are *not* restricted as in the Content/Recipient panel to one field pair. You may, for instance, compare for two recipient fields and only convert one field. The field you convert does not have to be the same field you used for the comparison.

REPORT ID	DEFAULT: This field identifies the report to which the Recipient/Recipient conversion applies.
RECIP FLD NM	DEFAULT This field is filled in by the system using the recipient field names assigned in the Distribution Options panel.
WHEN RECIPIENT FIELDS CONTAIN...	DEFAULT: None These fields contain the comparison values on which RM80004 bases its decision to proceed with the recipient field conversion.
SET RECIPIENT FIELDS TO	DEFAULT: None These fields represent the converted values that will replace the original recipient fields if the comparison recipient fields all match the indicated values.

Automatic Packaging Panel



```
 RMS/DD - Automatic Packaging           Date: Monday,    10/07/96 Time: 13:15:46
 Mode: ADD                              Disn: RDMSCASE


 Packet Name ==>
 Sep Pages   ==> 2        Indx Copies ==> 1
 Outplex Num ==> 1        Location Nm ==>
 Message Txt ==>                                         Participates In --(N/Y)
                                                         LOC.   PKT.  Accounting
 Recipient Field Name / When Recipient Fields Contain    Name   Name  Break
 MEDIA*CATEGORY       /
 LOCATION*ID          /
               or     (Either Location or Recipient)
 REGION          (01) /
 COMPANY         (02) /
 CLIENT          (03) /
                      /
                      /
                      /
                      /
                      /
                      /




PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 8
RM9134I  Enter information for new record.
```

Figure 17. Automatic Packaging

The Automatic Packaging panel provides a way to partition the RM80004 output report stream into packets without having to specifically reference unique recipient field characteristics. Like Custom Packaging, Auto Packaging permits the creation of varying block letters and message data. Unlike Custom Packaging, you only enter a fraction of the information that might have to be entered for Custom Packaging. The trade-off is the lack of uniqueness in the block letter formation, customized message text, etc.

The concept behind Automatic Packaging is quite simple: Recipient characteristics that will govern the partitioning of the RM80004 output stream will vary on a predetermined basis. If the recipient field values change, then the output report stream will be partitioned. With Automatic packaging, it is possible to create any number of packets.

During the Output phase of RM80004 processing, data entered via the Automatic Packaging panel is compared to page characteristics of the output stream. When the page characteristics and comparison characteristics match, the current packet is ended and a new one is started.

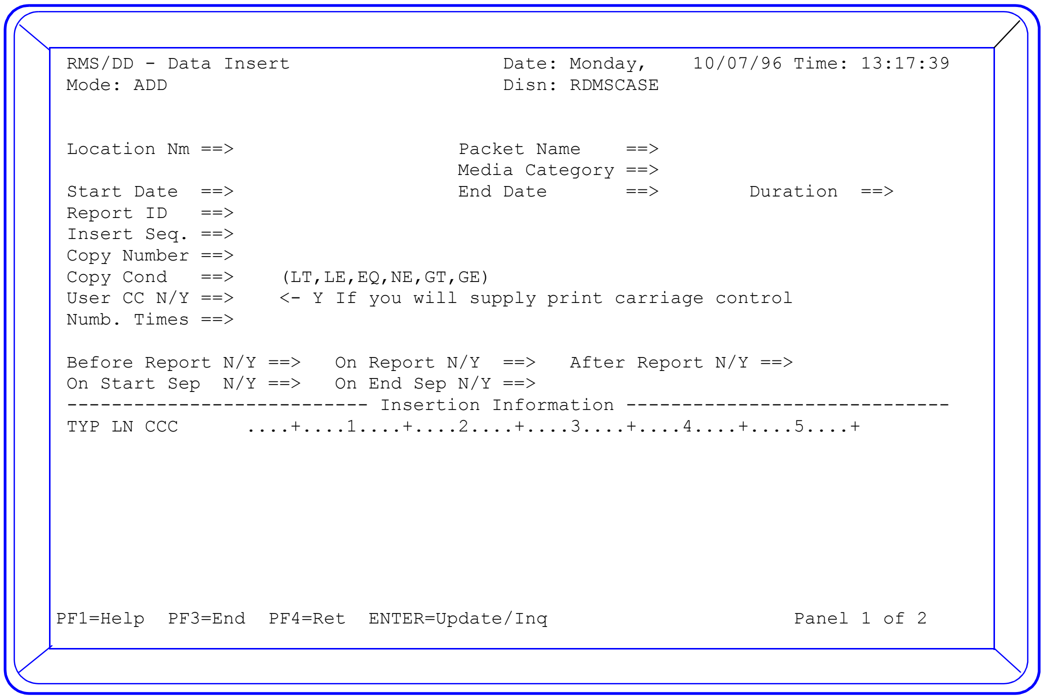
Values from the *chosen recipient field can be placed in the packet name (block letters on separator pages)* and in the message text. This is done by putting *'s in the places where recipient values are wanted. Example: If a packet is wanted for each company with packet name CL001, CL002, CL003, etc., then the company recipient field would participate in the packet name formation (*"Y" under participate in PKT.NAME*). PACKET NAME field would contain CL and message text might read "SEND TO COMPANY ***". The same thing may be done with location name. It can be made to change when the recipient field changes. One notable difference is that multiple fields may be used to fill in the location name. Therefore, Region and Company could be placed in the location name by using REGION*COMPANY** in the LOCATON NM, and indicating that those fields participate in the location name.

PACKET NAME	DEFAULT: None This field is used to specify the PACKET NAME prototype. The name consists of two parts: 1 fixed and 1 variable. The

	fixed part (usually first) may represent a set character string that is identifiable as an application prefix. You might, for instance, make the prefix for accounts payable application AP. The remainder of the name contains asterisks to indicate variable positions in the name. These variable positions are filled sequentially with values derived from the recipient fields designated as participants in the packet name formation.
SEP PAGES	DEFAULT: 2 This field is used to override the default number of RM80004 separator pages. From 0 to 9 pages may be generated for each packet. This value may be overridden if separator are specified on the corresponding output characteristics panel (panels 2-8) for the media specified.
INDX COPIES	DEFAULT: 1 Use this field to designate the number of copies of either the global index (if INDX PACKET = Y) or the packet index (the default). From 0-9 may be specified.
OUTPLEX NUM	DEFAULT: 1 Specification of “N” indicates that this Automatic Packaging panel describes a packet that is to have the reports aligned on even page boundaries within the packet. This will cause all reports to be produced with an even number of pages. Specification of 2,4,6,8 is also supported.
LOCATION NM	DEFAULT: PACKET NAME This field designates the name of the location receiving the report packet. A location name must be an alphanumeric character string of from 1 to 16 positions. Spaces are not permitted in the location name.
MESSAGE TXT	DEFAULT: None Used to designate up to 30 characters of message text data to be printed on this packet separator pages.
RECIPIENT NAME FIELD/WHEN RECIPIENT FIELDS CONTAIN	These fields specify the conditions under which the packet defined by this panel is to be created. Media category refers to the DEF(AULT) media assigned in the Custom Report Definition transaction. Specify a Location value only if you have used the Recipient to Location Equate transaction to equate the referenced location.
PARTICIPATES IN ACCOUNTING BREAK	DEFAULT: Packet level accounting The Accounting Break field is used to specify sub-accounting breaks for the packet INDEX report. Enter Y on the same line as the recipient field(s) for which you desire sub-accounting. Each time any of the indicated recipient fields change, total lines and pages are printed for the packet.

PARTICIPATES IN LOC. NAME	DEFAULT: N This field is used to indicate that this recipient field will participate in the formation of the location name for each packet that is created. Multiple fields may participate. The location of these in the location name is indicated by placing *'s in the LOCATION NM field.
PARTICIPATES IN PKT. NAME	DEFAULT:N This field indicates that this recipient field will participate in the formation of the packet name and the message text field for each packet created. Only one field may participate. Where it goes in the packet name is indicated by placing *'s in the PACKET NAME field.

Data Insertion Panel



```
 RMS/DD - Data Insert                   Date: Monday,    10/07/96 Time: 13:17:39
 Mode: ADD                              Disn: RDMSCASE


 Location Nm ==>                    Packet Name    ==>
                                    Media Category ==>
 Start Date  ==>                    End Date       ==>        Duration  ==>
 Report ID   ==>
 Insert Seq. ==>
 Copy Number ==>
 Copy Cond   ==>    (LT,LE,EQ,NE,GT,GE)
 User CC N/Y ==>    <- Y If you will supply print carriage control
 Numb. Times ==>

 Before Report N/Y ==>   On Report N/Y  ==>   After Report N/Y ==>
 On Start Sep  N/Y ==>   On End Sep N/Y ==>
 --------------------------- Insertion Information -----------------------------
 TYP LN CCC      ....+....1....+....2....+....3....+....4....+....5....+






PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq                     Panel 1 of 2
```

Figure 18. Data Insertion

The Data Insertion panel(s) are used to selectively insert print or control information in the distributed report stream. The Data Insertion facility could, for instance, be used to add formatting information to the print stream for channel attached e microfiche systems, DJDE information for 9700/8700 laser printers, or on a more simplistic level, customized address or banner page information.

LOCATION NM	Limits the insertion operation to packets having a location name matching this value.

PACKET NAME	DEFAULT: NONE This field is required and is used to designate the distributed packet in which data will be inserted. The packet name is the same as the name assigned via the Custom Packaging and Auto Packaging panels.
MEDIA CATEGORY	DEFAULT: HARDCOPY Limits the data insertion operation to packets of the designated media type.
START DATE	DEFAULT: NONE Use the start date field (YYMMDD) to indicate the beginning date this record should become effective.
END DATE	Default: NONE Use end date (YYMMDD) to invalidate this record after a specific date.
DURATION	DEFAULT: NONE You may specify the duration instead of the end date. If both end date and duration are specified, end date takes precedence.
REPORT ID	DEFAULT: NONE This field specifies the name of the report with which inserted data is to be associated, i.e., if report ID is equal to “xxxxxxxx”, then insert the designated data.
INSERT SEQ.	DEFAULT: NONE This field is required and contains a user-defined sequence number that will govern the order in which data will be inserted.
COPY NUMBER	DEFAULT: 01 This field is used to designate the copy number of the report for which the Data Insertion is to be active.
COPY COND.	DEFAULT: EQ This field specifies the condition relative to the copy number field that will govern the insertion of the specified data. EQ - equal to (default) GE - greater than or equal to GT - greater than LE - less than or equal to LT - less than NE - not equal
USER CC N/Y	DEFAULT: (N)o Specifying (Y)es indicates that the user will supply carriage control. Note that this is another way of saying that you will enter position 1 of each print line supplied. VSE Users must specify ‘Y’ and carriage control must supplied.

NUMB. TIMES	DEFAULT: 1 Indicates the number of times (1-9) that the data will be inserted.
BEFORE REPORT N/Y	DEFAULT: N(o) Specifies whether the inserted data is to be placed before the report specified.
ON REPORT N/Y	DEFAULT: (N)o Limits the data insertion to printing on report pages for the designated report ID.
AFTER REPORT N/Y	DEFAULT: N(o) Limits the data insertion operation to insertion AFTER the designated report ID.
ON START SEP N/Y	DEFAULT: (N)o Limits the data insertion operation to insertion on each of the packet start separator pages.
ON END SEP N/Y	DEFAULT: (N)o Limits the data insertion operation to insertion on each of the packet end separator pages.

Insertion Information

```
TYP   LN   CCC ....1....+....2....
```

Each of the Insertion Information lines may contain hexadecimal or character information that will participate in the insertion operation. Each line contains the type (TYP), line (LN), column (CCC), and actual information to be inserted (....+....).

Valid entries in the TYP field are (C) for character or (X) for hexadecimal.

The line number represents a relative line slot (1-50) if User CC N/Y is Y. Otherwise, line indicates the line on which the data is to be printed.

Column (CCC) represents the start column for this data string. The data line is in the format.

1-1	Print control command must be provided if User CC is (Y)es. Machine control characters are required.
2-204	Print information

NOTE: NOTE: An additional Data Insertion panel is available for up to 20 additional lines of information.

Any number of Data Insertion panels may be created. Keep in mind that the INSERT SEQ ==> field is used to dictate the order that the lines are marked.

Data Stream Insertion Overview

What is Data Stream Insertion?

Data Stream Insertion is the ability to insert lines of data at specified points in output print streams.

What advantage does this offer user?

Data Stream Insertion gives a user the ability to insert native mode DJDE data before and after separator pages and individual reports. This makes available a full range of 9700/8700 capabilities through the use of simple keyword commands.

How does the Data Stream Insertion capability operate?

Data Stream Insertion can operate at the logical report level. By making use of RDMS' ability to combine all the reports for a given distribution endpoint, the data stream insert capability permits you to switch from portrait to landscape, change forms, etc. for each report and for each user if necessary. Using the INSERT*DATA*STREAM command, you simply code the DJDE commands and designate where they are to be inserted in the output print stream.

Does application code need to be changed?

No.

What about other uses?

Other uses include:

1. Insertion of on-line or off-line microfiche formatting commands.
2. Generation of customized separator pages.
3. Insertion of additional handling instructions.
4. Special user message insertions.
5. Report cover page generation.

TESTING YOUR INSTRUCTION SET

The RM80004 commands generated by RMS/DD must be tested for both syntax and logic errors. In order to simplify the test process,you can organize the testing into two steps. In the first step use RM80004 to syntax edit our instruction set without actually attempting to distribute the report. By doing this you can execute and edit as many times as necessary without the creation of unwanted output.

Once all edit errors are corrected, you can perform the second step in the command testing. In this step you perform an actual RM80004 distribution run to test the validity of the definition. The test facilities available in RM80004 enable you to verify distribution key generation and packaging without actually printing reports. The following outlines the effort necessary to accomplish command testing.

- In order to test the commands, you will use the example job control stream, RMSRUN. This JCL is supplied with the system installation materials, and should be available as a result of the first installation task. The following changes are to be made to this run stream:

  Supply a JCL JOB card compatible with installation standards.

  Review the symbolic parameters specified on the PROC statement making the required changes.

  The RM80004 command input for this job should be a RUN*OPTION command specifying INSTRUCTION*SET*NAME as its only parameter. The name of your distribution set should be specified as the value for this parameter.

  Change the Distribution Option record by specifying 'Y' in the Diagnose field. If DIAGNOSE=Y, RM80004 ignores the dataset select records and produces no output.

  Repeat the scan and review until all errors/warnings are identified and corrected.

- Once the Instruction Set is edited, logical correctness must be verified. In this test, we perform an actual RM80004 execution to verify the distribution performed.

Testing is performed at several levels.

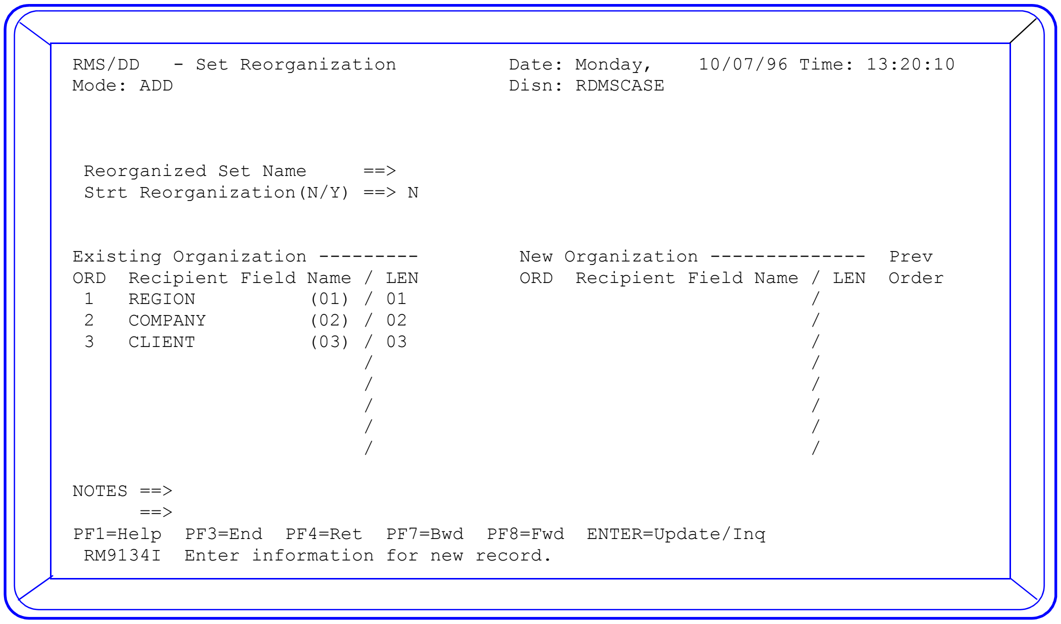
1. Set the Packet Page Limit to 10. This allows us to execute a full distribution run limiting the actual output to a few pages per endpoint. This provides a means by which you can verify the endpoint breakdown process without producing all the output.
2. We submit the RM80004 JCL for a test run specifying the name of the Instruction Set.
3. Upon completion of the test run, review the command audit trail for errors and/or warnings. If any are found, correct them.
4. Each RM80004 execution produces a management report providing a list, by packet, of each report distributed to the endpoints. This report is produced with the banner page title “MANIFEST”. Locate the manifest and review the reports that RM80004 distributed in each of the packets. If the reports listed agree with stated distribution requirements, proceed with the next review item. If it does not agree, review the key trace data locating the keys being generated in error and correct the corresponding RM80004 commands.
5. Now we review each of the packets to verify the report consolidation process. We check to ensure that all reports placed in a packet do, in fact, belong there. If the packet structure is correct, we have completed the command stream test. If the packet structure is not as it should be, correct the appropriate panels and repeat the test steps.
6. Reset the packet page limit to the maximum value before placing it in production status.

INSTRUCTION SET REORGANIZATION

Distribution Instruction Sets generated with RM80004/DD may require reorganization when the initial distribution options record contains either a recipient field length or an order designation which does not accurately reflect the actual length of the recipient field or the defined hierarchy (*via the ORD field*) produces undesirable report ordering.

Access to the Set Reorganization panel is via the ADR transaction. The name of the instruction set to be reorganized is entered with the transaction code (*ADR*) from the main menu panel. Set Reorganization implies the creation of another instruction set under the name entered in the REORGANIZED SET NAME ==> field

Set Reorganization Panel



```
RMS/DD   - Set Reorganization          Date: Monday,    10/07/96 Time: 13:20:10
Mode: ADD                              Disn: RDMSCASE



 Reorganized Set Name     ==>
 Strt Reorganization(N/Y) ==> N


Existing Organization ---------         New Organization --------------  Prev
ORD  Recipient Field Name / LEN         ORD  Recipient Field Name / LEN  Order
 1   REGION          (01) / 01                                  /
 2   COMPANY         (02) / 02                                  /
 3   CLIENT          (03) / 03                                  /
                          /                                     /
                          /                                     /
                          /                                     /
                          /                                     /
                          /                                     /

NOTES ==>
      ==>
PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq
 RM9134I  Enter information for new record.
```

Instruction Set Reorganization.

The EXISTING ORGANIZATION fields on the panel simply reflect the status of the Distribution Master/Options at the time the reorganization panel was displayed. These fields are for informational purposes only and may not be changed.

The NEW ORGANIZATION section of the panel permits the following:

1. Rearrangement of existing recipient field(s)
2. Deletion of recipient field(s)
3. Addition of recipient field(s)

Set Reorganization is subject to the same limitations/constraints as the Distribution Master/Option, i.e., total length of all fields may not exceed 30 characters, new ORD fields must be ascending/consecutive order, etc. The PREV(ious) LEN(gth) and ORDER fields must be specified when recipient field values in the existing definitions are to be retained/carried forward to the reorganized instruction set.

NOTE: Set Reorganization is initiated when all edit checks are successful and Y is entered in the STRT REORGANIZATION (N/Y) ==> field. Lengthy set reorganization could take some time, but most will complete in a few seconds.

The Set Reorganization transaction may be used to copy an existing instruction set by specifying all of the existing fields in the PREV(ious) LEN(gth) and PREV(ious) ORDER fields.

Chapter 4

REPOSITORY MANAGEMENT

Concepts

This chapter contains information on the RMS system components used to archive, recover, backup, reload, and manipulate the content of the repository. Managing the RMS repository though not a difficult task, requires that you understand the characteristics of repository datasets and how RMS system components may be used to manage these datasets.

The strategy you adopt in managing the RMS repository will have a direct bearing on the ease with which the repository can be managed. For example, if your strategy is to maintain access to reports for 30 days while keeping the size of the RMS repository at the lowest possible level, you would want to set the data retention of these reports to a value considerably less than 30 days. If you do not find it desirable to view BASE datasets because of the space these datasets would take in the repository, you would not assign a fileset name to BASE datasets and would delete these datasets as soon as they were distributed.

Even decisions that seem minor at this point can come back to haunt you later. A good example is the decision made relating to the way repository datasets are named. You may have noticed that considerable attention is given to this subject. Though we can't force you to chose a naming convention that will permit bulk management of the repository by application, every installation is inevitably faced with a situation where they find it desirable to archive and purge repository datasets by parent application system. If a naming convention like the one we suggest has been used, an application system that creates 40 BASE datasets can be archived and purged from the repository with two control statements. The same task without such order could take as many as 41 control statements.

TYPES OF REPOSITORY DATASETS

Datasets are said to be *managed* if there is a fileset name associated with the dataset. The fileset name is like a mailing address. Just as an address would tell the post office where to send a letter, the fileset name tells the RMS Controller index task where to store the index elements for a dataset. As the term managed implies, there are many essential report management functions that take place automatically. ***If no fileset name is assigned, there can be no index. No index means that the dataset is non-managed.***

With the exception of transient internal use datasets, there are only two types of datasets that reside in the RMS repository, BASE and Distributed. BASE datasets contain the SYSOUT report information created by your application system and subsequently placed in the repository by the subsystem or external writer interface. Base datasets may be either managed or non-managed. Base datasets become managed datasets when the external writer or subsystem interface assigned a fileset name.

Distributed Datasets as the name implies are the result of the distribution of some or all of the information contained in one or more BASE datasets. All distributed datasets are managed datasets. The following table is a summary of the more prominent attributes of each type of repository dataset.

REPOSITORY DATASET TYPE			
ACTION / ATTRIBUTE	NON-MANAGED BASE	MANAGED BASE (GROUP ARCHIVE)	DISTRIBUTED (GROUP ARCHIVE)
Creation	by customer application system. Placed in Repository by subsystem or external writer interface.	by customer application system. Placed in Repository by subsystem or external writer interface.	RM80004

REPOSITORY DATASET TYPE			
ACTION / ATTRIBUTE	**NON-MANAGED BASE**	**MANAGED BASE (GROUP ARCHIVE)**	**DISTRIBUTED (GROUP ARCHIVE)**
File set name	No	Yes	Yes
Indexed	No	Yes	Yes
Scheduled for Deletion	RM80001	RM90008 based on retention criteria	RM90008 based on retention criteria
Actual Deletion	RM99998 (RMS Controller Purge Task)	RM99998 (RMS Controller Purge Task)	RM99998 (RMS Controller Purge Task)
Viewable	No	Yes	Yes if Softcopy. All other distributed medias may be reloaded and viewed
Printing	RM80001	requested by user of RMS/ Online	requested by user of RMS/ Online
Reloading	RM80001	may be reloaded for viewing by RM10000 (RMS Controller Recover Task)	may be reloaded for viewing by RM10000 (RMS Controller Recover Task)
Backup	RM80001	RM90007	RM90007
Restore	RM80001	RM90008	RM90008

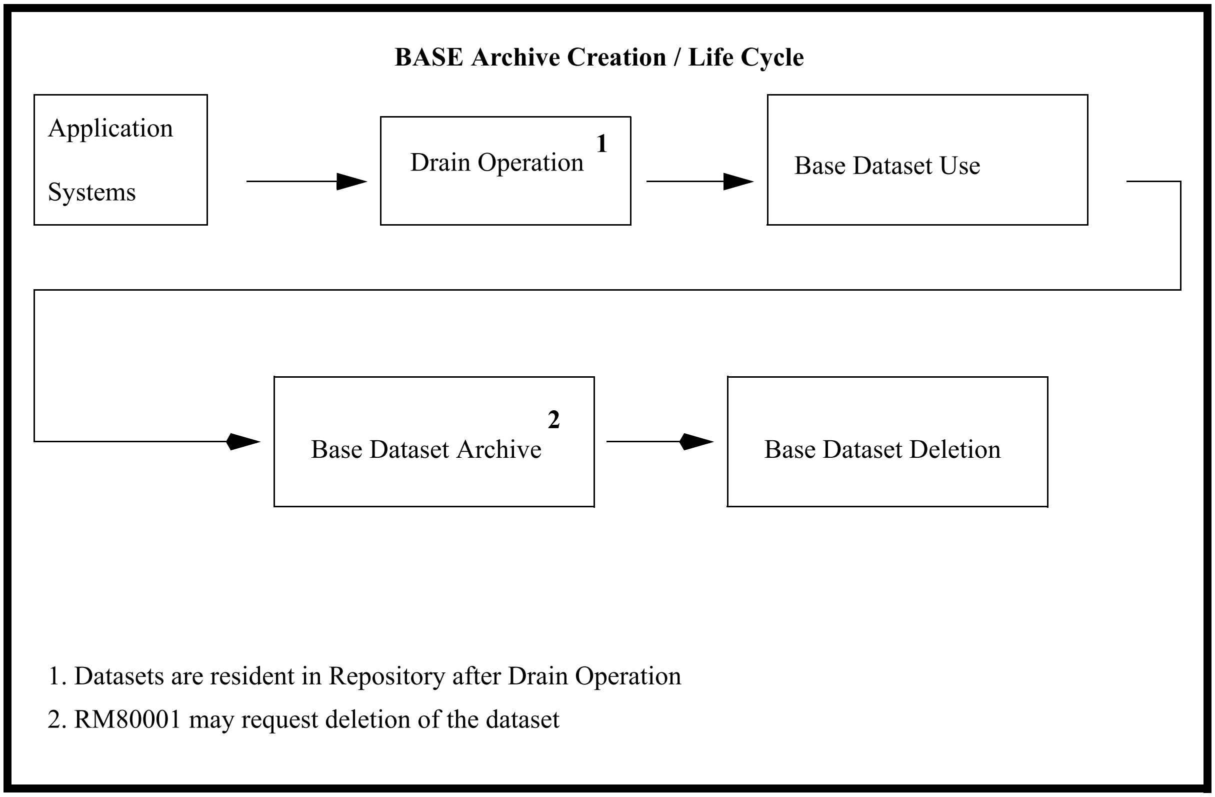
RMS ARCHIVE TYPES

RMS supports the following archive types. Each one of these archive types can be used to achieve different objectives.

ARCHIVE TYPE	CREATED BY	WHEN?	CHARACTERISTICS
BASE	RM80001	On Demand	Frees Repository space, permits recovery of any number of BASE datasets
Packet	RM80004	During Distribution	Permits printing of all or part of a distributed packet. Recovery may be initiated by batch job or RMS/ONLINE transaction.
Retention-Based	Control Region	Automatically, based on retention criteria	Permits reload and printing of individual reports. Recovery is initiated from RMS/Online

Base Archive Creation / Life Cycle

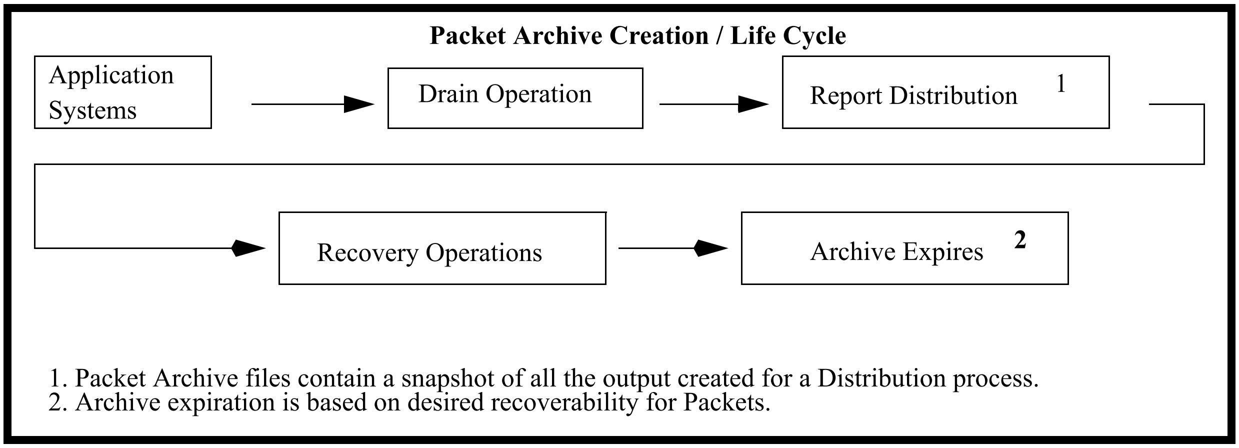
BASE archive is used for the high-speed backup and or removal of BASE datasets from the repository. Usually this type of archive is coordinated with the distribution of the content of the BASE datasets so that a snapshot of the original application output is created and held pending any requests for lost distributed reports. As you will see from the description of the Retention-based archive, individual reports may be recovered from retention-based archives as well. BASE archives are created by RM80001. A full discussion of the capabilities of this program can be found later in this chapter.


BASE Archive Creation / Life Cycle
Application Systems
Drain Operation
1
Base Dataset Use
2
Base Dataset Archive
Base Dataset Deletion

1. Datasets are resident in Repository after Drain Operation
2. RM80001 may request deletion of the dataset

Packet Archive Creation / Life Cycle

Packet archives are created as a normal by-product of the distribution process. Packet archives represent a snapshot of all the reports as distributed by RM80004. Packet archives might be used to re-print the entire content of a packet or selected reports from a packet.

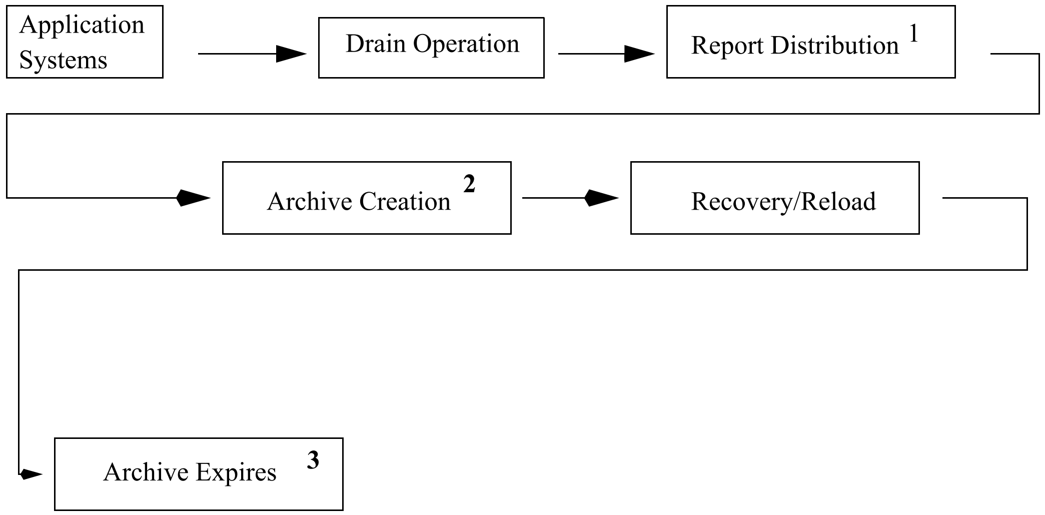

Packet Archive Creation / Life Cycle
Application Systems
Drain Operation
Report Distribution
1
Recovery Operations
Archive Expires
2

1. Packet Archive files contain a snapshot of all the output created for a Distribution process.
2. Archive expiration is based on desired recoverability for Packets.

Retention-Based Archive Creation / Life Cycle

Retention-based archives may contain BASE datasets and/or distributed datasets that have like retention characteristics. A retention-based archive maximizes storage management by ensuring that all reports in a specific file expire at the same time. This type of archive is based on characteristics in the retention control record(s).

Retention-Based Archive Creation / Life Cycle



1. Retention Records govern retention-based archive. Archive summary files are produced.
2. Summary files are processed by RMS Controller Archive tasks.
3. Archive files contain reports with same retention characteristics.

FILESET BACKUP AND RESTORE

RMS/ONLINE files are maintained through the use of the backup and restore programs (*RM90007 and RM90008, respectively*). Through the combination of Control Statements and retention control records, the report information in the fileset can be kept at appropriate retention levels.

RM90007 (Backup) Processing

The backup program places all data from the managed files into a variable blocked sequential dataset. This backup file is in a sequence necessary and required by the restore program for proper retention record handling. See the *JCL Installation Library* for current JCL procedures. RM90007 has no control statements.

RM90008 (Restore) Processing

The restore process reads the file created by the backup and places either all the data or selected data into the output files. If a full restore is requested, then all data is restored. If a partial restore is requested, then all administrative and system control records are restored, but only report data and control records which meet the criteria specified in the retention control records are restored. If update is specified, the INDEX is updated in place with retention control characteristics being taken into consideration.

It is recommended that both the backup and restore process be completed daily using the $R UPDATE option. It is very important that these backups be kept for file recovery should disk I/O errors occur.

Recommendation

Daily Backup / Restore

1. The Backup should be run at least once daily.
2. The Restore process should be run once each day.
3. The Restore should be run in $R UPDATE mode so that all other system components can proceed without interruption.

Weekly and/or Monthly Backup / Restore

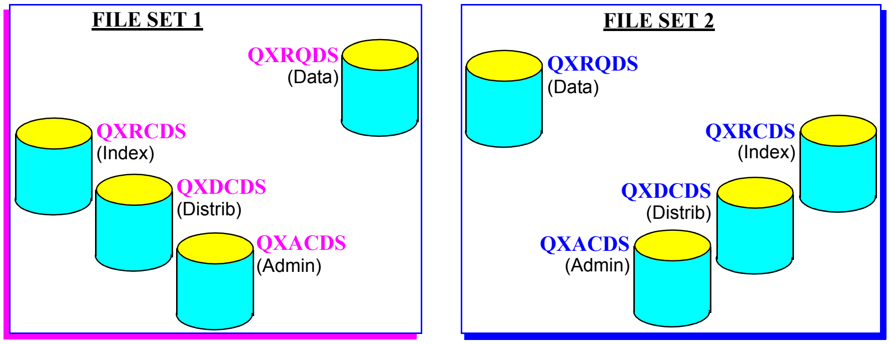
1. The Backup/Restore process may be run on a weekly or monthly basis so that the VSAM files can be deleted and redefined. This clears any control area/control interval splits that may have occurred.
2. The restore mode should be $R PARTIALCLEAR for those customers that have only one fileset serviced by the target SUBSYSTEM. This will drop any datasets that have passed their required retention. The CLEAR will cause all datasets in the subsystem to be cleared. This reduces the file space requirements on the spool files for the restore process. Without the CLEAR, the restore will require double the space for the data elements.
3. The restore mode should be $R PARTIALSYNC for those customers that have more than one fileset serviced by the target SUBSYSTEM.
4. CICS files must be closed and de-allocated during a FULL, FULLCLEAR, PARTIALCLEAR, OR PARTIALSYNC operation.
5. The RMS control region associated with this fileset must be brought down.

CONTROL STATEMENTS FOR RM90008							
POS 1-3	POS 4-80	MODE	FILE STATUS VSAM FILES	FILE STATUS REPOSITORY	RETENTION CONTROL	FILE ACCESS	CONTROL* REGION
$R	PARTIALCLEAR	LOAD	Reload of VSAM files, retention considered.	All datasets for **all** filesets are deleted.	Applies	No	Down
$R	PARTIAL	LOAD	Reload of VSAM files, retention considered.	All datasets for this fileset will be deleted.	Applies	No	Down
$R	PARTIALSYNC	LOAD	Reload of VSAM files, retention considered.	All datasets for this fileset will be deleted.	Applies	No	Down
$R	FULLCLEAR	LOAD	All files loaded from tape.	All datasets for **all** filesets are deleted.	Ignored	No	Down
$R	FULL	LOAD	All files loaded from tape	All datasets for this fileset will be deleted.	Ignored	No	Down

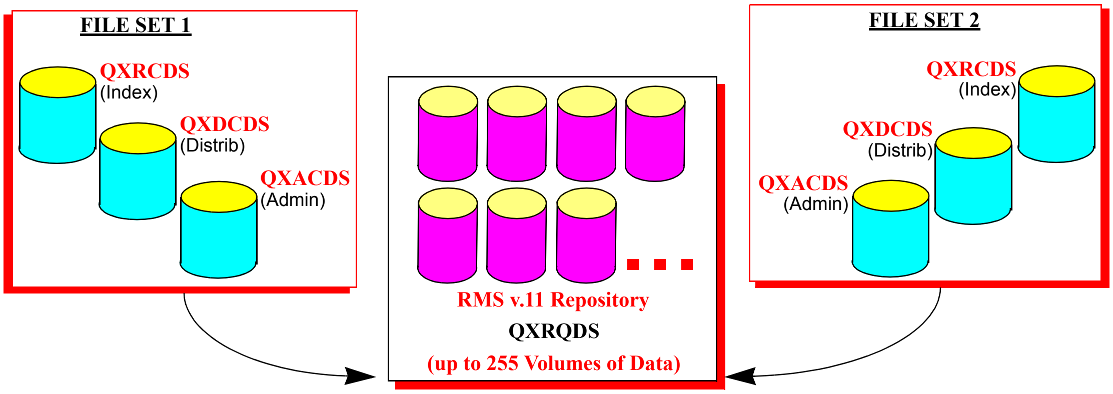
CONTROL STATEMENTS FOR RM90008							
POS 1-3	**POS 4-80**	**MODE**	**FILE STATUS VSAM FILES**	**FILE STATUS REPOSITORY**	**RETENTION CONTROL**	**FILE ACCESS**	**CONTROL* REGION**
$R	UPDATE	UPDATE	Index for all files past retention are scheduled for deletion.	Datasets past retention are scheduled for deletion.	Applies	Yes	Up
$M1	“STARTUP MESSAGE” to console						
$M2	“TERMINATION MESSAGE” to console						
*The controller region which has been started with the INDEXOFF option need not be terminated.							

REPOSITORY SHARING AMONG FILESETS

The datasets in multiple filesets may be pooled by using a common repository. Prior to release 11, a VSAM dataset (*QXRQDS*) was used to store report data. Pre-release 11 filesets looked like the diagram below:


FILE SET 1
QXRQDS
(Data)
QXRCDS
(Index)
QXDCDS
(Distrib)
QXACDS
(Admin)
FILE SET 2
QXRQDS
(Data)
QXRCDS
(Index)
QXDCDS
(Distrib)
QXACDS
(Admin)

Each of these filesets had their own QXRQDS prior to RMS release 11.0. The following schematic shows the relationship of the files using a common repository for the storage of the data objects.


FILE SET 1
QXRCDS
(Index)
QXDCDS
(Distrib)
QXACDS
(Admin)
RMS v.11 Repository
QXRQDS
(up to 255 Volumes of Data)
FILE SET 2
QXRCDS
(Index)
QXDCDS
(Distrib)
QXACDS
(Admin)

Index objects remain in the same files they were in prior to release 11. Using this approach offers the following advantages:

- The data objects may be purged and the space recovered without taking the systems out of service.
- Over allocations for each of the datasets can be consolidated resulting in less wasted space.
- Base datasets stored in separate datasets prior to release 11 may be stored in a consolidated repository beginning with release 11.

The backup/restore process takes into consideration the fileset to which the data objects belong. Only those data objects associated with the index data in a fileset is placed on a backup file created by RM90007.

Restore processing (*partial or full*) attempts to delete repository datasets appearing in the backup file. If data objects have been deleted through the communication interface or because of a previous reload of the file, a purge operation will be attempted. This may result in the production of diagnostic messages by the purge processing task. These may be ignored.

RM80001 - BASE DATASET MANAGEMENT UTILITY

This section describes the functional characteristics of the archive management program RM80001. Explanations of the command structure and examples of the use of these commands in typical production environment situations are included. Refer to the installation section of this manual for a description of the installation procedures and file requirements for this program.

Readers are assumed to have a data management background and knowledge of the Job Control Language (*JCL*) for your system.

Guide to Commands

The following table contains a cross reference of various report management tasks and the commands used to accomplish those tasks. The left column lists the task. The middle column more fully describes the task. The right column lists the command used to perform the task.

TASK	DEFINITION	COMMAND
ARCHIVE	One or more BASE datasets	RUN*MODE (ARCHIVE parameter)
ASSIGN	Output attributes to segment of report data	OUTPUT*CONTROL
INSERT	Data into the print stream	INSERT*DATA*STREAM
RECOVER	One or more BASE datasets from an archive file	RUN*MODE (RECOVER parameter)
SELECT	BASE datasets for processing	SELECT
SET	Reporting audit line count	RUN*OPTIONS

System Facilities

RM80001 performs all the functions necessary for the interpretation of control commands, location of base datasets, and subsequent processing of report data. Output media type is also controlled by these programs.

Detailed information regarding the size and characteristics of the base datasets processed is produced during each execution. Hardcopy and system log output also record any unusual situations encountered by the system. All commands are listed during each execution.

Typical uses:

1. Creation of Microfiche Source.

RM80001 will selectively retrieve entries that are to be placed on microfiche. The reports may be retrieved and stacked in any order. The various output options are listed below by version of the system.

VSE

Print Image
User Exit Defined

MVS

Print Image
Specific DD -- User Defined
Print
User Exit Defined

2. Archive Report Data.

   RM80001 provides a complete backup and recovery system. The archive facility can reduce costly reruns and provide better end user service.

3. Release of repository space.

   Repository space may be scheduled for release by executing RM80001 and specifying PURGE and ARCHIVE in the RUN*MODE command.

4. Production of Customized Output

   The exit facility of RM80001 permits the examination and output of report data. RM80001 passes the report data line by line to the exit. Simple action codes and a single parameter call list make exit processing as simple as writing a batch sequential file processing program. Interface consistency guarantees familiarity and ease of coding for additional applications such as microfiche file conversion.

5. Management of Non-Managed Datasets.

   Non-managed datasets are marked for purge and deleted when the archive tasks are idle.

6. Report Portability.

   Datasets which have been archived can be transported from one operating environment to another. For example, a VSE archive file can be processed in an MVS environment.

RM80001 USE

Selecting Datasets

Datasets are retrieved using the qualifying information specified in the select command. The NAME keyword may be used to specify the full dataset name of from 1 to 8 characters. The GNAME keyword is used to select by name prefix.

Selection by prefix always implies selection of every dataset that has this prefix. Full dataset name selection will retrieve only one dataset matching the name specified. When selecting by specific name, if there is more than one dataset with the specified name, the entry most recently created is selected for processing.

Both the NAME and GNAME forms of selection permit positions in the name to be ignored during the comparison. The positions in the name which are to be ignored are indicated by using a mask character (*) in that position of the name. For example, all datasets having an ‘A’ in position 1, a ‘C’ in position 3 and a ‘D’ in position 4 will be selected by using the following command.

```
SELECT -
GNAME (A*CD)
```

Other dataset attributes may be used to refine the selection process. For example, the following dataset select record will select the dataset DIS01 which also has a class of ‘A’, and a form identification of ‘S1PT’.

```
SELECT -
NAME (DIS01) -
CLASS (A) -
FORM (S1PT)
```

The selection qualifiers vary slightly by operating system. The section “Control Statements” contains SELECT command format and available selection options for each of the systems. Any number of datasets may be selected for processing during a single execution. Selection by prefix and full name may be intermixed to attain the desired results.

Archive Scheduling

Typically, archive operations are scheduled based on the DASD space allocated to the RMS repository. The smaller the repository dataset, the more often archive must be performed. However, the minimum repository size should be that necessary to hold at least two (2) times the largest work unit to be processed, i.e., output from an application. This would ensure enough space so that application overlap would not pose a problem.

If DASD space is not a primary concern, a single archive at either the beginning or the end of a production cycle may suffice. Archive of datasets from the previous processing cycle at the beginning of the next would allow reports to be available for any necessary processing without scheduling a **`RECOVER`** job. Whichever approach is selected, careful thought should be given to the archive process to ensure it meets the individual installation’s needs for report retention and repository space.

RM80001 CONTROL STATEMENTS

Notation Conventions

The notation convention used to describe the format of RM80001 commands is not part of the command structure. Rather, it serves only as a basis for describing the structure of the commands.

All command-format illustrations adhere to the following conventions:

- Brackets [ ] indicate an optional parameter or sub-parameter.
- Braces { } indicate a choice of entry; if no default value is indicated, one of the entries must be chosen.
- Vertical Bar | is used to separate alternative items. Only one of the items may be selected.
- Other punctuation such as parentheses, commas, spaces, etc.
  must be entered as shown.
- Bold face indicates the exact characters to be entered. Upper case only.
- Lower case type in the format illustration specifies data to be supplied by the user.
- Underscored type indicates a default option. The underscored value is assumed if the parameter is omitted.

This section describes the RM80001 control statements. Commands are described in alphabetical order. Parameters associated with each command are organized by the categories REQUIRED and OPTIONAL. Within these categories, the parameters are also alphabetized. Parameters may be coded in random order.

Control Statement

Types

Option

The option commands are:

- RUN*MODE which controls the execution mode of the system.
- RUN*OPTIONS which activates run options.
- OUTPUT*CONTROL which assigns output attributes to datasets.
- INSERT*DATA*STREAM, which inserts print records into output data.

Select

The select command controls which datasets are retrieved and the order in which they are retrieved.

- SELECT is used to select specific print BASE dataset entries from the repository or archive dataset.

Order

Generally speaking, commands must be presented to RM80001 in a prescribed order. All RM80001 commands except the **`SELECT`** command are optional. When present, the other RM80001 commands should be entered in the following order.

1. **`RUN*MODE OPTIONAL`**
2. **`RUN*OPTIONS OPTIONAL`**
3. **`INSERT*DATA*STREAM OPTIONAL`**
4. **`OUTPUT*CONTROL OPTIONAL`**
5. **`SELECT REQUIRED`**

NOTE: `OUTPUT*CONTROL` and SELECT commands may be interspersed.

Syntax

All RM80001 commands have the general structure:

COMMAND parameters ....
COMMAND indicates the functional nature of the service requested; parameters describe the service.

Commands begin at or to the right of the left margin. The margins are 2 and 72. Commands are separated from their associated parameters (*if any*) by one or more spaces, comments, or reserved words. A comment is any character string that begins with $* and ends with *$. Comments may not contain an embedded *$. Commands beginning in position 1 are assumed to be positional control records.

Parameters

All parameters are keyword parameters. These parameters usually have an associated value. A keyword is a specific character string. For example, in:

```
SELECT NAME (REPORT1)
```

SELECT is a command and NAME is a keyword parameter that indicates that the value “REPORT1” is the name of a base dataset to be selected for processing. Value data is always enclosed in parentheses. A value may be a sub-list with entries that are separated by commas. Parentheses and commas are not permitted as value data.

Continuation

Commands may be continued on several records. Continuation is not permitted between a keyword and its associated value. Each record except the last must have a hyphen as the last non-blank before or at the right margin. A hyphen indicates the continuation of a command.

Command Descriptions

This section describes each command(s) format and parameters. They are described in the following order:

- **INSERT*DATA*STREAM** which permits data to be inserted in the output data stream.
- **OUTPUT*CONTROL** which assigns output attributes to datasets retrieved by RM80001.
- **RUN*MODE** which controls the execution mode of the system.
- **RUN*OPTIONS** which activates RM80001 run options.
- **SELECT** which identifies the dataset(s) to be processed.

NOTE: “Notation Conventions” in “About This Book” describes the command documentation notations.

INSERT*DATA*STREAM

The format of the **INSERT*DATA*STREAM** command is:

```
INSERT*DATA*STREAM
IDS         [AFTER*REPORT*ID (report id)]
            [BEFORE*REPORT*ID (report id)]
            [ON*REPORT*ID (report id)]
            [CONTROL*CHAR]
            [INSERT*DATA (line, column, character string)]
            INSERT*HEX*DATA (line, column, hexadecimal string)]NUMBER*TIMES
(number of times | 1)]
            [ON*END*SEP]
            [ON*START*SEP]
            [SEGMENT*NAME (segment identifier)]
```

INSERT*DATA*STREAM PARAMETERS

Optional Parameters

AFTER*REPORT*ID (report id)	is an optional parameter that indicates insertion of data after a specific report ID. Alternate Keyword(s): ARI
BEFORE*REPORT*ID (report id)	is an optional parameter that indicates insertion of data before a specific report ID. Alternate Keyword(s): BRI
ON*REPORT*ID (report id)	is an optional parameter that indicates insertion of data on a specific report ID. Use of **ON*REPORT*ID** will cause the inserted data to be placed at the bottom of each page of the report id specified.

CONTROL*CHAR is an optional parameter that indicates print command characters (all skipping and spacing) will be supplied. Machine control characters must be supplied for each line referenced. If **CONTROL*CHAR** is omitted, the system advances to the top of a new page (channel 1) before insertion is performed.
Alternate Keyword(s): CC

NOTE: **(VSE)** Control*Char is a required parameter in the VSE environment.

INSERT*DATA (line, column, char string) is an optional parameter that provides data to be inserted in character format.
Alternate Keyword(s): ID

Line	If the **CONTROL*CHAR** is specified, Line indicates the relative line slot (1-50). Otherwise, Line indicates the line on which the data is to be printed.
Column	The starting column for this data string. The data line is in the format.
1-1	Print control command (must be provided if **CONTROL*CHAR** specified.)
2-204	Print data. (See note 2.)
Character String	Any alphanumeric data string.

INSERT*HEX*DATA (line, column, hexadecimal char string)
is an optional parameter that provides data to be inserted in hexadecimal format. Alternate Keyword(s): IHD

Line	If the **CONTROL*CHAR** is specified, Line indicates the relative line slot (1-50). Otherwise, Line indicates the line on which the data is to be printed.
Column	The starting column for this data string. The data line is in the format.
1-1	Print control command (must be provided if **CONTROL*CHAR** specified.)
2-204	Print data. (See note 2.)
Character String	Any hexadecimal data string. Valid characters are 0-9 and A-F. An odd number of characters will be right justified with a leading zero. (See note 2.)

NUMBER*TIMES (number of times | 1) is an optional parameter that indicates the number of times (1-9) the data is to be inserted.
Alternate Keyword(s): NT

ON*END*SEP is an optional parameter that limits this **INSERT*DATA*STREAM** command to printing the data stream on the end separator page. At the time the data is to be inserted, the printer will be positioned at line 49. The user is responsible for supplying machine control commands for spacing skipping or printing from this point.
Alternate Keyword(s): OES

ON*START*SEP is an optional parameter that limits this **INSERT*DATA*STREAM** command to printing the data stream on the start separator page. At the time the data is to be inserted, the printer will be on line 49. The user is responsible

	for supplying machine control commands for spacing, skipping or printing from this point. Alternate Keyword(s): OSS
SEGMENT*NAME (segment identifier)	is an optional parameter that limits this **INSERT*DATA*STREAM** command to a unique packet or segment name. The **SEGMENT*NAME** is the same as the name parameter of the **CREATE*PACKET** command in RM80004. Omitting this parameter indicates that the command applies to all segments. Alternate Keyword(s): SN

*Notes on INSERT*DATA*STREAM*

1. In addition to the **REPORT*ID** referenced in the **IDENTIFY*FORMAT** command, special report ID's have been assigned.

   They are:

STARTSEP	-start separator pages
ENDSEP	-end separator pages
MANIFEST	-manifest
* (asterisk)	-all REPORT*ID's except above

2. Since continuation of a value within a parameter is not allowed with the key word facility, multiple **INSERT*DATA** and/or **INSERT*HEX*DATA** commands may be used to form an entire line of data using the column value.
3. **AFTER*REPORT*ID** and **BEFORE*REPORT*ID** may be specified on the same command.

*OUTPUT*CONTROL*

The format of the **OUTPUT*CONTROL** command is:

```
OUTPUT*CONTROL
OUTCTL      [BURST]
            [CHARS (name 1[,name 2, name 3, name 4])]
            [CLASS (output class | A)]
            [COPIES (number of copies | 1)]
            [DDNAME (ddname | SELECTED DATASET NAME)]
            [DESTINATION (dest ID | LOCAL)]
            [DISPOSITION (disp | SPIN)]
            [EXTERNAL*WRITER*NAME (name)]
            [FLASH (name[,copies])]
            [FORM*CONTROL*BUFFER (fcb name)]
            [FORM (form name)]
            [LRECL (nnn | 133)]
            [SEPARATOR*PAGES (number separators | 2)]
            [UCS (name)]
```

*OUTPUT*CONTROL Command Summary*

OUTPUT*CONTROL commands are used to assign the required output characteristics to one or more report datasets. These characteristics include:

```
CLASS
COPY COUNT (Job Entry System)
DESTINATION (RJE)
```

```
DISPOSITION
FORM
NUMBER OF SEPARATOR PAGES (RM80001 generated)
```

The relationship between the **`OUTPUT*CONTROL`** command and SELECT command(s) is positional. When RM80001 encounters an **`OUTPUT*CONTROL`** command, it stores all the designated attributes. Every SELECT command encountered until the next **`OUTPUT*CONTROL`** command is "tagged" with these attributes. As a result, multiple SELECT commands may require only one **`OUTPUT*CONTROL`** command.

OS/MVS RM80001 permits a report dataset to be directed to a specific DD statement with the DDNAME parameter. All other parameters, with the exception of **`SEPARATOR*PAGES`**, are ignored when the DDNAME parameter is used. Use of DDNAME parameter requires that a DD statement with the indicated name be added to the RM80001 JCL. All such DD statements for RM80001 output must specify full DCB information. When RM80001 output is directed to SYSOUT, the record format should always be FM. Specification of FBM or FM for disk or tape data sets will cause position 1 of each record to be lost. Output to disk or tape should be FB or VB.

When recovering distributed report packets, the parameters specified in the RM80001 **`OUTPUT*CONTROL`** statement will be merged with the parameters specified by the **`OUTPUT*CONTROL`** statement in effect when the segment was originally created by RM80004. Thus, parameters such as DESTINATION can be coded to cause a segment originally routed to an RJE destination to be reprinted locally.

*OUTPUT*CONTROL PARAMETERS*

Required Parameters

None.

Optional Parameters

`BURST`	Is an optional parameter used to indicate that, if printed on an IBM 3800 printer, the "Burster, Trimmer, Stacker" feature is to be used.
`CHARS` (name 1[,name 2, name 3, name 4])	Is an optional parameter used to indicate, if printed on an IBM 3800 printer, the names(s) of from one to four character arrangement tables to be used.
`CLASS` (output class | A)	Is an optional parameter used to assign an output class. Valid entries are A-Z and 0-9. The default is A.
`COPIES` (number of copies | 1)	Is an optional parameter used to designate the JES copy count. The default is 1. The maximum is 99.
`DDNAME` (name | SELECTED DATASET NAME) (MVS ONLY)	Is an optional parameter used to specify the name of a DD statement that has been added to the RM80001 JCL. The name supplied must conform to naming conventions. Use of the DDNAME parameter causes all other parameters to be ignored. OS/MVS RM80001 will dynamically allocate the output file using the name of the BASE dataset if the DDNAME parameter is omitted.
`DESTINATION` (dest ID | LOCAL)	Is an optional parameter used to supply a remote destination name. The default destination is LOCAL. JES2 NJE users should specify **`NODE:REMOTE`** destinations using the short

CHAPTER 4: REPOSITORY MANAGEMENT

Chap_04(v11r35m1).fm: Revised Sunday, November 24, 2013

	form NnnnRnnn convention. See JES2 NJE DESTINATION parameter for a full explanation of this form. Alternate Keyword(s): DEST
DISPOSITION (disp | SPIN)	Is an optional parameter used to request alternate disposition of the output dataset. Specify H for HOLD disposition. The default is SPIN, the equivalent of FREE=CLOSE. Alternate Keyword(s): DISP
EXTERNAL*WRITER*NAME (name)	Is an optional parameter used to specify the external writer sub-parameter of the SYSOUT parameter in file dynamically allocated by RM80001. Alternate Keyword(s): EWN
FLASH (name[,copies])	Is an optional parameter used to indicate, if printed on an IBM 3800 printer, the name of the forms overlay to be used and optionally the number of copies on which the forms overlays to be printed.
FORM*CONTROL*BUFFER (fcb name)	Is an optional parameter used to request the form control buffer image to be used. Alternate Keyword(s): FCB
FORMDEF (form definition name)	Is an optional parameter used to request the form definition to be used .
FORM (form name)	Is an optional parameter used to designate the form identifier of the output data.
LRECL (nnn | 133)	Is an optional parameter used to designate the logical record length. The default is 133.
PAGEDEF (page definition name)	Is an optional parameter used to request the page definition to be used .
SEPARATOR*PAGES (no. separators | 2)	Is an optional parameter used to enter the number of RM80001 separator pages you wish to have generated. From 0 to 9 pages may be generated. The default is 2 pages (front and back). This should not be confused with operating system separator pages which are produced as the result of printer start-up parameters. Alternate Keyword(s): SEP
UCS (name)	Is an optional parameter used to describe the character set to be used for printing on an IBM 1403 or IBM 3211 printer. “NAME” specifies the one to four character name suffix of the character set desired.

RUN*MODE (ARCHIVE Mode)

The format of the **RUN*MODE** command is:

```
RUN*MODE
RM            ARCHIVE
```

```
                    [PURGE]
```

RUN*MODE Command Summary (ARCHIVE Mode)

The **`RUN*MODE`** command, **`ARCHIVE`** parameter is used to place RM80001 in ARCHIVE execution mode. The purpose of the archive facility is to perform back-up operations on one or more datasets residing in the repository.

RUN*MODE PARAMETERS

Required Parameters

`ARCHIVE`	is a required parameter used to place RM80001 in ARCHIVE execution mode.

Optional Parameters

`PURGE`	is an optional parameter used to request the deletion of datasets that have been archived.

RUN*MODE (RECOVER Mode)

The format of the **`RUN*MODE`** command is:

```
RUN*MODE
RM          RECOVER
            [CHECKPOINT*RECOVERY]
```

RUN*MODE Command Summary (RECOVER Mode)

The **`RUN*MODE RECOVER`** parameter is used to place RM80001 in recovery execution mode. This recovery capability permits entries which have been stored as the result of a previous archive operation to be reprinted or, in the case of OS/MVS system, returned to the repository. Archive files created by VSE RM80001 may be processed in an OS/MVS environment.

RUN*MODE PARAMETERS

Required Parameters

`RECOVER`	is a required parameter used to place RM80001 in RECOVER execution mode.

Optional Parameters

`CHECKPOINT*RECOVERY`	is an optional parameter indicating to RM80001 that, in addition to reloading the entries selected, the checkpoint subpool should be reconstructed from the archive volume. This option should be specified for reloads resulting from a condition that required an archive “all” and the re-initialization of the repository dataset.

RUN*MODE (RETRIEVE Mode)

The format of the RUN*MODE command is:

```
RUN*MODE
RM          RETRIEVE
```

RUN*MODE Command Summary (RETRIEVE Mode)

This **`RUN*MODE`** command is not necessary. This mode is the default **`RUN*MODE`** and the exclusion of this command will cause the use of the retrieve mode.

*RUN*MODE PARAMETERS*

Required Parameters

RETRIEVE

*RUN*OPTIONS*

The format of the **RUN*OPTIONS** command is:

```
RUN*OPTIONS
RUNOPT      [INPUT*PROCESS*CODE (comparison value, operation code | EQ)]
                 [LINE*COUNT (lines per page) | 56]
                 [OUTPUT*PROCESS*CODE (character string | GENERATE)]
                 [PASSWORD (character string)]
            [USER*ID (character string)]
```

*RUN*OPTIONS Command Summary*

The **RUN*OPTIONS** command is used to set various RM80001 execution options.

*RUN*OPTIONS PARAMETERS*

Required Parameters

None.

Optional Parameters

INPUT*PROCESS*CODE (comparison value, operation code | EQ)

is an optional parameter used to restrict RMS execution to a group of previously processed BASE datasets. The string specified as the comparison value operand can be from 1 to 11 positions. It is compared to the process code value contained in each dataset selected. A match condition is determined using the operation code operand. The possible operation codes are:

EQ - equal to (default)
GE - greater than or equal to
GT - greater than
LE - less than or equal to
LT - less than
NE - not equal

The use of the masked comparison character “*” in any comparison value position causes that position to be ignored in the comparison operation. This would allow the selection of groups of process codes, i.e.,

INPUT*PROCESS*CODE (A**********,NE)

would cause the select of all processed BASE dataset entries other than those having an "A" in their first position.
Alternate Keyword(s): IPC

Notes on Process Codes:

1. Once a BASE dataset has been assigned a process code it can only be selected using the **INPUT*PROCESS*CODE** or **PROCESS*CODE** operands on either the **RUN*OPTIONS** or **SELECT** commands, respectively.
2. The **OUTPUT*PROCESS*CODE** operand can be used to change an existing process code.
3. An **INPUT*PROCESS*CODE** of all "*" with an operation code of EQ will result in all process BASE dataset entries being processed.

LINE*COUNT (lines per page) | 56)

is an optional parameter used to set the maximum line count for the RM80001 system report. Acceptable line count values are 20 through 66.
Alternate Keyword(s): LC

OUTPUT*PROCESS*CODE (character string | GENERATE)

is an optional parameter used to provide a value that is to indicate the selected BASE datasets have been processed. Upon successful completion of the RMS execution, each selected BASE dataset is updated with the specified value. Of the two possible values, character string is a user supplied value from 1 to 11 characters in length. A value of GENERATE indicates the RMS software is to automatically assign a value. This assigned value will be in the form of

DDDDDTTTTTT, where:

DDDDD is the Julian RMS execution date (YYDDD)
TTTTTT is the RMS execution time (HHMMSS)

Alternate Keyword(s): OPC

NOTE: **OUTPUT*PROCESS*CODE** is not valid for an RMS Recover Request from a Packet level archive dataset.

PASSWORD (character string)

is an optional parameter used to provide a password for the user written security exit. This value is from one to eight characters in length and is user defined.
Alternate Keyword(s): PW

USER*ID (character string)

is an optional parameter used to identify the user attempting the RMS execution. It can be from one to eight characters in length and is user defined.
Alternate Keyword(s): UID

Select

The format of the **SELECT** command is:

SELECT

```
SEL        {NAME(name)  | GNAME  (name prefix)}
           [CLASS  (class)]
           [CROSS*REFERENCE]
           [DESTINATION (dest id)]
           [EXIT*NAME (program name)]
           [FORM (form id)]
           [JOB*NAME (job name)]
           [JOB*NUMBER  (nnnnn)]
           [PROCESS*CODE  (comparison value, operation code | EQ)]
           [QUEUE*DATASET*NUMBER]
           [REPOSITORY*RELOAD]
           [REPORT*ID (name)]
           [REPORT*NUMBER  (nnnnn)]
```

select Command Summary

BASE datasets are selected for processing using the qualifying information specified in the SELECT command. Two types of selection are permitted, specific name or generic prefix. Both types permit certain positions in the name to be ignored by placing an asterisk (*) in those positions of the name or name prefix.

Any number of BASE datasets may be selected for processing during a single execution. Selection by prefix and full name may be intermixed to attain the desired results. Datasets are always retrieved in the same order as the SELECT records. Retrieval by prefix causes the datasets to be retrieved in alphabetical sequence.

Select PARAMETERS

Required Parameters

NAME (name)	is a required parameter used to specify the full dataset name of from 1 to 8 characters. If there is more than one BASE dataset with the specified name, the entry most recently created is selected for processing.

OR

GNAME (name prefix)	is a required parameter used to select by name prefix. Selection by prefix always implies selection of every **BASE dataset having this prefix.**

Optional Parameters

CLASS (class)	is an optional parameter used to limit selection to those entries with a matching class. Valid classes are A-Z, 0-9.
CONCATENATE	is an optional parameter used to request that the datasets, processed as the result of the current select record, be appended to the dataset most recently processed. Use of concatenate with the GNAME form of selection will cause all datasets processed to be placed in one physical file. **Alternate Keyword(s): CONCAT**
CROSS*REFERENCE	is an optional parameter used to request an index list of disk resident or archive resident datasets.
DESTINATION (dest id)	is an optional parameter used to limit selection to those entries with a matching destination identifier. NJE users should use the short format specification for NODE:REMOTE destinations (*NnnnRnnn*). **Alternate Keyword(s): DEST**

EXIT*NAME (program name)	is an optional parameter used to specify the name of a user exit that is to receive RM80001 output. Note that all standard RM80001 output/segmentation facilities are negated by the use of an exit.
FORM (form id)	is an optional parameter used to limit selection to those entries with a matching forms identifier.
JOB*NAME (job name)	is an optional parameter used to limit selection to those entries created in an OS/MVS JOB matching the supplied name.
JOB*NUMBER (nnnnn)	is an optional parameter used to limit selection to those entries created in the OS/MVS job matching the designated job number.
PROCESS*CODE (comparison value, operation code | EQ)	is an optional parameter used to restrict RMS execution to a group of previously processed datasets. The string specified as the comparison value operand can be from 1 to 11 positions. It is compared to the process code value contained in each BASE dataset entry selected during the RMS execution. A match condition is determined using the operation code operand. The possible operation codes are: EQ - equal to (default) GE - greater than or equal to GT - greater than LE - less than or equal to LT - less than NE - not equal The use of the masked comparison character "*" in any comparison value position causes that position to be ignored in the comparison operation. This would allow the selection of groups of process codes, i.e.,
PROCESS*CODE (A**********, NE)	would cause the selection of all processed BASE dataset entries other than those having an "A" in their first position. **Alternate Keyword(s):** PCODE
QUEUE*DATASET*NUMBER (nnnnnn)	is an optional parameter used to limit selection to that entry with a matching repository number. Preceding or trailing blanks are not accepted. **Alternate Keyword(s):** `QDN, REPORT*NUMBER, RN`
REPOSITORY*RELOAD	is an optional parameter used during dataset recovery (**RUN*MODE RECOVER**) to indicate that processed entries are to be returned directly to the repository.
REPORT*ID (name)	is an optional parameter that may be used when "**RUN*MODE RECOVER**" is specified and the input archive file is an RM80004 packet archive. Otherwise it is ignored if coded. When specified, this parameter will cause the first or only copy of the named report within the segment to be selected. This is the name assigned in the RM80004 **IDENFITY*REPORT**

	command via the **REPORT*ID** parameter. If the segment contains more than one copy of the named report and all are to be selected, GNAME must be used to specify the segment name.If all copies of all reports contained within an archived segment are to be selected, this parameter should be omitted. **Alternate Keyword(s):** RID
REPORT*NUMBER (nnnnn)	is an optional parameter used to limit selection to that entry with a matching repository dataset report number. **Alternate Keyword(s): RN**

RM80001 CONTROL STATEMENT EXAMPLES

OS/MVS Command Examples

This section contains control stream examples pertaining to the use of RM80001 for:

1. Microfiche Source File Production
2. Report Archive (*Backup/Purge*)
3. Report Recovery (*Reloa*d)

File Create Examples

The file create capability of RM80001 can produce tapes in print image for off host microfiche creation. Optionally, the retrieved report data may be passed to a user exit. JES print output is the default format.

The following examples illustrate various combinations of control records which are used to create the microfiche files.

Specific Report Retrieval

The following control stream retrieves the report “DDAO3” and produces a print image source tape.

EXAMPLE:

```
OUTPUT*CONTROL -
      DDNAME (PRTAPE)
SELECT -
      NAME (DDAO3)
```

Specific Report Retrieval Qualified by Destination and Forms

The following control stream retrieves report “ARD03” for remote destination RMT4 having a forms identifier of STD4.

EXAMPLE:

```
OUTPUT*CONTROL -
      DDNAME (PRTAPE)
SELECT -
      NAME (ARD03) -
      DEST (RMT4) FORM (STD4)
```

Specific Report Dataset Retrieval by Class and Form Identifier; User Exit Output

The following example illustrates selection of the report “SAV03” in class “X”. Output by RM80001 is suppressed and the report data is passed to the user exit “USEREXIT”.

EXAMPLE:

```
SELECT
       NAME (SAV03) -
       CLASS (X) -
       FORM (STD1) -
       EXIT*NAME (USEREXIT)
```

Generic Report Retrieval. Qualified. Print Image Tape Output.

The following example shows how the generic report retrieval facility might be used to retrieve all reports with names beginning with the characters “DSC” created by the
JOB DSC001 having a forms identifier of STD1.

EXAMPLE:

```
OUTPUT*CONTROL DDNAME (PRTAPE)
SELECT -
       GNAME (DSC) -
       JOB*NAME (DSC001) FORM (STD1)
```

NOTE: The DDNAME OPERAND VALUE PRTAPE in the OUTPUT*CONTROL statement specifies the user supplied DD statement that has been included in the execution stream.

“ALL” Generic Retrieval. Print Image Tape Output

The following special case of the generic retrieval mode will retrieve all the datasets in the repository and place these entries on tape in print image format.

EXAMPLE:

```
OUTPUT*CONTROL DDNAME (PRTAPE)
SELECT -
       GNAME (*)
```

Obtain an Alphabetical Cross Reference Listing of the Entries in the Repository

An alphabetical cross reference of all the datasets in the repository may be requested by specifying a generic name of * and specifying the `CROSS*REFERENCE` parameter.

EXAMPLE:

```
SELECT -
       GNAME (*) CROSS*REFERENCE
```

Report Archive Examples

The report ARCHIVE facility is one of the dataset management functions performed by the RM80001 product. This facility provides for the off-loading of selected report entries to user defined magnetic media. The off-load data is stored in compressed form, thereby reducing the amount of storage required for report backup.

In addition, once the selected reports have been archived, their spool space may be released and made available for the storing of new reports. This “purge” operation is optional and may be requested at the time of archive execution.

Generic Archive

In this example we will request the archive of all reports whose name begins with DSC. The entries will be copied to the output media, however they are not removed from the repository.

EXAMPLE:

```
RUN*MODE -
       ARCHIVE
SELECT -
       GNAME (DSC)
```

This example provides for the selection of all report entries whose names end with DDA. In addition to being copied to the archive media, the entries are deleted from the repository and the space made available for reuse.

EXAMPLE:

```
RUN*MODE -
       ARCHIVE PURGE
SELECT -
       GNAME (*****DDA)
```

The following example illustrates how all the reports for a specific JES job name may be archived. The select command requests that all reports created by JOB DSC0001 be copied to the backup media, however, they are not to be purged.

EXAMPLE:

```
RUN*MODE -
      ARCHIVE
SELECT -
      GNAME (*) -
            JOB*NAME (DSC0001)
```

Archive and Purge

Here we back up every report in the repository and make the space available for reuse.

EXAMPLE:

```
RUN*MODE -
       ARCHIVE PURGE
SELECT -
       GNAME (*)
```

Specific Archive

Archive output containing specific reports may also be created. In the following example three reports will be archived, however, they are not removed from the repository.

EXAMPLE:

```
RUN*MODE -
       ARCHIVE
SELECT -
       NAME (DSCSTMTS) -
             FORM (STMT)
SELECT -
       NAME (DSC*****) -
             JOB*NUMBER (100)
SELECT -
       NAME (DSCTRIAL) -
             JOB*NUMBER (105)
```

REPORT RECOVERY

Once reports are on an archive file they may be retrieved for routing to JES for eventual reprint or for reloading directly to the repository for reprocessing. This facility is provided by the RM80001 repository management function RECOVER.

Reports selected for reprint will be assigned their original output attributes unless overridden via an **`OUTPUT*CONTROL`** command.

If reports which use a special FCB image are selected for reprint, an **`OUTPUT*CONTROL`** command specifying the FCB name must precede the dataset select record for that report. Entries selected for reload will be restored to the repository with their original characteristics.

Specific Report Recovery with Reload to repository.

The following statements would be used to reload the report named “DSCSTMTS” to the repository.

EXAMPLE:

```
RUN*MODE -
       RECOVER
SELECT -
      GNAME (DSCSTMTS) -
      REPOSITORY*RELOAD
```

The following sequence of commands would result in the entry “DSCTRIAL” being routed to JES for reprint. Since a special FCB is required, an **`OUTPUT*CONTROL`** command specifying the FCB name is supplied. In addition, we will request two (2) JES copies.

EXAMPLE:

```
RUN*MODE -
       RECOVER
OUTPUT*CONTROL FORM (TRIL) -
       COPIES (2) FCB (DT01)
SELECT -
       NAME (DSCTRIAL)
```

Multiple Report Recovery

In a single recovery execution, selection for both report reprint and reload may be requested. In this example REPORT1will be selected for reprint to SYSOUT class E and routed to remote destination RMT3. During this same execution REPORT2 will be selected for reload to the repository.

EXAMPLE:

```
RUN*MODE -
       RECOVER
OUTPUT*CONTROL -
       CLASS (E) -
             DEST (RMT3)
SELECT NAME (REPORT1)
SELECT NAME (REPORT2) REPOSITORY*RELOAD
```

Additional Command Examples

This section contains control stream examples pertaining to the use of RM80001 for:

1. Microfiche Source Production
2. Report Archive
3. Report Recovery

Microfiche File Create Examples

The microfiche source file production capability of RM80001 can produce tapes in print image format. Optionally, the retrieved report data could be passed to a user exit. Print image is the default output format.

The following examples illustrate various combinations of control records which might be used to create these microfiche files.

The first command stream retrieves the report “DDA03” and produces a print image microfiche source tape.

EXAMPLE:

```
SELECT -
      NAME (DDA03)
```

The following control stream retrieves report “AR003” having a class of “C”.

EXAMPLE:

```
SELECT -
       NAME (ARD03) -
       CLASS (C)
```

The following example illustrates selection of the report “SAV03” in class “X”. Output by RM80001 is suppressed and the report data is passed to the user exit “USEREXIT”.

EXAMPLE:

```
SELECT -
      NAME (SAV03)
      CLASS (X)-
      EXIT*NAME (USEREXIT)
```

Generic Report Retrieval

The following example shows how the generic report retrieval facility might be used to retrieve all reports with names beginning with the characters “DSC” that have a class of “A” .

EXAMPLE:

```
SELECT -
      GNAME (DSC) -
      CLASS (A)
```

Obtain an Alphabetical Cross Reference Listing of the Entries in the Repository

An alphabetical cross reference of all the datasets in the repository may be requested by specifying a generic name of * and specifying the **`CROSS*REFERENCE`** parameter.

EXAMPLE:

```
SELECT -
      GNAME (*) CROSS*REFERENCE
```

BASE DATASET ARCHIVE EXAMPLES

The report archive facility of RM80001 provides BASE dataset archive capabilities for the contents of the repository. The archive files created using this archive facility feature provide for the recovery of individual datasets should the need arise.

A directory list of the archived datasets is produced during the archive process. The list may also be created from the archive file. See “Recreating an Archive Directory List” in the “Report Recovery” section.

The following examples illustrate how various combinations of dataset select records might be used to create report backup. Note that in each example the dataset select records are preceded by the **`RUN*MODE`** command ARCHIVE parameter. This keyword causes RM80001 to operate in archive mode.

Generic Archive

The following sequence of statements will create two archive files. The first file will contain all datasets with names beginning with the characters “FIS”. The last file will contain all datasets with names beginning with “DSC”.

EXAMPLE:

```
RUN*MODE ARCHIVE
SELECT GNAME (FIS)
SELECT GNAME (DSC)
```

“ALL” Archive

The following example illustrates how all BASE datasets in the repository would be archived.

EXAMPLE:

```
RUN*MODE ARCHIVE
SELECT GNAME (*)
```

Specific Report Archive

Archive files containing specific reports may also be created. In the following example, three reports will be archived.

EXAMPLE:

```
RUN*MODE ARCHIVE
SELECT NAME (REPORT02) CLASS (A) DISP (D)
SELECT NAME (STATEMNT) CLASS (F) DISP (L)
SELECT NAME (TRIALBAL) CLASS (Z) DISP (H)
```

REPORT RECOVERY

Once reports are on an archive file they may be retrieved for reprint or the replacement of COM tapes by using the RM80001 **`RUN*MODE`** command. To use this capability, you need only precede the dataset select records for reports to be recovered with a **`RUN*MODE RECOVER`** COMMAND.

During a recover operation, reports are returned to POWER under their original name (VSE) or under the name of the recover job if MVS.

When reports are returned to the JES, the following attributes are automatically restored if an **`OUTPUT*CONTROL`** command is not in effect for that entry:

- CLASS
- COPY COUNT
- FORM IDENTIFICATION
- REMOTE ID

If reports, which have special FCB requirements are to be returned to JES, an **`OUTPUT*CONTROL`** command must precede the dataset select record for that report. In a VSE environment, failure to do this can result in cancellation of RM80001 due to a channel program failure.

Specific Report Recovery

The following statements would be used to return the report names “STATEMNT” to JES.

EXAMPLE:

```
RUN*MODE RECOVER
SELECT NAME (STATEMNT)
```

Report Recovery Using List Attribute Record

The following sequence of statements shows the use of the list attribute record in recovering a report with a special forms control buffer.

EXAMPLE:

```
RUN*MODE RECOVER
OUTPUT*CONTROL form(abcd) copies(2)-
fcb(fcb2105) -
SELECT NAME (MCSTAT)
```

Multiple Report Recovery

The following sequence of statements returns both reports to JES. Although the reports have no special FCB or the OUTPUT*CONTROL record is used to change the class and form number.

EXAMPLE:

```
RUN*MODE RECOVER
OUTPUT*CONTROL CLASS(F) FORM(XXXX)
SELECT NAME (REPORT1)
SELECT NAME (REPORT2)
```

Recreating an Archive Directory List

If an archive directory list is misplaced, it may be re-created by specifying “*” in the GNAME parameter and coding the **`CROSS*REFERENCE`** parameter of a **`SELECT`** command. All qualifiers apply, i.e., only class A entries will be listed. The following example illustrates the control record requirements to produce such a list.

EXAMPLE:

```
RUN*MODE RECOVER
SELECT GNAME (*) -
      CROSS*REFERENCE -
      CLASS (A)
```

Chapter 5

SYSTEM ADMINISTRATION

Additional Administrative Transactions

All SYSOUT datasets placed in the RMS repository fileset are viewable at the time they are added if they have an associated fileset.

After the installation of RMS/ONLINE, the index files contain a system control record that has information relating to default system installation values and thresholds, a user master that contains the information, user ID and password for the system administrator, and test set data for verifying the proper operation of the system. The user ID, password, and access group for the system administrator are established as part of the installation procedure.

ADMINISTRATIVE CONTROL DATASET RECORDS

Records in the administrative control dataset (*ACDS*) form a report management database that supplies RMS/ ONLINE with information necessary to make report information available on-line. The following discussion should give you a better understanding of the contents of the ACDS.

Access Group Master

All reports belong to access groups. The concept of an “access group” may be compared to that of being a member of a club. Your membership “card” in this case is the default access group and profile data in your user record. Some users have access to “club” facilities *(transactions, reports*) that others are not allowed to use.

Access group records must be created before any user records are created. Usually the access group masters are created to control reports that comprise the printed output from a single application or for a functional area of your operation.

User Master

User Master records keep track of individuals permitted to use RMS. Each potential user must have a user record. The system or access group administrator may optionally enter profile data granting specific users the right to use certain system resources. See “Resource Security” for more information. User ID’s must be unique.

Location Master

A Location Master defines a unique distribution location within your organization.

Retention Control

Retention Control records are used to designate in versions or days the retention requirements for reports. Retention may be controlled at the entire access group level or the location/report level (*keep report X 3 days for user Y*).

ADMINISTRATIVE TRANSACTION CHARACTERISTICS

All administrative transactions share common characteristics with regard to panel formatting and system response.

Panel Format

Panel Heading	Left to right, the descriptive panel name, date, day of week and time of day are always displayed.

Panel Body	Transaction related data.
Line 23	Active PF keys.
Line 24	Message data area. Single line messages will always appear in this area. Multi-line messages will cause the message “MULTIPLE MESSAGES PENDING” to appear in the message line. Depressing the Help PF key will cause the full text of all outstanding messages to be displayed.

PF Keys

PF key usage is consistent throughout the system. Regardless of the transaction, the following will result in the designated system action.

PF1 - HELP	Displays the first Help panel for the Active panel. If any error messages are pending, the first Help panel is always the text of the diagnostic or information message(s). Once Help is activated, the user is guided to additional Help panels.
PF3 - END	Depressing the End key will cause the system to terminate the function currently active and re-display the previous menu panel. Any data keyed on the current panel is disregarded.
PF4 - EXIT	Depressing PF4 will cause you to exit the system.
PF7 - PAGE UP	PAGE UP for all administrative transactions will cause the system to scroll backward one panel at a time through panels comprising the transaction. Pressing PAGE UP on page one of a multi-panel transaction causes the last panel to be displayed. That is, it “wraps” from first to last panel.
PF8 - PAGE DOWN	PAGE DOWN for all administrative transactions will cause the system to scroll forward one panel at a time through panels comprising the transaction.
ENTER	Complete or initiate action. The Enter key is depressed whenever you have entered data on a menu or add/change/delete/inquire and want to request that action be taken. For delete and change transactions, depressing Enter after the data is displayed will cause the deletion or change to take place.

Template Use

Some administrative transactions permit the use of a template record identifier to reduce data entry overhead. For example, if you are constructing a Location Master record for location “auditing”, you could use the contents of an existing Location record and change only the fields required.

Multi-panel Transactions

Multi-panel transactions all permit the use of page up and page down keys for reviewing the other panels. The paging function permits you to scroll front to back or back to front without having to pass all the pages.

Help Facilities

System Help facilities are available to the system administrator. Anywhere in the system the Help key can be depressed to receive the first Help panel for the panel being displayed. Once inside Help, on-screen prompts will explain the available options and the values/PF keys that can be used to access additional Help text.

ADMINISTRATIVE TRANSACTIONS

Before getting into a detailed description of the individual transactions, it is worth the time to outline the application flow for administrative transactions. If you use the menus, gaining access to the administrative facilities requires the following steps:

Step 1.	Sign-on to RMS/ONLINE. The Primary Menu is presented.
Step 2.	Select Option 2 on the Primary Menu. The Administrative Menu is displayed.
Step 3.	Select the desired administrative transaction.

After the requested operation is performed, the administrator is prompted for entry of the next field. You may use the End PF key in order to return to the Administrative Menu and the Return PF key to exit RMS/ONLINE.

Access Authorization

Each user accessing RMS must pass an access authorization test. If only the transaction code is entered, the authorization panel is presented for the entry of a user ID and password. Optionally, the user may enter the user ID and password with the transaction code and avoid presentation of this panel.

NOTE: You may bypass RMS internal security and use your installation security package. This is accomplished by using the security exit facility available in RMS.

Primary Menu

Depending on installation options, the Primary Menu may be presented immediately after sign-on. As implied by the name, this menu is the initial entry point for RMS. In the case of system administration, Option 2 is selected.

NOTE: A fast-path transaction facility permits you to go directly from the initial transaction line to the administrative panel of your choice.

Administrative Menu

After selecting Option 2 on the Primary Menu, the Administrative Menu is displayed.

Five types of transactions are available for the records maintained by the system administration component: add, inquire, change, list and delete. The first character of various options indicate the type of transactions: A, I, C, L, D for add, inquire, change, list, and delete transactions respectively.

Add Transactions

If you select one of the add transactions, ‘AL’ (*Add Location*) for instance, the Location Master Panel is presented with a message asking for record information. When the data has been entered, pressing ENTER will complete the transaction.

Inquire Transactions

All inquire transactions present a panel with a message asking for a record identifier. After the identifier data is entered, pressing Enter will present the information for the record in question. You may over-type the ID fields on the screen for the next inquiry.

Change Transactions

Change transactions are identical to Inquiry transactions up to the point where the record data is displayed. The user may then page back and forth (*in the case of multi-panel transactions*), make the desired changes and confirm these changes by pressing ENTER.

Delete Transactions

Delete transactions are identical to Change transactions, except that pressing Enter causes the record to be deleted.

System Administration transactions changes, deletes, adds, and displays only responds to a depression of the Enter key.

List Transactions

After many resources have been defined it is useful to list them for review. When reviewing a list of records the individual records may be chosen for "*C*"hange, "*I*"nquiry, or "*D*"eletion.

BUILDING A MANAGEMENT DATABASE

Collecting the Required Information

In order to build the report management database, you have to answer the following questions:

1. **How will reports be organized and named?**
   Answering this question is the key to the formation of access groups. An access group by its nature implies that there is a collection of reports that have common security, archive and recovery characteristics. Application systems are the most likely place to start looking when considering the creation of access groups. Functional grouping is also possible. Each execution of RM80004 can distribute to one access group. Report names are the identifiers assigned in the RM80004 distribution definitions. Report names should be unique to avoid confusion. They may consist of from 1 to 8 alphanumeric characters. Subject to these limitations, the report names in the REPORT*ID parameters of the existing RM80004 distribution definition may be used.
2. **Which RM80004 command streams will be affected?**
   At a minimum, RM80004 procedures that will create index information for eventual viewing must have a QXCNTRL DD statement containing the dataset information and the name of the SUBSYSTEM that will manage the repository files. Also, distribution definitions must have RUN*OPTIONS commands added or be modified to specify the desired processing options. RM80004 cannot index report data for eventual display unless the REPORT*ID parameter has been used in the IDENTIFY*REPORT commands. You must also decide whether the names currently being assigned to the output packets are acceptable for location names. If not use the LOCATION*NAME parameter of the CREATE*PACKET command to generate the packet name.
3. **Who will use the system?**
   User ID's and passwords may need to be assigned. Contact information like address and phone number would also be useful.
4. **How will distribution locations be named?**
   If the packet names in the current RM80004 distribution definitions are not acceptable for long-term use, you need to decide on naming conventions for the locations.

These are only the major questions.

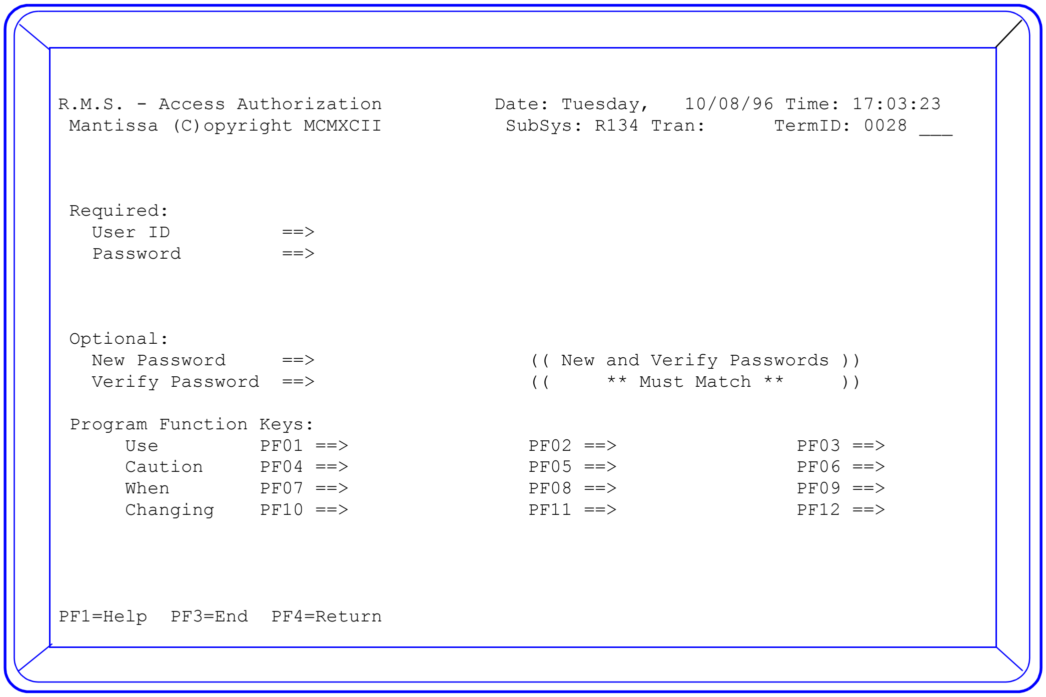
Chap_05(v11r35m1).fm: Revised Sunday, November 24, 2013

Creating System Control Records

Once you’ve collected the required information, add the records to the RMS/ONLINE database in the following order:

1. User Master Records - who will be using the system?
2. Location Masters - where will reports be distributed?
3. Access Group Master - how will reports be group?
4. Retention Control Records - how long will reports be retained?

Access Authorization Panel



```
R.M.S. - Access Authorization          Date: Tuesday,   10/08/96 Time: 17:03:23
 Mantissa  (C)opyright MCMXCII           SubSys: R134 Tran:      TermID: 0028 ___



 Required:
   User ID          ==>
   Password         ==>




 Optional:
   New Password     ==>                  (( New and Verify Passwords ))
   Verify Password  ==>                  ((     ** Must Match **     ))

 Program Function Keys:
      Use         PF01 ==>                PF02 ==>                PF03 ==>
      Caution     PF04 ==>                PF05 ==>                PF06 ==>
      When        PF07 ==>                PF08 ==>                PF09 ==>
      Changing    PF10 ==>                PF11 ==>                PF12 ==>




PF1=Help  PF3=End  PF4=Return
```

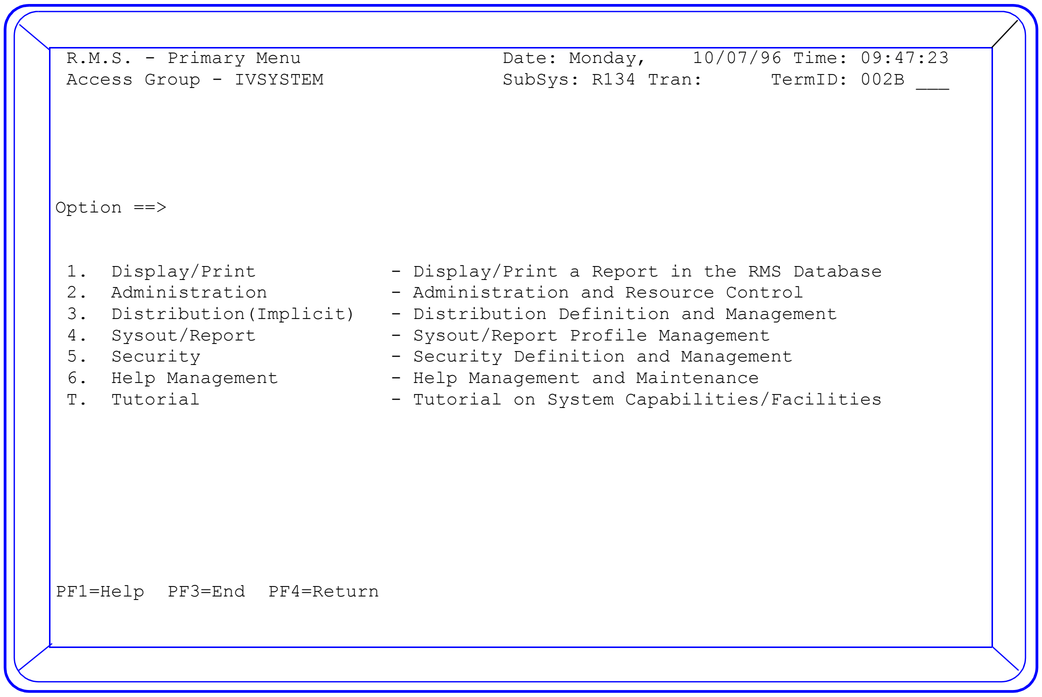
Figure 1. Access Authorization Panel

The user’s first interaction with RMS/ONLINE for each session is through the Access Authorization panel. The Access Authorization panel may be bypassed completely by entering the user ID and password (*if any*) after the transaction code.(*CICS ONLY*)

A transaction code necessary to invoke RMS/ONLINE is assigned by your installation. The Access Authorization panel appears after entering this transaction identifier. Information entered on the panel is used to establish the default Access group and identity of the user. If security is used, the Password field is compared to the Password field in the User Master record or to the password in the installation security system for access verification.

NEW and VERIFY passwords may be entered by the user to establish a new password.

Primary Menu Panel



```
 R.M.S. - Primary Menu                       Date: Monday,    10/07/96 Time: 09:47:23
 Access Group - IVSYSTEM                     SubSys: R134 Tran:      TermID: 002B ___




Option ==>


 1.  Display/Print             - Display/Print a Report in the RMS Database
 2.  Administration            - Administration and Resource Control
 3.  Distribution(Implicit)    - Distribution Definition and Management
 4.  Sysout/Report             - Sysout/Report Profile Management
 5.  Security                  - Security Definition and Management
 6.  Help Management           - Help Management and Maintenance
 T.  Tutorial                  - Tutorial on System Capabilities/Facilities







PF1=Help  PF3=End  PF4=Return
```

Figure 2. Primary Menu Panel.

The Primary Menu is presented immediately after the Access Authorization panel. All major system functions are accessible from this panel. The available options are:

1. - Display/Print
2. - Administration
3. - Distribution
4. - Sysout/Report
5. - Security
6. - Help Management
T - Tutorial

Enter 2 in the option==> field and press <ENTER> to select the System Administration Menu.

SYSTEM ADMINISTRATIVE PANELS

All of the system administration functions are supported through a series of ONLINE addition and modification panels. This section depicts the various panels and discusses their use in defining access groups, users, distribution locations and retention control requirements to RMS/ONLINE.

The available panels are:

Access Group-	Add/Change/Delete/Inquire/List
User-	Add/Change/Delete/Inquire/List
Location-	Add/Change/Delete/Inquire/List

Retention -	Add/Change/Delete/Inquire/List
Output Definition -	Add/Change/Delete/Inquire/List
Customization -	Add/Change/Delete/Inquire/List
Extended Info -	Inquire
Field Level Security-	Add/List

After the sign-on data is entered, RMS/ONLINE presents a Primary Menu panel. Option 2 (*System Administration*), when selected, presents the Administrative Menu panel. The Administrative Menu panel permits selection of the various addition, change, deletion and inquiry facilities. The following session example illustrates the various steps and the type of interaction necessary to perform an administrative task.

EXAMPLE: **Session 1.**

Objective: Define a user to RMS/Online.

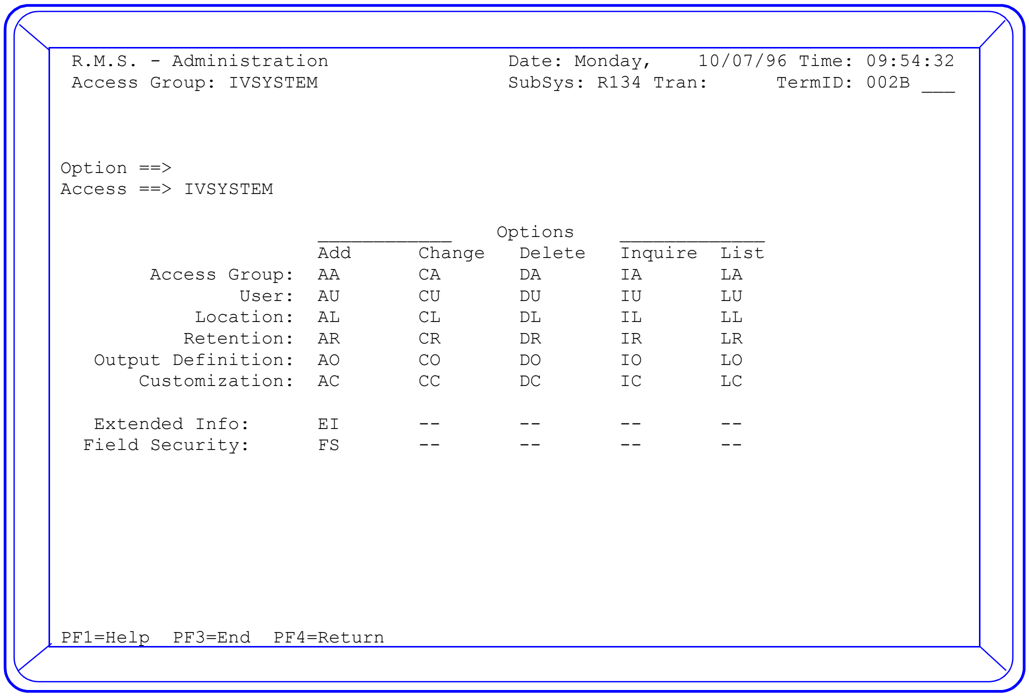
1. Sign-on to RMS/ONLINE.
2. The Primary Menu panel appears.(*Figure 2*)
3. Select System Administration. (*Option 2*)
4. The Administrative Menu panel appears.(*Figure 4*)
5. Enter "AU" for Add User function.
6. The User Master (*Addition*) panel appears.(*Figure 5*)
7. Enter the required information and press <ENTER>.
8. The next User Master (*Addition*) panel appears.(*Figure 5*)

Press PF3/PF15 to return to the Administrative Menu panel or enter data for the next user.

Each of the administrative functions may be invoked from the Administrative Menu panel. During addition operations, the system will present another "ADD" panel upon successful completion of the last addition. Pressing PF3 will cause the system to return to the Administrative Menu panel. When PF3 is pressed twice in succession, the Primary Menu panel is displayed. PF4 will exit RMS/ONLINE.

Examples of the various administrative panels and a description of the panels may be found on the following pages.

Administrative Menu Panel

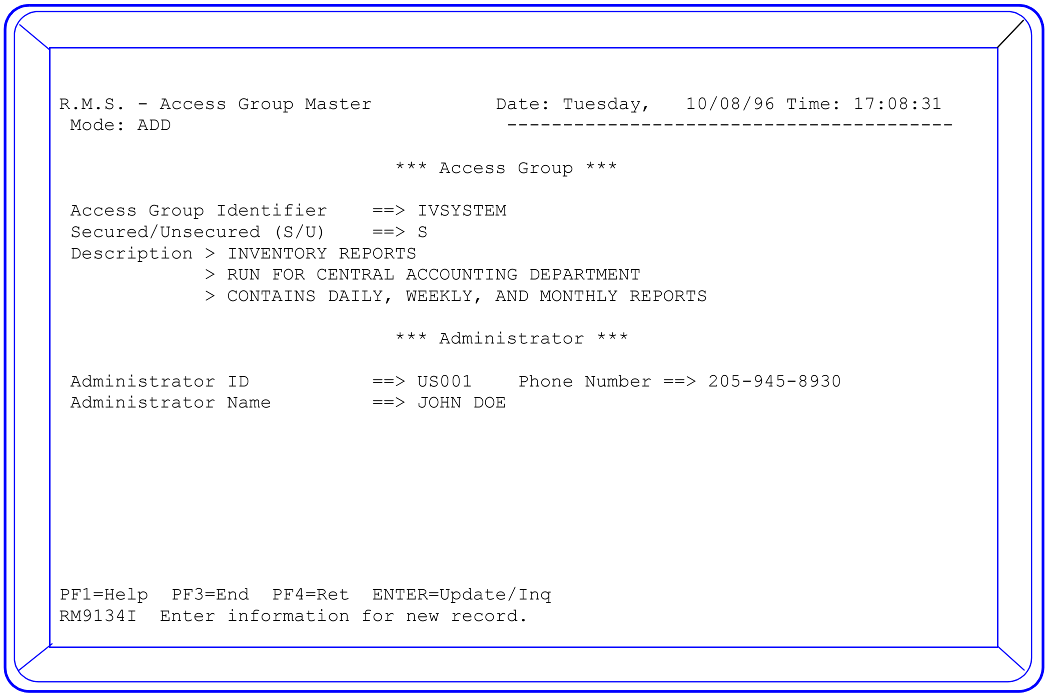


```
 R.M.S. - Administration                Date: Monday,    10/07/96 Time: 09:54:32
 Access Group: IVSYSTEM                 SubSys: R134 Tran:      TermID: 002B ___



Option ==>
Access ==> IVSYSTEM

                       ____________    Options   _____________
                       Add      Change   Delete   Inquire  List
        Access Group:  AA       CA       DA       IA       LA
                User:  AU       CU       DU       IU       LU
            Location:  AL       CL       DL       IL       LL
           Retention:  AR       CR       DR       IR       LR
   Output Definition:  AO       CO       DO       IO       LO
       Customization:  AC       CC       DC       IC       LC

   Extended Info:      EI       --       --       --       --
  Field Security:      FS       --       --       --       --







PF1=Help  PF3=End  PF4=Return
```

Figure 4. Administrative Menu Panel

The Administrative Menu panel is presented immediately after Option 2 (*System Administration*) is selected on the Primary Menu panel. All administrative addition, change, deletion, list, and inquiry functions are available from this panel. The first letter of the administrative transaction code is always A, C, D, I or L for Add, Change, Delete, Inquiry and List respectively; the next characters define the record type that is the object of the transaction. For example, the Add User transaction code is AU.

Access Group Master Panel



```
R.M.S. - Access Group Master           Date: Tuesday,   10/08/96 Time: 17:08:31
 Mode: ADD                              ----------------------------------------

                              *** Access Group ***

 Access Group Identifier    ==> IVSYSTEM
 Secured/Unsecured (S/U)    ==> S
 Description > INVENTORY REPORTS
             > RUN FOR CENTRAL ACCOUNTING DEPARTMENT
             > CONTAINS DAILY, WEEKLY, AND MONTHLY REPORTS

                              *** Administrator ***

 Administrator ID           ==> US001    Phone Number ==> 205-945-8930
 Administrator Name         ==> JOHN DOE







PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

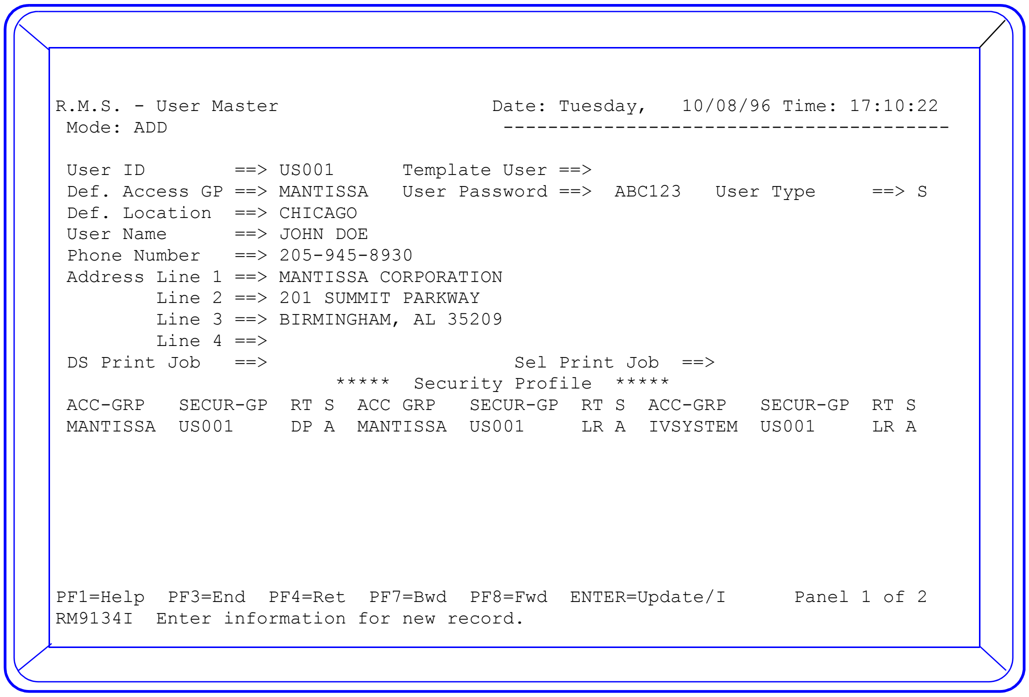
Figure 5. Access Group Master Panel

The Access Group Master panel is used to add, modify, and inquire on Access group data. Access groups are established as the basis for accessibility and security of reports. The hierarchy for the control of the report data is as follows: ACCESS GROUP, SECURITY GROUPS, and REPORTS.

Access Group Identifier	This field must be from 1 to 8 alphanumeric characters. It identifies the name of the Access Group and is a required field.
Secured/Unsecured	This field is used to indicate if the RMS/ONLINE security will be used to control access to these reports. If “U” is entered here, any user may view any report in this Access group.

NOTE: All other fields are documentation only.

User Master Panel



```
R.M.S. - User Master                   Date: Tuesday,   10/08/96 Time: 17:10:22
 Mode: ADD                              ----------------------------------------

 User ID        ==> US001      Template User ==>
 Def. Access GP ==> MANTISSA   User Password ==>  ABC123   User Type     ==> S
 Def. Location  ==> CHICAGO
 User Name      ==> JOHN DOE
 Phone Number   ==> 205-945-8930
 Address Line 1 ==> MANTISSA CORPORATION
         Line 2 ==> 201 SUMMIT PARKWAY
         Line 3 ==> BIRMINGHAM, AL 35209
         Line 4 ==>
 DS Print Job   ==>                      Sel Print Job  ==>
                         *****  Security Profile  *****
 ACC-GRP   SECUR-GP  RT S  ACC GRP   SECUR-GP  RT S  ACC-GRP   SECUR-GP  RT S
 MANTISSA  US001     DP A  MANTISSA  US001     LR A  IVSYSTEM  US001     LR A







PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
RM9134I  Enter information for new record.
```

Figure 6. User Master Panel (1 of 2)

The User Master panel is used to add, modify and inquire on the user data. When initially added to the system, a user is assigned a user ID and security characteristics. The user identification must be unique within the RMS/ONLINE system. If RMS/ONLINE security facilities are to be used, a password must be entered. Contact data such as name, phone and address may also be stored for each user. The Security profiles specify the Access Group/Security Group/ Resource Type/Security Type combinations that are valid for this user.

RMS/Online has a method of maintaining common sets of Security Profiles. These are called Path Profiles. In this case, the User Record contains a pointer to a record containing these common profiles. Any number of users may point to this record. To specify a Path Profile, insert the user ID of this profile record in the Access Group field of the “Security Profile” and an “*” in position one of the Security Group field. The Path Profile is a special type of user record and is referred to as a “PROFILE” user. When creating this record, placing a “P” in the user type field designates this record as a profile record. This prevents anyone from inadvertently signing on under a profile User ID. (*Up to five levels of a Path may be specified, i.e., a profile record may Path to another profile record which points to another, which points to another.*)

NOTE: Profiles are interpreted in the order they appear on the panel.

USER ID *(Required)*	An eight position field to assign to user ID which is used when signing on to RMS/ONLINE.
TEMPLATE USER *(Optional)*	An eight Character field to Identify the User Master record to use as a template. The User Master specified here must already be on file.

DEF ACCESS GP *(Required)* An eight position field to identify the most commonly used report access group for this user. This default access group will appear on the Display/Print menu.

USER PASSWORD *(Required)* An eight position field to assign the user password.

USER TYPE *(Optional)*

TYPE USER	FIELD COMMENT	DESCRIPTION
STANDARD	(blank)	*STANDARD USER*
SYSTEM ADMINISTRATOR	S	*SYSTEM ADMIN*
PROFILE	P	SECURITY PROFILE ONLY
ACCESS GROUP ADMINISTRATOR	A	ACCESS GROUP ADMINISTRATOR

DEF LOCATION *(Required)* A sixteen position field to identify the most commonly used location value for this user. This value will automatically appear on the panel when the Display/Print menu is presented.

USER NAME, PHONE NUMBER, ADDRESS LINE 1-4 (Optional)
These fields should be used to record contact information about this user.

DS PRINT JOB (*Optional)* This field represents a 20 character suffix that RMS/ONLINE uses to append to the qualifier “PRT.XXX” in order to determine the name of the JCL member in Help Management that will be used to print reports from an archive file. “XXX” is selectable during product installation but is usually left at the default value of ‘JOB.’. In this example, DPRINT is the suffix of the job which is submitted when a print request is issued by the user for printing from an archive. The JCL for this print job is maintained on the Help Management System as member PRT.JOB.DPRINT.

SEL PRINT JOB *(Optional)* A twenty position field required if the user will be doing selective print from the RMS/ONLINE files. The JCL for this print job is maintained on the Help Management System as member PRT.JOB.SPRINT.

NOTE: JCL must be defined in Help Management with the name that is generated for the DS print job and SEL print job parameters.

SECURITY PROFILE

The security profile describes the resources (*transactions and reports*) available to this user. This area of the panel is a table of resources this user may access.

For a practical example of how to use the following fields, refer to Systems Administration case study in this manual.

ACC-GRP *(Required)*	An eight position field used to assign the first resource level to this user. The first security resource should always be 'transactions' and the first access group should always be the same as the default access group.
SECUR-GP (*Required)*	An eight position field used to assign the security group to which this user belongs. A Security Group is a group of users with similar security requirements. This helps to reduce entry of different security requirements multiple times.
RT *(Required)*	A two position field used to identify the resource type to be used. Valid resource types are: **DD** - DISTRIBUTION DEFINITION **DA -** DISTRIBUTION ACCESS **DM -** DATASET MANAGEMENT **DP** - DISPLAY/PRINT (see Note) **HM** - HELP MANAGEMENT **LR** - LOCATION REPORT **RS** - RESOURCE SECURITY

NOTE: DISPLAY PRINT

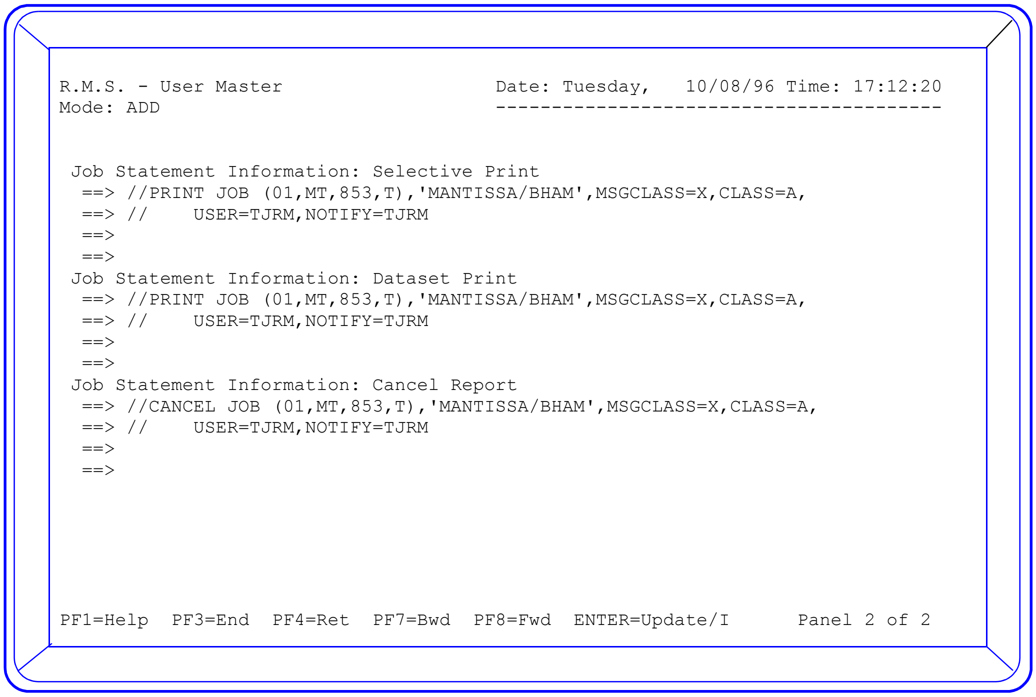
The first DP (Display Print) Access Group required within the security profile dictates the Display/Print functions for all other Access Groups present on the Security Profile screens for this user. (Only one DP resource type profile is necessary).

Available Resource Type codes for these categories may be found in the Appendix-D in this manual.

S (*Required)*	A one position field to indicate the level of transaction accessibility the user has to the resource type. Available options are: **A**- ALL (*Will have access to all in this group*) **P**- PARTIAL (*Will be limited, security is partial*)

NOTE: If a "P" is entered here it will be necessary to define the security requirements via the Resource Security panels. (Item #5 on the Primary Menu). If "A" is entered, the user will have access to all available transactions (if RT defines a transaction resource) or all available reports in this Access Group (if RT defines a Location/Report resource "LR").

User Master Panel (continued)



```
R.M.S. - User Master                   Date: Tuesday,   10/08/96 Time: 17:12:20
Mode: ADD                              ----------------------------------------


 Job Statement Information: Selective Print
  ==> //PRINT JOB (01,MT,853,T),'MANTISSA/BHAM',MSGCLASS=X,CLASS=A,
  ==> //    USER=TJRM,NOTIFY=TJRM
  ==>
  ==>
 Job Statement Information: Dataset Print
  ==> //PRINT JOB (01,MT,853,T),'MANTISSA/BHAM',MSGCLASS=X,CLASS=A,
  ==> //    USER=TJRM,NOTIFY=TJRM
  ==>
  ==>
 Job Statement Information: Cancel Report
  ==> //CANCEL JOB (01,MT,853,T),'MANTISSA/BHAM',MSGCLASS=X,CLASS=A,
  ==> //    USER=TJRM,NOTIFY=TJRM
  ==>
  ==>






PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 2 of 2
```

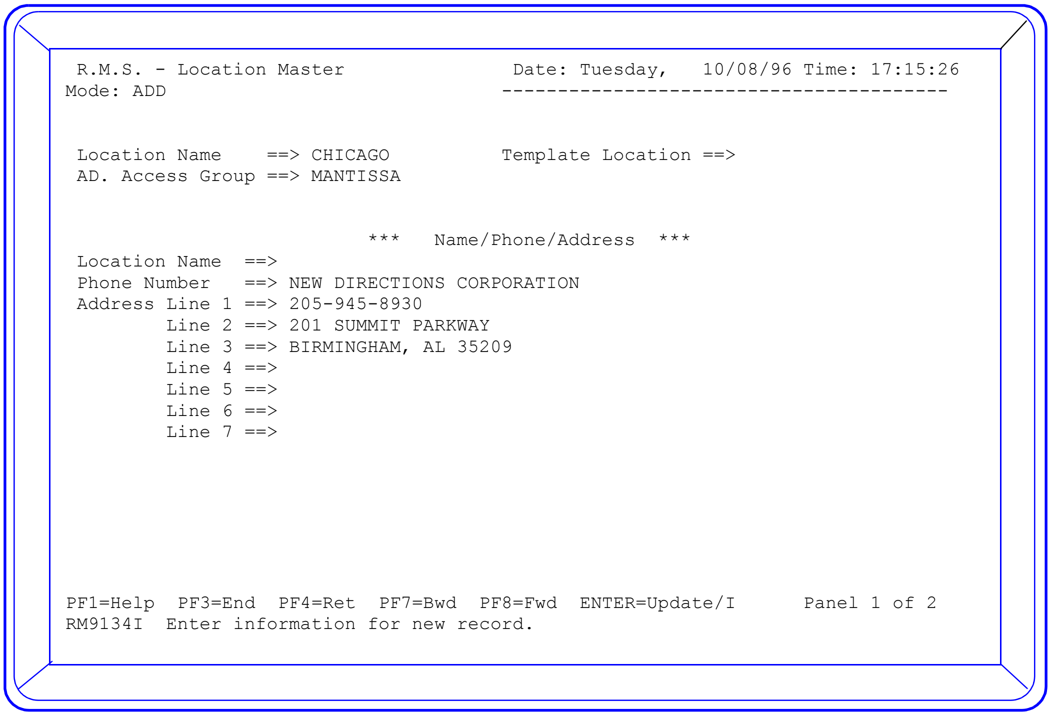
Figure 7. User Master Panel (2 of 2)

JOB STATEMENT INFORMATION

Selective Print	**** Reserved** Beginning with release 11.31 all selective print requests are serviced by the Output processing sub-task in the RMS Controller region.** Four available lines to enter Job Card information to be used when a selective print request is submitted. The default print job to be submitted is member name 'PRT.JOB.SPRINT' defined by the Help Management system (*Item 6 on main menu*).
Dataset Print	Four available lines to enter job card information to be used when a dataset print request is submitted. The default print job to be submitted is member name 'PRT.JOB.DPRINT' defined by the Help Management system (*Item 6 on main menu and specified on the first User Master panel*).
Cancel Report	Four available lines to enter Job Card information to be used when a cancel report request is submitted. The default cancel job to be submitted is member name 'CAN.JOB.STREAM' defined by the Help Management system (*Item 6 on main menu and specified on the first User Master panel*).

NOTE: The values entered here will be placed where the respective variables occur in the DPRINT and CAN JCL member.

Location Master Panel



```
 R.M.S. - Location Master               Date: Tuesday,   10/08/96 Time: 17:15:26
Mode: ADD                              ----------------------------------------


 Location Name    ==> CHICAGO          Template Location ==>
 AD. Access Group ==> MANTISSA


                           ***   Name/Phone/Address   ***
 Location Name   ==>
 Phone Number    ==> NEW DIRECTIONS CORPORATION
 Address Line 1 ==> 205-945-8930
         Line 2 ==> 201 SUMMIT PARKWAY
         Line 3 ==> BIRMINGHAM, AL 35209
         Line 4 ==>
         Line 5 ==>
         Line 6 ==>
         Line 7 ==>







PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
RM9134I  Enter information for new record.
```

Figure 8. Location Master Panel (1 of 2)

The Location Master panel is used to add, change, and inquire on a Location. Each Location Master represents a report distribution endpoint or recipient in your organization. The Location Master record includes name and address, message and default print characteristics information.

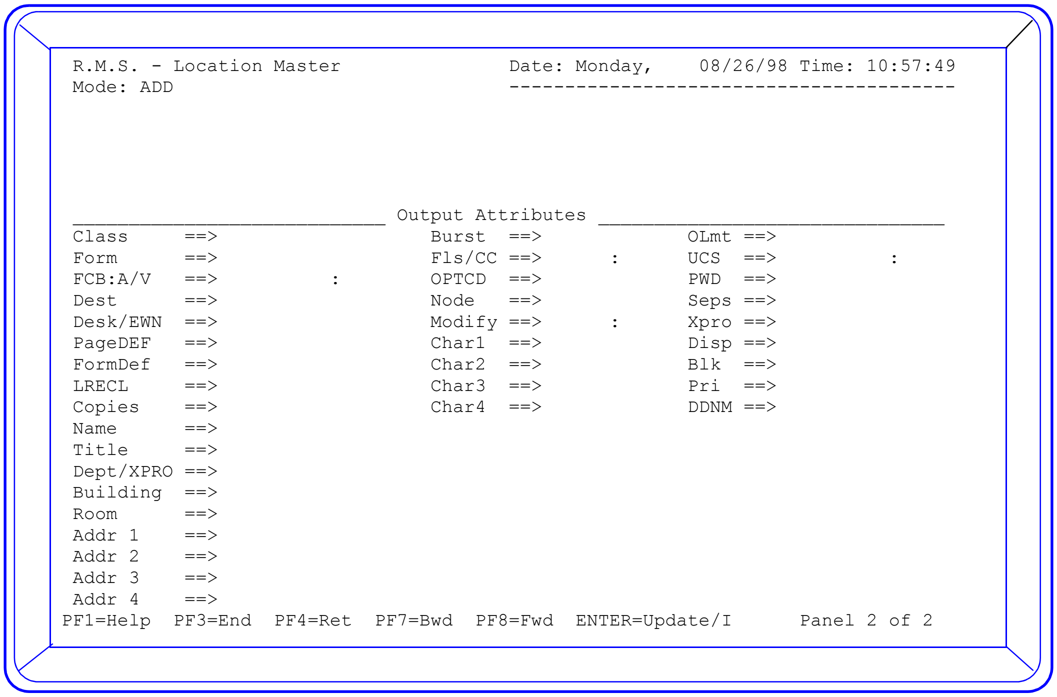
The LOCATION*NAME parameter specified in the RM80004 CREATE*PACKET command is used to specify a value that corresponds to a Location Master Name.

LOCATION NAME *(Required)*	A sixteen position field to indicate the name of this location. This name corresponds to the LOCATION Name field on the Custom Packaging Panel.
TEMPLATE LOCATION (*Optional***)**	This field can be used to copy information from a template location record. In order to use the template capability, type the new location to be added in the LOCATION NAME field and the pattern location name in the TEMPLATE field and press **ENTER**. Information from the template record is then copied. You may change the fields that vary from the template location record and press **ENTER** to confirm the addition of the new record.
AD ACCESS GROUP *(Required)*	An eight position field to identify the administrative access group for this location. This will be used to determine the administrative access group for this particular location.

LOCATION NAME, PHONE NUMBER, ADDRESS LINE 1-7 (Optional)

These fields are for documentation only. Use these fields to document instructions as to how reports should be sent to this location.

Location Master Panel (continued)

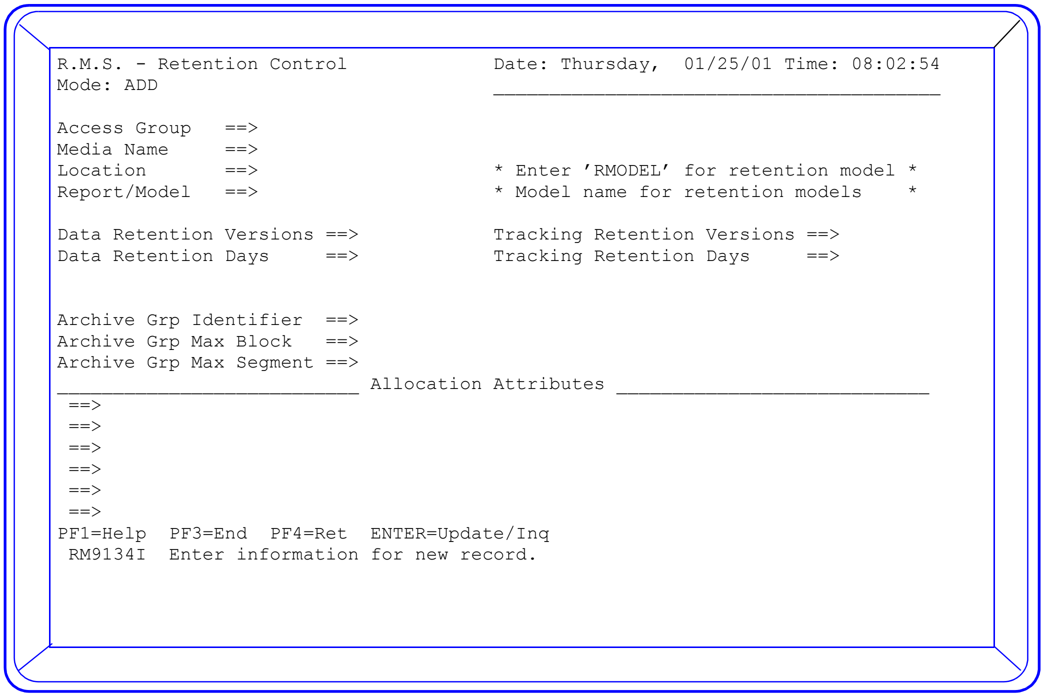


```
 R.M.S. - Location Master               Date: Monday,    08/26/98 Time: 10:57:49
 Mode: ADD                              ----------------------------------------





 ____________________________ Output Attributes _______________________________
 Class     ==>                    Burst  ==>             OLmt ==>
 Form      ==>                    Fls/CC ==>       :     UCS  ==>           :
 FCB:A/V   ==>           :        OPTCD  ==>             PWD  ==>
 Dest      ==>                    Node   ==>             Seps ==>
 Desk/EWN  ==>                    Modify ==>       :     Xpro ==>
 PageDEF   ==>                    Char1  ==>             Disp ==>
 FormDef   ==>                    Char2  ==>             Blk  ==>
 LRECL     ==>                    Char3  ==>             Pri  ==>
 Copies    ==>                    Char4  ==>             DDNM ==>
 Name      ==>
 Title     ==>
 Dept/XPRO ==>
 Building  ==>
 Room      ==>
 Addr 1    ==>
 Addr 2    ==>
 Addr 3    ==>
 Addr 4    ==>
PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel  2  of  2
```

Figure 9. Location Master Panel (2 of 2)

This panel is used to specify the default print characteristics for a location. The Print Request panel in RMS Online permits retrieval of these default attributes. The Location Master Panel has been expanded to allow for extended JCL Keyword support. The XPRO, and Dept/XPRO fields are utilized by our XPROCESS logic if you have this added feature.

Retention Control Panel



```
R.M.S. - Retention Control              Date: Thursday,  01/25/01 Time: 08:02:54
Mode: ADD                               ________________________________________

Access Group   ==>
Media Name     ==>
Location       ==>                      * Enter 'RMODEL' for retention model *
Report/Model   ==>                      * Model name for retention models    *

Data Retention Versions ==>             Tracking Retention Versions ==>
Data Retention Days     ==>             Tracking Retention Days     ==>


Archive Grp Identifier  ==>
Archive Grp Max Block   ==>
Archive Grp Max Segment ==>
___________________________ Allocation Attributes ____________________________
 ==>
 ==>
 ==>
 ==>
 ==>
 ==>
PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
 RM9134I  Enter information for new record.
```

Figure 10. Retention Control Panel

The Retention Control panel is used to create records which govern how long report data will be retained for viewing and how long the report tracking information will be kept. Retention is promotable. If only the access group identifier is entered on this panel, then the retention control record created would control retention for all reports in that access group which do not already have retention control records associated. Specification of Access Group and Media has a similar effect except that the retention characteristics apply only to reports having a matching media type not already associated with more specific Retention Control records. Each additional level (*location/report*) permits you to place more specific controls on retention of viewing and tracking information.

NOTE: Use a top-down approach. Leave no blank fields where a lower field is assigned a value. The only exception to this rule is the LOCATION field. If left blank the record will apply to all locations.

Retention versions and days may not be intermixed. That is, you may not designate 3 versions for viewing and 20 days tracking. When used, the media name must correspond to the media names outlined in RM80004 - The Report Distribution Management System, System Reference Manual. (*see IDENTIFY*REPORT command.*)

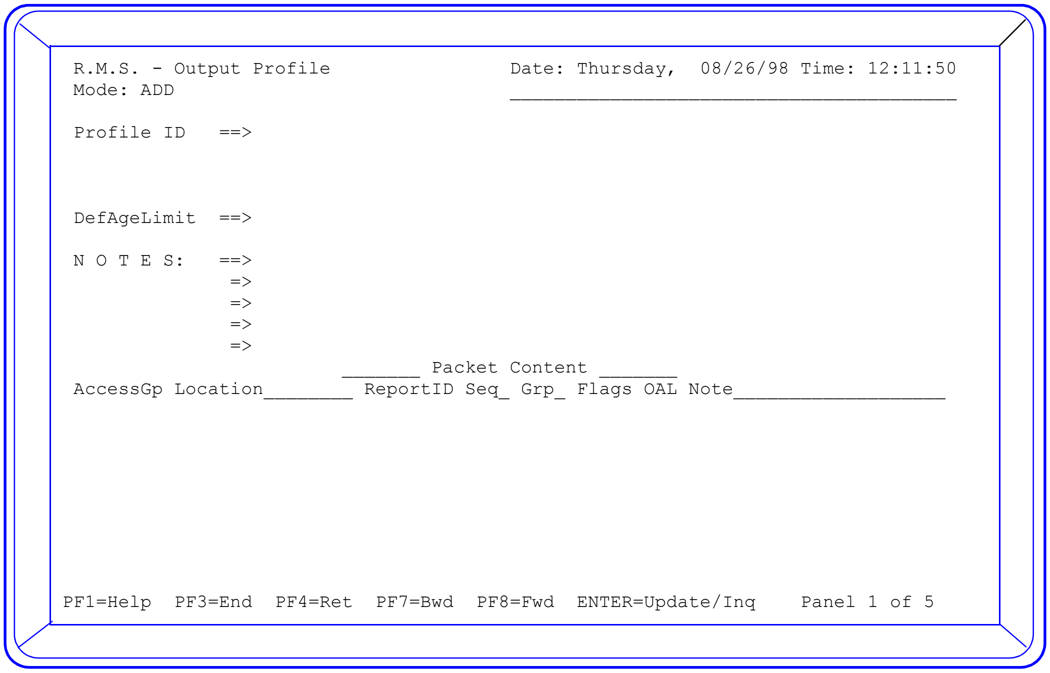
ACCESS GROUP (*Required*)	An eight position field in which the first level specific retention control may be placed. If only the Access Group is entered then all media types, all reports, at all locations will be assigned this retention record.
MEDIA NAME (*Optional*)	A ten position field in which the second level specific retention control may be placed. If Access Group and Media Category are entered, all reports in that Access Group with that media type would be assigned the entered retention record.

LOCATION (*Optional*)	A sixteen position field in which the third level specific retention control may be placed. If Access Group, Media Category, and Location are entered then all reports with these characteristics would be assigned the designated retention values.

NOTE: If this field is left blank, any reports that are entered will apply across all locations.

REPORT (*Optional*)	An eight position field in which the fourth level specific retention control may be placed. The report level allows you to state retention controls all the way down to the report level.
DATA RETENTION VERSIONS	
TRACKING RETENTION VERSIONS	
	Each field is four positions allowing data to be retained on the viewing database file for the number of versions entered (*maximum 9999*).
DATA RETENTION DAYS	
TRACKING RETENTION DAYS	Each field is four positions allowing data to be retained on the viewing database file for the number of days entered (*maximum 9999*).

Output Definition Panel



```
 R.M.S. - Output Profile                Date: Thursday,  08/26/98 Time: 12:11:50
 Mode: ADD                              ________________________________________

 Profile ID   ==>



 DefAgeLimit  ==>

 N O T E S:   ==>
               =>
               =>
               =>
               =>
                         _______ Packet Content _______
 AccessGp Location________ ReportID Seq_ Grp_ Flags OAL Note___________________







PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 5
```

Figure 11. Output Definition Menu Panel

The Output Definition panel is used to create Output Profiles for use by Display Print users to compose a unique packet of available reports from their viewing session. These packets can be printed, or sent to other media.

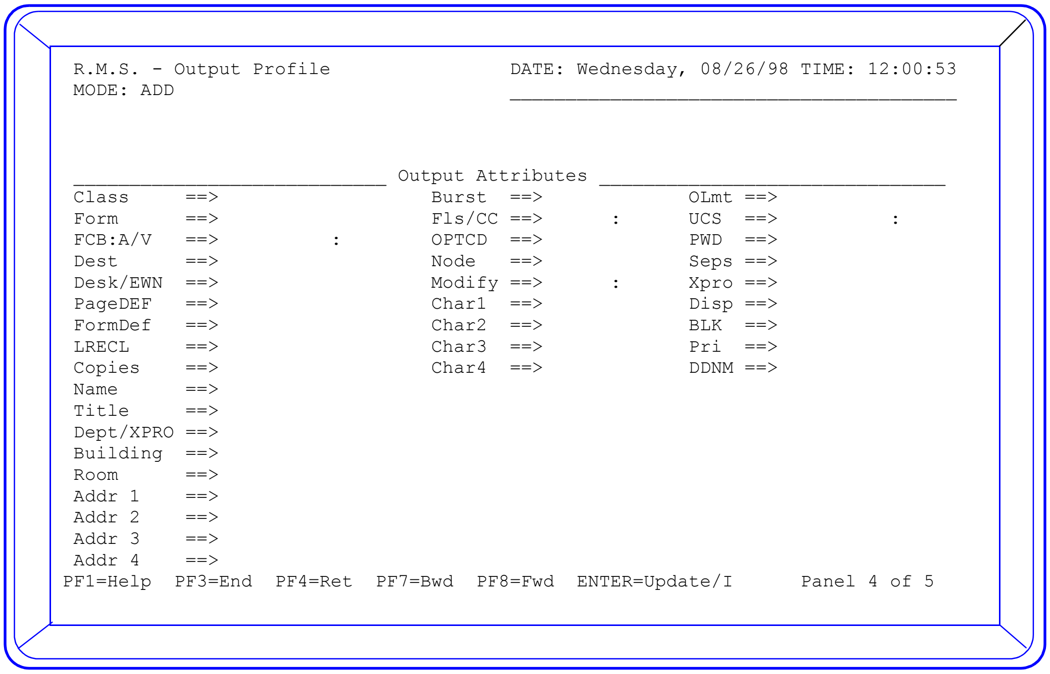
Following is a description of the fields on the output definition panel.

PROFILE ID (Required)	This is the name of the Output Profile definition. Any 1-8 contiguous character name is allowed. **Blanks and special characters are not allowed.**
DEFAGELIMIT (Optional)	This field is used to control the default number of days to use when considering whether to include the reports specified in the Packet Content of the record in the requested 'OV' (output verification) or 'OR' (output request). If more than one output profile record is linked together, the DEFAGELIMIT on the first record will govern the entire record.
NOTES (Optional)	This field is for User documentation purposes.

The Packet Content portion of the panel is used to list the reports to include in the packet that is created. The reports specified in this area can come from any INDEX of reports the Display Print user has access to. The fields are described as follows:

ACCESS GROUP (*Required*)	The access group of the report.
LOCATION (*Required*)	The location of the report.
REPORTID (*Required*)	The report id from the INDEX panel.
SEQUENCE (*Optional*)	Used to '**I**'nsert, or '**D**'elete lines from the packet content portion of the panel.
GROUP	This field is not currently used.
FLAGS	This field is used to override the values in the DEFAGELIMIT, and OAL fields. Acceptable values in the FLAGS field are as follows:
+	which means regardless of how old the report is, include it in the request
	and
-	which means to exclude the report
OAL	This field is used to determine the number of days to use when considering whether to include the report in the requested 'OV' (output verification, or 'OR' (output request).
NOTE	This field is not currently used.

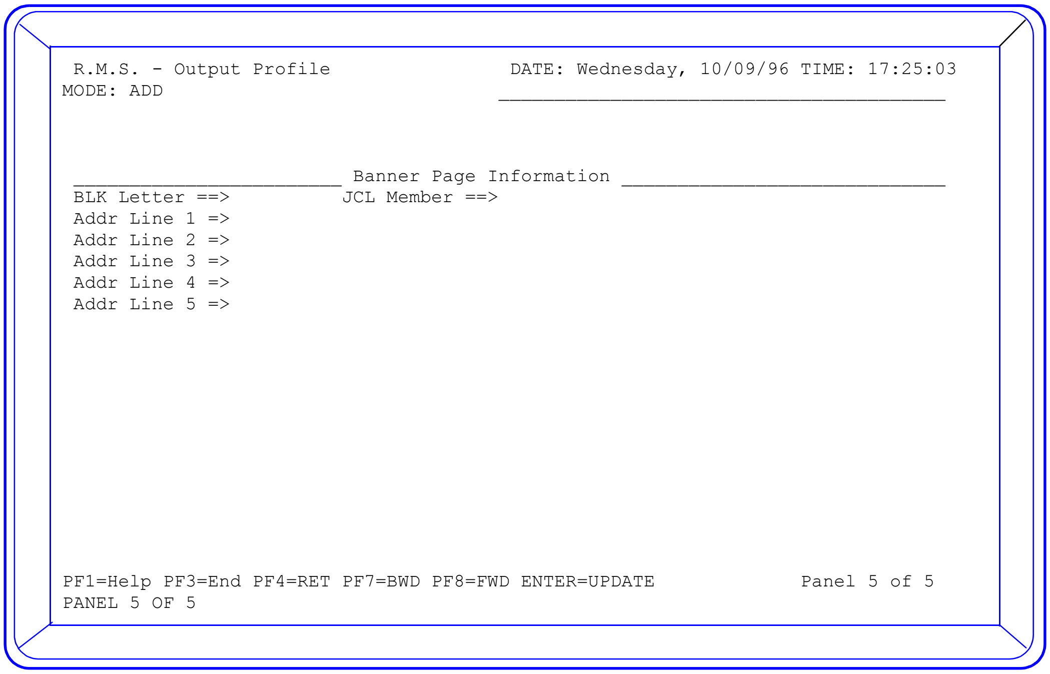
Panels 1, 2 and 3 of the Output Definition panel are used to specify packet content information.



```
 R.M.S. - Output Profile                DATE: Wednesday, 08/26/98 TIME: 12:00:53
 MODE: ADD                              ________________________________________



 ____________________________ Output Attributes _______________________________
 Class     ==>                   Burst  ==>             OLmt ==>
 Form      ==>                   Fls/CC ==>      :      UCS  ==>          :
 FCB:A/V   ==>          :        OPTCD  ==>             PWD  ==>
 Dest      ==>                   Node   ==>             Seps ==>
 Desk/EWN  ==>                   Modify ==>      :      Xpro ==>
 PageDEF   ==>                   Char1  ==>             Disp ==>
 FormDef   ==>                   Char2  ==>             BLK  ==>
 LRECL     ==>                   Char3  ==>             Pri  ==>
 Copies    ==>                   Char4  ==>             DDNM ==>
 Name      ==>
 Title     ==>
 Dept/XPRO ==>
 Building  ==>
 Room      ==>
 Addr 1    ==>
 Addr 2    ==>
 Addr 3    ==>
 Addr 4    ==>
PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 4 of 5
```

Figure 12. Output Definition Menu Panel 4

Output Definition panel #4 is used to assign output attributes to the packet of reports being created. If you are linking several output definitions together (see *Linking Output Definition Panels*) the output attributes from the FIRST Output definition will govern the destination of the packet.

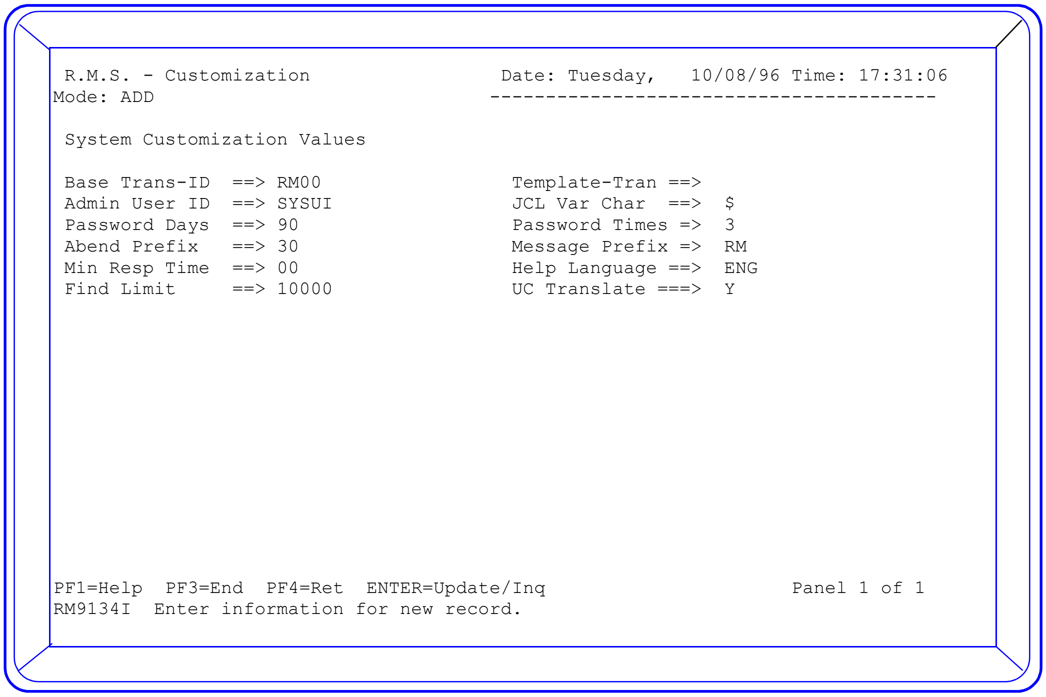


```
 R.M.S. - Output Profile                DATE: Wednesday, 10/09/96 TIME: 17:25:03
MODE: ADD                              ________________________________________



 ________________________ Banner Page Information _____________________________
 BLK Letter ==>          JCL Member ==>
 Addr Line 1 =>
 Addr Line 2 =>
 Addr Line 3 =>
 Addr Line 4 =>
 Addr Line 5 =>











PF1=Help PF3=End PF4=RET PF7=BWD PF8=FWD ENTER=UPDATE            Panel 5 of 5
PANEL 5 OF 5
```

Figure 13. Output Definition Menu Panel 5

Output Definition panel #5 contains BLK Letter, and name and address information. The JCL Member field that appears on panel #5 is not currently used in an output definition. The BLK Letter field is used to provide the name of the packet which will appear on the banner (separator) page(s). Name and Address information appears in the bottom left hand corner of the banner page.

System Customization Panel



```
 R.M.S. - Customization                  Date: Tuesday,   10/08/96 Time: 17:31:06
Mode: ADD                               ----------------------------------------

 System Customization Values

 Base Trans-ID  ==> RM00                  Template-Tran ==>
 Admin User ID  ==> SYSUI                 JCL Var Char  ==>  $
 Password Days  ==> 90                    Password Times =>  3
 Abend Prefix   ==> 30                    Message Prefix =>  RM
 Min Resp Time  ==> 00                    Help Language ==>  ENG
 Find Limit     ==> 10000                 UC Translate ===>  Y









PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq                      Panel 1 of 1
RM9134I  Enter information for new record.
```

Figure 13. System Customization Panel

The Customization Panel allows for customization of the transaction specified in the panel. One RmVvrm program may be installed to handle any number of transactions each having its own files and customization parameters. This panel is only necessary when these items need changes. Defaults are assigned at installation time.

NOTE: 1.) These custom changes will only take affect after CICS has been cycled. In the TSO environment it will be necessary to log off and log on again.

2.) When assigning values to these fields, complete the entire panel except for the "template tran". DO NOT LEAVE BLANK FIELDS!

BASE TRANS-ID	This is the transaction ID for which the following parameters are to apply. This ID must have been defined in the RMSOLGEN macro call added to the UTT0011 load module when the system is installed (See Task 2.0 in the System Installation/Verification).
TEMPLATE TRAN	This is the name of another Customization Record to be used as a model when building this record. Change the fields that are different before pressing <ENTER> to add the panel. This is identical to template management used in other administrative transactions.
ADMIN USER ID	The user ID of the System Administrator for these files.

JCL VAR CHAR	This is the character which will be recognized as the beginning of a variable to be replaced when a print request is serviced. Any field beginning with this character should be a variable name listed in Appendix K.
PASSWORD DAYS	The number of days a password will be valid before requiring the user to enter a new password.
PASSWORD TIMES	The number of times a user may try entering a password before that user will be denied access.
ABEND PREFIX	The two character prefix assigned to any RMS generated ABEND. If this code were set to RM then a 45 ABEND would appear as an RM45 ABEND. RM is the default should this be left blank.
MESSAGE PREFIX	The two character prefix assigned to any RMS generated message.
MIN RESP TIME	This field may usually be used to specify in seconds, the fastest response permitted by the system.
HELP LANGUAGE	This will be the three character code used to select the help system panels when PF1 is entered. ENG should be used here unless your help member contains other language support.
FIND LIMIT	This field will be the default number of lines searched when a find transaction is entered. Maximum value is 999,999,999.
UC TRANSLATE	This field will control the upper case translation of all entered data. Values are Y or N.

OUTPUT DEFINITION

Imagine never having to change a program again to support the use of new output technology. Output Definition provides RMS/Online users the capability to produce customized output without the need for JCL or programming changes.

Output Definition allows users to define the order and content of an output packet they can request at any time. These definitions are stored in OD profiles. Once defined, the Output Definitions are invoked ‘on demand’ by users from the Index panel in the Display Print Facility. In order to be eligible for inclusion in an ‘OR’ (output request), the reports must be viewable.

Output Definition provides standard SYSOUT attribute support. Dynamic allocation of any operating system sequential dataset is supported. AFP objects and DJDE definitions can be stored for inclusion in Output Definition requests. Printer independence is maintained by using Output Definitions allowing you to change AFP objects, or DJDE records without the need for program modifications.

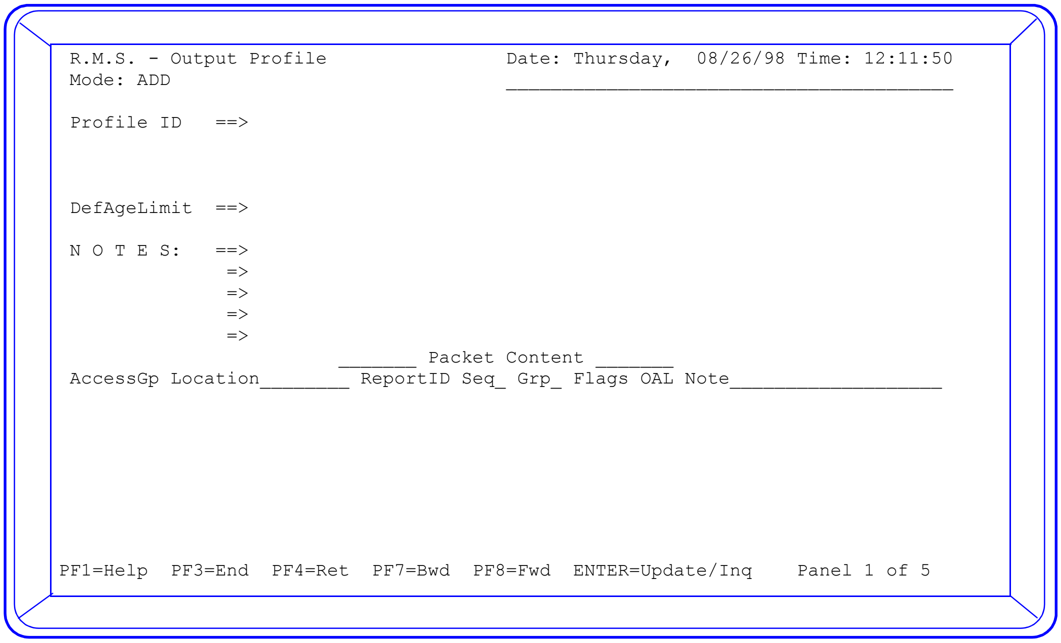
Complete control of the approval, staging, and printing process is in the hands of the user. An Output Verification report is available that allows users to approve the Output Request content prior to actual staging. Once approved, the Output Request is issued, and the packet is staged for processing by the Output Processing Subtask, a component of the RMS Control Region.

Output Definition Highlights

- Supports new Output Technology
- AFP via OUTDEF
- DJDE definition support
- On Demand Requests
- Customized output / No JCL changes
- Any operating system Sequential Dataset supported
- Ability to define order & content of output
- On-line Verification report availability
- Standard SYSOUT attribute support
- Maintains printer independence / No programming changes

ADDING AN OUTPUT DEFINITION RECORD

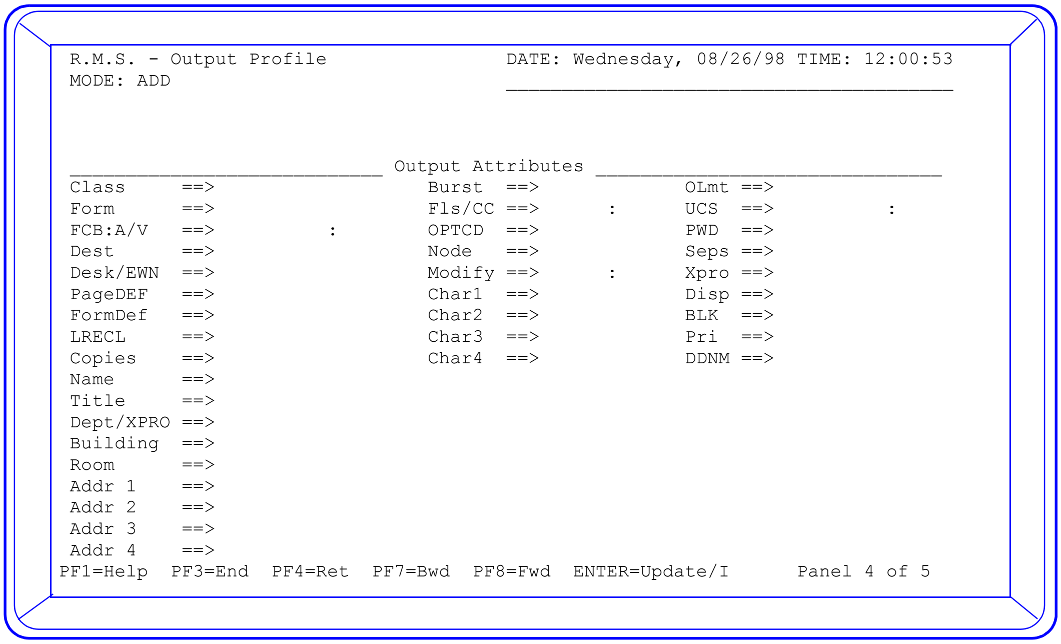
Following is an example of adding an Output Definition record (‘AO’).



```
 R.M.S. - Output Profile                Date: Thursday,  08/26/98 Time: 12:11:50
 Mode: ADD                              ________________________________________

 Profile ID   ==>



 DefAgeLimit  ==>

 N O T E S:   ==>
               =>
               =>
               =>
               =>
                         _______ Packet Content _______
 AccessGp Location________ ReportID Seq_ Grp_ Flags OAL Note___________________








PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 5
```

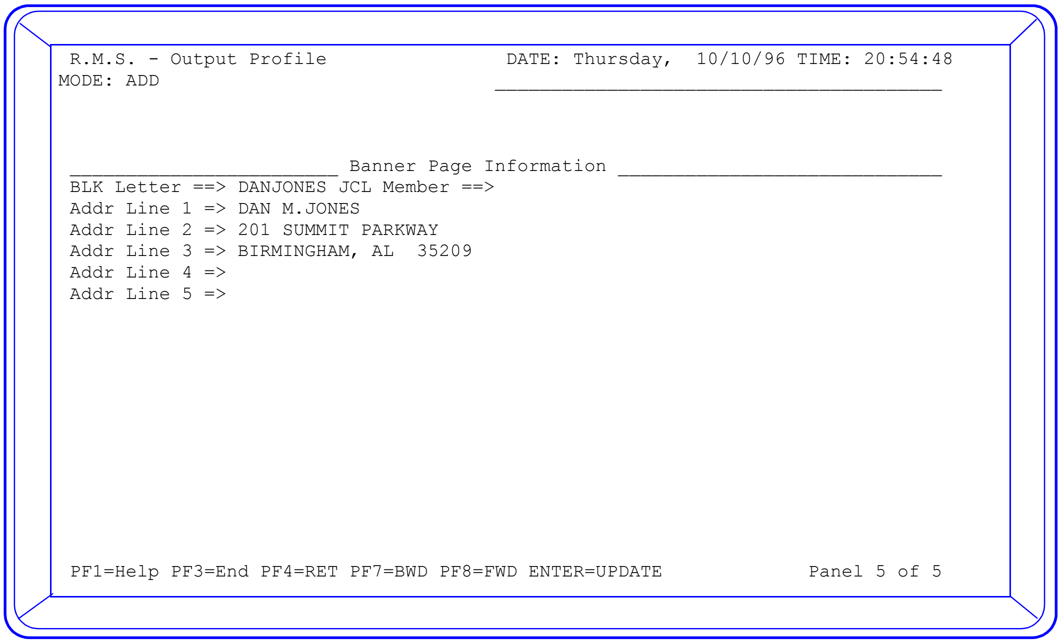
Output Definition Panel 1 of 5

Panels 2 and 3 allow additional Packet content.



```
 R.M.S. - Output Profile                  DATE: Wednesday, 08/26/98 TIME: 12:00:53
 MODE: ADD                                ________________________________________



 ____________________________ Output Attributes _______________________________
 Class      ==>                 Burst  ==>              OLmt ==>
 Form       ==>                 Fls/CC ==>       :      UCS  ==>           :
 FCB:A/V    ==>          :      OPTCD  ==>              PWD  ==>
 Dest       ==>                 Node   ==>              Seps ==>
 Desk/EWN   ==>                 Modify ==>       :      Xpro ==>
 PageDEF    ==>                 Char1  ==>              Disp ==>
 FormDef    ==>                 Char2  ==>              BLK  ==>
 LRECL      ==>                 Char3  ==>              Pri  ==>
 Copies     ==>                 Char4  ==>              DDNM ==>
 Name       ==>
 Title      ==>
 Dept/XPRO  ==>
 Building   ==>
 Room       ==>
 Addr 1     ==>
 Addr 2     ==>
 Addr 3     ==>
 Addr 4     ==>
PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 4 of 5
```

Output Definition Panel 4 of 5



```
 R.M.S. - Output Profile                  DATE: Thursday,  10/10/96 TIME: 20:54:48
MODE: ADD                                ________________________________________



 ________________________ Banner Page Information _____________________________
 BLK Letter ==> DANJONES JCL Member ==>
 Addr Line 1 => DAN M.JONES
 Addr Line 2 => 201 SUMMIT PARKWAY
 Addr Line 3 => BIRMINGHAM, AL  35209
 Addr Line 4 =>
 Addr Line 5 =>











 PF1=Help PF3=End PF4=RET PF7=BWD PF8=FWD ENTER=UPDATE             Panel 5 of 5
```

Output Definition Panel 5 of 5

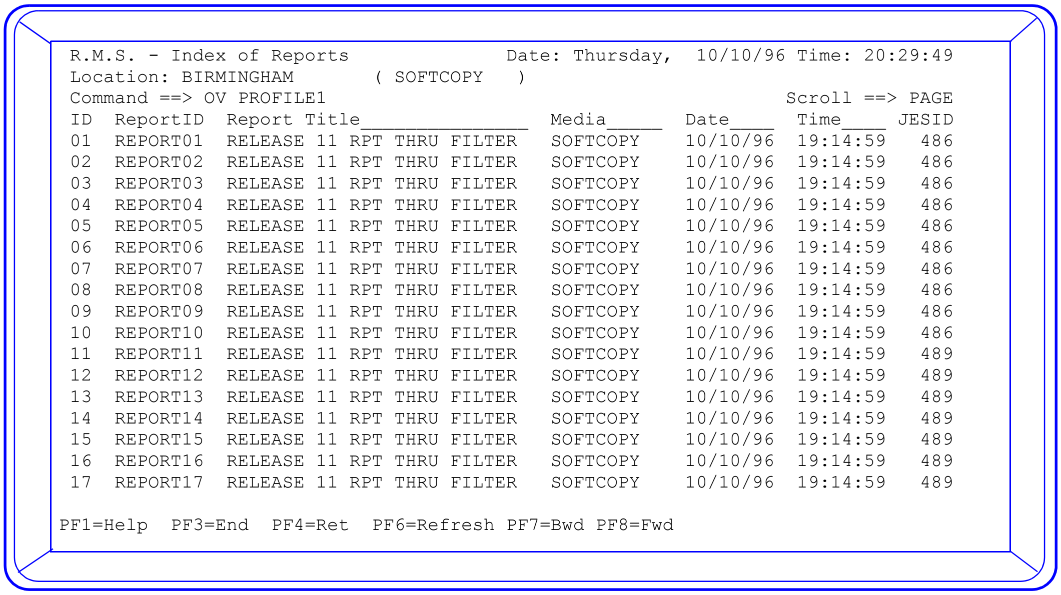
Verification Report

The Output Verification (‘OV’) command produces a report that is routed to the Access Group and Location where the OV command was issued from. The Report*ID is PRINTVER. This report allows users to approve the content of the Output Request prior to being staged by the Output processing subtask.

The format of the ‘**OV**’ command is as follows:

`OV PROFNAME <ENTER>` (where ‘profname’ is equal to your Output definition profile name)

An example screen follows:



```
R.M.S. - Index of Reports              Date: Thursday,  10/10/96 Time: 20:29:49
Location: BIRMINGHAM       ( SOFTCOPY   )
Command ==> OV PROFILE1                                           Scroll ==> PAGE
ID  ReportID  Report Title_______________  Media_____  Date____  Time____ JESID
01  REPORT01  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
02  REPORT02  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
03  REPORT03  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
04  REPORT04  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
05  REPORT05  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
06  REPORT06  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
07  REPORT07  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
08  REPORT08  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
09  REPORT09  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
10  REPORT10  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
11  REPORT11  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489
12  REPORT12  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489
13  REPORT13  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489
14  REPORT14  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489
15  REPORT15  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489
16  REPORT16  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489
17  REPORT17  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489

PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
```

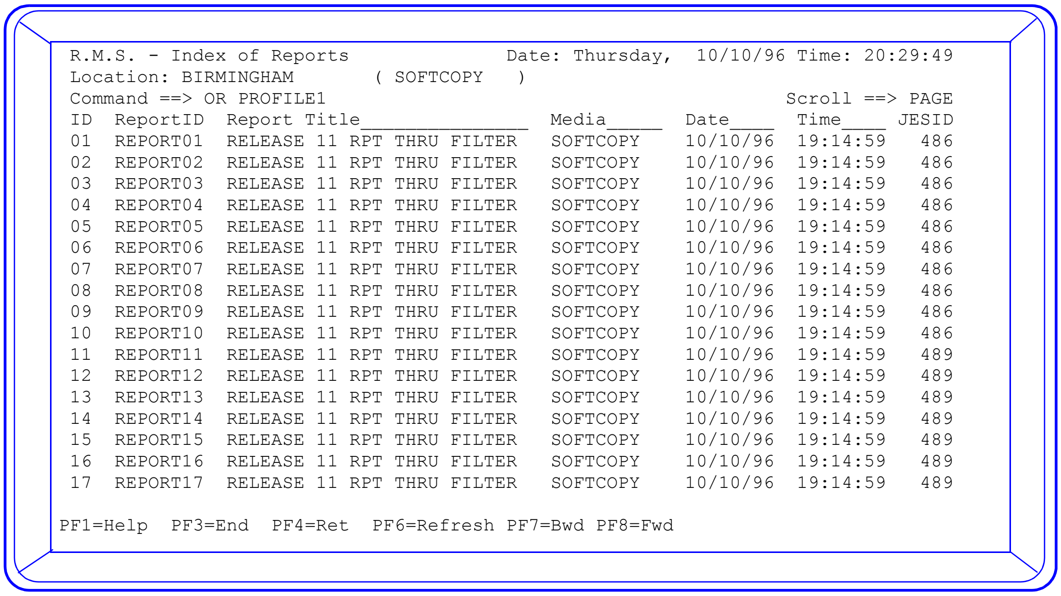
Output Request

The Output Request is invoked ‘on demand’ and sent to the Output processing subtask for staging. It is not necessary to perform Output Verification prior to issuing an ‘OR’ command. Reports ***must be viewable On-line*** to be eligible for inclusion in an Output Request.

The format of the ‘**OR**’ command is as follows:

`OR` profname <ENTER> (where ‘profname’ is equal to your Output definition profile name)

An example screen follows:



```
 R.M.S. - Index of Reports              Date: Thursday,  10/10/96 Time: 20:29:49
 Location: BIRMINGHAM       ( SOFTCOPY   )
 Command ==> OR PROFILE1                                         Scroll ==> PAGE
 ID  ReportID  Report Title_______________  Media_____  Date____  Time____ JESID
 01  REPORT01  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
 02  REPORT02  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
 03  REPORT03  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
 04  REPORT04  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
 05  REPORT05  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
 06  REPORT06  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
 07  REPORT07  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
 08  REPORT08  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
 09  REPORT09  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
 10  REPORT10  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   486
 11  REPORT11  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489
 12  REPORT12  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489
 13  REPORT13  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489
 14  REPORT14  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489
 15  REPORT15  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489
 16  REPORT16  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489
 17  REPORT17  RELEASE 11 RPT THRU FILTER   SOFTCOPY    10/10/96  19:14:59   489

PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
```

Linking Output Definition Panels

To link multiple output definition panels together, key the Profile ID you wish to link to as the **LAST** access group in the packet content area.

Once we link to another Output Profile, we do not branch back to read other entries from previous profiles.

When you issue the ‘OR’ (Output Request) for the Profile name, and it is a “linked” profile, the Output Characteristics that govern the packet will come from the first profile in the link.

WEBACCESS DOCUMENT GROUPS

Report viewing via RMS WebAccess is available for any user with an XML compatible browser running Internet Explorer 5.0 or above. User access to the WebAccess product is through a directory interface. The reports presented to the user in the directory interface are added and maintained by document group profile records. These profile records are referred to as a DOCGROUP. DOCGROUP profiles are kept in the QXACDS VSAM file. The QXACDS file contains all of the administrative records needed to control user access to reports and printing functions within RMS Online and RMS WebAccess.

RMS WebAccess provides a quick and easy way to select reports for viewing. Through the use of Document Groups, reports are organized within the browser window in a hierarchical, tree/branch display. Document Groups structure viewing by Cabinet (Access Group), Drawer (Location) and File (Report ID).

Users can enter one (or more) DOCGROUPS at sign-on and the explorer view returned will contain all of the reports they have access to.

The DOCGROUP profile name is used at Sign-On along with a UserID and Password to access softcopy reports through the web browser. While all users have access to any of the DOCGROUPS defined in the system, it does not mean they have access to every report referenced within the document groups. Access to the report data is governed by internal security available within RMS Online, or by RMS WebAccess external security management. The sample WebAccess ESM exit is the SEC0020 member available in the installation JCL library. Full details on how to implement the WebAccess ESM exit can be found in the RMS Systems Reference - Installation Guide.

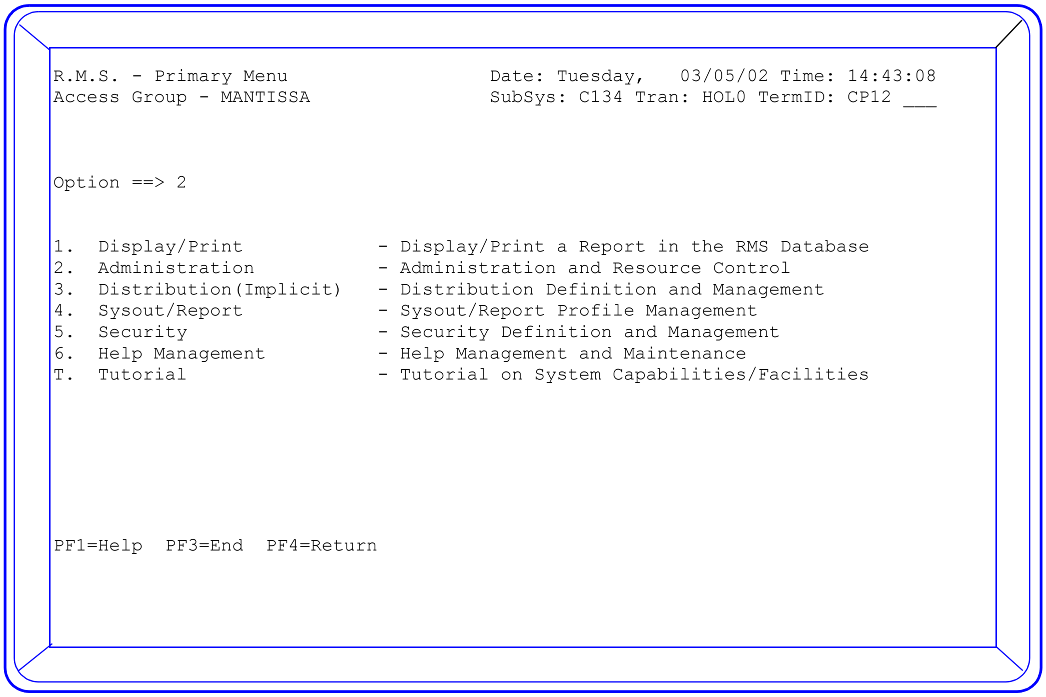
RMS WebAccess Highlights

- Full GUI replacing traditional 'green-screen' character terminals
- Watch function to provide for passive monitoring of character strings within a report
- Find function providing text string searches
- Up to 240 character print line viewing of report data on screen
- Reports archived off-line can be easily retrieved and restored to RMS Online for WebAccess viewing
- Select reports to view from the Document Group panel
- Page Up/Down in full screen mode
- Horizontal and vertical scale line feature for ease of navigation
- Local, Email, or Host printing capabilities
- Font resize of report data to allow display in a font of your choice

Docgroup Definition

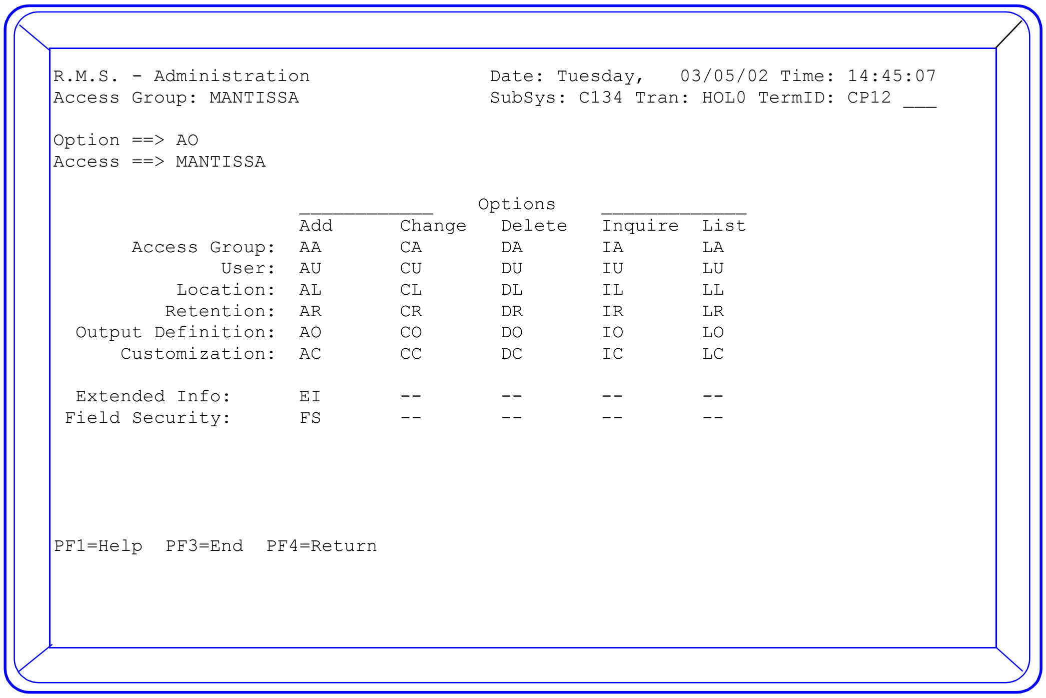
The following pages outline the steps required to add document groups to the RMS system(s). DOCGROUP maintenance is performed by the RMS Systems Administrator, or by an individual who has access to the Administration functions of the RMS System. System Administrator functions are detailed in Appendix-D of the RMS Systems Reference Manual.

Adding a Docgroup Profile Record



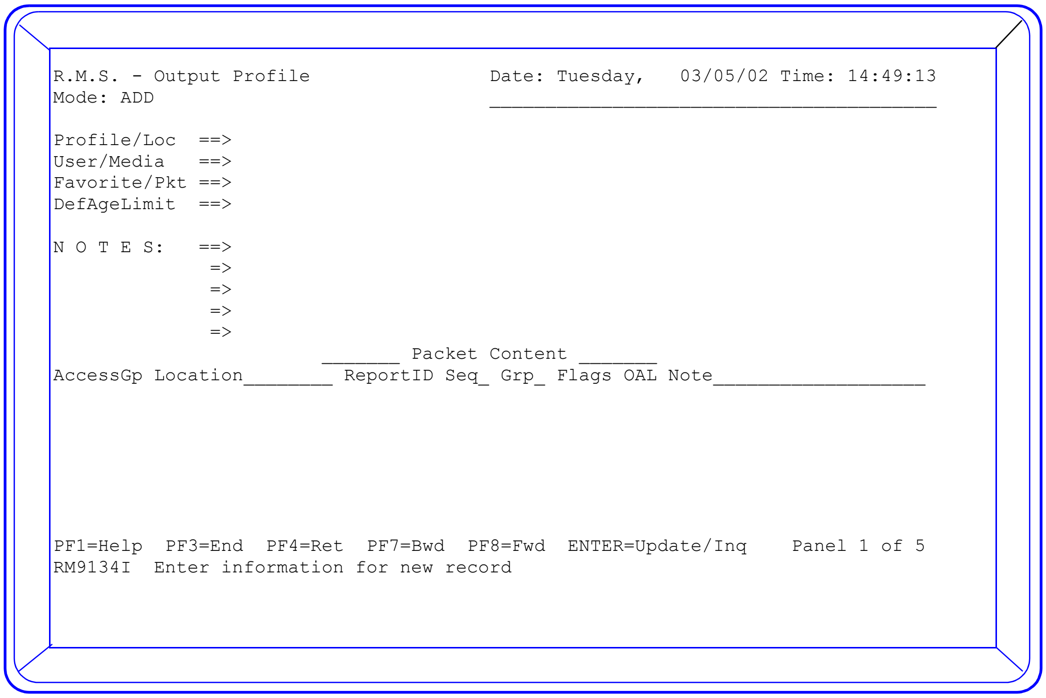
```
R.M.S. - Primary Menu                  Date: Tuesday,   03/05/02 Time: 14:43:08
Access Group - MANTISSA                SubSys: C134 Tran: HOL0 TermID: CP12 ___



Option ==> 2


1.  Display/Print            - Display/Print a Report in the RMS Database
2.  Administration           - Administration and Resource Control
3.  Distribution(Implicit)   - Distribution Definition and Management
4.  Sysout/Report            - Sysout/Report Profile Management
5.  Security                 - Security Definition and Management
6.  Help Management          - Help Management and Maintenance
T.  Tutorial                 - Tutorial on System Capabilities/Facilities








PF1=Help  PF3=End  PF4=Return
```

From the RMS primary menu enter '2' in the Option ==> field and key <ENTER>.



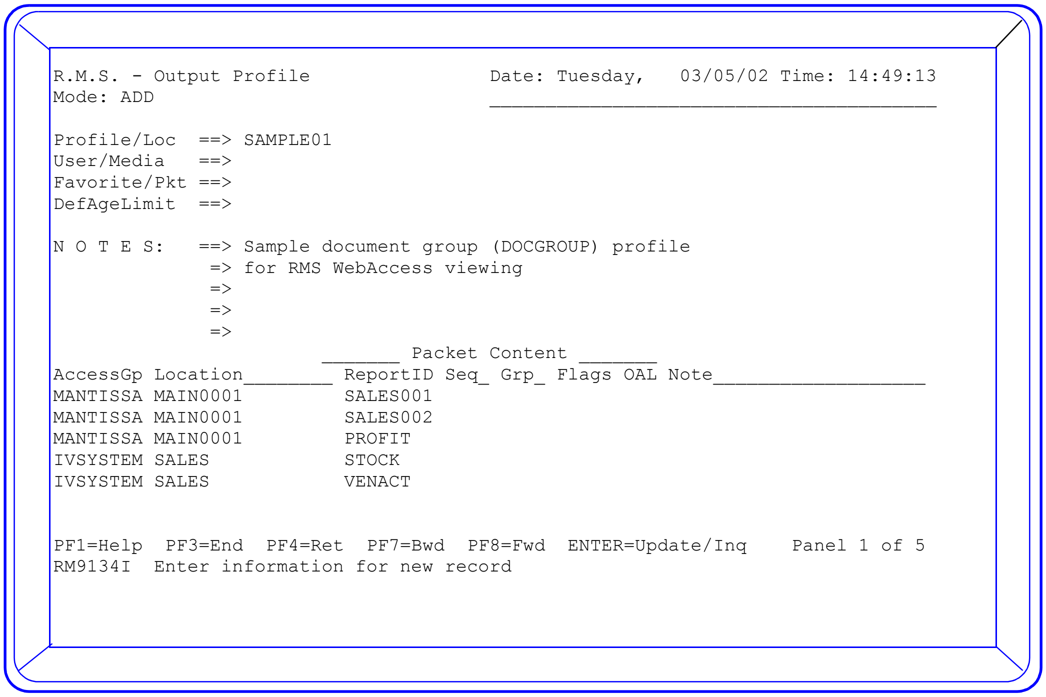
```
R.M.S. - Administration                Date: Tuesday,   03/05/02 Time: 14:45:07
Access Group: MANTISSA                 SubSys: C134 Tran: HOL0 TermID: CP12 ___

Option ==> AO
Access ==> MANTISSA

                      ____________    Options    _____________
                      Add      Change   Delete   Inquire  List
       Access Group:  AA       CA       DA       IA       LA
               User:  AU       CU       DU       IU       LU
           Location:  AL       CL       DL       IL       LL
          Retention:  AR       CR       DR       IR       LR
  Output Definition:  AO       CO       DO       IO       LO
      Customization:  AC       CC       DC       IC       LC

  Extended Info:      EI       --       --       --       --
 Field Security:      FS       --       --       --       --





PF1=Help  PF3=End  PF4=Return
```

The Administration menu is presented. From this panel enter 'AO' in the Option ==> field and key <ENTER>.



```
R.M.S. - Output Profile                Date: Tuesday,   03/05/02 Time: 14:49:13
Mode: ADD                              ________________________________________

Profile/Loc  ==>
User/Media   ==>
Favorite/Pkt ==>
DefAgeLimit  ==>

N O T E S:   ==>
              =>
              =>
              =>
              =>
                        _______ Packet Content _______
AccessGp Location________ ReportID Seq_ Grp_ Flags OAL Note___________________






PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 5
RM9134I  Enter information for new record
```

The 'AO' command will return the Output Profile panel in Add mode.



```
R.M.S. - Output Profile                Date: Tuesday,   03/05/02 Time: 14:49:13
Mode: ADD                              ________________________________________

Profile/Loc  ==> SAMPLE01
User/Media   ==>
Favorite/Pkt ==>
DefAgeLimit  ==>

N O T E S:   ==> Sample document group (DOCGROUP) profile
              => for RMS WebAccess viewing
              =>
              =>
              =>
                        _______ Packet Content _______
AccessGp Location________ ReportID Seq_ Grp_ Flags OAL Note___________________
MANTISSA MAIN0001         SALES001
MANTISSA MAIN0001         SALES002
MANTISSA MAIN0001         PROFIT
IVSYSTEM SALES            STOCK
IVSYSTEM SALES            VENACT


PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 5
RM9134I  Enter information for new record
```

The profile record 'SAMPLE01' is an example of a DOCGROUP that references a single Web BASE transaction within a single CICS region. The diagram below shows the relationship of the reports referenced in the Packet Content area to their physical location on the mainframe.

Following is a description of the fields on the Output Profile Record. Fields required for a DOCGROUP profile are noted.

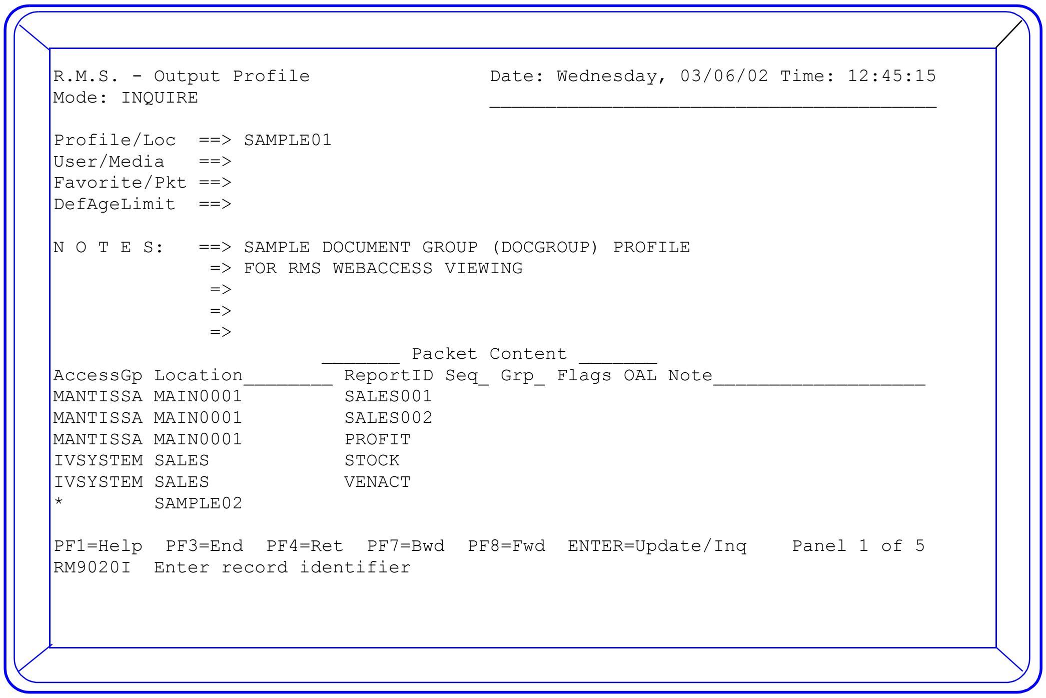
Profile/Loc:	(Required)	1-16 character name. Field contains the DOCGROUP name.
User/Media:	(Not Used)	Field not used for DOCGROUP records.
Favorite/Pkt:	(Not Used)	Field not used for DOCGROUP records.
DefAgeLimit:	(Not Used)	Field not used for DOCGROUP records.
NOTES:	(Optional)	NOTES field is a text area used to record information about the document group profile and its' use.

The Packet Content area is where the reports to be viewed by the RMS WebAccess browser are defined. The reports entered in the Packet Content area will be grouped by Access Group and Location in RMS WebAccess. The order in which reports are entered in the packet content area does not reflect the order in which they will be presented in the browser. Panels 2 and 3 of the record are available for additional input of reports. To access these panels key 'PF8'. Panels 4 and 5 of the record are not used for Document Group records.

AccessGp	(Required)	1-8 character name. Specifies the Access Group used when the report was distributed by the RM80004 job.
Location	(Required)	1-16 character name. Specifies the Online (softcopy) Location where the report resides.
ReportID	(Required)	1-8 character name. Specifies the name of the Report as it appears in RMS Online.
Seq	(Optional)	1 character field. Valid values are 'I' to insert a new record, or 'D' to delete an old record. Key either 'I' or 'D' and depress <Enter>. If inserting a new record add the appropriate AccessGp/Location/ReportID combination and depress <Enter> to update the record. If deleting an old record, depress <Enter> to update the record.
Grp	(Not Used)	Field not used for DOCGROUP records.
Flags	(Not Used)	Field not used for DOCGROUP records.
OAL	(Not Used)	Field not used for DOCGROUP records.
Note	(Optional)	Field is only used when linking to a remote Online system.

Linking DOCGROUP Panels

To link multiple DOCGROUP panels together, key an '*' (asterisk) in the AccessGp field in the packet content area. In the Location field key the name of the DOCGROUP you wish to link to.



```
R.M.S. - Output Profile                Date: Wednesday, 03/06/02 Time: 12:45:15
Mode: INQUIRE                          ________________________________________

Profile/Loc  ==> SAMPLE01
User/Media   ==>
Favorite/Pkt ==>
DefAgeLimit  ==>

N O T E S:   ==> SAMPLE DOCUMENT GROUP (DOCGROUP) PROFILE
              => FOR RMS WEBACCESS VIEWING
              =>
              =>
              =>
                        _______ Packet Content _______
AccessGp Location________ ReportID Seq_ Grp_ Flags OAL Note___________________
MANTISSA MAIN0001         SALES001
MANTISSA MAIN0001         SALES002
MANTISSA MAIN0001         PROFIT
IVSYSTEM SALES            STOCK
IVSYSTEM SALES            VENACT
*        SAMPLE02

PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 5
RM9020I  Enter record identifier
```

The profile record above 'SAMPLE01' shows the record modified to reference a DOCGROUP 'SAMPLE02' residing in the same Web BASE transaction within a single CICS region. The diagram/chart below shows the relationship of the reports referenced in the Packet Content area to their physical location on the mainframe.

Following is a description of the fields on the Output Profile Record. Fields required for a DOCGROUP profile are noted.

Profile/Loc:	(Required)	1-16 character name. Field contains the DOCGROUP name.
User/Media:	(Not Used)	Field not used for DOCGROUP records.
Favorite/Pkt:	(Not Used)	Field not used for DOCGROUP records.
DefAgeLimit:	(Not Used)	Field not used for DOCGROUP records.
N O T E S:	(Optional)	NOTES field is a text area used to record information about the document group profile and its' use.

The Packet Content area is where the reports to be viewed by the RMS WebAccess browser are defined. Panels 2 and 3 of the record are available for additional input of reports. To access these panels key 'PF8'. Panels 4 and 5 of the record are not used for Document Group records.

AccessGp	(Required)	1-8 character name. A value of '*' is valid in the first position of the AccesGp field if the profile record links to another DOCGROUP profile.
Location	(Required)	1-16 character name. If the AccessGp field contains an '*', the Location field would contain the name of the DOCGROUP

		profile record the users wishes to link to.
ReportID	(Not Used)	Field not used for DOCGROUP records.
Seq	(Optional)	1 character field. Valid values are 'I' to insert a new record, or 'D' to delete an old record. Key either 'I' or 'D' and depress <Enter>. If inserting a new record add the appropriate AccessGp/Location/ReportID combination and depress <Enter> to update the record. If deleting an old record, depress <Enter> to update the record.
Grp	(Not Used)	Field not used for DOCGROUP records.
Flags	(Not Used)	Field not used for DOCGROUP records.
OAL	(Not Used)	Field not used for DOCGROUP records.
Note	(Not Used)	Field not used for DOCGROUP records.

System Administration Case Study

Now that all panels have been covered in detail, let's see how to put these pieces together in a series of tasks that will accomplish the building of a database to match a given environment. Let's take a set of requirements that represents a hypothetical case and then see the details of how to build a set of records to control the system correctly. You may need to review the *Resource Security Systems Reference Manual* for descriptions of the security panels.

The Requirements

For our example, we will describe an environment limited to one application system. The concepts we use here could be expanded to include any size environment. The example is designed to show the use of each entry panel and would probably not represent a real life example that could be used for the determination of the number of panels it would take to enter all your work.

The System

The Inventory Control System - let's make this the Access Group and give it the name *IVSYSTEM*.

The Reports

These reports are part of those sent as examples and installed with the system. They should be viewable to test the results of the case study entry. If you actually enter the transactions we go through, please delete them afterwards so others may do the case study.

STOCK	Year-to-date Stock Status Report
VENACT	Vendor Activity Report
PROFIT	Year-to-date Sales Profitability Report

The Locations

Denver	Successful Products, Inc.
Chicago	New Directions Corp.
New York	Headquarters Company

The Users and the Resources They Need

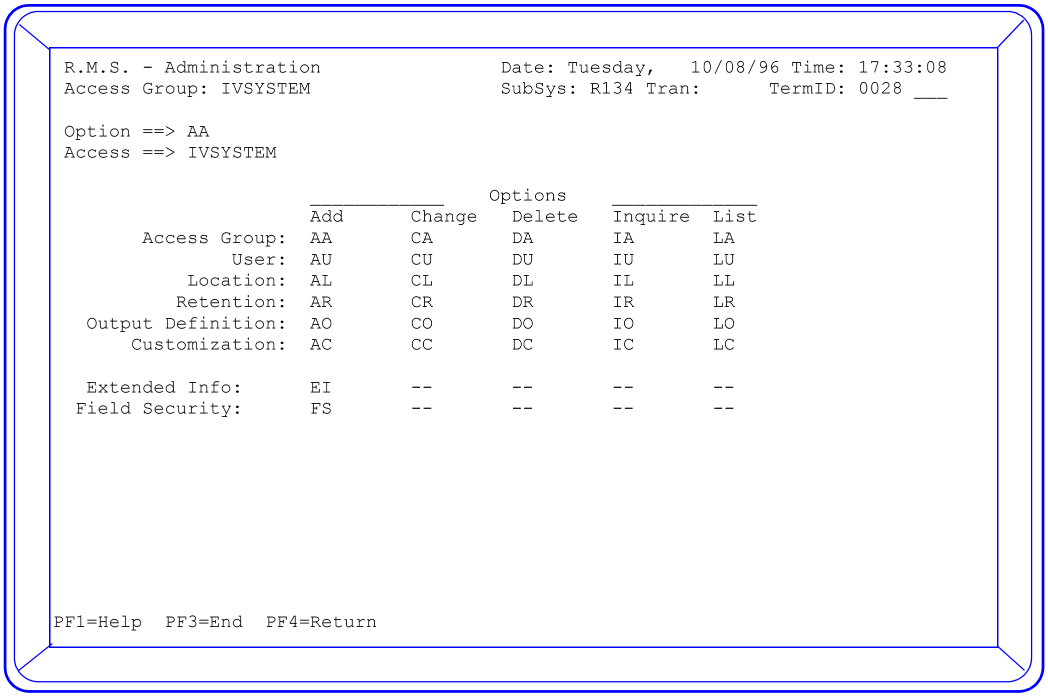
THE USERS AND THE RESOURCES THEY NEED

USER	LOCATION	RESOURCES
Carol Johnson	Denver	Display Print: Index, Versions, Display all reports.
John Graham	Chicago	Display Print: All except Print Start. Needs the following reports: All reports for New York and see no other reports.
Tom Williams	New York	Display Print: Display all reports. Access all transactions.

Data Entry

Now let's take a look at the panels that would satisfy this set of requirements specified.

Administrative Menu Panel

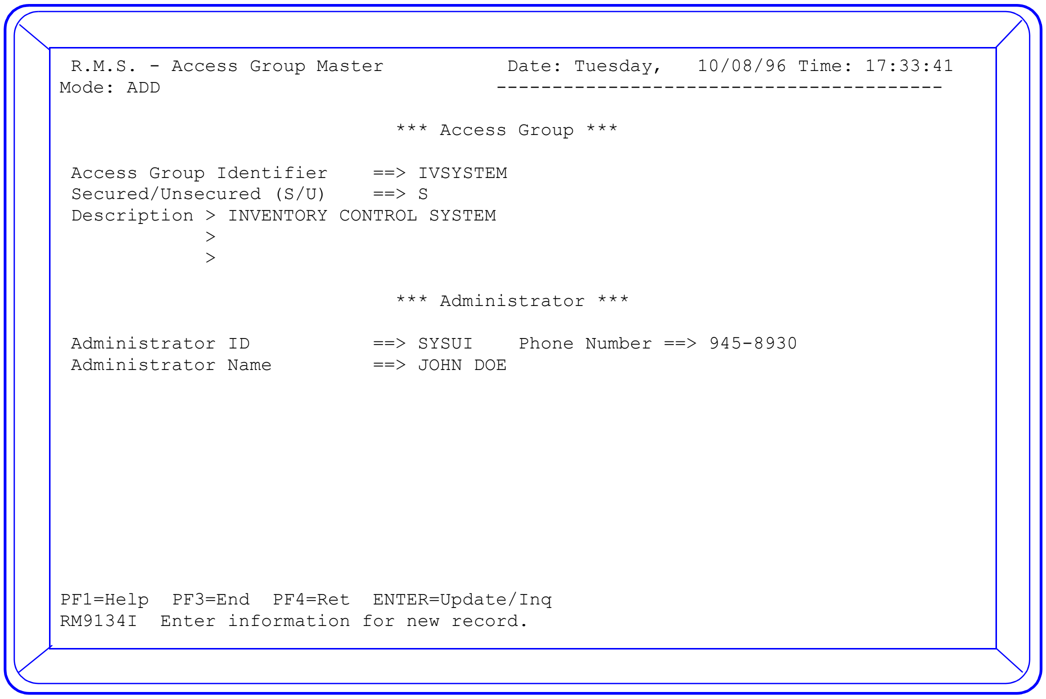


```
 R.M.S. - Administration                Date: Tuesday,   10/08/96 Time: 17:33:08
 Access Group: IVSYSTEM                 SubSys: R134 Tran:      TermID: 0028 ___

 Option ==> AA
 Access ==> IVSYSTEM

                       ____________    Options    _____________
                       Add      Change   Delete   Inquire  List
        Access Group:  AA       CA       DA       IA       LA
                User:  AU       CU       DU       IU       LU
            Location:  AL       CL       DL       IL       LL
           Retention:  AR       CR       DR       IR       LR
   Output Definition:  AO       CO       DO       IO       LO
       Customization:  AC       CC       DC       IC       LC

   Extended Info:      EI       --       --       --       --
  Field Security:      FS       --       --       --       --








PF1=Help  PF3=End  PF4=Return
```

This panel is the starting place for all System Administration entry and is accessed by selecting option 2 from the main menu panel. The Access Group displayed on this panel will be that of the user adding these records. When you make these changes your default access group will appear here.

FIELD	VALUES	DESCRIPTION
OPTION	AA	This will display the panel for the entry of the Access Group record.

Access Group Master Panel

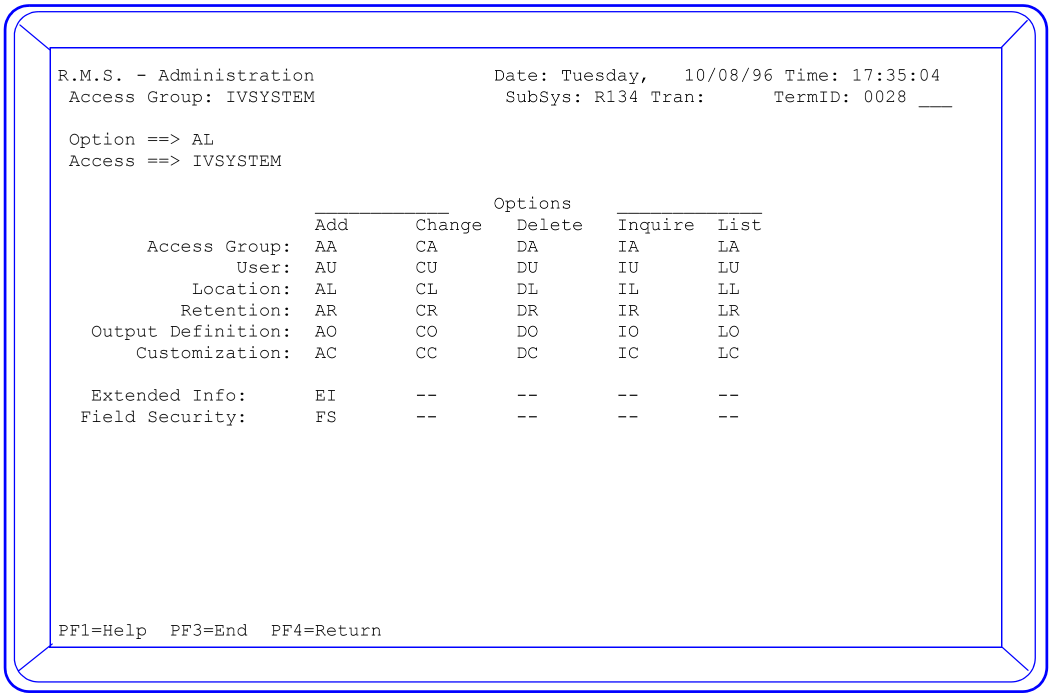


```
 R.M.S. - Access Group Master           Date: Tuesday,   10/08/96 Time: 17:33:41
Mode: ADD                              ----------------------------------------

                              *** Access Group ***

 Access Group Identifier    ==> IVSYSTEM
 Secured/Unsecured (S/U)    ==> S
 Description > INVENTORY CONTROL SYSTEM
             >
             >

                              *** Administrator ***

 Administrator ID           ==> SYSUI    Phone Number ==> 945-8930
 Administrator Name         ==> JOHN DOE









PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

This panel is needed to document information about the Access Groups and the System Administrator that is in control of the Access Group.

FIELD	VALUES	DESCRIPTION
ACCESS GROUP	IVSYSTEM	The name of the Access Group Identifier.
SECURED/UNSEC.	S	These will be secured reports and only those with correct security will be able to access them. If U is entered anyone with a logon will be able to view reports in this access group.
DESCRIPTION	INVENTORY CONTROL SYSTEM	Documentation
ADMINISTRATOR ID	SYSUI	This will be used to obtain and display information about the administrator when the AD transaction is entered from the display.
PHONE NUMBER	(205)945-8930	Documentation
ADMINISTRATOR NAME	JOHN DOE	Documentation

Administrative Menu Panel

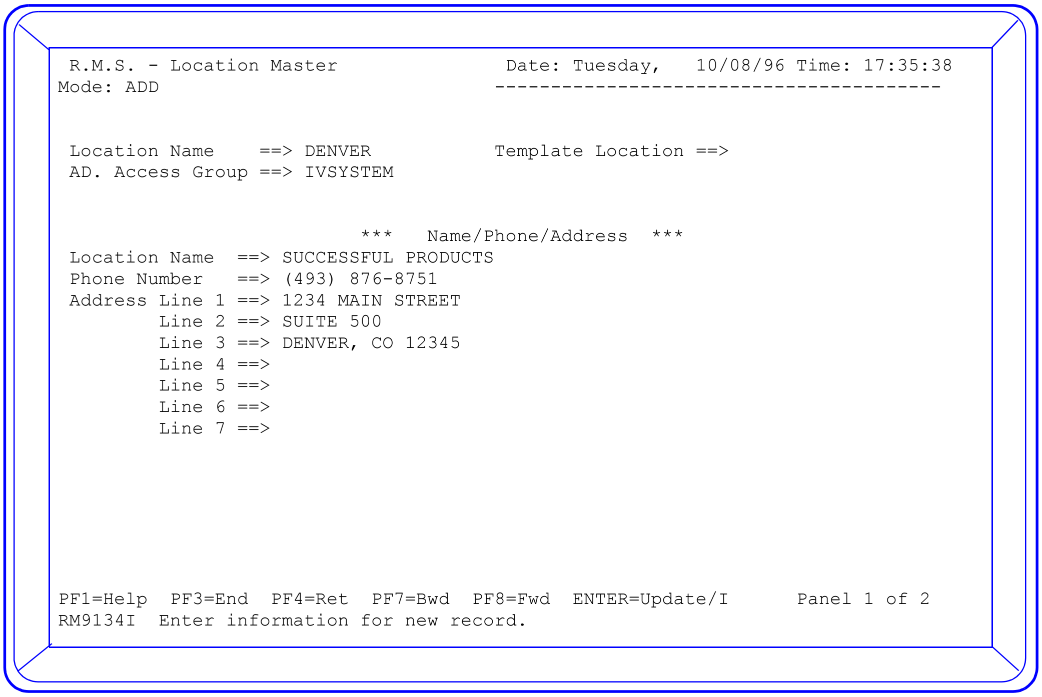


```
R.M.S. - Administration                Date: Tuesday,   10/08/96 Time: 17:35:04
 Access Group: IVSYSTEM                 SubSys: R134 Tran:      TermID: 0028 ___

 Option ==> AL
 Access ==> IVSYSTEM

                       ____________    Options    _____________
                       Add      Change   Delete   Inquire  List
        Access Group:  AA       CA       DA       IA       LA
                User:  AU       CU       DU       IU       LU
            Location:  AL       CL       DL       IL       LL
           Retention:  AR       CR       DR       IR       LR
   Output Definition:  AO       CO       DO       IO       LO
       Customization:  AC       CC       DC       IC       LC

   Extended Info:      EI       --       --       --       --
  Field Security:      FS       --       --       --       --









PF1=Help  PF3=End  PF4=Return
```

Now let’s add the correct location records. These records exist on your database when the system is shipped, and unless they have been deleted, will not have to be entered. This may be checked with the LL command from this panel. If the records do not exist, use the following transactions to build them.

FIELD	VALUES	DESCRIPTION
OPTION	AL	This will present the Add Location panel.

Location Master Panel

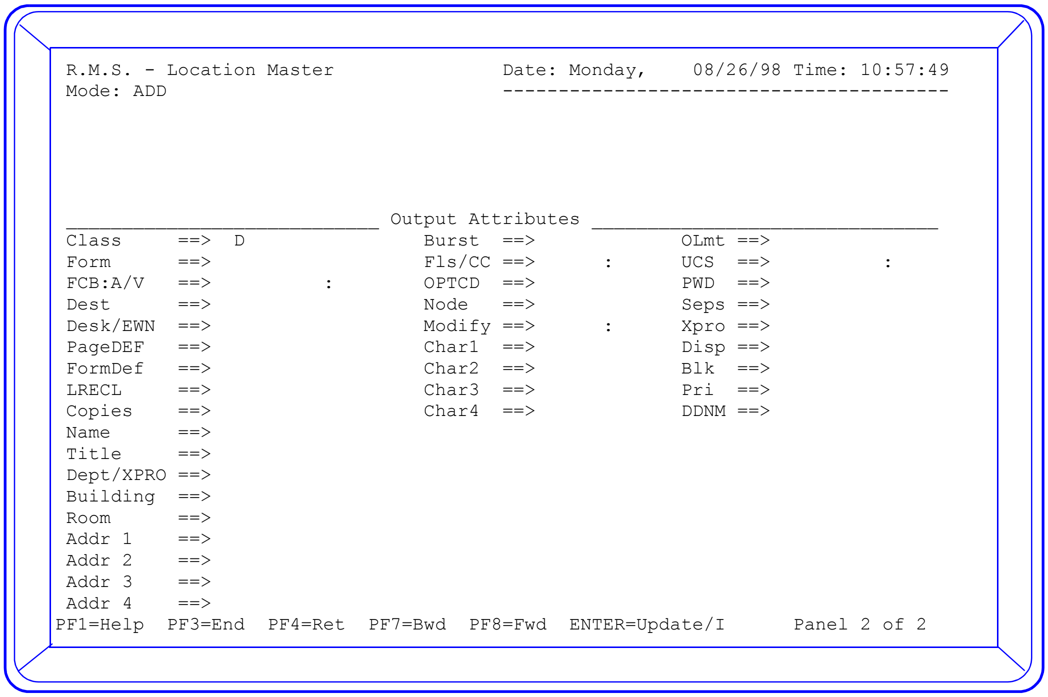


```
 R.M.S. - Location Master              Date: Tuesday,   10/08/96 Time: 17:35:38
Mode: ADD                             ----------------------------------------


 Location Name    ==> DENVER           Template Location ==>
 AD. Access Group ==> IVSYSTEM


                          ***   Name/Phone/Address   ***
 Location Name  ==> SUCCESSFUL PRODUCTS
 Phone Number   ==> (493) 876-8751
 Address Line 1 ==> 1234 MAIN STREET
         Line 2 ==> SUITE 500
         Line 3 ==> DENVER, CO 12345
         Line 4 ==>
         Line 5 ==>
         Line 6 ==>
         Line 7 ==>







PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
RM9134I  Enter information for new record.
```

On this panel we will enter identifying data and documentation about the location.

FIELD	VALUES	DESCRIPTION
LOCATION NAME	DENVER	The name for the location. This will be the same as the LOCATION on the Custom Packaging panel (RMS/DD) or the LOCATION*NAME parameter on the CREATE*PACKET command.
AD. ACCESS GROUP	IVSYSTEM	Administrative access group for this location. Used to determine the system administrator for this location.
ALL OTHER FIELDS	See Above	Documentation for identifying the location.

Location Master Panel (continued)

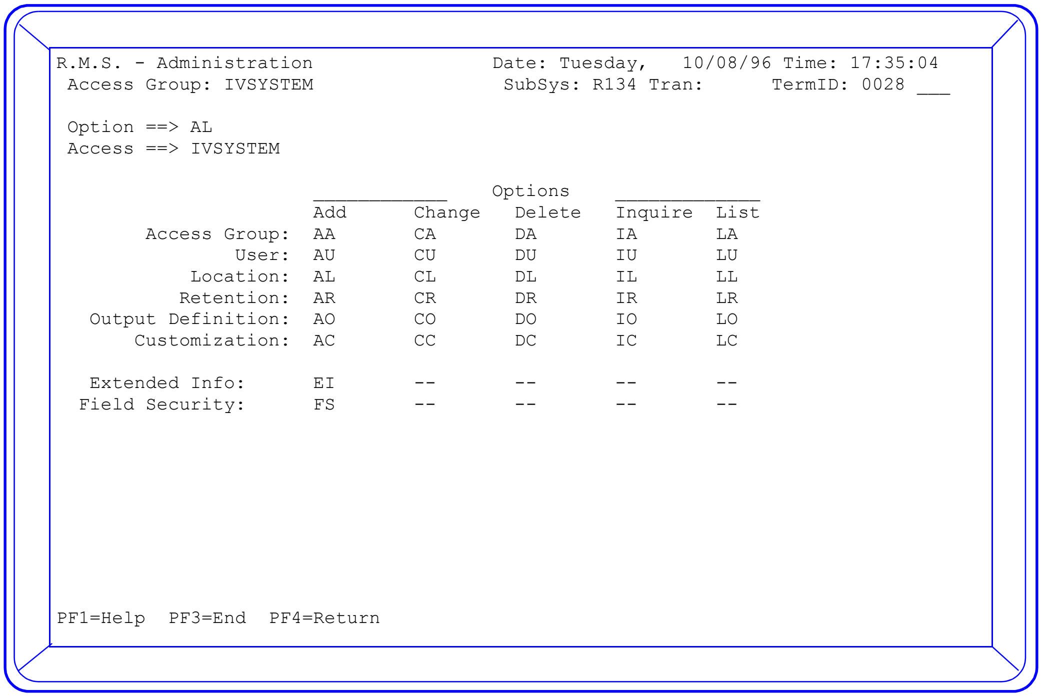


```
 R.M.S. - Location Master               Date: Monday,    08/26/98 Time: 10:57:49
 Mode: ADD                              ----------------------------------------



 ____________________________ Output Attributes _______________________________
 Class     ==>  D                Burst  ==>             OLmt ==>
 Form      ==>                   Fls/CC ==>      :      UCS  ==>          :
 FCB:A/V   ==>          :        OPTCD  ==>             PWD  ==>
 Dest      ==>                   Node   ==>             Seps ==>
 Desk/EWN  ==>                   Modify ==>      :      Xpro ==>
 PageDEF   ==>                   Char1  ==>             Disp ==>
 FormDef   ==>                   Char2  ==>             Blk  ==>
 LRECL     ==>                   Char3  ==>             Pri  ==>
 Copies    ==>                   Char4  ==>             DDNM ==>
 Name      ==>
 Title     ==>
 Dept/XPRO ==>
 Building  ==>
 Room      ==>
 Addr 1    ==>
 Addr 2    ==>
 Addr 3    ==>
 Addr 4    ==>
PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 2 of 2
```

These are the print characteristics that may be retrieved during an on-demand or selective print operation. This is done by typing an “L” on the print characteristics panel displayed when the print transaction has been submitted. For examples of how this panel will effect print processing, see the *RMS/Online/Display Print Facility User Guide*.

FIELD	VALUES	DESCRIPTION
CLASS	D	This will be printed in the D print class when the print transaction is entered and the location attributes are chosen.

Administrative Menu Panel

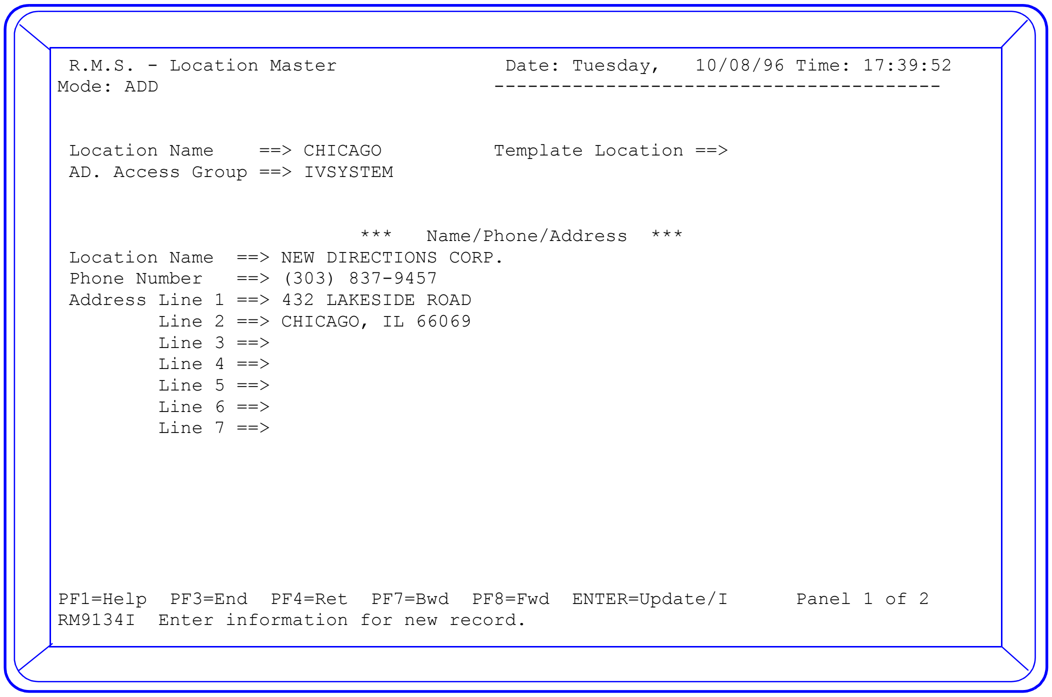


```
R.M.S. - Administration                    Date: Tuesday,   10/08/96 Time: 17:35:04
 Access Group: IVSYSTEM                     SubSys: R134 Tran:      TermID: 0028 ___

 Option ==> AL
 Access ==> IVSYSTEM

                       ____________    Options     _____________
                       Add      Change   Delete   Inquire  List
        Access Group:  AA       CA       DA       IA       LA
                User:  AU       CU       DU       IU       LU
            Location:  AL       CL       DL       IL       LL
           Retention:  AR       CR       DR       IR       LR
   Output Definition:  AO       CO       DO       IO       LO
       Customization:  AC       CC       DC       IC       LC

   Extended Info:      EI       --       --       --       --
  Field Security:      FS       --       --       --       --









PF1=Help  PF3=End  PF4=Return
```

Now let’s add the next location.

FIELD	VALUES	DESCRIPTION
OPTION	AL	This will go to this panel for adding the location record.

Location Master Panel

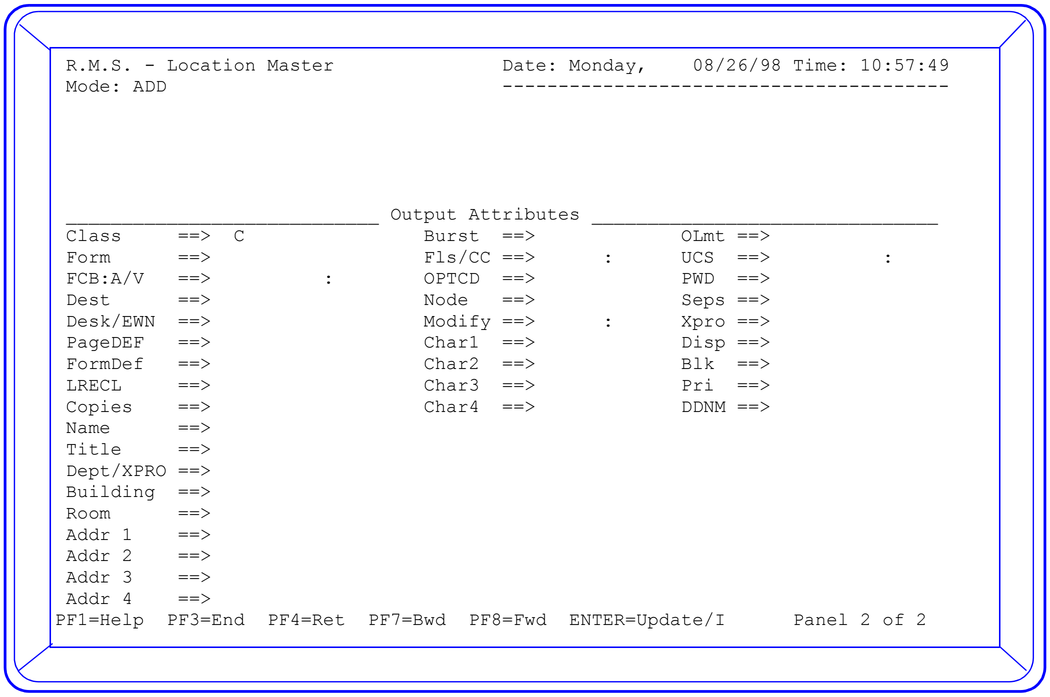


```
 R.M.S. - Location Master               Date: Tuesday,   10/08/96 Time: 17:39:52
Mode: ADD                              ----------------------------------------


 Location Name    ==> CHICAGO          Template Location ==>
 AD. Access Group ==> IVSYSTEM


                          ***   Name/Phone/Address  ***
 Location Name  ==> NEW DIRECTIONS CORP.
 Phone Number   ==> (303) 837-9457
 Address Line 1 ==> 432 LAKESIDE ROAD
         Line 2 ==> CHICAGO, IL 66069
         Line 3 ==>
         Line 4 ==>
         Line 5 ==>
         Line 6 ==>
         Line 7 ==>







PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
RM9134I  Enter information for new record.
```

Here we will enter identifying data and documentation about the location.

FIELD	VALUES	DESCRIPTION
LOCATION NAME	CHICAGO	The name for the location. This will be the same as the LOCATION on the Custom Packaging panel (RMS/DD) or the LOCATION*NAME parameter of the CREATE*PACKET command.
AD. ACCESS GROUP	IVSYSTEM	Administrative access group for this location. Used to determine the system administrator for this location.
ALL OTHER FIELDS	See Above	Documentation for identifying the location.

Location Master Panel (continued)

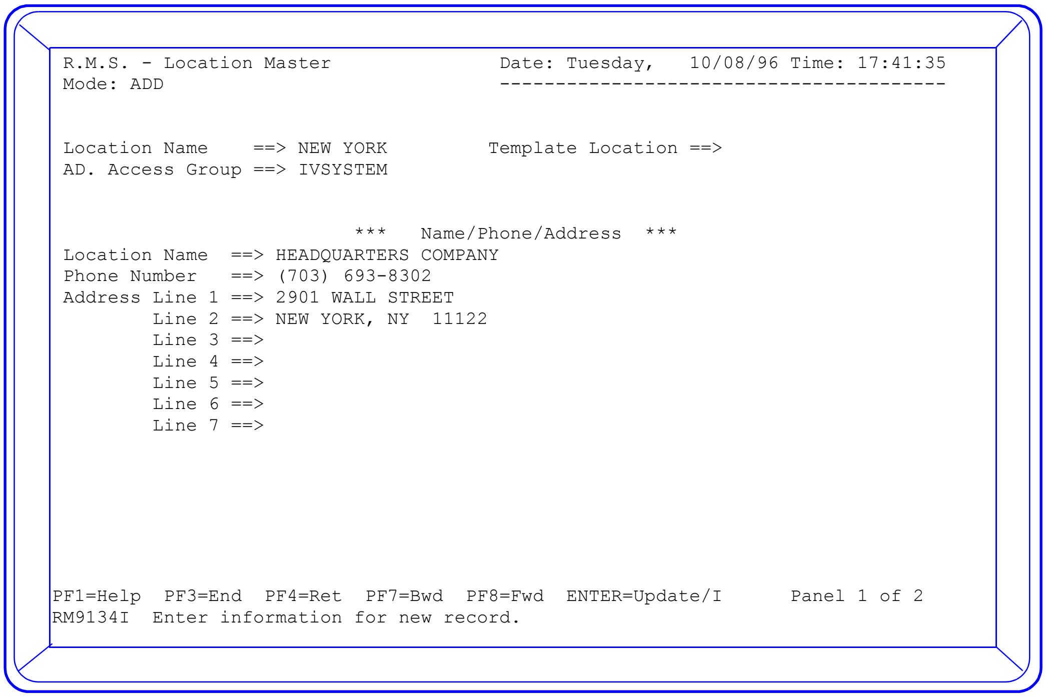


```
 R.M.S. - Location Master               Date: Monday,    08/26/98 Time: 10:57:49
 Mode: ADD                              ----------------------------------------





 ____________________________ Output Attributes _______________________________
 Class     ==>  C                Burst  ==>             OLmt ==>
 Form      ==>                   Fls/CC ==>      :      UCS  ==>          :
 FCB:A/V   ==>          :        OPTCD  ==>             PWD  ==>
 Dest      ==>                   Node   ==>             Seps ==>
 Desk/EWN  ==>                   Modify ==>      :      Xpro ==>
 PageDEF   ==>                   Char1  ==>             Disp ==>
 FormDef   ==>                   Char2  ==>             Blk  ==>
 LRECL     ==>                   Char3  ==>             Pri  ==>
 Copies    ==>                   Char4  ==>             DDNM ==>
 Name      ==>
 Title     ==>
 Dept/XPRO ==>
 Building  ==>
 Room      ==>
 Addr 1    ==>
 Addr 2    ==>
 Addr 3    ==>
 Addr 4    ==>
PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 2 of 2
```

These are the print characteristics that can be retrieved during demand or selective print operations. This is done by typing an “L” on the print characteristics panel displayed when the print transaction has been submitted.

FIELD	VALUES	DESCRIPTION
CLASS	C	This will be printed in the C print class when the print transaction is entered and the location attributes are chosen.

Location Master Panel

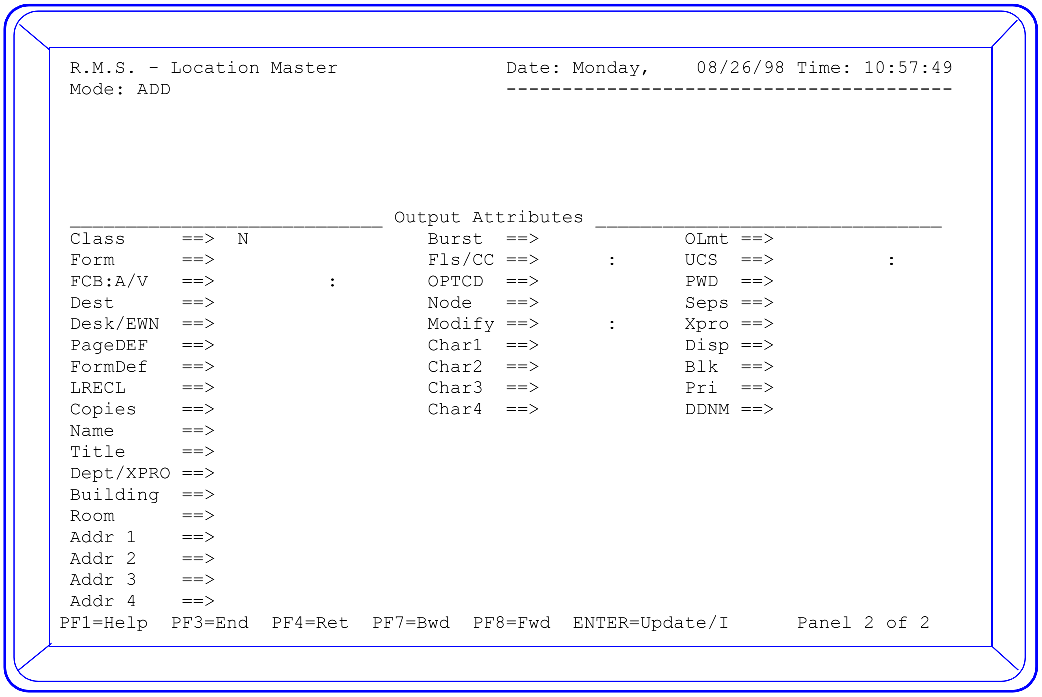


```
R.M.S. - Location Master                   Date: Tuesday,   10/08/96 Time: 17:41:35
Mode: ADD                                  ----------------------------------------


Location Name    ==> NEW YORK             Template Location ==>
AD. Access Group ==> IVSYSTEM


                          ***   Name/Phone/Address   ***
Location Name  ==> HEADQUARTERS COMPANY
Phone Number   ==> (703) 693-8302
Address Line 1 ==> 2901 WALL STREET
        Line 2 ==> NEW YORK, NY  11122
        Line 3 ==>
        Line 4 ==>
        Line 5 ==>
        Line 6 ==>
        Line 7 ==>








PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
RM9134I  Enter information for new record.
```

Here we will enter identifying data and documentation about the New York location.

FIELD	VALUES	DESCRIPTION
LOCATION NAME	NEW YORK	The name for the location. This will be the same as the LOCATION on the Custom Packaging panel (RMS/DD) or the LOCATION*NAME parameter on the CREATE*PACKET command.
AD. ACCESS	IVSYSTEM	Administrative access group for this GROUP location. Used to determine the system administrator for this location.
ALL OTHER FIELDS	See Above	Documentation for identifying the location.

Location Master Panel (continued)

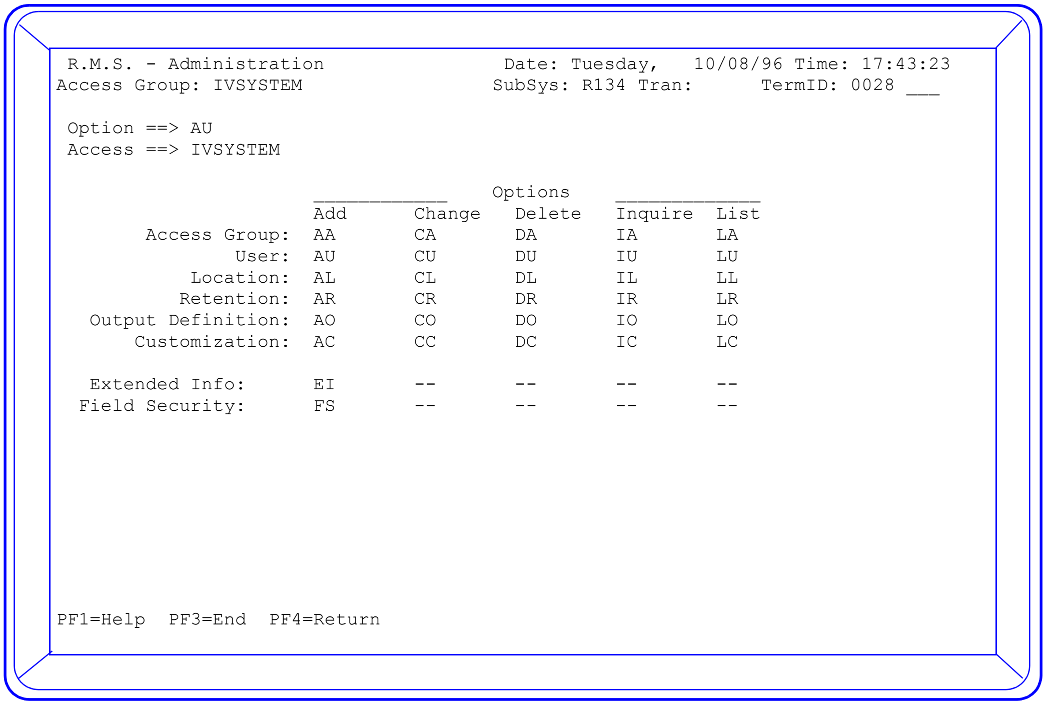


```
 R.M.S. - Location Master               Date: Monday,    08/26/98 Time: 10:57:49
 Mode: ADD                              ----------------------------------------





 ____________________________ Output Attributes ________________________________
 Class     ==>  N                Burst  ==>               OLmt ==>
 Form      ==>                   Fls/CC ==>       :       UCS  ==>           :
 FCB:A/V   ==>        :          OPTCD  ==>               PWD  ==>
 Dest      ==>                   Node   ==>               Seps ==>
 Desk/EWN  ==>                   Modify ==>       :       Xpro ==>
 PageDEF   ==>                   Char1  ==>               Disp ==>
 FormDef   ==>                   Char2  ==>               Blk  ==>
 LRECL     ==>                   Char3  ==>               Pri  ==>
 Copies    ==>                   Char4  ==>               DDNM ==>
 Name      ==>
 Title     ==>
 Dept/XPRO ==>
 Building  ==>
 Room      ==>
 Addr 1    ==>
 Addr 2    ==>
 Addr 3    ==>
 Addr 4    ==>
PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 2 of 2
```

These are the print characteristics that can be retrieved during demand or selective print operations. This is done by typing an “L” on the print characteristics panel displayed when the print transaction has been submitted.

FIELD	VALUES	DESCRIPTION
CLASS	N	This will be printed in the N print class when the print transaction is entered and the location attributes are chosen.

Administrative Menu Panel

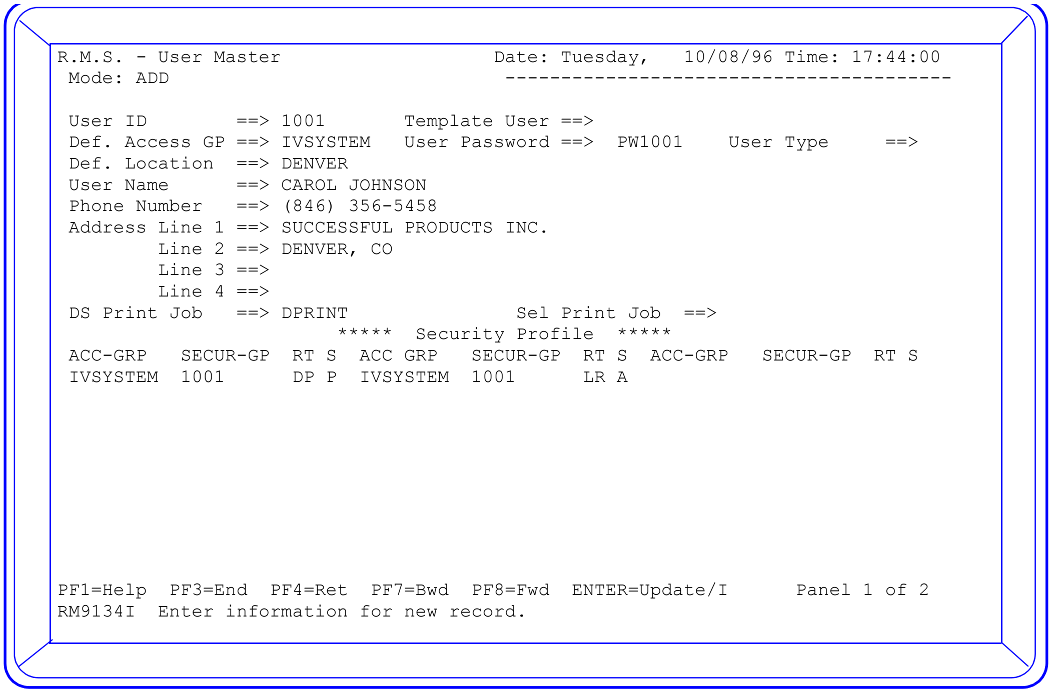


```
 R.M.S. - Administration                Date: Tuesday,   10/08/96 Time: 17:43:23
Access Group: IVSYSTEM                 SubSys: R134 Tran:      TermID: 0028 ___

 Option ==> AU
 Access ==> IVSYSTEM

                       ____________    Options    _____________
                       Add      Change   Delete   Inquire  List
        Access Group:  AA       CA       DA       IA       LA
                User:  AU       CU       DU       IU       LU
            Location:  AL       CL       DL       IL       LL
           Retention:  AR       CR       DR       IR       LR
   Output Definition:  AO       CO       DO       IO       LO
       Customization:  AC       CC       DC       IC       LC

   Extended Info:      EI       --       --       --       --
  Field Security:      FS       --       --       --       --









PF1=Help  PF3=End  PF4=Return
```

Now you are ready to identify the users that will be at the locations you previously entered. A <PF3> from the Location Master panel will return to this menu panel.

FIELD	VALUES	DESCRIPTION
SELECTION OPTION	AU	This will select and add user transaction.

User-1 Master Record



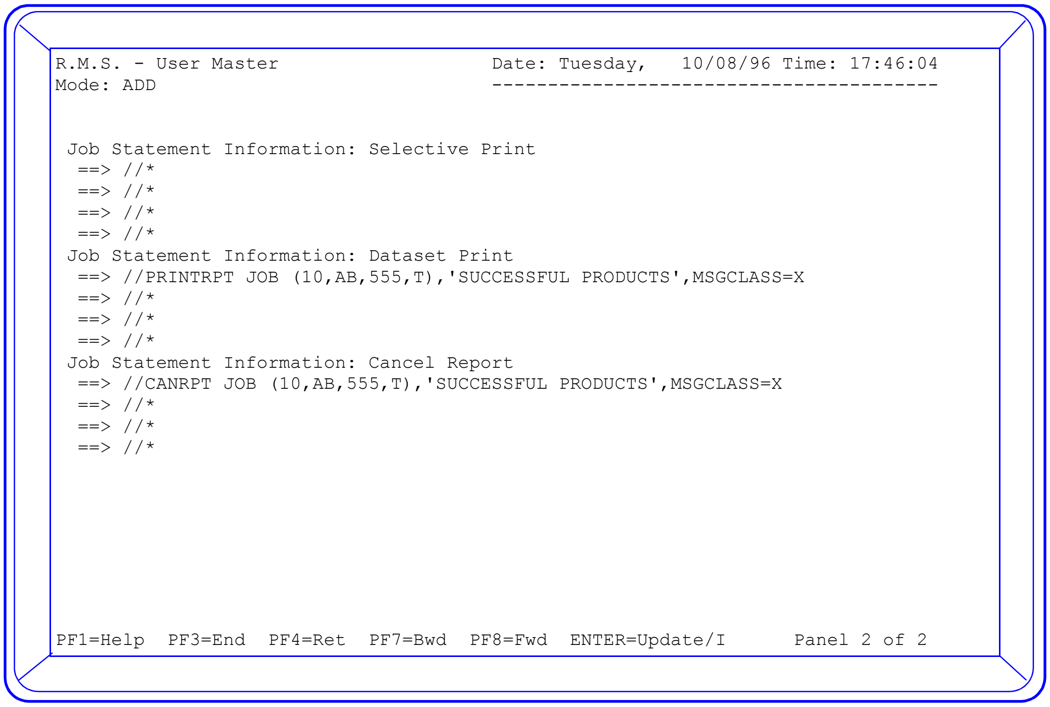
```
R.M.S. - User Master                   Date: Tuesday,   10/08/96 Time: 17:44:00
 Mode: ADD                              ----------------------------------------

 User ID        ==> 1001       Template User ==>
 Def. Access GP ==> IVSYSTEM   User Password ==>  PW1001    User Type     ==>
 Def. Location  ==> DENVER
 User Name      ==> CAROL JOHNSON
 Phone Number   ==> (846) 356-5458
 Address Line 1 ==> SUCCESSFUL PRODUCTS INC.
         Line 2 ==> DENVER, CO
         Line 3 ==>
         Line 4 ==>
 DS Print Job   ==> DPRINT               Sel Print Job  ==>
                         *****  Security Profile  *****
 ACC-GRP   SECUR-GP  RT S  ACC GRP   SECUR-GP  RT S  ACC-GRP   SECUR-GP  RT S
 IVSYSTEM  1001      DP P  IVSYSTEM  1001      LR A









PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
RM9134I  Enter information for new record.
```

This panel will determine what RMS/Online resources Carol Johnson will be permitted to use. It will identify her as a user and profile the transactions and reports she may view.

FIELD	VALUES	DESCRIPTION
USER ID	1001	This will be the user ID that Carol will use when signing on to RMS/Online. This is an assigned number and standards should be used. Your security officer might have standards for your company already.
DEF. ACCESS GP	IVSYSTEM	This is the default access group that will appear when Carol goes to the Display/Print menu to access reports.
USER PASSWORD	PW1001	This is the password Carol must give when signing on to RMS/Online. Standards and local security requirements are important in deciding what is entered here.
USER TYPE	Blanks	This field is used to classify your users. It may be left blank. “S” in this field means this user is a system administrator. A “P” indicates this is a profile user record.
DEF. LOCATION	DENVER	This is the location that will appear when Carol goes to the Display/Print menu.
USER NAME **PHONE NUMBER** **ADDRESS LINE 1-4**	See panel	Documentation
DSPRINT JOB	DPRINT	This is the suffix of the Help Management Member Name containing the JCL that Carol will use to print from an archive file. The JCL is maintained on the Help Management system as member PRT.JOB.DPRINT.

FIELD	VALUES	DESCRIPTION
SEL PRINT JOB	SPRINT	** Reserved ** Selective print requests are serviced by the output sub-task of the RMS Controller task beginning with release 11.31.
ACC-GRP	IVSYSTEM	The first resource given to Carol is transactions. Always make this the first item. This access group must be the same as the default access group entered above.
SECUR-GRP	1001	This is the security group that Carol is a part of. Since she has unique security requirements, make this the same as her user ID so it can be easily found later. If she has the same requirements as a group of users for which requirements have already been entered, this would refer to that Security Group.
RT	DP	The first (and only) set of transactions Carol will have is the Display and Print transactions.
S	P	Because Carol does not need all Display/Print transactions, we will go to the security system and enter a partial list of those she is allowed or denied.
ACC-GRP	IVSYSTEM	Next, let's give Carol access to reports. Once again the first set of reports should be those in the default access group.
SECUR-GP	1001	Her report access is also unique and we'll use her user ID so we can find the security group later.
RT	LR	The resource type is Location/Report resource.
S	A	Carol will have access to all Location/Reports within the Access Group IVSYSTEM.

User-1 Master Panel (continued)

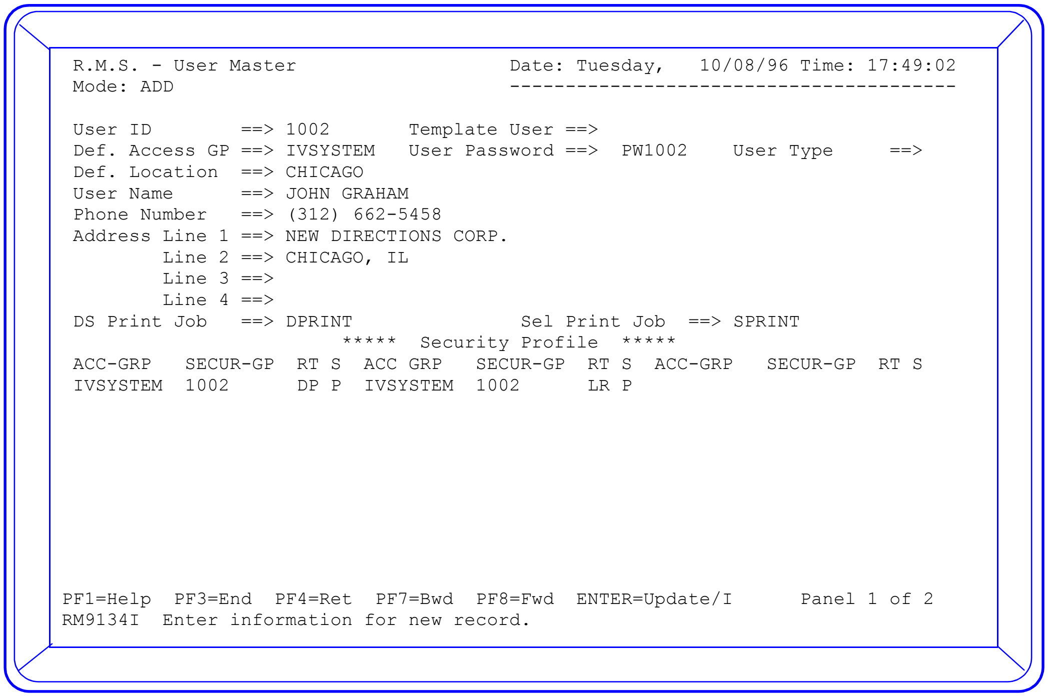


```
R.M.S. - User Master                   Date: Tuesday,   10/08/96 Time: 17:46:04
Mode: ADD                              ----------------------------------------


 Job Statement Information: Selective Print
  ==> //*
  ==> //*
  ==> //*
  ==> //*
 Job Statement Information: Dataset Print
  ==> //PRINTRPT JOB (10,AB,555,T),'SUCCESSFUL PRODUCTS',MSGCLASS=X
  ==> //*
  ==> //*
  ==> //*
 Job Statement Information: Cancel Report
  ==> //CANRPT JOB (10,AB,555,T),'SUCCESSFUL PRODUCTS',MSGCLASS=X
  ==> //*
  ==> //*
  ==> //*









PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 2 of 2
```

This is the second panel for the User Master record. It provides a way to customize the JCL used when the DPRINT and CANCEL jobs are submitted. The most common items to be entered here is the JOB card that will be used when Carol submits a print request. The JCL entered here must adhere to JCL syntax rules and must also conform to your installation standards for Job Control Language. These will be the values placed where the respective variables occur in the DPRINT and CANCEL JCL members.

Member	**Variables**
PRT.JOB.DPRINT	$DJC1 $DJC2 $DJC3 $DJC4
CAN.JOB.STREAM	$CJC1 $CJC2 $CJC3 $CJC4

User-2 Master Record



```
R.M.S. - User Master                   Date: Tuesday,   10/08/96 Time: 17:49:02
Mode: ADD                              ----------------------------------------

User ID        ==> 1002       Template User ==>
Def. Access GP ==> IVSYSTEM   User Password ==>  PW1002    User Type     ==>
Def. Location  ==> CHICAGO
User Name      ==> JOHN GRAHAM
Phone Number   ==> (312) 662-5458
Address Line 1 ==> NEW DIRECTIONS CORP.
        Line 2 ==> CHICAGO, IL
        Line 3 ==>
        Line 4 ==>
DS Print Job   ==> DPRINT                Sel Print Job  ==> SPRINT
                        *****  Security Profile  *****
ACC-GRP   SECUR-GP  RT S  ACC GRP   SECUR-GP  RT S  ACC-GRP   SECUR-GP  RT S
IVSYSTEM  1002      DP P  IVSYSTEM  1002      LR P







PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
RM9134I  Enter information for new record.
```

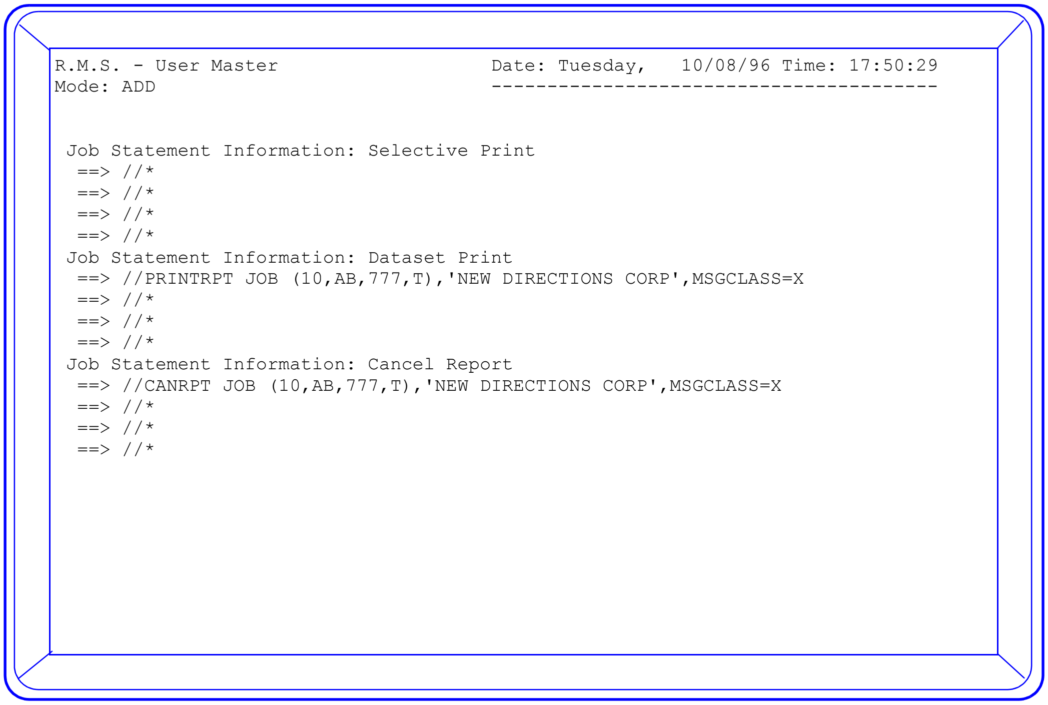
This panel will determine how John Graham will be able to use RMS/Online. It will identify him as a user and profile the transactions and reports he may view.

FIELD	VALUES	DESCRIPTION
USER ID	1002	This will be the user ID that John will use when signing on to RMS/Online.
DEF. ACCESS GP	IVSYSTEM	This is the default access group that will appear when John goes to the Display Print menu to access reports.
USER PASSWORD	PW1002	This is the password John must give when signing on to RMS/Online.
USER TYPE	Blanks	This field is used to classify your users. It may be left blank. “S” in this field means this user is a system administrator. A “P” indicates this is a profile user record.
DEF. LOCATION	CHICAGO	This is the location that will appear when John goes to the Display/Print menu
USER NAME **PHONE NUMBER** **ADDRESS LINE 1-4**	See panel	Documentation
DSPRINT JOB	DPRINT	This is the suffix of the Help Management Member Name containing the JCL that John will use to print from an archive file. The JCL is maintained on the Help Management system as member PRT.JOB.DPRINT.

Chap_05(v11r35m1).fm: Revised Sunday, November 24, 2013

FIELD	VALUES	DESCRIPTION
SEL PRINT JOB	SPRINT	** Reserved ** Selective print requests are serviced by the output sub-task of the RMS Controller task beginning with release 11.31.
ACC-GRP	IVSYSTEM	The first resource to give John is transactions. Always make this the first item. This access group must be the same as the default access group entered above.
SECUR-GP	1002	This is the security group that John is a part of. Since he has unique security requirements, make this the same as his ID so it can be easily found later.
RT	DP	The first (and only) set of transactions John will have is the Display and Print transactions.
S	P	Because John does not need all Display/Print transactions, we will go to the security system and enter a partial list of those he is allowed or denied.
ACC-GRP	IVSYSTEM	Next, let’s give John access to reports. Once again the first set of reports should be those in the default access group.
SECUR-GP	1002	His report access is also unique and we’ll use his user ID so we can find the security group later.
RT	LR	The resource type is Location/Report resource.
S	P	John will have access to all Location/Reports within the Access Group IVSYSTEM except the Profit report. Resource Security information limiting John’s report access will need to be entered.

User-2 Master Record (continued)

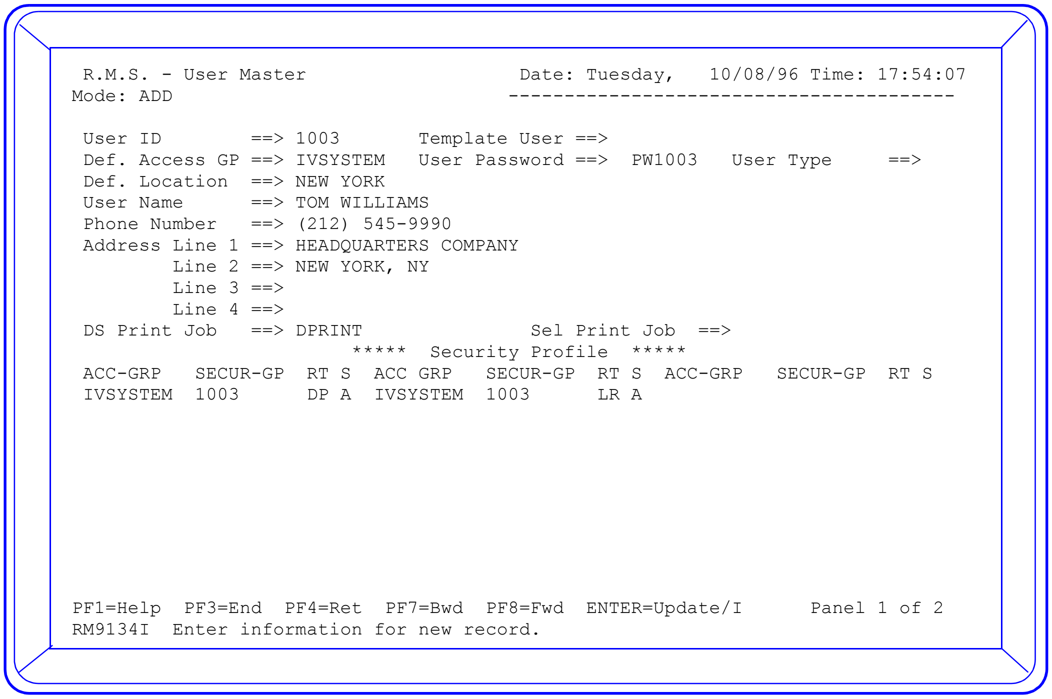


```
R.M.S. - User Master                   Date: Tuesday,   10/08/96 Time: 17:50:29
Mode: ADD                              ----------------------------------------


 Job Statement Information: Selective Print
  ==> //*
  ==> //*
  ==> //*
  ==> //*
 Job Statement Information: Dataset Print
  ==> //PRINTRPT JOB (10,AB,777,T),'NEW DIRECTIONS CORP',MSGCLASS=X
  ==> //*
  ==> //*
  ==> //*
 Job Statement Information: Cancel Report
  ==> //CANRPT JOB (10,AB,777,T),'NEW DIRECTIONS CORP',MSGCLASS=X
  ==> //*
  ==> //*
  ==> //*
```

This is the second panel for the User Master record. It provides a way to customize the JCL used when the DPRINT and CANCEL jobs are submitted. The most common items to be entered here is the JOB card that will be used when John submits a print request. The JCL entered here must adhere to JCL syntax rules and must also conform to your installation standards for Job Control Language. These will be the values placed where the respective variables occur in the DPRINTand CANCEL JCL members.

Member	**Variables**
PRT.JOB.DPRINT	$DJC1 $DJC2 $DJC3 $DJC4
CAN.JOB.STREAM	$CJC1 $CJC2 $CJC3 $CJC4

User-3 Master Record



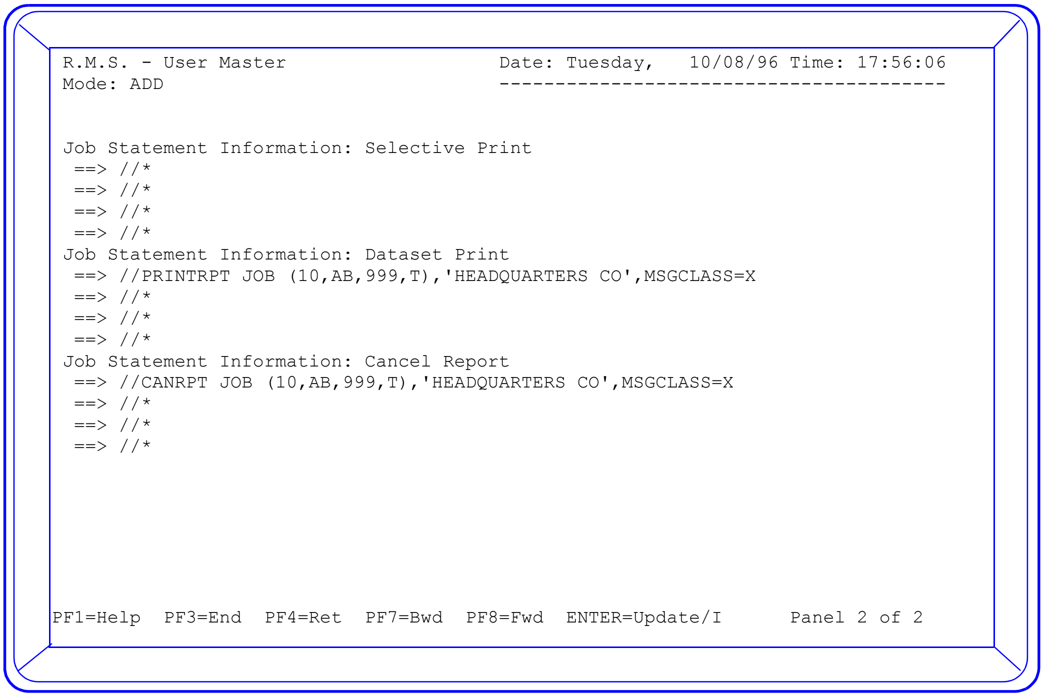
```
 R.M.S. - User Master                   Date: Tuesday,   10/08/96 Time: 17:54:07
Mode: ADD                              ----------------------------------------

 User ID        ==> 1003       Template User ==>
 Def. Access GP ==> IVSYSTEM   User Password ==>  PW1003   User Type     ==>
 Def. Location  ==> NEW YORK
 User Name      ==> TOM WILLIAMS
 Phone Number   ==> (212) 545-9990
 Address Line 1 ==> HEADQUARTERS COMPANY
         Line 2 ==> NEW YORK, NY
         Line 3 ==>
         Line 4 ==>
 DS Print Job   ==> DPRINT               Sel Print Job  ==>
                         *****  Security Profile  *****
 ACC-GRP   SECUR-GP  RT S  ACC GRP   SECUR-GP  RT S  ACC-GRP   SECUR-GP  RT S
 IVSYSTEM  1003      DP A  IVSYSTEM  1003      LR A








PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I     Panel 1 of 2
RM9134I  Enter information for new record.
```

This panel will determine how Tom Williams will be able to use RMS/Online. It will identify him as a user and profile the transactions and reports he may view.

FIELD	VALUES	DESCRIPTION
USER ID	1003	This will be the user ID that Tom will use when signing on to RMS/Online.
DEF. ACCESS GP	IVSYSTEM	This is the default access group that will appear when Tom goes to the Display/Print menu to access reports.
USER PASSWORD	PW1003	This is the password Tom must give when signing on to RMS/Online
USER TYPE	Blanks	This field is used to classify your users. It may be left blank. “S” in this field means this user is a system administrator. A “P” indicates this is a profile user record.
DEF. LOCATION	NEW YORK	This is the location that will appear when Tom goes to the Display/Print menu.
USER NAME **PHONE NUMBER** **ADDRESS LINE 1-4**	See panel	Documentation
DSPRINT JOB	DPRINT	This is the suffix of the Help Management Member Name containing the JCL that Tom will use to print from an archive file. The JCL is maintained on the Help Management system as member PRT.JOB.DPRINT.
SEL PRINT JOB	SPRINT	** Reserved ** Selective print requests are serviced by the output sub-task of the RMS Controller task beginning with release 11.31.

FIELD	VALUES	DESCRIPTION
ACC-GRP	IVSYSTEM	The first resource to give Tom is transactions. Always make this the first item. This access group must be the same as the default access group entered above.
SECUR-GP	1003	This is the security group that Tom is a part of. Since he has unique security requirements, make this the same as his user ID so it can be easily found later.
RT	DP	The first (and only) set of transactions Tom will have is the Display and Print transactions.
S	A	The A indicates that Tom may use all Display/Print transactions. No other entry is needed for transactions.
ACC-GRP	IVSYSTEM	Next, let's give Tom access to reports. Once again the first set of reports should be those in the default access group.
SECUR-GP	1003	His report access is also unique and we'll use his user ID so we can find the security group later.
RT	LR	The resource type is Location/Report resource.
S	A	Tom will have access to all Location/Reports within the Access Group IVSYSTEM at the location New York. Since A is entered here Tom will be able to view other locations as well as New York. Resource Security Records must be entered for those reports Tom may view. Those panels are ahead.

User-3 Master Panel (continued)



```
R.M.S. - User Master                       Date: Tuesday,   10/08/96 Time: 17:56:06
Mode: ADD                                  ----------------------------------------


Job Statement Information: Selective Print
 ==> //*
 ==> //*
 ==> //*
 ==> //*
Job Statement Information: Dataset Print
 ==> //PRINTRPT JOB (10,AB,999,T),'HEADQUARTERS CO',MSGCLASS=X
 ==> //*
 ==> //*
 ==> //*
Job Statement Information: Cancel Report
 ==> //CANRPT JOB (10,AB,999,T),'HEADQUARTERS CO',MSGCLASS=X
 ==> //*
 ==> //*
 ==> //*







PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 2 of 2
```

This is the second panel for the User Master record. It provides a way to customize the JCL used when the DPRINT and CANCEL jobs are submitted. The most common items to be entered here is the JOB card that will be used when it submits a print request. The JCL entered here must adhere to JCL syntax rules and must also conform to your installation standards for Job Control Language. These will be the values placed where the respective variables occur in the DPRINTand CANCEL JCL members.

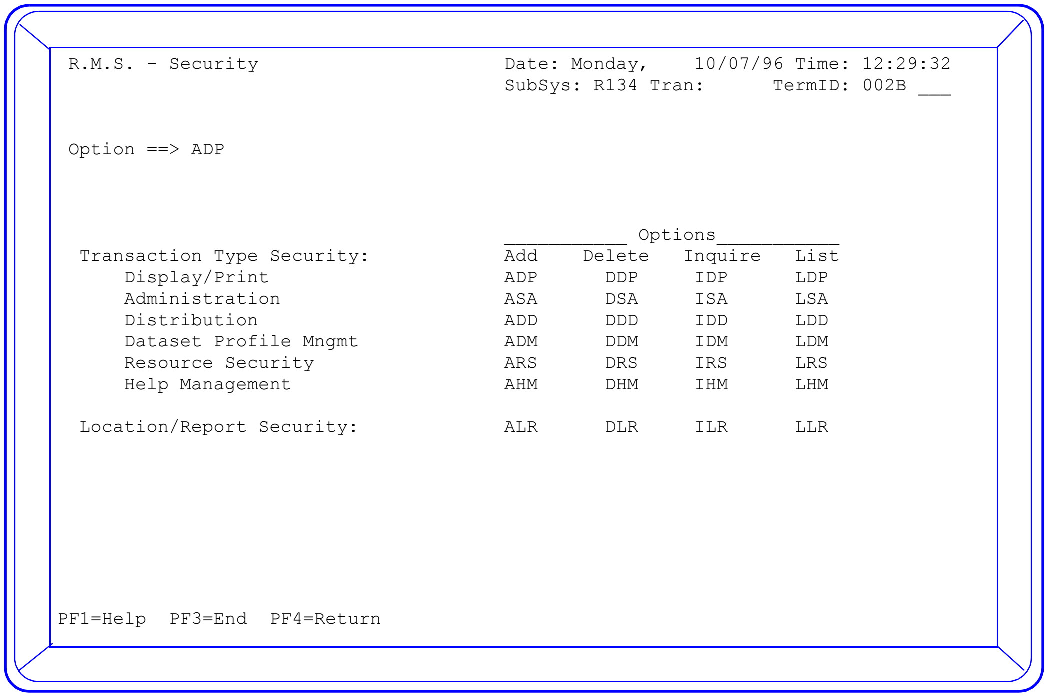
Member	**Variables**
PRT.JOB.DPRINT	$DJC1 $DJC2 $DJC3 $DJC4
CAN.JOB.STREAM	$CJC1 $CJC2 $CJC3 $CJC4

Resource Security

Because we listed a resource with “P” in the security profile portion of the User Master panel, we must now list those items we want to permit or deny (*whichever is the shortest*).

From the Primary Menu Panel select #5 (*Resource Security*).

Resource Security Panel

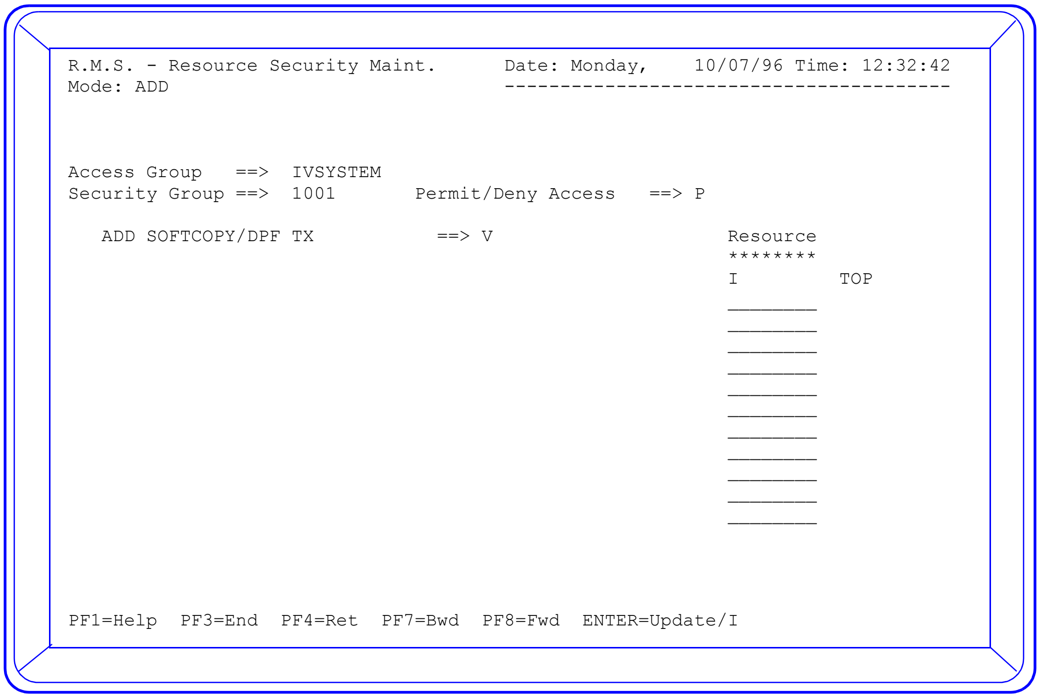


```
R.M.S. - Security                     Date: Monday,    10/07/96 Time: 12:29:32
                                      SubSys: R134 Tran:      TermID: 002B ___


Option ==> ADP




                                      ___________ Options___________
 Transaction Type Security:           Add    Delete   Inquire   List
     Display/Print                    ADP     DDP      IDP      LDP
     Administration                   ASA     DSA      ISA      LSA
     Distribution                     ADD     DDD      IDD      LDD
     Dataset Profile Mngmt            ADM     DDM      IDM      LDM
     Resource Security                ARS     DRS      IRS      LRS
     Help Management                  AHM     DHM      IHM      LHM

 Location/Report Security:            ALR     DLR      ILR      LLR









PF1=Help  PF3=End  PF4=Return
```

FIELD	VALUES	DESCRIPTION
SELECTION OPTION	ADP	This will take us to the panel to add a security record to allow Carol Johnson a set of Display/Print transactions.

Each transaction you add will be placed in the list of resources on the right side of the panel. A complete list of available transactions can be found in Appendix G of this manual. The <PF7> and <PF8> keys may be used to scroll this list up or down.

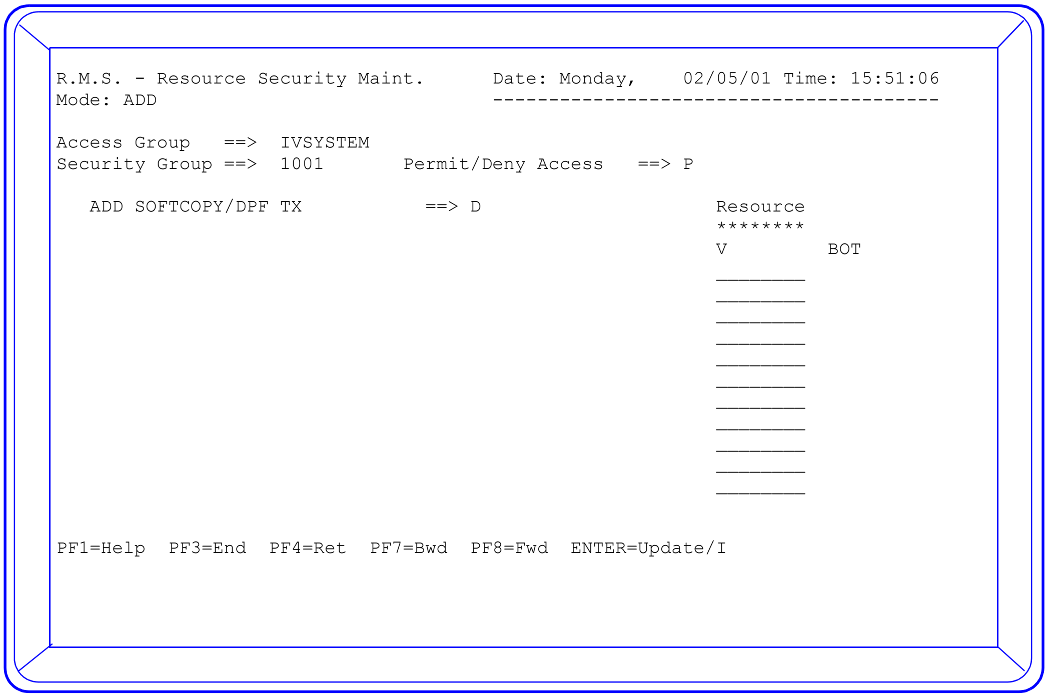
FIELD	VALUES	DESCRIPTION
ACCESS GROUP	IVSYSTEM	The default access group on Carol's User Master record
SECURITY GROUP	1001	Carol's security group.
PERMIT/DENY	P	Since Carol needs three Display/Print transactions we will list those to permit. If she needed all except one then we would deny her access to one transaction. The reason for this field is to give the user the ability to reduce the data entry requirements to the absolute minimum.
ADD SOFTCOPY DPF/ TX	I	The first transaction we are giving Carol is the Index. This will allow Carol to look at the index of reports available in her assigned locations.



```
R.M.S. - Resource Security Maint.     Date: Monday,    10/07/96 Time: 12:32:42
Mode: ADD                             ----------------------------------------


Access Group   ==>  IVSYSTEM
Security Group ==>  1001       Permit/Deny Access   ==> P

   ADD SOFTCOPY/DPF TX          ==> V                     Resource
                                                           ********
                                                           I         TOP
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________



PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

The last transaction entered will now show on the Resource list. Now enter the next transaction for Carol.

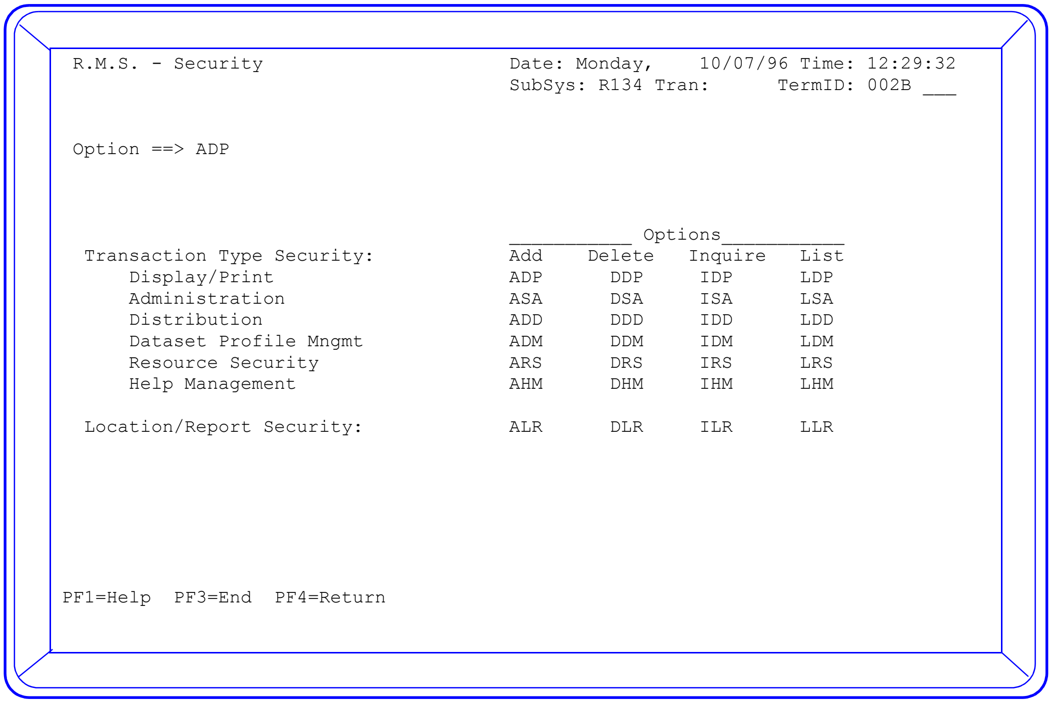
FIELD	VALUES	DESCRIPTION
ADD SOFTCOPY/DPF TX	V	The next transaction needed is for the Versions panel.



```
R.M.S. - Resource Security Maint.      Date: Monday,    02/05/01 Time: 15:51:06
Mode: ADD                              ----------------------------------------

Access Group   ==>  IVSYSTEM
Security Group ==>  1001       Permit/Deny Access   ==> P

   ADD SOFTCOPY/DPF TX           ==> D                     Resource
                                                           ********
                                                           V         BOT
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________


PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

The last transaction entered will now show on the top of our Resource list. Now enter the last transaction for Carol.

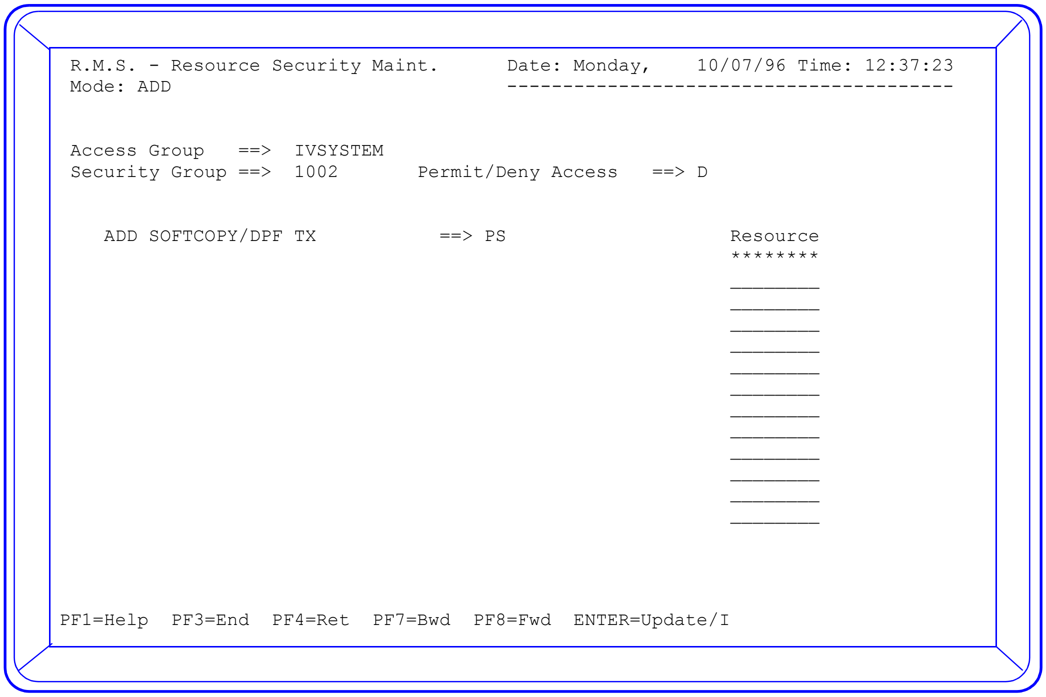
FIELD	VALUES	DESCRIPTION
ADD SOFTCOPY/DPF TX	D	The next transaction needed is for display.



```
 R.M.S. - Security                      Date: Monday,    10/07/96 Time: 12:29:32
                                        SubSys: R134 Tran:      TermID: 002B ___


 Option ==> ADP



                                        ___________ Options____________
  Transaction Type Security:            Add    Delete   Inquire   List
      Display/Print                     ADP      DDP     IDP      LDP
      Administration                    ASA      DSA     ISA      LSA
      Distribution                      ADD      DDD     IDD      LDD
      Dataset Profile Mngmt             ADM      DDM     IDM      LDM
      Resource Security                 ARS      DRS     IRS      LRS
      Help Management                   AHM      DHM     IHM      LHM

  Location/Report Security:             ALR      DLR     ILR      LLR







PF1=Help  PF3=End  PF4=Return
```

Now let’s add the transactions available to John Graham. These will be quicker because we can use the deny option.

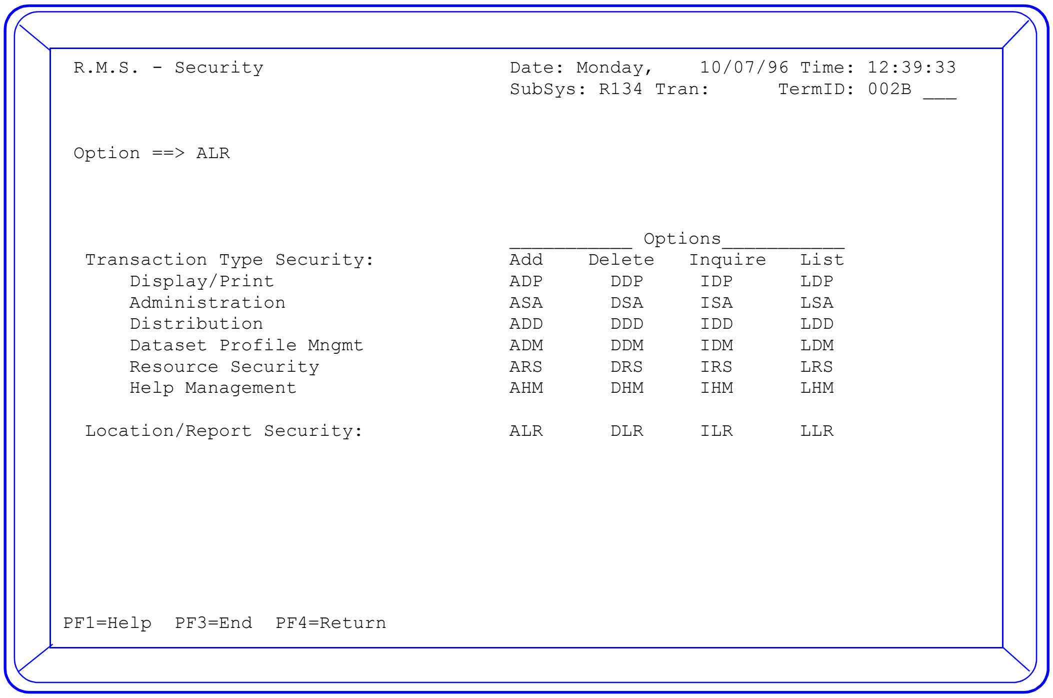
FIELD	VALUES	DESCRIPTION
SELECTION OPTION	ADP	This will take us to the panel to add a security record that will allow John a set of Display/Print transactions.



```
R.M.S. - Resource Security Maint.      Date: Monday,    10/07/96 Time: 12:37:23
Mode: ADD                              ----------------------------------------


Access Group   ==>  IVSYSTEM
Security Group ==>  1002       Permit/Deny Access   ==> D


   ADD SOFTCOPY/DPF TX           ==> PS                    Resource
                                                           ********
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________




PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

The use of the deny option will prevent John the use of the print start transaction and allow him the use of all other display/print transactions.

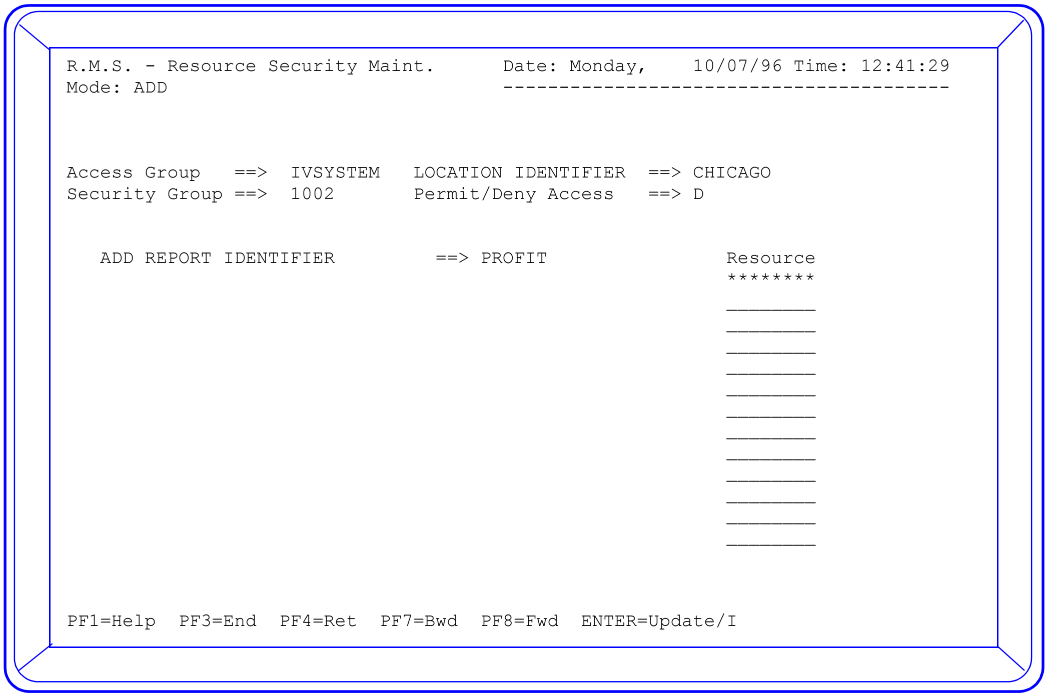
FIELD	VALUES	DESCRIPTION
PERMIT/DENY ACCESS	D	To deny him the PS transaction.
ADD SOFTCOPY/DPF TX	PS	PS stands for Print Start.



```
R.M.S. - Security                      Date: Monday,    10/07/96 Time: 12:39:33
                                       SubSys: R134 Tran:      TermID: 002B ___


Option ==> ALR



                                       ___________ Options___________
 Transaction Type Security:            Add    Delete   Inquire   List
     Display/Print                     ADP     DDP      IDP      LDP
     Administration                    ASA     DSA      ISA      LSA
     Distribution                      ADD     DDD      IDD      LDD
     Dataset Profile Mngmt             ADM     DDM      IDM      LDM
     Resource Security                 ARS     DRS      IRS      LRS
     Help Management                   AHM     DHM      IHM      LHM

 Location/Report Security:             ALR     DLR      ILR      LLR







PF1=Help  PF3=End  PF4=Return
```

John Graham was allowed to view all Chicago reports except the profit report. This will be another use for the deny option.

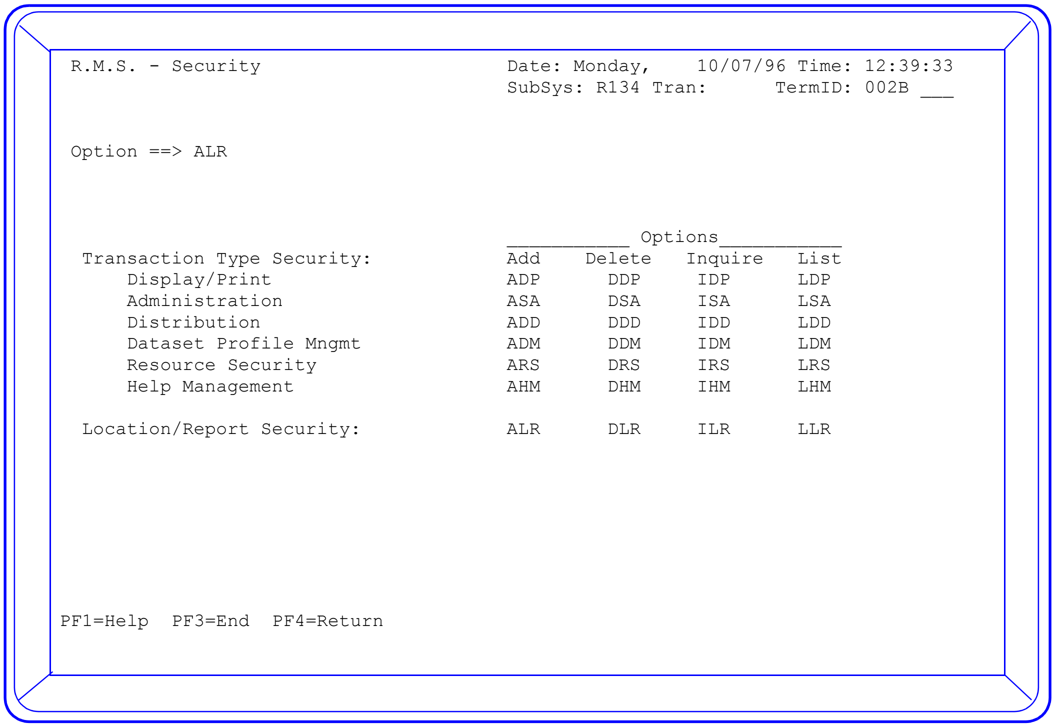
FIELD	VALUES	DESCRIPTION
Selection Option	ALR	This will take us to the panel to identify the reports John Graham has available to view.



```
R.M.S. - Resource Security Maint.       Date: Monday,    10/07/96 Time: 12:41:29
Mode: ADD                               ----------------------------------------



Access Group   ==>  IVSYSTEM   LOCATION IDENTIFIER  ==> CHICAGO
Security Group ==>  1002       Permit/Deny Access   ==> D


   ADD REPORT IDENTIFIER         ==> PROFIT                   Resource
                                                              ********
                                                              ________
                                                              ________
                                                              ________
                                                              ________
                                                              ________
                                                              ________
                                                              ________
                                                              ________
                                                              ________
                                                              ________
                                                              ________
                                                              ________



PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

This panel allows us to identify the reports you want to deny or permit a user to have. We are denying John access to the profit report. He will be able to view all other reports in the CHICAGO location.

FIELD	VALUES	DESCRIPTION
ACCESS GROUP	IVSYSTEM	The default access group on John’s User Master record.
LOCATION IDENTIFIER	CHICAGO	This is the location for the reports John will need.
SECURITY GROUP	1002	John’s user ID. If his security was the same as a group of users, then the correct security group would be used here
PERMIT/DENY ACCESS	D	We are going to deny him the use of one report.
ADD REPORT IDENTIFIER	PROFIT	The report that John cannot view.

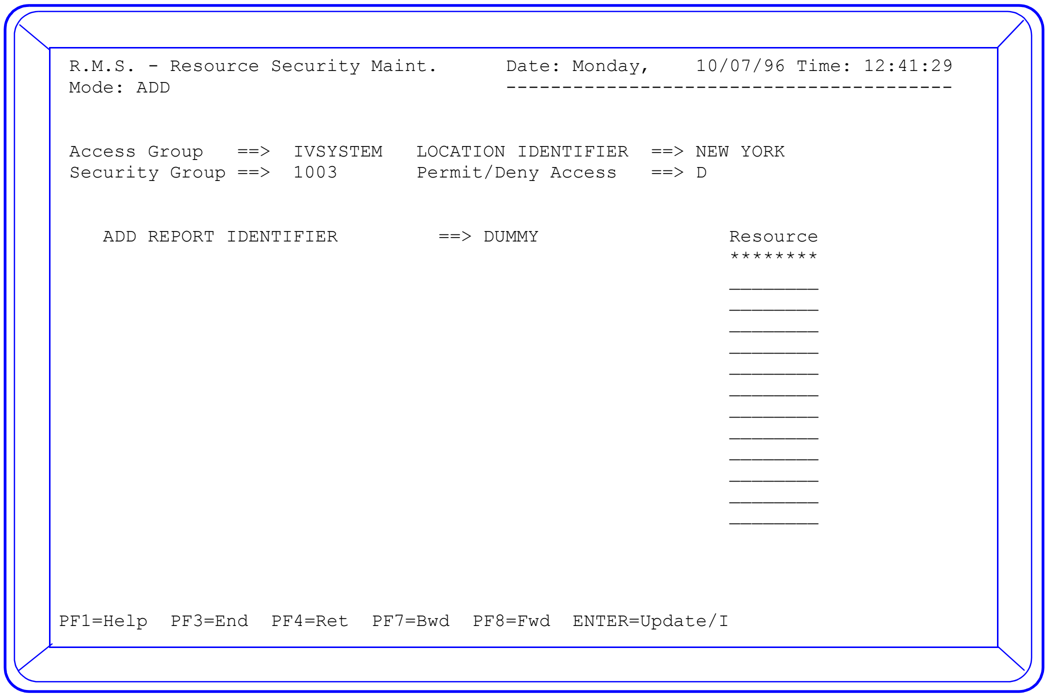


```
 R.M.S. - Security                      Date: Monday,   10/07/96 Time: 12:39:33
                                        SubSys: R134 Tran:     TermID: 002B ___


 Option ==> ALR




                                        ___________ Options___________
  Transaction Type Security:            Add    Delete   Inquire   List
      Display/Print                     ADP      DDP      IDP      LDP
      Administration                    ASA      DSA      ISA      LSA
      Distribution                      ADD      DDD      IDD      LDD
      Dataset Profile Mngmt             ADM      DDM      IDM      LDM
      Resource Security                 ARS      DRS      IRS      LRS
      Help Management                   AHM      DHM      IHM      LHM

  Location/Report Security:             ALR      DLR      ILR      LLR








PF1=Help  PF3=End  PF4=Return
```

Tom Williams was allowed access to all display/print transactions. Display/print security records do not need to be added for Tom.

Tom is allowed to view all reports within his location. If all or “A” was entered on his user profile, then he could view all reports for all locations within the access group. That is not our requirement. We want to limit him to only his location. Here is how to limit him to just his location.

FIELD	VALUES	DESCRIPTION
SELECTION OPTION	ALR	This will take us to the panel to identify the reports Tom Williams has available to view.



```
R.M.S. - Resource Security Maint.      Date: Monday,    10/07/96 Time: 12:41:29
Mode: ADD                              ----------------------------------------


Access Group   ==>  IVSYSTEM   LOCATION IDENTIFIER  ==> NEW YORK
Security Group ==>  1003       Permit/Deny Access   ==> D


   ADD REPORT IDENTIFIER         ==> DUMMY                 Resource
                                                           ********

                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________
                                                           ________




PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

This panel allows us to identify the access characteristics of the reports for a particular user. We could list those that Tom is permitted to access. The objective is to use the permit/deny option to reduce the amount of entry.

FIELD	VALUES	DESCRIPTION
ACCESS GROUP	IVSYSTEM	The default access group in Tom's User Master record.
LOCATION IDENTIFIER	NEW YORK	This is the location for the reports Tom will need.
SECURITY GROUP	1003	Tom's user ID. If his security was the same as a group of users, then the access to a security group would be used here.
PERMIT/DENY ACCESS	D	We are going to deny Tom access to a report that does not exist and never will exist. This will allow him access to all other reports in the New York location.
ADD REPORT IDENTIFIER	DUMMY	The report we are denying Tom.

Canceling Reports

Reports may be canceled by first displaying the Versions panel and selecting the desired report by placing a "C" in the ID column. This will "Queue" the report for cancellation. Upon leaving the Versions panel, a job stream is submitted to the internal reader for processing. (*Cancel is performed in BATCH mode to maintain integrity of the VSAM files*.) If it is necessary to maintain the JCL which is submitted, this may be done through Help Management by updating member "CAN.JOB.STREAM".

The entire output from a particular execution of RM80004 may be canceled through System Administration/ Extended Information. When displaying the Run Tracking records, placing a "C" in the ID column will initiate the cancel process for the selected RM80004 run.

NOTE: Cancelling via EI (extended information) cancels all reports associated with the date.

RETENTION-BASED ARCHIVE

RMS now provides a retention-based archive. With retention-based archive, reports with like retention requirements can be grouped together to form a single archive dataset for each group. Using this type of archive allows 'on demand' recovery and reprint of reports. This archive is fully SMS compatible, permits complete control of the SMS storage hierarchy and is transparent to the SMS catalog and storage class.

There are two types of archives that take place within the RMS system. One is a Retention-Based archive and the other is a BASE dataset archive.

Retention-based archive is only possible if a dataset is managed. A Managed dataset is any dataset that has an associated fileset. The value specified in the DEFAULT*FILESET parameter of the RMS Control Region start-up permits assignment of fileset name for datasets processed by the external writer interface. The Dataset Profile panel permits assignment of a fileset for datasets processed by the subsystem interface. Though all distributed datasets are associated with a fileset, BASE datasets may or may not have an associated fileset.

Retention-Based archive is performed by archive processing subtasks in the RMS control region. Retention-based archive is activated through use of Retention Models.

Retention Models are added to RMS/Online via System Administration ('AR'). The Retention Model allows users to group reports with like retention attributes together. Variables are available for use in building the prototype archive dataset name. The variables are resolved at create time to ensure the uniqueness of each archive dataset name. Items such as date and time may be used to ensure unique dataset names and easy reference back to the distribution run.

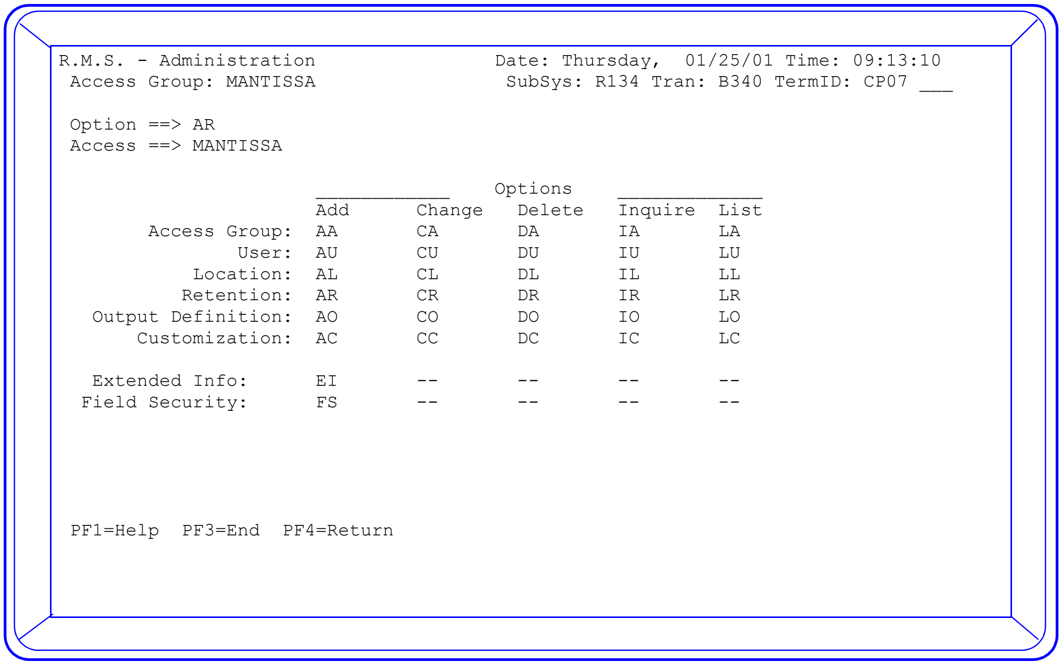
New and existing retention control records can contain an archive group indicator which references a retention model that contains the archive information.

Associating all datasets with a fileset allows for automated recovery of data. Recovery and reprint requests are staged to the Recovery Processing Subtasks. BATCH jobs are no longer required to process recovery and reprint requests. Many benefits accrue as a result of automated recovery. Recovered datasets may be:

- Viewed immediately after recovery
- Printed on a Local printer
- Printed at a remote printer via RMS/Spool
- Transmitted to a DeskTop Node or FTP Node
- Held for subsequent redistribution

NOTE: Without a FILESET, no INDEXing takes place, and no AUTOMATED RECOVERY can occur.

System Administration Panel

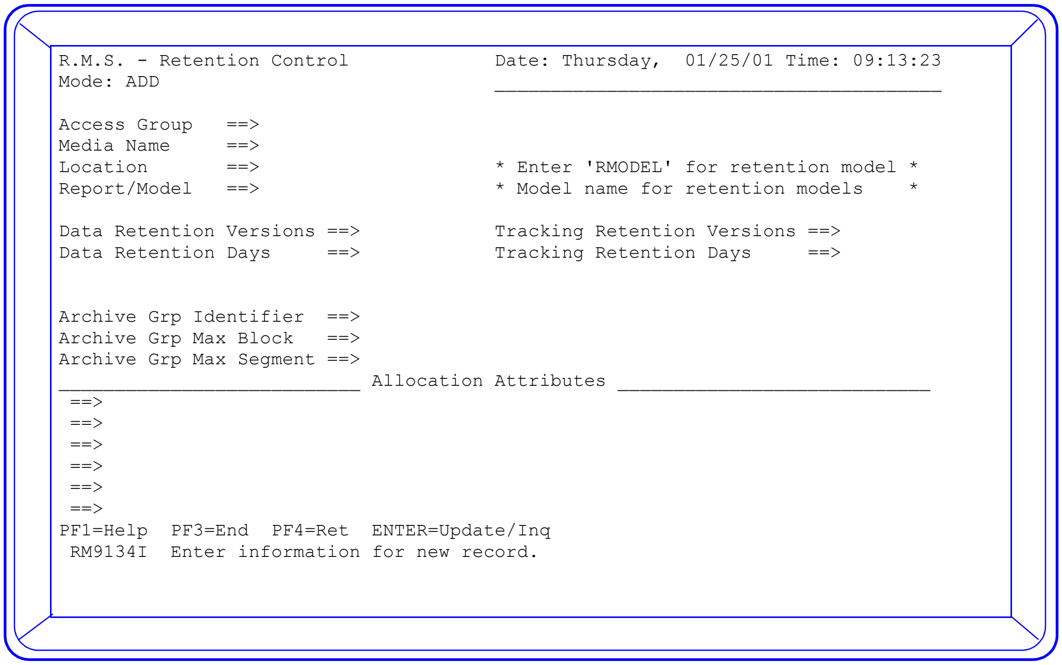


```
R.M.S. - Administration                Date: Thursday,  01/25/01 Time: 09:13:10
 Access Group: MANTISSA                 SubSys: R134 Tran: B340 TermID: CP07 ___

 Option ==> AR
 Access ==> MANTISSA

                       ____________    Options    _____________
                       Add      Change   Delete   Inquire  List
        Access Group:  AA       CA       DA       IA       LA
                User:  AU       CU       DU       IU       LU
            Location:  AL       CL       DL       IL       LL
           Retention:  AR       CR       DR       IR       LR
   Output Definition:  AO       CO       DO       IO       LO
       Customization:  AC       CC       DC       IC       LC

   Extended Info:      EI       --       --       --       --
  Field Security:      FS       --       --       --       --




 PF1=Help  PF3=End  PF4=Return
```

Figure 1. System Administration Panel

You may enter the Retention Control panel from the Administrative Menu as shown above. This panel is used to add retention and archive model records. Enter '**AR**' <ENTER> to begin.

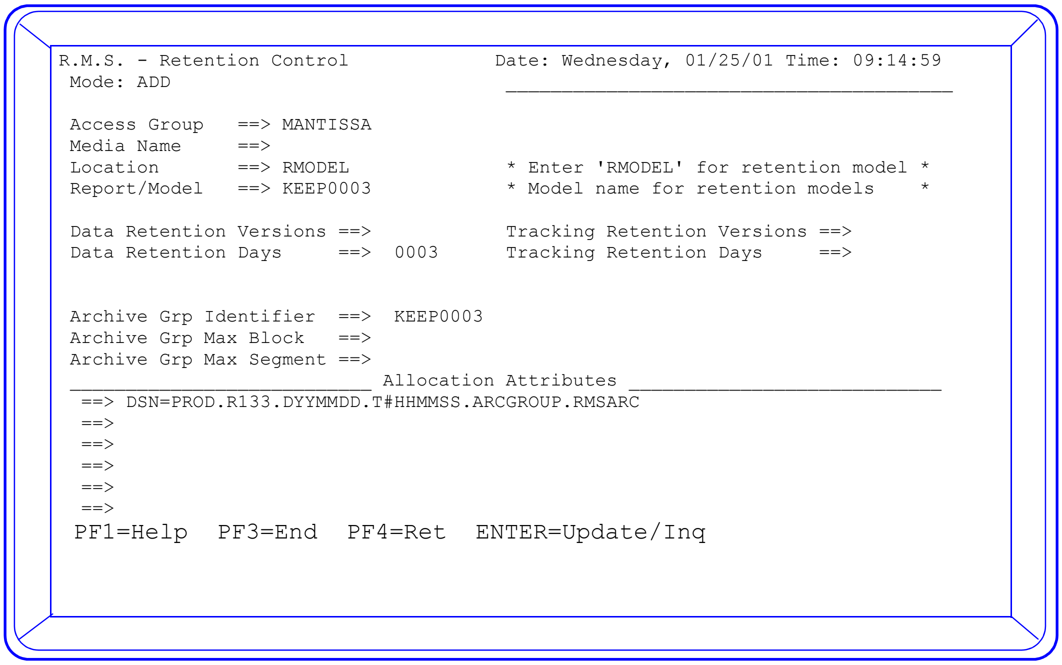
Retention Control Panel



```
R.M.S. - Retention Control             Date: Thursday,  01/25/01 Time: 09:13:23
Mode: ADD                              ________________________________________

Access Group   ==>
Media Name     ==>
Location       ==>                     * Enter 'RMODEL' for retention model *
Report/Model   ==>                     * Model name for retention models    *

Data Retention Versions ==>            Tracking Retention Versions ==>
Data Retention Days     ==>            Tracking Retention Days     ==>


Archive Grp Identifier  ==>
Archive Grp Max Block   ==>
Archive Grp Max Segment ==>
___________________________ Allocation Attributes ____________________________
 ==>
 ==>
 ==>
 ==>
 ==>
 ==>
PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
 RM9134I  Enter information for new record.
```

Figure 2. Retention Control Panel

Retention Control Panel - RMODEL Record



```
R.M.S. - Retention Control             Date: Wednesday, 01/25/01 Time: 09:14:59
 Mode: ADD                              ________________________________________

 Access Group   ==> MANTISSA
 Media Name     ==>
 Location       ==> RMODEL                * Enter 'RMODEL' for retention model *
 Report/Model   ==> KEEP0003              * Model name for retention models    *

 Data Retention Versions ==>            Tracking Retention Versions ==>
 Data Retention Days     ==>  0003      Tracking Retention Days     ==>


 Archive Grp Identifier  ==>  KEEP0003
 Archive Grp Max Block   ==>
 Archive Grp Max Segment ==>
 ___________________________ Allocation Attributes ____________________________
  ==> DSN=PROD.R133.DYYMMDD.T#HHMMSS.ARCGROUP.RMSARC
  ==>
  ==>
  ==>
  ==>
  ==>
 PF1=Help   PF3=End   PF4=Ret   ENTER=Update/Inq
```

Figure 3. Retention Control Panel - RMODEL

Following is a description of the fields on the Retention Control RMODEL panel. Fields that are required on an RMODEL record are noted.

Access Group (Required)	Any 1-8 character name describing the Access Group with which the RMODEL is associated.
Media Name (Optional)	Media category the RMODEL record is associated with. If this field is left blank, the RMODEL record will pertain to all medias.
Location (Required)	The Location field for an RMODEL record must be equal to **RMODEL**.
Report/Model (Required)	The name of the RMODEL record.
Data Retention Versions	NOT USED. The data retention versions field is not used on an RMODEL record.
Tracking Retention Versions	NOT USED. The tracking retention versions field is not used on an RMODEL record.
Data Retention Days (Required)	The number of days to keep the archive dataset. On the RMODEL record, a value of **‘9999’** in Data Retention Days will cause the archive dataset to be allocated with a disposition of DISP=(New,Delete,Delete). This can be used during testing to ensure the process is working. The value must be changed prior to production if you want the archives to be kept after creation.
Tracking Retention Days	NOT USED. The tracking retention days field is not used on an RMODEL record.
Archive Grp Identifier (Optional)	The archive group identifier field must contain a value if you will be using the ARCGROUP symbolic below as part of the dataset name. The RMODEL name is useful for this purpose.
Archive Grp Max Block	NOT USED. This field is reserved for future development.
Archive Grp Max Segment	NOT USED. This field is reserved for future development.
Allocation Attributes	Only the first line of the allocation attributes portion of the panel is available for input. Data input on lines 2-6 is prohibited and will cause allocation failures if used. These fields are for future development.
Dataset Symbolics	The following symbolics can be used to ensure that each retention archive dataset created has a unique 44 character JES dataset name.
HHMMSS	Format=HHMMSS. Represents the time the dataset was created in HHMMSS format.
T#	Format=T#. Mantissa Corporation strongly recommends the use of the T# indicator as a portion of the dataset name. The use of ‘T#’ helps to ensure uniqueness in the generated dataset name. Upon dataset creation, ‘T#’ will be resolved with an archive task indicator of ‘A1’, ‘A2’, or ‘A3’ indicating the

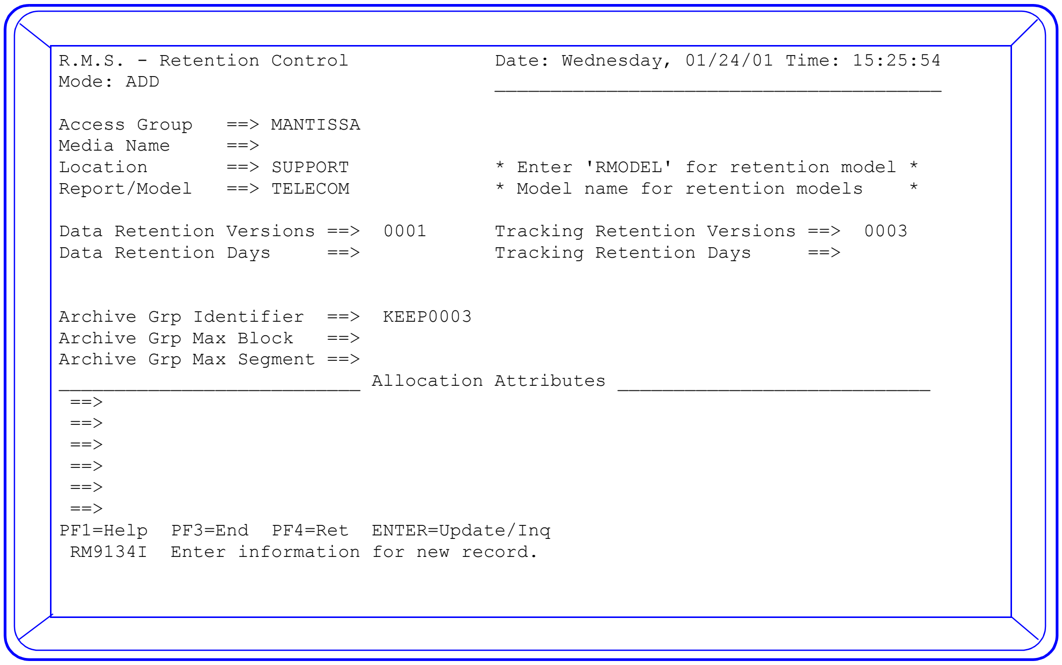
	archive sub-task that serviced the request to generate the dataset.
YYMMDD	Format=YYMMDD. Represents the date the dataset was created in YYMMDD format.
ARCGROUP	Format=1-8 character archive group identifier. The archive group identifier field must be filled in to use this field. This field typically contains the RMODEL record name. The field is padded with '#'s if less than 8 characters.
ACCGROUP	Format=1-8 character access group identifier. If desired, the access group associated with the RMODEL record can be used as part of the generated dataset name.
AV2 through AV6 (*Not Used*)	The fields AV2 through AV6 are for future development.

In the example, the created dataset would have the following DSNAME created:

PROD.ARC.D961010.A1201349.RMSARC

The dataset name informs us at a glance that the archive task that created it ran on October 10, 1996, at 08:13:49 P.M.

Retention Control Panel - Report Record



```
R.M.S. - Retention Control                 Date: Wednesday, 01/24/01 Time: 15:25:54
Mode: ADD                                  ________________________________________

Access Group   ==> MANTISSA
Media Name     ==>
Location       ==> SUPPORT                 * Enter 'RMODEL' for retention model *
Report/Model   ==> TELECOM                 * Model name for retention models    *

Data Retention Versions ==>  0001          Tracking Retention Versions ==>  0003
Data Retention Days     ==>                Tracking Retention Days     ==>


Archive Grp Identifier  ==>  KEEP0003
Archive Grp Max Block   ==>
Archive Grp Max Segment ==>
___________________________ Allocation Attributes ____________________________
 ==>
 ==>
 ==>
 ==>
 ==>
 ==>
PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
 RM9134I  Enter information for new record.
```

Figure 4. Retention Control Panel - Report

Following is a description of the fields on the Retention Control panel. Fields that are required on the record are noted.

Access Group (Required)	Any 1-8 character name describing the Access Group the

	record is associated with.
Media Name (Optional)	The Media category you want the record associated with. If this field is left blank, the record will pertain to all medias within the Access Group specified.
Location (Optional)	The location the record is associated with. If you leave this field blank, the retention will pertain to all Locations the specified report is in.
Report/RMODEL (Required)	The 1-8 character name of the REPORT ID.
Data Retention Versions (Optional)	The number of versions of the specified report you want viewable.
Tracking Retention Versions (Optional)	The number of versions of the report to track for viewing and reprint purposes. The tracking retention versions have to be greater than, or equal to the value specified in the data Retention Versions field.
Data Retention Days (Optional)	The number of days you want the specified report viewable.
Tracking Retention Days (Optional)	The number of days to track the report for viewing and reprint purposes. The tracking retention days has to be greater than, or equal to the value specified in the Data Retention Days field.
Archive Grp Identifier (Optional)	**Required if referencing an RMODEL record.** The 1-8 character name of an RMODEL record to associate the retention control record to. If you specify an Archive Group Identifier, you must use Data Retention Days and Tracking Retention Days. You must also ensure that the number of Tracking Retention Days is less than, or equal to the Data Retention Days specified in the RMODEL record you reference in the Archive Group Identified field.
Archive Grp Max Block	NOT USED. This field is reserved for future development.
Archive Grp Max Segment	NOT USED. This field is reserved for future development.
Allocation Attributes	The allocation attributes portion of the retention control record panel is only used on an RMODEL record.

NOTE: When using retention based archive, changes to your Retention Control records require the control region to be cycled in order for the ‘new’ records to be read.

SUBMITTING JOBS FROM RMS

RMS may submit jobs to the host operating system under the following conditions:

1. An authorized user has requested that an entire dataset be printed. The dataset may or may not be resident. A dataset in this case is defined as a report for a specific location.
2. An authorized user has requested selective (*page range*) printing for a resident dataset.
3. An authorized user has requested cancellation of specific reports (*or*) the entire output of an RM80004 execution.

Cancellation deletes the Index/Version information and the report data.

The default job streams defined in Help Management and submitted by RMS/Online for these tasks are:

Case 1 - Dataset Print -	PRT.JOB.DPRINT
Case 2 - Report Cancellation -	CAN.JOB.STREAM

Note that the body of each of these job control streams is maintained by RMS/HM (*Help Management*). At the time the User Master is created, the System Administrator can designate the names of the Help members containing the body of the JCL to be submitted for dataset and selective printing. A helpful hint is to only include the execution JCL in the help panel. Use the help panel to submit job statements that execute cataloged procedures with overrides. This lowers the required entry on the help panel.

Each user may have up to four jobs related statements to be appended to the body of the JCL member. This permits selective accounting by an individual user.

HELP MANAGEMENT

Help Maintenance Menu

Help maintenance is used to add, modify, delete and view Help information in the Help Resource file. Key in the selection character of the desired function and fill in the appropriate fields. If you are unsure of the Help Resource name, 'L' will give you a list. Further help is available under "*Help List Display*" and "*Help Formatting*" under the main HELP Menu.

Help List Display

Help List allows you to display a list of resources and their descriptions on the screen. Scrolling is allowed and is implemented through the standard scroll PF keys. You may select a generic key for selection to narrow the selection criteria. A line item may be selected for update, delete or viewing by placing a U, D or V on the appropriate ID field and press Enter.

NOTE: While viewing a help panel the <CLEAR> key will return the viewer to the Help Menu or Help List panel.

Help Information for Help

HELP formatting allows you to design a Help panel with attributes and control information for later display using the HELP system. Text and control characters are input onto the panel free-form by using the cursor control keys. When the panel is as desired, you may exit formatting by pressing the <ENTER> key. To abort, press the <CLEAR> key.

Help Format Information

The low intensity character (+), the high intensity character (%) and the non-display character (@) are used to assign attributes to a panel data string. For example, if the following string were entered:

```
% HIGH INTENSITY, + LOW INTENSITY, @ NON-DISPLAY
```

The displayed result would be:

```
HIGH INTENSITY, LOW INTENSITY,
```

PF Key and Option Field Assignments

The PF key assignments and option field assignments are defined by preceding the PF key or option character with a logical not sign. The format of a definition is as follows:

```
XXX YYYY...
```

where

`XXX` = PF key assignment or option character

`YYYY...` = Function to be performed

PF key assignments are of the format PF? or PFK? (*? is the PF key number.*) Option character is any valid character A-Z.

Functions may define reserved word commands such as END, SETCSR or may give the Help Resource ID or page number to pass control if the PF key or option has been selected. A resource ID or page number may be followed by (*RR,CC*) to specify where the upper left hand corner of this panel should be displayed. If a page number is desired, then it must be preceded by the letter P and contain four digits (*P0001*). (*See variable definition for option field input specification.*)

Reserved Word List

The following is a list of valid reserved words:

END	Exit Help.
UP	Adds 1 to page number.
DOWN	Subtracts 1 from page number.
SETCSR	Sets the Row/Column at cursor position for next display.

Help Characters

The tilde (~) is used to delimit special command characters. Below is a list of these command characters and their formats:

D	Drop (*do not erase*) the area right of this command.
L	Locate the cursor at the specified position format: L(*RR,CC*).
X	Allow the display of a control character such as %, +, etc. where 'X' is replaced by one of these characters.
F	Fill to the last tilde with the fill string between the F and the second tilde.
C	Center the string between the tildes on the line.

This: `~FX Y Z ~                   ~`

Generates: `X Y Z X Y Z X Y Z X Y Z X Y Z`

This: `~CCENTERED ~`

Generates: `CENTERED`

Help Variables

Variable information contained in the system may be displayed on the screen by specifying a variable name preceded by an &.

An example of a variable would be &SACADW (*which is the day of the week*).

If we keyed:

`TODAY IS &SACADW`

The display would be:

`TODAY IS WEDNESDAY`

If an & is not preceded or followed by a character, it is considered to be an option field. The option field allows an input option to be keyed for command selection. (*See PF key/Option field definition.*)

If a variable name is suffixed with an &, the field is processed as an input field, the data being placed in an area for selection by the processing program. Note that this option is only valid where programming supports such fields.

Leaflets

RMS/Online has the ability to display “leaflets” (*small panels*) that you design. The AD and PF commands available in DPF are examples of this capability. Using the Help Management component of the system, you design the information leaflet and determine its content. These leaflet panels have names formed as follows:

`DSP.ENG.LEAFLETXX`

where:

`DSP.ENG.LEAFLET` is a constant prefix

`XX` is the leaflet command

A copy of the AI leaflet prototype is located in the appendices section of this manual.

NOTE: The END line is required to end the member. If it is not there, problems will occur.

Chapter 6

SYSTEM SECURITY

Definition of Terms

This document contains information on the RMS security system. RMS/RS is the security component of RMS/Online. RMS/RS allows you to permit or deny access to system resources based on profile information present in the user master record. You might, for instance, grant one user the ability to perform Display Print transactions, while denying that same user access to System Administrator and Resource Security transactions.

The following terms are used throughout this document. Taking a moment to review their meanings will enhance your ability to understand RMS/RS.

Access Group	A group of resources having similar accessibility characteristics.
User	Someone granted access to RMS/Online through the creation of a User Master record.
Security Group	A collection of users having similar security requirements.
Resource	The object to be secured.

SECURITY LEVEL DEFINITION

System Security

RMS/Online always secures its resources by default. The only exception is in a situation where there has been a user security exit module linked with the system. In that case, the responsibility for securing resources resides with the user. The calls to the user exit will be made each time a request for services has been entered. This chapter must be understood completely before attempting an exit. The format of the exit parameter list can be found in the "*Installation Procedures*" section of this manual.

Access Group Level Security

The first security check for access permission at the report level is the security flag of the Access Group record. If the Access Group record is set up as unsecured, then access to the report in question is permitted. If the Access Group is secured, normal security checking is performed.

User Level Security

A user is either unsecured (*an "S" denoting System Administrator in the User Type field*) or secured (*User Type field is not an "S"*). If the user is unsecured, then they are allowed access to all resources in the system, otherwise they are secured through the User Profile/Security record combinations.

Resource Level Security

Security records are maintained at the resource level. There are two types, Transaction and Report. Each of these is maintained as lists of resources. Transactions are qualified by specific Access Group, Security Group combinations. Reports are qualified by Access Group, Security Group and Location.

Security Maintenance

Security is maintained at multiple levels in RMS/Online. If the user is a system administrator type “S”, then the user is allowed access to any resource in the system. If this field is left blank or contains any character other than “S”, then this user is subject to system security management. When a user is secured, user profiles must be defined for each resource type within RMS/Online to which the user will be allowed access.

Before getting into how these user profiles are defined, let’s discuss the resource types. There are several resource types within the system (*see the list in Appendix A*). However, there are only two security categories. These categories are Transaction and Location/Report. The Transaction security resource types are broken down by their main menu sub-titles (*i.e., Display Print, System Administration, etc*.) and are secured only under the users default Access Group. Location/Report security allows reports for different Access Group, Security Group, Location combinations to be secured for the user.

All of this sounds complex, but really isn’t. Let’s return now to the User Record security profiles. To allow a user to perform any Display Print transactions, we would need to set up a profile with the Access Group the same as the default Access Group of the user. The security group may be the same as the User ID (*this is only a name for reading the security records, if there are any*) and the resource type would be “DP” (*Display Print*).

To allow this user access to all of these transactions, we would put “A” (all) under security type, and that‘s all that is necessary. On the other hand, we may not wish this person access to all of these transactions and may wish to permit access to only one (or a few). To allow partial security, it would be necessary to change the security type from “A” (all) to “P” (partial). The “P” tells the system that there are security records to be read for this profile. If there are no security records in the file for this Access Group/Security Group/Resource type combination, then access is denied.

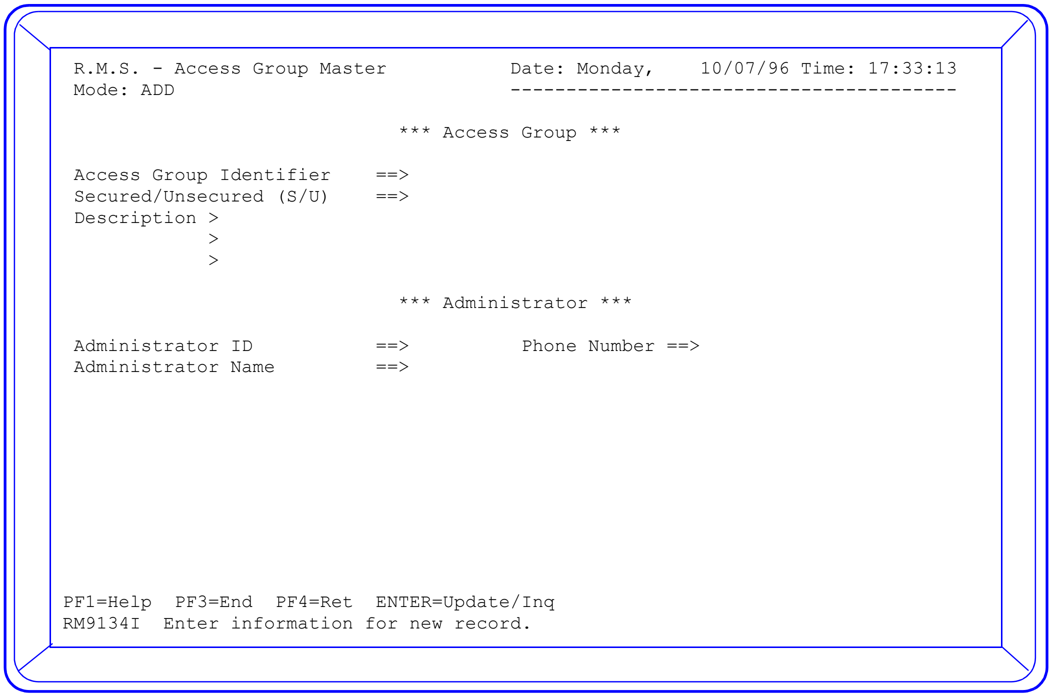
To keep this from happening, we must enter these records through Security Maintenance. Adding the security records requires only the entry of the Access Group, the Security Group, the Transaction ID to be secured and whether the security data entered indicates permitted access or denied access.

Also, there is a method of maintaining common sets of Security Profiles. These are called Path Profiles. In this case, the User Record contains a pointer to a record containing these common profiles. Any number of users may point to this record by inserting the user ID of this profile record in the Access Group field of the “Profile” and a “*” in position one of the Security Group field. This “dummy” user record is referred to as a “PROFILE” user. When creating this record, placing a “P” in the user type field designates this record as a profile record, keeping anyone from inadvertently signing on with it. (*Up to five levels of a Path may be specified, i.e., a profile record may Path to another profile record which points to another, which points to another.*)

NOTE: All profiles within a profile set ahead of a Path profile are executed before the Path.

The following panel pages show how these security records are maintained.

Access Group Master Panel



```
R.M.S. - Access Group Master           Date: Monday,    10/07/96 Time: 17:33:13
Mode: ADD                              ----------------------------------------

                             *** Access Group ***

Access Group Identifier    ==>
Secured/Unsecured (S/U)    ==>
Description >
            >
            >

                             *** Administrator ***

Administrator ID           ==>          Phone Number ==>
Administrator Name         ==>









PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

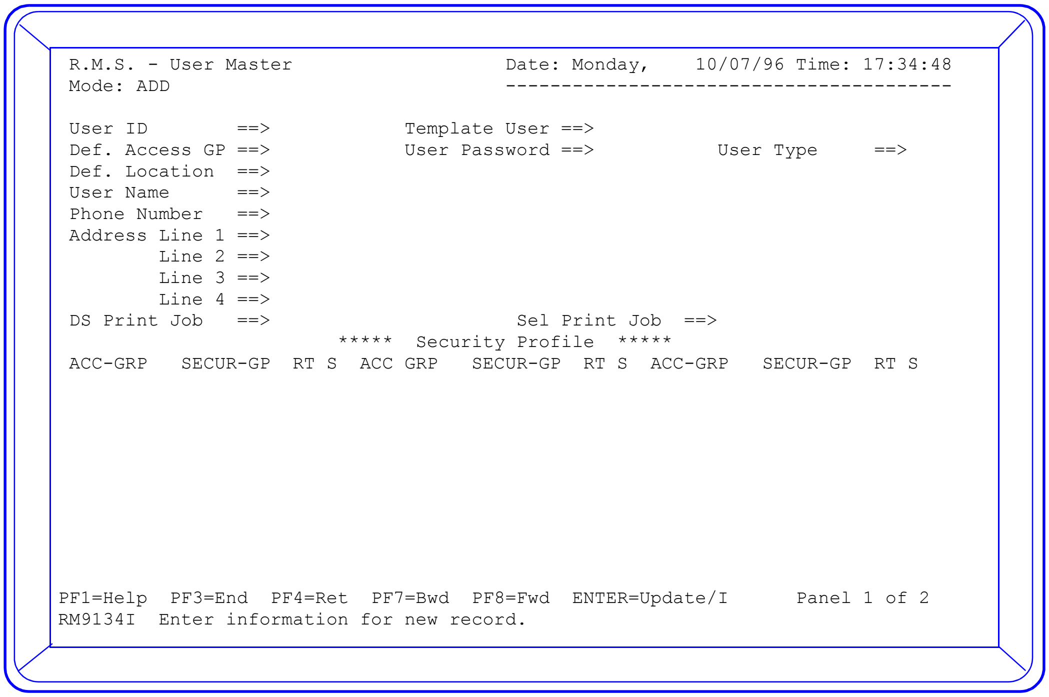
Access Group Master Pane

Security Considerations

This panel is discussed in the *System Administration* manual, beginning with Chapter 4, and can be reached by depressing “2” from the main menu then “AA” in the administration menu.

The SECURED/UNSECURED ==> indicator in the Access Group Master is used only for Location/Report security. Transactions are always assumed to be secured. Specifying “U” will cause security checking to be by-passed altogether for reports in this Access Group. An “S” specification causes either RMS/Online or user security processing to be invoked.

Security Considerations for User Records



```
 R.M.S. - User Master                   Date: Monday,    10/07/96 Time: 17:34:48
 Mode: ADD                              ----------------------------------------

 User ID        ==>            Template User ==>            User Type     ==>
 Def. Access GP ==>            User Password ==>
 Def. Location  ==>
 User Name      ==>
 Phone Number   ==>
 Address Line 1 ==>
         Line 2 ==>
         Line 3 ==>
         Line 4 ==>
 DS Print Job   ==>                      Sel Print Job  ==>
                         *****  Security Profile  *****
 ACC-GRP   SECUR-GP  RT S  ACC GRP   SECUR-GP  RT S  ACC-GRP   SECUR-GP  RT S










PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
RM9134I  Enter information for new record.
```

Security Considerations for User Records

Security Considerations

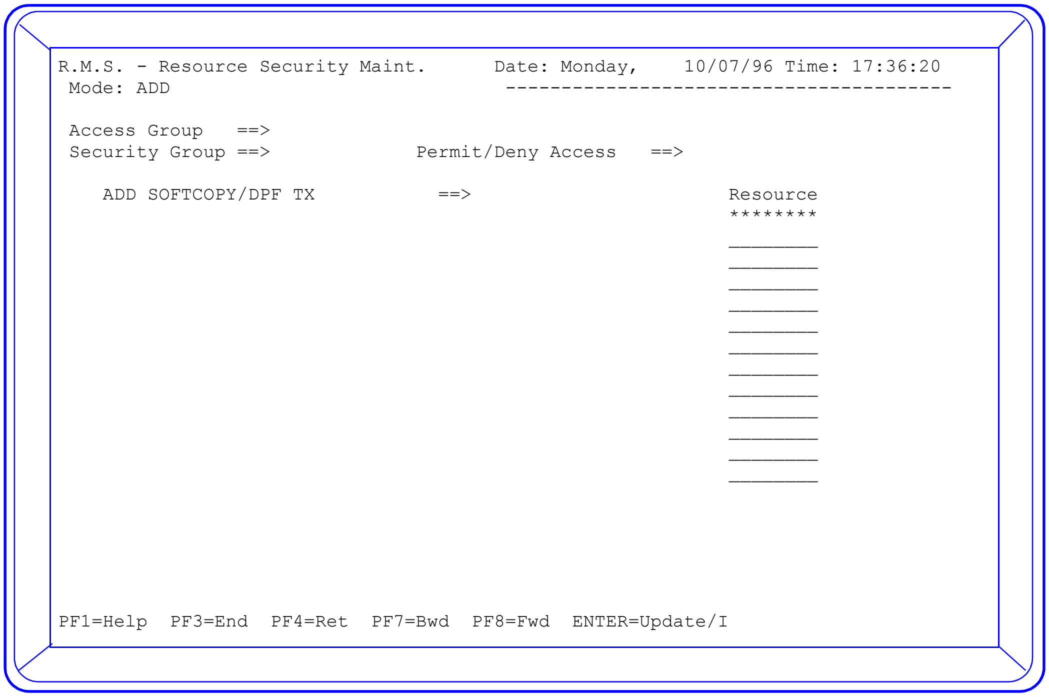
This panel is discussed in the *System Administration Manual* and can be reached by depressing “2” from the main menu.

The User Master record forms the basis for establishing the resource security requirements for that user. Recall that there are two major resource categories: Transaction and Location/Report.

All transactions are secured by coding Access Group/Security Group/Resource Type/Security Type sets in the security profile fields. For all transaction security, the Access Group in the profile must match the default access group for the user.

Security profiles for Location/Report access should specify the Access Group to which the report belongs, the Security Group, “LR” in the Resource Type field, and “A” or “P” in the Security Type field. An “A” in the Security Type field indicates access to resources with matching security characteristics.

Transaction Security Add/Delete/Inquire Panel



```
R.M.S. - Resource Security Maint.      Date: Monday,    10/07/96 Time: 17:36:20
 Mode: ADD                              ----------------------------------------

 Access Group   ==>
 Security Group ==>             Permit/Deny Access   ==>

    ADD SOFTCOPY/DPF TX           ==>                        Resource
                                                            ********
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________






PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

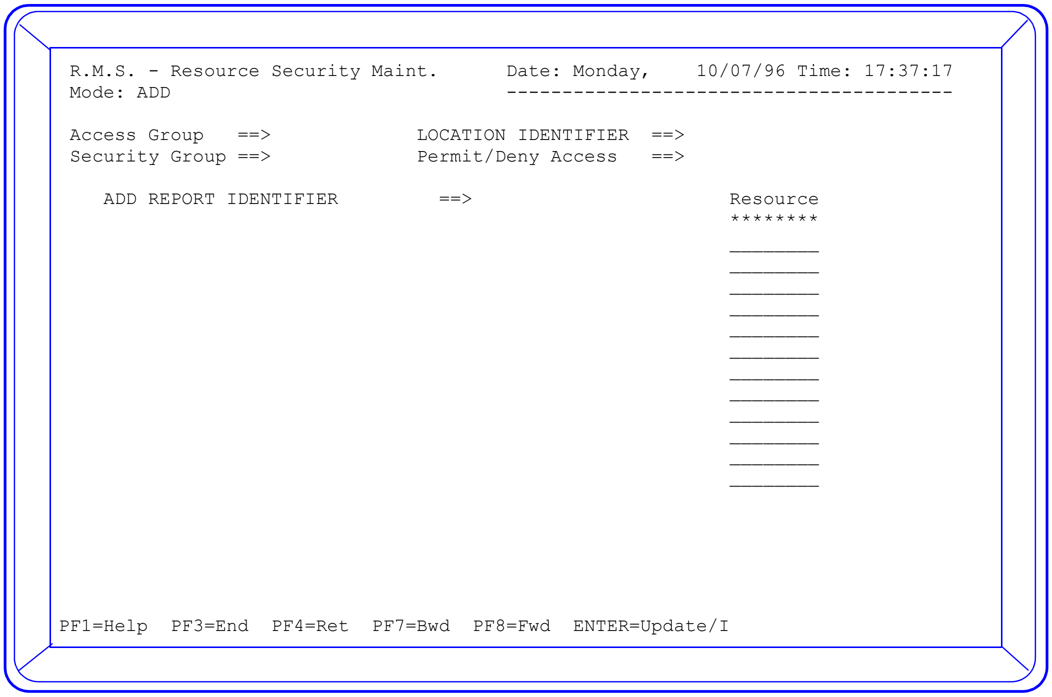
Transaction Security Add/Delete/Inquire Panel

Transaction Security

Regardless of the type of transaction you are attempting to secure, the panel depicted on this page is presented. The type of transaction resource is listed to the left of the Resource constant. Any resources already in the file are listed in the Resource column. PF7/PF8 may be used to view additional resource ID's. Top and Bottom will appear to the right of the first and last resource in the Access Group/Security Group being maintained. All transaction resources are secured using an Access Group that matches the default Access Group in the user master record. For inquiry operations, enter the Access Group and Security Group and depress <Enter>. Secured transaction codes will appear in alphabetical order in the RESOURCE column.

NOTE: Refer to Appendix-D,*"Resource Security Categories, Types and Codes"* for a list of valid Display Print transactions.

Location/Report Security Add/Delete/Inquire Panel



```
 R.M.S. - Resource Security Maint.      Date: Monday,    10/07/96 Time: 17:37:17
 Mode: ADD                              ---------------------------------------

 Access Group   ==>             LOCATION IDENTIFIER  ==>
 Security Group ==>             Permit/Deny Access   ==>

    ADD REPORT IDENTIFIER         ==>                       Resource
                                                            ********
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________





PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

Location/Report Security Add/Delete/Inquire Panel

Transaction Security

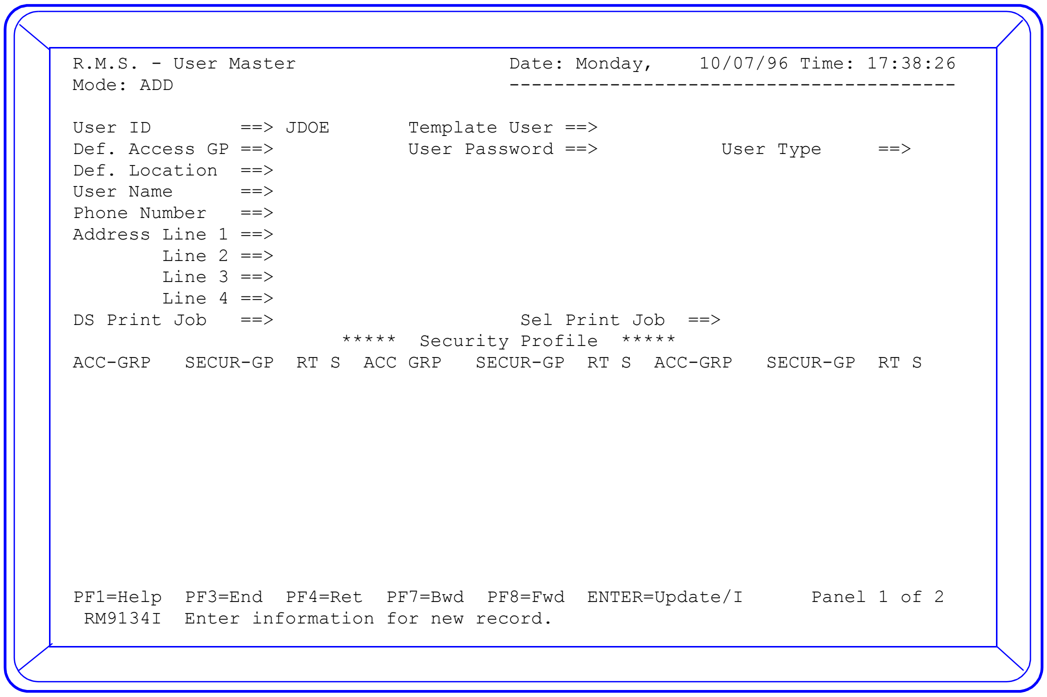
The Location/Report Security maintenance panel is used to secure a report for a specific Access Group, Security Group and Location combination. Reports which have already been entered appear in the RESOURCE column. Top and Bottom appear on the first and last resource line. PF7/PF8 can be used to space backward and forward in the file. For Inquiry, enter the Access Group, Security Group, and Location information and depress <ENTER>. The secured reports will appear in the Resource column. The type of security active will appear in the PERMIT/DENY == > field.

SECURITY EXAMPLES

Our example will show how to set up security for a User whose user ID is “JDOE”. The following things are required of security.

- Permit the user access to the Display/Print facility transactions: D (*Display*), V (*Versions*), I (*Index*).
- Permit the user access to Report “STOCK” of Location “Chicago” and Access Group “IVSYSTEM”.
- Deny access to all other RMS/Online facilities.

Step 1.

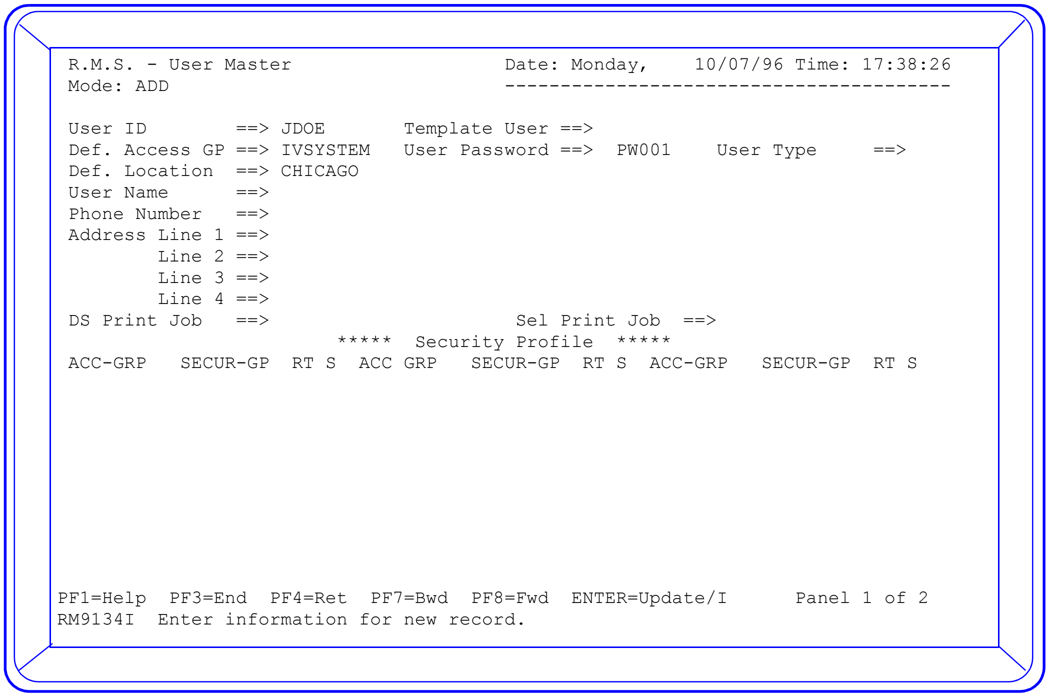


```
R.M.S. - User Master                       Date: Monday,    10/07/96 Time: 17:38:26
Mode: ADD                                  ----------------------------------------

User ID        ==> JDOE       Template User ==>
Def. Access GP ==>            User Password ==>           User Type     ==>
Def. Location  ==>
User Name      ==>
Phone Number   ==>
Address Line 1 ==>
        Line 2 ==>
        Line 3 ==>
        Line 4 ==>
DS Print Job   ==>                      Sel Print Job  ==>
                        *****  Security Profile  *****
ACC-GRP   SECUR-GP  RT S  ACC GRP   SECUR-GP  RT S  ACC-GRP   SECUR-GP  RT S








PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
 RM9134I  Enter information for new record.
```

This panel is discussed in the System Administration manual and can be reached by depressing "2" from the main menu.

It is necessary, first, to ensure that the User Master record is set up correctly for security processing. For "JDOE" we will leave the User Type field blank to indicate security checking is to be done.

Step 2.

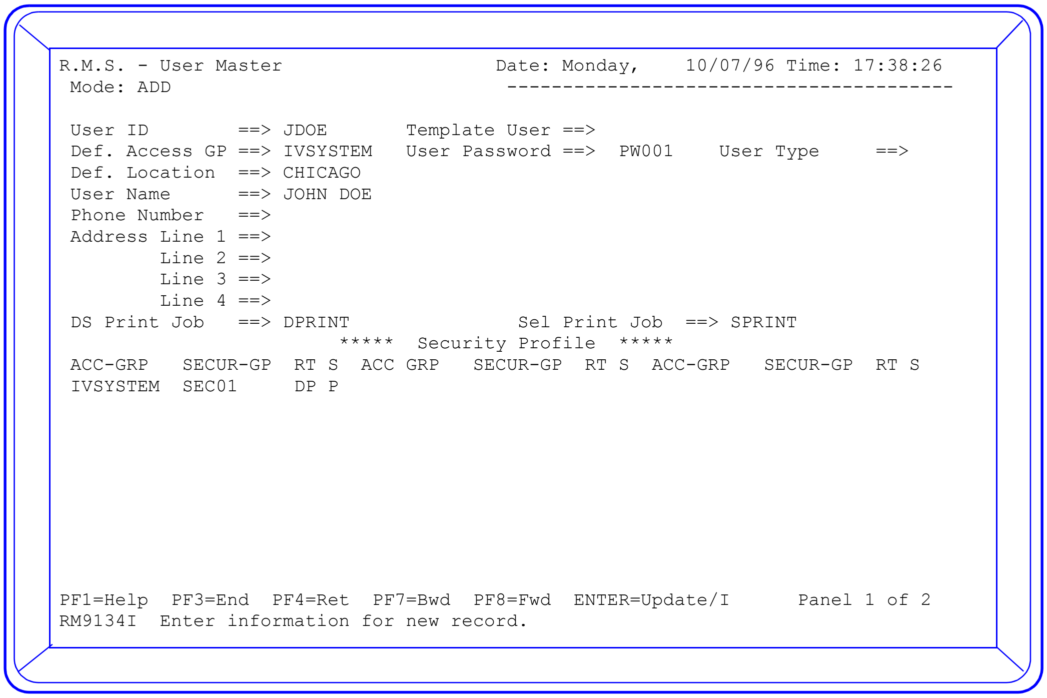


```
 R.M.S. - User Master                   Date: Monday,   10/07/96 Time: 17:38:26
 Mode: ADD                              ----------------------------------------

 User ID        ==> JDOE       Template User ==>
 Def. Access GP ==> IVSYSTEM   User Password ==>  PW001    User Type     ==>
 Def. Location  ==> CHICAGO
 User Name      ==>
 Phone Number   ==>
 Address Line 1 ==>
         Line 2 ==>
         Line 3 ==>
         Line 4 ==>
 DS Print Job   ==>                     Sel Print Job  ==>
                        *****  Security Profile  *****
 ACC-GRP   SECUR-GP  RT S  ACC GRP   SECUR-GP  RT S  ACC-GRP   SECUR-GP  RT S










PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
RM9134I  Enter information for new record.
```

Next, we must set up the default Access Group and Location for “JDOE”. These defaults will show on the Display/Print menu when the user first enters the facility. Also, the default Access Group is used as the Access Group for transaction security.

The password assigned to User Type is to be “PW001” which will be entered when JDOE signs on to RMS/Online.

Step 3.

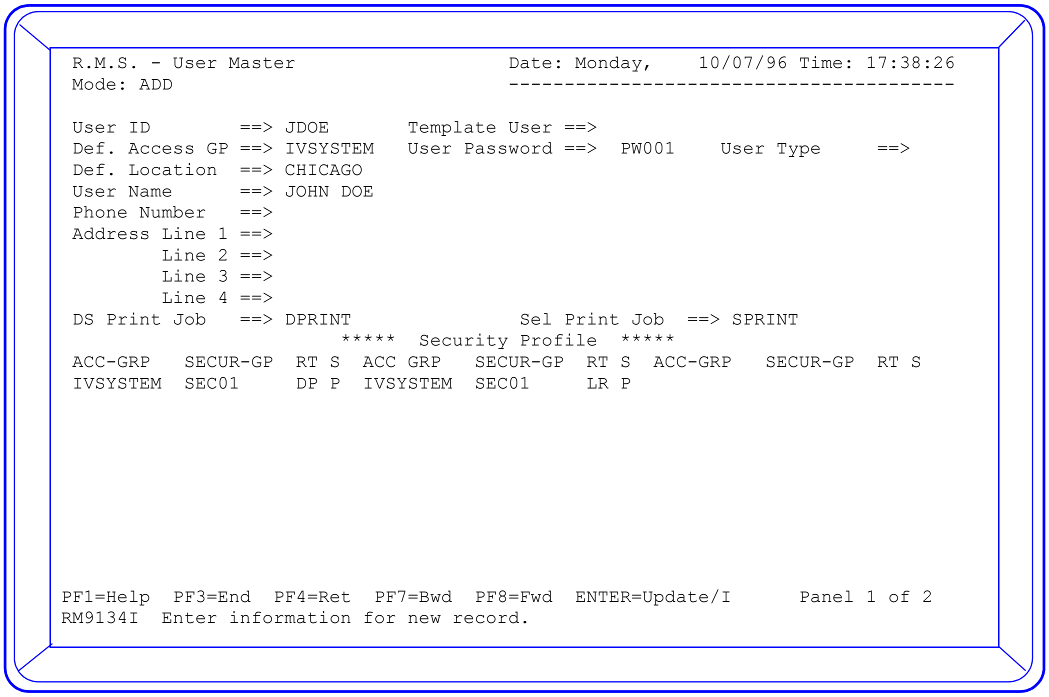


```
R.M.S. - User Master                  Date: Monday,    10/07/96 Time: 17:38:26
 Mode: ADD                             ----------------------------------------

 User ID        ==> JDOE       Template User ==>
 Def. Access GP ==> IVSYSTEM   User Password ==>  PW001    User Type     ==>
 Def. Location  ==> CHICAGO
 User Name      ==> JOHN DOE
 Phone Number   ==>
 Address Line 1 ==>
         Line 2 ==>
         Line 3 ==>
         Line 4 ==>
 DS Print Job   ==> DPRINT               Sel Print Job  ==> SPRINT
                        *****  Security Profile  *****
 ACC-GRP   SECUR-GP  RT S  ACC GRP   SECUR-GP  RT S  ACC-GRP   SECUR-GP  RT S
 IVSYSTEM  SEC01     DP P










PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
RM9134I  Enter information for new record.
```

Now set up the Security Profile for “JDOE”. The Access Group for transaction security is always the default Access Group of the user. Here it is “IVSYSTEM”. The Security Group is the name of a list of transactions to be permitted or denied access. We will call ours “SEC01”. The Resource Type (*RT*) is the Transaction Group to be secured. To secure the transactions for Display/Print this field is set to “DP”.

The last field for this profile is the “Security” field (*S*). A “P” here designates “Partial” security. This will tell the security processor to read security records. We have now set up a profile for transaction security within Display/Print.

Step 4.

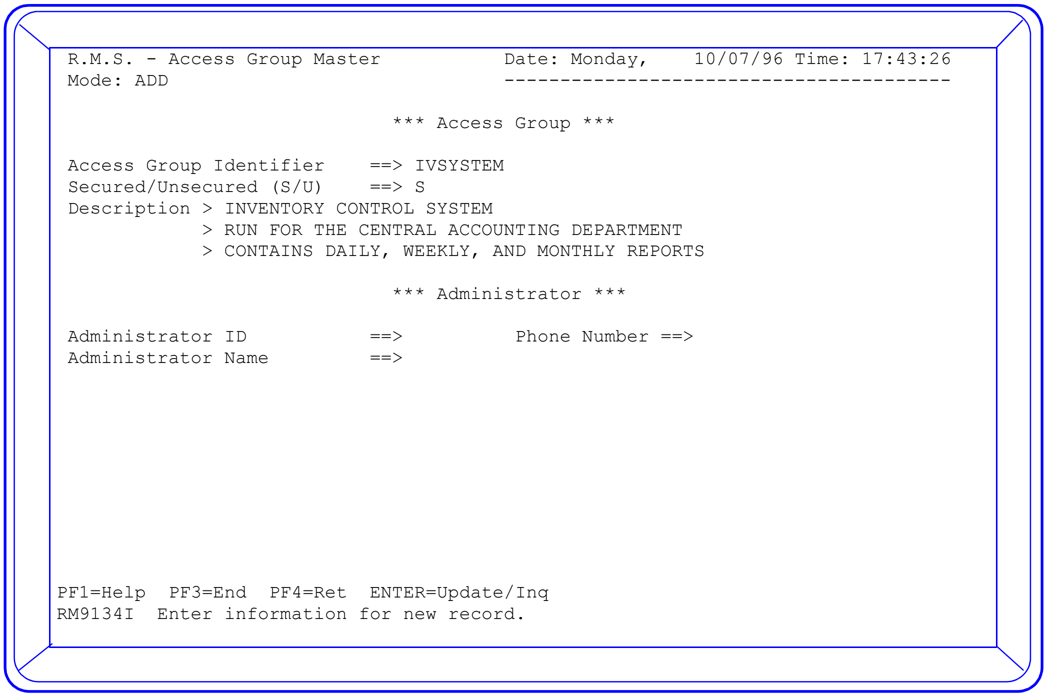


```
 R.M.S. - User Master                   Date: Monday,    10/07/96 Time: 17:38:26
 Mode: ADD                              ----------------------------------------

 User ID        ==> JDOE       Template User ==>
 Def. Access GP ==> IVSYSTEM   User Password ==>  PW001    User Type     ==>
 Def. Location  ==> CHICAGO
 User Name      ==> JOHN DOE
 Phone Number   ==>
 Address Line 1 ==>
         Line 2 ==>
         Line 3 ==>
         Line 4 ==>
 DS Print Job   ==> DPRINT                Sel Print Job  ==> SPRINT
                         *****  Security Profile  *****
 ACC-GRP   SECUR-GP  RT S  ACC GRP   SECUR-GP  RT S  ACC-GRP   SECUR-GP  RT S
 IVSYSTEM  SEC01     DP P  IVSYSTEM  SEC01     LR P








PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
RM9134I  Enter information for new record.
```

We must now set up the profile for Location/Report Security. In the Access Group field insert the name of the Access Group to which this report belongs. This is assigned via RMS/DD or in the RMS/RDC Run Stream. Our example uses “IVSYSTEM”. The Security Group is “SEC01”, the same as used on the “DP” profile. Under Resource type, place “LR” (*Location/Report*), and for Security (*S*) place a “P” for partial security.

These are all the changes necessary to the user record to meet our security requirements.

Step 5.

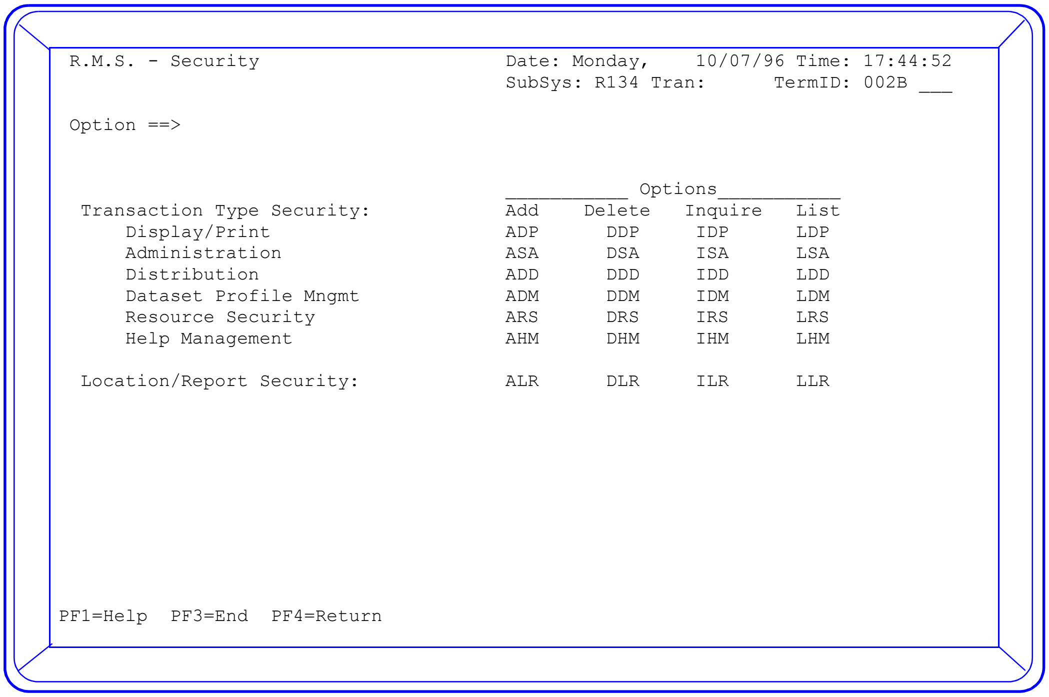


```
 R.M.S. - Access Group Master           Date: Monday,    10/07/96 Time: 17:43:26
 Mode: ADD                              ----------------------------------------

                             *** Access Group ***

 Access Group Identifier    ==> IVSYSTEM
 Secured/Unsecured (S/U)    ==> S
 Description > INVENTORY CONTROL SYSTEM
             > RUN FOR THE CENTRAL ACCOUNTING DEPARTMENT
             > CONTAINS DAILY, WEEKLY, AND MONTHLY REPORTS

                             *** Administrator ***

 Administrator ID           ==>          Phone Number ==>
 Administrator Name         ==>








PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

This panel is discussed in the *System Administration Manual* and can be reached by depressing “2” from the main menu.

When setting up the Access Group Master it is necessary to assign an “S” to the security indicator. This tells security to secure all reports for this Access Group.

Step 6.

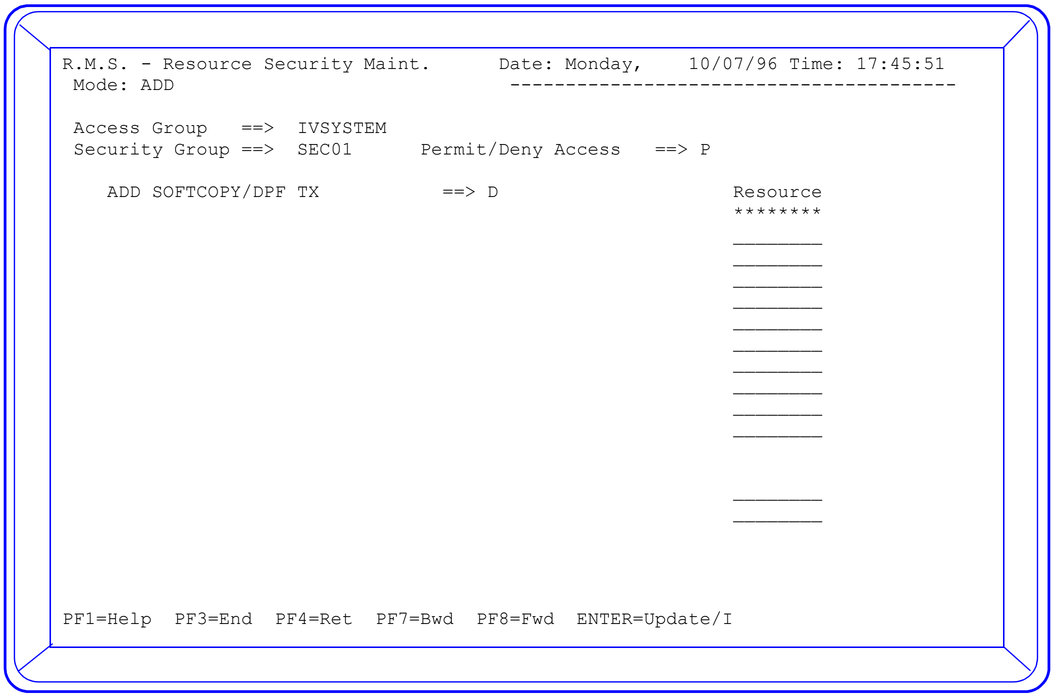


```
 R.M.S. - Security                       Date: Monday,    10/07/96 Time: 17:44:52
                                         SubSys: R134 Tran:      TermID: 002B ___

 Option ==>


                                         ___________ Options___________
  Transaction Type Security:             Add    Delete   Inquire   List
      Display/Print                      ADP      DDP     IDP      LDP
      Administration                     ASA      DSA     ISA      LSA
      Distribution                       ADD      DDD     IDD      LDD
      Dataset Profile Mngmt              ADM      DDM     IDM      LDM
      Resource Security                  ARS      DRS     IRS      LRS
      Help Management                    AHM      DHM     IHM      LHM

  Location/Report Security:              ALR      DLR     ILR      LLR









PF1=Help  PF3=End  PF4=Return
```

The next step in setting up security is for the user to add security records. To do this, enter Security by entering “5” from the main menu. The above panel will appear on the terminal. To add Display/Print transaction entries, select option ADP (*Add Display Print*) from this menu.

The List Function is also available. For example: LDP will list all Display Print security groups.

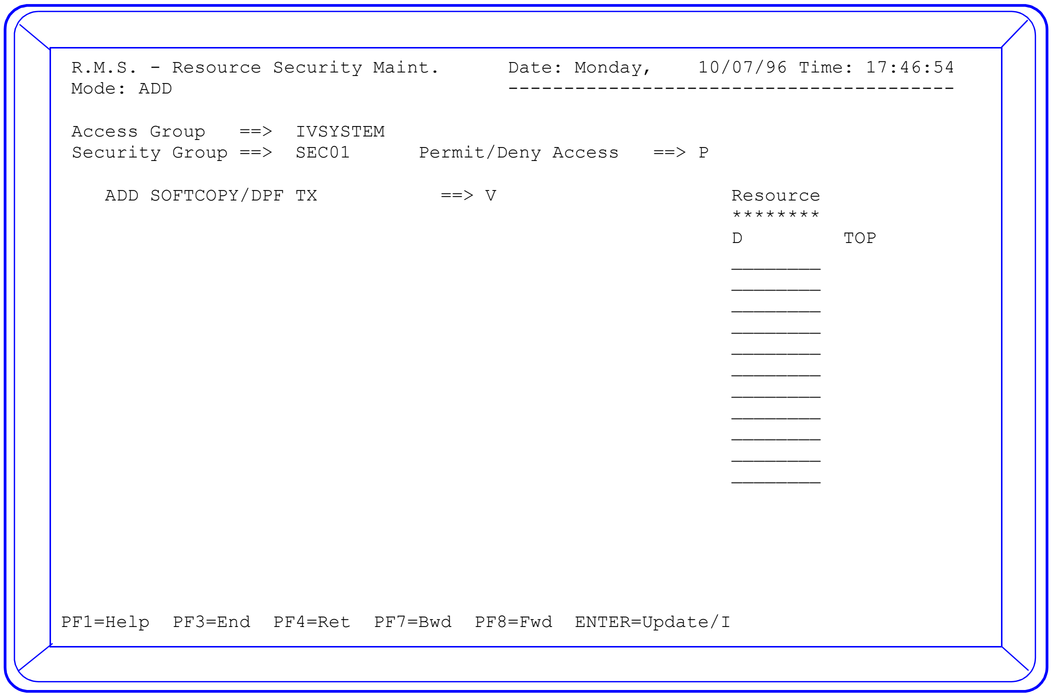
Step 7.



```
R.M.S. - Resource Security Maint.      Date: Monday,    10/07/96 Time: 17:45:51
 Mode: ADD                              ----------------------------------------

 Access Group   ==>  IVSYSTEM
 Security Group ==>  SEC01      Permit/Deny Access   ==> P

    ADD SOFTCOPY/DPF TX           ==> D                     Resource
                                                            ********
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________


                                                            ________
                                                            ________



PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

The Access Group and the Security Group should be entered as the same Access Group and Security Group of the Security Profile for “DP”, “JDOE”. Now, enter a “P” in the Permit/Deny indicator stating that we wish this list of transactions to be permitted access. Enter a “D” in the “ADD SOFTCOPY/DPF TX” field and depress <ENTER>.

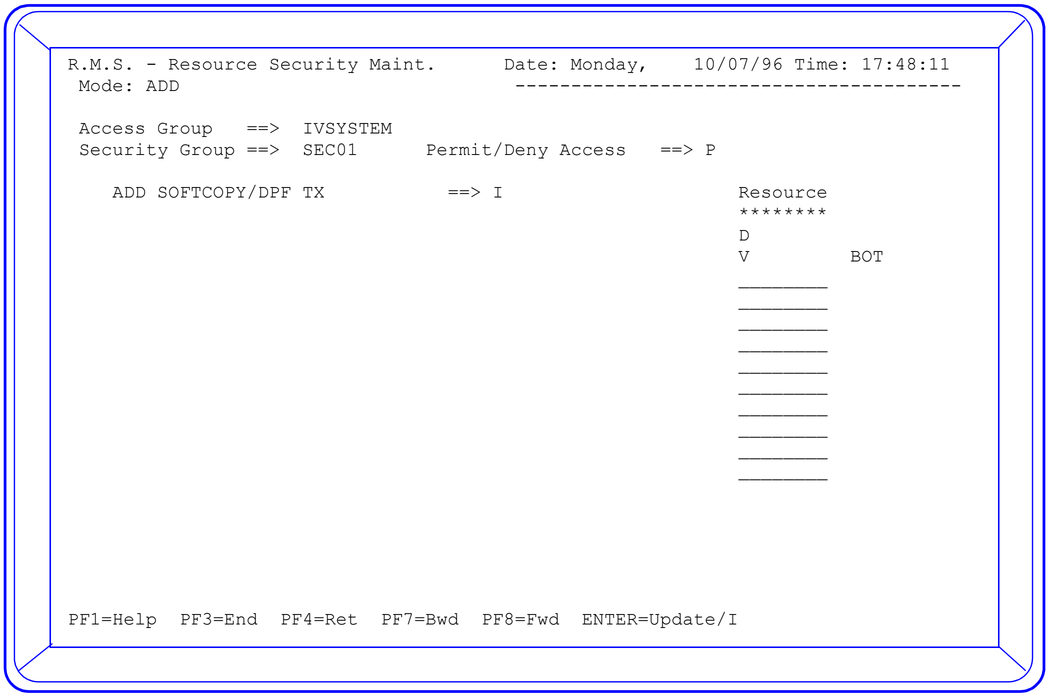
Step 8.



```
R.M.S. - Resource Security Maint.      Date: Monday,    10/07/96 Time: 17:46:54
Mode: ADD                              ----------------------------------------

Access Group   ==>  IVSYSTEM
Security Group ==>  SEC01      Permit/Deny Access   ==> P

   ADD SOFTCOPY/DPF TX           ==> V                    Resource
                                                          ********
                                                          D         TOP
                                                          ________
                                                          ________
                                                          ________
                                                          ________
                                                          ________
                                                          ________
                                                          ________
                                                          ________
                                                          ________
                                                          ________
                                                          ________



PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

As you can see, a resource of “D” is now in the Resource list column. A “V” is entered next and...

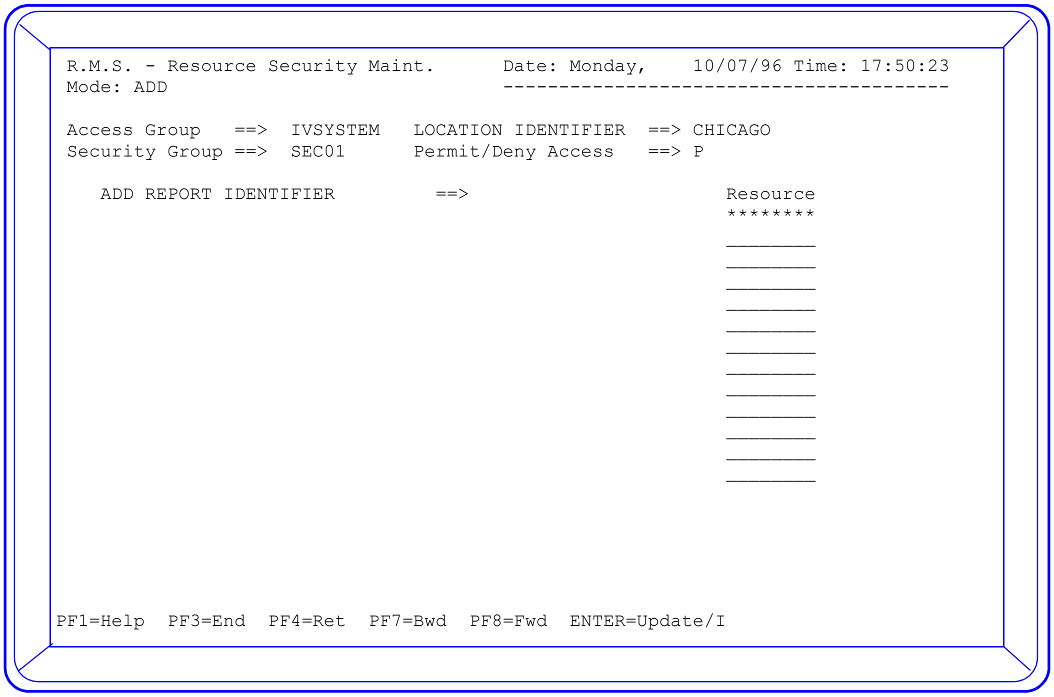
Step 9.



```
R.M.S. - Resource Security Maint.      Date: Monday,    10/07/96 Time: 17:48:11
 Mode: ADD                              ----------------------------------------

 Access Group   ==>  IVSYSTEM
 Security Group ==>  SEC01      Permit/Deny Access   ==> P

    ADD SOFTCOPY/DPF TX           ==> I                      Resource
                                                             ********
                                                             D
                                                             V         BOT

                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________

PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

... see a “V” in the list. (*Note that there is an indicator denoting the bottom of the list. To scroll the list up, depress the PF7 key.*) The last transaction code, an “I”, is now entered, and the list is complete. This user is now secured to meet our requirements for transaction security.

Step 10.

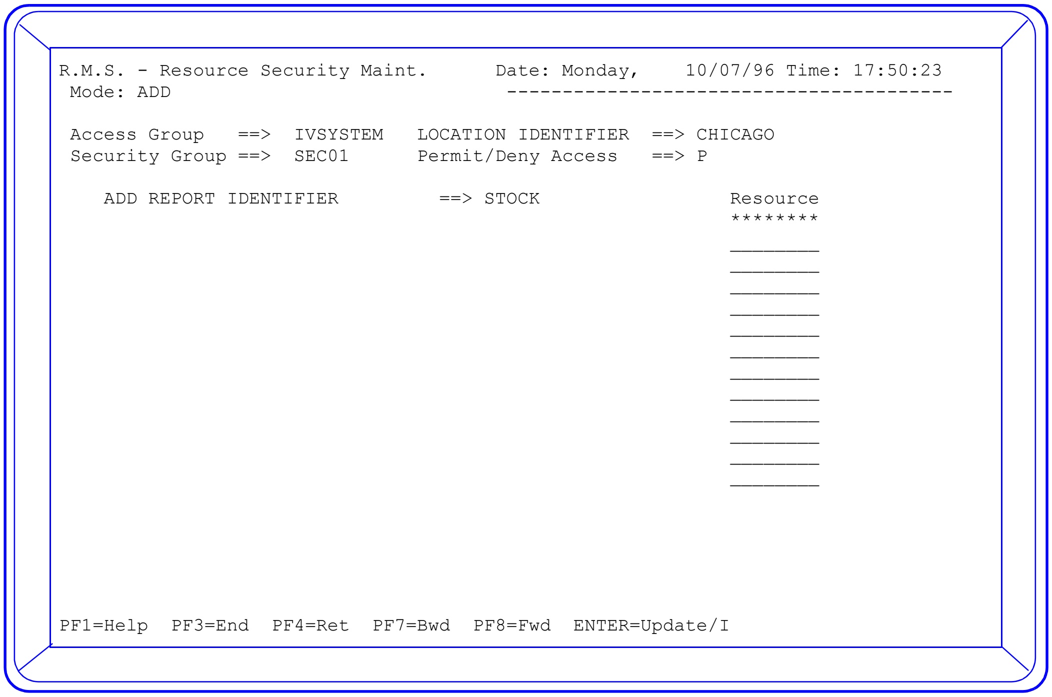


```
R.M.S. - Resource Security Maint.      Date: Monday,    10/07/96 Time: 17:50:23
Mode: ADD                              ----------------------------------------

Access Group   ==>  IVSYSTEM   LOCATION IDENTIFIER  ==> CHICAGO
Security Group ==>  SEC01      Permit/Deny Access   ==> P

   ADD REPORT IDENTIFIER         ==>                        Resource
                                                            ********
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________



PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

To allow user access to the report “STOCK”, it is necessary to enter the above panel by keying “ALR” from the Security Maintenance menu. The fields here are similar to those for transaction security. Access Group and Security Group are the same as those in the Security Profile for “LR” of “JDOE” User Record.

Location Identifier is the location under which the report “STOCK” resides.

Step 11.



```
R.M.S. - Resource Security Maint.      Date: Monday,    10/07/96 Time: 17:50:23
 Mode: ADD                               ----------------------------------------

 Access Group   ==>  IVSYSTEM   LOCATION IDENTIFIER  ==> CHICAGO
 Security Group ==>  SEC01      Permit/Deny Access   ==> P

    ADD REPORT IDENTIFIER         ==> STOCK                  Resource
                                                             ********
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________
                                                             ________

PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

Enter the Report Identifier of “STOCK”, depress <ENTER>, and our short list of one report is complete. Our resource security requirements for this user are also complete. “JDOE” may now sign on and display the report “STOCK” of Location “Chicago” and Access Group “IVSYSTEM”.

Chapter 7

DISPLAY PRINT FACILITY

Introduction

Anyone associated with the production and distribution of reports knows that it is an expensive and complicated process. Application system complexity aside, the fact that individual user's report delivery needs vary widely, further complicates matters.

One of the major problems related to report management is distribution labor intensiveness. Sometimes the same report must be handled by several different people before the required distribution tasks have been completed. Physical delivery time can often make the report nearly worthless because it is outdated.

The alternative provided by RMS/DPF permits storage, backup, recovery and view/reprint capabilities of reports as soon as the production cycle is complete. This translates to reduced expense, faster availability and better service.

Reports committed to RMS/DPF are indexed and decollated so that a single report can be viewed by any number of locations. Once the users of the system know their Location Name and Access Group, the system will tell them which reports are available for viewing, the number of versions available, date and time of production, and whether the report is available on-line or through some other media type, such as microfiche.

All of this is accomplished in accordance with established distribution definitions with complete transparency to end users. Even though a print dataset might contain the report data for any number of other users, they will never be aware of the existence of the other users' report data unless the Distribution Definition indicates that they should have access to those users' report material.

ACCESS

Report Access

Reports can be retrieved from the Report Management System in the following ways:

On-line viewing	Users to whom reports have been distributed can view and request reprint of all or part of those reports (*security permitting*).
Partial report printing	Page ranges of a report may be selected for print during the actual report viewing process.
Recovery by Location	Selected users may request reprint or reload of an entire report from either the versions panel or display panel. Because RMS/ONLINE maintains a catalog of the archive/report version relationship, it can automatically recover a report.

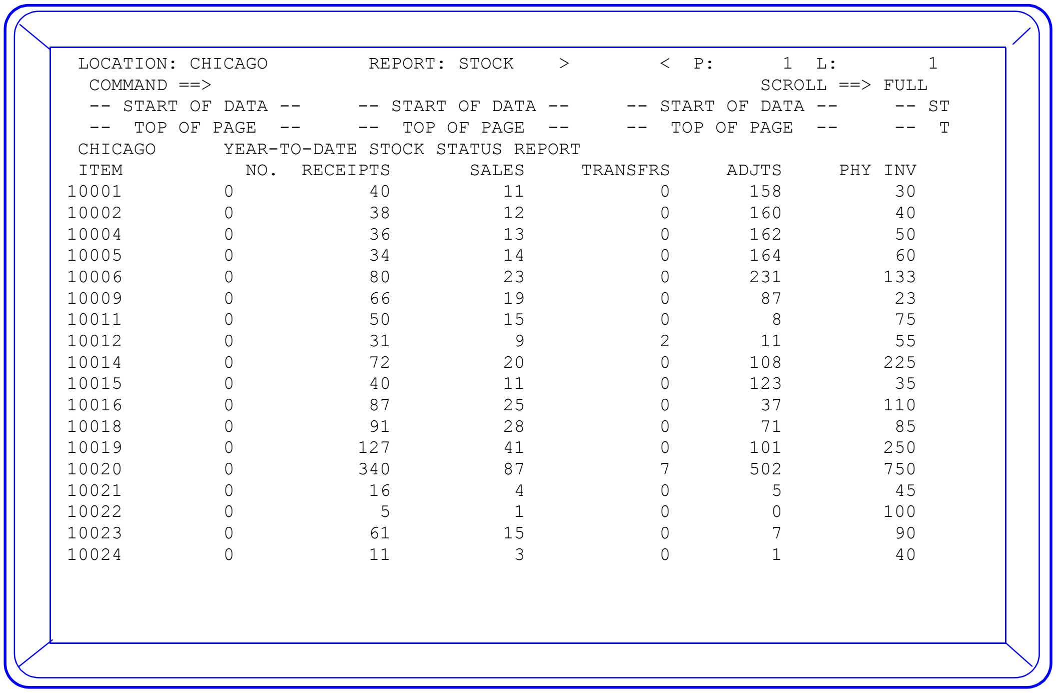
System Access

Access to RMS/DPF is accomplished through a series of formatted panels presented on 32XX or compatible terminals. Any terminal with at least 24 display lines is supported. Using these panels, the user can retrieve an index of the available reports, obtain information on specific versions, and display or request reprint. RMS/DPF uses the following panels:

- Access Authorization
- Primary Menu

- Display/Print Menu
- Index
- Versions
- Display
- Print Characteristics
- Notepad

Because report pages are usually wider than your terminal screen, the system uses the screen as a window into the report page.



```
 LOCATION: CHICAGO         REPORT: STOCK    >        <  P:      1  L:         1
  COMMAND ==>                                                 SCROLL ==> FULL
  -- START OF DATA --     -- START OF DATA --     -- START OF DATA --     -- ST
  --  TOP OF PAGE  --     --  TOP OF PAGE  --     --  TOP OF PAGE  --     --  T
 CHICAGO      YEAR-TO-DATE STOCK STATUS REPORT
 ITEM           NO.  RECEIPTS       SALES     TRANSFRS     ADJTS      PHY INV
10001         0            40          11            0       158           30
10002         0            38          12            0       160           40
10004         0            36          13            0       162           50
10005         0            34          14            0       164           60
10006         0            80          23            0       231          133
10009         0            66          19            0        87           23
10011         0            50          15            0         8           75
10012         0            31           9            2        11           55
10014         0            72          20            0       108          225
10015         0            40          11            0       123           35
10016         0            87          25            0        37          110
10018         0            91          28            0        71           85
10019         0           127          41            0       101          250
10020         0           340          87            7       502          750
10021         0            16           4            0         5           45
10022         0             5           1            0         0          100
10023         0            61          15            0         7           90
10024         0            11           3            0         1           40
```

The 32XX Screen as a Window into a Report

In the illustration above, you see an example of the terminal screen as a window. RMS/DPF gives you the ability to move this window right, left, up and down in order to view the necessary data.

Such operations as data manipulation (*through column selection*), search operations, and turning from page to page are accomplished with program function keys located on the terminal keyboard.

RMS/DPF permits you to collapse reports so that only specific columns are viewable on a screen. Data not important to specific users can be excluded, reducing terminal operations to a minimum. The report data can thereby be accessed in a more usable form.

COMMUNICATING YOUR REPORT ACCESS REQUIREMENTS

The system administrator is the focal point for the information necessary to make a report available On-line. The administrator will assign a LOCATION identification that will designate you as a unique distribution location within your organization. The administrator will also assign the user identification necessary for using RMS/DPF.

Requesting On-line Report Access

Once you have identified a report that you feel should be viewable on-line, you should contact the administrator. The administrator is in a position to expedite the addition of the control information required to make the report available on-line. You should be prepared to provide the system/access group administrator with the following information.

Report Title and Originating System

This information is important to link the requested report back to the creating job so that the report may be selection for distribution.

User Access	A list of users that you want to grant permission to view the report.
Report Retention	How many versions and/or days do you wish to be able to view on-line?
Decollation Required	Do you wish each user to be able to view all of the report or just part of the report? Note that any one user may be granted access to any of the other users' report information if so desired.
User Identification	After receiving your request for the on-line viewing of the report data, the administrator will define those users not already identified to the system. During this process the administrator will assign a password to each user (if this is the installation standard). If you are assigned a password, it is suggested that it be changed each 30 day period.
Location Definition	In accordance with system conventions, each endpoint to which report data is distributed must have a Location Name. Your administrator will assign you a location name if you don't already have one.

VIEWING CAPABILITIES

RMS/DPF gives the user the ability to view reports on any of the 32xx family of terminals. It provides the following capabilities:

- Access authorization via internal security or user security exit
- Report index and versions display to facilitate user selection of reports
- Report separation so that an individual user sees only that part of a report that is needed
- Automatic release of reports to the viewing community
- Column selection of report data on the terminal screen to suit the needs of individual users

- Multi-report viewing through a windowing capability
- Cancellation (*security permitting*) of reports
- Viewing format Definition/Retention
- Note attachment at the report line level
- Report RELOAD capability that permits off-line reports to be restored to viewing status

HOW TO USE RMS/DPF

Report information is presented at your terminal in the form of panels. A panel is a display image. As a user, you cause the system to perform certain functions by entering an option in the OPTION ==> field and depressing the **ENTER** key on your terminal.

Panel Management Characteristics

All transactions share common characteristics with regard to panel formatting and system response.

Panel Format

Panel Heading - Left to right, the descriptive panel name, date, day of week and time of day are displayed. The panel heading is omitted on the report viewing panel to permit display of additional report data.

Panel Body	Transaction related data
Line 23	Active PF keys
Line 24	Message data area. Single line messages will always appear in this area. Multi-line messages will cause MULTIPLE MESSAGES PENDING to appear in the message line. Depressing the HELP PF key will cause the full text of all outstanding messages to be displayed.

Selection Characteristics

On panels such as Index and Versions where multiple items are listed for selection, two methods of selection are available. Using the Versions panel as an example, you will notice that there is an ID field on the left border of the panel and a COMMAND ==> field at the top of the panel. On such panels, the cursor may be positioned in the ID field of the desired selection and place the option in the selected items ID field. The same item may be selected by entering the option followed by the ID field number. Selection of line item 03 for printing could be entered as ‘P 3’ in the command field.

Scrolling Characteristics

On panels where scroll operations apply, the following values may be entered in the SCROLL ==> field.

(**P**)AGE	- scroll to report top of page (Display panel only)
(**H**)ALF	- scroll half the panel depth
(**F**)ULL	- scroll full panel depth
NNNNN	- scroll NNNNN lines

Program Function Key Utilization

RMS/DPF uses pre-defined program function (PF) keys to aid viewing. A complete list of the PF keys is located in the following table. Individual users may customize their PF key settings on the Access Authorization panel. We discourage this customization since the documentation will no longer match the actual operation of the system.

FUNCTION	PF KEY	DESCRIPTION
HELP	1/13	Displays an explanation of the options now available to the user.
SWITCH NOTE	2/14	Retrieves noted page locations and displays them in succession.
END	3/15	Returns to the previously displayed panel.
SWITCH REPORT	4/16	Causes the next active report, if any, within the current window to be displayed. A specific report name may be entered on the command line.
FIND/REPEAT FIND	5/17	Reissues a previously issued FIND command, beginning at the position established by the previously issued FIND command if data is found, otherwise from the top of the screen.
NOTE	6/18	Notes the current display location.
SCROLL/PAGE UP	7/19	Scrolls upward through the report for the value specified in the Scroll Value field.
SCROLL/PAGE DOWN	8/20	Scrolls down through the report data for the value specified in the Scroll Value field.
SWITCH WINDOW	9/21	Switches from the active window to the next window available.
SCROLL LEFT	10/22	Shifts the panel to the left.
SCROLL RIGHT	11/23	Shifts the panel to the right.
ZOOM WINDOW	12/24	Changes current window from window size to full screen and vice-versa.

SYSTEM HELP FACILITIES

RMS/DPF has corresponding Help panel(s) for each system panel. In order to access the Help panel, the user simply presses the Help program function key (PF1/PF13).

Each Help panel contains a complete explanation of the entry/data requirements for the panel in question.

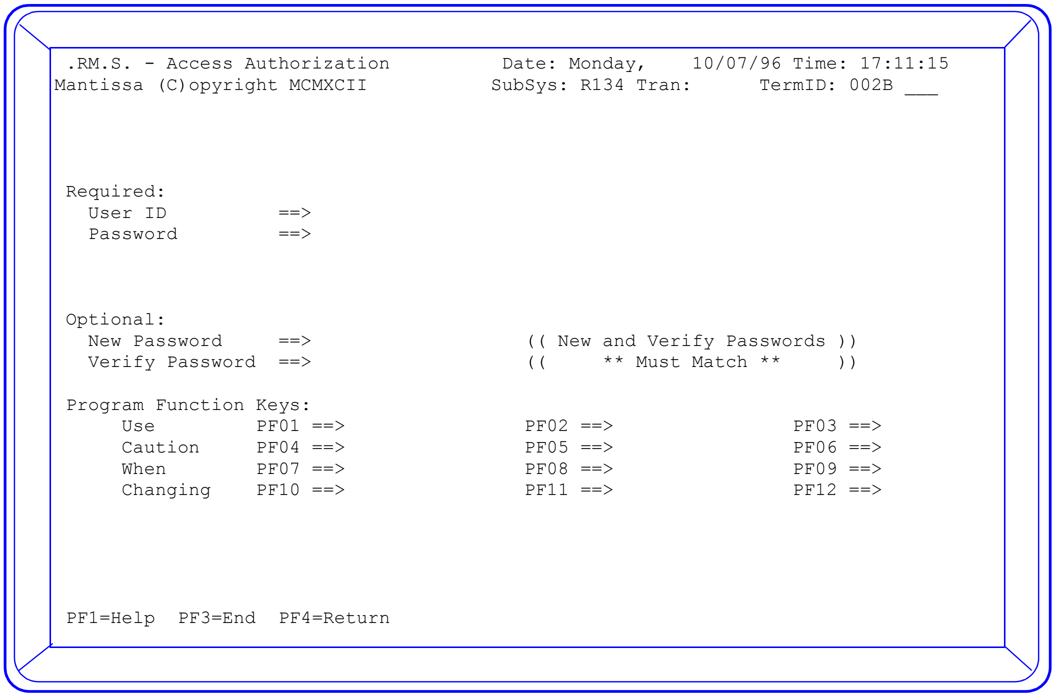
System User Panels

This section depicts the various user panels and discusses their use in gaining access to the system, displaying reports, scheduling selective or full report printing, obtaining report index or version information, and soliciting system help facilities.

- ACCESS AUTHORIZATION
- PRIMARY MENU
- DISPLAY/PRINT MENU
- INDEX
- VERSIONS
- DISPLAY
- REQUEST PRINT
- NOTEPAD

- TUTORIAL

The user's first interaction with RMS/Online for each session (*a session is the time between sign-on and sign-off*) is through the Access Authorization panel. The Access Authorization panel may be bypassed completely by entering the user ID and password (*if any*) after the transaction code.



```
 .RM.S. - Access Authorization          Date: Monday,    10/07/96 Time: 17:11:15
Mantissa (C)opyright MCMXCII           SubSys: R134 Tran:      TermID: 002B ___




 Required:
   User ID          ==>
   Password         ==>




 Optional:
   New Password     ==>                    (( New and Verify Passwords ))
   Verify Password  ==>                    ((     ** Must Match **     ))

 Program Function Keys:
        Use         PF01 ==>                PF02 ==>                PF03 ==>
        Caution     PF04 ==>                PF05 ==>                PF06 ==>
        When        PF07 ==>                PF08 ==>                PF09 ==>
        Changing    PF10 ==>                PF11 ==>                PF12 ==>





 PF1=Help  PF3=End  PF4=Return
```

System User Panels

After this sign-on is entered, RMS/Online presents a Primary Menu panel that can be used to access various RMS/Online components. The following session examples illustrate the steps and the type of interaction necessary to perform three RMS/DPF tasks.

Session Example 1.

Objective

Display the most recent copy of PROFIT report for location DENVER.

1. Sign-on to RMS/Online.
2. The Primary Menu panel is displayed. Select "1" for RMS Display/Print. The Display/Print Menu is presented.

   `Enter "D" in the Option ==> field, DENVER in the LOCATION NAME ==> field, and PROFIT in the REPORT NAME ==> field.`

Session Example 2.

Objective

Print yesterday's copy of EDITRUN using default and report characteristics data.

1. Sign-on to RMS/Online (*or return to the Display/Print Menu*).

2. The Primary Menu panel is displayed. Select “1” for RMS Display/Print. The Display/Print Menu is presented.
3. Enter “V” in the Option field and DENVER in the Report Name field.
4. The Versions panel is displayed showing the available versions of PROFIT. The versions of the report are displayed beginning with the most recent version.
5. Enter “P” and the display line number field of the version to be printed in the Command field.

Session Example 3.

Objective

Display a list of all reports available for viewing at distribution location DENVER.

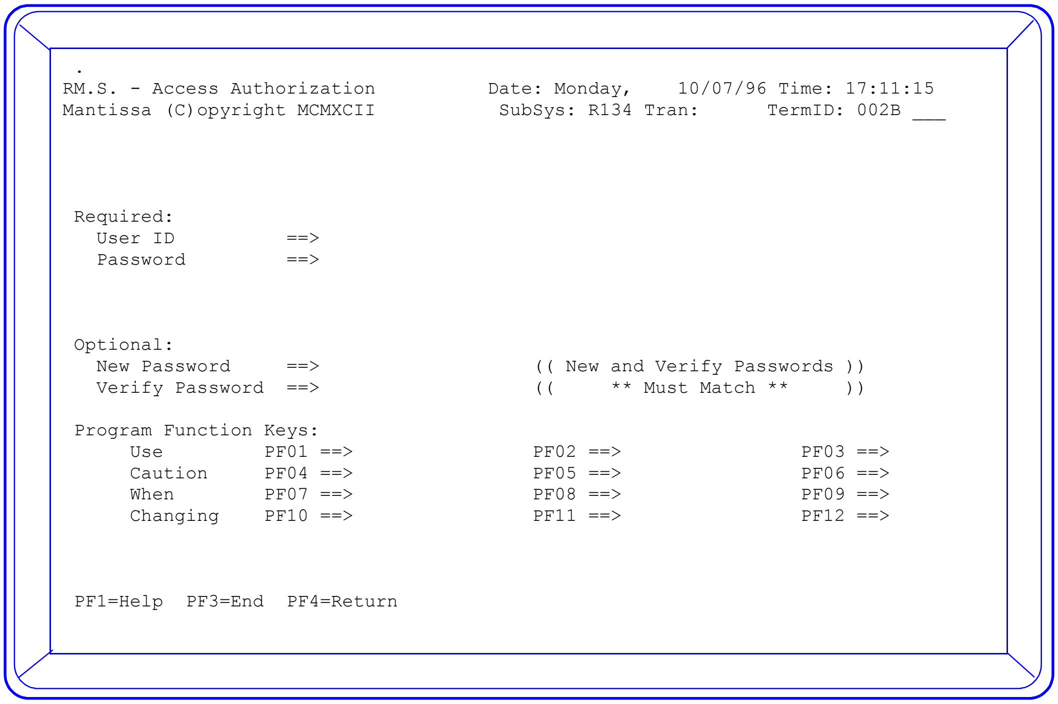
1. Sign-on to RMS/Online (*or return to the Display/Print Menu*).
2. The Primary Menu panel is displayed. Select “1” for Display/Print. The Display/Print menu is presented.
3. Enter “I” in the Option field and DENVER in the Location Name field.
4. The Index panel is displayed. Display, Version and Print functions may be selected at this point.

Pressing PF3/PF15 will cause RMS/DPF to exit from the current panel, or exit the system if depressed during the display of the Primary Menu panel.

The system Help facility may be invoked at any time by pressing PF1/PF13. When Help is invoked, a tutorial screen appears with information pertaining to the system function currently being used. PF3/PF15 may then be depressed to return to the screen being displayed before Help was invoked.

Examples of the various RMS/DPF system panels and a description of the options available using those panels may be found on the following pages.

Access Authorization Panel



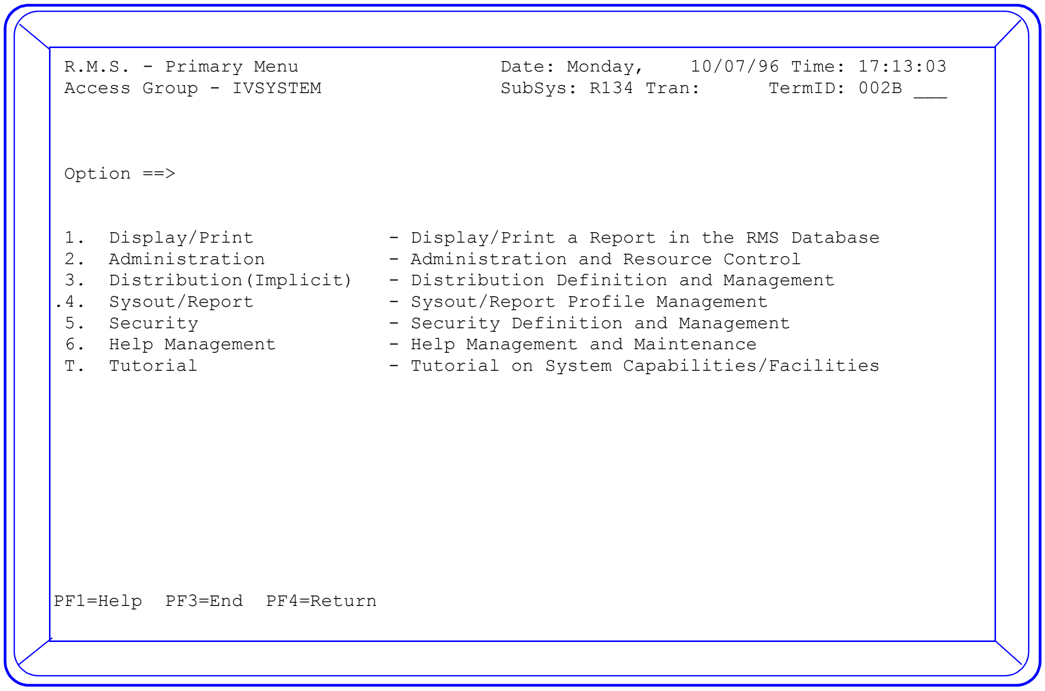
```
 .
RM.S. - Access Authorization          Date: Monday,    10/07/96 Time: 17:11:15
Mantissa  (C)opyright MCMXCII          SubSys: R134 Tran:      TermID: 002B ____



 Required:
   User ID          ==>
   Password         ==>



 Optional:
   New Password     ==>                   (( New and Verify Passwords ))
   Verify Password  ==>                   ((     ** Must Match **     ))

 Program Function Keys:
      Use         PF01 ==>                PF02 ==>                PF03 ==>
      Caution     PF04 ==>                PF05 ==>                PF06 ==>
      When        PF07 ==>                PF08 ==>                PF09 ==>
      Changing    PF10 ==>                PF11 ==>                PF12 ==>



 PF1=Help  PF3=End  PF4=Return
```

Access Authorization Panel

The CICS transaction code and/or TSO option necessary to invoke RMS/Online is assigned by your installation. The Access Authorization panel appears after entering this RMS/Online transaction identifier. Information entered on the panel is used to establish the identity of the user. If security is used, the Password field is compared to either the RMS/Online Password field in the User Master record or to the password in the installation security system for access verification.

The NEW and VERIFY passwords may be entered by the user to establish a new password if password verification is used.

Primary Menu Panel



```
R.M.S. - Primary Menu                  Date: Monday,    10/07/96 Time: 17:13:03
Access Group - IVSYSTEM                SubSys: R134 Tran:      TermID: 002B ___



Option ==>


1.  Display/Print            - Display/Print a Report in the RMS Database
2.  Administration           - Administration and Resource Control
3.  Distribution(Implicit)   - Distribution Definition and Management
4.  Sysout/Report            - Sysout/Report Profile Management
5.  Security                 - Security Definition and Management
6.  Help Management          - Help Management and Maintenance
T.  Tutorial                 - Tutorial on System Capabilities/Facilities










PF1=Help  PF3=End  PF4=Return
```

Primary Menu Panel

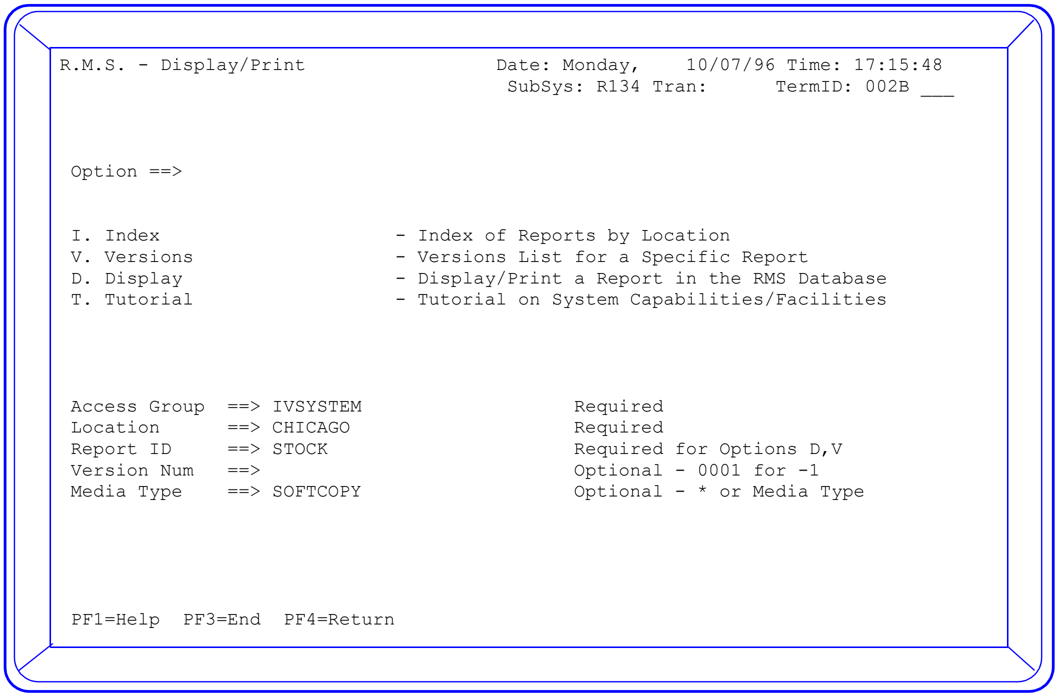
Depending on options selected during system installation, the Primary Menu may be presented immediately after the Access Authorization panel. All major system functions are accessible from this panel. The available options are:

1. Display/Print
2. Administration
3. Distribution
4. Dataset Management
5. Security
6. Help Management

T. Tutorial

Select Option 1 to gain access to DISPLAY/PRINT.

Display/Print Menu Panel



```
R.M.S. - Display/Print                  Date: Monday,    10/07/96 Time: 17:15:48
                                         SubSys: R134 Tran:      TermID: 002B ___



 Option ==>


 I. Index                     - Index of Reports by Location
 V. Versions                  - Versions List for a Specific Report
 D. Display                   - Display/Print a Report in the RMS Database
 T. Tutorial                  - Tutorial on System Capabilities/Facilities




 Access Group  ==> IVSYSTEM                   Required
 Location      ==> CHICAGO                    Required
 Report ID     ==> STOCK                      Required for Options D,V
 Version Num   ==>                            Optional - 0001 for -1
 Media Type    ==> SOFTCOPY                   Optional - * or Media Type





 PF1=Help  PF3=End  PF4=Return
```

Display/Print Menu Panel

The Display/Print Menu panel is accessed by selecting Option 1 on the Primary option menu. Available options include:

I	Index
V	Versions
D	Display
T	Tutorial

The Index option (*I or blank*) displays an index of reports available for viewing by the user. Index is the default option.

The Versions option (*V*) requires that the user select a Report name and a Location name. This option produces a display of all versions of a particular report. The versions are listed by media type from most recent to oldest.

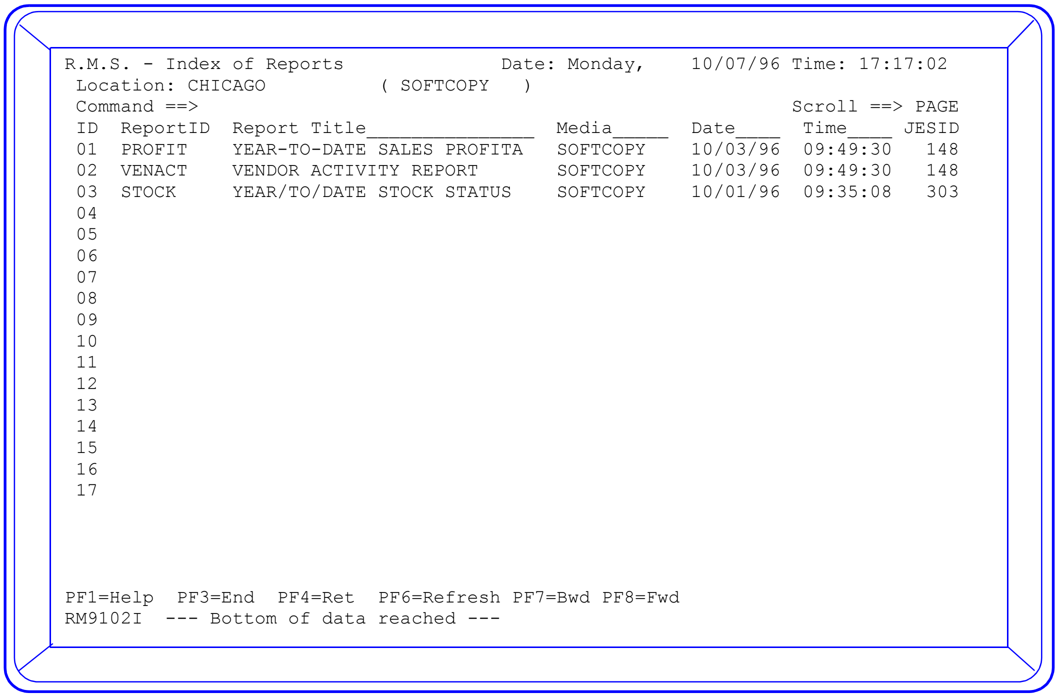
The Display option (*D*) causes the display of the contents of a report. If no version number is entered, the most recent version is displayed (*version 000*). The next previous version will be displayed if 1 is entered in the Version field (*the current version added is considered the "0" version*). For a report produced once a day, the report produced yesterday is version 1, the previous day's would be version 2, etc.

The System Tutorial option (*T*) causes the main Help option panel to be displayed.

FIELD REQUIREMENTS FOR EACH OPTION	
(D)isplay	Access Group Location Name Report ID Version (Optional, Default-000) Media Name (Entry Ignored, Default-SOFTCOPY)

FIELD REQUIREMENTS FOR EACH OPTION	
(I)ndex	Access Group Location Name Media Name (Optional, Default-SOFTCOPY) *in the media field causes all medias to be displayed.
(V)ersions	Access Group Location Name Report ID Media Name (Optional, Default-SOFTCOPY)

Index Panel



```
R.M.S. - Index of Reports             Date: Monday,    10/07/96 Time: 17:17:02
 Location: CHICAGO          ( SOFTCOPY    )
 Command ==>                                                  Scroll ==> PAGE
 ID  ReportID  Report Title___________________  Media_____   Date____  Time____ JESID
 01  PROFIT    YEAR-TO-DATE SALES PROFITA      SOFTCOPY     10/03/96  09:49:30   148
 02  VENACT    VENDOR ACTIVITY REPORT          SOFTCOPY     10/03/96  09:49:30   148
 03  STOCK     YEAR/TO/DATE STOCK STATUS       SOFTCOPY     10/01/96  09:35:08   303
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17




PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
RM9102I  --- Bottom of data reached ---
```

Index Panel

This panel displays an alphabetical index of those reports available to a location.

The Version (*V*), Display (*D*) and Print (*P*) function may be invoked by entering the desired function in the command field followed by the ID number of the desired report.

The user may scroll forward and backward in the index list until the desired report is located by using the Scroll Up/Down PF keys.

Output definition requests (‘OV’ and ‘OR’) are submitted from the Index panel.

The ‘OV’ (*Output Verification*) command submits a verification of the Output Definition and will return a report (PRINTVER) to the Access Group, and Location the User is in at the time the ‘OV’ request is issued. The report is used to verify the presence of the requested reports on-line prior to submission of the Output Request.

The ‘OR’ (*Output Request*) command submits the Output Definition, and routes the requested packet based on the information contained in panels 4 & 5 of the output definition.

The format of the commands are as follows:

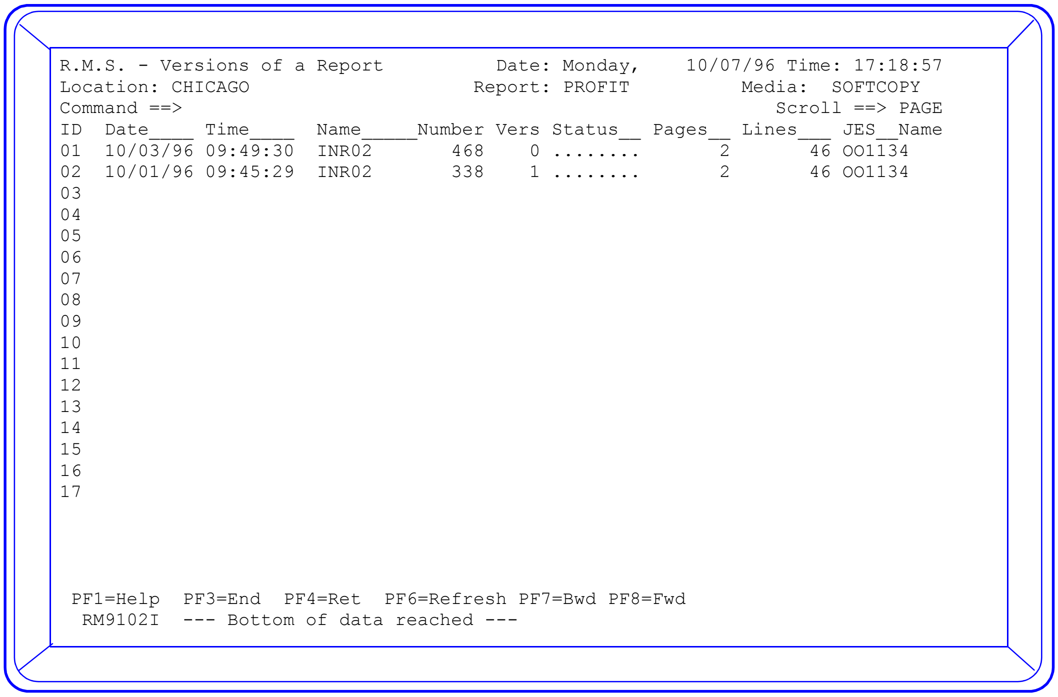
```
OV profname <ENTER>
```

(where ‘profname’ is equal to your Output definition profile name)

```
OR profname <ENTER>
```

(where ‘profname’ is equal to your Output definition profile name)

Versions Panel



```
R.M.S. - Versions of a Report          Date: Monday,    10/07/96 Time: 17:18:57
Location: CHICAGO                    Report: PROFIT          Media:  SOFTCOPY
Command ==>                                                     Scroll ==> PAGE
ID  Date____ Time____  Name_____Number Vers Status__ Pages__ Lines___ JES__Name
01  10/03/96 09:49:30  INR02       468    0 ........       2       46 OO1134
02  10/01/96 09:45:29  INR02       338    1 ........       2       46 OO1134
03
04
05
06
07
08
09
10
11
12
13
14
15
16
17




 PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
  RM9102I  --- Bottom of data reached ---
```

Versions Panel

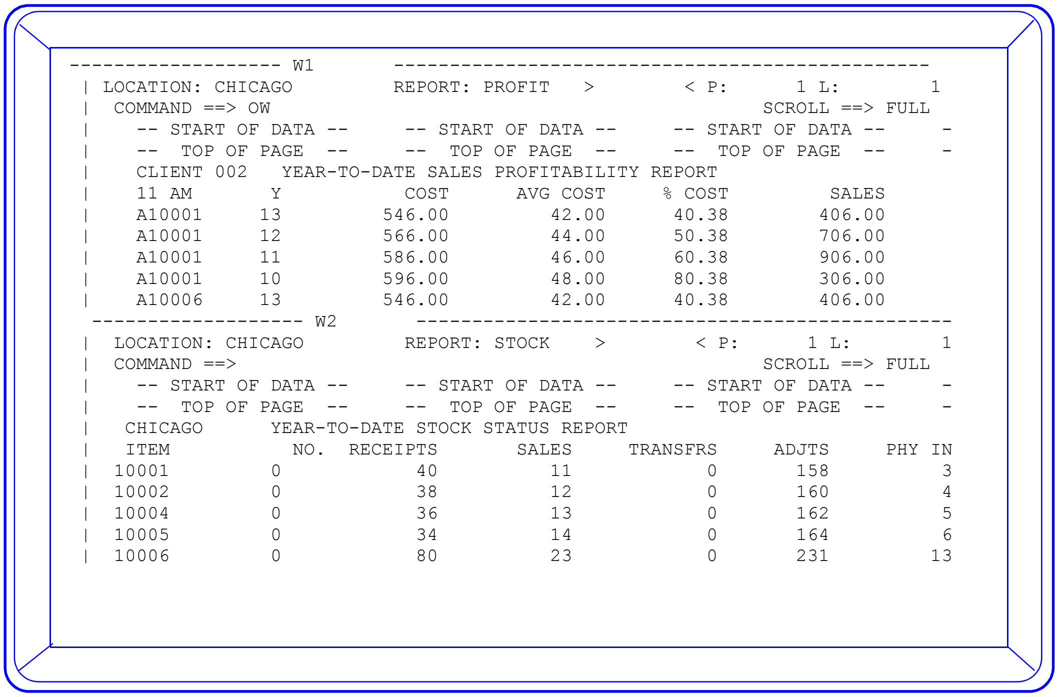
This panel displays version information for a selected report. The report versions are listed from the most recent to oldest. Scroll capabilities permit the user to locate the desired version of a report. The Display (*D*), Print (*P*), Output (O), Recovery (R), and Cancel (*C*) report functions may be invoked by entering the desired function followed by the ID number of the selected report. Entering “D 1” or “S 1” in the Command field would display the report version on line “01” of the versions panel. The Version panel shows the Location name, the Report ID, number of lines and pages, the date and time the report was processed, repository number, and the name of the JOB that created the report.

There are 8 Status positions defined as follows:

POSITION	CHARACTER	DEFINITION
1.	D	Report has been deleted from the repository but is eligible for recovery.
2.	+	Report appended (added to) during the distribution process.
3.	A	Dataset was retention-base archived.
3	N	Dataset was not a candidate for retention-based archive processing.
4.	B	Base Dataset
5.	X	Data object severed.
5.	P	Protected base dataset at the time of last RM90007 backup.

6.	R	This dataset was reloaded (recovered) to viewing status
7.	O	Output attributes reside with version record.
8.	D	Delete of dataset is pending.

Display Panel



```
------------------- W1       ------------------------------------------------
 | LOCATION: CHICAGO         REPORT: PROFIT   >        < P:      1 L:         1
 |  COMMAND ==> OW                                            SCROLL ==> FULL
 |    -- START OF DATA --     -- START OF DATA --     -- START OF DATA --      -
 |    --  TOP OF PAGE  --     --  TOP OF PAGE  --     --  TOP OF PAGE  --      -
 |    CLIENT 002   YEAR-TO-DATE SALES PROFITABILITY REPORT
 |    11 AM       Y           COST      AVG COST     % COST         SALES
 |    A10001     13          546.00         42.00      40.38        406.00
 |    A10001     12          566.00         44.00      50.38        706.00
 |    A10001     11          586.00         46.00      60.38        906.00
 |    A10001     10          596.00         48.00      80.38        306.00
 |    A10006     13          546.00         42.00      40.38        406.00
  ------------------- W2       ------------------------------------------------
 |  LOCATION: CHICAGO         REPORT: STOCK    >        < P:      1 L:         1
 |  COMMAND ==>                                               SCROLL ==> FULL
 |    -- START OF DATA --     -- START OF DATA --     -- START OF DATA --      -
 |    --  TOP OF PAGE  --     --  TOP OF PAGE  --     --  TOP OF PAGE  --      -
 |   CHICAGO      YEAR-TO-DATE STOCK STATUS REPORT
 |   ITEM           NO.  RECEIPTS       SALES     TRANSFRS     ADJTS     PHY IN
 |  10001        0            40          11            0       158          3
 |  10002        0            38          12            0       160          4
 |  10004        0            36          13            0       162          5
 |  10005        0            34          14            0       164          6
 |  10006        0            80          23            0       231         13
```

Display Panel

This panel is used to display the content of one or more reports. Once a report is displayed, various commands may be used to customize the presentation of the report(s) to fit individual needs.

You communicate with the display facility by a combination of PF key depressions and commands entered in the COMMAND ==> field at the top of the panel.

In the following command description, brackets (“[“and “]”) are used for notation only and should not be entered with command data. When used in the description of command options, these brackets indicate that one or more fields may be entered with a command. The vertical bar “|” indicates that one of the listed options may be entered with a command.

You will notice that with many of the commands, the same command is used to activate and deactivate the option. For instance, a scale line *(a line that provides a visual marker for report lines*) may be added and removed by typing (*S*)CALE into the command area of the panel.

LONG FORM	SHORT FORM	USAGE
.A....A		Note the current display location. Note ID must begin with a period.
*ADMIN CONTACT INFO	AD	Display administrator contact information.
*ADMIN FORMAT DELETE	AFD	Administrative Format Delete

LONG FORM	SHORT FORM	USAGE
*ADMIN FORMAT RETRIEVE	AFR	Administrative Format Retrieve
*ADMIN FORMAT SAVE	AFS	Administrative Format Save
ANOTE	AN	Attach a note to line
CLOSEW	CW	Close the current window
*COLUMN SELECT	CS	Specify columns and order of data to be displayed
FIND	F	Find a character string
*FORMAT DELETE	FD	Delete a viewing format set
*FORMAT RETRIEVE	FR	Retrieve a viewing format set
*FORMAT SAVE	FS	Save a viewing format set
HEADER	H	Select header hold lines
LEFT	LE	Shift display left
LOCATE	L	Locate a specific line number or previously noted location
OPENR	OR	Open an additional report
OPENW	OW	Open an additional viewing window
PF	PF	Display the default PF key usage
*PRINT END	PE	End the selection of a range of pages
*PRINT START	PS	Start the selection of a range of start pages
REPORTI	RI	Display report information for current report
RESET	RS	Reset the viewing options
RIGHT	RT	Shift display right
SCALE	S	Place a ruler line at the top of the display
*SEARCH RANGE	SR	Set search range for FIND command
*WINDOW SET	WS	Select a window set for report display
=X	X	Exit RMS/Online
ZOOM	Z	Changes current window from window size to full screen and vice-versa
* Short form only		

COMMAND DESCRIPTION

A....A

Label the current location. A period (“.”) followed by up to 7 characters is used to identify the current page location. The labeled location may be retrieved for viewing by entering the assigned label as the operand on a LOCATE (*L*) command.

AD

Entering AD in the COMMAND ==> field of the display will cause the administrator name and phone number to be displayed. This may be useful if you are having problems you feel the administrator may help you resolve. This command causes part of the window being displayed to be overlaid. You may restore the viewing panel(s) by pressing PF3.

ADMIN FORMAT DELETE U....U

AFD

The Administrative Format Delete command is used to remove a secured viewing format set previously added by the Administrative Format Save command. U....U is the name of the user to which the secured format applies. The administrator must be viewing the report to which the format applies (*same Access Group/Location ID*) in order to delete the format record.

ADMIN FORMAT RETRIEVE U....U

AFR

The Administrative Format Retrieve command enables a system administrator to retrieve viewing format information previously saved using the Administrative Format Save (*AFS*) command. U....U is the name of the user to which the secured format applies.

ADMIN FORMAT SAVE U....U

AFS

The Administrative Format Save (*AFS*) command provides a convenient method of restricting access by a specific user to selected columns of a report. The same attributes saved by the Format Save command are also retained by the AFS command. The difference is that the selected columns may not be reset by the user. U....U is the user identification to which the secured format will apply.

ANOTE [NNNNNNN]

AN

The ANOTE command is used to attach a “sticky note” to a specific line [nnnnnn] of a report. The notes may be accessed during the viewing session by entering LNOTE (LN).

CLOSEW

CW

Close the current window. The panel area previously occupied by the window is erased and the current window is changed to the next active window.

COLUMN SELECT [x,y......]

CS

The COLUMN SELECT command is used to select and reorganize the columns of a report to make the content of that report more usable to the viewer. Columns may be selected in any order and columns selected by one x,y pair may overlap those selected by another select pair. The only requirement is that x be less than or equal to y in each x,y pair, and that neither value be less than 1 or greater than 240.

In order to select columns 1 through 10 and 20 through 40 for viewing, the following CS command would be entered:

CS 1,10 20,40 Since there is no restriction with regard to column order, we could view the same columns in reverse order by entering:

CS 20,40 1,10 Columns may be reset by entering CS with no x,y pairs.

FIND 'STRING' | * [NEXT | PREV | FIRST | LAST]

F

The FIND command is used to locate a character string (*word or phrase*) in the report being viewed. The search will commence at the top of the screen, either forward (*down*) or back (*up*). The FIND operands are:

STRING	is the word or phrase to be located. If the word or phrase contains one of the following characters / '$- #, it should be enclosed in quotes.
*****	causes the character string last entered to be used as the object of the current command.
NEXT	causes the next occurrence of the character string to be located. (N)ext is the default.
PREV	causes the previous occurrence of the character string to be located.
FIRST	causes the first occurrence of the character string to be located.
LAST	causes the last occurrence of the character string to be located.

FORMAT DELETE A.....A

FD

The FORMAT DELETE command is used to remove a format set previously added by a FORMAT SAVE command.

FORMAT RETRIEVE [A.....A]

FR

The FORMAT RETRIEVE command enables a user to retrieve viewing format information previously saved using the FORMAT SAVE (*FS*) command. A.....A is the name of the format set (*up to 10 characters*) to be retrieved. If A.....A is omitted, the DEFAULT format set is retrieved.

FORMAT SAVE A.....A

FS

The FORMAT SAVE command provides a convenient method of saving viewing format information. The following values are retained for subsequent viewing operations using the retrieved format: SCALE, HEADER HOLD, SCROLL VALUE, ACTIVE COLUMN SELECTION,.A.....A is the name under which the format is stored for subsequent retrieval by the FORMAT RETRIEVE (*FR*) command. Multiple formats may be saved for the same report. If DEFAULT is specified or the A.....A is omitted, the format is automatically retrieved at the time the report is accessed by the user. It should be noted that format records are stored by user permitting multiple users to establish and control their unique viewing requirements for the same report.

HEADER [N]

H

The HEADER command is used to request that up to 21 lines of header data be held at the top of the scroll page. The held header lines are highlighted for subsequent scroll operations.

Heading lines may be removed by entering H with no operand.

LNOTE [NNNNNN]

LN

The LNOTE (*List Notes*) command is used to list the notes attached to specific lines or a report. The list will begin with notes attached to lines greater than or equal to [nnnnnn].

LEFT [nnn]

LE

The LEFT command is used to position the viewing window NNN position to the left in the current display image.

LOCATE .A....A | NNNN

L

The LOCATE command is used to position a report to a previously labeled viewing position or to a specific line or page. If the SCROLL ==> value is HALF, FULL OR NNNN, positioning is to the specified line. If the scroll value is PAGE, positioning is to the specified page.

.A....A is a label previous assigned.

NNNN is a report line number or page number.

OPENR

OR

Open a report. After the open window command is entered, a report selection sub-panel is presented in the current window. Information entered in this sub-panel determines which report will be retrieved for viewing in the new window. Once multiple reports are opened, the PF4 key may be used to switch between open reports.

OPENW	**OW**	Open a window. After the open report command is entered, a report selection sub-panel is presented in the newly created window. Information entered in this sub-panel determines which report will be retrieved. Once multiple windows are opened, the PF9 key is used to switch windows.
PF		This command displays the default PF key settings for RMS/Online. Depress END when you have reviewed these settings. Your display will be restored to its original viewing location.
PRINT END	**PE**	The PRINT END command is used to indicate the end of a range of pages selected for printing.
PRINT START	**PS**	The PRINT START command designates the beginning page of a page range to be printed.
REPORTI	**RI**	The report information command displays extended information on the report being viewed.
RESET	**RS**	Reset the viewing options. Column selection is removed. The scale line (*if any*) is removed. Header hold line is set to zero.
RIGHT [NNN]	**RT**	The RIGHT command is used to position the viewing window NNN position to the right in the current display image.
SCALE	**S**	The SCALE command adds or deletes the ruler line to/from the current display. The ruler lines serves as a horizontal visual reference while viewing a report. It looks like this: ....+...10....+...20....+...30....+...40....+...50....+... 60....+...70....+...80
SEARCH RANGE [NNNNNNNN]	**SR**	

99,999,999 may be entered. If the number of lines is omitted, the default search range (5,000) is assumed.

WINDOW SET [NNNN]

WS

The WINDOW SET command is used to select a window set which will divide the panel into viewing areas. Available window sets are:

H2	Horizontal aspect window set. Each window occupies one-half of the panel area.
H3	Horizontal aspect window set. Each window set occupies one-third of the panel area.
Q4	Horizontal aspect window set. Each window set occupies one-fourth of the panel area.
V2	Vertical aspect window set. Each window set occupies one-half of the panel area.

Entering “WS” with no set name causes the full screen (*default*) to be selected.

LINE POSITIONING/SCROLL OPERATIONS

RMS/DPF accepts four scroll values. One of the following may be entered after using the Tab key =>| to advance to the SCROLL ==> field.

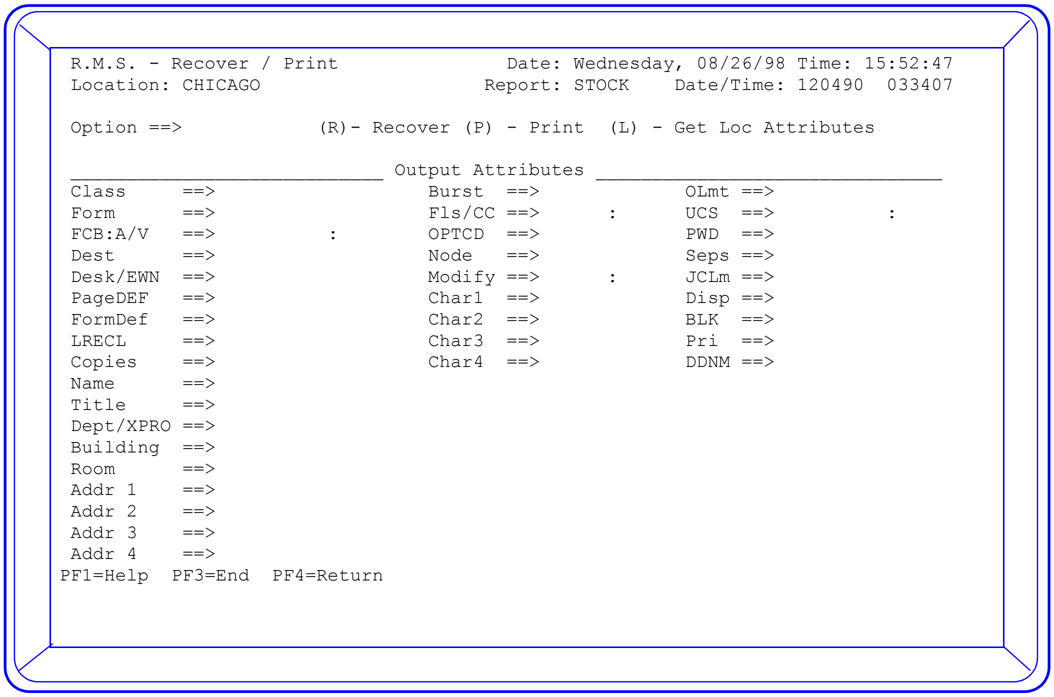
H(ALF)	Scroll half the depth of the current window.
F(ULL)	Scroll the depth of the current window.
NNNN	Scroll NNNN lines.
P(AGE)	A scroll value of page positions from the current viewing page to the next/previous report page.

The scroll value may be overridden by entering a number in the command line before depressing the scroll PF keys. If RMS/DPF receives a number in the command line while the scroll value is HALF, FULL, OR NNNN, the number entered is interpreted as the number of lines to scroll. If the scroll value is PAGE when a value is entered, the system scrolls this many pages.

Entering the letter “M” (*maximum*) and depressing a scroll key will cause the system to scroll to the top or bottom of the dataset, depending on which PF key is depressed.

When M(*aximum*) is entered and the scroll left/right key is depressed, the viewing window is positioned as far to the maximum right or left position of the viewing data as possible.

Recover / Print Panel



```
 R.M.S. - Recover / Print               Date: Wednesday, 08/26/98 Time: 15:52:47
 Location: CHICAGO                    Report: STOCK    Date/Time: 120490  033407

 Option ==>            (R)- Recover (P) - Print  (L) - Get Loc Attributes

 ____________________________ Output Attributes _______________________________
 Class     ==>                   Burst  ==>              OLmt ==>
 Form      ==>                   Fls/CC ==>      :       UCS  ==>          :
 FCB:A/V   ==>          :        OPTCD  ==>              PWD  ==>
 Dest      ==>                   Node   ==>              Seps ==>
 Desk/EWN  ==>                   Modify ==>      :       JCLm ==>
 PageDEF   ==>                   Char1  ==>              Disp ==>
 FormDef   ==>                   Char2  ==>              BLK  ==>
 LRECL     ==>                   Char3  ==>              Pri  ==>
 Copies    ==>                   Char4  ==>              DDNM ==>
 Name      ==>
 Title     ==>
 Dept/XPRO ==>
 Building  ==>
 Room      ==>
 Addr 1    ==>
 Addr 2    ==>
 Addr 3    ==>
 Addr 4    ==>
PF1=Help  PF3=End  PF4=Return
```

Recover / Print Panel

The Recover/Print panel is presented if the system Print, Output, or Recover option was selected on the Versions panel, or pages were selected during a viewing operation. Address/message data and physical print characteristics may be entered on the screen. Default address data is taken from the User Master and default print characteristics are taken from those print characteristics assigned when the report was distributed.

Print characteristics may be retrieved from the Location Master by typing “L” and **ENTER**.

To submit the Print Request, type ‘**P**’ in the Option==> field and depress <ENTER>.

To submit the Recovery Request, type ‘**R**’ in the Option==> field and depress <ENTER>.

RMS NOTE PAD FACILITY

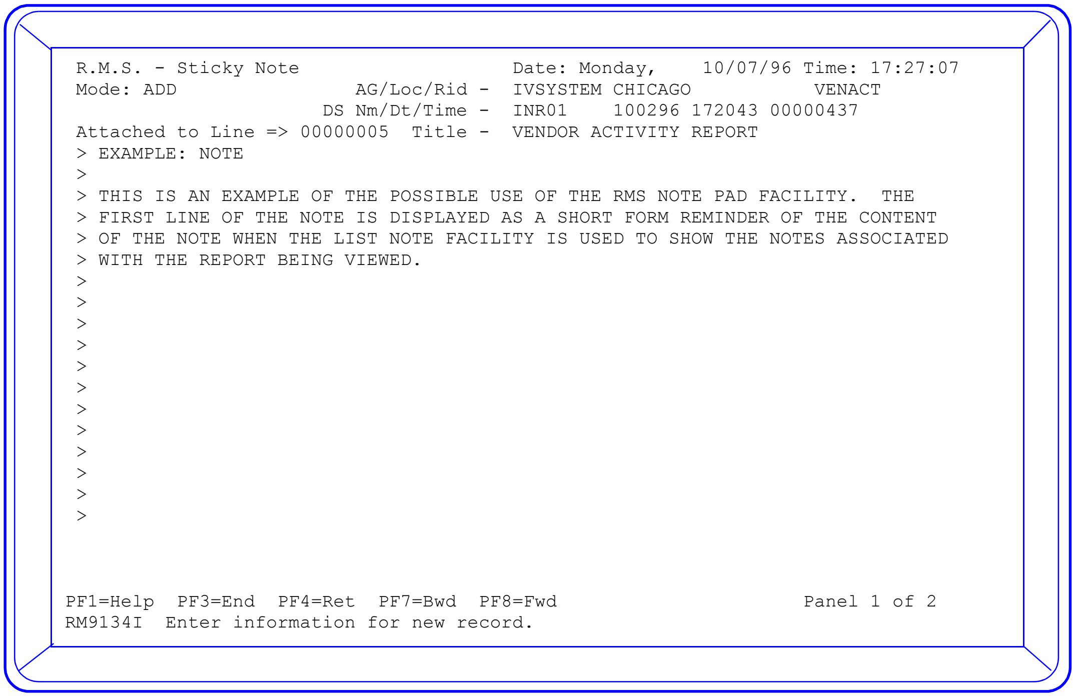
The Note Pad feature allows users to attach ‘sticky notes’ at the report line level to reports in softcopy. The note pad allows for up to two (2) pages of text to be entered for each line of the report.

In RMS Release 11.34 notes processing has been enhanced to ensure note pad entries are maintained properly within the RMS Online system. Highlighted below are the features and functionality of the note pad facility.

- The Userid of the user adding the Note to the report is tracked for audit purposes and is shown on the ‘LN’ (list note) results.
- Notes that have been added to reports are backed up and restored when normal file maintenance (RM90007/RM90008) is performed.

- Notes are deleted from the QXACDS VSAM file only after the Run Tracking record for the distribution job has been deleted and a PARTIAL, PARTIALCLEAR or PARTIALSYNC restore (RM90008) has been performed.
- All RMS Online users have the ability to add notes (AN) and list notes (LN).
- Access to note pad commands allowing changes (CN), deletions (DN), or inquiries (IN) are controlled via the security profile portion of the user master record in conjunction with the associated resource security entries.
- Notes that are added to reports governed by a group archive follow the report throughout its' life in the Online (in both viewable and tracking statuses). This affords users the ability to have the 'original notes' for a report reloaded if a request is issued to reload a report that is being tracked.
- Once reloaded, additional notes can be added to the reloaded version of the report.

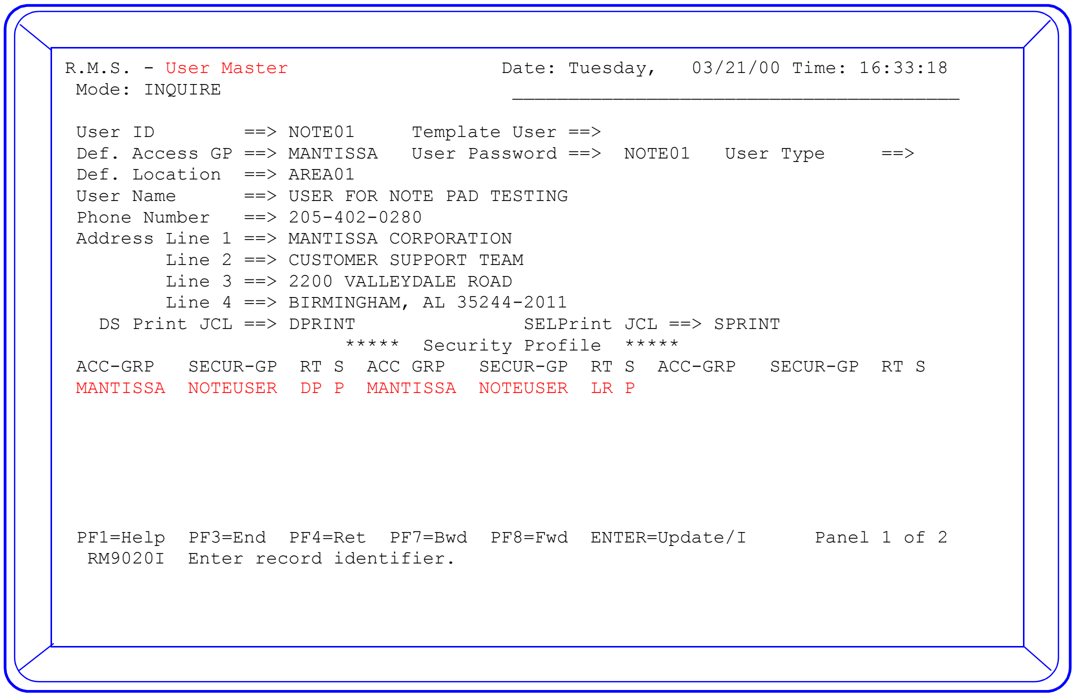
Note Pad Panel



```
 R.M.S. - Sticky Note                   Date: Monday,    10/07/96 Time: 17:27:07
 Mode: ADD                AG/Loc/Rid -  IVSYSTEM CHICAGO           VENACT
                       DS Nm/Dt/Time -  INR01    100296 172043 00000437
 Attached to Line => 00000005  Title -  VENDOR ACTIVITY REPORT
 > EXAMPLE: NOTE
 >
 > THIS IS AN EXAMPLE OF THE POSSIBLE USE OF THE RMS NOTE PAD FACILITY.  THE
 > FIRST LINE OF THE NOTE IS DISPLAYED AS A SHORT FORM REMINDER OF THE CONTENT
 > OF THE NOTE WHEN THE LIST NOTE FACILITY IS USED TO SHOW THE NOTES ASSOCIATED
 > WITH THE REPORT BEING VIEWED.
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >


PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd                      Panel 1 of 2
RM9134I  Enter information for new record.
```

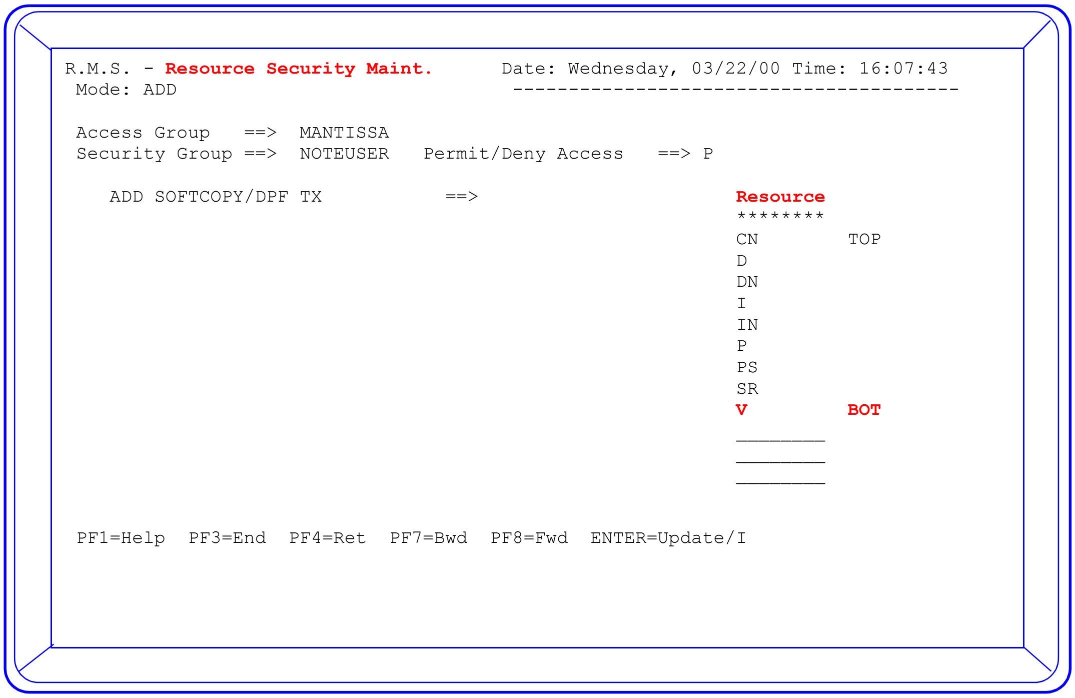
RMS Security for Note pad access

The following panels outline the steps to follow to ensure security has been set up properly to allow Online users to use the note pad facility. A brief explanation follows each panel.



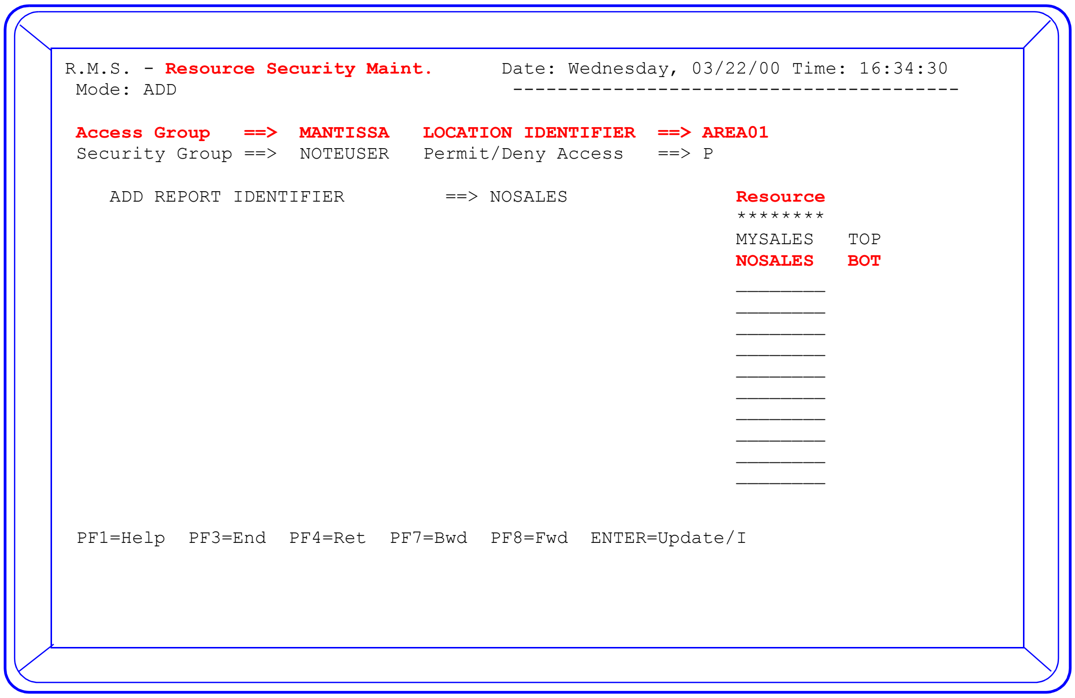
```
R.M.S. - User Master                   Date: Tuesday,   03/21/00 Time: 16:33:18
 Mode: INQUIRE                          ________________________________________

 User ID        ==> NOTE01     Template User ==>
 Def. Access GP ==> MANTISSA   User Password ==>  NOTE01   User Type     ==>
 Def. Location  ==> AREA01
 User Name      ==> USER FOR NOTE PAD TESTING
 Phone Number   ==> 205-402-0280
 Address Line 1 ==> MANTISSA CORPORATION
         Line 2 ==> CUSTOMER SUPPORT TEAM
         Line 3 ==> 2200 VALLEYDALE ROAD
         Line 4 ==> BIRMINGHAM, AL 35244-2011
   DS Print JCL ==> DPRINT               SELPrint JCL ==> SPRINT
                         *****  Security Profile  *****
 ACC-GRP   SECUR-GP  RT S  ACC GRP   SECUR-GP  RT S  ACC-GRP   SECUR-GP  RT S
 MANTISSA  NOTEUSER  DP P  MANTISSA  NOTEUSER  LR P






 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1 of 2
  RM9020I  Enter record identifier.
```

The Security Profile area of the User Master record defines which resource security records to reference to govern the activity of the user while viewing softcopy reports. Only one (1) set of 'DP' transactions is defined for each user. Multiple entries are allowed to provide access to all of the online locations and reports the user can access. These entries along with the corresponding resource security records ensure users access only the locations and reports defined for their use.



```
R.M.S. - Resource Security Maint.      Date: Wednesday, 03/22/00 Time: 16:07:43
 Mode: ADD                              ----------------------------------------

 Access Group   ==>  MANTISSA
 Security Group ==>  NOTEUSER   Permit/Deny Access   ==> P

    ADD SOFTCOPY/DPF TX           ==>                         Resource
                                                              ********
                                                              CN       TOP
                                                              D
                                                              DN
                                                              I
                                                              IN
                                                              P
                                                              PS
                                                              SR
                                                              V        BOT
                                                              ________
                                                              ________
                                                              ________

 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

The Resource Security panel above governs the Display Print transactions available to the user. This record corresponds with the information entered in the Security Profile area of the User Master record. The user is permitted to perform any of the ‘DP’ transactions in the resource list.



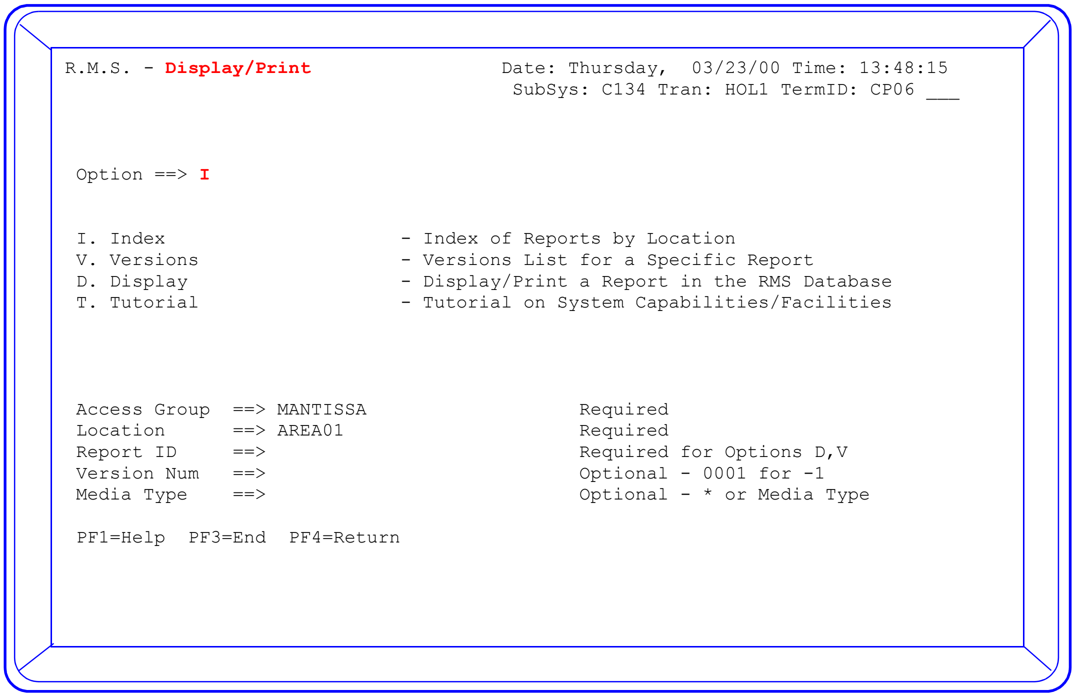
```
R.M.S. - Resource Security Maint.      Date: Wednesday, 03/22/00 Time: 16:34:30
 Mode: ADD                              ----------------------------------------

 Access Group   ==>  MANTISSA   LOCATION IDENTIFIER  ==> AREA01
 Security Group ==>  NOTEUSER   Permit/Deny Access   ==> P

    ADD REPORT IDENTIFIER         ==> NOSALES               Resource
                                                            ********
                                                            MYSALES   TOP
                                                            NOSALES   BOT
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________
                                                            ________


 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I
```

The Resource Security panel above governs the Reports available to the user within the access group and location specified. This record corresponds with information entered in the Security Profile area of the User Master record. The user is permitted to perform any of their display print transactions for all of the reports permitted in the resource list.

If you have a user who has access to all reports within a given location, it is more efficient to use the Deny option and deny a Report ID that does not exist, for example, DUMMY. By design, if you deny access to a specific Report ID, you imply access to all other reports within the location.

Note pad Usage Step by Step

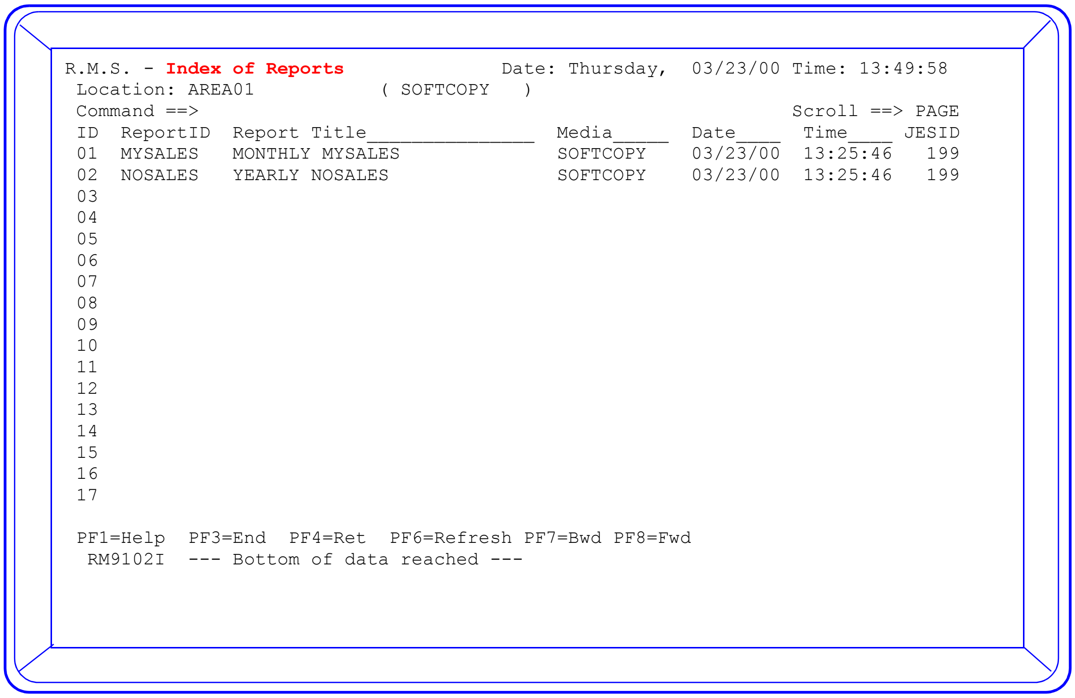
The following panels outline the steps to follow to use the note pad facility. Each command is explained in detail.



```
R.M.S. - Display/Print                 Date: Thursday,  03/23/00 Time: 13:48:15
                                        SubSys: C134 Tran: HOL1 TermID: CP06 ___


 Option ==> I


 I. Index                     - Index of Reports by Location
 V. Versions                  - Versions List for a Specific Report
 D. Display                   - Display/Print a Report in the RMS Database
 T. Tutorial                  - Tutorial on System Capabilities/Facilities




 Access Group  ==> MANTISSA                   Required
 Location      ==> AREA01                     Required
 Report ID     ==>                            Required for Options D,V
 Version Num   ==>                            Optional - 0001 for -1
 Media Type    ==>                            Optional - * or Media Type

 PF1=Help  PF3=End  PF4=Return
```

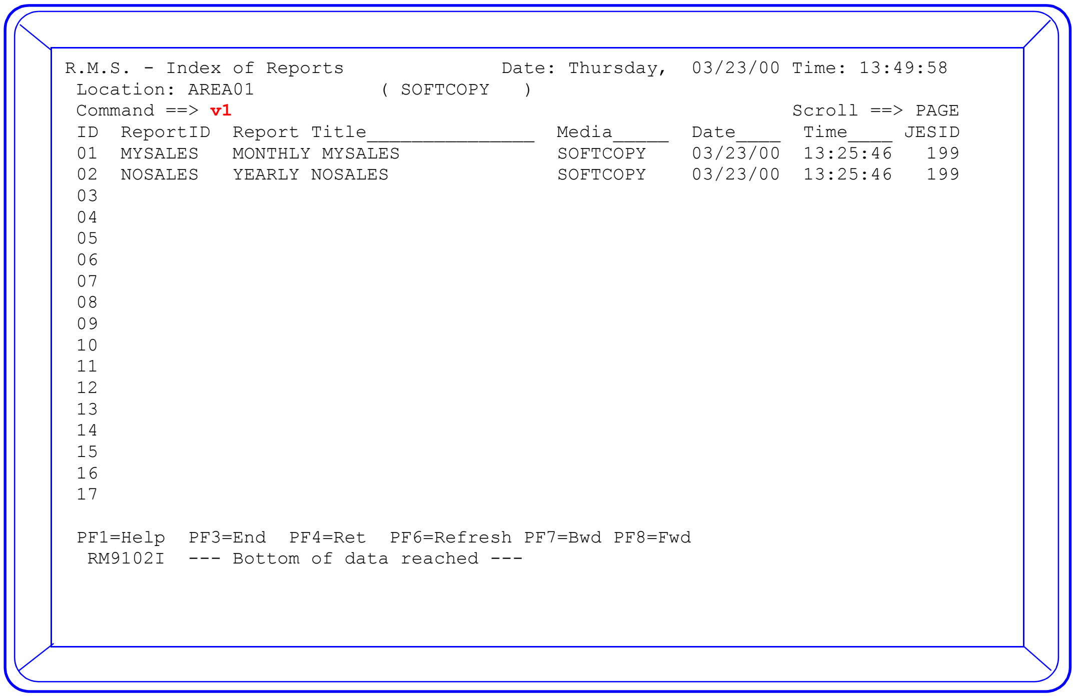
The Display Print menu is presented upon sign-on to RMS Online via the RM01 (or equivalent) transaction. The access group and location are set to the default values defined in the user master record. These values represent the access group and location most often referenced by the user. If the user is permitted via resource security to access other Access groups and Locations, they can modify the fields to the desired values.

Option ‘I’ will produce an index list.



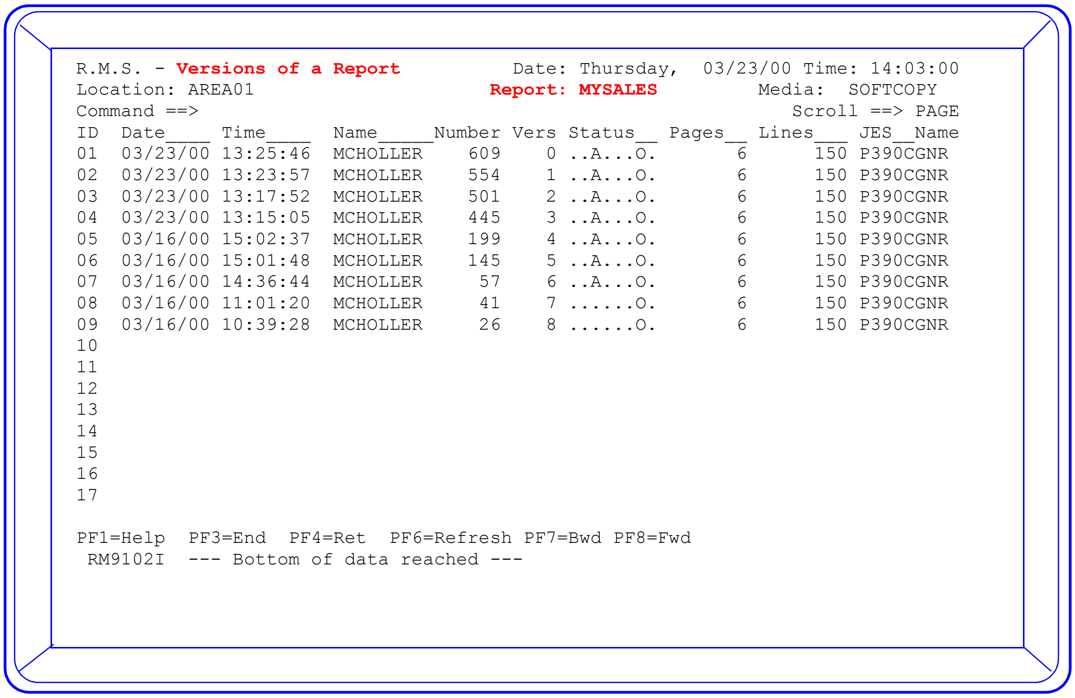
```
R.M.S. - Index of Reports               Date: Thursday,  03/23/00 Time: 13:49:58
 Location: AREA01           ( SOFTCOPY   )
 Command ==>                                                      Scroll ==> PAGE
 ID  ReportID  Report Title_______________  Media_____  Date____  Time____ JESID
 01  MYSALES   MONTHLY MYSALES              SOFTCOPY    03/23/00  13:25:46   199
 02  NOSALES   YEARLY NOSALES               SOFTCOPY    03/23/00  13:25:46   199
 03
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17

 PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
  RM9102I  --- Bottom of data reached ---
```

Option ‘I’ produces a list of all reports the user is entitled to view within the location specified. Access to reports is governed by RMS Online Security components.



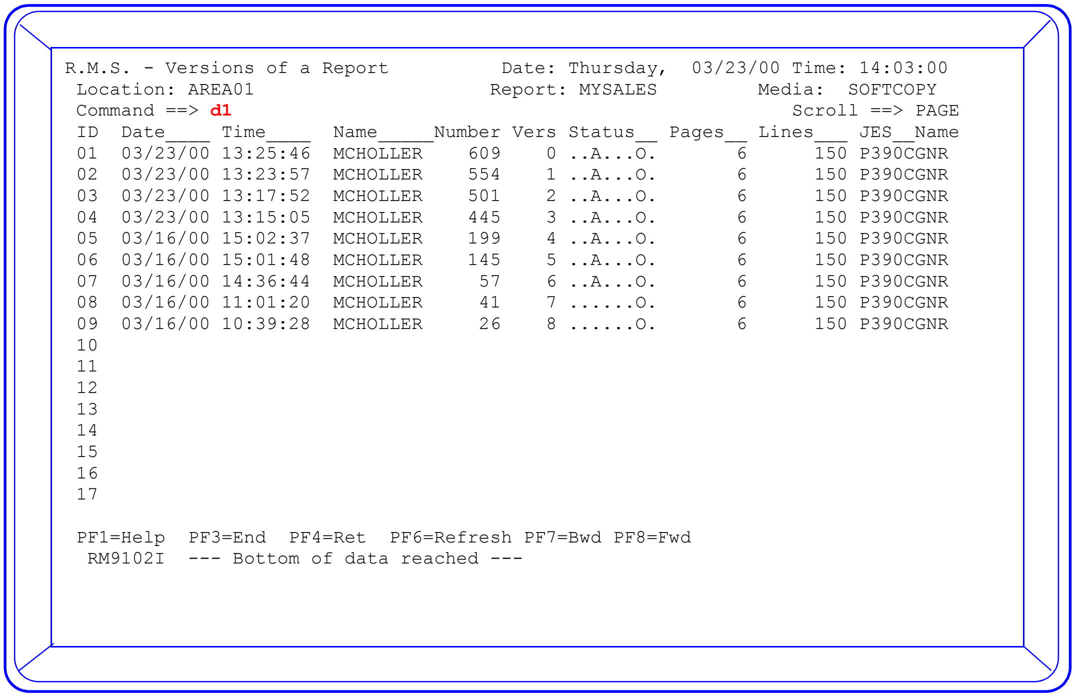
```
R.M.S. - Index of Reports               Date: Thursday,  03/23/00 Time: 13:49:58
 Location: AREA01           ( SOFTCOPY   )
 Command ==> v1                                                   Scroll ==> PAGE
 ID  ReportID  Report Title_______________  Media_____  Date____  Time____ JESID
 01  MYSALES   MONTHLY MYSALES              SOFTCOPY    03/23/00  13:25:46   199
 02  NOSALES   YEARLY NOSALES               SOFTCOPY    03/23/00  13:25:46   199
 03
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17

 PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
  RM9102I  --- Bottom of data reached ---
```

The ‘Vn’ command (where ‘n’ is the ID of the report) will provide a list that contains all of the versions of the requested report within the specified location. The ‘Vn’ command can be entered on the command line, or you can overtype the selection in the ID column.



```
R.M.S. - Versions of a Report          Date: Thursday,  03/23/00 Time: 14:03:00
Location: AREA01                        Report: MYSALES          Media:  SOFTCOPY
Command ==>                                                         Scroll ==> PAGE
ID  Date____ Time____  Name_____Number Vers Status__ Pages__ Lines___ JES__Name
01  03/23/00 13:25:46  MCHOLLER    609     0 ..A...O.       6      150 P390CGNR
02  03/23/00 13:23:57  MCHOLLER    554     1 ..A...O.       6      150 P390CGNR
03  03/23/00 13:17:52  MCHOLLER    501     2 ..A...O.       6      150 P390CGNR
04  03/23/00 13:15:05  MCHOLLER    445     3 ..A...O.       6      150 P390CGNR
05  03/16/00 15:02:37  MCHOLLER    199     4 ..A...O.       6      150 P390CGNR
06  03/16/00 15:01:48  MCHOLLER    145     5 ..A...O.       6      150 P390CGNR
07  03/16/00 14:36:44  MCHOLLER     57     6 ..A...O.       6      150 P390CGNR
08  03/16/00 11:01:20  MCHOLLER     41     7 ......O.       6      150 P390CGNR
09  03/16/00 10:39:28  MCHOLLER     26     8 ......O.       6      150 P390CGNR
10
11
12
13
14
15
16
17

PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
 RM9102I  --- Bottom of data reached ---
```

The panel above is a complete version listing for the report requested.

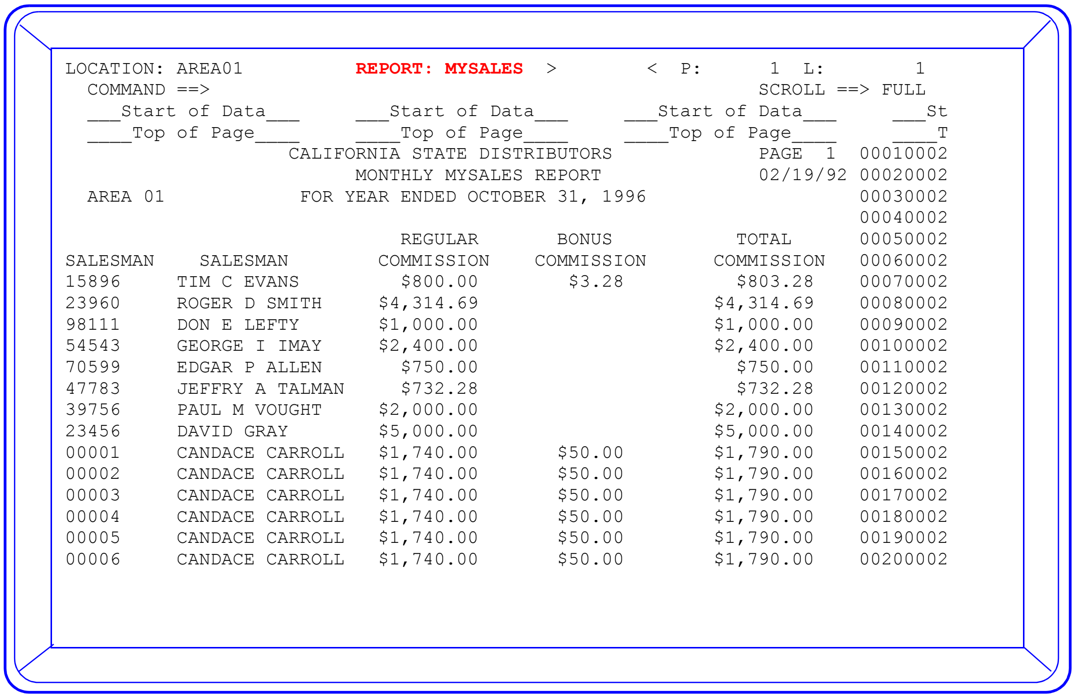


```
R.M.S. - Versions of a Report          Date: Thursday,  03/23/00 Time: 14:03:00
 Location: AREA01                        Report: MYSALES          Media:  SOFTCOPY
 Command ==> d1                                                      Scroll ==> PAGE
 ID  Date____ Time____  Name_____Number Vers Status__ Pages__ Lines___ JES__Name
 01  03/23/00 13:25:46  MCHOLLER    609     0 ..A...O.       6      150 P390CGNR
 02  03/23/00 13:23:57  MCHOLLER    554     1 ..A...O.       6      150 P390CGNR
 03  03/23/00 13:17:52  MCHOLLER    501     2 ..A...O.       6      150 P390CGNR
 04  03/23/00 13:15:05  MCHOLLER    445     3 ..A...O.       6      150 P390CGNR
 05  03/16/00 15:02:37  MCHOLLER    199     4 ..A...O.       6      150 P390CGNR
 06  03/16/00 15:01:48  MCHOLLER    145     5 ..A...O.       6      150 P390CGNR
 07  03/16/00 14:36:44  MCHOLLER     57     6 ..A...O.       6      150 P390CGNR
 08  03/16/00 11:01:20  MCHOLLER     41     7 ......O.       6      150 P390CGNR
 09  03/16/00 10:39:28  MCHOLLER     26     8 ......O.       6      150 P390CGNR
 10
 11
 12
 13
 14
 15
 16
 17

 PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
  RM9102I  --- Bottom of data reached ---
```

CHAPTER 7: DISPLAY PRINT FACILITY

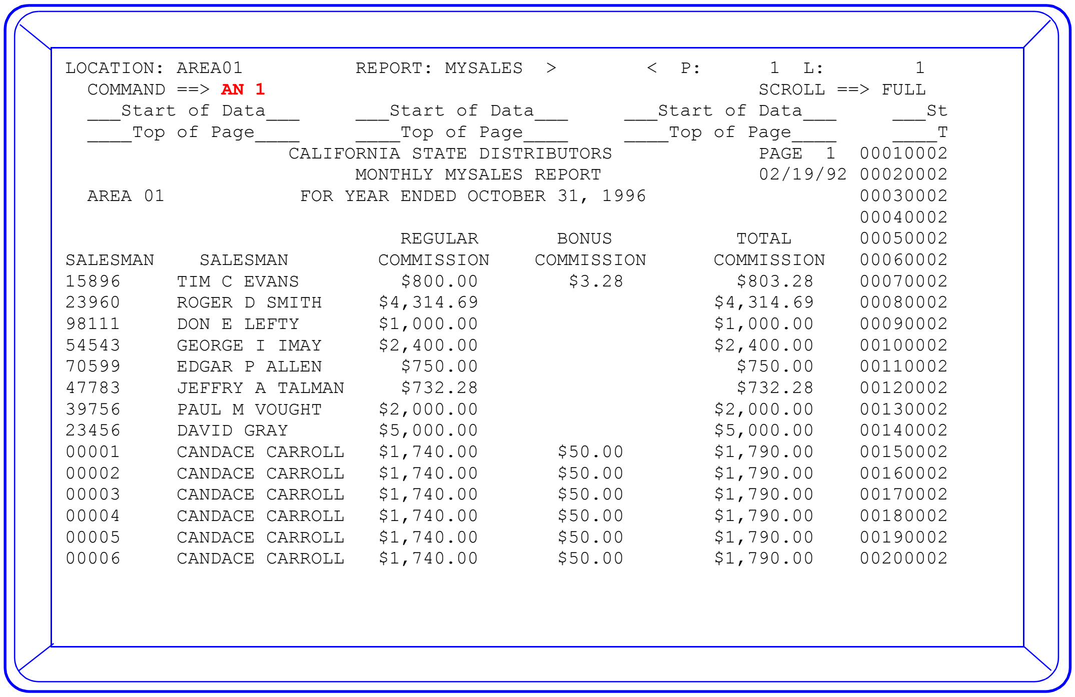
Chap_07(v11r35m1).fm: Revised Sunday, November 24, 2013

The ‘Dn’ command (where ‘n’ is the ID of the report to be viewed) will open the requested report for viewing through RMS Online. The ‘Dn’ command can be entered on the command line, or you can overtype the selection in the ID column.



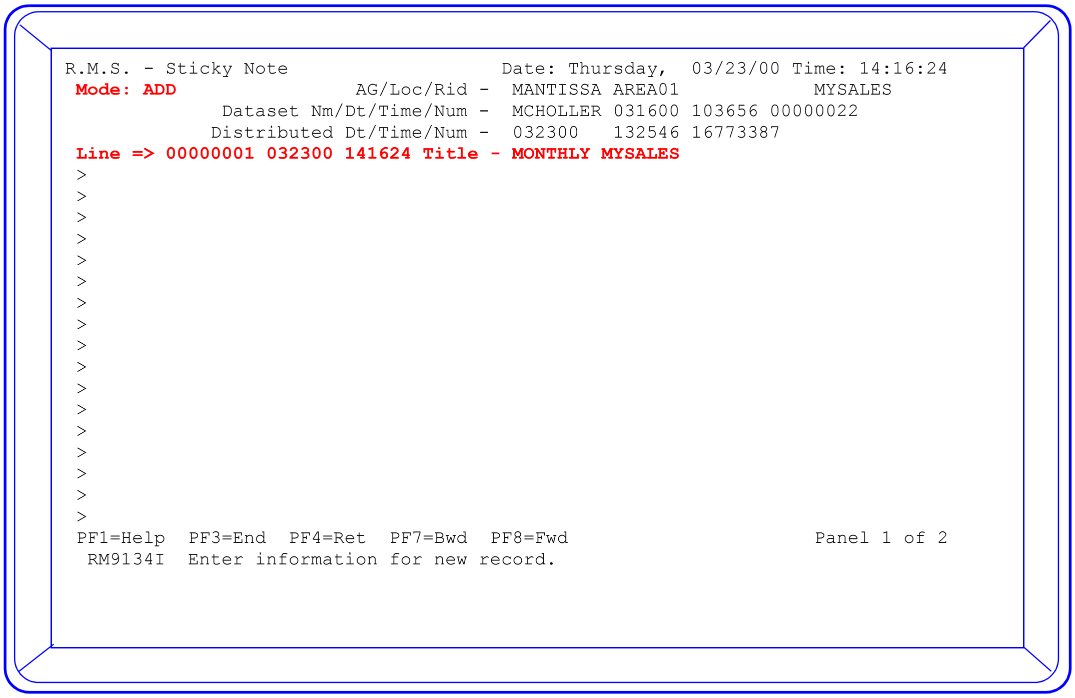
```
LOCATION: AREA01          REPORT: MYSALES  >        <  P:      1  L:        1
  COMMAND ==>                                                 SCROLL ==> FULL
  ___Start of Data___     ___Start of Data___     ___Start of Data___     ___St
  ____Top of Page____     ____Top of Page____     ____Top of Page____     ____T
                    CALIFORNIA STATE DISTRIBUTORS             PAGE   1 00010002
                          MONTHLY MYSALES REPORT              02/19/92 00020002
  AREA 01            FOR YEAR ENDED OCTOBER 31, 1996                   00030002
                                                                       00040002
                              REGULAR       BONUS           TOTAL      00050002
SALESMAN    SALESMAN        COMMISSION    COMMISSION      COMMISSION   00060002
15896     TIM C EVANS         $800.00        $3.28          $803.28    00070002
23960     ROGER D SMITH     $4,314.69                     $4,314.69    00080002
98111     DON E LEFTY       $1,000.00                     $1,000.00    00090002
54543     GEORGE I IMAY     $2,400.00                     $2,400.00    00100002
70599     EDGAR P ALLEN       $750.00                       $750.00    00110002
47783     JEFFRY A TALMAN     $732.28                       $732.28    00120002
39756     PAUL M VOUGHT     $2,000.00                     $2,000.00    00130002
23456     DAVID GRAY        $5,000.00                     $5,000.00    00140002
00001     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00150002
00002     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00160002
00003     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00170002
00004     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00180002
00005     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00190002
00006     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00200002
```

Display of the requested report.



```
LOCATION: AREA01          REPORT: MYSALES  >        <  P:      1  L:        1
  COMMAND ==> AN 1                                            SCROLL ==> FULL
  ___Start of Data___     ___Start of Data___     ___Start of Data___     ___St
  ____Top of Page____     ____Top of Page____     ____Top of Page____     ____T
                    CALIFORNIA STATE DISTRIBUTORS             PAGE   1 00010002
                          MONTHLY MYSALES REPORT              02/19/92 00020002
  AREA 01            FOR YEAR ENDED OCTOBER 31, 1996                   00030002
                                                                       00040002
                              REGULAR       BONUS           TOTAL      00050002
SALESMAN    SALESMAN        COMMISSION    COMMISSION      COMMISSION   00060002
15896     TIM C EVANS         $800.00        $3.28          $803.28    00070002
23960     ROGER D SMITH     $4,314.69                     $4,314.69    00080002
98111     DON E LEFTY       $1,000.00                     $1,000.00    00090002
54543     GEORGE I IMAY     $2,400.00                     $2,400.00    00100002
70599     EDGAR P ALLEN       $750.00                       $750.00    00110002
47783     JEFFRY A TALMAN     $732.28                       $732.28    00120002
39756     PAUL M VOUGHT     $2,000.00                     $2,000.00    00130002
23456     DAVID GRAY        $5,000.00                     $5,000.00    00140002
00001     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00150002
00002     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00160002
00003     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00170002
00004     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00180002
00005     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00190002
00006     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00200002
```

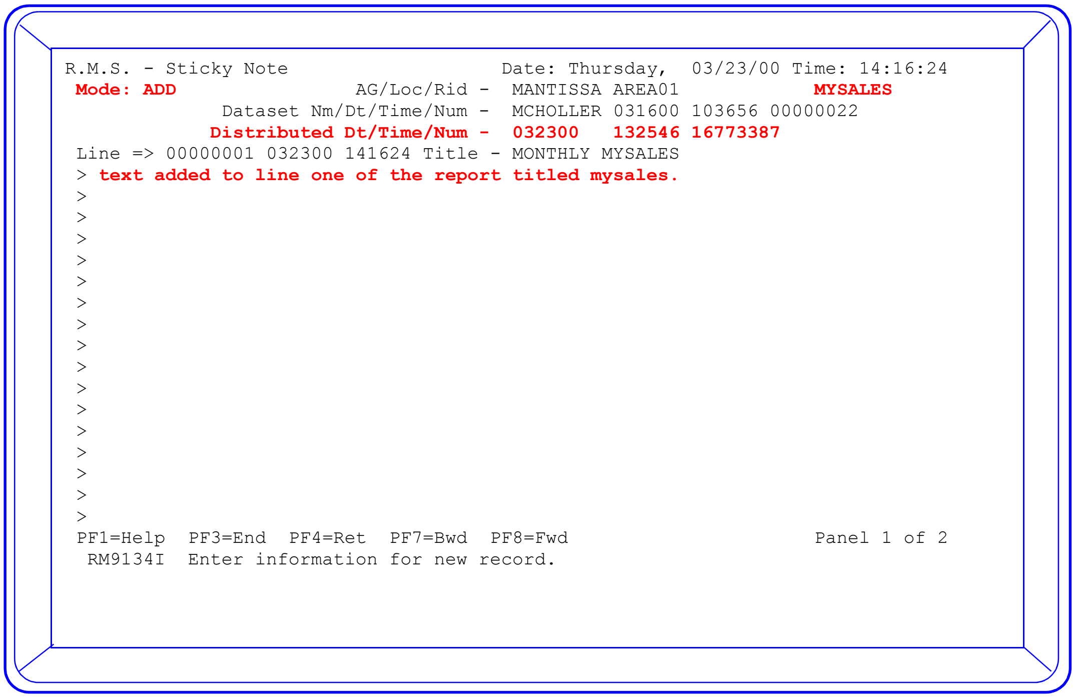
The ‘AN n’ command allows you to attach your ‘Sticky Note’ to the line number specified in the ‘n’ value. The following panel is returned once you press <enter> to process your command.



```
R.M.S. - Sticky Note                   Date: Thursday,  03/23/00 Time: 14:16:24
 Mode: ADD                AG/Loc/Rid -  MANTISSA AREA01             MYSALES
              Dataset Nm/Dt/Time/Num -  MCHOLLER 031600 103656 00000022
             Distributed Dt/Time/Num -  032300   132546 16773387
 Line => 00000001 032300 141624 Title - MONTHLY MYSALES
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd                      Panel  1 of  2
  RM9134I  Enter information for new record.
```

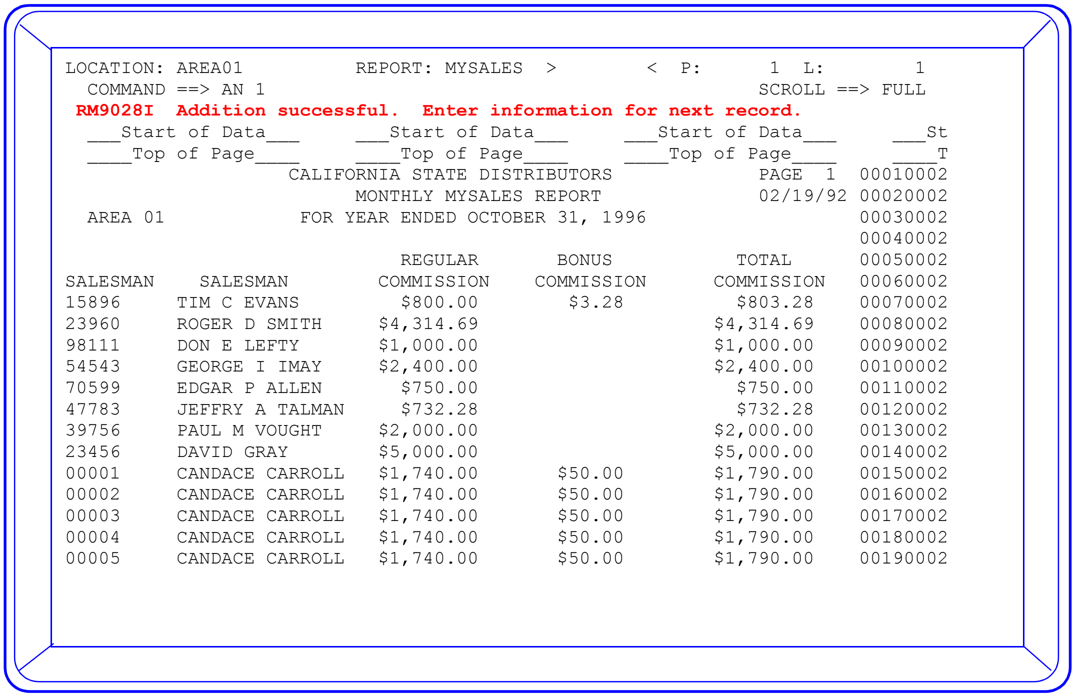
The line number on which the note is to be added is in the heading for the note record. Other relative information about the report is included for reference purposes.

Each line of the report can contain up to two (2) pages of text.



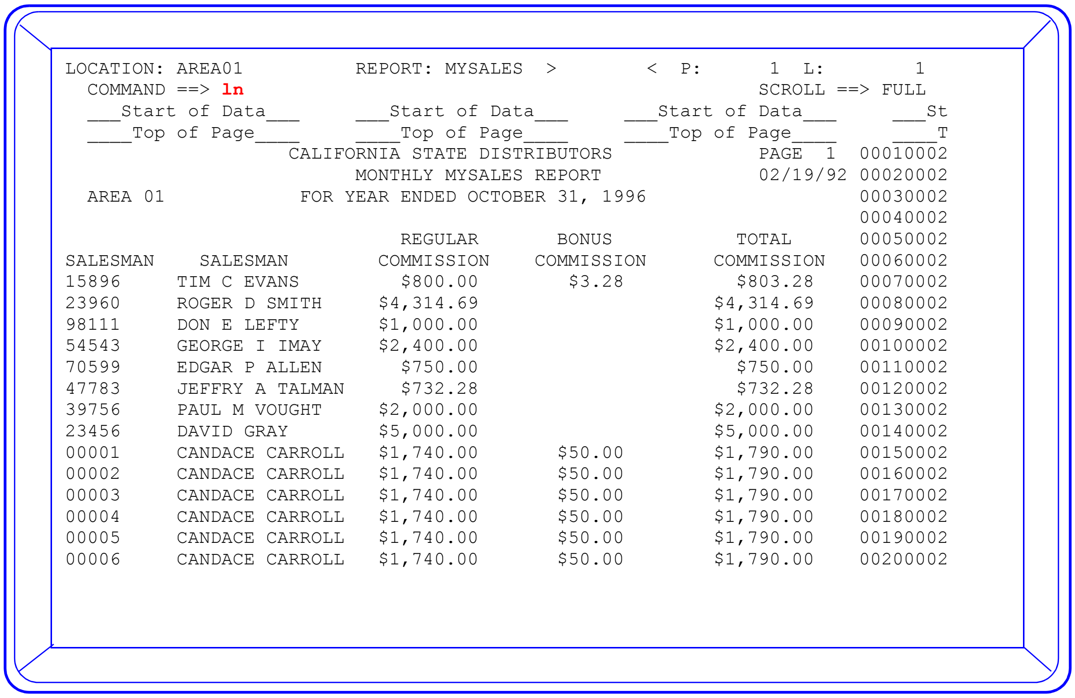
```
R.M.S. - Sticky Note                   Date: Thursday,  03/23/00 Time: 14:16:24
 Mode: ADD                AG/Loc/Rid -  MANTISSA AREA01            MYSALES
              Dataset Nm/Dt/Time/Num -  MCHOLLER 031600 103656 00000022
             Distributed Dt/Time/Num -  032300   132546 16773387
 Line => 00000001 032300 141624 Title - MONTHLY MYSALES
 > text added to line one of the report titled mysales.
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd                     Panel 1 of 2
  RM9134I  Enter information for new record.
```

Screen shows initial text for the note attached to line one of the MYSALES report. The note is only attached to the version of the MYSALES report referenced by the Distributed Date/Time/Number field.



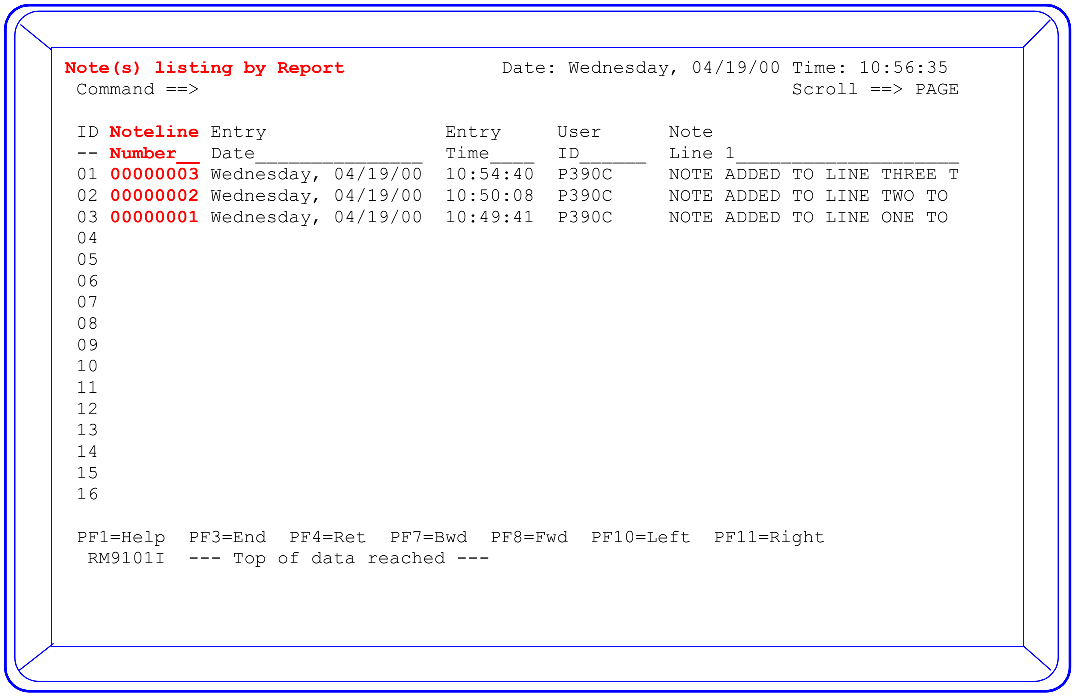
```
LOCATION: AREA01          REPORT: MYSALES  >        <  P:      1  L:        1
  COMMAND ==> AN 1                                            SCROLL ==> FULL
 RM9028I  Addition successful.  Enter information for next record.
  ___Start of Data___     ___Start of Data___     ___Start of Data___     ___St
  ____Top of Page____     ____Top of Page____     ____Top of Page____     _____T
                    CALIFORNIA STATE DISTRIBUTORS             PAGE  1  00010002
                          MONTHLY MYSALES REPORT              02/19/92 00020002
  AREA 01            FOR YEAR ENDED OCTOBER 31, 1996                   00030002
                                                                       00040002
                              REGULAR       BONUS           TOTAL      00050002
SALESMAN    SALESMAN        COMMISSION    COMMISSION      COMMISSION   00060002
15896     TIM C EVANS         $800.00        $3.28          $803.28    00070002
23960     ROGER D SMITH     $4,314.69                     $4,314.69    00080002
98111     DON E LEFTY       $1,000.00                     $1,000.00    00090002
54543     GEORGE I IMAY     $2,400.00                     $2,400.00    00100002
70599     EDGAR P ALLEN       $750.00                       $750.00    00110002
47783     JEFFRY A TALMAN     $732.28                       $732.28    00120002
39756     PAUL M VOUGHT     $2,000.00                     $2,000.00    00130002
23456     DAVID GRAY        $5,000.00                     $5,000.00    00140002
00001     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00150002
00002     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00160002
00003     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00170002
00004     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00180002
00005     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00190002
```

Once you have entered the desired text on the ‘Sticky Note’ panel and press <enter>, the RM9028I message will appear. The message indicates the note has been added successfully.



```
LOCATION: AREA01          REPORT: MYSALES  >        <  P:      1  L:        1
  COMMAND ==> ln                                              SCROLL ==> FULL
  ___Start of Data___     ___Start of Data___     ___Start of Data___     ___St
  ____Top of Page____     ____Top of Page____     ____Top of Page____     _____T
                    CALIFORNIA STATE DISTRIBUTORS             PAGE   1  00010002
                          MONTHLY MYSALES REPORT              02/19/92 00020002
  AREA 01            FOR YEAR ENDED OCTOBER 31, 1996                    00030002
                                                                       00040002
                              REGULAR       BONUS           TOTAL      00050002
SALESMAN    SALESMAN        COMMISSION    COMMISSION      COMMISSION   00060002
15896     TIM C EVANS         $800.00        $3.28          $803.28    00070002
23960     ROGER D SMITH     $4,314.69                     $4,314.69    00080002
98111     DON E LEFTY       $1,000.00                     $1,000.00    00090002
54543     GEORGE I IMAY     $2,400.00                     $2,400.00    00100002
70599     EDGAR P ALLEN       $750.00                       $750.00    00110002
47783     JEFFRY A TALMAN     $732.28                       $732.28    00120002
39756     PAUL M VOUGHT     $2,000.00                     $2,000.00    00130002
23456     DAVID GRAY        $5,000.00                     $5,000.00    00140002
00001     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00150002
00002     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00160002
00003     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00170002
00004     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00180002
00005     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00190002
00006     CANDACE CARROLL   $1,740.00       $50.00        $1,790.00    00200002
```

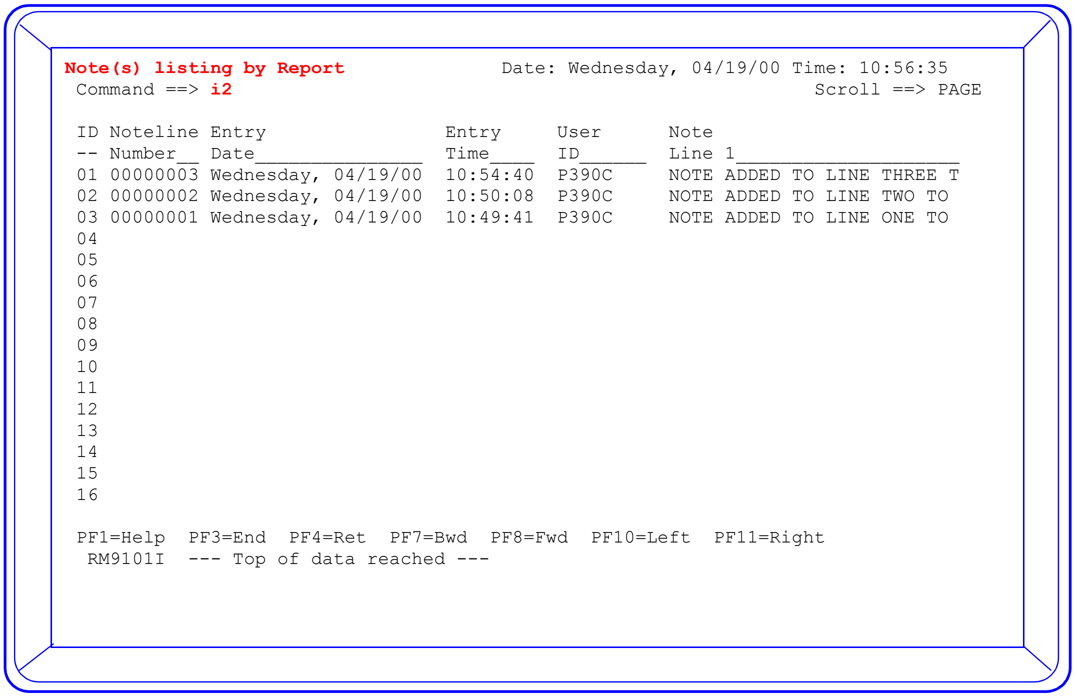
The ‘LN’ (list note) command produces a listing of all of the ‘sticky notes’ that have been added to the report being viewed. To generate the list, key ‘LN’ on the command line and press <enter>.



```
Note(s) listing by Report              Date: Wednesday, 04/19/00 Time: 10:56:35
 Command ==>                                                     Scroll ==> PAGE

 ID Noteline Entry                Entry     User      Note
 -- Number__ Date________________ Time____  ID______  Line 1____________________
 01 00000003 Wednesday, 04/19/00  10:54:40  P390C     NOTE ADDED TO LINE THREE T
 02 00000002 Wednesday, 04/19/00  10:50:08  P390C     NOTE ADDED TO LINE TWO TO
 03 00000001 Wednesday, 04/19/00  10:49:41  P390C     NOTE ADDED TO LINE ONE TO
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16

 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  PF10=Left  PF11=Right
  RM9101I  --- Top of data reached ---
```

The Notes list generated from the ‘LN’ command shows all line numbers of the report that have a ‘sticky note’ attached to them. The list presented is in descending order by line number.

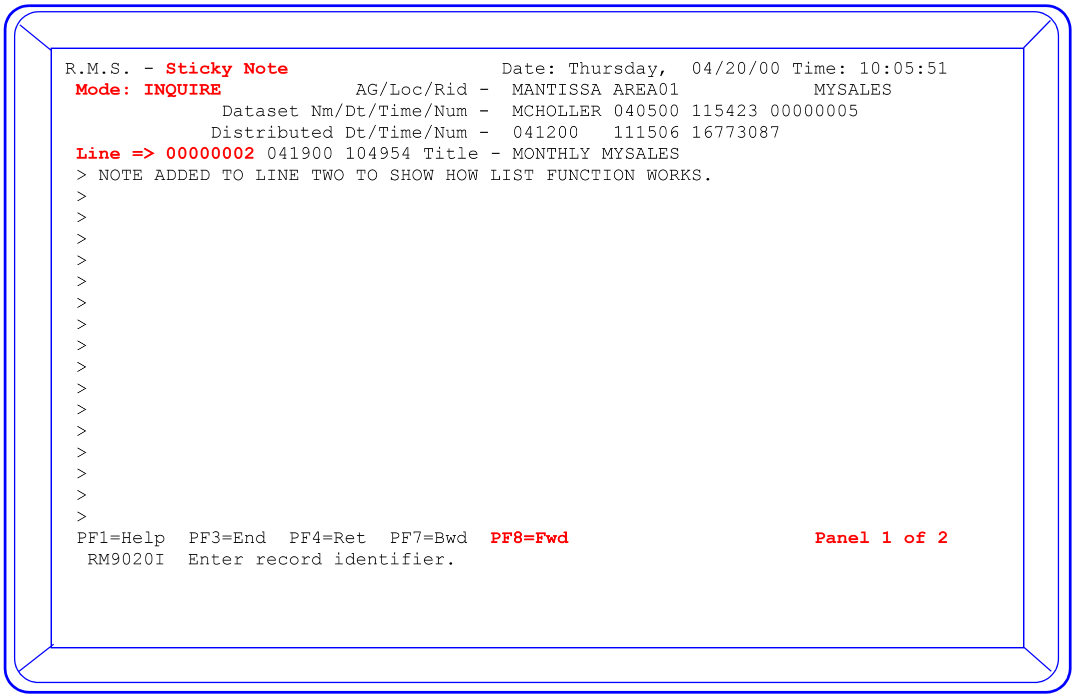
The list panel is used to inquire (IN), change (CN) or delete (DN) notes.



```
Note(s) listing by Report              Date: Wednesday, 04/19/00 Time: 10:56:35
 Command ==> i2                                                     Scroll ==> PAGE

 ID Noteline Entry                Entry     User      Note
 -- Number__ Date_______________  Time____  ID______  Line 1____________________
 01 00000003 Wednesday, 04/19/00  10:54:40  P390C     NOTE ADDED TO LINE THREE T
 02 00000002 Wednesday, 04/19/00  10:50:08  P390C     NOTE ADDED TO LINE TWO TO
 03 00000001 Wednesday, 04/19/00  10:49:41  P390C     NOTE ADDED TO LINE ONE TO
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16

 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  PF10=Left  PF11=Right
  RM9101I  --- Top of data reached ---
```

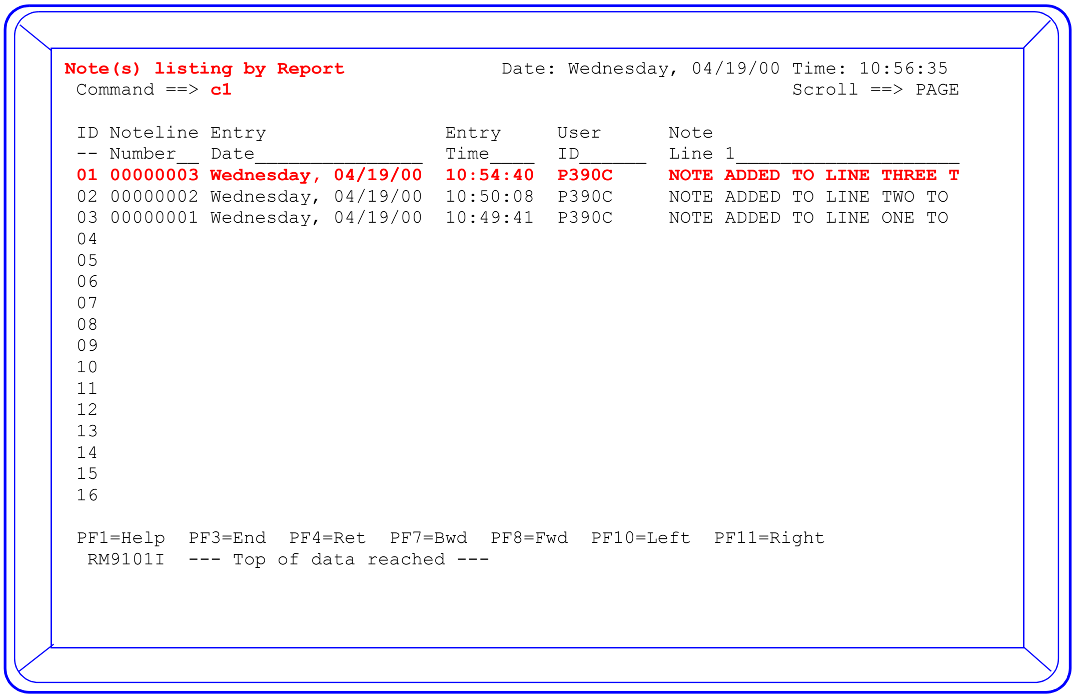
The ‘In’ (inquire note) command is performed from the List Note display.

The ‘In’ command (where ‘n’ is the ID of the noteline) allows the user to view the ‘sticky note’ attached to the line referenced by the ‘n’ value. The ‘In’ command can be entered on the command line or you can overtype the selection in the ID column.



```
R.M.S. - Sticky Note                       Date: Thursday,  04/20/00 Time: 10:05:51
 Mode: INQUIRE            AG/Loc/Rid -  MANTISSA AREA01            MYSALES
              Dataset Nm/Dt/Time/Num -  MCHOLLER 040500 115423 00000005
             Distributed Dt/Time/Num -  041200   111506 16773087
 Line => 00000002 041900 104954 Title - MONTHLY MYSALES
 > NOTE ADDED TO LINE TWO TO SHOW HOW LIST FUNCTION WORKS.
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd                    Panel 1 of 2
  RM9020I  Enter record identifier.
```

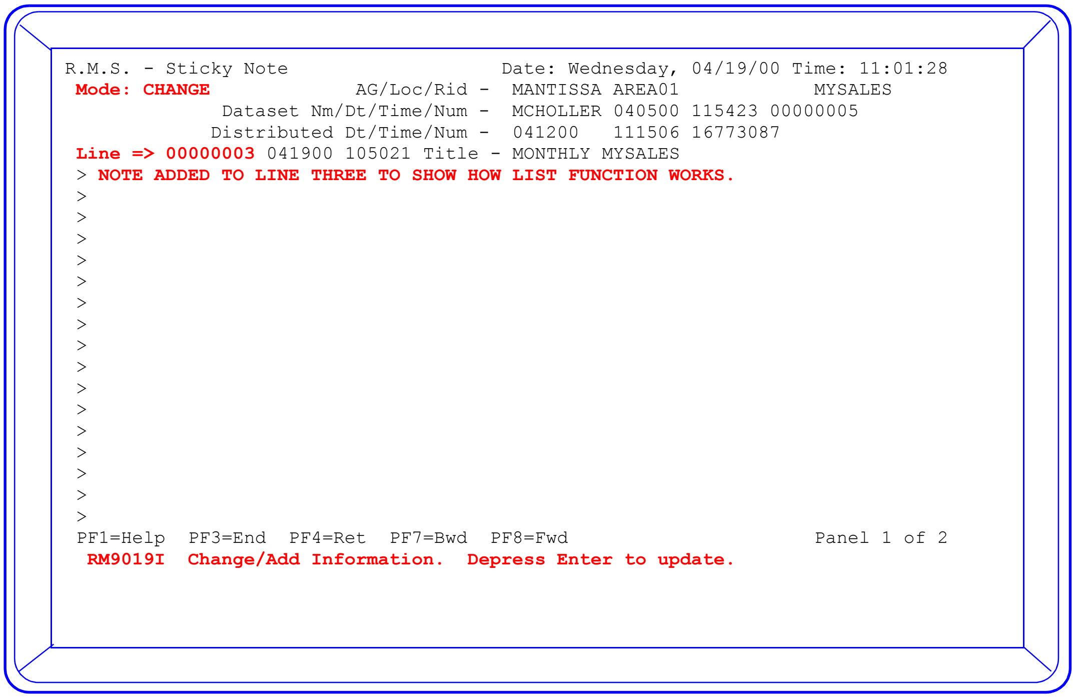
The Inquire note panel displays the content of the ‘sticky note’ attached to the line number of the report referenced in the Line => field. If the note contained more than one page worth of data, the ‘PF8’ key would be used to view the second page of notes.



```
Note(s) listing by Report             Date: Wednesday, 04/19/00 Time: 10:56:35
 Command ==> c1                                                  Scroll ==> PAGE

 ID Noteline Entry                Entry     User      Note
 -- Number__ Date________________ Time____  ID______  Line 1____________________
 01 00000003 Wednesday, 04/19/00  10:54:40  P390C     NOTE ADDED TO LINE THREE T
 02 00000002 Wednesday, 04/19/00  10:50:08  P390C     NOTE ADDED TO LINE TWO TO
 03 00000001 Wednesday, 04/19/00  10:49:41  P390C     NOTE ADDED TO LINE ONE TO
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16

 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  PF10=Left  PF11=Right
  RM9101I  --- Top of data reached ---
```

The ‘Cn’ (change note) command is performed from the List Note panel.

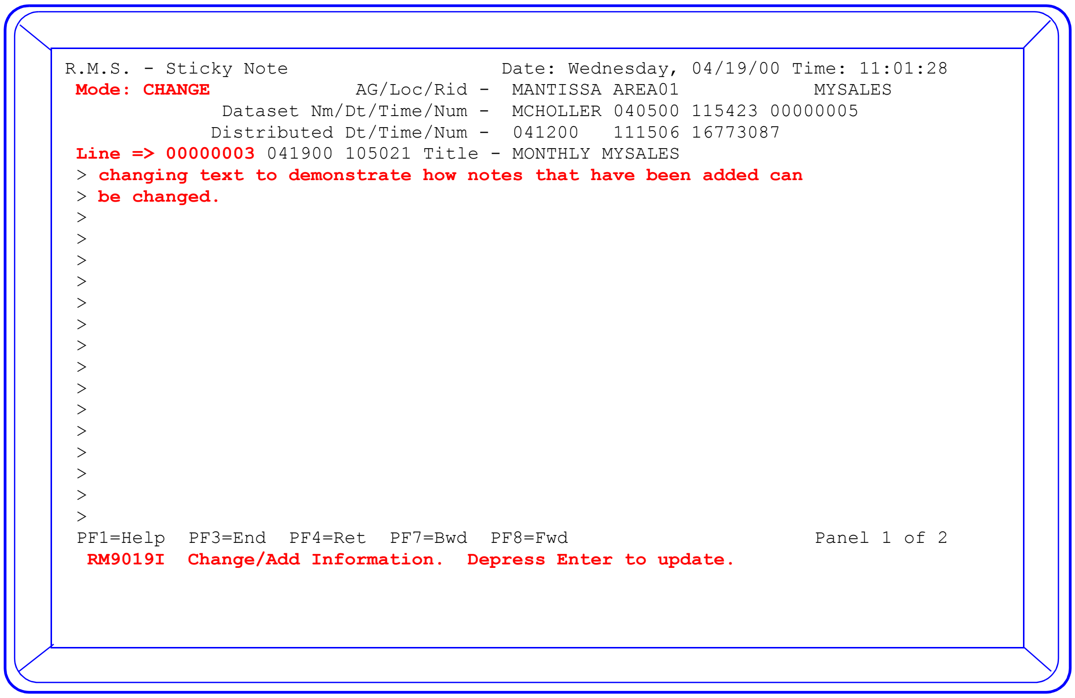
The ‘Cn’ command (where ‘n’ is the ID of the noteline) allows the user to change or add to the content of a note attached to a report line. The ‘Cn’ command can be entered on the command line or you can overtype the selection in the ID column.



```
R.M.S. - Sticky Note                      Date: Wednesday, 04/19/00 Time: 11:01:28
 Mode: CHANGE            AG/Loc/Rid -  MANTISSA AREA01            MYSALES
              Dataset Nm/Dt/Time/Num -  MCHOLLER 040500 115423 00000005
             Distributed Dt/Time/Num -  041200   111506 16773087
 Line => 00000003 041900 105021 Title - MONTHLY MYSALES
 > NOTE ADDED TO LINE THREE TO SHOW HOW LIST FUNCTION WORKS.
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd                      Panel 1 of 2
  RM9019I  Change/Add Information.  Depress Enter to update.
```

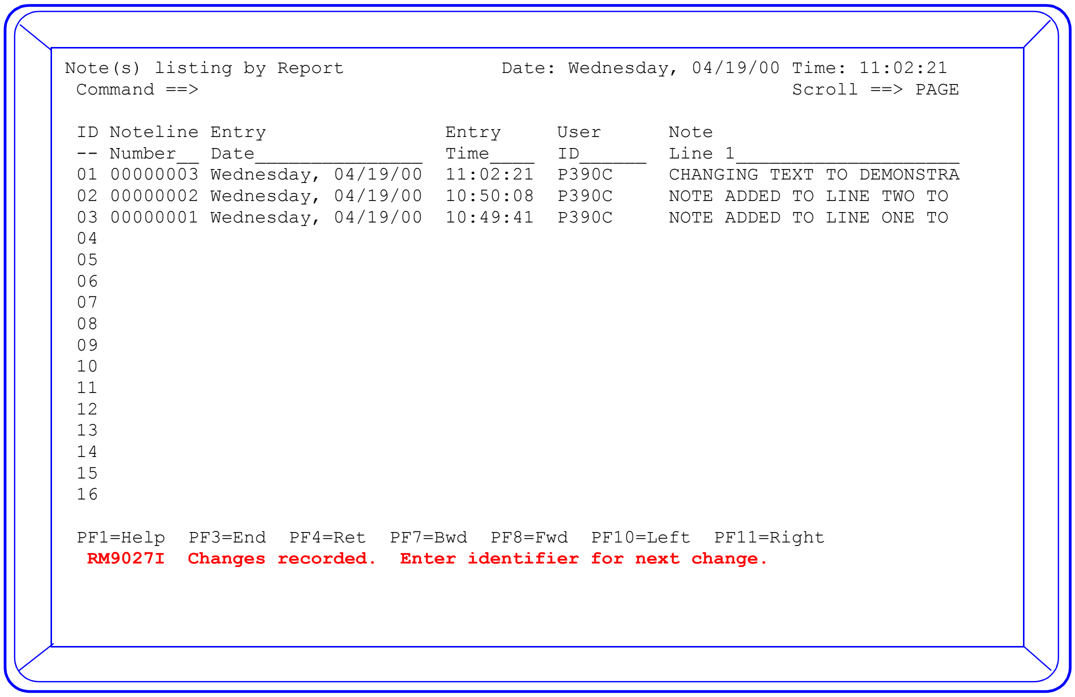
The panel above is the ‘sticky note’ record in change mode. The RM9019I message indicates users can change or add data to the note. The change is made only on the line number of the report referenced in the Line => heading.

Up to two pages of notes can be changed and/or added. Panel 2 is available if additional space is required. Use the ‘PF8’ key to advance to panel 2 of 2.



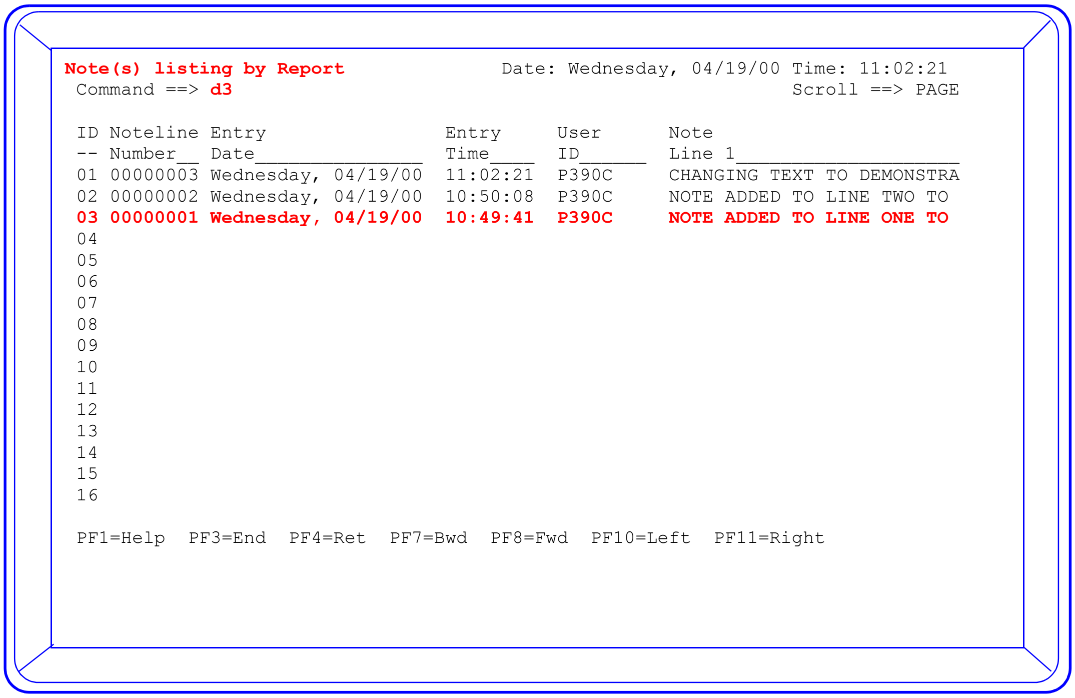
```
R.M.S. - Sticky Note                  Date: Wednesday, 04/19/00 Time: 11:01:28
 Mode: CHANGE              AG/Loc/Rid -  MANTISSA AREA01            MYSALES
             Dataset Nm/Dt/Time/Num -  MCHOLLER 040500 115423 00000005
            Distributed Dt/Time/Num -  041200   111506 16773087
 Line => 00000003 041900 105021 Title - MONTHLY MYSALES
 > changing text to demonstrate how notes that have been added can
 > be changed.
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd                     Panel 1 of 2
  RM9019I  Change/Add Information.  Depress Enter to update.
```

In change mode the cursor will be positioned in the text area. Change or add text as desired and press <enter> to update the record.



```
Note(s) listing by Report             Date: Wednesday, 04/19/00 Time: 11:02:21
 Command ==>                                                 Scroll ==> PAGE

 ID Noteline Entry                  Entry     User      Note
 -- Number__ Date_______________    Time____  ID______  Line 1____________________
 01 00000003 Wednesday, 04/19/00    11:02:21  P390C     CHANGING TEXT TO DEMONSTRA
 02 00000002 Wednesday, 04/19/00    10:50:08  P390C     NOTE ADDED TO LINE TWO TO
 03 00000001 Wednesday, 04/19/00    10:49:41  P390C     NOTE ADDED TO LINE ONE TO
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16

 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  PF10=Left  PF11=Right
  RM9027I  Changes recorded.  Enter identifier for next change.
```

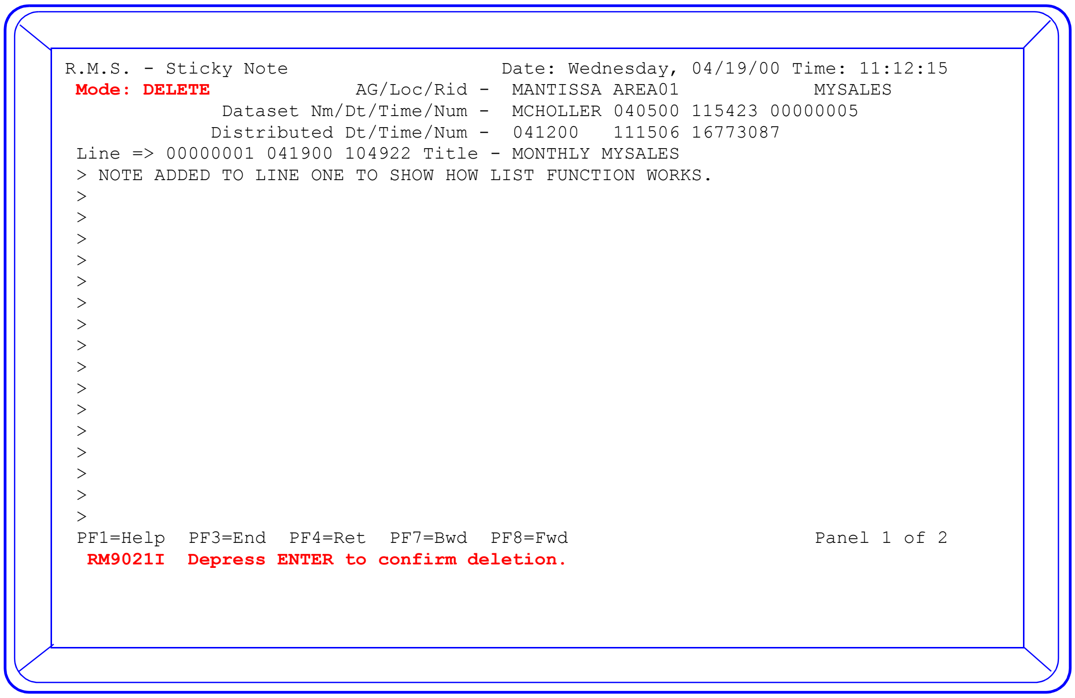
After you have entered the desired changes to the ‘Sticky Note’, the RM9027I message will be returned. The message indicates the changes were successfully recorded.



```
Note(s) listing by Report            Date: Wednesday, 04/19/00 Time: 11:02:21
 Command ==> d3                                                 Scroll ==> PAGE

 ID Noteline Entry                Entry     User      Note
 -- Number__ Date_______________  Time____  ID______  Line 1____________________
 01 00000003 Wednesday, 04/19/00  11:02:21  P390C     CHANGING TEXT TO DEMONSTRA
 02 00000002 Wednesday, 04/19/00  10:50:08  P390C     NOTE ADDED TO LINE TWO TO
 03 00000001 Wednesday, 04/19/00  10:49:41  P390C     NOTE ADDED TO LINE ONE TO
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16

 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  PF10=Left  PF11=Right
```

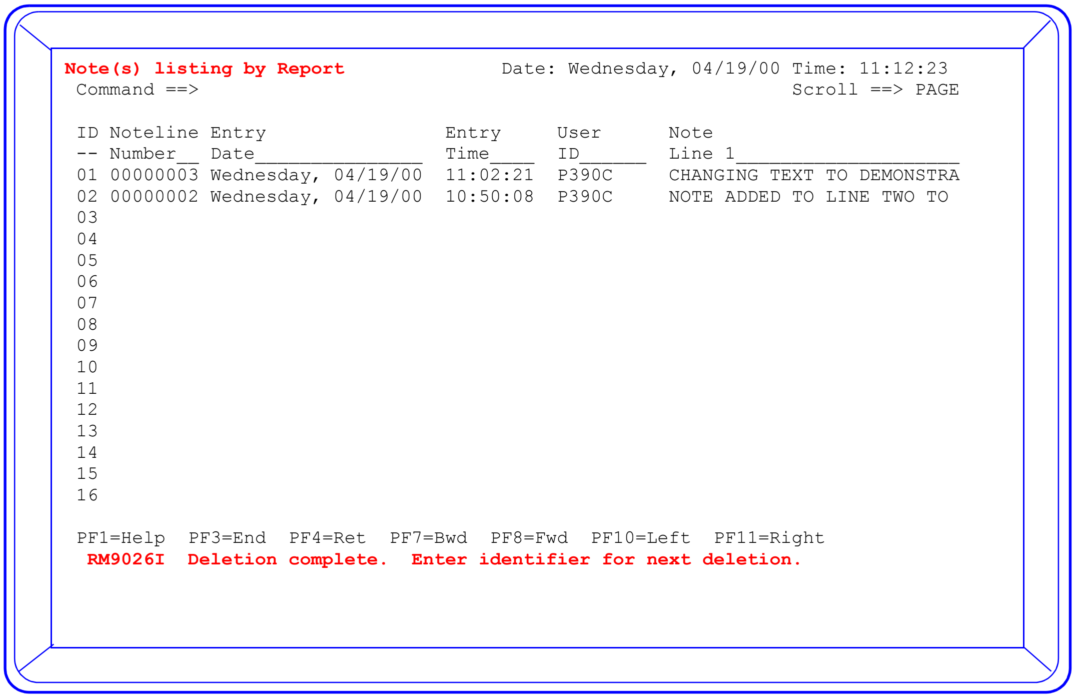
The ‘Dn’ (delete note) command is performed from the List Note display.

The ‘Dn’ command (where ‘n’ is the ID of the noteline) allows the user to delete the ‘sticky note’ attached to the report line. The ‘Dn’ command can be entered on the command line or you can overtype the selection in the ID column.



```
R.M.S. - Sticky Note                   Date: Wednesday, 04/19/00 Time: 11:12:15
 Mode: DELETE             AG/Loc/Rid -  MANTISSA AREA01            MYSALES
              Dataset Nm/Dt/Time/Num -  MCHOLLER 040500 115423 00000005
             Distributed Dt/Time/Num -  041200   111506 16773087
 Line => 00000001 041900 104922 Title - MONTHLY MYSALES
 > NOTE ADDED TO LINE ONE TO SHOW HOW LIST FUNCTION WORKS.
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd                      Panel  1 of  2
  RM9021I  Depress ENTER to confirm deletion.
```

The delete note command has no additional operands. When the delete panel is presented, the RM9021I message prompts the user to depress <enter> to confirm the deletion of the record. The record is deleted immediately once the <enter> key is depressed.



```
Note(s) listing by Report              Date: Wednesday, 04/19/00 Time: 11:12:23
 Command ==>                                                     Scroll ==> PAGE

 ID Noteline Entry                 Entry     User      Note
 -- Number__ Date_______________   Time____  ID______  Line 1____________________
 01 00000003 Wednesday, 04/19/00   11:02:21  P390C     CHANGING TEXT TO DEMONSTRA
 02 00000002 Wednesday, 04/19/00   10:50:08  P390C     NOTE ADDED TO LINE TWO TO
 03
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16

 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  PF10=Left  PF11=Right
  RM9026I  Deletion complete.  Enter identifier for next deletion.
```

After confirming the deletion of the note, the List Note display is returned. The RM9026I message is returned to notify the user that the deletion of the record has been completed.

The List Note display has been updated and contains only the remaining notes associated with the report.

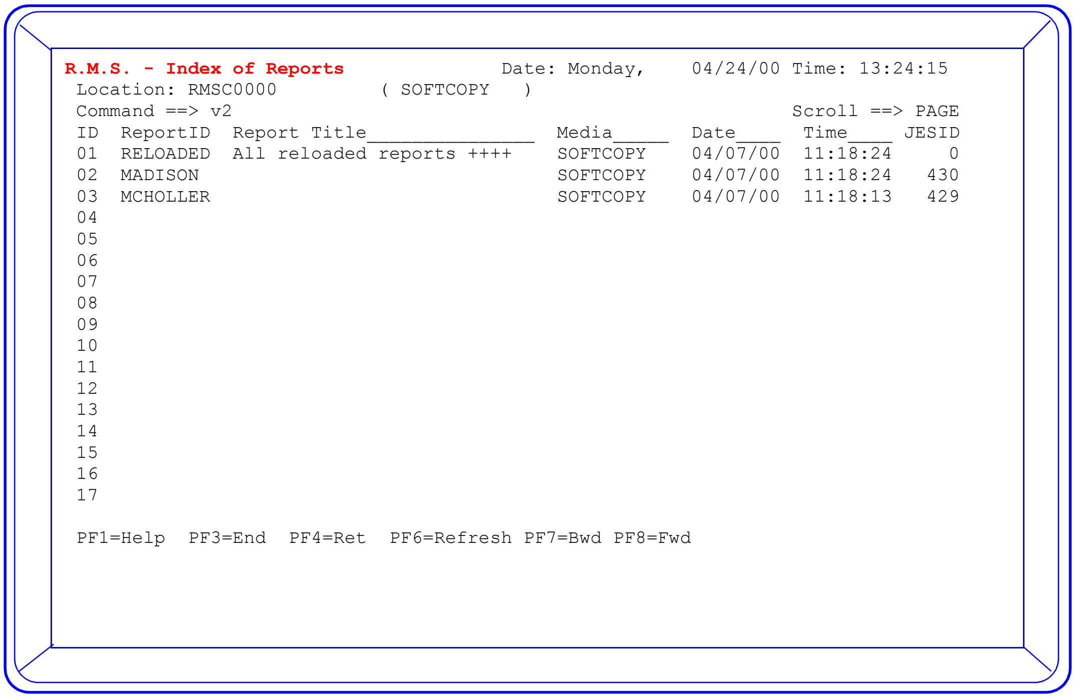
Note pad Usage – Reload from Group Archive

The notepad facility is available for any report viewable within RMS Online. Users have the ability to index BASE datasets from application jobs in addition to distributed datasets from RM80004 jobs. Indexing BASE datasets requires the DEFAULT*FILESET be specified in the RvvrmCTP member. RvvrmCTP is the parameter deck that governs the functions to be performed by the RvvrmCTL (control region) started task.

Datasets that are indexed, both base and distributed, are candidates for group archive. Using the group archive (retention based) methodology for your viewable datasets provides for long term archival and recovery of the datasets within RMS Online. By design any ‘sticky notes’ that have been attached to the report follow it throughout its’ life in the RMS repository. This feature is very beneficial as it allows for the dataset and its’ historical ‘sticky notes’ to be readily available for recall.

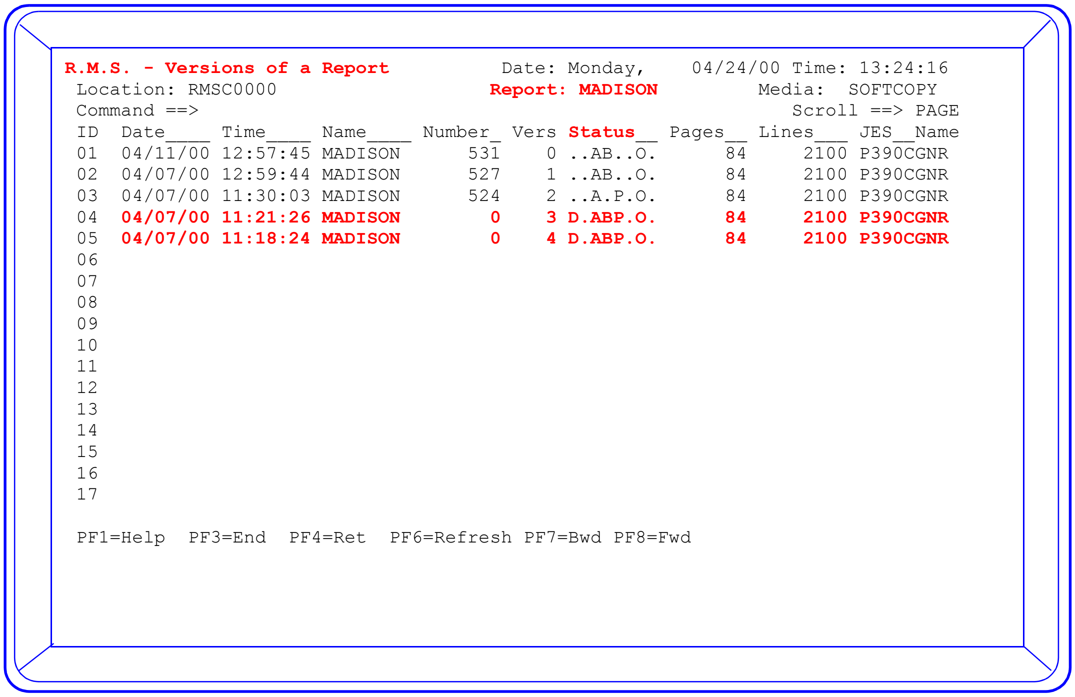
Once a group archive managed dataset is reloaded, original ‘sticky notes’ can be changed and additional ‘sticky notes’ can be added to the report lines.

The following panels provide examples of notes that have been attached to a report governed by a group archive.



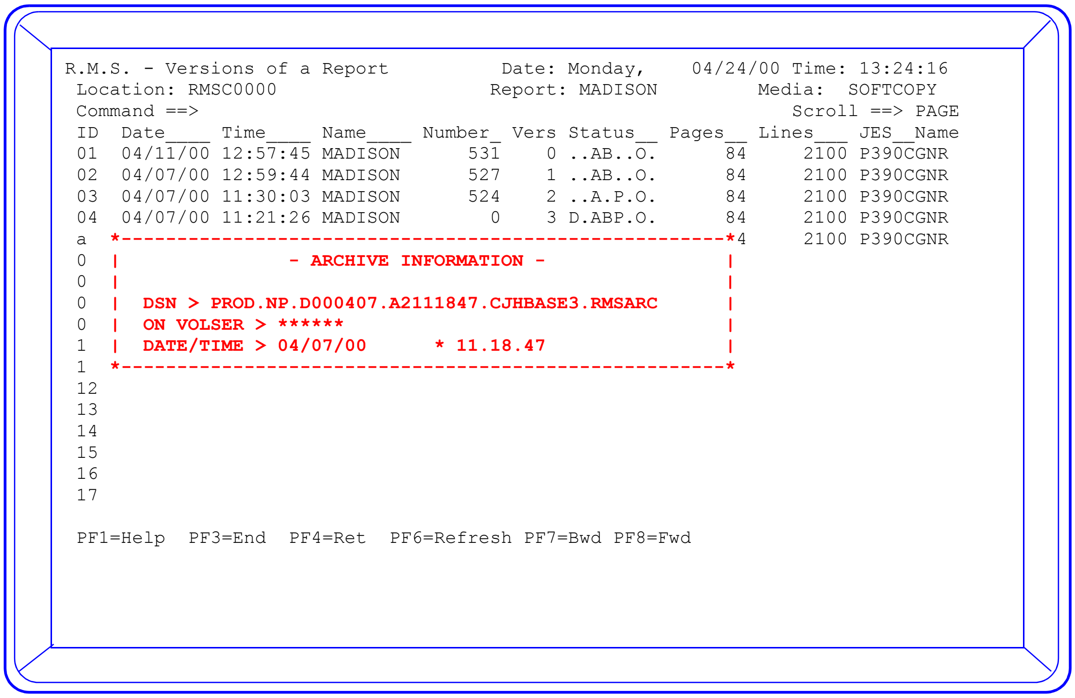
```
R.M.S. - Index of Reports             Date: Monday,    04/24/00 Time: 13:24:15
 Location: RMSC0000         ( SOFTCOPY   )
 Command ==> v2                                              Scroll ==> PAGE
 ID  ReportID  Report Title_______________  Media_____  Date____  Time____ JESID
 01  RELOADED  All reloaded reports ++++    SOFTCOPY    04/07/00  11:18:24     0
 02  MADISON                                SOFTCOPY    04/07/00  11:18:24   430
 03  MCHOLLER                               SOFTCOPY    04/07/00  11:18:13   429
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17

 PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
```

Index list of reports within a location.



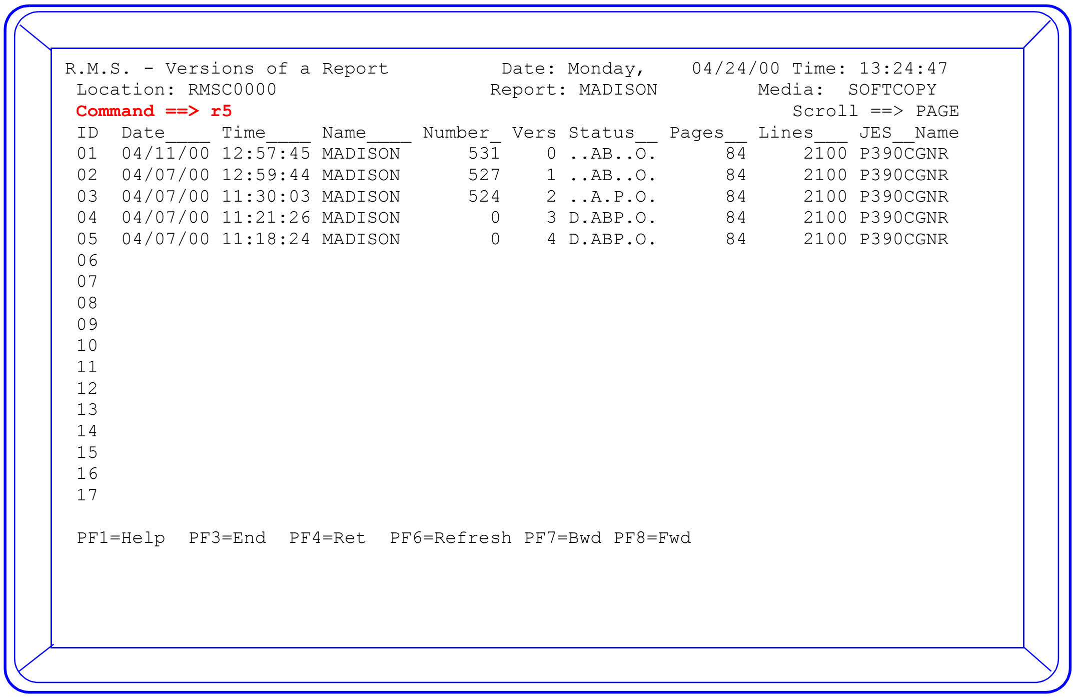
```
R.M.S. - Versions of a Report         Date: Monday,    04/24/00 Time: 13:24:16
 Location: RMSC0000                Report: MADISON          Media:  SOFTCOPY
 Command ==>                                                 Scroll ==> PAGE
 ID  Date____ Time____ Name____ Number_ Vers Status__ Pages__ Lines___ JES__Name
 01  04/11/00 12:57:45 MADISON      531    0 ..AB..O.      84     2100 P390CGNR
 02  04/07/00 12:59:44 MADISON      527    1 ..AB..O.      84     2100 P390CGNR
 03  04/07/00 11:30:03 MADISON      524    2 ..A.P.O.      84     2100 P390CGNR
 04  04/07/00 11:21:26 MADISON        0    3 D.ABP.O.      84     2100 P390CGNR
 05  04/07/00 11:18:24 MADISON        0    4 D.ABP.O.      84     2100 P390CGNR
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17

 PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
```

Version list of the MADISON report. The 3rd and 4th versions of the report have been destaged (as noted by the 1st position of the status field) and are only available for viewing if the report is reloaded to softcopy.



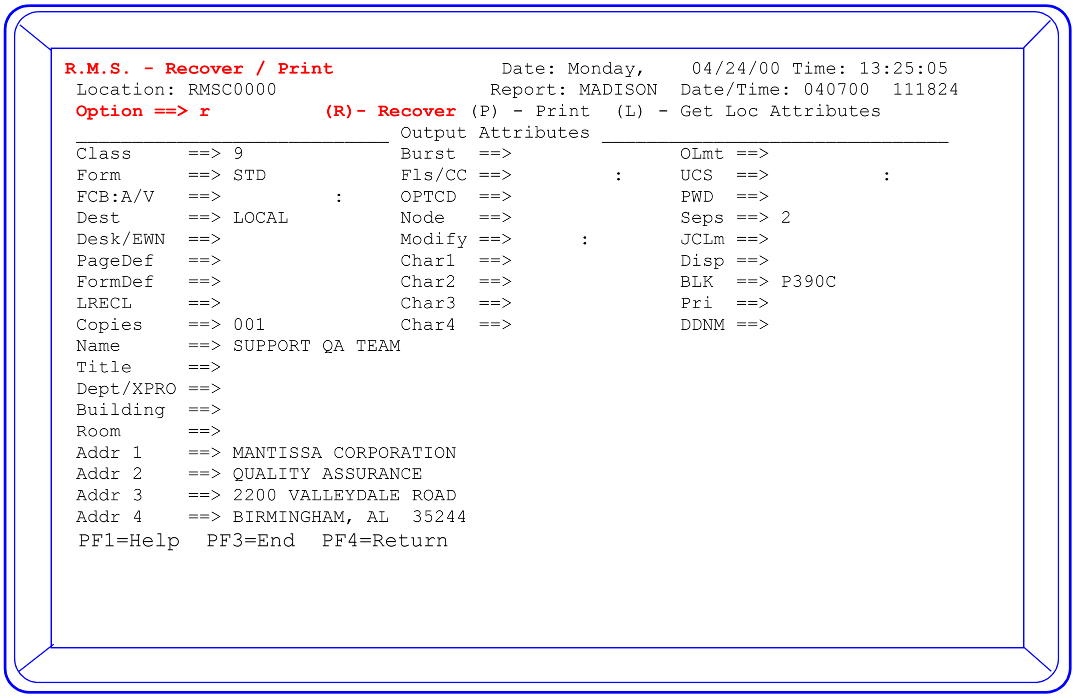
```
R.M.S. - Versions of a Report          Date: Monday,     04/24/00 Time: 13:24:16
 Location: RMSC0000                   Report: MADISON         Media:  SOFTCOPY
 Command ==>                                                     Scroll ==> PAGE
 ID  Date____ Time____ Name____ Number_ Vers Status__ Pages__ Lines___ JES__Name
 01  04/11/00 12:57:45 MADISON      531    0 ..AB..O.      84     2100 P390CGNR
 02  04/07/00 12:59:44 MADISON      527    1 ..AB..O.      84     2100 P390CGNR
 03  04/07/00 11:30:03 MADISON      524    2 ..A.P.O.      84     2100 P390CGNR
 04  04/07/00 11:21:26 MADISON        0    3 D.ABP.O.      84     2100 P390CGNR
 a  *------------------------------------------------------*4     2100 P390CGNR
 0  |               - ARCHIVE INFORMATION -                |
 0  |                                                      |
 0  |  DSN > PROD.NP.D000407.A2111847.CJHBASE3.RMSARC      |
 0  |  ON VOLSER > ******                                  |
 1  |  DATE/TIME > 04/07/00      * 11.18.47                |
 1  *------------------------------------------------------*
 12
 13
 14
 15
 16
 17

 PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
```

The Archive Information above shows the dataset name, date and time of the group archive that contains the report data we will be reloading. The ‘AI leaflet’ is presented by keying ‘AI’ over the column ID of a report version record. You do not have to key the ‘AI’ command before proceeding with the reload of the data, it is provided for information purposes only. Key ‘PF3’ to return to the version list.



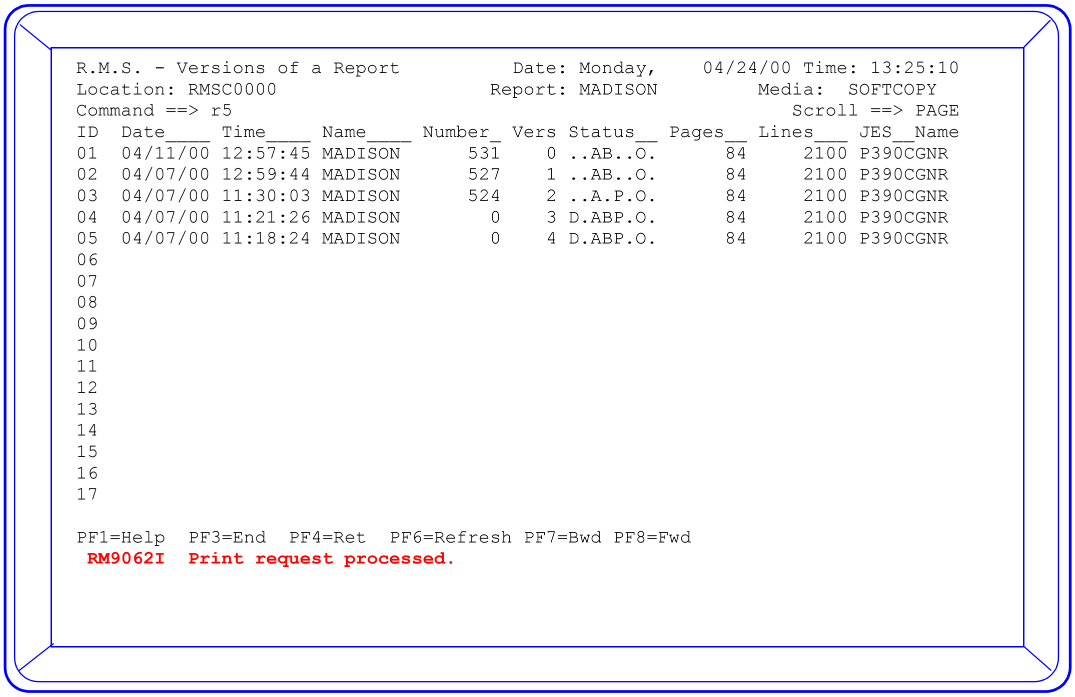
```
R.M.S. - Versions of a Report          Date: Monday,    04/24/00 Time: 13:24:47
 Location: RMSC0000                    Report: MADISON         Media:  SOFTCOPY
 Command ==> r5                                                   Scroll ==> PAGE
 ID  Date____ Time____ Name____ Number_ Vers Status__ Pages__ Lines___ JES__Name
 01  04/11/00 12:57:45 MADISON      531    0 ..AB..O.      84     2100 P390CGNR
 02  04/07/00 12:59:44 MADISON      527    1 ..AB..O.      84     2100 P390CGNR
 03  04/07/00 11:30:03 MADISON      524    2 ..A.P.O.      84     2100 P390CGNR
 04  04/07/00 11:21:26 MADISON        0    3 D.ABP.O.      84     2100 P390CGNR
 05  04/07/00 11:18:24 MADISON        0    4 D.ABP.O.      84     2100 P390CGNR
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17

 PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
```

The ‘Rn’ command (where ‘n’ is the ID of the report to be reloaded) is used to recover a destaged report to a viewable status. Depress <enter> and the following screen is returned.



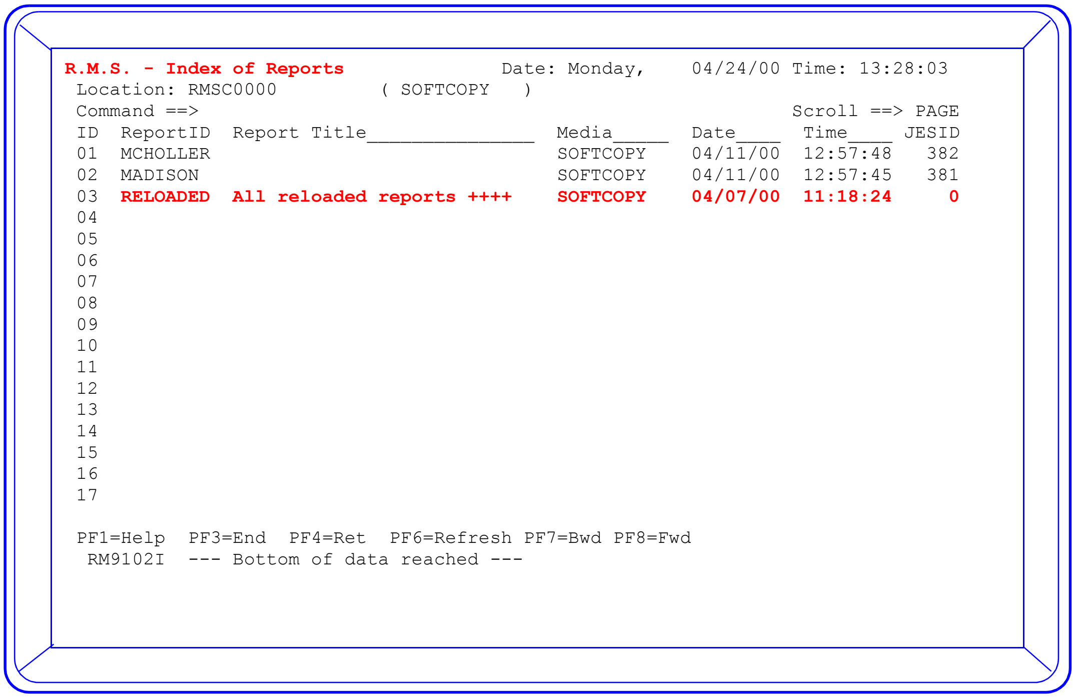
```
R.M.S. - Recover / Print               Date: Monday,    04/24/00 Time: 13:25:05
 Location: RMSC0000                    Report: MADISON  Date/Time: 040700  111824
 Option ==> r          (R)- Recover (P) - Print  (L) - Get Loc Attributes
 ____________________________ Output Attributes _______________________________
 Class     ==> 9              Burst  ==>                OLmt ==>
 Form      ==> STD            Fls/CC ==>          :     UCS  ==>          :
 FCB:A/V   ==>          :     OPTCD  ==>                PWD  ==>
 Dest      ==> LOCAL          Node   ==>                Seps ==> 2
 Desk/EWN  ==>                Modify ==>       :        JCLm ==>
 PageDef   ==>                Char1  ==>                Disp ==>
 FormDef   ==>                Char2  ==>                BLK  ==> P390C
 LRECL     ==>                Char3  ==>                Pri  ==>
 Copies    ==> 001            Char4  ==>                DDNM ==>
 Name      ==> SUPPORT QA TEAM
 Title     ==>
 Dept/XPRO ==>
 Building  ==>
 Room      ==>
 Addr 1    ==> MANTISSA CORPORATION
 Addr 2    ==> QUALITY ASSURANCE
 Addr 3    ==> 2200 VALLEYDALE ROAD
 Addr 4    ==> BIRMINGHAM, AL  35244
 PF1=Help   PF3=End   PF4=Return
```

Key ‘R’ in the Option = = > field and depress <enter>. This panel is used to issue (R)ecover or (P)rint requests, or to obtain (L)ocation attributes prior to printing.



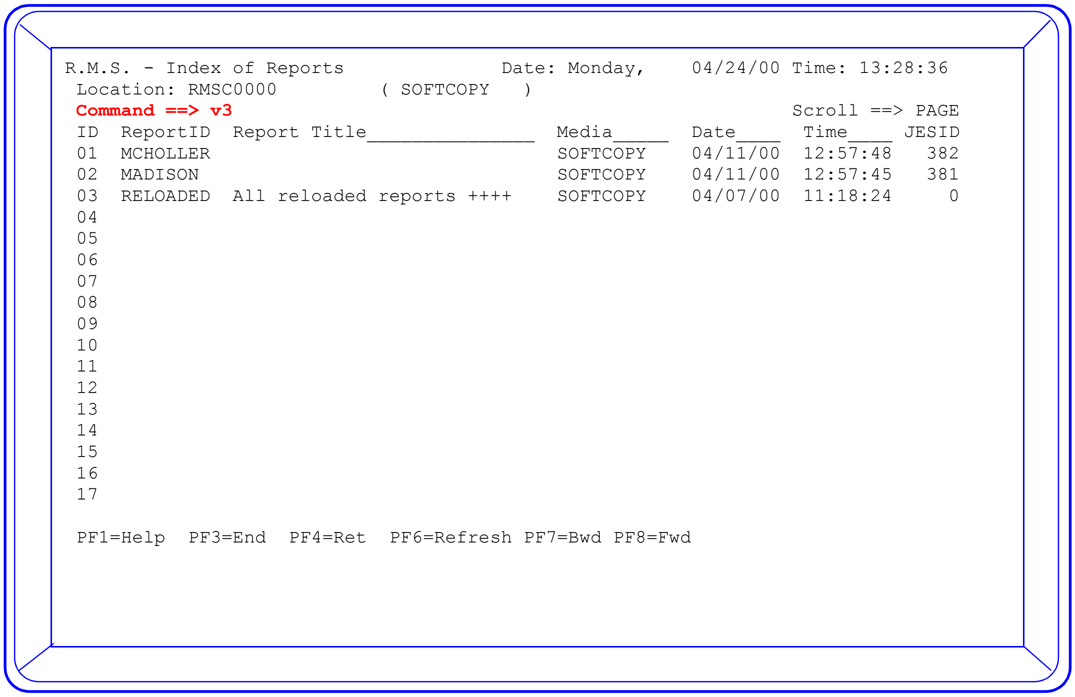
```
R.M.S. - Versions of a Report          Date: Monday,    04/24/00 Time: 13:25:10
Location: RMSC0000                   Report: MADISON        Media:  SOFTCOPY
Command ==> r5                                                  Scroll ==> PAGE
ID  Date____ Time____ Name____ Number_ Vers Status__ Pages__ Lines___ JES__Name
01  04/11/00 12:57:45 MADISON      531    0 ..AB..O.      84    2100 P390CGNR
02  04/07/00 12:59:44 MADISON      527    1 ..AB..O.      84    2100 P390CGNR
03  04/07/00 11:30:03 MADISON      524    2 ..A.P.O.      84    2100 P390CGNR
04  04/07/00 11:21:26 MADISON        0    3 D.ABP.O.      84    2100 P390CGNR
05  04/07/00 11:18:24 MADISON        0    4 D.ABP.O.      84    2100 P390CGNR
06
07
08
09
10
11
12
13
14
15
16
17

PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
 RM9062I  Print request processed.
```

The RM9062I message is returned to show your request has been processed. The reload request is dispatched to the RvvrmCTL (control region) started task for processing.



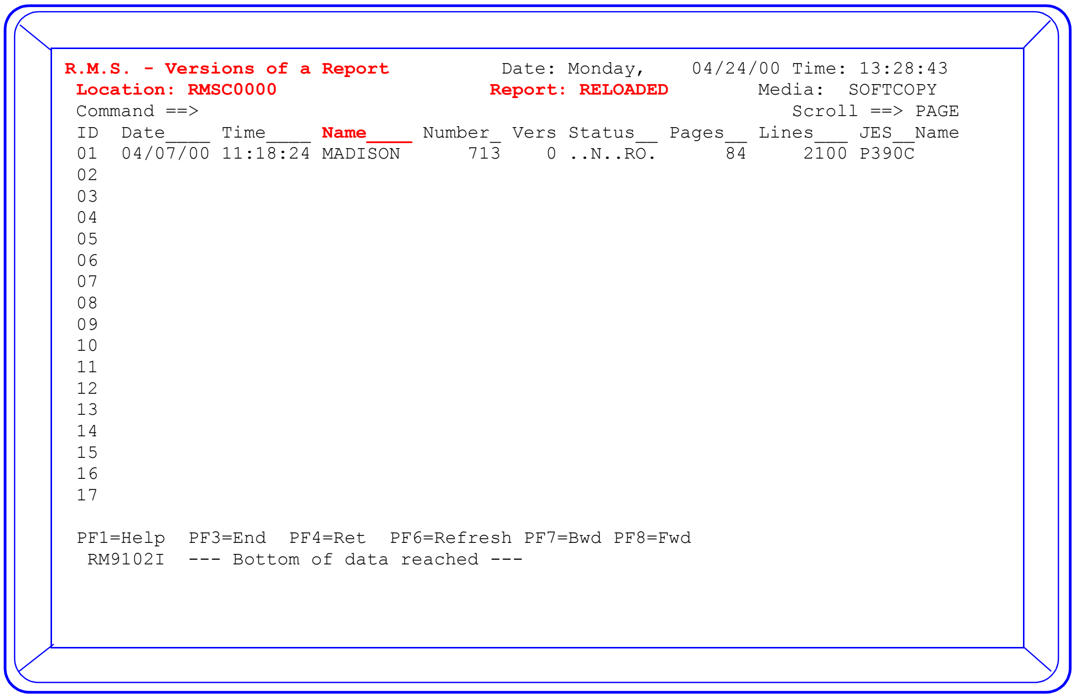
```
R.M.S. - Index of Reports             Date: Monday,    04/24/00 Time: 13:28:03
 Location: RMSC0000         ( SOFTCOPY   )
 Command ==>                                              Scroll ==> PAGE
 ID  ReportID  Report Title_______________ Media_____  Date____  Time____ JESID
 01  MCHOLLER                              SOFTCOPY    04/11/00  12:57:48   382
 02  MADISON                               SOFTCOPY    04/11/00  12:57:45   381
 03  RELOADED  All reloaded reports ++++   SOFTCOPY    04/07/00  11:18:24     0
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17

 PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
  RM9102I  --- Bottom of data reached ---
```

Once the control region has processed the reload request, the Index of Reports will show an entry with a Report ID of RELOADED. This is the Report ID assigned to all reports that are reloaded to softcopy.



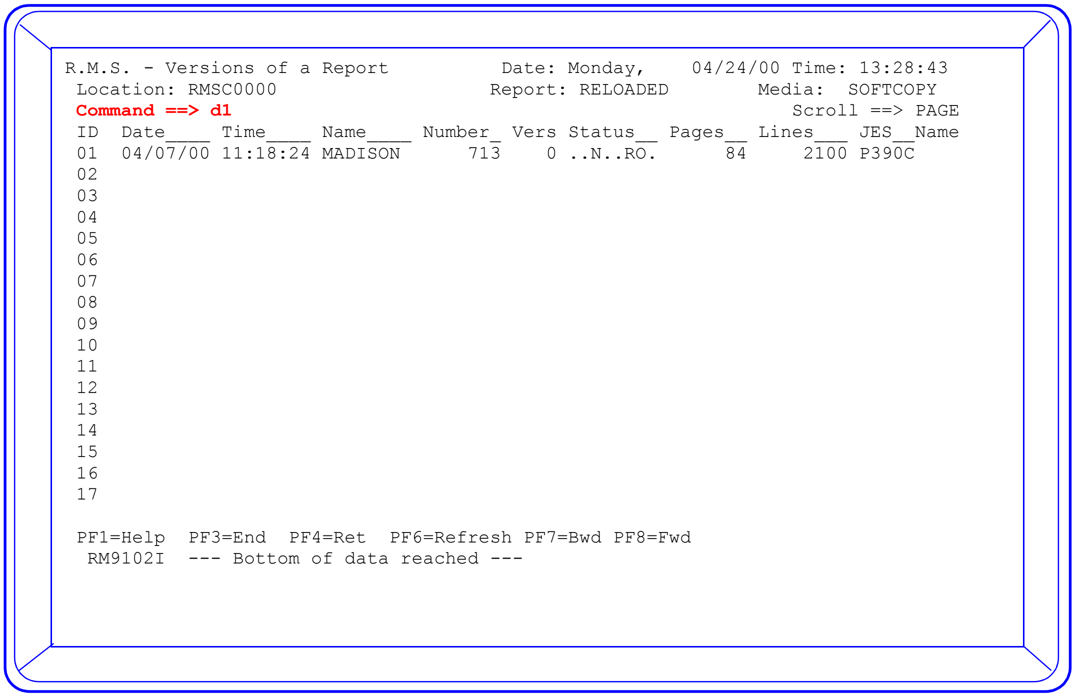
```
R.M.S. - Index of Reports             Date: Monday,    04/24/00 Time: 13:28:36
 Location: RMSC0000         ( SOFTCOPY   )
 Command ==> v3                                           Scroll ==> PAGE
 ID  ReportID  Report Title_______________ Media_____  Date____  Time____ JESID
 01  MCHOLLER                              SOFTCOPY    04/11/00  12:57:48   382
 02  MADISON                               SOFTCOPY    04/11/00  12:57:45   381
 03  RELOADED  All reloaded reports ++++   SOFTCOPY    04/07/00  11:18:24     0
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17

 PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
```

The ‘Vn’ command (where ‘n’ is the ID of the report) will provide a list that contains all of the versions of the requested report within the specified location. The ‘Vn’ command can be entered on the command line, or you can overtype the selection in the ID column.



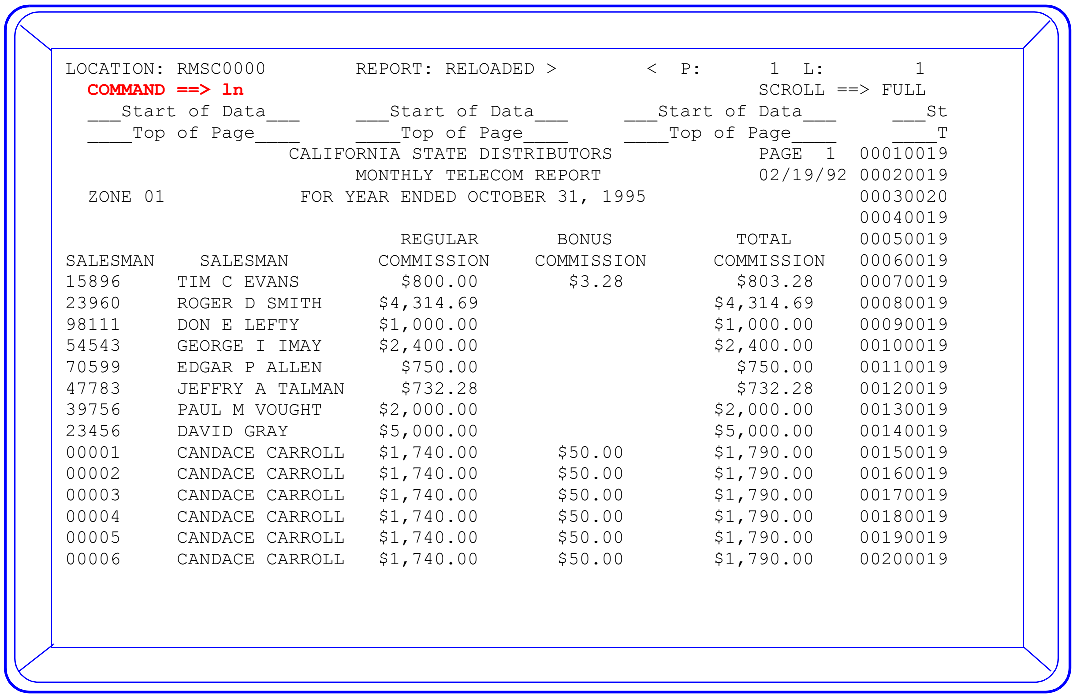
```
R.M.S. - Versions of a Report          Date: Monday,    04/24/00 Time: 13:28:43
 Location: RMSC0000                   Report: RELOADED        Media:  SOFTCOPY
 Command ==>                                                     Scroll ==> PAGE
 ID  Date____ Time____ Name____ Number_ Vers Status__ Pages__ Lines___ JES__Name
 01  04/07/00 11:18:24 MADISON      713    0 ..N..RO.      84     2100 P390C
 02
 03
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17

 PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
  RM9102I  --- Bottom of data reached ---
```

The panel above is a version listing of all the reports that have been RELOADED in the location specified. The Name field contains the **original** Report ID.



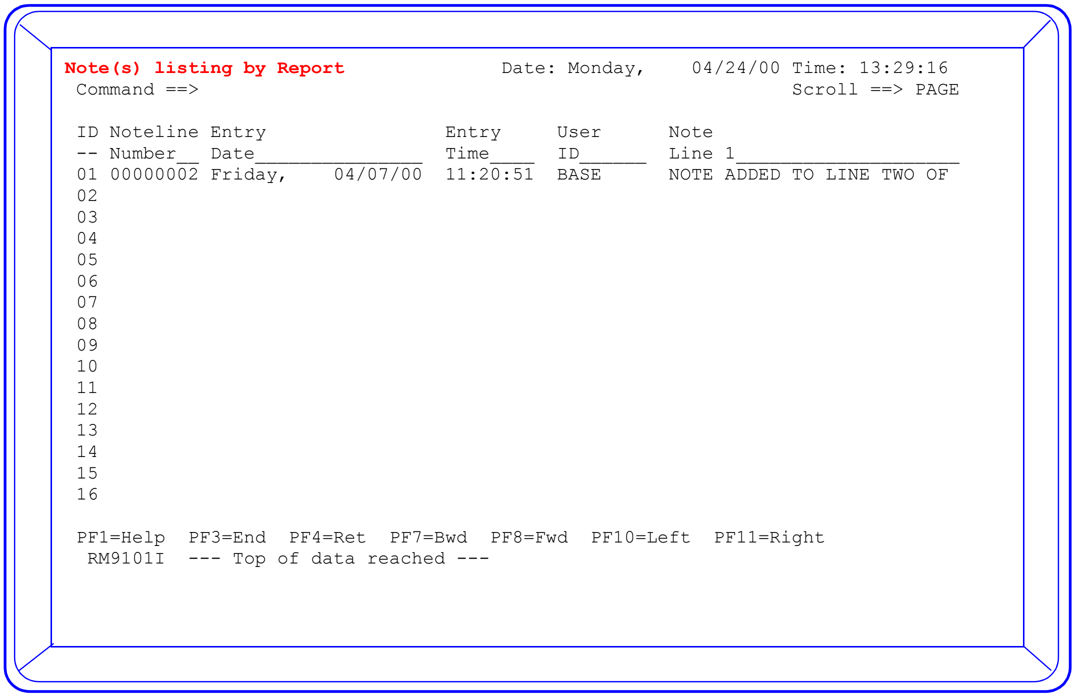
```
R.M.S. - Versions of a Report          Date: Monday,    04/24/00 Time: 13:28:43
 Location: RMSC0000                   Report: RELOADED        Media:  SOFTCOPY
 Command ==> d1                                                  Scroll ==> PAGE
 ID  Date____ Time____ Name____ Number_ Vers Status__ Pages__ Lines___ JES__Name
 01  04/07/00 11:18:24 MADISON      713    0 ..N..RO.      84     2100 P390C
 02
 03
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17

 PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
  RM9102I  --- Bottom of data reached ---
```

The ‘Dn’ command (where ‘n’ is the ID of the report to be viewed) will open the requested report for viewing through RMS Online. The ‘Dn’ command can be entered on the command line, or you can overtype the selection in the ID column.



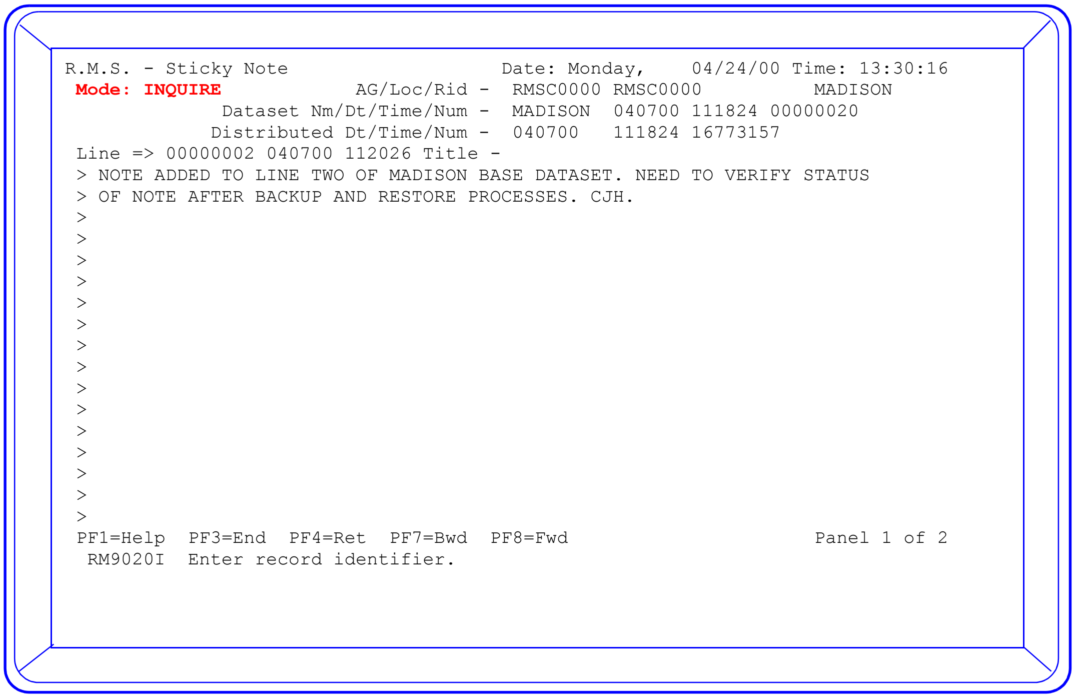
```
LOCATION: RMSC0000        REPORT: RELOADED >        <  P:      1  L:        1
  COMMAND ==> ln                                              SCROLL ==> FULL
  ___Start of Data___     ___Start of Data___     ___Start of Data___     ___St
  ____Top of Page____     ____Top of Page____     ____Top of Page____     ____T
                    CALIFORNIA STATE DISTRIBUTORS             PAGE  1  00010019
                          MONTHLY TELECOM REPORT              02/19/92 00020019
  ZONE 01            FOR YEAR ENDED OCTOBER 31, 1995                   00030020
                                                                       00040019
                              REGULAR       BONUS           TOTAL      00050019
SALESMAN    SALESMAN        COMMISSION    COMMISSION      COMMISSION   00060019
15896     TIM C EVANS         $800.00        $3.28         $803.28    00070019
23960     ROGER D SMITH     $4,314.69                    $4,314.69    00080019
98111     DON E LEFTY       $1,000.00                    $1,000.00    00090019
54543     GEORGE I IMAY     $2,400.00                    $2,400.00    00100019
70599     EDGAR P ALLEN       $750.00                      $750.00    00110019
47783     JEFFRY A TALMAN     $732.28                      $732.28    00120019
39756     PAUL M VOUGHT     $2,000.00                    $2,000.00    00130019
23456     DAVID GRAY        $5,000.00                    $5,000.00    00140019
00001     CANDACE CARROLL   $1,740.00       $50.00       $1,790.00    00150019
00002     CANDACE CARROLL   $1,740.00       $50.00       $1,790.00    00160019
00003     CANDACE CARROLL   $1,740.00       $50.00       $1,790.00    00170019
00004     CANDACE CARROLL   $1,740.00       $50.00       $1,790.00    00180019
00005     CANDACE CARROLL   $1,740.00       $50.00       $1,790.00    00190019
00006     CANDACE CARROLL   $1,740.00       $50.00       $1,790.00    00200019
```

Display of the requested report.



```
Note(s) listing by Report              Date: Monday,    04/24/00 Time: 13:29:16
 Command ==>                                                     Scroll ==> PAGE

 ID Noteline Entry                Entry     User      Note
 -- Number__ Date_______________  Time____  ID______  Line 1____________________
 01 00000002 Friday,    04/07/00  11:20:51  BASE      NOTE ADDED TO LINE TWO OF
 02
 03
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16

 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  PF10=Left  PF11=Right
  RM9101I  --- Top of data reached ---
```

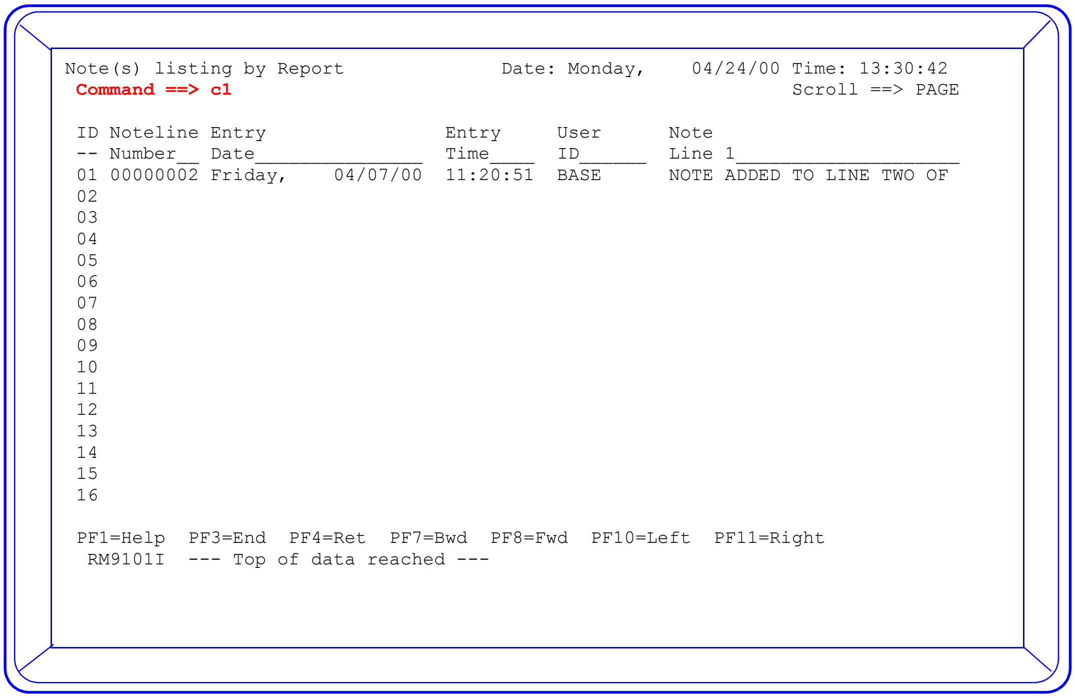
The ‘LN’ (list note) command produces a listing of all of the ‘sticky notes’ that have been added to the report being viewed. To generate the list, key ‘LN’ on the command line and press <enter>.



```
R.M.S. - Sticky Note                    Date: Monday,    04/24/00 Time: 13:30:16
 Mode: INQUIRE             AG/Loc/Rid -  RMSC0000 RMSC0000          MADISON
              Dataset Nm/Dt/Time/Num -  MADISON  040700 111824 00000020
             Distributed Dt/Time/Num -  040700   111824 16773157
 Line => 00000002 040700 112026 Title -
 > NOTE ADDED TO LINE TWO OF MADISON BASE DATASET. NEED TO VERIFY STATUS
 > OF NOTE AFTER BACKUP AND RESTORE PROCESSES. CJH.
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd                      Panel 1 of 2
  RM9020I  Enter record identifier.
```

The ‘In’ (inquire note) command is performed from the List Note display.

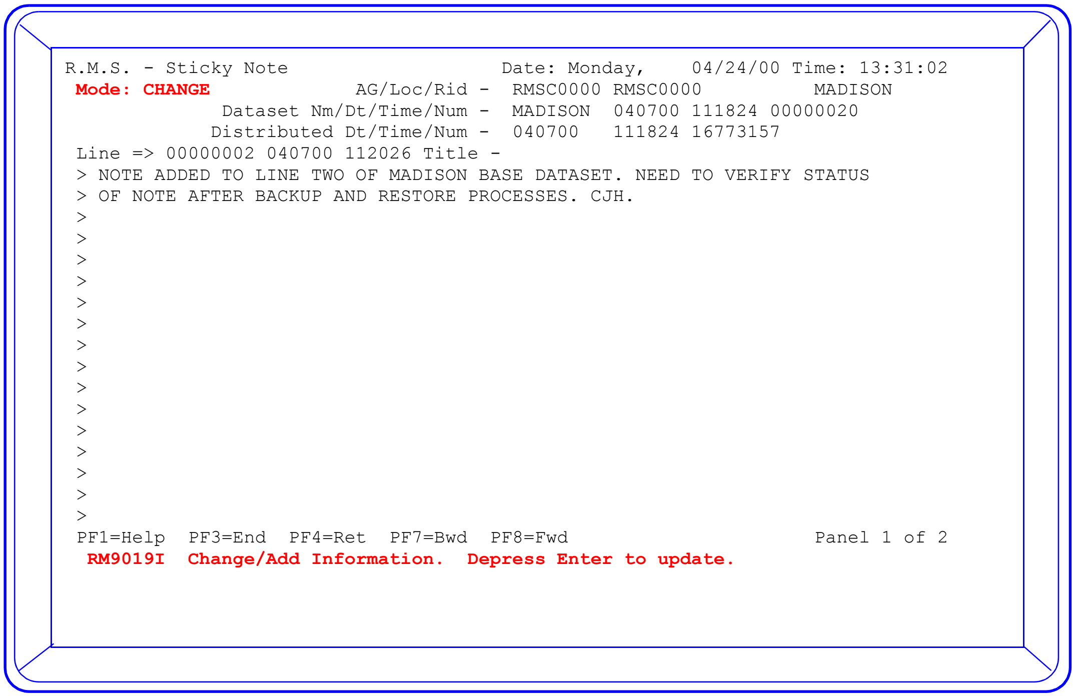
The notes attached to the original report are available when the report has been reloaded.



```
Note(s) listing by Report               Date: Monday,    04/24/00 Time: 13:30:42
 Command ==> c1                                                  Scroll ==> PAGE

 ID Noteline Entry                 Entry    User      Note
 -- Number__ Date________________  Time____ ID______  Line 1____________________
 01 00000002 Friday,     04/07/00  11:20:51 BASE      NOTE ADDED TO LINE TWO OF
 02
 03
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16

 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  PF10=Left  PF11=Right
  RM9101I  --- Top of data reached ---
```

The ‘Cn’ (change note) command is performed from the List Note panel.

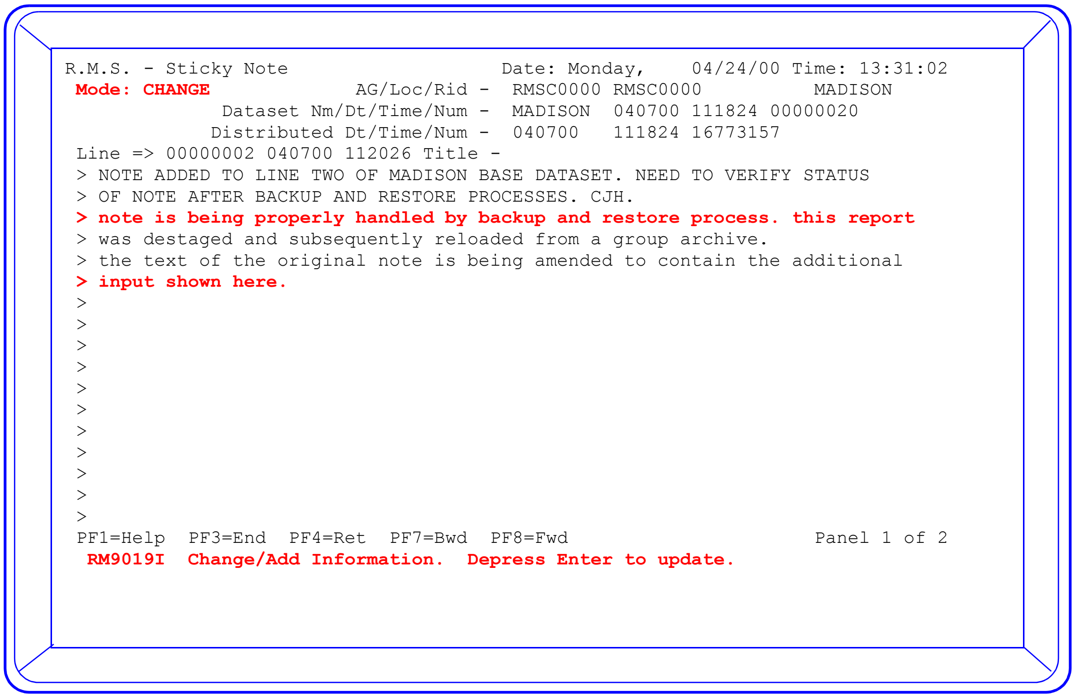
New notes can be added to the reloaded report, and the text of the original note(s) can be changed as desired.



```
R.M.S. - Sticky Note                   Date: Monday,    04/24/00 Time: 13:31:02
 Mode: CHANGE             AG/Loc/Rid -  RMSC0000 RMSC0000          MADISON
              Dataset Nm/Dt/Time/Num -  MADISON  040700 111824 00000020
             Distributed Dt/Time/Num -  040700   111824 16773157
 Line => 00000002 040700 112026 Title -
 > NOTE ADDED TO LINE TWO OF MADISON BASE DATASET. NEED TO VERIFY STATUS
 > OF NOTE AFTER BACKUP AND RESTORE PROCESSES. CJH.
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd                      Panel 1 of 2
  RM9019I  Change/Add Information.  Depress Enter to update.
```

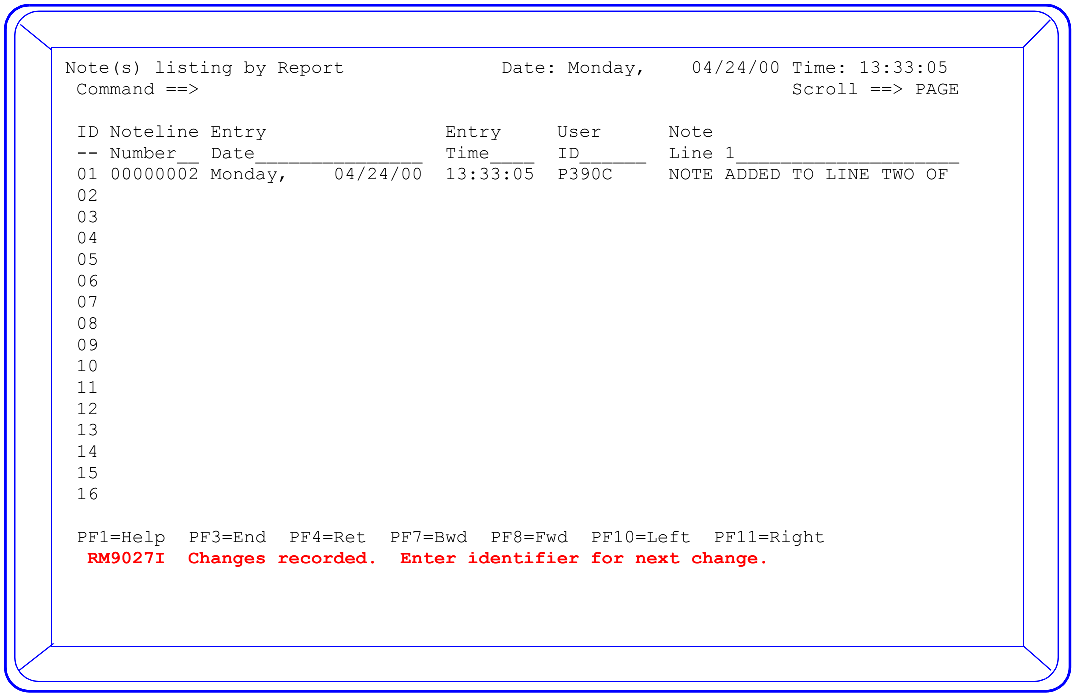
The panel above is the ‘sticky note’ record in change mode. The RM9019I message indicates users can change or add data to the note. The change is made only on the line number of the report referenced in the Line => heading.

Up to two pages of notes can be changed and/or added. Panel 2 is available if additional space is required. Use the 'PF8' key to advance to panel 2 of 2.



```
R.M.S. - Sticky Note                    Date: Monday,    04/24/00 Time: 13:31:02
 Mode: CHANGE             AG/Loc/Rid -  RMSC0000 RMSC0000          MADISON
              Dataset Nm/Dt/Time/Num -  MADISON  040700 111824 00000020
             Distributed Dt/Time/Num -  040700   111824 16773157
 Line => 00000002 040700 112026 Title -
 > NOTE ADDED TO LINE TWO OF MADISON BASE DATASET. NEED TO VERIFY STATUS
 > OF NOTE AFTER BACKUP AND RESTORE PROCESSES. CJH.
 > note is being properly handled by backup and restore process. this report
 > was destaged and subsequently reloaded from a group archive.
 > the text of the original note is being amended to contain the additional
 > input shown here.
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 >
 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd                      Panel 1 of 2
  RM9019I  Change/Add Information.  Depress Enter to update.
```

In change mode the cursor will be positioned in the text area. Change or add text as desired and press <enter> to update the record.



```
Note(s) listing by Report               Date: Monday,    04/24/00 Time: 13:33:05
 Command ==>                                                   Scroll ==> PAGE

 ID Noteline Entry                Entry     User      Note
 -- Number__ Date________________ Time____  ID______  Line 1____________________
 01 00000002 Monday,    04/24/00  13:33:05  P390C     NOTE ADDED TO LINE TWO OF
 02
 03
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16

 PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  PF10=Left  PF11=Right
  RM9027I  Changes recorded.  Enter identifier for next change.
```

After you have entered the desired changes to the 'Sticky Note', the RM9027I message will be returned. The message indicates the changes were successfully recorded.

All Note Pad functions are valid for use on a Reloaded report.

Task/Panel Cross Reference

TASK	PANEL
Sign on system	Access Authorization
Display a report	Display/Print Menu (Option D)
Change your password	Access Authorization
Produce index of available reports.	Display/Print Menu
View version of a particular report	Display/Print Menu

USING THE DISPLAY FOR THE FIRST TIME USER

Information on the operation of the 3270 display terminal can be found in the following IBM publications:

- Operators Guide for IBM 3270 Information Display Systems GA27-2742
- IBM 3290 Information Panel Description and Reference GA23-0021

Important Keys

- PF keys - Using the program function (PF key) is a fast way to instruct RMS/DPF to perform a certain task. Pressing a PF key will also cause the transmission of any information entered into fields on the panel. For example, entering 8 in the COMMAND ==> field and pressing PF 7 (Scroll Backward) will cause RMS/DPF to position the report display back 7 lines.
- ENTER - Pressing Enter causes the data entered into the current panel to be transmitted to RMS/DPF. RMS/DPF responds to the various commands and fields entered.
- ERASE EOF - Causes data in the current field, from the cursor position to the end of the field, to be erased. It's just an easy way to erase text.
- Cursor keys - Used to position the cursor on the screen. RMS/DPF input fields are marked by ==>. Pressing the cursor keys with just an arrow will position the cursor in the direction indicated. The keys marked >| and <| cause the cursor to advance or retreat to the next field each time they are pressed.
- PF1 - Perhaps the most important key, especially if you are a new user. Pressing the PF1 key gives you access to the system Help facilities.

System Help Facilities

RMS/Online has a corresponding Help panel(s) for each system panel. In order to access the Help panel, the user simply presses the Help program function key (*PF1/PF13*).

Each Help panel contains a complete explanation of the entry/data requirements for the panel in question.

How to get started

1. The first thing you must do is sign on to the terminal. Your terminal may have a system-wide security system that must be satisfied first. If so, please enter the following transaction:

   (*your data center security officer should fill in your sign-on transaction here.*)

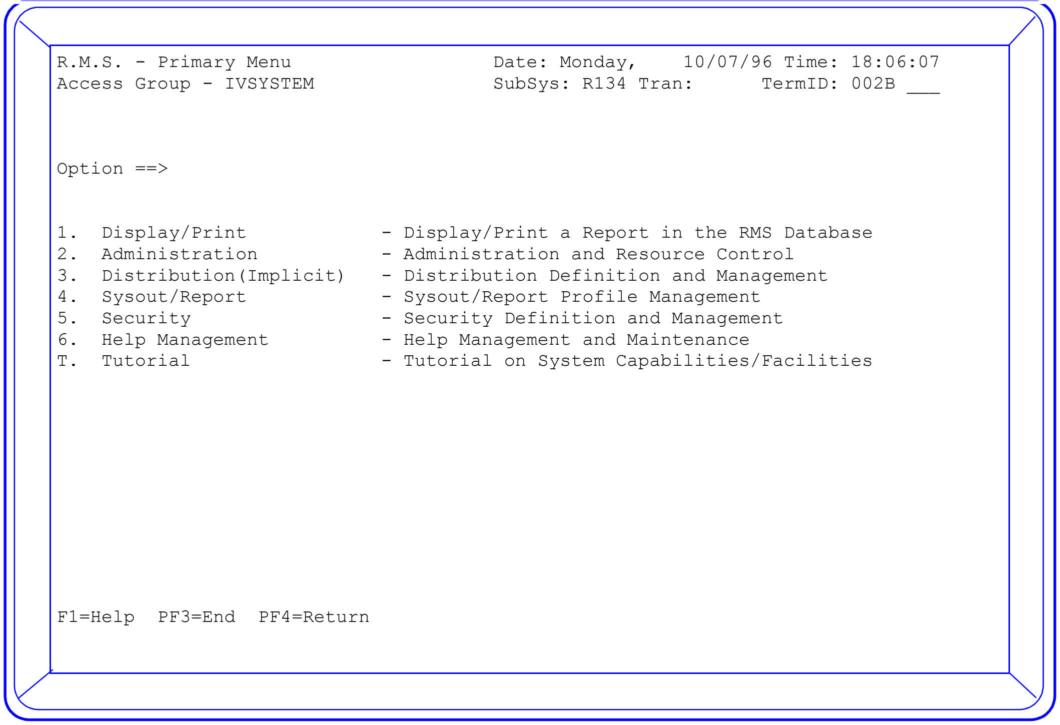
2. RMS has its own security system and, if not bypassed by your data center, requires you to enter the following:

RM*NN* **XXXXXXXX YYYYYYYY**
WHERE *NN* **=** *****
XXXXXXXX **=**
YOUR USER ID IS *****________________
YYYYYYYY **=**
YOUR PASSWORD *****________________

*Your Security Administrator or training instructor should fill in these items.

3. The following panels in this chapter depict the sequence of steps you must follow to get to your report. There are instructions on how you navigate within the report you are displaying.

Primary Menu Panel



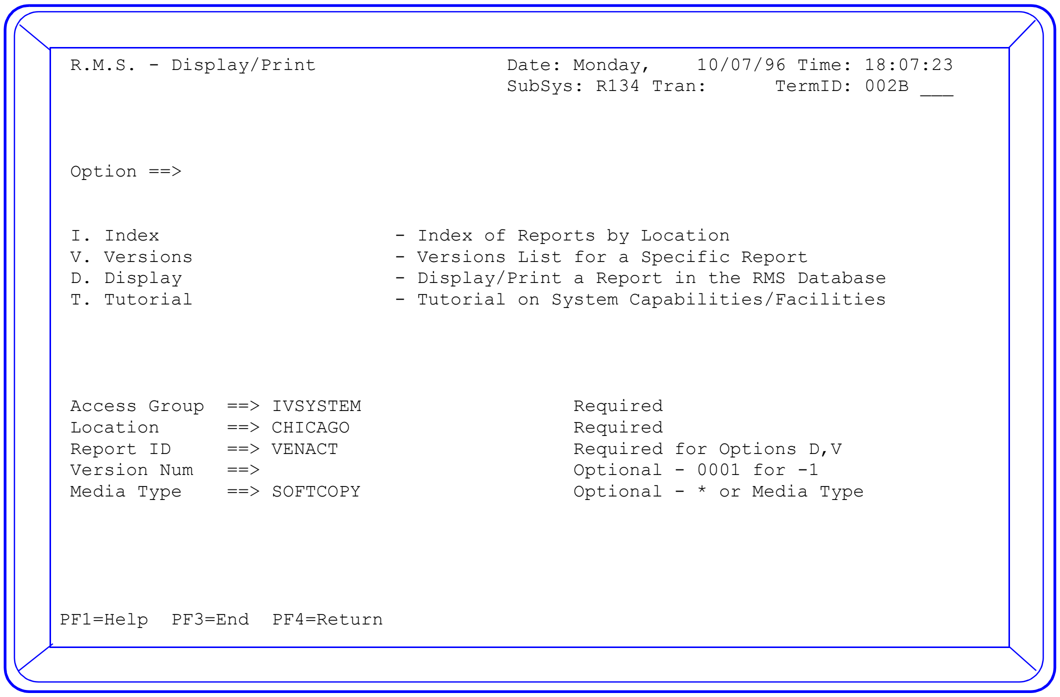
```
R.M.S. - Primary Menu                     Date: Monday,    10/07/96 Time: 18:06:07
Access Group - IVSYSTEM                   SubSys: R134 Tran:      TermID: 002B ___



Option ==>


1.  Display/Print             - Display/Print a Report in the RMS Database
2.  Administration            - Administration and Resource Control
3.  Distribution(Implicit)    - Distribution Definition and Management
4.  Sysout/Report             - Sysout/Report Profile Management
5.  Security                  - Security Definition and Management
6.  Help Management           - Help Management and Maintenance
T.  Tutorial                  - Tutorial on System Capabilities/Facilities










F1=Help  PF3=End  PF4=Return
```

Depending on options selected during system installation, the Primary Menu may be presented immediately after the Access Authorization panel. All major system functions are accessible from this panel.

Select option “1” to gain access to the Display/Print Facility.

If this is not the panel displayed after sign on, then go to the next page.

Display/Print Menu Panel



```
R.M.S. - Display/Print                  Date: Monday,    10/07/96 Time: 18:07:23
                                        SubSys: R134 Tran:      TermID: 002B ___


Option ==>


I. Index                     - Index of Reports by Location
V. Versions                  - Versions List for a Specific Report
D. Display                   - Display/Print a Report in the RMS Database
T. Tutorial                  - Tutorial on System Capabilities/Facilities



Access Group  ==> IVSYSTEM                  Required
Location      ==> CHICAGO                   Required
Report ID     ==> VENACT                    Required for Options D,V
Version Num   ==>                           Optional - 0001 for -1
Media Type    ==> SOFTCOPY                  Optional - * or Media Type



PF1=Help  PF3=End  PF4=Return
```

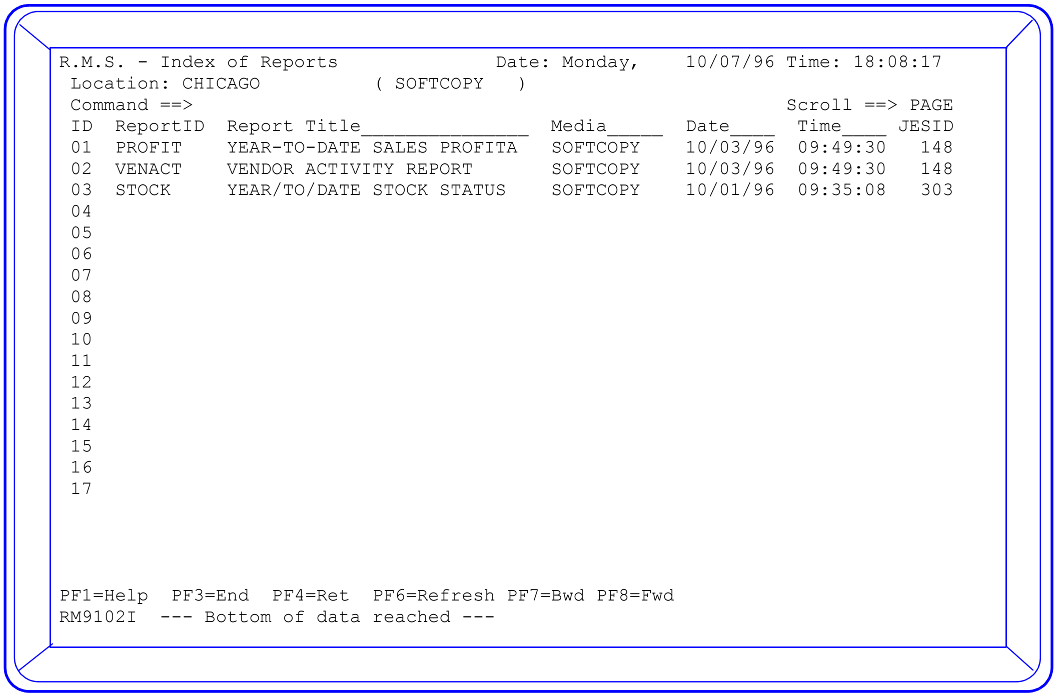
From this panel you may display reports, view an index of available reports or determine the versions of each report.

First, look at the index of reports for your location. Do this by entering an “I” in the OPTIONS ==> field.

Your default Access Group and Location Name assigned to your user ID will be displayed here. Other Access Groups and Locations may be entered by tabbing to those fields and entering their full names. If you have others available, you or your systems administrator should list those here:

ACCESS GROUPS	LOCATION NAMES

Index Panel



```
R.M.S. - Index of Reports              Date: Monday,    10/07/96 Time: 18:08:17
 Location: CHICAGO          ( SOFTCOPY   )
 Command ==>                                                     Scroll ==> PAGE
 ID  ReportID  Report Title_______________  Media_____  Date____  Time____ JESID
 01  PROFIT    YEAR-TO-DATE SALES PROFITA   SOFTCOPY    10/03/96  09:49:30   148
 02  VENACT    VENDOR ACTIVITY REPORT       SOFTCOPY    10/03/96  09:49:30   148
 03  STOCK     YEAR/TO/DATE STOCK STATUS    SOFTCOPY    10/01/96  09:35:08   303
 04
 05
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17




PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
RM9102I  --- Bottom of data reached ---
```

This panel displays an index of those reports available to a location. The location on this panel is Chicago.

Multiple versions (*previous days*) of these reports may be kept for viewing. In order to see the versions of the reports available, enter “V” and the ID number of the report you want. In our example, “V1” will display the versions of the YEAR-TO-DATE SALES PROFIT report. However, at this point you probably may want to display the most recent copy of one of the listed reports.

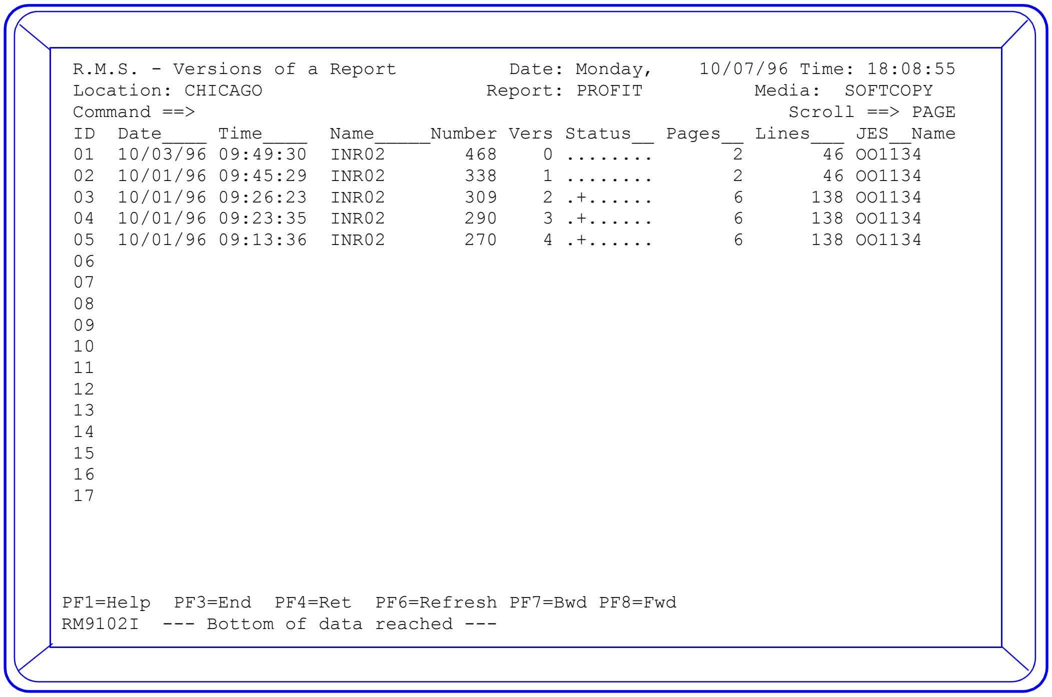
If you want to display the 000 version (*most recent copy*) of the report, enter “S” or “D” and the ID number of the report you want. (*Or key in “S “or “D” next to the desired item in the ID column.*) In our example above, “D” would display the latest version of the VENDOR ACTIVITY REPORT. Requesting the display of a report from the index panel will always display the most recent version added to the viewing files.

If the index contains more than 17 entries, then you may scroll forward and backward in the index list by using the Scroll Up/Scroll Down PF keys.

The Index panel is used for submission of Output Definition Verification and requests. (*See the Output Definition Chapter*).

NOTE: The PF keys and their functions may be viewed by entering PF in the COMMAND ==> area. Return by using the PF3 key.

Versions Panel



```
 R.M.S. - Versions of a Report          Date: Monday,    10/07/96 Time: 18:08:55
 Location: CHICAGO                    Report: PROFIT          Media:  SOFTCOPY
 Command ==>                                                     Scroll ==> PAGE
 ID  Date____ Time____  Name_____Number Vers Status__ Pages__ Lines___ JES__Name
 01  10/03/96 09:49:30  INR02       468    0 ........       2      46 001134
 02  10/01/96 09:45:29  INR02       338    1 ........       2      46 001134
 03  10/01/96 09:26:23  INR02       309    2 .+......       6     138 001134
 04  10/01/96 09:23:35  INR02       290    3 .+......       6     138 001134
 05  10/01/96 09:13:36  INR02       270    4 .+......       6     138 001134
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17



PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
RM9102I   --- Bottom of data reached ---
```

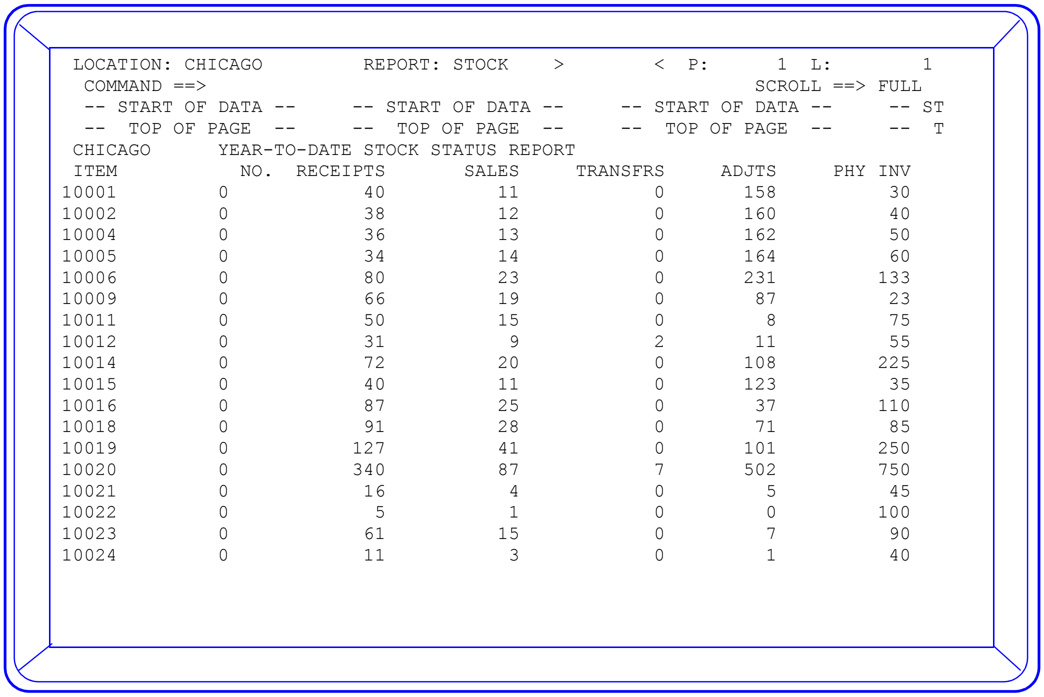
The report versions are listed from newest to oldest. Scroll capabilities permit the user to locate the desired version of a report should there be more than 17 versions. The Display (D,S), Print (P), Output (O), Recover (R), and Cancel (C) report functions may be invoked by entering the desired function followed by the ID number of the selected report. For our example we have selected to display the 000 version of the PROFIT report.

Type “D1” or “S1” in the COMMAND field and press **ENTER**.

This will display the most recent version of the PROFIT report.

NOTE: The Cancel, Output, Recover, and Print commands may be limited to specific users or the System Administrator at your installation.

Display Panel



```
 LOCATION: CHICAGO         REPORT: STOCK     >        <  P:       1  L:         1
  COMMAND ==>                                                 SCROLL ==> FULL
  -- START OF DATA --     -- START OF DATA --     -- START OF DATA --     -- ST
  --  TOP OF PAGE  --     --  TOP OF PAGE  --     --  TOP OF PAGE  --     --   T
 CHICAGO      YEAR-TO-DATE STOCK STATUS REPORT
 ITEM           NO.  RECEIPTS       SALES     TRANSFRS     ADJTS     PHY INV
10001         0            40          11            0       158          30
10002         0            38          12            0       160          40
10004         0            36          13            0       162          50
10005         0            34          14            0       164          60
10006         0            80          23            0       231         133
10009         0            66          19            0        87          23
10011         0            50          15            0         8          75
10012         0            31           9            2        11          55
10014         0            72          20            0       108         225
10015         0            40          11            0       123          35
10016         0            87          25            0        37         110
10018         0            91          28            0        71          85
10019         0           127          41            0       101         250
10020         0           340          87            7       502         750
10021         0            16           4            0         5          45
10022         0             5           1            0         0         100
10023         0            61          15            0         7          90
10024         0            11           3            0         1          40
```

The preceding pages have shown how to get to the display panel for a desired report. It was assumed that the user did not know which reports were available and which versions were available to view. There is a simple way to view the report if the Report ID and version is known.

On the Display/Print Menu panel enter:

OPTIONS ==>	D
ACCESS GROUP ==>	(Required, enter your Access Group)
LOCATION NAME ==>	(Required, enter your Location)
REPORT NAME ==>	(Required, enter the Report you want)
VERSION ==>	(Optional Default-000)

The result is the same whether the long or short version is used to get to the report display.

REPORT VIEWING FEATURES

Once a report is displayed, various commands may be used to customize the presentation of the report(s) to fit individual needs.

You communicate with the display print facility by a combination of PF key depressions and commands entered in the COMMAND ==> field at the top of the panel.

All available commands are covered in this chapter. They are organized into four logical groups that perform the following functions.

- Format your reports for viewing

- Locate information within the report
- Using the windowing features
- Informational commands

In the following command description, brackets (“[“and “]”) are used for notation only and should not be entered with command data. When used in the description of command options, these brackets indicate that one or more fields may be entered with a command. The vertical bar “|” indicates that one of the listed options may be entered with a command.

You will notice that with many of the commands, the same command is used to activate and deactivate the option. For instance, a scale line (*a line that provides a visual marker for report lines*) may be added and removed by typing (S)cale into the command area of the panel.

Report Formatting

Once your report is displayed, you may use the column select (*CS*) command to reformat the columns of the reports in any order you would like to see them. To assist you in the selection of the correct columns, the S(cale) command will give you a scale line at the top of the panel. Movement up/down and left/right can be done with PF7/PF8 and PF10/PF11, respectively.

SCALE
S

The SCALE command adds or deletes the ruler line to/from the current display. The ruler lines serves as a horizontal visual reference while viewing a report. It looks like this:

```
....+...10....+...20....+...30....+...40....+...50....+... 60....+...70....+...80
```

COLUMN SELECT [xy......]
CS

The COLUMN SELECT command is used to select and reorganize the columns of a report to make the content of that report more usable to the viewer. Columns may be selected in any order and columns selected by one x,y pair may overlap those selected by another select pair. The only requirement is that x be less than or equal to y in each x,y pair, and that neither value be less than 1 or greater than 240.

In order to select columns 1 through 10 and 20 through 40 for viewing, the following CS command would be entered:

```
CS 1,10 20,40
```

Since there is no restriction with regard to column order, we could view the same columns in reverse order by entering:

```
CS 20,40 1,10
```

Columns may be reset by entering CS with no x,y pairs or by using the RESET command.

NOTE: If you are unable to change your format contact your system administrator.

RESET
RS

Reset the viewing options. Column selection is removed. The scale line (*if any*) is removed. Header hold lines are set to zero.

Saving Your Format for Later Use

Once you have chosen the best format to display a report, if you want to save that format you can use the FORMAT SAVE command. This saves your format to be used the next time you view any version of this report. You can use this format later by the use of the FORMAT RETRIEVE command.

FORMAT SAVE [A.....A]
FS

The FORMAT SAVE command provides a convenient method of saving a viewing format. The following values are retained for subsequent viewing operations using the retrieved format: SCALE, HEADER HOLD, SCROLL VALUE, ACTIVE COLUMN SELECTION, A.....A is the name under which the format is stored for subsequent retrieval by the FORMAT RETRIEVE (*FR*) command. Multiple formats may be saved for the same report. If DEFAULT is specified, the format is automatically retrieved the next time the report is accessed. It should be noted that format records are stored by USER ID permitting multiple users to establish and control their unique viewing requirements for the same report.

FORMAT RETRIEVE [A.....A]
FR

The FORMAT RETRIEVE command enables a user to retrieve viewing format information previously saved using the FORMAT SAVE (FS) command. A.....A is the name of the format (*up to 10 characters*) to be retrieved. If A.....A is omitted, the DEFAULT format set is retrieved.

FORMAT DELETE [A.....A]
FD

The FORMAT DELETE command is used to remove a format previously added by a FORMAT SAVE command.

Line Positioning/Scroll Operations

RMS/DPF accepts four scroll values. One of the following may be entered after using the <TAB> key >| to advance to the SCROLL ==> field.

H(ALF)	Scroll half the depth of the current window.
F(ULL)	Scroll the depth of the current window.
NNNN	Scroll NNNN lines.
P(AGE)	A scroll value of page positions from the top of the printed page to the top of the next printed page.

The scroll value may be overridden by entering a number in the command line before depressing the scroll PF keys. If a number is entered in the command line while the scroll value is HALF, FULL, OR NNNN, the number is interpreted as the number of lines to scroll. If the scroll value is PAGE when a value is entered, the system scrolls this many pages.

Entering the letter M (maximum) and depressing a scroll key will cause the system to scroll to the top or bottom of the report, depending on which PF key is depressed.

When M(aximum) is entered and the scroll left/right key is depressed, the viewing window is positioned as far to the right or left position of the viewing data as possible.

Locating Information Within the Report

The most important command used to locate information within reports is the FIND command. You must know some character string near or on the line you want to find.

FIND [‘STRING’ | *] [NEXT | PREV | FIRST | LAST]
F

The FIND command is used to locate a character string (*word or phrase*) in the report being viewed. The search will commence at the top of the screen, either forward (down) or back (up).

The FIND operands are:

'STRING'	Is the word or phrase to be located. If the word or phrase contains one of the following characters / ‘$ ~ #, it should be enclosed in quotes.
*	Causes the character string last entered to be used as the object of the current command.
NEXT N	Causes the next occurrence of the character string to be located. This will include any occurrences on the display panel. Next is the default.
PREV P	Causes the previous occurrence of the character string to be located.
FIRST F	Causes the first occurrence of the character string to be located.
LAST L	Causes the last occurrence of the character string to be located.

NOTE: The maximum number of lines the FIND command will search is controlled by the SEARCH RANGE (SR) command.

Once you find the information you are looking for, it can be marked for later return. Use the label command [.A.....A] or PF6 key to label the place in the report you want to LOCATE later.

.A....A

Label the current location. A period (“.”) followed by up to 7 characters is used to identify the current page location. The labeled location may be retrieved for viewing by entering the assigned label as the operand on a LOCATE (L) command.

LOCATE [.A....A | NNNN]
L

LOCATE command is used to position a report to a previously labeled viewing position or to a specific line or page. If the SCROLL ==> value is HALF, FULL OR NNNN, positioning is to the specified line. If the scroll value is PAGE, positioning is to the specified page.

NOTE: .A....A is a label previously assigned.
NNN is a report line number or page number if the SCROLL value is PAGE.

While looking through your reports, you may want to hold column headers at the top of the page for use later. Use the HEADER command.

HEADER [N]
H

The HEADER command is used to request up to 21 lines of header data be held at the top of the scroll page. The held header lines are highlighted for subsequent scroll operations. Any viewable lines may be held, not just report title lines.

Heading lines may be removed by entering H with no operand.

SEARCH RANGE [NNNNNNNN]
SR

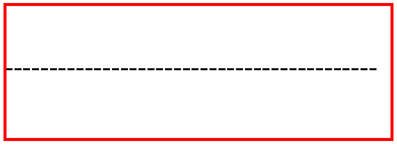
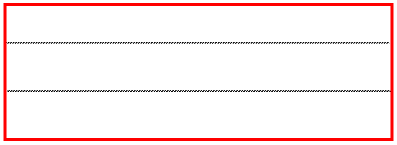
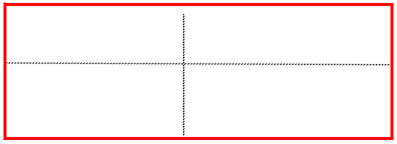
This command is used to establish a search range for find operations. While finding information within reports the system will look at a maximum number of lines before interrupting the find operation. This maximum number of search lines may be overridden with the SEARCH RANGE command. The default is 5000 lines. Values of from 1 to 99,999,999 may be entered. If the number of lines is omitted, the default search range (5,000) is assumed.

Using the Windowing Features

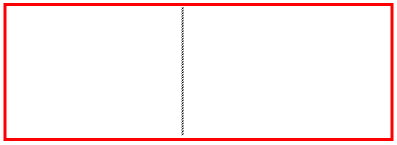
Windowing is a way to partition the screen so that multiple reports may be viewed simultaneously. Each partition may be used like an independent screen. The advantage of this ability to partition the screen is that multiple reports (*or multiple windows of the same report*) can be viewed at the same time. All functions available to the full panel are available to each window. The WINDOW SET command lets you establish the format of the screen. The full screen report is the first (and default) window and the other windows may be opened or closed at any time. If you want to change window sets, you may do so without closing. Those that are open will be viewed with the new window set automatically.

WINDOW SET [SET NAME]
WS

The WINDOW SET command is used to select a window set which will divide the panel into viewing areas. Available window sets are:

H2	Horizontal aspect window set. Each window occupies one-half of the panel area. 
H3	Horizontal aspect window set. Each window set occupies one-third of the panel area. 
Q4	Quadrant aspect window set. Each window set occupies one-fourth of the panel area. 

V2	Vertical aspect window set. Each window set occupies one-half of the panel area.



Entering “WS” with no set name causes the full screen (default) to be selected.

OPENW
OW

Open a window. After the open window command is entered, a report selection sub-panel is presented in the new window. Information entered in this sub-panel determines which report will be presented in the new window.

CLOSEW
CW

Close the current window. The panel area previously occupied by the window is cleared and the current window is changed to the next active window.

Multiple reports may be opened from the full panel or from any window. Multiple reports may be opened inside each window. You may toggle back and forth between reports by using PF4/16.

OPENR
OR

Open a report. After the open report command is entered, a report selection sub-panel is presented in the current window. Information entered in this sub-panel determines which report will be displayed in the active window.

The PF4 key may be used to switch or toggle between open reports inside a window. By entering the report name on the command line before the PF4 key is pressed, the switch will be to report specified. Otherwise reports will be displayed in order opened.

ZOOM
Z

The Zoom command is for use within any open window. It enlarges the window to the entire terminal display area. When entered again, it restores the active window environment from which it was originally entered. The PF12 key is equivalent to the Zoom command.

PF9

Switches from the active window to the next window available.

Informational Commands

Some commands that are used to display information that is not found on the index versions or display panels. These commands are:

REPORTI
RI

The report information command displays extended information on the report being viewed.

PF

This command displays the default PF key settings for RMS/Online. Depress PF3 when you have reviewed these settings and your display will be restored to its original viewing location.

AD

Entering AD in the COMMAND ==> field of the display will cause the administrator name and phone number to be displayed. This may be useful if you are having problems you feel the administrator may help you resolve. This command causes part of the window being displayed to be overlaid. You may restore the viewing environment by pressing PF3.

Using the Note Pad Capability

AN

The Note Pad panel is presented if the Attach Note (AN] command is entered during a viewing session. The Note Pad is a multi-panel display. Place any text in the Note Pad that you desire. Notes are attached to specific report lines. Any number of notes (*up to the number of lines in a report*) may be entered. Press PF7/PF8 to page Up/Down. Press <ENTER> to confirm the note addition and return to the viewing session.

LN

The List Note panel is presented when the LNOTE (LN) command is entered during a viewing session. Notes after the line number entered with the LN command are listed in ascending line number sequence. The command “LN 2500” would display a list of notes attached to line numbers of equal or greater value than 2500. Individual notes may be selected for viewing by entering I NN, where NN is the line number of the note record on the list panel. Optionally, you may overtype the ID field with “I”.

Notes may be changed from the List Notes panel by entering “C NN”, where NN is the ID number of the note you want to change. Optionally you may overtype the ID field on the individual lines of the List Note panel. Change the note as desired and press <ENTER> to confirm the change and return to the List Note panel.

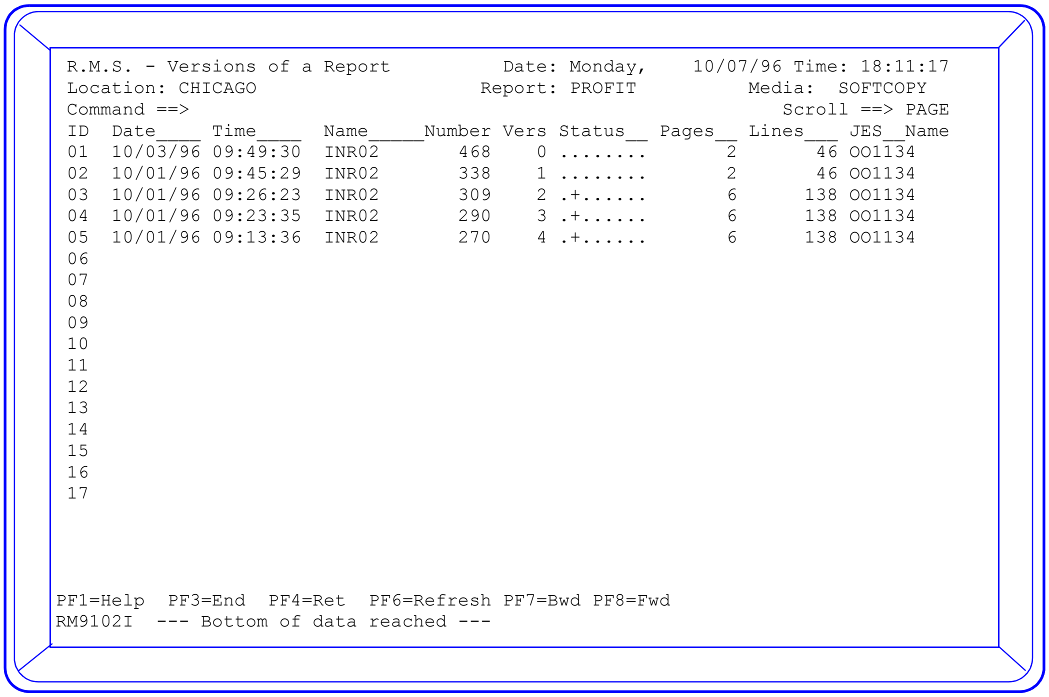
Notes may be deleted from the List Notes panel by entering “D NN”, where NN is the ID number of the note you want to delete. Optionally you may overtype the ID field on the individual lines of the List Note panel. The note to be deleted will be displayed with a message advising you to depress <ENTER> to confirm delete.

SELECTIVE AND FULL VERSION PRINTING

RMS allows you to print reports that are resident in the viewing files and those that have been archived. Selective page printing is available when printing viewable files.

Print requests during the viewing of a report (*Selective Page Printing*) will have the column select attributes carried over to the printing operation.

Printing an Entire Report



```
 R.M.S. - Versions of a Report          Date: Monday,    10/07/96 Time: 18:11:17
 Location: CHICAGO                    Report: PROFIT          Media:  SOFTCOPY
 Command ==>                                                     Scroll ==> PAGE
 ID  Date____ Time____  Name_____Number Vers Status__ Pages__ Lines___ JES__Name
 01  10/03/96 09:49:30  INR02       468    0 ........       2       46 001134
 02  10/01/96 09:45:29  INR02       338    1 ........       2       46 001134
 03  10/01/96 09:26:23  INR02       309    2 .+......       6      138 001134
 04  10/01/96 09:23:35  INR02       290    3 .+......       6      138 001134
 05  10/01/96 09:13:36  INR02       270    4 .+......       6      138 001134
 06
 07
 08
 09
 10
 11
 12
 13
 14
 15
 16
 17



PF1=Help  PF3=End  PF4=Ret  PF6=Refresh PF7=Bwd PF8=Fwd
RM9102I  --- Bottom of data reached ---
```

From the Versions Panel type PX, or Ox, where X = the ID of the version to be printed.

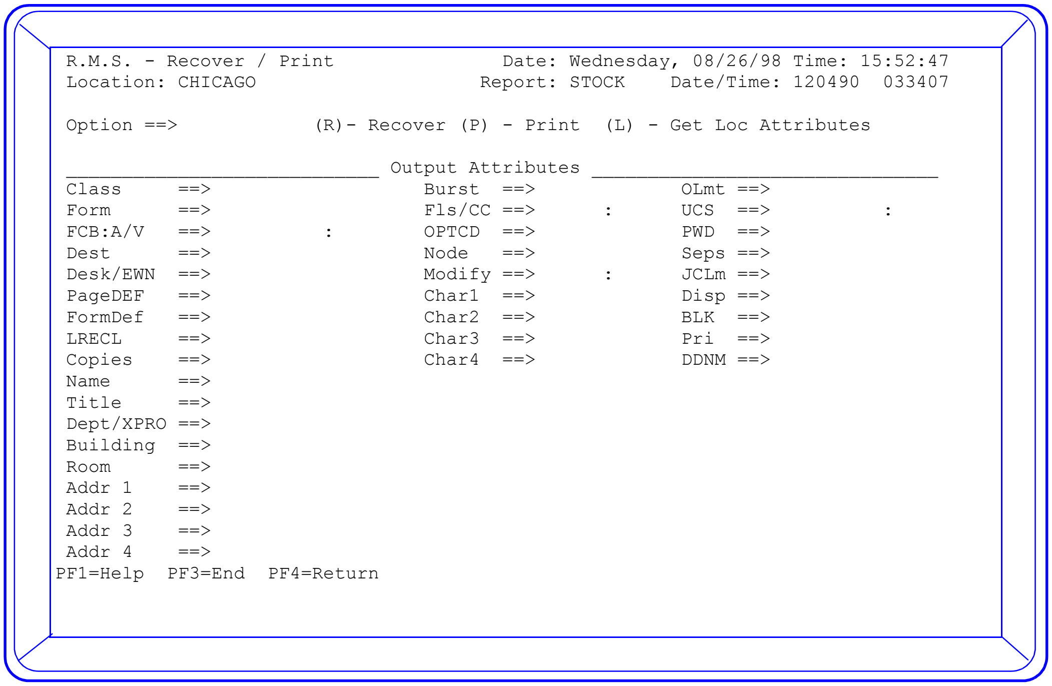
Before the print job is submitted you will see a Request Print Panel that will allow you to change the print characteristics and the routing instructions.

NOTE: Standards at your installation may cause the Request Print panel not to be displayed.

CHAPTER 7: DISPLAY PRINT FACILITY

Chap_07(v11r35m1).fm: Revised Sunday, November 24, 2013

Recover / Print Panel



```
 R.M.S. - Recover / Print               Date: Wednesday, 08/26/98 Time: 15:52:47
 Location: CHICAGO                    Report: STOCK    Date/Time: 120490  033407

 Option ==>            (R)- Recover (P) - Print  (L) - Get Loc Attributes

 ____________________________ Output Attributes _______________________________
 Class     ==>                     Burst  ==>              OLmt ==>
 Form      ==>                     Fls/CC ==>      :       UCS  ==>          :
 FCB:A/V   ==>          :          OPTCD  ==>              PWD  ==>
 Dest      ==>                     Node   ==>              Seps ==>
 Desk/EWN  ==>                     Modify ==>      :       JCLm ==>
 PageDEF   ==>                     Char1  ==>              Disp ==>
 FormDef   ==>                     Char2  ==>              BLK  ==>
 LRECL     ==>                     Char3  ==>              Pri  ==>
 Copies    ==>                     Char4  ==>              DDNM ==>
 Name      ==>
 Title     ==>
 Dept/XPRO ==>
 Building  ==>
 Room      ==>
 Addr 1    ==>
 Addr 2    ==>
 Addr 3    ==>
 Addr 4    ==>
PF1=Help  PF3=End  PF4=Return
```

The Recover / Print Panel will first appear with the print characteristics assigned to this report when it was added to the database. If you wish to change these characteristics you may do so by tabbing to the various fields and entering those changes. Once the changes have been entered and “P” is entered in the Option field, the print request is queued when the <ENTER> key is pressed.

Off-line reports may be recovered and reloaded to the repository for viewing. Entering an “R” in the Option ==> will cause an off-line report to be placed back in the repository in viewing status. Recovered reports are always restored to their original location under the report ID of RELOADED. Recovered reports which an individual user may access appear on an index panel display. The original report ID, date and time appear in the title fields of the recovered entry. Recovered reports are subject to retention processing like any other report. Since recovered reports are placed in index under a consistent report ID(RELOADED), they are easily located. The most recently recovered entry will always be the first entry on the index panel.

There is a set of default print characteristics available to each Location. These may be retrieved by typing “L” in the Option field and <ENTER>. Once these are retrieved, the print job can be submitted as above.

Printing Selective Pages

Within a report page ranges may be selected for printing. This is done while viewing the report. The following steps will select a group of pages for printing.

STEP 1	Display the report which you want to print.
STEP 2	Page to or find the first page to print.
STEP 3	Type “PS” in the command field, then <ENTER>.
STEP 4	Page to or find the last page to print or remain on the current page if only that one page is to be printed.
STEP 5	Type “PE” in the command field, then <ENTER>.

NOTE: Steps 2 through 6 may be repeated up to 15 times to select 15 different sets of pages to be printed.

Once the display for that report is ended (*PF3*) key, the Request Print Panel will be displayed automatically. This panel will allow you to change the print characteristics and the routing instructions for the print being requested.

PRINT START
PS

The PRINT START command designates the beginning page of a page range to be printed.

PRINT END
PE

The PRINT END command is used to indicate the end of a range of pages selected for printing.

Chapter 8

PROBLEM DETERMINATION AND RESOLUTION

Common Problems /Solutions

This chapter contains some common questions that are asked when using the Report Management System. A suggested solution(s) is provided after each problem.

QUESTION: **Where can I find information on the values of the key elements at different points in the execution of my instruction set?**

ANSWER: *With each execution of your instruction set, RMS automatically prints a Selected Dataset(s) Report. This report contains a great deal of valuable information. It is contained in the sysout from the* `QXSTATS DD` *statement.*

NOTE: Refer to Appendix I for a complete examples of all system reports.

In addition, the system provides detailed descriptions of each dataset that is selected and a listing of all commands in the instruction set. The `KEY*TRACE` (*Diagnostic Record Dump*) provides a listing (*within the Selected Dataset(s) Report*) of all key element values and all associated information. These keys are printed in the order the pages appear in the print dataset. There is a lot of information to be gained from the key trace data. Each key line printed also contains the Report ID. This is valuable to tie this key record back to an `IDENTIFY*REPORT` or Custom Definition panel. Notice also that any additional keys generated from a **`BROADCAST`** or Send Report panel are also listed.

NOTE: Refer to Appendix I for a complete example of all system reports.

QUESTION: **My reports are printing in an unexpected order.**

ANSWER: *Your key elements dictate the order in which your reports are sorted (and printed). Check to be sure that your current key structure sorts your reports in the desired order. You can use the* `SET REORGANIZATION PANEL` *in DD to change the order (and length) of your key elements. Refer to the Operator's Tutorial and Advanced Applications for more information on key structure.*

QUESTION: **One of my reports is going into the wrong packet.**

ANSWER: *Follow the steps below to try to pinpoint the problem.*

1. Run the instruction set with the `KEY*TRACE` (*Diagnostic Record Dump*). This will cause the system to print all sort keys during the run (*they will be listed by dataset in order of input*).
2. Find the keys in question and examine the values in the keys.
3. Check to see that the proper Report ID is shown for the key and that it

matches back to the `IDENTIFY*REPORT` (*Custom Report Definition*).

4. If a `BROADCAST` (send report) statement is specified, check to see if the report is sent to the desired packet. The results of a BROADCAST command will be shown immediately following the original key on the Key Trace.
5. Check to see if the `CREATE*PACKET` (*Custom Packaging Panel*) key element values or recipient values match the keys that are being built.
6. Check to be sure that the `CREATE*PACKET` (*Custom Packaging Panel*) key element values or recipient values match the keys that are being built.
7. Be aware that a match on a new `CREATE*PACKET` statement (*Custom Packaging Panel*) triggers the creation of a new packet.
8. Once a packet is closed, it is never re-opened.

QUESTION: **How do I get my reports to RMS/DPF?**

ANSWER: *You must specify the media type SOFTCOPY. For more information, refer to the Operator's Tutorial and Advanced Applications*

QUESTION: **How do I create a packet that contains just the manifest report?**

ANSWER: *The CREATE*PACKET command has an optional parameter called GLOBAL*MANIFEST. This parameter will tell the system that the packet being create with the CREATE*PACKET command should contain only the manifest report. The DD equivalent is the* `INDEX PACKET (Y/N)?` *(Specify "Y") field on the Custom Packaging Panel. This option is defined to send the Global Manifest to print class A with the packet name "MANIFEST".*

PROBLEM: **I have received the following message:**

```
MSG#105 RM0105E UNDEFINED CHANNEL (X”93), EXECUTION TERMINATED
```

SOLUTION: *If you receive this message, it means that RMS has encountered a channel skip in a carriage control that you did not identify with an FCB command. Use the* `FORM*CONTROL*BUFFER` *command to define the channel skip. The*

Chap_08(v11r35m1).fm: Revised Sunday, November 24, 2013

FCB is used by JES to print a dataset. It is the source for all channel skips for that print dataset. Refer to the System Command Reference Summary for a list of the channel command values.

QUESTION: **I want to identify a report by the title (STOCK). However, the title is on the first line (column 50) on all pages, except for one page where it is on line 2 (column 50). How can I identify this report?**

ANSWER: *You can identify this report with two IDENTIFY*REPORT commands, as shown below:*

EXAMPLE:

```
IDENTIFY*REPORT-
     FORMAT*DATA1(1,50,STOCK)-
     REPORT*ID(STOCK)
.
.
.
.
IDENTIFY*REPORT-
     FORMAT*DATA1(2,50,STOCK)-
     REPORT*ID(STOCK)
```

NOTE: Both of the IDENTIFY*REPORT commands have the same REPORT*ID.

QUESTION: **I received the following JCL message:**

`“DD STATEMENT MISSING”`

ANSWER: *Check to see if you have* `FREE=CLOSE` *on a DD statement that you reference in a Custom Packaging Panel or OUTPUT*CONTROL statement. If so, remove this parameter. Also check to see that any* `DDNAME` *referenced in a Custom*

Packaging Panel or `OUTPUT*CONTROL` *statement has a corresponding DD statement in the JCL. It must be in the step that executes the RM80004 program.*

PROBLEM: **I received the message “unknown” under the PRINT CTL heading on the Data Set Selection Report.**

ANSWER: *The carriage control is missing from the dataset after it’s captured by the transport server . Make sure that the indicator for Carriage Control in the DCB parameter of the DD statement in the creating application JCL indicates the correct machine or ASA carriage control.:*

EXAMPLE:

`RECFM=FM` [Fixed length with machine carriage control]

`RECFM=FBM` [Fixed length and blocked with machine carriage control]

`RECFM=FA` [Fixed length with ASA carriage control]

`RECFM=FBA` [Fixed length and blocked with ASA carriage control]

QUESTION: **How can I tell the system not to print separator pages between packets?**

ANSWER: *Specify* **`SEPARATOR*PAGES(0)`** *(separator pages zero). If you are using DD, specify “0” in the* **`SEP PAGES ==>`** *field on the Custom Packaging Panel.*

PROBLEM: **I received the following message:**

MSG# 220 RM0220E Command Sequence Error

SOLUTION: This indicates that your commands are not in the required order, as shown below:

EXAMPLE:

```
RUN*OPTIONS
DEFINE*KEY
RECOVER
PRIORITY
TRANSLATE
BROADCAST
COPY
IDENTIFY*REPORT
INSERT*DATA*STREAM
OUTPUT*CONTROL
CREATE*PACKET
FORM*CONTROL*BUFFER
SELECT
```

PROBLEM: **Each page in one of my packets is duplicated.**

SOLUTION: *You have performed a* `BROADCAST` *(send report) to the same endpoint to which the report is originally being sent.*

PROBLEM: **I have received the following message:**

MSG# 213 RM0213E command TABLE SPACE EXHAUSTED

SOLUTION: *You are probably executing a large command stream that has exceeded the Command Buffer Space. You should increase the size of the buffer space. We suggest that you increase it by 50 percent, then try running the command stream again. Increasing the buffer space will increase the size of your program. This may require you to increase the Region on the job card.*

PROBLEM: **RMS (RM80004) goes into a loop, performing nothing the first time it's run.**

SOLUTION: *You've probably attempted to send reports to the RMS/DPF (softcopy) program and the last step of the installation for the Online (RMS/DPF) programs was not completed correctly. Try re-installing the Online software (or just rerun the last step to be sure RM80004 is relinked). Refer to the Installation Guide for more information.*

PROBLEM: **I ran RM80004 and got the message "Dataset Not Found". I know that the dataset was sent to the repository and did appear in the repository shortly after the run.**

SOLUTION: *The dataset was probably not yet in the repository at the precise moment RM80004 was looking for it. There is a method for checking to make sure the dataset is in the repository before running RM80004. Use Checkpoint Datasets to check for the desired dataset(s). If the checkpoint is not satisfied, the system will wait 2 minutes and check again. It will continue checking until the dataset is found Be sure to delete checkpoints once they're used. If they are not deleted, the next run may be started prematurely.*

Consider using the RMS Subsystem Interface. Using the SSI you can be assured that the dataset will be available as soon as the application has finished processing.

PROBLEM: **I received the following message:**

RM0128E INVALID SEGMENT NAME

SOLUTION: *You have probably specified too many characters or illegal characters in the segment name. The segment name must be 8 alphanumeric characters, with no blanks or special characters. The segment name must begin with an alpha character to conform to OS/MVS DD naming standards.*

Chapter 9

MESSAGES AND CODES

RMS Messages

INTRODUCTION

This publication provides an explanation of the format and meaning of the messages and ABEND codes issued by RMS. It does not contain specific information on the use of facilities in these systems or the options available in each. These options are described in the System Reference Manuals for these systems.

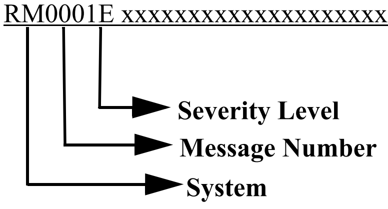
Explanation of Message Format

All messages issued by the Report Management System adhere to a common format. This format serves as an internal trace facility that assists in the problem diagnosis and resolution and consists of two components: the message identifier and the text. The message identifier is an eight (8) character alphanumeric value structured as follows:

RMnnnnt	**where:**
RM	RMS message prefix.
nnnn	Numeric message code assigned to message text component.
t	Message severity:
C	Critical error with possible compromise of report data. Processing could not be continued.
E	Error-Processing could not be continued
I	Information and system status.
W	Warning, error occurred but processing continued.

The text portion of the message provides a descriptive explanation of the situation that resulted in its being issued. The text is free form and varies in length.

EXAMPLE: RM0001E xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx



MESSAGE NUMBER AND TEXT____________________________
EXPLANATION__________________________________
SUGGESTED ACTION___________________________

MESSAGES

RM Codes

RM0000 Invalid control statement type.

The input command entry preceding this message is invalid. The system issues the message and sets a program return code of 08.

Operator Response: Correct and re-enter the command.

RM0001 xxxxxxxx Was not found.

Entry xxxxxxxx was not found.

Operator Response: Ensure that the queue dataset selection record contains the correct name and selection criteria.

RM0002 RMS security processing required but security module unavailable, execution terminated.

The RMS Access Group Master record indicated that security was active; however, no security processing routine has been provided. A completion code of 08 is returned.

Operator Response: Re-link the RMS product including the appropriate security routine, or update Access Group Master record, turning off the security indicator.

RM0003 End of volume.

The current output volume has been dismounted because of a change in output format (*VSE only*), a volume terminate record was encountered (*VSE only*), or because end of file was reached for the input control file.

Operator Response: Information only.

RM0004 xxxxxxxx, Null file. (VSE only)

The entry xxxxxxxx is a null dataset.

Operator Response: Information only.

RM0007 Checkpoint read for xxxxxxxx FQE number fffffff has failed, continuing.

Dynamic allocation of name xxxxxxxx FQE ffffffff has failed.

RM0008 Read error accessing xxxxxxxx FQE number fffffff, page nnnnnnnn.

An error occurred while reading the data file. The system issues the message, takes a snap dump of relevant control blocks and sets a program return code of 08.

Operator Response: If this occurs in the OUTPUT PHASE of a distribution run, check that the date being distributed was not archived and purged between the scan and output phases by another job.

RM0009 Security violation attempting to access xxxxxxxx/#nnnnn.

A deny access code was returned from the security module.

Operator Response: Processing continues; however, a return code of 04 is posted by the RMS product upon completion.

RM0010 xxxxxxxx Was not recovered.

The requested dataset was not found on the archive file.

Chap_09(v11r35m1).fm: Revised Sunday, November 24, 2013

Operator Response: Ensure that the correct name was specified in the dataset select statement and that the correct archive file was processed by RM80001.

RM0017 QUEUE write error during archive purge

RM0018 Repository space almost exhausted. Dataset creation suspended Subsystem=xxxxxxxx.

RM0021 No response from subsystem xxxx, - waiting.

RMS is waiting on a response from the xxxx subsystem.

Operator Response: Make sure that the xxxx subsystem is active.

RM0022 Storage acquisition request error. Processing terminated.

The RM80001 storage management routine encountered an error while attempting to acquire virtual storage; the message is issued and a program return code of 08 set.

Operator Response: This is typically a short on storage situation. Increase region/ partition size and restart.

RM0023 Storage acquired - Length = nnnnnnnn, Address = aaaaaaaa.

Information messages issued each time RMS system acquires work area storage.

Operator Response: No action.

RM0024 Storage release request error, processing terminated.

Error occurred while attempting to free a previously acquired block of storage.

Operator Response: System issues a return code of 08 and terminates. Call Mantissa Product Support.

RM0025 Error allocating segment xxxxxxxx, output routed to QXPRINT. (OS/ MVS only)

An attempt by RMS/RDC to dynamically allocate the requested SEGMENT has failed. All output is routed to the default segment.

Operator Response: Verify the SEGMENT command name field to ensure that it conforms to the OS DD statement name field requirements.

RM0026 DDNAME xxxxxxxx omitted from job stream, default is QXPRINT. (OS/MVS only)

RMS/RDC attempted to route the output for the current segment to the user supplied DD, specified in the OUTPUT*CONTROL command that was not included in the execution job control. The output was rerouted to the default SYSOUT QXPRINT.

Operator Response: Include missing statement in next execution cycle.

RM0030 Internal archive error - report data left intact.

An internal error occurred while segmentation archival was active. Processing is terminated with a return code of 08.

Deletion of drain trace dataset failed for xxxxxxxx. The RMS controller transport subtask requested the subsystem to purge a dataset that it was using as a drain indicator. The subsystem failed to find the requested dataset.

Operator Response: Accumulate output listings and contact Mantissa Product Support.

Deletion of drain trace dataset failed for xxxxxxxx.

The RMS controller transport subtask requested the subsystem to purge a dataset that it was using as a drain indicator. The subsystem failed to find the requested dataset.

RM0031 Transport Server parameter processing error.

RM0032 kkkkkkkk (wwwwwwww) is invalid.

The keyword value displayed is invalid. The writer issues the error message and then terminates.

Operator Response: Correct the keyword list value and restart the writer procedure.

RM0033 Repository version/modification level conflict. Processing terminated.

The file version/modification level does not match that of the program.

System Action: The program terminates.

Operator Response: Contact system administrator.

RM0034 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

This is a general message code and can have any of the following text.

DISTRIBUTION INDEX WRITE FAILURE

Every execution of RM80004 that creates SOFTCOPY or media tracking records creates an RMSCINDX dataset. At EOJ (end of job), the RMSCINDX dataset is handed to the RMS control region started task for processing by the INDEX sub-task.

A DISTRIBUTION INDEX WRITE FAILURE message means the INDEX sub-task processing an RMSCINDX dataset has encountered a write error while attempting to add the index record to the QXRCDS file managed by the task. This may either be the result of a.) An out of space condition with the dataset, 2.) A hardware error (least likely), or 3.) Errors caused by having previously written part of the content of the RMSCINDX dataset to the RXRCDS file.

Operator Response: Once the issue with the QXRCDS file has been resolved and the control region has been cycled, one (1) DISTRIBUTION INDEX WRITE FAILURE message will be issued for each record that was updated prior to processing being suspended on the RMSCINDX dataset by the INDEX sub-task.

Internal error. Zero buffer address

The repository access program (UT90066) has encountered
an instance where, due to a damaged file or a storage acquisition failure, the buffer address token returned to the application is zero.

xxxxx failed for subsystem(ssss). RC=rr.

where xxxxx is Open, Write or Close. The job or started task receiving the error is unable to communicate with the subsystem specified in the error text.

Operator Response: Ensure a FORMAT start of the subsystem completed successfully the first time the subsystem task was started.

Verify the values specified on the following parameters match:

SUBID	(found in RvvrmSUP member)
SSNAME	(found in RvvrmCTP member)
SSNAME	(found in INST02 install job to initialize QXCNTRL file)

Chap_09(v11r35m1).fm: Revised Sunday, November 24, 2013

SSN	(found in CDRMS2 install member from RMSOGEN customization in INST01)

Issue a 'DS' (display status) command to determine if available FQE's (file queue elements) have been exhausted.

If the FQE's in use match the total available all are exhausted and FQE's will need to be freed using Mantissa backup & restore utilities, or the number of FQE's (file queue elements) will have to be increased.

Increasing the number of FQE's will require a reformat and reload of the entire content of the repository and is usually NOT a viable option in any production environment. A change to the NUMFQES parameter in the RvvrmSUP member requires a COLD start of the repository. Before undertaking this task appropriate backups (RM80001 and RM90007) should be created.

Contact Mantissa Customer Support for assistance if needed.

OUT ADD FAILURE

An Output Server sub-task has encountered a problem while attempting to create an Output Definition using print attribute values entered on the Recover/Print Request panel in RMS/Online.

Review the output server log to determine the value(s) keyed on the print request (i.e.: OUTLIM, PAGEDEF, FORMDEF, etc.).

To determine if print request processing has been suspended, or to identify all files currently waiting for processing by the output server, perform a display file command for the following owner/destination combination:

DF,O=RMSC0005,DEST=RMSC0005

Operator Response: Contact Mantissa Customer Support for assistance if needed.

REPORT VERSION RECORD NOT LOCATED

Expected report version record does not exist and therefore cannot be located.

SCRATCH/PURGE FAILED

The Transport Server sub-task failed to delete a base scratch dataset.

RMS opens a transient dataset when data is being drained from JES to ensure the entire dataset is captured before deleting the dataset from JES.

The SCRATCH/PURGE FAILED message may occur if two transport sub-tasks are servicing the same repository and one of the sub-tasks had already deleted the dataset before the second sub-task could access the same file for deletion.

Operator Response: Only one (1) TRANSPORT sub-task should be active servicing a given class, destination or class/destination.

UT90061 has detected a read error on FQE xxxxxxxx RC=yy

System Action: EOF has been forced!

UT90061 has truncated a record for FQE xxxxxxxx RC=yy

System Action: Processing continues.

File xxxxxxxx in program RM10000 has been allocated to yyyyyy.

ORIG STATUS FAILED

An error status was returned from the subsystem.

Route failed. (Retried) SS/Own/Dest/FQE: ssssssss/oooooooo/ddddddd/fffffff

Route failed. (Permanent) SS/Own/Dest/FQE: ssssssss/oooooooo/dddddddd/fffffff

File xxxxxxxx in program RM10001 has been allocated to yyyyyy.

Transport Server recovery environment enabled.

Transport Server recovery environment failed.

Estae recovery routine entered.

Estae environment suspended. Termination process beginning.

Estae entered with SDWA provided

Estae entered without SDWA provided

Termination processing complete.

JES interface is Process Sysout (PSO).

JES interface is Sysout Application Program Interface (SAPI).

SAPI control (Terminate interface) issued.

Error occurred during despooling - continuing. Dataset Deleted.

Error occurred during despooling - continuing. Dataset retained.

Error occurred during despooling - halt in progress. Dataset retained.

Duplicate Sysout envountered.

Input Error: Interface=SSOBType JES Disp=iedindi

Repository Dataset xxxxxxxx

Resource String=RSC JobName=stJobNme

EOD MISSING. BLOCK REPAIRED

RC=08

PARM FILE READ

Route failed. (Permanent) SSN/O/D/FQE#/RC =

ssssssss/oooooooo/dddddddd/ffffffff/rr

Scratch/Purge failed! SSN/O/D/FQE#/RC = ssssssss/oooooooo/dddddddd/ffffffff/rr

Purge failed for appended dataset.

Purge failed for archive dataset.

UT90051 OUTADD FAILURE!

IPWSEGM failed RC/FB= / .

IPWSEGM failed RC/FB= / .

Tape assign error - ASSGN-2. RC/DDNAME=

RM0035 Transport Server command processing error.

A command delivered to the Transport server through PARM or MODIFY command is not valid.

Operator Response: Correct and re-enter the command information.

RM0036 Transport Server MODIFY command processing error. Command ignored.

See message RM0035.

RM0037 Transport Server options accepted.

Options entered via PARM or MODIFY processing have been processed successfully.

Operator Response: None.

RM0038 ssssssss Server is waiting for work on xxxxxxxx at yyyyyyyy. DD/FS dddddddd/ffffffff).

The control region server ssssssss has entered a wait state because no work is available to process.

xxxxxxxx = date stamp.
yyyyyyyy = year stamp.
dddddddd = dataset name.
ffffffff = fileset name.

Operator Response: None.

RM0039 ssssssss Server is waiting for work on xxxxxxxx at yyyyyyyy. DD/FS dddddddd/ffffffff).

The control region server ssssssss has entered a wait state because no work is available to process.

xxxxxxxx = date stamp.
yyyyyyyy = year stamp.
dddddddd = dataset name.
ffffffff = fileset name.

Operator Response: None.

RM0040 Command processing resulted in a null selection list. Re-enter. (OS/MVS only)

A start/modify command was entered that caused a null selection criteria list to be generated. The writer issues the message and enters a 2 minute wait state. Upon completion of the wait, selection list processing is retried.

Operator Response: Enter a modify command with valid selection criteria.

RM0041 Subsystem request error has occurred for subsystem (ssss). (OS/MVS only)

The Job Entry Subsystem encountered an error while attempting to service a writer request for work. The writer takes a snap dump, issues the error message and then terminates.

Operator Response: This is a severe error that should be brought to the attention of a systems programmer. ENSURE that all writer output is available for review.

RM0042 Subsystem response error has occurred for subsystem (ssss). (OS/MVS only)

The writer detected an error in the Job Entry Subsystem's response to a request for work. The writer takes a snap dump of the Request Control Block and of the common writer work areas, issues the error message, and then terminates.

Operator Response: This is a severe error that should be brought to the attention of a systems programmer. Ensure that all writer output is available for review. This could be caused by incorrect DEST request for data movement by this control region. Check the DEST and CLASS parameters on the EXEC of RM9999 within RMSCTL control region.

RM0043 Resource ENQ request error. (OS/MVS only)

Internal writer error. The writer issues message and terminates.

Operator Response: Call Mantissa Product Support.

RM0044 Input sysout file initialization error, QDS = xxxxxxxx. (OS/MVS only)

An error was encountered when at attempt was made to dynamically allocate the named SYSOUT dataset. The writer takes a snap dump of the Dynamic Allocation Request Block and the common writer work area, issues the error message, and then shuts down. The selected dataset is left intact in the Job Entry Subsystem.

Operator Response: This is a severe error that should be brought to the attention of a systems programmer. Ensure that all writer output is available for review.

RM0045 Input Dataset Dynamic Allocation failed, QDS = xxxxxxxx. RC=cccc RSC=ssssssss.

An error was encountered when at attempt was made to dynamically allocate the named SYSOUT dataset. The writer takes a snap dump of the Dynamic Allocation Request Block and the common writer work area, issues the error message, and then shuts down. The selected dataset is intact in the Job Entry Subsystem.

cccc = return code
ssssssss = reason code

Operator Response: This is a severe error that should be brought to the attention of a systems programmer. Ensure that all writer output is available for review.

RM0046 File initialization error, processing terminated. (OS/MVS only)

This is a standard operator console message issued for any file initialization error. It will be accompanied by a “write to programmer” SYSOUT error message that will further define the error. The writer issues the message and then terminates.

Operator Response: None.

RM0047 Error during the despooling operation, processing terminated. (OS/MVS only)

This is a standard operator console message issued for any error that occurs while the writer is writing a report entry to QXSPOOL. It will be accompanied by a “write to programmer” SYSOUT error message that will further define the error. The writer issues the message and then terminates.

Operator Response: None.

RM0048 Dataset dynamic deallocation failed, QDS = xxxxxxxx. (OS/MVS only)

An error was detected when the writer attempted to dynamically unallocate a previously retrieved SYSOUT dataset. The writer takes a snap dump of the Dynamic Unallocation Request Block and the common writer work area, issues the error message, and then terminates. The SYSOUT dataset that was being unallocated is left in the Job Entry Subsystem and is deleted from the repository.

Operator Response: This is a severe error that should be brought to the attention of a systems programmer. Ensure that all writer output is available for review.

RM0049 File termination error, processing terminated. (OS/MVS only)

This is a standard operator console message issued for any file initialization error. It will be accompanied by a “write to programmer” SYSOUT error message that will further define the error. The writer issues the message and then terminates.

Operator Response: None.

RM0052 aaaaaaaaaa Server control file is bbbbbbbb. FSNAME IS ccccccc. Lock span=#####.

This is an informational message indicating that the aaaaaaaaaa server is using the RMS control file bbbbbbbb and the fileset name cccccccc. Lock span is the number of index write before de-queueing.

RM0061 Critical input error. (OS/MVS only)

A critical input error on a selected SYSOUT dataset was trapped by the writer SYNAD routine. The writer initiates normal end of data set processing, deleting the entry from JES and retaining that part of the dataset already placed in the repository. This condition could result from a damaged or incomplete JES dataset resulting from an abnormal operating system shutdown.

Operator Response: This could be a temporary disk I/O error. The user should restart the writer procedure. If the error persists, contact a systems programmer. Ensure all writer output is available for review.

RM0062 Input error on JES dataset from jjjjjjjj/nnnnnnnn, dataset nnnnnnnnn, dataset drain terminated.

This message accompanies RM0061 and identifies the dataset causing the error. The writer issues message and takes a snap dump.

Operator Response: None.

RM0063 Transport server was stopped by the operator during QDS(dddddddd) drain.

Operator Response: None.

RM0065 Job file control block access error for DDN = xxxxxxx. (OS/MVS only)

An error occurred when the writer attempted to read the JFCB for the selected dataset. The writer issues message, takes a snap dump and terminates.

Operator Response: Restart writer.

RM0067 Transport Server is inactive on xxxxxxxx at yyyyyyyy. Utilization ## percent.

The Transport server has entered an extended wait because no work is available to process.

Operator Response: None.

RM0068 Transport Server is waiting for work on xxxxxxxx at yyyyyyyy. Utilization ## percent.

The Index server has entered await a state because no work is available to process.

Operator Response: None.

RM0069 Transport Server is terminating.

Self-explanatory.

Operator Response: None.

RM0070 Storage for segmentation archival not available. Processing terminated.

During an RMS/RDC execution with RUN*OPTION archive specified, adequate storage was not available to perform the archive function.

Operator Response: Increase region size and rerun the RMS/RDC job.

RM0071 User exit initialization error, exit processing bypassed.

An error occurred while loading a requested user exit. User exit processing is ignored.

Operator Response: Ensure the correct exit name was entered via the keyword operand EXIT. Also ensure that the exit exists in the correct library. Re-enter exit request command.

RM0073 Error acquiring storage for user SMF Exit, processing terminated.

Execution parm specified inclusion of user SMF exit, but insufficient virtual storage was available for initialization of the parameter area.

Operator Response: The writer execution continues without the user SMF exit.

RM0076 Packet xxxxxxxx created for Location lllllllllllllll. Media is mmmmmmmm.

RM0077 Packet xxxxxxxx has been allocated with DDNAME dddddddd.

RM0079 Packet xxxxxxxx has been appended to the file with DDNAME dddddddd. Close/Open sequence bypassed.

RM0081 Length error occurred for QDS (nnnnnnnn/#####) records truncated.

The writer has detected one or more records of a greater length than indicated in the opened DCB for named dataset.

Operator Response: Some data may have been lost. Insure that the creating program create the data with a consistent logical record length.

RM0090 Control file for index update is xxxxxxxx. Fileset name is fffffff.

Operator Response: None.

RM0094 aaaaaaaaaa. Allocation failed for SYSOUT dataset. USER/FT/FS uuuuuuuu/tttttttt/ssssssss.

The dynamic allocation of the SYSOUT dataset failed for subtask aaaaaaaaaa.

USER = User ID
FT = Target subsystem
FS = Fileset

Operator Response: Contact your system administrator.

RM0095 Access Group/ Location/ Report = aaaaaaaa/llllllll rrrrrrrr/xxxxxxxx.

RM0101 Sort failed, return code = nn.

The sort merge program which is loaded by RMS/RDC has failed with a return code of nn. The system issues the message and sets a program return code of 08.

Operator Response: Consult the reference documentation for the sort in use at your installation.

RM0102 Invalid top-of-form specification.

The value specified in the REPORT TOP OF FORM field in the queue dataset select control record must be 1-9, A, B, or C.

Operator Response: Correct the control record and resubmit the job.

RM0105 Undefined channel (x”cc”), execution terminated.

RMS/RDC has encountered a channel command in the queue dataset (*X”CC” = machine control character*). This channel has not been defined by:

System Action: An FCB command. (*OS/MVS and VSE*)

or

An FCB named in the FCB NAME field of the queue dataset select record. (*VSE*)

The system issues the message and sets a program return code of 08.

Operator Response: Make sure that the channel control characteristics of the dataset(s) being processed are accurately reflected by the FCB command or the named FCB.

RM0106 Severe errors, execution terminated.

Errors encountered and indicated by preceding messages have made successful execution of RMS/RDC improbable. The system issues the message and sets a program return code of 08.

Operator Response: Correct the indicated errors and resubmit the job.

RM0108 Data block construct out of bounds. Block skipped.

While deblocking a data read from the repository, a record was found which was less that the minimum allowed or greater than the maximum allowed. This block will not be processed.

Operator Response: Processing continues.

RM0110 Start scan hh:mm:ss.

Information only. Issued at the beginning of the SCAN PHASE of RMS/RDC execution.

Operator Response: None.

RM0111 Start order hh:mm:ss.

Information only. Issued at the beginning of the distribution key sort phase.

Operator Response: None.

RM0112 Start output hh:mm:ss.

Information only. Issued at the beginning of the RMS/RDC output phase.

Operator Response: None.

RM0113 Definition error(s), map option forced.

Error(s) in the current dataset select record has caused the system to force MAPPING of the current dataset.

Operator Response: Correct the faulty queue dataset select record and resubmit the job.

RM0114 End output hh:mm:ss for distribution dddddddd.

Information only. Issued at the end of the RMS/RDC output phase.

Operator Response: None.

RM0124 Invalid Form Control Field specification.

The FCB command contains an invalid channel specification or is formatted improperly.

Operator Response: Ensure that all channel specifications are correct and that the FCB command contains Cnnn fields which begin in position 4 of the record, and which are separated by spaces.

RM0125 Non-numeric or illogical Form Control line number.

The nnn part of the Cnnn channel/line field in the FCB record is either non-numeric or contains a line number in excess of 255.

Operator Response: Correct the FCB record.

RM0126 Segment invalid or non-numeric key start.

The key start field in the segment command contains a value which is non-numeric or in excess of 30.

Operator Response: Code the appropriate key start value.

RM0127 Segment invalid or non-numeric compare length.

The compare length field in the segment command contains a value which is non-numeric or in excess of 30.

Operator Response: Code the appropriate compare length field.

RM0128 Segment Name Field invalid.

The segment name must contain only alphanumeric characters.

Operator Response: Replace the invalid characters with acceptable characters.

RM0129 Segment statement ignored.

For reasons previously listed, the most recently listed SEGMENT command has been ignored.

Operator Response: Correct the indicated errors.

RM0130 Invalid internal request encountered.

The system encountered an internally generated request code that was invalid. The message is issued, a snap dump taken and a program return code of 08 is set.

Operator Response: Call Mantissa Product Support making sure that the snap dump and all related executed job logs are available. Attempt to rerun job.

RM0136 Awaiting checkpoint entry = eeeeeeee. (OS/MVS only)

A dataset select record beginning with the character “@” has been encountered by RMS/RDC. The system will wait for an indefinite amount of time for the named entry to be added to the repository.

Operator Response: Information only.

RM0137 Segment rollover start location invalid.

The rollover start location value must be omitted or numeric.

Operator Response: Correct and re-enter.

RM0138 Segment endpoint manifest copies invalid.

The number of manifest copies value must be omitted or numeric.

Operator Response: Correct and re-enter.

RM0139 Segment control table space exceeded. Entry ignored.

More segment control commands have been entered than can be stored in the table space available.

Operator Response: Increase region/partition size and restart.

RM0140 RMS Control Region is ready for communications.

This is an informational message indicating that the Control Region is operational.

RM0141 aaaaaaaaaa. Call interface failed during bbbbb processing. Status/PID = cc/dd.

A bbbbb (open/close) call to the subsystem by subtask, aaaaaaaaaa, resulted in a status of cc for passed parameter dd.

RM0150 Table management failure. Function=Reset/Addition. Table=aaaaaaaa.

A table management request for the reset or addition of table aaaaaaaa has failed. Allocate additional storage to the region and rerun the job.

RM0160 Process code processing failed, execution terminated.

OUTPUT*PROCESS*CODE specified in the RUN*OPTIONS command but insufficient virtual storage was available to table the names of all selected queue entries. Run will terminate.

Operator Response: Increase the virtual storage available in the region (partition) and resubmit the RMS/Basic job.

RM0172 Primary subsystem tables could not be located.

The primary subsystem (JES) tables could not be located. The RMS JES exits and filter table cannot be loaded.

Operator Response: Call Mantissa Product Support with your operating system and JES version/modification levels.

RM0173 GETMAIN failed for Exit Routine control block.

A request for CSA/ECSA failed. The RMS JES Exits cannot be installed.

RM0174 S806 for SUBSYSTEM ROUTER => XXXXXXXX

The RMS JES exit, xxxxxxxx, was not found.

Operator Response: Assure that the JES exits have been linked into an authorized library. Rerun the install job.

RM0175 SYSOUT ROUTER xxxxxxxx properly installed.

The RMS JES exit xxxxxxxx has been installed.

Operator Response: No action.

RM0176 JES version mismatch - xxxxxxxx/ yyyyyyyy

The attempt to load an RMS JES exit could not be loaded. The RMS JES exit was compiled under JES V.R.M. xxxxxxxx and loaded under JES V.R.M.

Operator Response: Compile and link the RMS JES exits under the same JES V.R.M. that they will be loaded under.

RM0177 Integrity information not found in user exit.

The RMS JES exit could not be loaded. Required information in the RMS JES exit could not be located.

Operator Response: Restore the integrity information in the exit as received from Mantissa Corporation.

RM0178 JES XIT control block not found.

The RMS JES exit could not be loaded. The JES Exit Information Table, XIT, could not be located. This could indicated a non-supported version of JES.

Operator Response: Verify that RMS is compatible with the version of JES that is running.

RM0179 RMS subsystem ROUTER entry point not found.

The RMS JES exit could not be loaded. Required information in the RMS JES exit could not be located.

Operator Response: Restore the $ENTRY JES macro in the exit as received from Mantissa Corporation.

RM0180 RMS ROUTER xxxxxxxx already properly installed.

The RMS JES exit xxxxxxxx could not be loaded. The exit has been previously loaded.

Operator Response: Rerun the INST11 job with the PARM='REFRESH' parameter included.

RM0181 Refresh Improper - RMS ROUTER not installed.

The RMS JES exit could not be refreshed - it has not been loaded.

Operator Response: Rerun the INST11 job without the PARM='REFRESH'.

RM0182 JES EXIT load failed.

The LOAD of the RMS JES exit failed.

Operator Response: Insure that the JES exits have been linked into an authorized library. Rerun the INST11 job.

RM0183 Local Lock failed for GETMAIN of JES XRT.

Exclusive use of the RMS/JES tables could not be obtained. This condition may occur if the INST11 job is run while there is high activity through the RMS JES exits.

Operator Response: Rerun the INST11 job.

RM0184 SSCT for ssss could not be located.

The control table for subsystem ssss was not active.

Operator Response: Insure the RMS subsystem has been started.

RM0185 GETMAIN failed for RMS SSCT control block.

A request for CSA/ECSA failed. The RMS JES exit cannot be installed.

Operator Response: Rerun the INST11 job when CSA/ECSA is available.

RM0186 RMSSSCT =xxxxxxxx

The address of the RMS subsystem control table is xxxxxxxx. This informational message is printed when PARM='DEBUG' is included in the INST11 job.

Operator Response: None.

RM0187 Parms read were ppppp pppppppp ppppp S= ssss.

The parameters passed from the INST11 job are listed when PARM='DEBUG' is included.

Operator Response: None.

RM0188 Cannot allocate storage for JOB/PROC/STEP table.

A request for CSA/ECSA failed. The RMS JES exit cannot be installed.

Operator Response: Rerun the INST11 job when CSA/ECSA is available.

RM0189 Length of PARMS passed is zero.

No parameters were coded in the INST11 job.

Operator Response: Include parameters in the INST11 job as indicated in the RMS

Installation Guide.

RM0190 Refresh improper - RMS ROUTER not installed.

The RMS JES exit refresh failed because the JES exit has not been installed.

Operator Response: Rerun the INST11 job without the PARM ='REFRESH' parameters.

RM0191 RMS SYSOUT filter data could not be created.

A request for CSA/ECSA failed. The RMS filter table cannot be loaded.

Operator Response: Rerun the INST11 job when CSA/ECSA is available.

RM0192 RMS$IN DD could not be opened.

The RMS filter table could not be found.

Operator Response: In RMS/Online, create filter table records prior to running the INST11 job.

RM0193 RMS ROUTER has been activated as requested.

The RMS JES exit has been activated as requested.

Operator Response: None.

RM0194 RMS ROUTER has been deactivated as requested.

The RMS JES exit has been deactivated as requested.

Operator Response: None.

RM0195 Address of PARMS passed was zero.

An error occurred attempting to address the parameters passed from the INST11 job.

Operator Response: Correct the parameters in the INST11 job and rerun.

RM0196 Router table has xxxxxxxx entries xxxxxxxx

This is an informational message indicating how many entries are available and allocated in the RMS filter table.

Operator Response: None.

RM0197 xxxxxxxx Refresh completed.

Refresh of the RMS JES exit, xxxxxxxx, was successful.

Operator Response: None.

RM0198 RMS lock was on code - Table not loaded.

Exclusive access to the RMS/JES tables could not be obtained.

Operator Response: Rerun the INST11 job.

RM0199 JOB jjjjjjjj PROC pppppppp STEP ssssssss DD dddddddd CL c DEST eeeeeeee FORM ffff FCB bbbb WTR wwwwwwww.

This is an informational message provided when the trace facility is turned on in RMFILTER.

Operator Response: None.

RM0200 Invalid control statement type.

Self explanatory.

Operator Response: Correct the control record identification field.

RM0201 Queue dataset name omitted.

The queue dataset name field in the IDENTIFY*FORMAT/IDENTIFY*REPORT command must contain a full or generic name.

Operator Response: Supply the appropriate name.

RM0202 Number of copies invalid.

The number of copies field must be omitted or numeric.

Operator Response: Supply the appropriate copy count.

RM0203 Copy group/table ID invalid.

The copy group ID references a copy group that does not exist.

Operator Response: Ensure that the group ID table field contains numeric data that references a defined copy control group.

RM0204 Translate/Mod Group ID invalid.

The translate group ID references a group that does not exist.

Operator Response: Ensure the translate group ID table field references a defined translate control group.

RM0205 APPEND/PIGGYBACK option invalid.

The piggyback option field in the $I record must contain a blank or ‘P’.

Operator Response: Check the control record for overlapped or incorrectly specified fields.

RM0207 Broadcast Group ID invalid.

The broadcast group ID is invalid or the reference broadcast group does not exist.

Operator Response: Ensure that the broadcast group ID field references a defined broadcast group.

RM0209 Data line number invalid.

The report line number must be in the range of 01 to 66.

Operator Response: Supply the appropriate line number.

RM0211 Data starting column invalid.

The starting column number of the keyword data is not in the range of 002 to 204.

Operator Response: Supply the appropriate column number.

RM0212 Data length field invalid.

The length specified for the keyword data must range from 01 to 30.

Operator Response: Supply the appropriate length.

RM0213 Command table space exhausted xxxxxxxxxx.

The control record buffer space has been exhausted. No additional control records will be accepted.

Operator Response: Increase the COMMAND*BUFFER*SPACE on the RUN*OPTIONS command.

RM0214 INVALID HEX DATA - VALID RANGE 0-9, A-F.

The data entered does not contain valid hexadecimal characters.

Operator Response: Correct and retry.

RM0215 START COL PLUS DATA LENGTH EXCEEDS MAXIMUM..

The specified data exceeds the maximum line length..

Operator Response: Correct and retry.

RM0220 Command sequence error.

A control record has not been entered in the proper sequence.

POSITIONAL FORMAT	**KEYWORD FORMAT**
$T	RUN*OPTIONS
	DEFINE*KEY
	RECOVER
$M	TRANSLATE
$B	BROADCAST
$C	COPY
$R	
$I/K SET(S)	IDENTIFY*REPORT
	INSERT*DATA*STREAM
$O/$S SET(S)	OUTPUT*CONTROL/CREATE*PACKET
$F	FORM*CONTROL*BUFFER
QUEUE DATASET	SELECT
SELECT RECORD(S)	

RM0221 Key line number invalid.

The report line number is not in the range of 01-88.

Operator Response: Supply the correct key line number.

RM0222 Key start position invalid.

The key data starting column position is not in the range 002-204.

Operator Response: Supply the appropriate starting column number.

RM0223 Key Length invalid.

The length specified is not in the range of 01-30.

Operator Response: Supply an acceptable length.

RM0224 Distribution key position invalid.

The starting position in the distribution key is not in the range of 01-30.

Operator Response: Supply an acceptable length.

RM0225 Translate Group ID invalid.

The translate group ID field references a group that does not exist.

Operator Response: Ensure that the group ID field contains numeric data that references a defined translate control group.

RM0228 Comparison length invalid.

The length specified for the data to be compared to the distribution key data is not in the range of 01-30.

Operator Response: Supply the correct length.

RM0229 TARGET/REPLACEMENT length invalid.

The length specified for the data to be substituted for the distribution endpoint key data is not in the range of 01-30.

Operator Response: Supply the correct length.

RM0231 Storage released for pppppppp. Adr=aaaaaaaa, Len=llllllll.

Storage released.

Operator Response: Self-explanatory.

RM0241 Group ID invalid.

The group identifier referenced on the command is invalid.

Operator Response: Correct the GROUP*ID value and resubmit the job.

RM0242 Copies invalid.

The value specified for number of copies in the preceding command is either non-numeric or invalid for the indicated MEDIA*CATEGORY.

Operator Response: Correct the command and resubmit the job.

RM0252 Comparison length invalid.

The compare length specified is not in the range of 01-30.

Operator Response: Supply the correct length for the comparison.

RM0253 Search length invalid.

The search length specified is invalid. This field must be numeric and in the length of 01-30.

Operator Response: Supply the correct length.

RM0254 No matching manifest Report ID.

The REPORT*ID parameter has not been coded on the IDENTIFY*FORMAT or IDENTIFY*REPORT command. If the commands are positional, the report identifier specified in the $I control statement does not have a corresponding $R control entry.

Operator Response: None.

RM0255 Report ID is invalid.

For previously recorded reasons, the most recent $R record is invalid.

Operator Response: Self explanatory.

RM0256 Manifest control entry space exceeded.

A spill has occurred in the report manifest control record storage area.

Operator Response: Subsequent manifest data will be edited, but not stored for processing.

RM0257 Invalid or non-numeric compare length.

The length field in the $R control record is either non-numeric or would cause comparison outside the distribution key (*keystart + length exceeds maximum key length of 30*).

Operator Response: Supply the correct length.

RM0258 Invalid or non-numeric comparison start.

The comparison start field was found to be non-numeric or not in the range of 01

Operator Response: Review commands as shown in DATASET SELECTION REPORT. The command in error will have **DIAG** printed to the right, with detailed information about the error.

RM0259 Control entry error -- processing terminated

An error was detected in the control statements. The remaining control statements are flushed and processing terminated.

Operator Response: Correct the control statement error and rerun.

NOTE: If there are no diagnostic messages or command errors, it may mean that you have attempted to create RMS/DPF reports, but you have not specified RMS/DPF in the RUN*OPTIONS command.

RM0280 Omitted or non-numeric key segment LENGTH/START.

A SEGMENT or CREATE*PACKET command having invalid comparison length/start data has been encountered. The most probable cause for keyword commands is that no segment name has been used for comparison.

Operator Response: Correct and resubmit the command.

RM0281 Key field overrun/overlap.

The DEFINE*KEY command contains definition data that causes key segments to overlap or the total length of the key exceeds 30 characters.

Operator Response: Redefine the distribution key so that the fields do not overlap or exceed the 30-character maximum length.

RM0282 Distribution key definition >>> ACCEPTED <<<.

Operator Response: Self explanatory.

RM0283 Distribution Key Definition >>> REJECTED <<<.

The DEFINE*KEY command has been rejected due to previously listed reasons.

Operator Response: Verify your parameters, correct and retry.

RM0284 Control buffer acquisition failure.

RMS/RDC has unsuccessfully attempted to acquire space for the storage of system commands. System operation continues with the default 80,000 character area.

Operator Response: VSE Increase the partition GETVIS area size.

RM0285 Location*ID must be alpha-numeric data.

Self explanatory.

Operator Response: Correct the indicated command and resubmit the job.

RM0286 Storage unavailable for complete manifest due to number of reports and/or copies.

During the output phase of RMS/RDC, an attempt to acquire additional storage to account for reports or copies was unsuccessful. The manifest of one or more packets and the global manifest will be incorrect. If RUN*OPTION SOFTCOPY is specified, one or more reports may not be receivable. Run should continue.

Operator Response: RMS/RDC region specification should be increased at least 64K.

RM0287 Output key element Name(s) and Location*ID are mutually exclusive.

A translate command specifies both key element names and a LOCATION ID as output. This is not allowed.

Operator Response: Correct command in error and resubmit the RMS/RDC execution.

RM0288 Key element name(s) and Location*ID are mutually exclusive for segmentation.

Self explanatory. RMS/RDC only allows segmentation to be based on key values or LOCATION *ID, not both.

Operator Response: Correct command in error and resubmit the RMS/RDC execution.

RM0289 LOCATION*NAME syntax error.

Self explanatory.

Operator Response: Correct command in error and resubmit the RMS/RDC execution.

RM0290 Packet pppppppp has been directed to the DD named dddddddd.

Self explanatory.

RM0291 Internal error, selected ssssssss but read xxxxxxxx.

Self explanatory.

RM0292 Media*Category “SOFTCOPY” not valid for global manifest segment.

The preceding CREATE*PACKET command indicated both “MEDIA*CATEGORY (RMS/DPF)” and GLOBAL*MANIFEST, which is invalid. The GLOBAL*MANIFEST can only be directed to a hard copy type MEDIA*CATEGORY.

Operator Response: Correct the CREATE*PACKET command and resubmit the RMS/RDC job.

RM0293 Multiple copies not allowed for this Media*Category, set to 1 copy.

The preceding CREATE*PACKET command indicated both “MEDIA*CATEGORY (RMS/DPF) and COPIES, which is invalid.

Operator Response: Correct the CREATE*PACKET command and resubmit the RMS/RDC job.

RM0294 aaaaaaaaaa Index not created because object sentinel invalid. bbbbbbbb/cccccccc.

The sentinel value, RMS-W, was not present in the Report Index Detail Record. The dataset is purged.

aaaaaaaaaa = sub-task name
bbbbbbbb = owner name in the FQE
cccccccc = destination name in the FQE

Operator Response: Contact your system administrator.

RM0295 dddddddddd Location Report Record write has failed on xxxxxxxx at tttttttt.

An attempt to write this record has failed.

ddddddddddd = dataset
xxxxxxxx = task name / external writer name
ttttttt = time

Operator Response: Run IDCAMs and verify that the file in question (the report control dataset) is no out of space.

RM0296 dddddddddd Report version Record write has failed on mm/dd/yy at hh:mm:ss.

An attempt to write this record has failed.

Operator Response: Run IDCAMs and verify that the file in question (the report control dataset) is no out of space.

RM0297 Purge Server is waiting for work on mm/dd/yy at hh:mm:ss.

The Purge server has entered await a state because no work is available to process.

Operator Response: None.

RM0299 Archive Server has been attached.

The Archive Server has been attached by the RMS controller main task.

Operator Response: None.

RM0300 Archive server has been detached.

The Archive Server has been detached by the RMS controller main task.

Operator Response: None.

RM0301 Archive server has ended.

Self-explanatory.

RM0302 Control region is active. Version/mod is vvmm, Subsystem is ssssssss.

The RMS control region is now active. vvmm is the version modification level of the system. ssssssss is the subsystem identification for the control region.

RM0303 RMS controller must be in an APF authorized library.

The RMS control region must be installed in an APF authorized library for the external writer interface to operate.

Operator Response: Ensure that the controller programs listed in the RMS control region PROC are resident in an APF authorized library.

RM0304 Transport server has ended. (ssssssssss)

The control region main task has recognized the termination of the transport server. ssssssss will be Normally or Abnormally depending on the termination condition.

Operator Response: If Abnormally is the ending status, examine other messages to determine the cause.

RM0305 Transport server has been detached.

Self-explanatory.

RM0306 Purge server has ended. (ssssssssss)

The control region main task has recognized the termination of the purge server. ssssssss will be Normally or Abnormally depending on the termination condition.

Operator Response: If Abnormally is the ending status, examine other messages to determine the cause.

RM0307 Purge server has been detached.

Self-explanatory.

RM0308 Control region has ended. (ssssssssss)

The control region main task has ended. ssssssss will be Normally or Abnormally depending on the termination condition.

Operator Response: If Abnormally is the ending status, examine other messages to determine the cause.

RM0309 Transport server has been attached.

Self-explanatory.

RM0310 Purge server has been attached.

Self-explanatory.

RM0311 Index server has ended. (ssssssssss)

The control region main task has recognized the termination of the Index server. ssssssss will be Normally or Abnormally depending on the termination condition.

Operator Response: If Abnormally is the ending status, examine other messages to determine the cause.

RM0312 Index server has been detached.

Self-explanatory.

RM0313 Index server has been attached.

Self-explanatory.

RM0314 Output server has been attached.

Self-explanatory.

RM0315 Output server has been detached.

Self-explanatory.

RM0316 Output server has ended. (ssssssssss)

The control region main task has recognized the termination of the Output server. ssssssss will be Normally or Abnormally depending on the termination condition.

Operator Response: If Abnormally is the ending status, examine other messages to determine the cause.

RM0317 RMS interface. - IDENTIFY failed. RC=cc

The RMS XPPC facility has attempted to IDENTIFY to POWER/VSE. The IDENTIFY has failed due to the return code listed.

Operator Response: Consult the appropriate VSE manual on the XPPC facility to diagnose the reason for failure of the IDENTIFY.

RM0318 JES to RMS interface. - Error in CONNECT. RC=cc

The RMS XPPC facility has attempted to CONNECT to POWER/VSE. The CONNECT has failed due to the return code listed.

Operator Response: Consult the appropriate VSE manual on the XPPC facility to diagnose the reason for failure of the CONNECT.

RM0319 JES to RMS interface. - Error in TERMINATE. RC=cc

The RMS XPPC facility has attempted to TERMINATE the connection to POWER/VSE. The TERMINATE has failed due to the return code listed.

Operator Response: Consult the appropriate VSE manual on the XPPC facility to diagnose the reason for failure of the TERMINATE.

RM0320 JES to RMS interface. - RC=cc REA=yy.

The RMS XPPC facility has failed for reasons previously listed.

Operator Response: Consult the appropriate VSE manual on the XPPC facility to diagnose the reason for failure.

RM0321 JES to RMS interface. - Error in SENDR.

The RMS XPPC facility has attempted a SENDR to POWER/VSE. The OPERATION has failed.

Operator Response: Consult the appropriate VSE manual on the XPPC facility to diagnose the reason for failure of the SENDR.

RM0322 JES to RMS interface. - VSE/Power has been terminated.

The interface has been terminated due to reasons previously listed.

RM0323 JES to RMS interface. - VSE RC=cc.

The RMS XPPC facility has attempted a request from POWER/VSE. The OPERATION has failed.

Operator Response: Consult the appropriate VSE manual on the XPPC facility to diagnose the reason for failure of the request.

RM0324 JES to RMS interface. - Error in DISCONNECT. RC=cc.

The RMS XPPC facility has attempted a DISCONNECT from POWER/VSE. The OPERATION has failed.

Operator Response: Consult the appropriate VSE manual on the XPPC facility to diagnose the reason for failure of the DISCONNECT.

RM0325 JES to RMS interface. - VSE/Power termination in progress.

The RMS XPPC facility has attempted to communicate with a POWER/VSE system that is in the process of termination. The operation cannot continue for this reason.

RM0326 JES to RMS interface. - Error in SENDR (WAIT).

The RMS XPPC facility has attempted a SENDR to POWER/VSE. The OPERATION will be retried after a wait of 2 minutes.

RM0327 JES to RMS interface. - VSE RC=cc

The RMS XPPC facility has attempted a request from POWER/VSE. The OPERATION has failed.

Operator Response: Consult the appropriate VSE manual on the XPPC facility to diagnose the reason for failure of the request.

RM0328 JES to RMS interface. - VSE/Power termination in progress.

The RMS XPPC facility has attempted to communicate with a POWER/VSE system that is in the process of termination. The operation cannot continue for this reason.

RM0329 JES to RMS interface. - Waiting for connection to VSE/Power XPCC interface.

The RMS XPPC facility has attempted a CONNECT to POWER/VSE which is not ready to receive connections.

Operator Response: The operation will be retried on 2 minute intervals until the connection is successful.

RM0330 JES to RMS interface. - Error reading dataset. Job=aaaaaaaa-jnum=bbbbbb.

RMS detected an error while reading a dataset from JES for job aaaaaaaa, job number bbbbbb.

RM0331 RM0331 Allocation failed for checkpoint dataset.

Dynamic allocation of the checkpoint dataset failed.

System Action: Processing is terminated.

Operator Response: The checkpoint dataset DD name is QXRQDS. The dataset name is assigned in the INST02 job during installation. The checkpoint dataset must be a cataloged dataset.

RM0336 aaaaaaaaaa server has been attached.

This is an informational message indicating that the aaaaaaaaaa server has been successfully attached.

RM0337 aaaaaaaaaa server is waiting for work on mm/dd/yy at hh:mm:ss

This is an informational message indicating that the aaaaaaaaaa server is operating properly.

RM0338 aaaaaaaaaa server has ended. (bbbbbbbbbb)

This is an informational message indicating that the aaaaaaaaaa subtask has ended normally.

RM0339 aaaaaaaaaa server has been detached.

This is an informational message indicating that the aaaaaaaaaa subtask has been detached.

RM0444 aaaaaaaaaa BASE processing for bbbbbbbbbb. mm/dd/yy at hh:mm:ss. DD/FS eeeeeeee/ffffffff).

This is an informational message indicating that the aaaaaaaaaa subtask is processing a base dataset for distribution run number bbbbbbbbbb using the RMS control file eeeeeeee and fileset name ffffffff.

RM0445 aaaaaaaaaa UPDT processing for bbbbbbbbbb. mm/dd/yy at hh:mm:ss. DD/FS cccccccc/dddddddd).

This is an informational message indicating that the aaaaaaaaaa subtask is processing an update for distribution run number bbbbbbbbbb using the RMS control file cccccccc and fileset name dddddddd.

RM0446 tttttttttt aaaaaaaaaa Begin/End for bbbbbbbbbb on mm/dd/yy at hh:mm:ss. DD/FS cccccccc/dddddddd).

This is an informational message indicating that tttttttttt task aaaaaaaaaa subtask is processing a report for distribution run number bbbbbbbbbb using the RMS control file cccccccc and fileset name dddddddd.

RM0447 aaaaaaaaaa process complete for definition bbbbbbbbbbbbbbbb on mm/dd/yy at hh:mm:ss.

This is an informational message indicating that the aaaaaaaaaa subtask has completed processing on location name bbbbbbbbbbbbbbbb.

RM0448 aaaaaaaaaa Index not created because object is empty. bbbbbbbb/cccccccc.

The subtask aaaaaaaaaa could not create an index because the dataset was empty for owner bbbbbbbb and destination cccccccc.

RM0702 Value outside acceptable limits value=keyword.

The value listed for the indicated parameter is outside the acceptable limits.

Operator Response: Correct and resubmit.

RM0703 Syntax error. Missing open/close paren.

A parameter value field has a missing open or close parentheses. All parameter values must be enclosed in parentheses.

Operator Response: Correct and resubmit.

RM0704 Sub-list syntax/excessive entries.

A sublist value field has either an excessive number of sublist entries or a missing close parentheses or comma.

Operator Response: Correct and resubmit.

RM0705 Syntax error. Missing command.

The first value found was not a valid command.

Operator Response: Correct and resubmit.

RM0706 Keyword not recognizable.

The indicated keyword is not valid for the command.

Operator Response: Correct and resubmit.

RM0707 Maximum value length exceeded for xxxxxxxx.

The length of the value for the indicated parameter exceeds the allowable length.

Operator Response: Correct and resubmit.

RM0708 Specified Instruction Set not available.

The copy count was invalid and has been reset to 1.

Operator Response: Correct and resubmit.

RM0709 Copy count invalid. Defaulting to 01.

The preprocessing exit detected an invalid media type.

RM0996 Initialization no longer performed by this program. Consult install manual.

RUN*MODE(INITIAL) is not supported by the RM80001/RM80004 program. Initialization of the repository is performed by the RMS subsystem, OPTION=FORMAT.

Operator Response: Remove the RUN*MODE(INITIAL) statement.

RM1000 No parameters passed.

This message does not apply to command processors. The message is issued if the parameter string passed to the program executing as a call-program is omitted or contains only delimiters (spaces/commas)

System Action: Execution is terminated.

RM1001 Cannot issue STAX macro.

The program tried to set up an attention exit but received a non-zero return code from the STAX macro.

System Action: Execution is terminated.

RM1002 ** Attention interrupt **.

This message is issued when the PA1 key is entered.

System Action: See accompanying message.

RM1004 Parse RC=04 - Incomplete parameters.

A return code of 04 (decimal) was returned from the parse service routine. This message will be issued if you make an error in the calling sequence and your profile indicates no prompt.

System Action: Execution is terminated.

RM1005 Parse RC=08 - Attention interrupt.

The PA1 key was hit execution of the PARSE service routines.

System Action: Execution is terminated.

RM1006 Parse RC=12 - Programming error.

During execution of the parse service routines, a return code of 12 (decimal) was returned. Please consult your system programming group if you receive this message.

System Action: Execution is terminated.

RM1007 Parse RC=16 - No storage available.

The parse service routines could not complete because of a storage shortage. Please notify your system programming group or use a larger size operand when logging onto TSO.

System Action: Execution is terminated.

RM1008 Parse RC=20 - Validation routine requested halt.

This message is included for future needs and is not used at the moment. If it is issued, please notify your system programming group.

System Action: Execution is terminated.

RM1009 Parse RC=24 - Programming error.

During execution of the parse service routines, a return code of 24 (decimal) was returned. Please consult your system programming group if you receive this message.

System Action: Execution is terminated.

RM1010 DD statement for SYSIN missing.

This message does not apply to command processors. The program executes as a call-routine and the parameter string indicates that parameter input should be taken from the SYSIN dataset. This dataset has not been allocated.

System Action: Execution is terminated.

RM1011 No F1DSCB for SYSIN-dataset.

This message does not apply to command processors. The program executes as a call-routine and the parameter string indicates that parameter input should be taken from the SYSIN dataset. This dataset is allocated but does not physically exist.

System Action: Execution is terminated.

RM1012 Cannot open SYSIN.

This message does not apply to command processors. The program executes as a call-routine and the parameter string indicates that parameter input should be taken from the SYSIN dataset. This dataset is allocated but could not be opened.

System Action: Execution is terminated.

RM1013 Invalid DCB information for SYSIN.

This message does not apply to command processors. The program executes as a call-routine and the parameter string indicates that parameter input should be taken from the SYSIN dataset. This dataset, however, does not conform to the attributes of a SYSIN dataset; i.e., 80 bytes fixed records.

System Action: Execution is terminated.

RM1014 Parameter WORKAREA full.

This message does not apply to command processors. The program executes as a call-routine and the parameter-input from the SYSIN-dataset is too excessive to be held within the work area in the program. This area is big enough to hold any valid combinations of parameters; correct your input.

System Action: Execution is terminated.

RM1015 SYSIN contains no parameters.

This message does not apply to command processors. The program executes as a call-routine and the parameter-input from the SYSIN-dataset contains only comments and blank records or was completely empty. Correct your input.

System Action: Execution is terminated.

RM1016 Unbalanced parenthesis - begins.

This message does not apply to command processors. The program found a syntax error in the parameters. The number of left parenthesis must equal the number of right-parenthesis.

System Action: Execution is terminated.

RM1017 Unknown keyword found - begins.

This message does not apply to command processors. The program found an unassigned keyword within the parameters. The first 8 bytes of the keyword in question replaces the 'xx....xx' in the message.

System Action: Execution is terminated.

RM1018 Keyword must have operand - xxxx.

This message does not apply to command processors. The program found a keyword with no operand attached; the parameter syntax requires that this keyword must be specified with an operand entry.

System Action: Execution is terminated.

RM1019 Keyword takes no operand -xxxx.

This message does not apply to command processors. The program found a keyword with an operand attached. The parameter syntax requires that this keyword must be specified without an operand entry.

System Action: Execution is terminated.

RM1020 No active RMS subsystem found.

The program was attempting to create an RMS spool file, but no RMS subsystems have been activated to process the OPEN request. You must wait until RMS has been started or you must use the SYSOUT option to create a JES spool file instead.

System Action: Execution is terminated.

RM1021 ESF subsystem does not exist - xxxx.

The program was attempting to create an ESF spool file using a specific ESF subsystem, but the name given in the SUBSYS parameter is unknown in the system. You must use the SYSOUT option to create a JES spool file instead.

System Action: Execution is terminated.

RM1022 ESF subsystem is not active - xxxx.

The program was attempting to create an ESF spool file using a specific ESF subsystem, but the ESF subsystem named in the SUBSYS parameter is not active.

System Action: Execution is terminated.

RM1023 Cannot open SYS1.IMAGELIB.

The program received a non-zero return code from the IMGLIB OPEN MACRO. Please contact the system programming group.

System Action: Execution is terminated.

RM1024 FCB could not be found - ‘FCB2xxxx’.

The forms control buffer specified in the FCB parameter could not be found.

System Action: Execution is terminated.

RM1025 Insufficient storage available.

The program could not obtain sufficient working storage. Specify a larger size in the size parameter in the logon request to TSO.

System Action: Execution is terminated.

RM1026 No input source specified.

The program could not determine which input data to act upon. Use the keywords DDNAME and DSNAME to specify the input dataset.

System Action: Execution is terminated.

RM1027 Dataset is not cataloged - xx..xx.

The dataset name specified as input could not be located. Ensure the spelling is correct and if so, use the VOLUME keyword.

System Action: Execution is terminated.

RM1028 Dynamic allocation failed: xxxx-xxxx.

The program tried to perform dynamic allocation against the dataset you named in the DSNAME - parameter but received a non-zero return code. xxxx-xxxx is replaced with error/info codes from the DYNALLOC request block. Refer to the OS Manual SPL: Job Management for a description of these codes.

System Action: Execution is terminated.

RM1029 Invalid dataset name.

The dataset name given by the DSNAME parameter is not syntactically correct.

System Action: Execution is terminated.

RM1030 Volume is not mounted.

The VOLUME holding the dataset named in the DSNAME parameter is not mounted and you do not have mounting authorization.

System Action: Execution is terminated.

RM1031 DD statement missing - xxxxxxxx.

The dataset named by the DDNAME parameter is not allocated.

System Action: Execution is terminated.

RM1033 Unexpected Return Code from DEVTYPE-MACRO - RC=xx.

The program tried to obtain device characteristics for the device holding the input dataset but received a non-zero return code from the DEVTYPE MACRO. 99 is replaced by the return code in decimal.

System Action: xecution is terminated.

RM1034 Device is not DASD.

The input dataset is a member of a partitioned dataset but the device on which the dataset resides is not a direct access device.

System Action: Execution is terminated.

RM1035 Cannot open file as library.

The input dataset is a member of a partitioned dataset but the dataset could not be opened using the BPAM access method.

System Action: Execution is terminated.

RM1036 Member not found - xxxxxxxx.

The input dataset is a member of a partitioned dataset but the member could not be found in the dataset directory. If the member name reads unknown then the error occurred during END-OF-VOLUME switching for a concatenated dataset.

System Action: Execution is terminated.

RM1037 Dataset contains no CC.

The CCHAR keyword was used in the processing specifications for the dataset indicating that embedded control characters (ASA or MACHINE) should be honored, but the dataset contains no such control characters.

System Action: Execution continues using single spacing mode.

RM1038 I/O-error -xx....xx.

An I/O error occurred during processing of the dataset. xx....xx is replaced by bytes 50-127 of the informational message returned from the SYNADAF MACRO.

System Action: Execution is terminated.

RM1039 Dynamic unallocation failed: xxxx-xxxx.

The program tried to perform dynamic allocation against the dataset previously allocated, but received a non-zero return code. xxxx-xxxx is replaced with the error/info codes from the DYNALLOC request block. Refer to the OS Manual SPL: Job Management for a description of these codes.

System Action: Execution is terminated.

RM1040 Return Code from ESFOPEN is C'xx'.

The program tried to OPEN an ESF spool file but received a non-blank return code from ESF. xx is replaced by the code returned and is explained in the ESF Manual messages and codes.

System Action: Execution is terminated.

RM1041 Return Code from ESFWRIT is C'xx'.

The program tried to write a line to an OPEN ESF spool file but received a non-blank return code from ESF. The code is explained in the ESF Manual messages and codes.

System Action: Execution is terminated.

RM1042 Output limit exceeded.

The estimated number of print lines is about to be exceeded and no further writing will be done. You must increase the value specified in the OUTLIM parameter.

System Action: Execution is terminated.

RM1043 Return Code from ESFCLOSE is C'xx'.

The program tried to CLOSE an OPEN ESF spool file, but received a non-blank return code from ESF. The code is explained in the ESF Manual messages and codes.

System Action: Execution is terminated.

RM1044 Cannot allocate spin-off dataset - xxxx-xxxx.

The program tried to dynamically allocate a spin-off dataset but received a non-zero return code. xxxx-xxxx is replaced with the error/info codes from the DYNALLOC request block. Refer to the OS Manual SPL: Job Management for a description of these codes.

System Action: Execution is terminated.

RM1045 No destination specified.

No printer destination was specified. This is a required parameter.

RM1046 Invalid or missing destination.

An invalid printer destination was specified.

System action:

RM1050 Cannot open VSAM file - xxxxxxxxxxxx.

VSAM file could not be opened, VSAM object not TYPE CLUSTER, or TYPE DATA.

System Action: Execution terminates.

RM1051 VSAM read error.

ERROR WHILE READING VSAM file.

System Action: Execution terminates.

RM1052 Cannot open SYSIPT parm file.

Parm field specified SYSIN, but in-stream parameter file cannot be opened, assigned ignore (DOS only).

System Action: Execution terminates.

RM1053 FCB load failure.

Error while loading FCB (DOS only).

System Action: Execution terminates.

RM1054 File name missing - xxxxxxx.

Specified DDNAME not specified in an DBDL statement.

System Action: Execution terminates.

RM1055 Cannot open SYSIPT data file.

DDNAME field specified SYSIPT, but in-stream data file cannot be opened, assigned ignore (DOS only).

System Action: Execution terminates.

RM1056 Dataset not in catalog - xxxxxxxx.

Error return from SHOWCAT call.

System Action: Execution terminates.

RM1057 Dataset type invalid - xxxxxxxxxxxx.

Dataset is not a CLUSTER or DATA component.

System Action: Execution terminates.

RM1060 Margin specification(s) ignored - cannot determine page length

You have requested one or two margin area(s) to be printed but have not supplied informations regarding the length of the page. Use either the PAGELEN or the FCB keyword to supply this information.

System Action: Execution continues.

RM1061 Dest name ‘xxxxxxxx’ unknown.

The program could not allocate a spin-off dataset with a DESTINATION name of 'xxxx' because this name has not been defined to the primary spooling system. Have your system programming group DEFINE the requested ESF subsystem to JES or use another ESF subsystem (use the SUBSYS keyword).

System Action: Execution is terminated.

RM1070 Cannot open directory.

Cannot OPEN directory for a PO-dataset for LIST/PRINT processing

System Action: Execution terminates.

RM1071 No members in dataset - xxxxxx.

The dataset specified for the PRINTOFF LIST/PRINT processing does not contain any members

System Action: Execution continues using next dataset in list (if any).

RM1077 SYSOUT dataset opened.

This is an informational message stating that the SYSOUT dataset, which you requested to be created, has been successfully opened.

System Action: Execution continues.

RM1078 Cannot open SYSOUT dataset.

The program could not OPEN the SYSOUT dataset just allocated. Please contact your system programming group.

System Action: Execution is terminated.

RM1079 SYSOUT dataset closed - 99999999 records.

This is an informational message stating that the SYSOUT dataset has been successfully CLOSED and made available for JES processing.

System Action: Execution continues.

RM1080 CCHAR specification invalid for AWS - single spacing used.

This message APPLIES to TS/2 processing only. The CCHAR keyword was used in the processing specifications for the TS/2 AWS. This indicates that embedded control characters (ASA or MACHINE) should be honored, but the AWS holds no such control characters.

System Action: Execution continues using single spacing mode.

RM1081 AWS is empty.

This message applies to TS/2 processing only. The TS/2 AWS was specified as the input dataset but it contains no records.

System Action: Execution is terminated.

RM1082 Unexpected ReturnCode reading AWS - RC=99.

This message applies to TS/2 processing only. The TS/2 AWS READ routine returned a non-zero return code during sequential AWS processing - 99 is the decimal code returned.

System Action: Execution is terminated.

RM1083 Unexpected Return Code from TS/2 allocation - RC=99.

This message applies to TS/2 processing only. The TS/2 allocation routine was invoked to allocate the device holding the input dataset but the routine returned a non-zero return code. The code returned replaces the 99 in the message.

System Action: Execution is terminated.

RM1093 Spool file #xxxxxx xxxxxxx - 99999999 records.

This is an informational message stating that the ESF spool file has been successfully CLOSED. The message also indicates the ESF CLOSE option: If the file is CLOSED, the file is scheduled for print processing at the DESTINATION assigned to the file; if the file is *held* the file is not scheduled for print processing until it is manually released; if the file is *deleted* it is removed from the ESF print queue because it was empty.

RM1094 All column specification could not be processed.

The storage available to the program did not allow for all column ranges to be processed.

System Action: Execution continues.

RM1095 Spool file #999999 opened.

This is an informational message stating that an ESF spool file has been successfully opened. The sequence number assigned to the file must be used when manipulating the spool file at a later time.

System Action: Execution continues.

RM1097 Parameter error - xx....xx.

The operand of the keyword substituting xx....xx.is in error due to invalid length or contents.

System Action: Execution terminates.

RM1098 Cannot open file as QSAM dataset.

The input dataset could not be opened for QSAM processing - Please contact your system programming group.

System Action: Execution terminates.

RM1099 No FORMAT1 LABEL found - xxxxxxxxxxxx.

The input dataset does not physically exist.

System Action: Execution terminates.

RM1100 Only 1 operand for - xxxx (keyword).

Range is not allowed for this operand.

System Action: Execution is terminated.

RM1101 Range invalid for - xxxx (keyword).

Range is invalid for this operand.

System Action: Execution is terminated.

RM1102 Opr. not numeric - xxxx (keyword).

The operand must be numeric.

System Action: Execution is terminated.

RM1103 Opr. not alphanum - xxxx (keyword).

The operand must be alphanumeric.

System Action: Execution is terminated.

RM1104 Opr. too long - xxxx (keyword).

The operand is too long.

System Action: Execution is terminated.

RM1105 Num out of range - xxxx (keyword).

The operand is numeric but its value is invalid.

System Action: Execution is terminated.

RM1106 Invalid sequence number.

The sequence number is invalid.

System Action: Execution is terminated.

RM1150 -nodename-EZA1617I nnnnn bytes transferred in nn.nnn seconds.

When TCP/IP FTP completes a file transfer to another node, EZA1617I is issued to show the bytes and transfer time. See IBM manuals for a complete explanation of EZA1617I. RMS/Spool echoes this message to the console and puts the nodename of the receiving report(file) with the message.

Operator Response: No operator action is suggested.

RM1151 FTP node xxxxx trouble. Node is not accessible and will be retried in a few seconds.'

TCP/IP FTP could not contact the receiving node(xxxxx) or a transmission error occurred.

Operator Response: Make sure that the receiving node is ready to receive the transmission. The transmission will be retried in a few seconds(12). If the retry process is not desirable, then a P,xxxx command can be sent to the Spool address space to shut down the node, but then a S,xxxx command will have to be entered to restart the receiving node.

RM1152 ESFFTP input parm error, please correct.

The ESFFTP program has a parm error. The program can be located in the started procedure.

Operator Response: Correct the parm error. An example parm would look like this PARM='-,SEVEPC', where - is the comchar of RMS/Spool and SEVEPC is the nodename of the receiving TCP/IP node.

RM1153 Subsystem Communications Error.

The ESFFTP program was unable to communicate with the RMS subsystem.

Operator Response: Contact your system administrator to verify enough communications channels are defined.

RM2000 DD statement missing - SYSPRINT.

The ESFSPTP utility has failed because the SYSPRINT DD statement is missing.

Operator Response: Add a valid SYSPRINT DD statement to the ESFSPTP job and rerun.

RM2001 Cannot open file - SYSPRINT.

The ESFSPTP utility has failed because the SYSPRINT cannot be opened.

Operator Response: Correct the SYSPRINT DD statement in the ESFSPTP job and rerun.

RM2002 No parameters passed.

The ESFSPTP utility has failed because the required parameters are missing or incorrect.

Operator Response: Correct the parameters in the ESFSPTP job and rerun. The xFnnn parameter and the SUBSYS=xxxx parameter are required.

RM2003 Error in parameters - Begins "   ".

The ESFSPTP utility has failed because the parameters coded are incorrect.

Operator Response: Correct the parameters in the ESFSPTP job and rerun.

RM2004 N-File# O-File# Filename Dest Form FCB. Q Cpy Lines Stat Time Error Programmers Name.

This is an informational message header describing the files the ESFSPTP utility has backed up or restored.

RM2005 Backup function selected Date: yy/ddd - Time: hh:mm:ss. Load function selected Date: yy/ddd - Time: hh:mm:ss.

This is an informational message indicating that the ESFSPTP utility backup/load function has been selected.

RM2006 ESF subsystem is not available.

The particular RMS subsystem, passed as the SUBSYS=xxx parameter, is not currently active.

Operator Response: Either start the requested RMS subsystem or correct the SUBSYS=xxx parameter and rerun the job.

RM2007 Index file not allocated - Listing ignored.

The INDEX dataset has not been allocated.

Operator Response: If a list RMS files successfully processed is desired, add the INDEX DD statement to the job and rerun.

RM2008 Cannot open file - xxxxxxxx.

The INDEX, BACKUP or LOAD dataset cannot be opened.

Operator Response: Correct the specific DD statement and rerun the job.

RM2009 ESFSTAT Return code is xx.

The RMS subsystem returned an unexpected return code of xx to an ESFSTAT request.

Operator Response: Look up the return code in the RMS System Reference Manual under "Call Status Codes - From ESFSTAT/ESFSTAC Interface".

RM2010 DD statement missing - xxxxxxxx.

The ESFSPTP utility has failed because the xxxxxxxx DD statement is missing.

Operator Response: Add a valid xxxxxxxx DD statement to the ESFSPTP job and rerun.

RM2012 Parameter value error'.

The RMS subsystem returned "Parameter Error" return code.

Operator Response: Call Mantissa Product Support.

RM2013 Backup file has invalid format'.

The ESFSPTP utility has failed because an invalid format was specified on the BACKUP DD statement.

Operator Response: The BACKUP dataset must be specified as a sequential dataset with a record format of VB.

RM2014 ESFSPTP ended - xxxxxxxx file(s) dumped/loaded.

This is an informational message indicating that the ESFSPTP utility backup/load function has completed.

RM2015 Parameters: xxxx, yyyy, zzzz, . . .

This is an informational message indicating the parameters that were passed to the ESFSPTP utility.

RM2016 Processing backup dataset created on Date:mm/dd/yy.

This is an informational message indicating the date of the backup dataset being processed by the ESFSPTP utility.

RM2017 File - xxxxxxx - not loaded, exists already.

The ESFSPTP utility cannot load file number xxxxxxx because it already exists.

Operator Response: Code the parameter DUP=YES to specify that the file is to be restored by the Load function even if a duplicate file already exists.

RM5000 Rms/Online Security Failure.

No user record for user named by installation security exit.

Operator Response: Contact your System Administrator for RMS/Online.

RM5001 RMS/Online temp storage failure. Clear screen to continue.

RMS could not retrieve the transactions’ saved data. This is a persistent failure.

Operator Response: Contact your systems administrator. Verify the ACDS dataset was not rebuilt.

RM5002 RMS/Online has been restarted since your last entry. Reenter your transaction ID.

RMS and CICS were restarted since the last time you entered RMS. The saved temp storage records in the ACDS do not apply now.

Operator Response: Simply re-enter your transaction ID.

RM5003 RMS/Online is no longer resident due to a NEWCOPY. Contact your system administrator.

A NEWCOPY function was performed on RMS. This will cause a multitude of problems. You cannot continue.

Operator Response: Your system administrator must recycle CICS.

RM5004 RMS/Online initialization has not completed. Reenter your transaction.

The first entry into RMS performs several initialization steps. While this is going on, all others are temporarily locked out. The process should only take a few second.

Operator Response: Simply re-enter your transaction. If the message repeats, it could mean the initialization failed. Contact your system administrator if this occurs.

RM5005 RMS/Online transaction code was not found in gen table.

The transaction code used to initiate RMS was not defined when your administrator customized RMS.

Operator Response: Make sure the transaction codes needed to execute RMS were specified in the RMSOGEN macro used in the "INST01" installation job.

RM5006 RMS/Online program was not linked with an AMODE of 31.

The RMS/ONLINE program was relinked with an incorrect AMODE.

Operator Response: Relink the program RMvvrm with the following SYSLIN statement: MODE AMODE(31),RMODE(24).

RM5007 RMS/Online program was not defined with EXECKEY of CICS.

RMS/ONLINE's CICS program attribute needs to be defined with an execution key of CICS.

Operator Response: Alter the RMvvrm program attribute changing the EXECKEY from USER to CICS. Then INSTALL the program definition and retry the transaction.

RM7000 Specify options for xxxxxxxx.

The extended spooling facility has been started and is now waiting for the initialization option(s) to be entered by the operator. Xxxxxxxx identifies the RMS release and level.

Operator Response: RMS enters and remain in the wait state until the operator enters the option(s). Enter initialization option(s) via the OS reply command.

RM7001 Invalid option, re-specify.

One or more of the options entered were invalid.

System Action: RMS re-issues message RM7000 and waits for new option(s).

Operator Response: Respond with valid option(s) to message RM7000.

RM7002 Initialization failed, correct above problems and restart RMS.

Severe initialization problems were detected, which made it impossible to start RMS. The cause of the problems may be determined from previously issued error messages.

System Action: RMS terminates processing.

Operator Response: Correct any problems, if possible, or contact the system programming group for help.

RM7003 xxxxxxxx DD statement missing.

A required DD statement with ddname xxxxxxxx was missing in the RMS procedure.

System Action: RMS terminates processing.

Operator Response: Add the required DD statement to the RMS procedure and restart RMS.

RM7004 Unable to open file for DDNAME xxxxxxxx.

RMS was unable to open the file described by the DD statement with ddname xxxxxxxx.

System Action: RMS terminates processing.

Operator Response: Correct any errors in the DD statement for the file and restart RMS.

RM7005 Parameter statement is invalid.

The parameter statement displayed preceding this message is in error.

System Action: RMS will set an error flag, scan the remaining parameter statements, and terminate processing.

Operator Response: Correct the invalid parameter statement and restart RMS.

RM7006 Duplicate spool volume-serial: xxxxxx.

The volume with volume serial number xxxxxx was specified more than once as a spool volume in the initialization parameter dataset.

System Action: RMS terminates processing.

Operator Response: Correct the initialization parameter statements and restart RMS.

RM7007 Volume xxxxxx not mounted.

The volume with volume serial number xxxxxx was requested as a spool volume, but the volume is not mounted.

System Action: RMS terminates processing.

Operator Response: Mount the required volume, or correct the initialization parameter statements, and restart RMS.

RM7008 No Spool/CHKPT Dataset found on volume xxxxxx.

The initialization parameters specified a spool or checkpoint dataset on volume xxxxxx, but the dataset was not found on the volume.

System Action: RMS terminates processing.

Operator Response: Allocate a spool or checkpoint dataset on the volume and start RMS with the format option, or correct the initialization parameters and restart RMS.

RM7009 VTOC I/O-Error on volume xxxxxx.

RMS issued an OBTAIN SVC to get the extended information for the spool dataset on volume xxxxxx, but the OBTAIN SVC detected an I/O error in the VTOC.

System Action: RMS terminates processing.

Operator Response: If this is not a hardware failure, contact the system programming group for help.

RM7010 Logic error processing volume xxxxxx.

RMS issued an OBTAIN SVC which returned an error code of 16.

System Action: RMS terminates processing.

Operator Response: Contact the system programming group for help.

RM7011 Spool/CHKPT on volume xxxxxx has no extents.

The spool or checkpoint dataset on volume xxxxxx was allocated without any space definition and is thus not usable by RMS.

System Action: RMS terminates processing.

Operator Response: Allocate a new spool or checkpoint dataset with a valid space definition, and “format” start RMS.

RM7012 Spool/CHKPT allocation failed for volume xxxxxx,RC=yy.

RMS was not able to dynamically allocate the spool or checkpoint dataset on volume xxxxxx. The return code from dynamic allocation was yy.

System Action: RMS terminates processing.

Operator Response: If the cause of the error is not obvious, then contact the system programming group for help.

RM7013 Open failed for DDNAME yyyyyyyy volume xxxxxx.

RMS was unable to open the spool dataset on volume xxxxxx with the allocated dd name yyyyyyyy.

System Action: RMS terminates processing.

Operator Response: Contact the system programming group for help.

RM7014 BLKSIZE invalid for volume xxxxxx.

The BLKSIZE parameter was too low for volume xxxxxx.

System Action: RMS terminates processing.

Operator Response: Change the BLKSIZE value to allow a maximum of 8 spool records per track, and then “format” start RMS.

RM7015 Initialization parameters successfully scanned.

RMS was started with the SCAN initialization option, and after successful validation of all the initialization parameters, it terminates with this message.

System Action: RMS terminates processing.

Operator Response: None.

RM7016 Invalid SVCCODE specified, RC=?

RMS was unable to use the SVC routine specified in SVCCODE initialization parameter.

System Action: RMS terminates processing. The return code can have the following values:

RC=1 The SVCCODE value exceeds the maximum ESR code allowed by your MVS system.
RC=2 Invalid SVC or ESR entry specified.
RC=3 Unable to update ESR entries under MVS/XA.
RC=4 The specified SVC/ESR entry is already in use.
RC=5 Unable to load the RMSSVC module into the CSA.
RC=6 The SVCUPDTE facility is not supported under MVS370.

Operator Response: Contact the system programming group for help.

RM7017 Specified external security exit is not installed.

RMS was unable to locate the security exit corresponding to the specification in the SECUEXT initialization parameter.

System Action: RMS terminates processing.

Operator Response: Inform your system programming group.

RM7018 Initialization parameter statement in error.

The parameter statement shown in this message file was in error. This message is followed by error message RM7005.

System Action: RMS will set an error flag, scan the remaining parameter statements, and terminate processing.

Operator Response: Correct the invalid parameter statement and restart RMS.

RM7019 Incomplete definition for UserID xxxxxxxx.

During initialization RMS detected an incomplete definition of userid xxxxxxxx.

System Action: The parameter statement validation will continue, and RMS will terminate after checking all of the parameters.

Operator Response: Correct the definition for the user and restart RMS.

RM7020 ESFPARM Dynamic Allocation failed RC=xx, Error/Info code=yyyyyyyy.

RMS was unable to allocate the parameter deck file. Documentation of the return code and the error/info code can be found in either the MVS Job Management manual or the MVS/XA System Macros and Facilities manual.

System Action: Processing continues.

Operator Response: Inform your system programming group.

RM7021 ESFPARM dynamic Unallocation failed RC=xx, Error/Info-code=yyyyyyyy.

RMS was unable to unallocate the parameter deck file. Documentation of the return code and the error/info code can be found in either the MVS Job Management manual or the MVS/XA System Macros and Facilities manual.

System Action: Processing continues.

Operator Response: Inform your system programming group.

RM7022 GETVCE failed for volume xxxxxx RC=xx.

RMS received return code xx from a GETVCE macro on volume xxxxxx. The return code xx is explained in the VSE Advanced Functions Diagnosis Reference manual.

System Action: RMS terminates processing.

Operator Response: Contact the system programming group for help.

RM7023 Continuing....CHKPT successful yy.ddd hh:mm:ss.

RMS has successfully completed a checkpoint.

System Action: Warm Start is continuing.

Operator Response: None.

RM7024 Formatting xxxxxx.

A “format” start has been requested, and RMS is now formatting the spool dataset on volume xxxxxx.

System Action: Processing continues.

Operator Response: None.

RM7025 I/O-Error formatting xxxxxx.

An I/O error was detected while RMS was formatting the spool dataset on volume xxxxxx.

System Action: RMS terminates processing.

Operator Response: Correct any hardware problems, and restart RMS with the “format" option.

RM7026 Error during search of module xxxxxxxx, RC=y.

During initialization RMS was neither able to locate the requsted module xxxxxxx in the link pack area nor to load the module in to the common system area. The return code can have the following values:

RC=1 - Module found on link-library list, but not found in the LPA/MLPA.
RC=2 - Neither STEPLIB, JOBLIB nor link-library list contains the module.
RC=3 - Unable to allocate enough CSA storage to contain the module.
RC=4 - Error during module load into CSA.
RC=5 - The ESFSSSM module was not at a matching release level.

System Action: RMS terminates processing.

Operator Response: Contact the system programming group for help.

RM7027 Subsystem interface not dormant.

During initialization RMS found that its subsystem interface was not in the dormant state.

System Action: RMS terminates processing.

Operator Response: Another RMS task was probably executing. If not, contact the system programming group for help, or IPL the entire MVS system.

RM7028 Unable to obtain storage for subsystem SSCT.

RMS was unable to allocate the SSCT subsystem control block.

System Action: RMS terminates processing.

Operator Response: Try to start RMS again a bit later since the problem might be due to storage contention. If this does not help, then IPL the entire MVS system.

RM7029 Unable to obtain storage for subsystem SSVT.

RMS was unable to allocate the SSVT subsystem control block.

System Action: RMS terminates processing.

Operator Response: Same as for message RM7028.

RM7030 Unable to obtain storage for CMB buffer pool.

RMS was unable to allocate the command message buffer pool.

System Action: RMS terminates processing.

Operator Response: Try to start RMS again a bit later. If this does not solve the problem, then you may either decrease the NUMCMBS value in the initialization parameters or IPL the entire MVS system.

RM7031 Unable to obtain storage for the RMS address space vector table.

RMS was unable to allocate the RMS address space vector table.

System Action: RMS terminates processing.

Operator Response: Try to start RMS again a bit later, or IPL the entire MVS system.

RM7032 SSVT points to RMS ASVT with invalid control block identifier.

A RMS ASVT already existed in storage, but the control block identifier was not valid.

System Action: RMS terminates processing.

Operator Response: IPL the entire MVS system, or contact the system programming group for help.

RM7033 File xxxxxxxx was opened for output, now pclosed.

During RMS initialization, it was found that file xxxxxx was left open for output processing.

System Action: The file is permanently closed. Processing continues.

Operator Response: None.

RM7034 File xxxxxxx was opened for input, now pclosed.

During RMS initialization, it was found that file xxxxxx was left open for input processing.

System Action: The file is permanently closed. Processing continues.

Operator Response: None.

RM7035 File xxxxxx on network node yyyyyyyy interrupted.

During RMS initialization, it was found that file xxxxxx was left in the process of being printed on network node yyyyyyyy.

System Action: The file is interrupted, and print processing will continue from the file's last checkpoint. Processing continues.

Operator Response: None.

RM7036 Identify failed for xxxxxxx subtask, RC = yy.

During initialization RMS received a non-zero return code from an IDENTIFY macro instruction attempting to identify the module xxxxxxx. The OS system returned a completion code of yy.

System Action: RMS terminates processing.

Operator Response: Try to restart RMS, and if the error still occurs, then contact the system programming group for help.

RM7037 Attach failed for xxxxxxx subtask, RC = yy.

During initialization RMS received a non-zero return code from an ATTACH macro instruction attempting to attach the module xxxxxxx. The OS system returned a completion code of yy.

System Action: RMS terminates processing.

Operator Response: Try to restart RMS, and if the error still occurs, contact the system programming group for help.

RM7038 File xxxxxx Destination yyyyyyyy re-queued for transfer.

During initialization RMS found that file xxxxxx with destination yyyyyyyy was marked as active on the automatic file transfer interface.

System Action: The file is re-queued for transfer.

Operator Response: None.

RM7039 Unexpected end-of-file on ESFPARM.

During initialization RMS detected an unexpected end of file condition on the parameter dataset.

System Action: RMS is terminated.

Operator Response: Correct the parameter dataset, and restart RMS.

RM7040 Incomplete definition for network node xxxxxxxx.

During initialization RMS detected an incomplete definition of network node xxxxxxxx.

System Action: The parameter statement validation will continue, and RMS will terminate after checking all of the parameters.

Operator Response: Correct the definition for the network node, and restart RMS.

RM7041 Internal trace requested, xxxxx entries allocated.

The internal trace option (*specified by the TRACE initialization parameter*) has been activated and xxxxx trace table entries have been allocated.

System Action: Processing continues.

Operator Response: None.

RM7042 Specified separator exit is not installed.

During initialization RMS was unable to locate the separator exit specified in the SEPAEXIT subparameter of a NODE definition.

System Action: RMS is terminated.

Operator Response: Correct the definition of the printer NODE and restart RMS.

RM7043 CID Name xxxxxxxx is already defined as a node, alias or CID Name.

During initialization of the CID definition pool, RMS detected that the CID name xxxxxxxx is a duplicate name.

System Action: RMS is terminated.

Operator Response: Correct the definition of the CID and restart RMS.

RM7044 Unable to obtain storage for CIB pool.

During initialization RMS was unable to allocate storage in CSA subpool 241 for the communication interface block pool.

System Action: RMS is terminated.

Operator Response: Reduce the number of communication channels or ports defined and restart RMS.

RM7046 Unable to obtain storage for new SAST table.

RMS was unable to allocate storage for a new SAST table.

System Action: RMS terminates processing.

Operator Response: Same as for message RM7028.

RM7047 Unable to obtain storage for FSS pool.

RMS was unable to allocate ECSA storage for a new FSS pool.

System Action: RMS terminates processing.

Operator Response: Try to start RMS again a bit later since the problem might be due to storage contention. If this does not help, then IPL the entire MVS system.

RM7048 Company: Company-Name.

This message displays the decoded information contained in the password CODE and COMPANY keywords from your startup parameters. Values for xxxxxxxxxxxxx are:

Product: (RMS|RMS)
Features: 11,222,333,444,555,666,777,MNT
Exp date: mm/dd/yy
CPU #?: ssssmmmm (ssss=serial, mmmm=model)
Company: --- company name ------------

System Action: Processing continues.

Chap_09(v11r35m1).fm: Revised Sunday, November 24, 2013

Operator Response: No operator response required.

RM7049 ** WARNING ** - RMS will expire on yy/ddd.

RMS will not be functional after day DDD in year YY because the license has expired. This message is issued 14 days before the specified date.

System Action: Processing continues.

Operator Response: Contact the system programming group.

RM7050 System parameter error.

The system parameter table as defined by parameter statements S1 through S7 is invalid for one of the following reasons:

The entries in the table are not contiguous.
The table contains duplicate entries.
The table does not contain the SMF CPU id for this system.
An attempt was made to change the table on a warm start.

System Action: RMS terminates processing.

Operator Response: Analyze parameter statements S1 through S7 and correct the problem. Start RMS again.

RM7051 Waiting for checkpoint-dataset lock.

RMS initialization processing has determined (*by examining the checkpoint dataset lock record*) that another system has control of the checkpoint dataset lock and has not relinquished that control.

System Action: RMS initialization processing cannot continue until it has exclusive control of the checkpoint dataset lock. Initialization processing attempts to obtain the checkpoint dataset lock once each second for the next 30 seconds. If RMS cannot obtain the lock, message RM7052 is issued. If RMS can obtain the lock, initialization processing continues.

Operator Response: None.

RM7052 Unable to obtain CHKPT dataset lock - I/O error-, reply Y or N to continue.

RMS initialization processing was not able to obtain control of the checkpoint dataset. Either another system in the complex has abnormally terminated without releasing the checkpoint dataset lock, or an I/O error occurred while RMS was attempting to obtain the lock. Note: If you are performing a cold start and using a new checkpoint dataset or if you are performing a configuration-wide warm start, this message can be issued as part of normal processing and does not indicate an error condition.

NOTE: IMPORTANT - Take special care to answer response correctly!

System Action: If the operator replies “Y,” RMS initialization processing continues without the checkpoint dataset lock. If the operator replies “N,” RMS terminates.

Operator Response: If this is a cold start using a new checkpoint dataset or a configuration wide warm start (*no other systems in the multi access spool complex are running*), reply “Y.” If this is not a cold start using a new checkpoint dataset or a configuration wide warm start, reply “N” and notify the system programming group.

RM7053 Reply Y or N to confirm checkpoint record change.

The operator has made a valid request to change the fundamental checkpoint record. The operator is asked to confirm his intent to change the record.

System Action: RMS waits for the operator to reply.

Operator Response: Reply "Y" if the checkpoint record is to be changed (*this includes the creation of a new checkpoint dataset*); otherwise reply "N."

RM7054 Warm start denied, invalid checkpoint record.

The checkpoint record is invalid for one of the following reasons:
* Permanent I/O error.
* Operator has replied "N" to message RM7053.

System Action: RMS terminates processing.

Operator Response: Ensure that the system being started is the same as, or is compatible with, the last one run. If major incompatibilities in the RMS parameter values are discovered, the system must be cold started.

RM7055 Complex not dormant.

Analysis indicates that at least one system in the complex is not dormant.

System Action: Message RM7056 follows requesting operator response.

Operator Response: See message RM7056.

RM7056 Reply Y or N to continue COLD start.

Analysis determined that the complex is not dormant. The operator must determine if it is safe to continue. This message is preceded by message RM7055.

System Action: RMS waits for operator reply.

Operator Response: Evaluate the complex environment and enter appropriate reply. If "N" is entered, processing is terminated.

RM7057 Reply Y or N to confirm reset on system(s) sid sid sid...

RMS initialization has determined, through analysis of the checkpoint record, that the documented member(s) of the complex are not currently active. However, since a system can remain active between a RMS failure and a RMS restart without recording checkpoint records, the above analysis must be confirmed by the operator.

System Action: RMS waits for the operator to reply.

Operator Response: Determine whether all of the systems documented in the message text are inactive. You must reply "Y" if all documented systems are inactive. RMS will then perform a cold start or a warm start, depending on what you specified previously in response to message RM7000 (*specify options*). You must reply "N" if one or more of the documented systems are active. RMS will then attempt to perform a warm start, regardless of the kind of start you specified previously. An incorrect reply might cause RMS processing to terminate abnormally.

RM7058 System parameter table error.

Same as message RM7050, but the error was detected when RMS validated the checkpoint record during warm start processing.

System Action: RMS terminates processing.

Operator Response: Same as message RM7050.

Chap_09(v11r35m1).fm: Revised Sunday, November 24, 2013

RM7059 Cold-Start / Warm-Start / All-System Warm-Start / System-xxxx Warm Start is in process.

RMS is being initialized. The message text indicates (1) whether the initialization includes all of the systems in the multi access spool complex or only the system with ID xxxx and (2) the type of RMS initialization (*cold or warm*) that is taking place.

System Action: Processing continues.

Operator Response: None.

RM7060 System being restarted on xxxx.

The operator is attempting to perform a warm start for RMS on this system. The attempt fails because system xxxx has already issued an ESYS RMS command to restart RMS on this system.

System Action: RMS initialization terminates.

Operator Response: Wait for the completion of restart on system xxxx, and then perform a warm start for RMS on this system.

RM7061 I/O-error accessing checkpoint dataset.

RMS failed to access the RMS checkpoint record correctly because the checkpoint dataset space allocated is not adequate for the number of FQEs defined in the parm deck.

This message can be issued if the size of the checkpoint dataset is not large enough to accommodate the NUMFQES specified in the parameter deck. It can also be issued if the spool dataset is allocated over multiple extents and the checkpoint dataset is not large enough.

System Action: RMS terminates processing.

Operator Response: Check the parms. Increase the size of the checkpoint dataset. If it does not startup, decrease the number of NUMFQES and retry.

NOTE: IMPORTANT - If you are to format be sure to back up all files within RMS. A FORMAT or COLD start of the subsystem will erase files. Take caution!

RM7062 Spool allocation error, following volumes/extents expected.

During warm start, RMS detected that one or more spool datasets have changed position or size. Message RM7063 displays the expected locations of the spool datasets.

System Action: See message RM7063.

Operator Response: See message RM7063. Verify the size of the checkpoint dataset is large enough to accommodate the NUMFQE's specified, or lower the NUMFQE's and attempt to start the subsystem again. If it still fails, allocate a larger checkpoint dataset. If your spool dataset is allocated over multiple extents, increase the size of the checkpoint dataset and attempt to start the subsystem again. Use the Space Allocation chart in the Installation section as a guide in determining how large your checkpoint file should be.

RM7063 VOLSER: xxxxxx EXTENT: START: ssssssss END:

The expected positions of the spool datasets are listed by message RM7063. The location and size of the spool datasets must not be changed if RMS is to be warm started. Furthermore, all systems in a multi access spool complex must define the same spool datasets.

System Action: RMS terminates processing.

Operator Response: Correct the SPOOL parameter statements and restart RMS.

RM7064 Warm/restart open file count below zero. Reply Y or N to continue.

During warm start processing, RMS detected an open file count below zero. This could happen after a system crash.

System Action: RMS waits for the operator to reply.

Operator Response: If the operator replies “Y,” RMS resets the open file count to zero and continues the initialization processing. This could be required for each open file at the time of the system crash. The operator should reply ‘Y’ to each occurrence at this message to continue a warm start.If the operator replies “N,” RMS terminates with a disastrous error code CH06 (*see message RM799*).

RM7065 BUILDQ Warm-Start denied, complex not dormant.

A BUILDQ warm start could not be performed because at least one system in the complex was not dormant.

System Action: RMS terminates processing

Operator Response: Ensure that the entire complex is dormant before starting a system with the BUILDQ option.

RM7066 Load failed for xxxxxxxx module.

During initialization RMS received a non-zero return code from a LOAD macro instruction attempting to load the module xxxxxxx.

System Action: RMS terminates processing.

Operator Response: Contact the system programming group for help.

RM7067 Unable to locate $IJBSEOT - ESFEOTSK not installed.

During search for $IJBSEOT in VSE low core, RMS gets a zero pointer or end of table.

System Action: RMS continues processing, but RMS will not be called at end of task in another partition address space.

Operator Response: Contact the system program group response for help.

RM7068 RMS end of task module ESFEOTSK installed.

ESFEOTSK has successfully front-ended module $IJBSEOT. Now the supervisor will call ESFEOTSK and give control back to $IJBSEOT after RMS has checked for any open file and channels for the task. This message only comes the first time the RMS system is started after the system has been IPLed.

System Action: RMS continues processing.

Operator Response: None.

RM7069 RMS end of task module ESFEOTSK not installed.

During initialization RMS received a non-zero return code from a LOAD macro instruction attempting to load the module ESFEOTSK.

System Action: RMS continues processing, but RMS will not be called at end of task in another partition address space.

Operator Response: Contact the system programming group for help.

RM7070 Waiting for access to RMS checkpoint dataset.

RMS has issued a read (*with RESERVE*) operation to the checkpoint dataset. The number of seconds specified as the warning interval on the WARNTIM parameter has elapsed, but the read operation has not been completed. Another system in the multi access spool complex might have terminated while holding a read (*with RESERVE*) operation on the checkpoint dataset.

System Action: RMS issues this message every time the warning interval specified on WARNTIM expires until the read operation completes.

Operator Response: Ensure that other systems in the complex are operational. If another system is down, it is probably holding a read (*with RESERVE*) on the RMS checkpoint dataset. If the failed system cannot be restarted, the read (*with RESERVE*) must be cleared by pressing SYSTEM RESET on the failed system. After pressing SYSTEM RESET, message RM7071 might be issued.

RM7071 Waiting for release of RMS CHKPT lock by xxxx.

RMS has successfully accessed the checkpoint dataset. However, it has determined (*by examining the checkpoint dataset lock record*) that system xxxx has control of the checkpoint dataset lock and has not relinquished that control.

System Action: RMS cannot continue processing until it has exclusive control of the checkpoint dataset lock. This message is repeated approximately every 30 seconds until the other system relinquishes control of the checkpoint dataset lock.

Operator Response: If system xxxx has failed, issue a “ESYS,RESET=xxxx” command to cause RMS to remove control of the checkpoint dataset lock from system xxxx.

RM7072 System xxxx yyyyyyyyy.

A RMS system in a multi access spool configuration has detected that the status (yyyyyyy) of another system (xxxx) in the complex has been altered.

System Action: Processing continues.

Operator Response: None.

RM7073 Spool datasets are full.

All available spool space has been allocated. This message will appear at approximately 30-second intervals until the condition is corrected.

System Action: RMS rejects all requests for direct access space until a purge function completes and the associated direct access space becomes available.

Operator Response: Determine which files are awaiting output (*DF command*), and then initiate output processing for those files. If no RMS output is queued (*all files printed*), then purge the files which have printed.

RM7074 Unable to obtain control over subsystem resource.

During initialization RMS was unable to obtain control over the specified subsystem name (*see SUBID parameter*).

System Action: See message RM7077, which will follow this message.

Operator Response: Check that no RMS job using the same subsystem name is active.

RM7075 Unable to obtain control over CHKPT/SID resource.

During initialization RMS was unable to obtain control over the specified SID/CHKPT names.

System Action: See message RM7077, which will follow this message.

Operator Response: Check that no RMS system using the same checkpoint dataset and system identification is active.

RM7076 Subsystem still in operating status.

During initialization RMS found that its subsystem interface was not in the dormant state.

System Action: If the previous RMS job is no longer active, initialization continues. Otherwise, message RM7077 is issued.

Operator Response: Check that no RMS system using the same subsystem identification is active.

RM7077 Subsystem not dormant, reply “Y” to continue or “N” to terminate.

See the messages RM7074, RM7075, RM7076, of which one or more will precede this message.

System Action: RMS waits for the operator to reply.

Operator Response: Reply “Y” if RMS is allowed to use this subsystem identification; otherwise, reply “N.”

RM7079 Module xxxxxx loaded from yyyyyy yyyyyy.

During initialization RMS loaded module xxxxxxxx is loaded from either LPA LIB or J/S LIB.
J/S LIB COPY TO CSA
LINKLIB COPY TO CSA
This message provides information concerning where the module was found and whether the module was copied to CSA or not.

System Action: Processing continues.

Operator Response: None.

RM7080 Unauthorized RMS SVC call.

The RMS SVC was called either from an unauthorized caller or with invalid parameters.

System Action: The RMS SVC just returns to the caller.

Operator Response: Inform your system programming group.

RM7089 Termination delayed, waiting for xxxxxxxx opened by jjjjjjjj.

RMS has abnormally terminated, but the termination has been delayed because the communication channel xxxxxxxx opened by job jjjjjjjj has not been closed. The user program has been notified via its communication end (CEND) ECB or EXIT routine.

System Action: RMS will enter wait state until the communication channel is closed.

Operator Response: Take the action necessary to terminate the job specified.

RM7097 REFRESH option was specified at startup.

The subsystem interface modules will be reloaded. Any additional subsystems referencing the program areas will abend until they are brought down and up again.

Operator Response: Take the action necessary to terminate the job specified.

RM7098 Assignment of special properties to RMS failed.

During initialization RMS was unable to change to the unique RMS storage protection key. This key must be established.

System Action: RMS terminates processing.

Operator Response: Contact the system programming group for help.

RM7099 ESTAE Create failed, initialization terminated.

During initialization RMS was unable to create an ESTAE environment. This environment must be established.

System Action: RMS terminates processing.

Operator Response: Contact the system programming group for help.

RM7100 Simple xxxx start completed.

RMS has successfully completed an xxxx start, where xxxx is cold or warm.

System Action: Processing continues. The subsystem is now ready for work.

Operator Response: None.

RM7101 RMS waiting for work.

RMS detected an out of work condition. This message is displayed only in single system configurations and indicates that no logical process is currently active in the system.

System Action: RMS enters wait state until work becomes ready.

Operator Response: None.

RM7102 RMS terminated.

RMS has completed a normal termination sequence.

System Action: RMS terminates processing.

Operator Response: None.

RM7103 Stop command ignored.

A “P RMS” command has been issued by the operator. This is not allowed, and the command has been rejected.

System Action: Processing continues.

Operator Response: To stop RMS, use the SHUT DOWN command.

RM7104 Missing command or command too long.

A command string which was too long or all blanks has been entered by the operator.

System Action: The command string is disregarded, and processing continues.

Operator Response: Re-enter a valid command.

RM7105 Unable to obtain command buffer. Command discarded.

RMS was unable to allocate an internal command buffer.

System Action: The command string is disregarded, and processing continues.

Operator Response: Try to re-enter the command a bit later.

RM7106 File xxxxxx purged, owner=oooooooo dest=xxxxxxxx.

File xxxxxx with owner name oooooooo and destination name dddddddd has been successfully purged.

System Action: Processing continues.

Operator Response: None.

RM7107 ** Resource shortage - xxxx **.

A get buffer request has been issued, but no buffer was available. Xxxx defines the type of buffer requested:

CMBB - Console message buffer.
LOGB - LOG file buffer.

SMFB - SMF recording buffer.
SNAB - SNA network buffer.

System Action: Processing continues.

Operator Response: None.

RM7120 Node xxxxxxxx - invalid DCE found.

When trying to dynamically add node xxxxxxxx, RMS found an existing DCE with a different type.

System Action: Processing continues.

Operator Response: Contact the systems programming group.

RM7121 Node xxxxxxxx - already defined.

The node xxxxxxxx could not be defined because the name already existed.

System Action: Processing continues.

Operator Response: Use unique names when defining users and nodes.

RM7122 Node xxxxxxxx - no more nodes can be defined.

The node xxxxxxxx could not be defined because the total number of nodes added to the parameter deck exceeded the DYNDISP/DYNPRT parameters.

System Action: Processing continues.

Operator Response: Decrease the number of nodes in the parameter deck and reissue the REINIT command, or shut down and restart RMS.

RM7123 Node xxxxxxxx - invalid network group number.

The group number on node xxxxxxxx was greater than the maximum group parameter.

System Action: Processing continues.

Operator Response: Change the MAXGROUP parameter and shut down and restart RMS.

RM7124 Node xxxxxxxx - undefined DEFNODE specified.

The DEFNODE subparameter on node xxxxxxxx specified a non-existent DEFNODE.

System Action: Processing continues.

Operator Response: Change the DEFNODE subparameter to a valid default node, or add the missing DEFNODE.

RM7125 Node xxxxxxxx - already connected to a network group.

RMS tried to connect node xxxxxxxx, which was already related to a network group.

System Action: Processing continues.

Operator Response: Contact the systems programming group.

RM7126 Node xxxxxxxx - not redefined, fined, because it was active.

The node xxxxxxxx could not be redefined because it was in session with RMS when the REINIT command was issued.

System Action: Processing continues.

Operator Response: Reissue the REINIT command when the node is drained if the node definition was changed.

RM7127 Node xxxxxxxx - duplicate alias name.

The specified alias name for node XXXXXXXX was already assigned to another node.

System Action: Processing continues.

Operator Response: If the alias name was moved from one node to another node, reissue the REINIT command.

RM7130 Invalid password.

A logon request has been rejected because an invalid password was specified.

System Action: The logon request is discarded.

Operator Response: Enter correct password.

RM7131 Access to requested group rejected.

A logon request has been rejected because the user specified a group which was not authorized for his use.

System Action: The logon request is discarded.

Operator Response: Enter valid group.

RM7132 Access to requested terminal rejected.

A logon request has been rejected because the user used a terminal which was not authorized for his use.

System Action: The logon request is discarded.

Operator Response: Logon from a valid terminal.

RM7134 Undefined userid.

A logon request has been rejected because the user specified an undefined userid.

System Action: The logon request is discarded.

Operator Response: Specify a valid userid.

RM7135 Undefined group.

A logon request has been rejected because the user specified an undefined group.

System Action: The logon request is discarded.

Operator Response: Specify a valid group.

RM7136 Undefined related node.

A logon request has been rejected because the user specified an undefined related node.

System Action: The logon request is discarded.

Operator Response: Specify a valid node name.

RM7140 Name xxxxxxxx - no more users can be defined.

The user xxxxxxxx could not be defined because the total number of users added to the parameter deck exceeded the DYNUSER parameter.

System Action: Processing continues.

Operator Response: Decrease the number of users in the parameter deck and/or increase the DYNUSER value in the initialization parameters. Then reissue the REINIT command, or shut down and restart RMS.

RM7141 Name xxxxxxxx - already defined.

The user xxxxxxxx could not be defined because the name already existed.

System Action: Processing continues.

Operator Response: Use unique names when defining users and nodes.

RM7200 *** RMS Resource Cleanup xxxxxxxx for tp jjjjjjjj. ssssssss.pppppppp ***.

The RMS interface cleanup module has performed resource cleanup for job jjjjjjjj, step ssssssss, proc-step pppppppp, where tp is JS for job step cleanup or ST for subtask cleanup. The cleanup may have been COMPLETED or FAILED (xxxxxxxx).

System Action: Processing continues.

Operator Response: None, but it may be necessary to abnormally terminate RMS, when it is to be stopped, if the cleanup has failed.

RM7201 *** RMS Resource Cleanup failed for address space xxxx, code y ***.

The RMS interface cleanup processing has failed, and a simple resource cleanup for address space xxxx (hex) has been performed. If code y is “T,” the error occurred during execution of the end of task cleanup routine. If code y is “X,” the ESTAE routine has been invoked during execution of the end of task cleanup routine.

System Action: Processing continues.

Operator Response: Please notify the systems programming group, and note that RMS will probably have to be terminated using the ABEND command or the OS cancel command instead of the SHUTDOWN command.

RM7202 *** RMS Resource Cleanup complete for address space xxxx ***.

The RMS interface resource cleanup module has successfully completed resource cleanup for failing address space xxxx.

System Action: Processing continues.

Operator Response: None, but note that RMS will probably have to be terminated using the ABEND command or the OS cancel command instead of the SHUTDOWN command.

RM7250 SVC dump scheduled for job jjjjjjjj step ssssssss.

A communication interface IRB running under a user TCB has abnormally terminated, and an SVC dump has been scheduled for the terminating request block.

System Action: The user TCB under which the IRB was executing is abnormally terminated.

Operator Response: None.

RM7251 SVC dump scheduled for terminating application.

Same as message RM7250 except that the termination routine was unable to obtain a work area in which a complete message could be built.

System Action: Same as message RM7250.

Operator Response: Same as message RM7250.

RM7252 Termination complete for xxxxxxxx opened by jjjjjjjj.

RMS has completed termination processing for communication channel xxxxxxxx, which was opened by job jjjjjjjj.

System Action: Processing continues.

Operator Response: None.

RM7253 Termination in progress for xxxxxxxx opened by jjjjjjjj.

The RMS resource cleanup has initiated termination for communication channel xxxxxxxx, which was opened by job jjjjjjjj.

System Action: The communication channel is closed, and processing continues.
Operator Response: None.

RM7300 ESTAE create failed for virtual-printer subtask.

The virtual printer subtask was unable to establish an ESTAE environment.

System Action: RMS will terminate initialization.

Operator Response: Try to restart RMS, or contact the systems programming group for help.

RM7301 Virtual printer interface started.

The virtual printer subtask has been successfully started, and all ACBs have been opened.

System Action: Processing continues.

Operator Response: None.

RM7302 Virtual printer xxxxxxxx started session with yyyyyyyy.

The virtual printer xxxxxxxx has received a bind and an STD from application yyyyyyyy.

System Action: Processing continues.

Operator Response: None.

RM7303 Virtual printer xxxxxxxx ending session with yyyyyyyy.

The virtual printer xxxxxxxx has received an unbind from application yyyyyyyy.

System Action: Processing continues.

Operator Response: None.

RM7304 Virtual printer interface stopped.

The virtual printer interface has been successfully stopped.

System Action: Processing continues.

Operator Response: None.

RM7305 Virtual printer interface terminated.

The virtual printer interface has been successfully terminated.

System Action: Processing continues.

Operator Response: None.

RM7306 Virtual printer xxxxxxxx stopped by operator.

The virtual printer xxxxxxxx has been successfully stopped by operator.

System Action: Processing continues.

Operator Response: None.

RM7307 Virtual printer xxxxxxxx started by operator.

The virtual printer xxxxxxxx has been successfully started by operator.

System Action: Processing continues.

Operator Response: None.

RM7308 ESFVPS TPEND request has been scheduled for virtual printer xxxxxxxx.

The virtual printer interface has been notified by VTAM to terminate printer xxxxxxxx.

System Action: Processing continues.

Operator Response: None.

RM7309 Virtual printer subtask abended.

The virtual printer subtask has abended.

System Action: Virtual printer subtask is stopped.

Operator Response: Contact the systems programming group for help.

RM7310 Self-explanatory text describing which function was current.

The virtual printer subtask has detected an error and has entered a routine to display which function was current.

System Action: Depending on the error.

Operator Response: Contact the systems programming group for help.

RM7311 For virtual printer xxxxxxxx in routine yyyyyyyyyyyyyyyy.

Error during yyyyyyyyyyyyyyyy on virtual printer xxxxxxxx.

System Action: See message RM7310.

Operator Response: See message RM7310.

RM7312 ACB error flags xx.

Depending on the error, the ACB error flags are shown.

System Action: See message RM7310.

Operator Response: See message RM7310.

RM7313 RPL rc,f2,f3,ssei,usei

Depending on the error, the RPL flags are shown, where "rc" is VTAM return code, "f2" is VTAM feedback code 2, "f3" is VTAM feedback code 3, "ssei" is VTAM system sense information, "usei" is VTAM user sense information.

System Action: See message RM7310.

Operator Response: See message RM7310.

RM7314 RMS xxxxx status field yy.

Depending on the error, the RMS function and status are shown.

System Action: See message RM7310.

Operator Response: See message RM7310.

RM7315 R15 xx.

Depending on the error, register 15 is shown.

System Action: See message RM7310.

Operator Response: See message RM7310.

RM7316 Message not found xxxx,yy,zz.

Error routine was entered and no error messages were found, so xxxx are routine codes, yy is the status field, and zz is the request (*all shown in hex*).

System Action: None.

Operator Response: Contact the systems programming group for help.

RM7317 Status printer stopped; Status printer started; VTAM SCIP exit is active; VTAM RPL exit is active; VTAM TPEND exit is active.

Self explanatory text showing what status and which exit were active, if any.

System Action: See message RM7310.

Operator Response: See message RM7310.

RM7318 xxxxx open yyyyy active virtual printers.

This message is displayed in response to a display status (DS) command. Xxxxx is the number of virtual printers, and yyyyy is the number of virtual printers which has active sessions.

System Action: Processing continues.

Operator Response: None.

RM7319 Virtual printer interface halted.

This message is displayed in response to a display status (DS) command and indicates the virtual printer interface has been stopped.

System Action: Processing continues.

Operator Response: None.

RM7320 Virtual printer interface abended.

This message is displayed in response to a display status (DS) saying virtual printer interface has abended.

System Action: Processing continues.

Operator Response: None.

RM7321 Virtual printer command rejected, no virtual printer defined.

A SNET,VPS or PNET,VPS has been entered but is rejected because no virtual printer subtask has been started.

System Action: The command is discarded, and processing continues.

Operator Response: None.

RM7322 Virtual printer command rejected, interface busy.

A SNET,VPS or PNET,VPS has been entered, but is rejected because the virtual printer interface is busy with another SNET,VPS or PNET,VPS.

System Action: The command is discarded and processing continues.

Operator Response: Enter the command a bit later.

RM7323 Virtual printer command rejected, interface already active.

A SNET,VPS has been entered but is rejected because the virtual printer interface is already started.

System Action: The command is discarded and processing continues.

Operator Response: None.

RM7324 Virtual printer command rejected, interface already inactive.

A PNET,VPS has been entered but is rejected because the virtual printer interface is already stopped.

System Action: The command is discarded, and processing continues.

Operator Response: None.

RM7325 Virtual printer xxxxxxxx closed.
Virtual printer xxxxxxxx open no session.
Virtual printer xxxxxxxx open session with yyyyyyyy.
Virtual printer xxxxxxxx open session with yyyyyyyy file zzzzz.

This message is displayed in response to a display printer node which has a virtual printer defined. Xxxxxxxx is the virtual printer name, yyyyyyyy is the application RMS is in session with, zzzzz is the file sequence number in RMS, if any file is open.

System Action: Processing continues.

Operator Response: No operator response required.

RM7326 Invalid or zero pointer in RPLUSFLD.

The virtual printer interface has received an RPL with no user field, or it does not point to a valid control block. The RPL is ignored because the virtual printer interface cannot relate to any active session.

System Action: Processing continues.

Operator Response: None.

RM7327 No more virtual storage available, virtual printer interface will be stopped.

The request for storage to contain the Device Control Element control block failed. The virtual printer will be stopped.

RM7328 Virtual printer xxxxxxxx has been removed.

The virtual printer xxxxxxxx has been reset and removed.

RM7329 Virtual printer xxxxxxxx has been re-allocated.

The virtual printer xxxxxxxx has been reallocated.

RM7350 xxxx

RMS has received a message xxxx from an NJE session.

System Action: Processing continues.

Operator Response: None.

RM7351 xxxxxxxx is now sign-on to yyyyyyyy.

NJE node yyyyyyyy has received an NJE sign on record from xxxxxxxx and accepted it.

System Action: Processing continues.

Operator Response: None.

RM7352 xxxxxxxx is now sign-off from yyyyyyyy.

NJE node yyyyyyyy has received an NJE sign off record from xxxxxxxx and accepted it.

System Action: Processing continues.

Operator Response: None.

RM7353 Session is now started with yyyyyyyy.

RMS has accepted NJE session with yyyyyyyy.

System Action: Processing continues.

Operator Response: None.

RM7354 Session is now ended with yyyyyyyy.

RMS has completed NJE session with yyyyyyyy.

System Action: Processing continues.

Operator Response: None.

RM7355 xxxxxxxx NJE session halted.

RMS has halted all paths to xxxxxxxx after command h,xxxxxxxx.

System Action: Processing continues.
Operator Response: None.

RM7356 xxxxxxxx NJE session drained.

RMS has drained all paths to xxxxxxxx, after receiving unbind from VTAM, or command P,xxxxxxxx, PNET, TNET have been used.
System Action: Processing continues.
Operator Response: None.

RM7357 Missing response from xxxxxxxx.

ESFNJE has sent an RPL to xxxxxxxx with definitive response, but next inbound RPL was not a response.
System Action: Session will be drained.
Operator Response: Contact the systems programming group.

RM7358 Error in response from xxxxxxxx.

ESFNJE has received a response from xxxxxxxx which was not ok.
System Action: Session will be drained.
Operator Response: Contact the systems programming group.

RM7359 Invalid FMH Record received from xxxxxxxx.

ESFNJE has received a function management header which was invalid.
System Action: Session will be drained.
Operator Response: Contact the systems programming group.

RM7360 Error during GETMAIN of PCB to xxxxxxxx.

Non-zero return code during GETMAIN of process control blocks for xxxxxxxx.
System Action: Session will be drained.
Operator Response: Contact the systems programming group.

RM7361 Error during GETMAIN of SNA buffer for xxxxxxxx.

Non-zero return code during getmain of SNA buffer for xxxxxxxx.
System Action: Session will be drained.
Operator Response: Contact the systems programming group.

RM7362 Compaction found in record from xxxxxxxx, not supported.

During decompressing, a compaction character was found which is not supported.
System Action: Session will be drained.
Operator Response: Contact the systems programming group.

RM7363 Invalid sysout or job control record received from xxxxxxxx.

ESFNJE has received a record from xxxxxxxx which contains invalid RCB.
System Action: Session will be drained.
Operator Response: Contact the systems programming group.

RM7364 Receiving file zzzzzz from node xxxxxxxx to destination yyyyyyyy initiated.

ESFNJE has permitted node xxxxxxxx to allocate a spool file with destination yyyyyyyy and file number zzzzzz.

System Action: Processing continues.
Operator Response: None.

RM7365 Error during RMS yyyyy RC xx for NJE node zzzzzzzz, cancel will be sent.

ESFNJE has received return code xx during yyyyy where yyyyy is open, close, read, write and xx are depending on yyyyy.
System Action: Cancel command will be sent to zzzzzzzz.
Operator Response: None.

RM7366 Transfer initiated for file zzzzzz destination xxxxxxxx node yyyyyyyy.

ESFNJE has sent request to destination xxxxxxxx for permission to allocate spool file zzzzzz for node yyyyyyyy.
System Action: Processing continues.
Operator Response: None.

RM7367 Allocate denied for file zzzzzz destination xxxxxxxx node yyyyyyyy.

ESFNJE has received allocation denied as answer to request for permission to allocate on destination xxxxxxxx node yyyyyyyy.
System Action: Processing continues.
Operator Response: None.

RM7368 File zzzzzz requested to destination xxxxxxxx node yyyyyyyy.

Action after msg RM7367, file zzzzzz is requeued to destination xxxxxxxx node yyyyyyyy.
System Action: Processing continues.
Operator Response: None.

RM7369 PCB will be drained.

Action after msg RM7368, PCB, which was the receiver, will be flagged as drained.
System Action: Processing continues.
Operator Response: Contact the systems programming group.

RM7370 Transfer finish for file zzzzzz destination xxxxxxxx node yyyyyyyy.

ESFNJE has successfully completed transfer file zzzzzz to RMS destination xxxxxxxx node yyyyyyyy.
System Action: Processing continues.
Operator Response: None.

RM7371 Receiving file zzzzzz from node xxxxxxxx to destination yyyyyyyy finish.

ESFNJE has successfully received file zzzzzz from node xxxxxxxx to destination yyyyyyyy
System Action: Processing continues.
Operator Response: None.

RM7372 File zzzzzz requested to destination xxxxxxxx node yyyyyyyy.

Action after TNET command or VTAM error for file zzzzzz, depending on who has responsibility for the file, msg RM7373 can be assumed.

System Action: Processing continues.
Operator Response: None.

RM7373 File zzzzzz destination xxxxxxxx node yyyyyyyy deleted.

Action after TNET command or VTAM error for file zzzzzz, depending on who has responsibility for the file, msg RM7372 can be assumed.

System Action: Processing continues.
Operator Response: None.

RM7374 NJE xxxxxxxx - invalid DCE found.

When trying to dynamically add NJE xxxxxxxx, RMS found an existing DCE with a different type.

System Action: Processing continues.
Operator Response: Contact the systems programming group.

RM7375 NJE xxxxxxxx - already defined.

The NJE xxxxxxxx could not be defined because the name already existed.

System Action: Processing continues.
Operator Response: Use unique names when defining users and nodes.

RM7376 NJE xxxxxxxx - no more nodes can be defined.

The NJE xxxxxxxx could not be defined because the total number of NJE’s added to the parameter deck exceeded the DYNNJE parameters.

System Action: Processing continues.
Operator Response: Decrease the number of NJE’s in the parameter deck and reissue the REINIT command, or shut down and restart RMS.

RM7377 NJE xxxxxxxx - undefined DEFNJE specified.

The DEFNJE subparameter on NJE xxxxxxxx specified a non-existent DEFNJE.

System Action: Processing continues.
Operator Response: Change the DEFNJE subparameter to a valid default NJE, or add the missing DEFNJE.

RM7378 NJE xxxxxxxx - not redefined, because it was active.

The NJE xxxxxxxx could not be redefined because it was in session with RMS when the REINIT command was issued.

System Action: Processing continues.
Operator Response: Reissue the REINIT command when the node is drained if the node definition was changed.

RM7379 NJE xxxxxxxx - duplicate alias name.

The specified alias name for NJE xxxxxxxx was already assigned to another node.

System Action: Processing continues.
Operator Response: If the alias name was moved from one node to another node, reissue the REINIT command.

RM7380 NJE nnnnnnnn alias aaaaaaaa SR=a, ST=b, JR=c, JT=d, STATUS=ssssssss.

RM7380 ee owner =oooooooo, writer =wwwwwwww, file =ffffff.

RM7380 Record=zzzzzzz, datasets=xxxxx.

Response to D,xxxxxxxx where:

xxxxxxxx	is the VTAM application name.
yyyyyyyy	is the alias name.
a	is the number of SYSOUT receivers.
b	is the number of SYSOUT transmitters.
c	is the number job receivers.
d	is the number of job transmitters.
ssssssss	is current status of NJE session.
ee	is either SR,ST,JR or JT.
oooooooo	is owner of current file.
wwwwwwww	is the writer name.
zzzzzz	is the current file number.
rrrrrrr	is the number of records received or sent.
xxxxx	is the number of datasets received or sent.

System Action: Processing continues.
Operator Response: None.

RM7400 Session xxxxxxxx Started on network work group yyyy.

The RMS VTAM interface has established a session with network node xxxxxxxx belonging to network group yyyyy.

System Action: Processing continues.
Operator Response: None.

RM7401 Unable to establish session xxxxxxxx.

The RMS VTAM interface was unable to establish a session with network node xxxxxxxx.

System Action: The session request is discarded, and processing continues.
Operator Response: Try to re-establish the session, and if the problem still persists, contact the systems programming group for help.

RM7402 Session xxxxxxxx ended on/clean up network group yyyyy.

The RMS VTAM interface has successfully terminated a session with network node xxxxxxxx in network group yyyyy.

System Action: Processing continues.
Operator Response: None.

RM7403 Session xxxxxxxx rejected, invalid bind parameter(s).

The RMS/VTAM interface has rejected a logon request because one or more of the bind parameters were not acceptable.

System Action: The logon request is discarded.

Operator Response: Contact the systems programming group for help.

RM7404 Session xxxxxxxx rejected, no storage available for SNA buffer.

The RMS VTAM interface has rejected a logon request because storage for a SNA buffer could not be obtained.

System Action: The logon request is discarded.

Operator Response: Contact the systems programming group for help.

RM7409 Desktop xxxxxxxx logon invalid user=yyyyyyyy.

The RMS VTAM interface has rejected a logon request because the logon reply parameters were not acceptable.

System Action: The logon request is discarded.

Operator Response: Enter correct reply.

RM7409 Invalid logon reply format.

The RMS VTAM interface has rejected a logon request because the logon reply parameters were not acceptable.

System Action: The logon request is discarded.

Operator Response: Enter correct reply.

Desktop,xxxxxxxx login invalid User=uuuuuuuu.

The RMS VTAM interface was unable to login to the desktop clients.

System Action: The report will not be sent to the PC.

Operator Response: Correct the node parameters.

RM7410 *** Timeout on session xxxxxxxx ***.

RMS has detected that the network display node xxxxxxxx has exceeded its timeout interval.

System Action: RMS terminates the session with the network node.

Operator Response: None.

RM7411 Automatic wrap-around now on.

The user pressed the PA1 key, causing the processing mode of the display device to be altered to automatic wrap around mode.

System Action: Processing continues, but new messages will now automatically wrap around from the bottom line to the top line.

Operator Response: None.

RM7412 Automatic wrap-around now off.

The user pressed the PA1 key, causing the processing mode of the display device to be altered so automatic message wrap around will not occur.

System Action: Processing continues, but new messages will not automatically wrap around from the bottom line to the top line. User intervention or a one minute timeout interval must occur before the first line on the screen will be overlaid.

Operator Response: None.

RM7420 Printer xxxxxxxx inactive, class= yyyyyyyy.

No more work was available for printer node xxxxxxxx servicing output classes yyyyyyyy.

System Action: Processing continues.

Operator Response: None.

RM7420 Desktop xxxxxxxx waiting for work, class=yyyyyyyy.

No more work was available for node xxxxxxxx servicing output classes yyyyyyyy.

System Action: Processing continues.

Operator Response: None.

RM7421 File yyyyyy on printer xxxxxxxx, zzzzzzzz lines.

The printer node xxxxxxxx has selected file yyyyyy for output processing. A total of zzzzzzz lines are to be printed, which means the number of copies multiplied by the number of output lines per copy.

System Action: Processing continues.

Operator Response: None.

RM7421 File yyyyyy on desktop xxxxxxxx, zzzzzzzz lines.

The node xxxxxxxx has selected file yyyyyy for output processing. A total of zzzzzzz lines are to be printed, which means the number of copies multiplied by the number of output lines per copy.

System Action: Processing continues.

Operator Response: None.

RM7422 File yyyyyy setup--xxxxxxxx--F=ffff--C=cccc (MPL=pp/d LPI).

Printer node xxxxxxxx has selected file yyyyyy for output processing, but the operator has to change form and/or FCB to ffff and/or cccc. RMS assumes this form to be pp lines high and will print d lines per inch.

System Action: The printer is placed in halted state. Processing continues.

Operator Response: Enter a start command when the printer is ready. (*SCS printers only: The start command may also be given by pressing the PA1 key on the printer-control panel.*)

RM7423 Printer xxxxxxxx yyyy.

The processing state of printer node xxxxxxxx has been changed. The word yyyy, specifying the action, is one of the following: REPEATED, TERMINATED, HALTED, CANCELLED, RESTARTED, INTERRUPTED, BACKSPACED, or FORWARDSPACED.

System Action: The specified action is performed. Processing continues.

Operator Response: None.

RM7423 Desktop xxxxxxxx yyyy.

The processing state of node xxxxxxxx has been changed. The word yyyy, specifying the action, is one of the following: REPEATED, TERMINATED, HALTED, CANCELLED, RESTARTED, INTERRUPTED, BACKSPACED, or FORWARDSPACED.

System Action: The specified action is performed. Processing continues.

Operator Response: None.

RM7424 FCB image request failed.

A printer node was unable to queue an FCB image request to the image loader subtask.

System Action: The printer node is drained and the file held. Processing continues.

Operator Response: If a new start of the printer node does not work, then restart the entire RMS system as soon as possible.

RM7425 FCB Image Delete Request failed, code=xx.

RMS was unable to delete an FCB image. Return code from the DELETE SVC was xx.

System Action: The printer node is drained and the file held. Processing continues.

Operator Response: If a new start of the printer node does not work, then restart the entire RMS system, or contact the systems programming group for help.

RM7426 FCB Image Load Request failed, code=xx.

RMS was unable to load an FCB image from SYS1.IMAGELIB. The return code from the LOAD SVC was xx.

System Action: The printer node is drained and the file held. Processing continues.

Operator Response: If a new start of the printer node does not work, then try to restart the entire RMS system, or contact the systems programming group for help.

RM7427 FCB Image xxxx not found.

A printer node has requested a load of FCB image xxxx, but the image was not found in SYS1.IMAGELIB.

System Action: The printer node is drained and the file held. Processing continues.

Operator Response: Add the requested image to SYS1.IMAGELIB and start the printer node.

RM7428 INT REQ,xxxxxxxx,rc,f2,sysi,ussi.

An intervention required condition has been detected on network node xxxxxxxx. "rc" is the VTAM return code, "f2" is the VTAM feedback code 2, "sysi" is the VTAM system sense information, and "ussi" is the VTAM user sense information.

System Action: RMS waits for the printer to signal that it is ready. Processing continues.

Operator Response: Ready the printer node.

RM7429 I/O Error on xxxxxxxx,rc,f2,sysi,ussi.

An uncorrectable I/O error has been detected on network node xxxxxxxx. "rc" is the VTAM return code, "f2" is the VTAM feedback code 2, "sysi" is the VTAM system sense information, and "ussi" is the VTAM user sense information.

System Action: The printer node is interrupted and drained. Processing continues.

Operator Response: Correct any hardware problems and start the printer node.

RM7430 Forward space on xxxxxxxx reached EOF, last 10 pages follow.

A forward space command for printer node xxxxxxxx reached end of file on the spool file.

System Action: The spool file is backspaced 10 pages from end of file, and print processing continues from that point.

Operator Response: None.

RM7431 File yyyyyy printed on printer xxxxxxxx.

The printer node xxxxxxxx has finished printing file yyyyyy.

System Action: Processing continues.
Operator Response: None.

RM7431 File yyyyyy printed on desktop xxxxxxxx.

The node xxxxxxxx has finished printing file yyyyyy.

System Action: Processing continues.
Operator Response: None.

RM7432 Not enough free storage to start printer xxxxxxxx, please try later.

RMS was unable to allocate virtual storage space for a spool buffer during start of printer xxxxxxxx.

System Action: The printer node is drained. Processing continues.
Operator Response: Inform your system programming group. It may be necessary to increase the region size for RMS.

RM7433 FCB image xxxx contains invalid yyy specification.

The FCB image xxxx contains an invalid specification in the special RMS FCB extension. The value yyy specifies the parameter in error, which may be MPP, CPI, or PPM.

System Action: The printer node is drained and the file held. Processing continues.
Operator Response: Correct the FCB in error and start the printer node.

RM7433 GDDM ACB is not open.

A file could not be printed with the GDDM interface because the VTAM ACB was closed.

System Action: The printer node is drained, and the file is held. Processing continues.
Operator Response: Ensure that the ACB used by GDDM is open.

RM7434 Not enough storage to start GDDM interface.

RMS was unable to allocate virtual storage for the GDDM interface.

System Action: The printer node is drained, and the file is held. Processing continues.
Operator Response: Inform your system programming group. It may be necessary to increase the region size for RMS.

RM7435 Error in GDDM interface RM7435.

RMS has received a nonzero return code from the GDDM interface. The second line contains an error message from the interface. This is another RMS message or a GDDM message.

System Action: The printer node is drained, and the file is held. Processing continues.
Operator Response: Inform your systems programming group.

RM7436 Requested yyy parameters are not supported on printer xxxxxxxx.

The printer node xxxxxxxx does not support the SCS command yyy. The yyy specification may have the value SVF or PPM.

System Action: The printer node is drained and the file held. Processing continues.
Operator Response: Correct the node parameter statements and restart RMS or install compression support in RMSP3 (DeskTop PC).

RM7437 FTPNode xxxxxxxx busy, will retry, Class = x

The FTPNode XXXX is busy and waiting on the FTP transfer to complete.

System Action: This message is repeated every 15 seconds.

Operator Response: No operator response required. No operator response required.The node can be cancelled and restarted at a later time.

RM7438 File yyyyy sent to FTP File xxxxxxxx, zzzzzzzz lines

The FTPNode XXXXXXXX has selected file YYYYY for output processing. A total of ZZZZZZZZ lines are to be sent to a MVS data set for FTP transfer.

System Action: Processing continues.

Operator Response: No operator response required.No operator response required.

RM7439 File yyyyy prepared for FTPNode xxxxxxxx

The FTPNode XXXXXXXX has completed the file preparation and put the data in a MVS data set.

System Action: RMS/Spool will automatically start a procedure to FTP the data set to a TCPIP node.

Operator Response: No operator response required.No operator response required.

RM7440 Not enough free storage to start FTPNode xxxxxxxx, please try later

RMS/Spool does not have enough system memory to start this process.

System Action: The FTPNode is not started.

Operator Response: Try to restart the FTPNODE later or restart RMS/Spool with a bigger region size.

RM7441 Is your FTP Server for xxxxxxxx ready to receive?

RMS/Spool is telling the operator to make sure that the system is ready to receive reports.

System Action: Processing continues.

Operator Response: Check with the receiver (normally a PC) to make sure a FTP server is started.

RM7442 FUNC=xxxxxxxx FAILED AT:xxxxxxxx XPCC-RETC/REAS=yy/zz PWR-RC/FDBK=aa/bb.

Power VSE report access failure.

Operator Response: Contact your system administrator.

RM7450 Image load rejected.

An IMAGE load was rejected.

System Action: Processing of this file is terminated, and the printer is drained. Processing continues.

Operator Response: Contact system programming.

RM7451 FORMDEF xx..xx not found.

The FORMDEF specified for this print file does not exist.

System Action: Processing of this file is terminated, and the printer is drained. Processing continues.

Operator Response: Change the FORMDEF to an existing one.

RM7452 PAGEDEF xx..xx not found.

The PAGEDEF specified for this print file does not exist.

System Action: Processing of this file is terminated, and the printer is drained. Processing continues.

Operator Response: Change the PAGEDEF to an existing one.

RM7453 Image delete rejected.

An IMAGE delete was rejected.

System Action: Processing of this file is terminated, and the printer is drained. Processing continues.

Operator Response: Contact system programming.

RM7454 HRESET not found.

The module HRESET does not exist in IMAGELIB.

System Action: Processing of this file is terminated, and the printer is drained. Processing continues.

Operator Response: The module HRESET must be created. See Initialization and customization guide.

RM7455 Font xxxxxxxx not found.

One of the fonts, specified in the CHARS parameter for this file, does not exist.

System Action: Processing of this file is terminated, and the printer is drained. Processing continues.

Operator Response: Change the FONT to an existing one.

RM7456 Font def xxxxxxxx not found.

One of the fontdef modules for a temporary softfont specified in the CHARS parameter for this file, does not exist.

System Action: Processing of this file is terminated, and the printer is drained. Processing continues.

Operator Response: The fontdef module must be added to IMAGELIB.

RM7457 Module HDEVTYPS not found.

The module HDEVTYPS was not found in IMAGELIB.

System Action: Processing of this file is terminated, and the printer is drained. Processing continues.

Operator Response: A HDEVTYPS module must be assembled and linked into IMAGELIB.

RM7458 Msg gt buff, check xxxxxxxx.

A message from a module, which the RMS HP LASERJET support tried to send, was greater than the VTAM buffer, and could not be sent. The message is probably located in the named module.

System Action: Processing of this file is terminated, and the printer is drained. Processing continues.

Operator Response: Either increase the SNABSIZE in the RMS startup parameters, or split the message into smaller messages and assemble and link into IMAGELIB.

RM7470 LOGON rejected for network node xxxxxxxx.

A logon request from network node xxxxxxxx has been rejected because the node name is unknown to RMS.

System Action: The logon request is discarded. Processing continues.

Operator Response: If the node should be made available for RMS, add the node definition to the RMS initialization parameter dataset and restart RMS.

RM7471 LOSTTERM scheduled for network node xxxxxxxx, code=yy.

RMS has been notified by VTAM that contact with network node xxxxxxxx has been lost. VTAM reason code is yy.

System Action: The session with the affected network node is interrupted and terminated. Processing continues.

Operator Response: Reactivate the network node, if applicable.

RM7472 TPEND scheduled, code=xx.

RMS has been notified by VTAM that the entire network is to be halted. VTAM reason code is xx.

System Action: If reason code is 00, the VTAM interface will be stopped when all active sessions have been terminated. If reason code is not 00, all sessions will be interrupted, and the VTAM interface will be stopped immediately.

Operator Response: None.

RM7473 RELREQ scheduled for network node xxxxxxxx.

RMS has been notified by VTAM that another application wants to use network node xxxxxxxx.

System Action: The session with the network node is terminated if this has been allowed in the RMS initialization parameter dataset. Otherwise, this condition is ignored.

Operator Response: None.

RM7474 Recovery scheduled for network node xxxxxxxx.

RMS has been notified by VTAM that the network node xxxxxxxx has requested a transmission recovery sequence.

System Action: The session with the network node is interrupted and terminated.

Operator Response: None.

RM7475 Receive - any RPL with zero RPL user field ignored.

The RMS VTAM network interface has received an RPL with no user field. The RPL is ignored, because RMS cannot relate it to any active session.

System Action: Processing continues.

Operator Response: Contact your systems programming group.

RM7476 NSEXIT scheduled for network node xxxxxxxx, cleanup RU =yyyyyyy

RMS has been notified by VTAM that contact with network node xxxxxxxx has been lost. The contents of the request unit are yyyyyyyy.

System Action: The session with the affected network node is interrupted and terminated. Processing continues.

Operator Response: Reactivate the network node, if applicable.

RM7476 NSEXIT scheduled for node xxxxxxxx, yyyyyyyy RU=zzzzzzzz.

RMS has been notified by VTAM that some network service is requested for node xxxxxxxx. The yyyyyyy field identifies the service requested and may have the value CLEANUP, NSPE or NOTIFY. If RMS decides to ignore the request, then yyyyyyy contains the value CLEANUP. The field zzzzzzzz contains the first 38 bytes of the request unit received from VTAM. See the VTAM Programming manual for more information about NSEXIT exit routines.

System Action: The session or the pending session request with the affected network node is interrupted and terminated. Processing continues.

Operator Response: Reactivate the network node, if applicable.

RM7477 Mainframe xxxxxxxx enabled for compression but DeskTop PC not enabled.

The host (mainframe) defined node (xxxxxxxx) is defined in the RMS parms as a compression supported one (DESKTOPA) but RMSP3 (DESKTOP PC) does not support compression.

System Action: Processing terminates for that node.

Operator Response: Correct the device type or the logmode entry of the printer, and start the printer node.

RM7479 I/O error on xxxxxxxx, desktop=yyyyyyyy, rc=zz

An uncorrectable I/O error has been detected on network node xxxxxxxx. The DeskTop procedure is yyyyyyyy. RC is the DeskTop return code.

System Action: The DeskTop node is interrupted and drained. Processing continues.

Operator Response: Correct any hardware problems and start the DeskTop node.

RM7480 Mainframe xxxxxxxx not enabled for compression but DeskTop PC is enabled.

The host (mainframe) defined node (xxxxxxxx) is not defined in the RMS parms as a compression supported one (i.e. DESKTOPA) but RMSP3 (DESKTOP PC) does support compression.

System Action: Processing terminates for that node.

Operator Response: Correct the node parameter statements and restart RMS or install compression support in RMS on the host.

RM7481 ESF Node xxxxxxxx enabled for compression.

Self explanatory.

RM7490 Network interface started.

The RMS VTAM network interface has been successfully started, and logon requests can be processed.

System Action: Processing continues.

Operator Response: None.

RM7491 Network interface stopped.

The RMS/VTAM network interface has been successfully stopped, and logon requests can no longer be processed.

System Action: Processing continues.

Operator Response: None.

Chap_09(v11r35m1).fm: Revised Sunday, November 24, 2013

RM7498 Unexpected inbound RPL received from xxxxxxxx.

The RMS VTAM network interface has received an RPL with no user field. The RPL is ignored because RMS cannot relate it to any active session.

System Action: Processing continues.

Operator Response: Contact your systems programming group.

RM7499 * VTAM error on xxxxxxxx,st,ttttttt,rc,f2,f3,ssei,usei.

A VTAM error has been detected on network node xxxxxxxx. The VTAM request was st,tttttt. "rc" was the VTAM return code; "f2" was the VTAM feedback code 2; "f3" was the VTAM feedback code 3; "ssei" was the VTAM system sense information; and "usei" was the VTAM user sense information.

System Action: Depends on request type.

Operator Response: Depends on request type. See IBM 3270 Component Description (*GA23-0044*) and ACF/VTAM Macro Language Reference for additional information.

RM7500 Logic error in converter function.

A SUBSYS request has been passed to a subsystem support converter function, and a logic error was detected during modification of the internal text.

System Action: The SUBSYS request is not processed.

Operator Response: Contact your systems department.

RM7501 No storage available in subpool 230.

The SUBSYS request could not be processed because no storage was available in subpool 230.

System Action: The SUBSYS request is rejected.

Operator Response: Contact your systems department.

RM7502 Invalid output class.

The DD SUBSYS subparameter number 1 or the ESFALLOC CLASS parameter is not valid. Valid output classes are A-Z,0-9, or national characters.

System Action: The allocation request is rejected.

Operator Response: Correct the subparameter in the SUBSYS parameter or the ESFALLOC operand.

RM7503 Invalid sequence number.

A sequence number was assumed to be specified in the first subparameter of the SUBSYS request or as a subparameter of the SEQNR keyword parameter of ESFALLOC, but the format was invalid.

System Action: The allocation request is rejected with a JCL error.

Operator Response: Correct the sequence number.

RM7504 Invalid forms number.

The SUBSYS subparameter number 4 or the ESFALLOC parameter FORM specifying the forms number is invalid. The value must be expressed as alphanumeric or national characters.

System Action: The allocation request is rejected with a JCL error.

Operator Response: Correct the forms specification.

RM7505 Invalid owner name.

The SUBSYS subparameter number 2 or the ESFALLOC OWNER parameter specifying the owner name is invalid. Only alphanumeric or national characters are valid.

System Action: The allocation request is rejected with a JCL error.

Operator Response: Correct the owner name and rerun the job.

RM7506 Missing or invalid destination name.

A SUBSYS/ESFALLOC request was passed to RMS, but no destination was specified, in either the SUBSYS subparameter number 3 or the DEST parameter on the DD statement (*JCL allocation only*), or the specified destination is invalid (*JCL allocation and ESFALLOC requests*).

System Action: The allocation request is rejected with a JCL error.

Operator Response: Correct the DD statement to specify a valid destination name, either in the SUBSYS subparameter or in the DEST parameter.

RM7507 Invalid retain subparameter.

RM7508 Invalid system affinity name.

The system affinity name in the SUBSYS subparameter number 5 or in the ESFALLOC AFFINITY operand is invalid. Valid characters are alphanumeric or national characters.

System Action: The allocation request is rejected with a JCL error.

Operator Response: Correct the system affinity name and rerun the job.

RM7509 Only 12 SUBSYS subparameters are supported.

The SUBSYS request specifies more than 12 subparameters.

System Action: The SUBSYS request is rejected with a JCL error.

Operator Response: Remove the extra subparameters and rerun the job.

RM7510 Allocation failed - subsystem not active.

During allocation processing of the SUBSYS request(s) RMS detected that the RMS subsystem was not active.

System Action: The SUBSYS request(s) were rejected with a JCL error.

Operator Response: Start the RMS subsystem and rerun the job.

RM7511 Allocation failed - rejected by interface exit.

The SUBSYS/ESFALLOC request was rejected by the interface exit.

System Action: The allocation request is rejected with a JCL error.

Operator Response: Contact the systems department for help.

RM7512 Allocation failed - unable to locate the interface exit.

During allocation processing, the allocation function was unable to locate the interface exit in LPA/MLPA.

System Action: The SUBSYS request(s) were the rejected with a JCL error.

Operator Response: Make sure that the RMS subsystem is properly started, then rerun the job. If problems still exist, contact your systems department.

RM7513 Allocation request cancelled by system operator - subsystem not active.

RMS was not active at allocation time. The system operator was asked to start RMS but cancelled this job instead.

System Action: The SUBSYS request was rejected with a JCL error.

Operator Response: Make sure the RMS subsystem is started; then rerun the job.

RM7514 User field exceeds 4 characters.

The SUBSYS subparameter specifying the user field cannot contain more than 4 characters.

System Action: The SUBSYS request is rejected with a JCL error.

Operator Response: Correct the user field and rerun the job.

RM7515 Invalid hold subparameter.

The SUBSYS subparameter number 8 must be omitted or specified as HOLD.

System Action: The SUBSYS request is rejected with a JCL error.

Operator Response: Correct the subparameter field and rerun the job.

RM7516 Invalid delete subparameter.

The SUBSYS subparameter number 9 must be omitted or specified as DELETE.

System Action: The SUBSYS request is rejected with a JCL error.

Operator Response: Correct the subparameter field and rerun the job.

RM7517 Invalid FCB subparameter.

The SUBSYS subparameter number 10 or the ESFALLOC FCB parameter, specifying the FCB name, is invalid.

System Action: The allocation request is rejected with a JCL error.

Operator Response: Correct the subparameter field and rerun the job.

RM7518 Invalid copies subparameter.

The SUBSYS subparameter number 11 or the ESFALLOC COPIES parameter, specifying the copy count, is invalid. The parameter must be specified as 1 to 3 numeric characters in the range 1 to 255.

System Action: The allocation request is rejected with a JCL error.

Operator Response: Correct the subparameter field and rerun the job.

RM7519 Invalid OUTLIM subparameter.

The SUBSYS subparameter number 12 or the ESFALLOC OUTLIM parameter, specifying the output limit, is invalid. The parameter must be specified as 1 to 8 numeric characters in the range 1 to 16777215.

System Action: The allocation request is rejected with a JCL error.

Operator Response: Correct the subparameter field and rerun the job.

RM7520 Allocation failed - return code ‘xx’ from RMS open/close.

The SUBSYS allocation request could not be processed, because the RMS file to be read could not be properly opened or closed.

System Action: The allocation request is rejected with a JCL error. “Xx” is replaced by the error code returned from the ESFOPEN or ESFCLOS routine.

Operator Response: Interpret the return code from the ESFOPEN/ESFCLOS routine and take appropriate action.

RM7521 Job jjjjjjjj unable to allocate file ffffffff -subsystem ssss not active, reply wait or cancel.

Job jjjjjjjj requests allocation of file ffffffff to subsystem ssss, but subsystem ssss is not active. When the reply is CANCEL, the job is terminated with a JCL error. When the reply is WAIT, the subsystem checks every minute for 5 minutes for subsystem activation. When the subsystem is activated, allocation processing continues.This is repeated 5 times before the job is terminated with a JCL error.

System Action: The allocation function enters wait state until the operator enters the reply.

Operator Response: Reply CANCEL if subsystem ssss cannot be started within 25 minutes, otherwise reply WAIT.

RM7522 File ffffffff redirected to subsystem ssss by subsystem interface exit.

The interface exit has redirected the file ffffffff to be allocated to subsystem ssss instead of the one requested in the SUBSYS parameter.

System Action: Processing continues.

Operator Response: None.

RM7523 Error in SJF processing.

An error was detected during processing of an OUTPUT JCL reference.

System Action: The allocation request is rejected with a JCL error.

Operator Response: Specify a valid OUTPUT reference and rerun the job.

RM7524 DYNALLOC return code is xxxx-xxxx.

The subsystem dataset allocation request could not be processed successfully. xxxx-xxxx are the S99ERROR and S99INFO codes from the DYNALLOC request block. A description of these codes can be found in the OS manual SPL: JOB MANAGEMENT.

System Action: Processing is terminated.

Operator Response: Interpret the codes returned and take appropriate action.

RM7525 DDNAME invalid.

An ESFALLOC command was issued, but the first positional operand, specifying the ddname to be assigned to the dataset, is not valid.

System Action: The allocation request is not processed.

Operator Response: Correct the parameter and retry the request.

RM7526 DDNAME in use.

An ESFALLOC command was issued, but the first positional operand, specifying the ddname to be assigned, already has an allocation associated with it.

System Action: The allocation request is not processed.

Operator Response: Free the current allocation (*use the FREE FILE*(ddname) command), or select another name for the file.

RM7527 Cannot issue STAX macro.

The ESFALLOC command processor could not issue the STAX macro to catch later attention interrupts (PA1).

System Action: The allocation request is not processed.

Operator Response: Consult your systems programming group.

RM7528 Insufficient space available for parse.

The PARSE service routines did not complete successfully because of a no storage condition.

System Action: The allocation request is not processed.

Operator Response: Increase the SIZE operand on your LOGON request or contact your systems programming group.

RM7529 Programming error in ESFALLOC.

The PARSE service routines returned a completion code indicating a programming error in ESFALLOC.

System Action: The allocation request is not processed.

Operator Response: Save the issued calling sequence and contact your system programming group.

RM7530 Not a subsystem dataset - xxxxxxxx.

The file named in the LIKE operand of ESFALLOC is not a RMS subsystem dataset.

System Action: The allocation request is not processed.

Operator Response: Omit the LIKE operand or specify the ddname of a RMS subsystem dataset allocated either by ESFALLOC or allocated in your LOGON procedure.

RM7531 No allocation found - xxxxxxxx.

The file named in the LIKE operand of ESFALLOC is not allocated; i.e., a DD statement is missing.

System Action: The allocation request is not processed.

Operator Response: Omit the LIKE operand, or specify the ddname of a RMS subsystem dataset allocated either by ESFALLOC or allocated in your LOGON procedure.

RM7532 Subsystem does not exist - xxxx.

The subsystem name specified in the SUBSYS parameter of ESFALLOC is not an active RMS subsystem.

System Action: The allocation request is not processed.

Operator Response: Specify an active RMS subsystem name in the SUBSYS operand or allow the value to default.

RM7533 No RMS subsystem active.

ESFALLOC found no active RMS subsystem to process the allocation request.

System Action: The allocation request is not processed.

Operator Response: Contact the person within your organization responsible for RMS.

RM7534 Reference to a non-RMS subsystem - xxxx.

The subsystem which you have named in the SUBSYS operand of ESFALLOC is not a RMS subsystem.

System Action: The allocation request is not processed.

Operator Response: Specify the name of a RMS subsystem or allow the parameter to default.

RM7535 Subsystem is not available - xxxx.

The RMS subsystem specified in the SUBSYS operand of ESFALLOC is not started or is terminating, or the subsystem interface has been halted.

System Action: The allocation request is not processed.

Operator Response: Select another RMS subsystem or allow the subsystem name to default.

RM7536 Conflicting parameters.

It was not possible to determine from the combination of specified parameters of ESFALLOC if an input dataset or an output dataset was to be allocated. This will be the case if you, for example, specify CLASS together with SEQNR. CLASS assigns an output attribute, and SEQNR specifies the number of an existing file.

System Action: The allocation request is not processed.

Operator Response: Specify parameters applicable to the type of dataset you require allocated.

RM7537 Invalid record format specification.

In ESFALLOC, an output dataset must have a record format of F, FA, FM, FB, FBA, FBM, V, VA, VM, VB, VBA or VBM.

RM7538 Insufficient work area provided.

This message results when ESFALLOC is called and the work area provided is too small. The caller must provide a work area of at least 1,048 bytes. The area must be allocated on a double word boundary and the first word must contain the length of the area.

RM7539 No filename specified.

FILENAME is a required positional parameter when ESFALLOC is called. It is the functional equivalent to the DDNAME field in the JCL statement. When using ESFALLOC as a call-routine, FILENAME may contain CL8'********', and if so, ESFALLOC will return the DDNAME dynamically assigned to the dataset in this area.

RM7540 Permanent close failed for file fffffff - subsystem ssss not active.

During SUBSYS unallocation of the file ffffffff, a permanent close is performed for the file. This permanent close could not be done because subsystem ssss was not active.

System Action: Processing terminates.

Operator Response: Restart the RMS subsystem.

RM7541 Permanent close failed for file fffffff - no storage in subpool 230.

During unallocation a permanent close is to be performed for the file ffffffff. To do this, the unallocation function needs storage for a parameter list, but this storage could not be obtained.

System Action: Processing terminates; no permanent close is effected.

Operator Response: Contact your systems department.

RM7543 Permanent close failed for file fffffff - return code 'cc' from RMS.

During unallocation a permanent close is to be performed for the file using the normal RMS close interface. For some reason RMS was unable to close the file and returned a return code cc. See Programmer's Guide for an explanation of the return code.

System Action: Processing terminates; the file is not permanently closed.

Operator Response: Contact the systems department for help.

RM7545 Permanent close failed for file fffffff - rejected by interface exit.

During unallocation a permanent close is to be performed, but the interface exit rejected the close request.

System Action: Processing terminates; no close is done.

Operator Response: Contact your systems department for help.

RM7546 Permanent close failed for file fffffff - reopen failed RC 'cc' from RMS open.

During unallocation a permanent close is to be performed, and if the file has been temporary closed, it is necessary to reopen the file before the permanent close can be done. For some reason RMS could not reopen the file and returned return code cc to describe the error. See Programmer's Guide for an explanation of the return code.

System Action: Processing terminates, the file remains temporarily closed.

Operator Response: Contact your systems department.

RM7550 Open failed for file ffffffff - subsystem ssss not active.

File ffffffff could not be opened because subsystem ssss was not active.

System Action: Processing terminates.

Operator Response: Start subsystem ssss and rerun the job.

RM7551 Open failed for file ffffffff - no storage in subpool 230.

No storage was available to build a RMS open parmlist for this SUBSYS request.

System Action: Processing terminates.

Operator Response: Contact your systems department.

RM7553 Open failed for file fffffff - return code 'cc' from RMS open.

RMS was unable to open the file for this subsystem request. See Programmer's Guide for explanation of return codes.

System Action: Processing terminates.

Operator Response: Contact your systems department.

RM7554 Open error on file fffffff - reason code=x.

An error was detected during open processing of file ffffffff. The reason code will explain the error:

__ Code Explanation
__ 0 - File already open.
__ 1 - File allocated for output, but file opened file for input.
__ 2 - Access method not sequential.
__ 3 - Invalid record length.
__ 5 - RECFM not fixed or variable.
__ 6 - Return code from user interface exit not 0 or 4.
__ 7 - Allocated as input file, but opened as output file.

System Action: Processing terminates.

Operator Response: Correct the problem or contact your systems department for help.

RM7555 Open failed for file fffffff - rejected by interface exit.

The interface exit rejected the open request for file ffffffff.

System Action: Processing terminates.

Operator Response: Contact your systems department.

RM7556 Open failed for file xxxxxxxx - error in SJF processing.

A non-zero return code was received from an SJFREQ macro during the processing of an OUTPUT JCL statement reference.

System Action: Processing terminates.

Operator Response: Check that the OUTPUT reference is valid.

RM7560 Temporary close failed for file fffffff - subsystem ssss not active.

During close processing of a SUBSYS file, only a temporary close is performed for the file. This temporary close could not be done because subsystem ssss was not active.

System Action: Processing terminates.

Operator Response: Restart the RMS subsystem.

RM7563 Temporary close failed for file fffffff - return code ‘cc’ from RMS close.

During close of a SUBSYS request, only a temporary close is performed. For some reason RMS was unable to close the file and returned a return code cc. See Programmer’s Guide for an explanation to the return code.

System Action: Processing terminates, the file is not temporarily closed.

Operator Response: Contact the systems department for help.

RM7565 Temporary close failed for file fffffff - rejected by interface exit.

The interface exit rejected the temporary close request.

System Action: Processing terminates, no temporary close is performed.

Operator Response: Contact your systems department for help.

RM7580 Start command rejected, interface already active.

A start SUBSYS interface command has been rejected because the interface is already active.

System Action: Processing continues.

Operator Response: None.

RM7581 SUBSYS interface started.

A start SUBSYS interface command has been successfully completed.

System Action: The SUBSYS parameter interface is started.

Operator Response: None.

RM7582 Halt command rejected, interface already halted.

A halt SUBSYS interface command has been rejected because the interface is already halted.

System Action: Processing continues.

Operator Response: None.

RM7583 SUBSYS interface halted.

A halt SUBSYS interface command has been successfully completed.

System Action: The SUBSYS parameter interface is stopped.
Operator Response: None.

RM7590 Function not supported by RMS-SVC-dump scheduled-SVC dump not scheduled.

The subsystem support module has received a subsystem request not supported by RMS. If an SVC DUMP was taken, register 10 points to the SSOB requesting the function not supported. If no SVC DUMP was taken, the reason is that no storage was available for work areas.

System Action: Processing continues and the request is rejected.
Operator Response: Contact your systems department.

RM7600 nodename FSIREQ order failed, RC=xxxx, ORDER=xxxxxxxxxxxx.

The FSS interface has received a non-zero return code from an FSIREQ order. The return code is documented in the PSF, Diagnosis Guide and Reference for MVS manual.

System Action: Processing continues.
Operator Response: None.

RM7601 nodename FSIREQ order failed, rc=xxxx, ORDER=xxxxxxxxxxxx.

The FSS interface has received a non-zero return code from an FSIREQ order. The return code is documented in the PSF, Diagnosis Guide and Reference for MVS manual.

System Action: Processing continues.
Operator Response: None.

RM7602 nodename xxxxxxxx failed, rc=xx, file=xxxxxxxx.

A call to one of the RMS interface routines ESFOPEN, ESFWRIT, ESFCLOS, ESFNETC or ESFNETC received a non blank status code. The return code is documented in the chapter: “Status Codes from the Call Interface.”

System Action: Processing continues.
Operator Response: Contact the system programming group.

RM7603 nodename incorrect DSID specified in FSIREQ GETREC.

An FSIREQ GETREC request with a DSID that does not match the current open RMS file was received.

System Action: The call is rejected with an indication of a logic error.
Operator Response: Contact the system programming group.

RM7604 nodename GETREC called before GETDS.

A FSIREQ GETREC request was received before any GETDS was received.

System Action: The call is rejected.
Operator Response: Contact the system programming group.

RM7605 nodename non-zero response received, RETC=xx’.

A FSIREQ SEND received a non-zero response code.

System Action: Processing continues.
Operator Response: Contact the system programming group.

RM7606 ESTAE create failed for ESFORDER subtask.

The ESFORDER subtask received a non-zero return code from when issuing the ESTAE macro.

System Action: Processing continues without an error recovery environment.

Operator Response: Contact the system programming group.

RM7607 nodename unsupported FSIREQ invoked.

An unsupported FSIREQ was invoked.

System Action: Processing continues.

Operator Response: Contact the system programming group.

RM7608 nodename FSIREQ received in wrong address space.

A call to one of the RMS FSS interfaces was issued in an address space that did not match the current address space. This is probably due to an abnormal termination of the RMS address space.

System Action: An S0C1 abend is provoked.

Operator Response: Contact the system programming group.

RM7609 ESFORDER subtask abended.

The ESFORDER subtask abended.

System Action: Processing continues, but it is no longer possible to issue orders to the FSS.

Operator Response: Contact the system programming group.

RM7700 ESTAE create failed for file-transfer subtask.

The file transfer subtask was unable to establish an ESTAE environment.

System Action: RMS will terminate initialization.

Operator Response: Try to restart RMS, or contact the systems programming group for help.

RM7701 File-transfer subtask abended.

A disastrous error has occurred in the file transfer subtask, and the ESTAE exit routine has received control.

System Action: The file transfer interface is marked inactive, and can only be started if the entire RMS system is restarted. Processing continues with the interface halted.

Operator Response: Restart RMS as soon as possible. Save the dump output.

RM7702 File-transfer initiated for file xxxxx destination yyyyyyyy.

The automatic file transfer service routine has allocated file xxxxx for transfer to JES2/JES3 destination yyyyyyyy.

System Action: The ESF->JES file transfer interface will initiate transfer of the allocated spool file.

Operator Response: None.

RM7703 File xxxxxx Destination yyyyyyyy successfully transferred.

The ESF->JES file transfer interface has successfully completed the transfer of file xxxxxx to JES2/JES3 destination yyyyyyyy.

System Action: The file is marked as printed, and processing continues.

Operator Response: None.

RM7704 Dynamic allocation failed, RC=xx, error/info code=yyyyyyyy.

The ESF->JES file transfer interface was unable to allocate a spinoff SYSOUT file. Return code was xx, and error/info code was yyyyyyyy.

System Action: The ESF->JES file transfer interface is abended and halted.

Operator Response: Inform your system programming group. The ESF->JES interface can be restarted with the "SX,ESFTOJES" command when the cause of the dynamic allocation failure has been corrected.

RM7705 Open failed for SYSOUT file, interface terminated.

The ESF->JES file transfer interface was unable to open the JES2/JES3 SYSOUT file.

System Action: The ESF->JES file transfer interface is abended and halted.

Operator Response: Inform your system programming group. The ESF->JES interface can be restarted with the "SX,ESFTOJES" command when the cause of the open SYSOUT failure has been corrected.

RM7706 File-transfer subtask waiting for work.

The file transfer service processor found that no more files were awaiting transfer.

System Action: The file transfer interface enters the wait state.

Operator Response: None.

RM7707 Spool I/O error.

During ESF->JES file transfer, an incomplete spool block chain was detected. This message is only written to the JES2/JES3 sysout file.

System Action: The ESF->JES file transfer interface terminates the JES2/JES3 sysout file, and the RMS file is marked as printed.

Operator Response: None.

RM7708 File xxxxxx queued for transfer to zzzz destination yyyyyyyy.

File xxxxxx has been queued for automatic file transfer to destination yyyyyyyy in the JES2/JES3 system zzzz.

System Action: The ESF->JES file transfer interface will perform the transfer.

Operator Response: None.

RM7709 Subsystem xxxx remote destination validation check RC=yy.

A subsystem remote destination validation check request to the primary subsystem xxxx has been rejected with return code yy.

System Action: Processing continues.

Operator Response: Inform your system programming group. The subsystem request return codes are documented in the MVS Debugging Handbook under the description of the SSOB data area.

RM7720 ESTAE create failed for SMF Writer subtask.

During initialization the SMF writer subtask was unable to establish an ESTAE recovery environment.

System Action: Initialization is terminated.

Operator Response: Contact the systems programming group for help.

RM7721 SMF writer subtask abended, SMF data lost.

The SMF writer subtask has abended. SMF data will be lost.

System Action: Processing continues without SMF recording.

Operator Response: Restart the entire RMS system as soon as possible. Save the dump output.

RM7722 SMF data lost, code xx, recording suspended.

A non-zero return code xx has been received from the SMF writer interface. SMF data will be lost.

System Action: SMF recording is suspended until the SMF writer interface is operational again.

Operator Response: Check that normal MVS SMF recording is operational.

RM7723 SMF recording resumed.

The SMF writer interface has switched from the not operational to the operational state.

System Action: SMF recording is resumed.

Operator Response: None.

RM7725 ESTAE create failed for Log Writer Subtask.

he RMS log writer subtask was unable to establish an ESTAE recovery environment.

System Action: Initialization is terminated.

Operator Response: Contact the systems programming group for help.

RM7726 Log Writer Subtask abended, log data lost.

The log writer subtask has abended.

System Action: Logging is terminated.

Operator Response: Restart RMS as soon as possible if logging is required. Save the dump output.

RM7727 Log file allocation failed, code = xx.

The log writer subtask was unable to allocate a spin off SYSOUT file.

System Action: Logging is terminated.

Operator Response: Restart RMS as soon as possible if logging is required.

RM7728 Open failed for log file data set.

The log writer subtask was unable to open the allocated spinoff SYSOUT file.

System Action: Logging is terminated.

Operator Response: Restart RMS as soon as possible if logging is required.

RM7729 Log file closed.

RM7740 Unable to establish ESTAE environment for image loader subtask.

The image loader subtask was unable to establish an ESTAE recovery environment.

System Action: Initialization is terminated.

Operator Response: Contact the systems programming group for help.

RM7741 Required volume to locate SYS1.IMAGELIB not mounted.

Either the volume containing SYS1.IMAGELIB is not mounted, or a required catalog volume was not mounted.

System Action: Initialization is terminated.

Operator Response: Mount the required volume and restart RMS.

RM7742 SYS1.IMAGELIB not cataloged or not found on volume.

Either SYS1.IMAGELIB does not exist on the volume to which the catalog points, or it is not cataloged.

System Action: Initialization is terminated.

Operator Response: Contact the systems programming group for help.

RM7743 Read error on catalog or VTOC while attempting to locate SYS1.IMAGELIB

An error occurred in reading the catalog or VTOC.

System Action: Initialization is terminated.

Operator Response: Contact the systems programming group for help.

RM7744 Image Loader Subtask abended, all pending requests cancelled.

The image loader subtask has abended.

System Action: All pending image requests are cancelled, and no new requests will be accepted.

Operator Response: Restart RMS as soon as possible. Save the dump.

RM7760 JES->ESF interface - halt error, RC=yy, SSOBRETN=xx.

During halt of the JES->ESF interface, a subsystem request error occurred. The return codes xx and yy are documented in the MVS Debugging Handbook under the SSOB and SSSO data areas, respectively.

System Action: The ESF->JES interface is halted.

Operator Response: Inform your system programming group.

RM7761 JES->ESF interface - subsystem - request error, RC=yy, SSOBRETN=xx.

A subsystem request error occurred in the JES->ESF interface. The return codes xx and yy are documented in the MVS Debugging Handbook under the SSOB and SSSO data areas, respectively.

System Action: The ESF->JES interface is abended and halted.

Operator Response: Inform your systems programming group.

RM7762 JES->ESF interface error, please hold job 9999 and reply ‘C’ to continue or ‘T’ to terminate.

An error occurred in the JES->ESF interface during allocate, open, read, or unallocate of a JES2/JES3 SYSOUT file belonging to job 9999.

System Action: The ESF->JES interface enters wait state until the operator enters a reply to the outstanding WTOR message.

Operator Response: Place job 9999 in hold status, and reply “C” to let the JES->ESF interface continue, or reply “T” to halt the JES->ESF interface.

RM7763 JES->ESF interface- dynamic allocation failed, RC=xx, error/info code=yyyyyyyy.

The JES->ESF interface was unable to allocate the JES2/JES3 SYSOUT file. An explanation of the return code and the error/info code can be found in either the MVS Job Management manual or the MVS/XA System Macros and Facilities manual.

System Action: The ESF->JES interface issues the WTOR message RM7762.

Operator Response: Inform your systems programming group.

RM7764 JES->ESF interface - could not open the DSNAME=xxxxxxxxxx.

The JES->ESF interface was unable to open the JES2/JES3 SYSOUT file xxxxxxxxxx.

System Action: The ESF->JES interface issues the WTOR message RM7762.

Operator Response: Inform your systems programming group.

RM7765 JES->ESF interface - RMS file yyyyyy failed, RC=xx, job 9999 jobnamex, file 99999.

The JES->ESF interface detected a RMS error during transfer of a JES2/JES3 SYSOUT file belonging to job 9999/jobnamex. The failed RMS request yyyyyy may be "OPEN," "WRITE," "CLOSE," or "ROUTE." An explanation of the failed request status code xx can be found in the section "Call Status Codes".

System Action: The ESF->JES interface is abended and halted, except if it is "OPEN" with RC=22.

Operator Response: Inform your systems programming group.

RM7766 Job 9999 jobnamex transferred from jesx to rmsx destination xxxxxxxx file 999999.

One or more JES2/JES3 SYSOUT files from job 9999/jobnamex was successfully transferred from the primary subsystem jesx to RMS rmsx, where it has been saved in file 999999 with the destination xxxxxxxx.

System Action: The resulting RMS file is now ready to be printed.

Operator Response: None.

RM7767 JES->ESF interface - I/O error- *error message*.

The JES->ESF interface detected an I/O error during read of a JES2/JES3 SYSOUT file. The ****error message**** information is the error description provided by the MVS SYNADAF routine. An EOF was not present in the JES/SPOOL file. The data is valid up to this error, however, it may be incomplete.

System Action: The resulting RMS file is now ready to be printed.

Operator Response: None.

RM7768 I/O error on jesx spool, rest of sysout dataset ignored.

The JES->ESF interface detected an I/O error during read of a SYSOUT file from the primary subsystem JESx.

System Action: The ESF->JES interface issues the WTOR message RM7762.

Operator Response: Inform your systems programming group.

RM7769 JES->I/O error on jesx spool. I/O terminated before EOF.

The JES->ESF interface detected an I/O error during read of a JES2/JES3 SYSOUT file. An EOF was not present in the JES/SPOOL file. The data is valid up to this error, however, it may be incomplete.

System Action: The resulting RMS file is now ready to be printed.

Operator Response: None.

RM7780 JES->ESF interface- error in identify- R15=xx.

The JES->ESF interface has gotten a non-zero return code from XPCC during an identify call to VSE/SP.

System Action: The ESF->JES interface is halted.

Operator Response: Inform your systems programming group.

Chap_09(v11r35m1).fm: Revised Sunday, November 24, 2013

RM7781 JES->ESF interface- error in connect- R15=xx.

The JES->ESF interface has got a non-zero return code from XPCC during connect call to VSE/SP

System Action: The ESF->JES interface is halted.

Operator Response: Inform your systems programming group.

RM7782 JES->ESF interface- waiting to connect to VSE/POWER XPCC interface.

The JES->ESF interface has tried to connect to VSE/POWER but connection has not been established after 2 minutes.

System Action: The ESF->JES interface is halted.

Operator Response: Inform your systems programming group.

RM7783 JES->ESF interface- error in terminate R15=xx.

The JES->ESF interface has gotten a non-zero return code from xpcc during terminal call to VSE/SP.

System Action: The ESF->JES interface is halted.

Operator Response: Inform your systems programming group.

RM7784 JES->ESF interface- RC=xx FB=xx RTN=xx.

The JES->ESF interface has gotten a non-zero return code from POWER, where RC is return code, FB is feedback code, and RTN is an ESFXFER routine number between 01 - 08.

01 -> get job output from the spool
02 -> get job output from the spool
03 -> delete the job list from LST q
04 -> quit get spool after RMS
05 -> hold job in LST queue after CM
06 -> lookup XMT queue when TNODE=su
07 -> move job output from XTM to LS
08 -> quit get spool after EOF

System Action: The ESF->JES interface is halted

Operator Response: Inform your systems programming group.

RM7785 JES->ESF interface- error in sender.

The JES->ESF interface has gotten a non-zero return code from POWER during send, replay call. This message comes between RM7787 and RM7784.

System Action: The ESF->JES interface is halted.

Operator Response: Inform your systems programming group.

RM7786 JES->ESF interface- VSE/POWER has been terminated.

The JES->ESF interface has detected that VSE/POWER was terminated abnormally.

System Action: The ESF->JES interface is halted.

Operator Response: Inform your systems programming group.

RM7787 JES->ESF interface- VSE RC=xx.

This message displays the return code from VSE/SP XPCC interface and will be followed by more messages.

RM7788 JES->ESF interface- error in disconnect R15=xx.

The JES->ESF interface has gotten a non-zero return code from XPCC during disconnect call to VSE/SP.

System Action: The ESF->JES interface is halted.

Operator Response: Inform your systems programming group.

RM7789 JES->ESF interface- VSE/POWER termination in progress.

The JES->ESF interface has detected that VSE/POWER has termination in progress.

System Action: The ESF->JES interface is halted.

Operator Response: Inform your systems programming group.

RM7790 JES->ESF interface- error in SENDR (wait).

The JES->ESF interface has gotten a non zero return code from POWER during send, replay call, this message comes between RM7791 and RM7784.

System Action: The ESF->JES interface is halted.

Operator Response: Inform your systems programming group.

RM7791 JES->ESF interface- VSE REAS=xx.

This message displays the reason code from the VSE/SP XPCC interface and will be followed by more messages.

RM7792 JOB 99999 jobnamex has been held.

This message comes after RM7765 to inform the operator that the job is kept held in the POWER LST queue.

System Action: The ESF->JES interface is halted.

Operator Response: Inform your systems programming group.

RM7800 OK

This is a confirmation message which indicates that a command has been successfully queued for execution.

System Action: Processing continues.

Operator Response: None.

RM7801 Shutdown command accepted.

A SHUTDOWN command has been successfully processed, and the system termination sequence is in progress.

System Action: Processing continues until the network interface and all opened files have been closed, at which time RMS terminates.

Operator Response: None.

RM7802 Network command rejected, no network defined.

A start net, stop net, or reset net command has been entered but is rejected because no network nodes have been defined to RMS.

System Action: The command is discarded, and processing continues.

Operator Response: None.

RM7803 Network command rejected, interface busy.

A start net, stop net, or reset net command has been rejected because the network interface is busy processing another start, stop, or reset command.

System Action: The command is discarded, and processing continues.
Operator Response: Enter the command again a bit later.

RM7804 Start command rejected, interface already active.

A start net command has been rejected because the network interface is already started.
System Action: The command is discarded, and processing continues.
Operator Response: None.

RM7805 Stop command rejected, interface already inactive.

A stop net command has been rejected because the network interface is already stopped.
System Action: The command is discarded, and processing continues.
Operator Response: None.

RM7806 Network halt already in process.

A stop net command has been rejected because the network interface already is in the process of being stopped.
System Action: The command is discarded, and processing continues.
Operator Response: None.

RM7807 Reset command rejected, interface already inactive.

A reset net command has been rejected because the network interface is already stopped.
System Action: The command is discarded, and processing continues.
Operator Response: None.

RM7808 Checkpoint request completed.

An explicit checkpoint request (*CHKPT command*) has been successfully completed.
System Action: Processing continues.
Operator Response: None.

RM7810 Undefined file destination.

A command has been entered which specified a file destination which was neither defined in RMS or JES2/JES3.
System Action: The command is discarded, and processing continues.
Operator Response: Re-enter the command with a valid node name.

RM7811 Invalid node name.

A network command has been entered which specifies an invalid node name.
System Action: The command is discarded, and processing continues.
Operator Response: Re-enter the command with a valid node name.

RM7812 Invalid file sequence number.

A file control command has been entered which contains an invalid file sequence number or an invalid file sequence range.
System Action: Processing continues.
Operator Response: Re-enter the command with a valid file sequence number or file sequence range.

RM7813 File not found.

A file control command has been entered which specifies a nonexisting file.

System Action: Processing continues.
Operator Response: Re-enter the command with a valid file sequence number.

RM7814 File not temporarily closed.

A close file command has been entered which specifies a file which was not in the temporarily closed state.

System Action: Processing continues.
Operator Response: Re-enter the command with a valid file sequence number.

RM7815 File permanently closed.

A close file command has been successfully completed, and the requested file is now permanently closed.

System Action: Processing continues.
Operator Response: None.

RM7816 xxxxx outstanding I/O requests.

This message is displayed in response to a display status (DS) command. Xxxxx specifies the current number of incomplete DASD I/O requests in the system.

System Action: Processing continues.
Operator Response: None.

RM7817 Open file count: aaaaa/bbbbb OUTPUT, ccccc/ddddd input.

This message is displayed in response to a display status (DS) command. Aaaaa specifies the total number of files currently opened for output processing; bbbbb specifies the current number of files opened for output processing by this system; ccccc specifies the total number of files currently opened for input processing, and ddddd specifies the current number of files opened for input processing by this system.

System Action: Processing continues.
Operator Response: None.

RM7818 xxx % Spool utilization.

This message is displayed in response to a display status (DS) command or as an information message from the RMS checkpoint processor when the spool utilization has passed the value specified by the TGWARN initialization parameter. Xxx specifies the current percentage of spool space in use.

System Action: Processing continues.
Operator Response: None.

RM7819 *** System in shutdown sequence ***.

This message is displayed in response to a display status request if the system is in the process of being terminated.

System Action: Processing continues.
Operator Response: None.

RM7820 xxxxxx File queue elements in use - total yyyyyy.

This message is displayed in response to a display status (DS) command. Xxxxxx specifies the number of files currently in the system, and yyyyyy specifies the maximum number of concurrent files allowed.

System Action: Processing continues.

Operator Response: None.

RM7821 xxxxx active network sessions.

This message is displayed in response to a display status (DS) command. Xxxxx specifies the current number of active network sessions.

System Action: Processing continues.

Operator Response: None.

RM7822 VTAM ACB closed.

This message is displayed in response to a display status (DS) command when the network interface is stopped.

System Action: Processing continues.

Operator Response: None.

RM7823 VTAM ACB open- logons enabled.

This message is displayed in response to a display status (DS) command when the network interface is started, and logon requests can be processed.

System Action: Processing continues.

Operator Response: None.

RM7824 VTAM ACB open- xxxx halt in process.

This message is displayed in response to a display status (DS) command when the network interface is in the process of being stopped. No logon requests can be processed. Xxxx is SLOW if a stop net command or a VTAM “Z NET” command has been entered. Xxxx is FAST if a reset net or a VTAM “Z NET,QUICK” command has been entered or if the VTAM system is abending.

System Action: Processing continues.

Operator Response: None.

RM7825 MSG from xxxxxxxx: - - - text - - -.

A message has been received from the network session xxxxxxxx.

System Action: Processing continues.

Operator Response: None.

RM7826 WRITELOG rejected, logging not active.

A WRITELOG command has been rejected because the log writer task is not active.

System Action: Processing continues.

Operator Response: If logging is required, then restart the RMS system with the LOG option.

RM7827 WRITELOG rejected, service request pending.

A WRITELOG command has been rejected because the log writer task is busy processing another logging request.

System Action: The command is discarded, and processing continues.

Operator Response: Try to enter the command a bit later.

RM7828 FILE xxxxxx OWNER=oooooooo DEST=dddddddd sssss.

This message is displayed in response to a display active (DA) command. File xxxxxx (*with owner name oooooooo and destination name dddddddd*) was found to be active in a

RMS system. Sssss specifies the processing status of the file and is one of the following: “IN PURGE” if the file is awaiting purge processing, “ON nnnnnnnn” where RMS nnnnnnnn is printer node name if the file is active on a network printer in this system’s network domain, “ON NETWORK” if the file is active on a network printer in another RMS system’s network domain, “IN TRANSFER” if the file is being transferred to the JES2/JES3 system, “OPEN INPUT” if the file is opened for input processing, ‘OPEN OUTPUT’ if the file is opened for output processing, or “????????” if the file has an undefined status (*this usually means that there is an error in the system*).

System Action: Processing continues.

Operator Response: None.

RM7829 No active files.

This message is displayed in response to a display active (DA) command if no files were active in the system.

System Action: Processing continues.

Operator Response: None.

RM7830 DISPLAY(tttttttt) xxxxxxxx ssssssss G=ggggg AUTH=a RELREQ=r.

This message is displayed in response to a display node command. Ttttttt is the device type of the display node; xxxxxxxx is the node name; sssssss is the status of the network session (“DRAINED”, “DRAINING”, or “ACTIVE”); ggggg is the number of the network group in which this node belongs; a is the authorization level of the node (0 = *restricted user*, 1 =*ordinary user*, 2 = *master user*); and r specifies whether or not a release request should be accepted for this node (*N if no, D if delayed, or I if immediate*).

System Action: Processing continues.

Operator Response: None.

RM7831 Printer(tttttttt) xxxxxxxx ssssssss G=ggggg.

F=ffff C=cccc Q=qqqqqqqq A=a P=p S=s R=r T=rrrrrrrr I=iiii.

Lines: total: vvvvvvv, printed: wwwwwww

These messages are displayed in response to a display printer node command. Ttttttt is the device type; xxxxxxxx is the node name; sssssss is the device status (“DRAINED,” “ACTIVE (FILE xxxxxx),” “INT REQ,” “DRAINING,” “HALTING,” “INACTIVE,” “QUEUED,” “HALTED,” or “HALTED (SETUP)”); ggggg is the number of the network group to which the printer node belongs; ffff is the current form number mounted in the printer; cccc is the current FCB being simulated, qqqqqqqq is the output class currently being processed by the printer. A is Y if automatic file selection mode is on or N if automatic file selection mode is off. P is Y if the printer operates in automatic purge mode or N if not. S is the number of separator pages being produced between files (0, 1, or 2). R is Y if the printer operates in restricted file selection mode or N if not. rRrrrrr is the name of the translate table in use on this printer if any. Iiii is the sense code received from the last SIMLOGON request, if any. Vvvvvvv is the number of output lines multiplied by the number of copies for the current file. Wwwwwww is the total number of output lines printed of the current file.

System Action: Processing continues.

Operator Response: None.

RM7832 File-transfer subtask is xxxxxxxx.

The status of the file transfer subtask and the two interfaces ESF->JES and JES->ESF are defined by xxxxxxxx and are one of the following: ACTIVE, ABENDED, HALTED, or DRAINING.

System Action: Processing continues.

Operator Response: None.

RM7833 Halt command rejected, subtask has abended.

A halt file transfer interface command has been rejected because the file transfer subtask has abended.

System Action: Processing continues.

Operator Response: If the file transfer interface is required, then restart RMS. Save the dump output.

RM7834 Halt command rejected, interface already halted.

A halt file transfer interface command has been rejected because the interface is already halted.

System Action: Processing continues.

Operator Response: None.

RM7835 File-transfer interface halted.

A halt file transfer subtask command has been successfully completed.

System Action: Both the ESF->JES interface and the JES->ESF interface are halted if not already halted.

Operator Response: None.

RM7835 xxxxxxxx interface halted.

A halt file interface xxxxxxxx command has been successfully completed. The xxxxxxxx can be either ESF->JES or JES-> ESF.

System Action: Processing continues.

Operator Response: None.

RM7836 Start command rejected, subtask has been abended.

A start file transfer interface command has been rejected because the file transfer subtask has abended.

System Action: Processing continues.

Operator Response: If the file transfer interface is required, then restart RMS. Save the dump output.

RM7837 Start command rejected, interface already active.

A start file transfer interface command has been rejected because the interface is already active.

System Action: Processing continues.

Operator Response: None.

RM7838 xxxxxxxx interface started.

A start file transfer interface xxxxxxxx command has been successfully completed. The xxxxxxxx can be either ESF->JES or JES-> ESF.

System Action: Processing continues.

Operator Response: None.

RM7839 SEQNO filename dest Q form FCB lines CPY PR SID STAT.

xxxxxx oooooooo dddddddd q ffff cccc lllllll cop pr sid ssss.

End-of-display.

This message is displayed in response to a display file command. Xxxxxx is file sequence number, oooooooo is file owner name; dddddddd is file destination name; q is output class; ffff is form number; cccc is FCB name; lllllll is the number of output lines; cop is the number of copies; pr is the files output priority; sid is the system ID of the system on which the file is active or to which it has affinity; and ssss is the files status. The file status is one or more of the following characters: E - end of file has been detected; i.e., the file has been printed.

O - the file is currently opened for output processing.
I - the file is currently opened for input processing.
T - the file is temporarily closed.
B - the file is opened for backwards input processing.
P - the file is queued for purge processing.
H - the file is held.
A - the file is active on a network node.
W - the file is waiting for file transfer.
X - the file is on the file transfer interface.

System Action: Processing continues.

Operator Response: None.

RM7840 Queue empty.

This message is displayed in response to a display file command if no files were found.

System Action: Processing continues.

Operator Response: None.

RM7841 xxxxxx file(s) scheduled for purge.

A purge file command has been successfully completed. Xxxxxx specifies the number of files scheduled for purge processing.

System Action: Processing continues.

Operator Response: None.

RM7842 GDDM ACB xxxxxx.

This message is displayed in response to a display status (DS) command. The status of the ACB used by the GDDM interface is xxxxxx.

System Action: Processing continues.

Operator Response: None.

RM7846 Reset rejected, file is being purged.

A reset file command has been rejected because the affected file was queued for purge processing.

System Action: Processing continues.

Operator Response: None.

Chap_09(v11r35m1).fm: Revised Sunday, November 24, 2013

RM7847 Reset rejected, file not permanently closed.

A reset file command has been rejected because the affected file is in the temporarily closed state.

System Action: Processing continues.

Operator Response: Issue a close file (CF) command followed by the reset command if desired.

RM7848 Reset rejected, file-transfer in process.

A reset file command has been rejected because the affected file is being transferred to the JES system.

System Action: Processing continues.

Operator Response: None.

RM7849 Reset rejected, file active on network.

A reset file command has been rejected because the affected file is being processed by a network print processor.

System Action: Processing continues.

Operator Response: None.

RM7850 xxxxxx file(s) routed.

A route file command has been successfully completed. Xxxxxx specifies the number of files routed.

System Action: Processing continues.

Operator Response: None.

RM7850 xxxxxx file(s) rerouted.

A requeue file command has been successfully completed. Xxxxxx specifies the number of files requeued.

System Action: Processing continues.

Operator Response: None.

RM7852 xxxxxx file(s) released.

A release file command has been successfully completed. Xxxxxx specifies the number of files released.

System Action: Processing continues.

Operator Response: None.

RM7855 xxxxxx file(s) held.

A hold file command has been successfully completed and xxxxx specifies the number of files held.

System Action: Processing continues.

Operator Response: None.

RM7858 Printer xxxxxxxx not available.

A start printer command for printer xxxxxxxx has been rejected because the network node is inactive.

System Action: Processing continues.

Operator Response: Activate the printer node via a VTAM “V NET, ACT” command, and enter the start printer command again.

RM7859 Start xxxxxxxx rejected, network in shutdown.

A start printer command for printer xxxxxxxx has been rejected because the network interface is in the process of being terminated.

System Action: Processing continues.

Operator Response: None.

RM7860 Printer xxxxxxxx already waiting for connection.

A start printer command for printer xxxxxxxx has been rejected because a previous start command has been queued to VTAM. Another application is using the requested printer, and VTAM will not initiate start printer processing before the application has released the printer node.

System Action: Processing continues.

Operator Response: None.

RM7861 Start command rejected, network interface not started.

A start printer command has been rejected because the network interface is stopped.

System Action: Processing continues.

Operator Response: Start the network interface and re-enter the start printer command.

RM7862 Start xxxxx failed, system operator notified.

A start printer command request for printer xxxxxxxx has been rejected by VTAM. The system operator has been notified because the error requires system operator intervention.

System Action: Processing continues.

Operator Response: Contact the systems department for help if necessary.

RM7863 User(s) not logged on or not receiving.

A message command was entered, but no user received the message.

System Action: Processing continues.

Operator Response: None.

RM7864 CID xxxxxxxx</G> ssssssss < BY jjjjjjjj >.

This message is displayed in response to a display channel command. Xxxxxxxx is the name of the communication identifier; /G is present if the CID is defined by a generic name; sssssss is the status of the communication channel, and “BY jjjjjjj” is present if the channel is opened or in stopping state. Jjjjjjj will be the name of the JOB or STC which opened the channel.

System Action: Processing continues.

Operator Response: None.

RM7865 xxxxx active communication channels.

This message is displayed in response to a display status (DS) command. Xxxxx specifies the current number of active communication channels.

System Action: Processing continues.

Operator Response: None.

RM7866 Printer xxxxxxxx busy on GDDM interface.

A start printer command against xxxxxxxx has been rejected because a file is currently being printed by the GDDM interface. As soon as the file is printed, the printer will be started.

System Action: Processing continues.

Operator Response: None.

RM7871 xxxx sssssss.

This message is displayed in response to a list system (LSYS) command. Xxxx is the system ID; and sssssss is the current status of the system. Ssssss will be one of the following:

NOT STARTED if the system has never been started.
INACTIVE if the system is currently inactive.
DORMANT if the active system has been "sleeping" for a longer
period than the value of the SYNCTOL initialization parameter.
ACTIVE if the system is currently active.
RESTARTING ON zzzz - if the system is currently being restarted on
system zzzz.

System Action: Processing continues.

Operator Response: None.

RM7872 ESYS already in process.

The ESYS (reset system) command is rejected because a previous ESYS command is not completed.

System Action: Processing continues.

Operator Response: Wait for the previous ESYS command to complete and then reenter the ESYS command.

RM7873 xxxx sssssss.

An ESYS (reset system) command has been rejected because the affected system is active. The system may be considered active for three reasons:

1) (ssssssss = "IS ACTIVE AND CANNOT BE RE-STARTED") The system is
running and is fully operational.
2)(ssssssss = same as 1) The SYNCTOL time interval has not elaspsed since the
system failed.
3)(ssssssss = "RESTARTING ON zzzz") The system is currently being restarted on system zzzz.

System Action: Processing continues.

Operator Response: None.

RM7881 Reinit successfully completed.

A Reinit (*reinitialize*) command has been successfully completed. All changes to the parameter deck are updated in RMS.

System Action: Processing continues.

Operator Response: None.

RM7882 REINIT successful, but some nodes could not be redefined.

A REINIT (*reinitialize*) command has been successfully completed. Some of the changes to the parameter deck could not be updated in RMS because the nodes were in session with RMS.

System Action: Processing continues.

Operator Response: Reissue the REINIT command when the nodes are not in session with RMS.

RM7883 REINIT completed, but some errors occurred during processing.

A REINIT (*reinitialize*) command has been completed. One or more of the changed node definitions were not successfully updated. This message is preceded by messages which inform about the node name and the cause of the error.

System Action: Processing continues.

Operator Response: Contact the systems department.

RM7884 REINIT failed.

A REINIT (*reinitialize*) command failed because syntax errors were found in the parameter deck.

Operator Response: Contact the systems department.

RM7891 File busy on another system.

A file control command has been rejected because the affected file is active on another system in the multi access spool configuration.

System Action: Processing continues.

Operator Response: None.

RM7892 Printer in use.

A reset printer command has been rejected because a file is active on the printer.

System Action: Processing continues.

Operator Response: Interrupt the printer and re-enter the reset command if necessary.

RM7893 Printer not active.

A printer control command has been rejected because the specified printer node is not connected to the system.

System Action: Processing continues.

Operator Response: Start the printer (*using the start command*) and re-enter the command if necessary.

RM7894 Operand too long.

An operand on a command was too long.

System Action: The command string is discarded, and processing continues.

Operator Response: Re-enter the correct command.

RM7895 Invalid operand(s).

A command was entered with one or more invalid operands.

System Action: The command is discarded, and processing continues.

Operator Response: Re-enter the command with valid operands.

RM7896 Missing operand(s).

A command has been entered, but one or more required operands were missing.

System Action: The command is discarded. Processing continues.

Operator Response: Enter the correct command.

RM7897 Invalid command.

A command has been entered which RMS does not recognize as a valid RMS command.

System Action: The command is discarded. Processing continues.

Operator Response: Enter the correct command.

RM7898 Command string too long, command discarded.

A command string was too long to be contained in an internal command buffer.

System Action: The command string entered is discarded. Processing continues.

Operator Response: Enter the commands in smaller pieces.

RM7899 Unable to obtain command buffer, command discarded.

The command processor was unable to allocate an internal command buffer to contain the specified command string.

System Action: The command string is discarded, and processing continues.

Operator Response: Enter the command string a bit later.

RM7950 Dormancy interval change from xxxxxx to yyyyyy.

Self explanitory.

RM7981 ** No MAS support **.

The installation is not allowed to use the Multi Access Spool feature.

System Action: Processing is terminated.

Operator Response: Contact the systems department.

RM7982 ** No PSF support **.

The installation is not allowed to use the PSF interface.

System Action: Processing is terminated.

Operator Response: Contact the systems department.

RM7983 ** No HP-Laserjet support **.

The installation is not allowed to use the HP LaserJet printer support.

System Action: Processing is terminated.

Operator Response: Contact the systems department.

RM7984 ** No enhanced compression support **.

The installation is not allowed to use compression support.

Processing is terminated.

Contact the systems department.

RM7985 ** No FTP Desktop support **.

The installation is not allowed to use FTP desktop support.

System Action: Processing is terminated.

Operator Response: Contact the systems department.

RM7986 ** No desktop support **.

The installation is not allowed to use desktop support.

System Action: Processing is terminated.

Operator Response: Contact the systems department.

RM7987 ** Desktop only device supported **.

For a DeskTop Lite system, only DeskTop nodes are valid.

RM7988 **** No IP print support **.**
IP printing support is not available for use.

RM7992 **** unrelated security code **.**
The security code specified in the CODE parameter does not match the name given in the COMPANY parameter. System action Processing is terminated. Operator response Contact the systems department.

RM7993 **** invalid security code **.**
The security code is invalid.
System Action: Processing is terminated.
Operator Response: Contact the systems department.

RM7994 **** RMS has expired **.**
RMS has detected that the license has expired.
System Action: Processing is terminated.
Operator Response: Contact the systems department.

RM7995 **CHKPT=I/O-error-.**
The RMS system has been started on an unauthorized CPU.
System Action: Processing continues.
Operator Response: Contact the systems department.

RM7996 **I/O error- *** error message ***.**
RMS has detected a permanent I/O error on one of its spool datasets. *** error message *** is the error description provided by the MVS SYNAD routines.
System Action: RMS is terminated with an error reason code.
Operator Response: Save the dump output, and restart RMS.

RM7997 **Checkpoint was in process, checkpoint data may be invalid.**
RMS has abended, but the termination routines detected that a checkpoint was in process, and the information in the checkpoint dataset may therefore be invalid.
System Action: Termination continues.
Operator Response: If RMS rejects a restart, notify the systems department.

RM7998 **Catastrophic error, ESTAE in control.**
A system abend has occurred in RMS.
System Action: RMS has entered its recovery routines, and will initiate a termination of the system, and produce a dump.
Operator Response: Restart RMS if possible, or notify the systems department. Report the failure and save the dump output.

RM7999 **BIND rejected for xxxxxxxx, xxxxxxxx was not defined or type was invalid.**

VTAM error in module ESFPRTD - R15=xx, RO=xx, FBK2=XX.

APPX error - RC = XX.

File xxxxx aborted on desktop xxxxxxxx.

Disastrous error, error code = xxxx.

RMS has discovered an uncorrectable error in the system. The following error codes may occur:

ABND	An ABEND command has been entered.
ALL0	The track allocation routine has detected an invalid track allocation map control block.
ASM0	No message sequence number could be assigned to a command buffer.
BFR0	A getbuf request failed. Invalid buffer type specified.
BFR1	A freebug request failed. Invalid buffer type specified.
BFR2	A freebuff request failed. Buffer already on free buffer queue.
CCW0	A request to build a channel program has been rejected because the extent in the MTTR address is invalid.
CCW1	A request to build a channel program has been rejected because the request was not valid.
CKP0	A checkpoint request is being processed, but the requester did not have exclusive access to the file queue.
CH00	Unexpected I/O interrupt (ESFNUC). The checkpoint dataset lock is held by an unknown system (ESFCKPT).
CH01	Permanent I/O error on checkpoint dataset.
CH02	Unable to find checkpoint processor PCB to be dispatched.
CH03	The checkpoint processor PCB was not on the wait queue.
CH04	The checkpoint processor PCB was not on the I/O wait queue.
CH05	A checkpoint I/O request has been rejected because the checkpoint dataset SCB is in the BUSY state; i.e., a previous checkpoint has not been completed.
CH06	The warm start routine in the checkpoint processor has detected an open file count below zero.
CH07	Unable to start because the file queue could not be rebuilt.
GETM	Getmain error.
INT1	Duplicate node or alias name found during initialization of table index.
INT2	Allocated FBA checkpoint dataset too small for the current setup.
INT3	Internal error, invalid #ICEREQ call.
IO01	An attempt to start a channel program has been rejected because the extent value was not valid.

IO02	Unexpected I/O interrupt.
IO03	Unable to determine the cause of the I/O interrupt.
IO04	Permanent I/O error on a spool dataset.
IO05	Unable to find PCB to be dispatched.
IO06	PCB to be dispatched for the I/O interrupt was not waiting for I/O to complete.
NET1	The active session count field dropped below zero.
NET2	A disastrous error has occurred in the network interface.
NET3	The outstanding receive request count field dropped below zero.
NET4	The getbuffer routine returned a buffer already on receive any queue.
PR01	An internal error has occurred in a printer node's command request handler.
PRG0	A track allocation map control block has been detected in error by the purge processor.
SEC0	**Security routine passed Invalid Return reason code.**
XEQ0	**A track allocation map control block has been detected invalid.**
XEQ1	The open file count has been reduced to a negative value.
XEQ2	A user track allocation map control block has been detected invalid during an output (*write*) operation.
XFQ1	Internal error in the file index look up routine #XFQELKUP.
XFQ2	Internal error in the file index update routine #XFQEUPDT.
XFR1	An invalid FQE address has been passed to the file transfer completion routine.

System Action: RMS will terminate with a user abend 0001 and a dump.
Operator Response: Restart RMS if possible and notify the systems department. Report the failure and save the dump output.

RM9000 Multiple messages pending. Press PF1 for complete list.

More than one diagnostic/informational message has been issued by the system.

Operator Response: Press PF1 for a complete list of messages.

RM9001 User ID not recognized. Please re-enter.

The USER ID entered on the Access Authorization panel or with the System Transaction code is not a defined user.

Operator Response: Enter correct User Identification.

RM9002 Your password has expired. Enter new password.

The current password has been used for the number of days specified as the maximum use days within system installation parameter.

Operator Response: Enter a new password in the NEW PASSWORD/VERIFY PASSWORD fields.

RM9003 Incorrect password. Please re-enter.

The password entered does not match the password on file.

Operator Response: Enter correct password.

RM9004 New and verify passwords must match.

In response to Message 002, the user has entered a new password that does not match the VERIFY PASSWORD field content.

Operator Response: Re-enter both fields.

RM9005 Option not recognized. Select another.

The option entered by the user does not match any of the listed options.

Operator Response: Select from the listed options.

RM9006 Retry threshold exceeded. Contact your Group Administrator.

The maximum logon retry count has been exceeded. That is, you have tried to sign on with incorrect password information the maximum number of times permitted by the system.

Operator Response: Self explanatory.

RM9007 Duplicate help resource. Verify and re-enter.

An attempt has been made to add a Help record that already exists.

Operator Response: Enter information under the correct identifier or change the existing Help record.

RM9008 Resource ID not in file.

An attempt to read a system or user Help record has resulted in a “RECORD NOT FOUND” condition.

Operator Response: This may be a system error or a user error. Contact your system administrator.

RM9009 Maximum length exceeded for indicated field.

The data entered in the indicated field is not within acceptable limits. The acceptable limits are indicated.

Operator Response: Re-enter data within the acceptable range.

RM9010 Value is non-numeric or outside allowable range.

A value has been entered which is outside the required limit or is non-numeric.

Operator Response: Re-enter the command with a numeric value within the appropriate limits.

RM9011 Unrecognized option. Please re-enter.

The option entered is not recognized by the menu processor or application program.

Operator Response: Enter option from the menu list or from the known available options for the program in question.

RM9012 To ID not in file, add or insert first.

The Help identifier specified as the target in a copy operation does not exist.

Operator Response: Specify the correct “TO” identifier in the copy operation.

RM9013 From ID not in file, copy terminated.

The Help identifier specified as the source in a copy operation does not exist.

Operator Response: Specify the correct "FROM" identifier for the copy operations.

RM9014 Copy complete.

The Help Management Copy Request has been successfully completed.

Operator Response: N/A.

RM9015 Deletion of Drain Trace Dataset failed for xxxxxxxx.

RM9016 Output request exceeds the maximum number of Profile References.

RM9017 Page descriptor with invalid length encountered during recovery processing. (RM77701 (HDRORQUE))

This message indicates that there is possible corruption within the input data. RMS is unable to distinguish whether the record encountered was the start of a dataset record or a garbage record. This message is displayed when the sort record is not recognized as a format that is Release 8.8 or 11.02 and not 11.30 thru 11.34. The system can not tell if the record is a start of dataset record or garbage record. Anything that is below a certain length should be a queue record.

Operator Response: User should attempt to cross reference the input if it is from tape input to determine if the RM80001 can read any data from the tape. Make sure the data was created by RMS programs RM80001 or RM80004. If softcopy media must be retrieved, be sure to include the media category in the Select statement. This also holds true for any media type other than hardcopy.

RM9018 Record(s) truncated during output for DEST(dddddddd) Report (rrrrrrrr).

Self explanatory.

RM9019 Change/add information. Press ENTER to update.

System Administration has requested that the fields for the current record be maintained.

Operator Response: Change the fields that need to be maintained and press Enter to effect these changes.

Transport Server is moving Class(cccccccc) Dest(dddddddd) to ssss. PGROUP=gggg. selectionClass,selectionDest,rmsssn,pgroup.

Self explanatory.

RM9020 Enter Record Identifier.

System Administration is in CHANGE mode and is requesting the identifier of the record you wish to change.

Operator Response: Enter the identifier of the record to be changed and press Enter.

RM9021 Depress ENTER to confirm deletion.

System Administration is in DELETE mode and has presented the content of the record for which deletion was requested.

Operator Response: Verify that the displayed record is the correct one and press

Enter to complete deletion.

RM9022 This record does not exist. Please enter new record identifier.

System Administration is in CHANGE or DELETE mode. The previously entered record identifier cannot be located on the file.

Operator Response: Enter the correct identifier.

RM9023 This record already exists. Enter new record identifier.

While in ADD mode, System Administration has attempted to write a record with a key that already exists.

Operator Response: Change the record identifier field or maintain the existing record.

RM9024 Write error encountered while updating this record.

In CHANGE mode, System Administration has encountered a file error while trying to update the record being maintained.

Operator Response: This is a file error or an internal system error. Contact your system group and/or Mantissa Product Support.

RM9025 Error encountered while trying to delete this record.

System Administration is in DELETE mode. While attempting to delete the current record, a write error occurred.

Operator Response: Check to see that the record was not deleted during the maintenance operation.

RM9026 Deletion complete. Enter identifier for next deletion.

System Administration is in DELETE mode and has successfully completed the deletion of the current record.

Operator Response: Enter next record identifier for deletion or press END.

RM9027 Changes recorded. Enter identifier for next change.

System Administration is in CHANGE mode. The last changes entered have been successfully recorded.

Operator Response: Enter record identifier for next change or press END.

RM9028 Addition successful. Enter identifier for next record.

System Administration is in ADD mode. The specific template record cannot be located.

Operator Response: Enter the correct template identifier or proceed with data entry. Press ENTER to complete ADD operation.

RM9029 The specified template record does not exist.

There is not a template record for the ID number you entered in the template field.

Operator Response: Verify the ID of the template record and re-enter the transaction.

RM9030 Access group not defined.

The access group specified does not exist.

Operator Response: Specify the correct access group.

RM9031 Access group/location report combination does not exist.

The report information for the access group LOCATION/REPORT cannot be located in the file.

Operator Response: Ensure that the correct access group LOCATION/REPORT information was entered.

RM9032 Screen read error, invalid SBA string received.

When adding Help records or performing PTM maintenance, you may not use erase EOF or the delete character keys.

Operator Response: Avoid use of erase EOF. If you use the delete character key, insert a corresponding number of characters.

RM9033 The access group entered does not exist.

Self explanatory.

Operator Response: Enter the correct access group.

RM9034 Report access failure. Press PF1 for details.

For reasons indicated when the PF1 key is pressed, the report access failed.

Operator Response: Press PF1 for full details.

RM9035 The maximum number of reports have been selected for re-print.

Display processing has detected an attempt by the user to reprint selected pages from more than 8 reports in the current display session.

Operator Response: EXIT display (PF3) and print the 8 reports already selected. Then display and request print for the remaining reports.

RM9036 Access failed due to missing panel prototype.

A panel prototype record is a formatted definition record maintained by Help Management. It is used to define the layout of the panel.

Operator Response: This could be a read error. Contact Mantissa Product Support if the error persists.

RM9037 Access denied due to report security attributes.

You have attempted access to a secured report.

Operator Response: Contact your system administrator if you feel you need access to this report.

RM9038 Command not recognized or non-numeric value entered.

The command data last entered cannot be recognized in the case of a command, or is not numeric in the case of line/positioning value.

Operator Response: Re-enter the command.

RM9039 Label has been assigned.

The label last entered on the VIEWER command line has been accepted and stored.

Operator Response: N/A

RM9040 Switch note ignored. No other label(s) exists.

The switch note key was pressed, and there are no other active notes for the report being displayed.

Operator Response: N/A

RM9041 The following field is required for the current operation.

Panel management has determined that a required field has not been entered. The identifier for the field in question follows this message. Enter the required field.

RM9042 Access failed. Check access group, location, report, media values.

The requested report cannot be located.

Operator Response: Ensure that the values specified for the access/group location/ report and media values are correct.

RM9043 Scroll value invalid. Previous value retained.

The scroll value entered was not H(ALF) F(ULL) P(AGE) or NNNN.

Operator Response: Re-enter a valid scroll value.

RM9044 Display depth invalid. Previous value retained.

During an INDEX display or a VERSION display, an ID number entered as the first operand of a command (i.e., D N for Display Report N) is not valid.

Operator Response: Re-enter command.

RM9045 Heading depth invalid. Previous value retained.

Self explanatory.

RM9046 Search criteria invalid. Valid options are as is and caps.

RM9047 ID number/selection invalid, please retry.

During a report version or report index display, a selection number has been entered that is not on the left side of the panel.

Operator Response: Enter Correct ID number.

RM9048 The requested report cannot be located.

The report requested cannot be located.

Operator Response: Re-enter selection value.

RM9049 Scroll value must be FULL, HALF, PAGE or NNNN.

Self explanatory.

RM9050 Windowed display row offset non-numeric or greater than 1/2 screen rows.

RM9051 Windowed display column offset non-numeric or greater than 3/4 screen width.

RM9052 There is no window set by this name. Valid sets are H1, H2, H3, V2, And Q4.

The name specified in the Window Set (WS) command is not a valid window set.

Operator Response: Specify one of the window sets indicated in the message.

RM9053 Non-matching window ID or all windows open.

An attempt has been made to open a specific window or the next available window and all windows are currently open.

Operator Response: Select a window set with more windows, or close and reopen one of the current windows.

RM9054 Specified window not currently active.

A window identifier has been entered in the command field that is not active.

Operator Response: Before the switch window PF key is pressed, enter the ID of an active window.

RM9055 Specified window cannot be located.

A window ID has been entered on the command line and the switch window PF key pressed. The designated window is not currently active.

Operator Response: Specify an active window.

RM9056 Specified window already open.

An OPEN WINDOW command specifying a window ID that is already open has been entered. If you need additional windows open, enter OW with no window ID. The open report menu will be displayed in this window.

RM9057 Print end (PE) acknowledged.

The previously entered PRINT END (PE) command has been accepted.

Operator Response: N/A.

RM9058 The specified report is not available in the current window.

A report ID has been entered on the command line and the switch report PF key was pressed.

Operator Response: Specify an active report.

RM9059 Multiplication or division error.

Attempting to divide by zero or an overflow on multiplication.

RM9060 Location master does not exist for indicated location.

The requested location does not have a corresponding Location Master record.

Operator Response: The Location Master record may be added by the system administrator.

RM9061 Print queue write failed, possible file error.

A file error condition has been returned while attempting to write a print queue record.

Operator Response: Ensure that the file is open.

RM9062 Print request processed.

A print job stream has been submitted to the internal reader for batch execution.

Operator Response: No response necessary.

RM9063 Print end (PE) ignored. No corresponding print start (PS).

A Print Start must be requested prior to a Print End request.

Operator Response: Enter a Print Start on the appropriate page and then the Print

End.

RM9064 Print start/print end commands require that the scroll value be page.

Use of Print Start (PS) and Print End (PE) commands is only valid for SCROLL ==> PAGE.

Operator Response: Set the scroll field to Page and continue the selection process.

RM9065 Print start request ignored. Table is full. Return to display menu to print the selected pages, or use request print (RP) command to reset the table.

The print request is not actually activated until display is exited.

Operator Response: If immediate printing is desired, return to the display menu.

RM9066 Print start acknowledged. Continue selection.

The first page has been selected for print.

Operator Response: Continue selection process by specifying the Print End command on the appropriate page.

RM9067 Unable to determine DSN for print queue file.

The file name for the print queue record is not allocated to System Administration, or the record type is not included in the file table.

Operator Response: Check to ensure that all online files are open to CICS. If not, open and try the transaction again. If all files are open, call Mantissa Product Support.

RM9068 Location version record does not exist for report.

Internal system error.

Operator Response: Contact Mantissa Product Support.

RM9069 Security violation. Contact System Administrator.

You have attempted to access a resource for which you do not have security clearance.

Operator Response: Contact your system administrator.

RM9070 Invalid PF key definition, definition ignored.

A PF key definition entered was either non-numeric, less than 1, greater than 12, or duplicately defined.

Operator Response: Check the fields and correct where appropriate.

RM9071 Type=profile user not valid for LOGON user ID.

Profile user records are used only for security definition and may not be used by active System Administration users.

Operator Response: Sign on using another User ID.

RM9073 Start/end column is not numeric.

The start column in the Column Select command is not numeric.

Operator Response: Correct and re-enter the Column Select command.

RM9074 Column start/end range error. Must be 1-240.

The ending column specified in a COLUMN SELECT pair (i.e., CS SS,EE) is greater than 240.

Operator Response: Re-enter the Column Select with an ending column in the range of 1-240.

RM9075 Start/end column is not numeric.

The ending column specified in a Column Select pair (i.e., CS SS,EE) is not numeric.

Operator Response: Enter correct value.

RM9076 Report version record does not exist for report.

Internal system error.

Operator Response: Contact your system administrator.

RM9077 Media not specified or invalid.

Media is required and was not entered, or the one entered was not a valid media.

Operator Response: Enter a valid media name.

RM9078 Run tracking record does not exist for report.

The report control dataset contains a record for which there is no run tracking record.

Operator Response: None. These records are automatically purged from the file.

RM9079 File error writing run tracking record.

A failed attempt has been made to add a run tracking record to the report control dataset.

Operator Response: This may be a space allocation problem or an internal system problem. Contact Mantissa Product Support if the proper space is allocated.

RM9080 File error rewriting run tracking record.

A file error condition has been returned while attempting to write a record to RCDS VASAM.

Operator Response: Ensure the integrity of the VSAM RCDS file.

RM9081 File error writing the location/report record.

A file error condition has been returned while attempting to write a record to RCDS VSAM.

Operator Response: Ensure the integrity of the VSAM RCDS file.

RM9082 File error writing the report/version record.

A file error condition has been returned while attempting to write a record to the RCDS VSAM file.

Operator Response: Ensure the integrity of the RCDS file.

RM9083 File error creating the QXRCDS file.

An error was returned from File Control.

Operator Response: Ensure the integrity of the VSAM RCDS file and retry.

RM9084 File error writing to target subsystem repository.

An error was returned from File Control.

Operator Response: Ensure the integrity of the repository file and retry.

RM9085 Restore control statement missing or invalid.

The restore control statement was omitted or is invalid.

Operator Response: Refer to documentation for correct formats.

RM9086 Partial restore in progress.

A partial restore of the files in process.

Operator Response: N/A.

RM9087 Full restore in progress.

A full restore of the files is in process.

Operator Response: N/A.

RM9088 Error reading the report version record.

An error was returned from File Control.

Operator Response: Ensure that the RCDS VSAM file is open to CICS.

RM9089 Print queue record does not exist.

While attempting to print a report, the print queue page set records was not found on file.

Operator Response: Re-release the document for print.

RM9090 Page printing may not be complete.

All of the selected print may not actually be printed due to premature end of document condition.

Operator Response: Check output to ensure all have been printed.

RM9091 Search range value is not numeric.

The value entered for the search range was not numeric.

Operator Response: Re-enter Search Range with numeric value.

RM9092 No keyword prerequisites.

A keyword error from the release Print Job Stream.

Operator Response: Check the released Job Stream in System Administration for errors.

RM9093 No keyword value specified.

A keyword error from the released Print Job Stream.

Operator Response: Check the released Job Stream in System Administration for errors.

RM9094 Invalid keyword specified.

A keyword error from the released Print Job Stream.

Operator Response: Check the released Job Stream in System Administration for errors.

RM9095 User record not found.

The user record cannot be found on file.

Operator Response: See the system administrator.

RM9096 Print request job control prototype not found.

The Print Job Stream prototype defined in the user control record could not be located. The “Selective Print/Dataset print” job stream specified on the User Master record has not been added to the Help Management system.

Operator Response: Ensure that there is a prototype by the name specified.

RM9097 Tracking shadow record not found.

Internal error. The shadow record written at the beginning of the run could not be located for deletion.

Operator Response: Correct and resubmit the initialization job.

RM9098 Associated data component not found.

RM9099 Up to window depth-2 header lines may be held.

During a display operation, you have requested more than 4 header lines be held.

Operator Response: N/A

RM9100 The report version number must be numeric.

A non-numeric report version number has been entered on either a report menu sub panel or on the Report Display Menu.

Operator Response: Re-key the report version number.

RM9101 --- Top of data reached ---

The beginning of the report has been encountered during a FIND previous operation.

Operator Response: Press REPEAT FIND to continue.

RM9102 --- Bottom of data reached ---

The end of the report has been reached while processing a FIND command.

Operator Response: Press REPEAT FIND to continue search.

RM9103 --- Find data not located ---

The character string designated in the previous FIND command cannot be located.

Operator Response: Ensure correct string was entered.

RM9104 No find data entered.

A FIND command was entered with no find character string.

Operator Response: Re-enter command.

RM9105 Panel larger than screen size, edit not allowed.

Your terminal attributes are smaller than those of the terminal that last edited this panel. “COPY” may be used to reduce the size, or a larger terminal may be used.

RM9106 Cancel command accepted.

The report cancel (C) command has been processed. The transaction is queued for processing.

Operator Response: N/A.

RM9107 Location/report record does not exist for report.

There is no Location/Report record in the RCDS.

Operator Response: Check to ensure valid entry.

RM9108 No previous find command entered.

The FIND PF key has been depressed and no find command has been entered.

Operator Response: Enter a FIND command.

RM9109 Valid Find command options are: FIRST, NEXT, LAST and PREVIOUS.

The format of the FIND command is F xxxx option where xxxx is the string to be found and option is FIRST, LAST, NEXT, PREV.

Operator Response: Re-enter the command.

RM9110 Selected line item is null, please retry.

A command has been entered that specified a line number that was not valid.

Operator Response: Re-enter with a valid line number.

RM9111 End column must be greater than or equal to start column.

A column select command was entered which contained a select pair with the start column greater than the end column.

Operator Response: Re-enter the CS command.

RM9112 Default column selection (1-240) is active.

Information only.

Operator Response: N/A.

RM9113 Current column selection remains active.

The currently active column select command remains in effect because the CS command entered was not valid

Operator Response: Correct the CS command in the command field.

RM9114 Error reading the location/report record.

An undetermined error was encountered while attempting to read for the Location/Report record.

Operator Response: Check to ensure that the correct files were restored during daily backup/restore processing.

RM9115 Error reading for end of report queue.

Attempting to read the block containing the last page of data for a report. Either the record was not found or a file error was encountered. This message can be issued when FQE number in the report data record does not match the FQE number in the report queue.

Operator Response: Retry the operation.

RM9116 Append mode; appending supplicate record keys.

A Report/Location Name combination is being appended to the same Report/Location Name combination output by the same run of RM80004.

Operator Response: Check the run stream and assure that this is the desired result.

RM9117 Error reading for bottom of list.

Could not find last record for the bottom of list.

System Action: Internal error.

RM9118 Invalid numeric scroll value entered.
The scroll value entered must be numeric and the scroll UP/DOWN key depressed.

RM9119 Scroll amount too large for direction requested.
The data to be displayed did not contain enough records to scroll the desired amount.

Operator Response: Select a smaller scroll value.

RM9120 Invalid security type. Internal error.
The security type passed to the security processor was invalid. Security denied.

Operator Response: Contact Mantissa Product Support.

RM9121 Invalid transaction code. Re-enter.
The transaction code you have attempted to secure is not valid.

Operator Response: Consult RMS/RS documentation for a list of valid transaction codes.

RM9122 No list data available for display.
No records available to list for this selection. End of file or file error.

Operator Response: N/A.

RM9123 Template invalid except during add.
Use of the template field is only valid during an add transaction.

Operator Response: Clear the template field and then re-enter the transaction.

RM9124 No distribution option record exists for this instruction set.
The distribution option record must always be the first record entered into an instruction set. This record establishes the instruction set and allows for addition of all other record types.

Operator Response: Enter the distribution option record by using the ADO option and giving the instruction set a name in the DIST. SET NAME field.

RM9125 Invalid new password. Please re-enter.
Self explanatory.

Operator Response: Correct password and re-enter.

RM9126 Report format successfully added.
Self explanatory.

Operator Response: No action required.

RM9127 Report format successfully deleted.
Self explanatory.

Operator Response: No action required.

RM9128 Report format does not exist.
The report format you have selected does not exist.

Operator Response: Please enter the correct format name. The FORMAT SAVE transaction may be used to save a currently selected format. This must be done before the format can be retrieved.

RM9129 Error deleting report format.
The VSAM deletion of the report format record failed.

Operator Response: Probably already deleted.

RM9130 Error adding report format.
The VSAM write of the report format record failed.

Operator Response: Possibly already exists.

RM9131 Format successfully retrieved.
Self explanatory.

Operator Response: No action is required.

RM9132 Premature end-of-file on QXRCDS, terminating.
End of file on first read for the QXRCDS file.

Operator Response: Determine what is wrong with the file. Check for empty file.

RM9133 Menu item not supported for list processing.
Menu item selected is not a list type transaction.

Operator Response: Re-specify.

RM9134 Enter information for new record.
Self explanatory.

Operator Response: No action is required.

RM9135 Total length of all recipient identifier fields must not exceed 30.
Self explanatory.

Operator Response: Reduce the total length of the recipient fields by reducing the length of some of the individual fields.

RM9136 Reference field order (ORD) must be ascending and consecutive.
Self explanatory.

Operator Response: Make sure that the ORD field starts with one and ascends on each line used. The maximum number is 9.

RM9137 Dataset name or name prefix (but not both) must be specified.
You have failed to enter the dataset name or the dataset prefix field.

Operator Response: Enter the dataset name or the dataset prefix, but not both.

RM9138 Line/column location must be supplied for report ID DATA 1.
You have entered ID data without entering the line and column coordinates to look for this data.

Operator Response: Enter the line and column coordinates where the data is found on the report page.

RM9139 Line/Column location must be supplied for report ID DATA 2.
You have entered ID data without entering the line and column coordinates to look for this data.

Operator Response: Enter the line and column coordinates where the data is found on the report page.

RM9140 Report ID DATA 2 must not be specified without report ID DATA 1.

Self explanatory.

Operator Response: If only one character string is used to distinguish a report then it must be entered in the ID data 1 field.

RM9141 Specified media not recognized.

The media entered is not one of the seven available media categories.

Operator Response: Enter one of the following categories:

```
HARDCOPY
TAPE
MICROFICHE
DASD
REMOTE
NETWORK
SOFTCOPY.
```

RM9142 No data available to list.

No records available to list for this selection.

RM9143 Duplicate media priorities are not permitted.

You have entered the same number for two or more media types.

Operator Response: Correct the one that is incorrect and re-enter the transaction.

RM9144 The distribution master must designate at least one recipient field sequence/field name/field length.

You must enter at least one recipient field.

Operator Response: Enter a recipient field with the correct order and length.

RM9145 Recipient name/length should be specified for each field.

You must enter a name and length for each recipient field.

Operator Response: Enter the name and length attribute for each recipient field.

RM9146 Only one recipient field may participate in packet name formation.

Self explanatory.

Operator Response: Choose which single field should participate in the packet naming.

RM9147 Packet name must contain asterisks indicating the point at which participant field is to be inserted for name information.

You must indicate the place to insert the named recipient field information into the packet name. An example might be a packet name of COMP*** with the three digit company number being inserted into the name. The resulting packets might be COMP001/COMP002/COMP003, etc.

Operator Response: Indicate the place to insert the recipient data in the packet name by placing asterisks where the recipient data is to be placed.

RM9148 Yes/no type option fields may contain a space, n, or y only.

Self explanatory.

Operator Response: Enter one of the correct values.

RM9149 Location name must contain asterisks indicating the point at which participant field is to be inserted for name information.

You must indicate the place to insert the named recipient field information into the location name. An example might be REGION**COMP*** with the two digit region and the three digit company being inserted into the location name. The results might be packets with location name of REGION01COMP001, REGION01COMP002, REGION02COMP001, REGION02COMP002, etc.

Operator Response: Indicate the place where the recipient data is to be placed in the location name field by putting asterisks in the LOCATION NA field.

RM9150 Extraneous information in panel area is reset. This is caused by keying into a line with no recipient field name.

Self explanatory.

Operator Response: No action required.

RM9151 Either Location*ID or Recipient Field Elements and associated fields are required.

Self explanatory.

Operator Response: Enter the fields required.

RM9152 Information entered exceeds the maximum length for the field.

Self explanatory.

Operator Response: See the length attribute displayed for the maximum length you may enter.

RM9153 Distribution Instruction Set does not exist.

There is not a Distribution Set on file for the name entered in the DIST SET NAME field.

Operator Response: Enter the correct set name.

RM9154 Index Title is required unless APND ==> Y is specified.

You must specify a title for the report. This will be placed on the Manifest Report.

Operator Response: Enter the title you want this report to have on the Manifest Report.

RM9155 Valid date in the form YYMMDD is required.

Self explanatory.

Operator Response: Enter the date in the correct format.

RM9156 Valid condition codes for process codes are: EQ, GE, GT, LE, LT, NE.

Self explanatory.

Operator Response: Enter the correct condition code.

RM9157 Cancel procedure submitted.

The cancel procedure has been submitted to the internal reader for execution.

Operator Response: Upon termination, all queued cancel requests will have been processed.

RM9158 Duplicate field names are not permitted in the Options Record.

You have entered an identical recipient field name. Each recipient must have a unique name assigned to that field.

Operator Response: Enter a unique name for each recipient field.

RM9159 The field order designated did not exist in the old Instruction Set.

Self-explanatory.

Operator Response: Enter the fields as they currently exist in the old instruction set.

RM9160 The Instruction Set deletion/reorganization completed successfully.

Self explanatory.

Operator Response: No action required.

RM9161 The Instruction Set deletion/reorganization F A I L E D.

The Instruction Set specified for deletion/reorganization was not found or a file error occurred.

Operator Response: Check the name for error.

RM9162 File error creating the QXACDS file.

A VSAM error return code has been received attempting to write to the QXACDS.

Operator Response: Ensure that the file is not open to another job and that is has been allocated correctly.

RM9163 Job submitted to internal reader.

The JCL selected for batch processing has been submitted to the internal reader.

Operator Response: N/A

RM9164 Find Limit reached, press PF5 to continue search.

Self-explanatory.

Operator Response: No action required unless continuing the search.

RM9165 User ID must be entered for secured format add/delete/retrieve.

A correct user ID must be entered for this transaction.

Operator Response: Enter the user ID for which you want this format transaction to apply.

RM9166 Your viewing profile prevents use of this command.

Self-explanatory.

Operator Response: See your system administrator or your security officer for use of this transaction.

RM9167 Sequence error encountered writing to target subsystem - continuing.

A sequence error has been detected in the data object of a report being processed during a restore operation.

Operator Response: Check for an abend of RM80004 sending work to System Administration or a prior run of the restore that did not complete successfully.

RM9168 Error, FROM and TO Instruction Sets are the same.

Self-explanatory.

Operator Response: Choose another name for the “from” or the “to” set name.

RM9169 Error, Target Instruction Set already exists.

Self-explanatory.

Operator Response: Choose another name for the target set name.

RM9170 Error in XPCC identification.

An error has occurred while starting (FUNC=IDENT) the interface to VSE/POWER. Connection to VSE/POWER is not possible at this time.

RM9171 Error in XPCC connect.

An error has occurred while attempting to establish a communication path (FUNC=DCONNECT) with VSE/POWER.

RM9172 Error in XPCC DISCONNECT.

An error has occurred while attempting to stop a communication path (FUNC=DISCONN) with VSE/POWER.

RM9173 Error in XPCC TERMINATE.

An error has occurred while attempting to terminate use of the VSE/POWER interface (FUNC=TERMIN).

RM9174 Error in XPCC SENDR.

A service request to VSE/POWER (FUNC=SENDR) has failed.

RM9175 VSE/POWER busy- connect not possible now.

Self explanatory.

RM9176 No Terminating Find Delimiter entered, please re-enter.

The find transaction with a quote for a beginning delimiter was entered, but no termination quote was used.

Operator Response: Re-enter command with beginning and ending quotes around the characters to find.

RM9177 Entered data does not match secured field pattern.

An attempt to enter data not allowed by Field Level Security was encountered.

Operator Response: Check with your security officer or System Administrator.

RM9178 File error creating the QXDCDS.

A VSAM error return code has been received attempting to write to the QXDCDS.

Operator Response: Ensure that the file is not open to another job and that is has been allocated correctly.

RM9179 Record exists- used as template. Change as desired.

RM9180 Report Index Update now in progress.

An update in place operation is in progress.

RM9181 Total column selection > 240. Default (1-240) active.

A column select command was entered which designated a total column width greater than 240.

RM9182 Repository Open failed for NON-BASE dataset. Check for active subsystem.

Operator Response: Check for active subsystem.

RM9183 Output Definition record not located. Enter request with correct ID.

The output definition named is not present in the file. Enter a correctly named output definition.

RM9184 Output Definition Processing has exceeded maximum profile references.

RM9185 Distribution run tracking record write or update error.

RM9186 Allocation failed for checkpoint dataset. Cannot continue.

Self explanatory.

Operator Response: Verify location of the dataset.

RM9187 An error occurred when sending JCL to JES via the internal reader.

Operator Response: Contact your System Administrator.

RM9188 At least one security group is required for this record.

Self explanatory.

RM9189 AV1 must contain a dataset prototype for RMODEL records.

Self explanatory.

RM9190 QXRCDS buffer invalidation was not able to complete successfully.

This information message indicates you may not have access to your most recent reports. Contact your RMS System Administrator immediately. Press ENTER to continue.

The buffer invalidation routine was unable to free the buffers for the index dataset. This is most likely due to the datasets being set to OPEN at first access. This message could happen on any panel.

Operator Response: Press ENTER (or PF3) to continue. Once the datasets are open you will get your updated records.

RM9191 Report is not online. Enter R to recover, P to print.

Self explanatory.

RM9192 Report is not in a recoverable state.

Operator Response: Contact your system administrator.

RM9212I Subsystem Entry (ssssssss) not found.

The I/O program tasked with retrieving a block of data, determined that a report residing in subsystem ssssssss was unable to contact the subsystem.

Operator Response: Contact your system administration to make sure the requested subsystem is active and retry.

RM9213I Version modification level mismatch detected by xxxxxxxx. Pgmvml=pppp Sysvml=ssss.

The report viewing program xxxxxxxx detected different version modification levels between the program and the system values.

Operator Response: Contact your system administration to make sure the programs and system initialization tables are in sync.

RM9214I System failed to locate DD statement for the file identified as: xxxxxxxx.

The I/O program tasked with retrieving a block of data, determined that a subsystem extent file xxxxxxxx was not found.

Operator Response: Contact your system administration to make sure the programs and system initialization tables are in sync.

RM9215I I/O module cannot match the trancode tttt and subsystem ssss for pgm=RM1135 . (UT90066 (obtainFi))

Under CICS, the following will usually follow:

+DFHAP0001 CICSTS32 An abend (code 0C1/AKEA) has occurred at offset X'00048352' in module RM1135.

After these two, depending on the request, several ASR? Planned abends could occur.

The cause of the abend in CICS was due to the fact that the RMS online system component (RM1135) SPOOL file table was incorrectly initialized on first use. The transaction code used was defined to CICS and in RMSOLGEN but the subsystem referenced in the RCDS entry for the transaction set was not started. This left the SPOOL file table corrupted in memory. Even later, when a valid transaction is subsequently entered, RMS can't handle the corrupted file table and forces an abend (X'CCCCCCCC').

From the message above, the tttt transaction set pointed to a set of VSAM files. When a report was selected from the RCDS which believed the report was housed in the ssss subsystem, the code tried to initialize and access ssss. ssss was not setup for the tttt transaction set and the routine did not initialize the SPOOL file table correctly.

Operator Response: The only way to recover is to cycle CICS and use a valid transaction.

RM999X --- Error 999, Internal Error ---

This message is for internal use by Mantissa Corporation.

RMS ABEND CODES

RMS, where possible, returns an error message to help the user diagnose a problem. When this is not possible, the batch job or the online transaction will abend with an RMS abend code.

MVS Batch Abend Codes

Batch jobs abend with a user abend of U30nn:

where 30 is the RMS prefix assigned during installation
and nn is the two digit RMS abend code listed in the following pages.

VSE Batch Abend Codes

Batch jobs abend with a system abend of 0C1. The following message will be displayed at the system console prior to the 0C1 abend:

nn - RMS ABEND HAS OCCURRED.
where nn is the two digit RMS abend code listed on the following pages.

The abend code will also reside in general purpose register 2.

MVS and VSE Transaction Abend Codes

Online transactions abend with a RMnn:

where RM is the RMS prefix assigned during installation.
and nn is the two digit RMS abend code listed in the following pages.

Requirements for reporting system abends

In the event that a system abend occurs, the user is asked to provide Mantissa Customer Support with documentation that includes:

- A description of the problem, including any actions being taken when the abend occurred.
- Include any return code, job statistics, JCL that may be helpful.
- If the problem stems from distribution issues, provide the command stream that produces the packets as well as the global manifest from the run.
- A SYSDUMP is required to diagnose system abends. Provide the dump with the following DCB criteria so that it can be reviewed with IPCS:

```
DCB=(BLKSIZE=4160,LRECL=4160,RECFM=FB)
```

Message format explanation:

ABEND NUMBER
TEXT
EXPLANATION

01 **Terminal I/O invalid request.**
Terminal type request invalid. Possible terminal entry missing. Call Mantissa Product Support.

02 **Terminal I/O length error.**
“LENGERR” exceptional condition returned by CICS. Call Mantissa Product Support.

03 **Terminal I/O map failure.**
CICS mapping error has occurred. May be internal, contact in house technical support. If unable to resolve, call Mantissa Product Support.

04 **Map entry not in table.**
CICS mapping error has occurred. Make sure the P2PPT = entry in your RMSOLGEN macro (see INST01) specifies the correct name (default is RMvvrmM). Also, this module must be defined as Res=Yes in CICS implementations.

05 Transaction initiate invalid request.

Call Mantissa Product Support.

06 Transaction initiate I/O error.

Call Mantissa Product Support.

07 Transaction initiate invalid transid.

08 Trace update invalid data.

09 Attempt to GEN key for UNDEF REC type.

Invalid record type passed to "key gen" module. This may be caused by corrupted working storage. Have dump available and call Mantissa Product Support.

10 Error encountered reading help file.

11 Unsupported terminal type used.

See Installation Guide for supported terminals.

12 Invalid SBA string returned from CICS.

SET BUFFER ADDRESS corrupted. Have dump available and call Mantissa Product Support.

13 Too few lines in PTM record.

14 Temporary work file error.

15 System damage or Ver/Mod level mismatch.

Check tailoring macro (RMSOLGEN) and ensure that you are using the correct release of the macro. There is a mismatch between modules that indicates prior release modules included in current release being executed. Another possibility may be storage corruption.

16 Transaction ID not in install table.

Check tailoring macro (RMSOLGEN). Transaction name must match the name in the Program Control Table (PCT).

17 Storage acquisition failure.

Online/Batch GETMAIN error. Increase region size.

18 Wait limit exceeded for initialization.

The first transaction in RMS/Online initializes several areas. The second transaction will wait for the process to complete. Attempt transaction again. If RM18 abend occurs again, contact in house CICS support staff to determine why first transaction appears to be hung in the system.

19 System Control Record file error.

Have dump available and call Mantissa Product Support.

20 **Access Group Record not in file.**

21 **Gregorian to scaler internal date invalid.**

Check for invalid Gregorian date in “start date” or “end date” in RMS/DD panels, such as SEND, COPY, etc. Also ensure that your are executing program RM80004 (not RM80001). This can also occur when RMS/DPF reports are sent multiple times to the same location.

22 **Data Queue Record not located.**

This can be caused by files being restored out of synchronization. For example, the RCDS and the RQDS have been restored from different dates. Restore both files from a backup from the same date.

23 **Display processing (UT90028) error.**

Call Mantissa Product Support.

24 **Program routine stack exceeded.**

Call Mantissa Product Support.

25 **SCLVR sequence number error.**

Have dump available. Call Mantissa Product Support.

26 **Batch - File open failed.**

A U3026 is representative of an empty file. During an RMS install the VSAM files are populated and initialized by running the INST04 install job. Insure that JCL has all required DD NAMES and dataset names present. Retrieve preceding IEC* message along with the user abend.

27 **Symbol table invalid.**

28 **Abend during re-organization writing for**

An INSTRUCTION*SET*NAME already exists by that name. Using RMS/DD and Advanced Function Menu, type transaction “DDR” and the name of any existing INSTRUCTION*SET*NAME. The REORG panel is presented. Use the delete function and the INSTRUCTION*SET*NAME that you were attempting to RE ORG. Hit “ENTER” when prompted to verify the delete. This does not delete the instruction set. It only deletes the flag that has been set during the RE ORG. Upon completion, attempt RE ORG again, using a non-existing instruction set for the new name.

29 **Write error on VSAM queue file.**

DASD I/O error.

30 **Storage violation, GETMAIN header missing.**

Possible storage corruption during FREEMAIN processing. Try again. If problem persists, call Mantissa Product Support.

31 **Rear error on page PTR record.**

32 **Write error on user record.**

Possible duplicate record. See abend message for 48.

33 **Read error on user record.**

DASD I/O error possible.

34 **GETMAIN error.**

A GETMAIN error indicates that virtual memory is not adequate to continue processing. In the event that the abend occurs on startupof RMS, increase the region size and retry startup.

35 **Maximum record length invalid.**

36 **VSAM error during load.**

Abend will occur if the RMS/Online VSAM files are open to CICS. During restore (RM90008), the 3 VSAM files must be closed and deallocated to CICS. (DCDS, RCDS, ACDS) Ensure that files are closed/deallocated and restart the restore (RM90008) process. Also ensure that the 3 VSAM files are included and correct in the RM90008 JCL.

37 **VSAM error during open.**

38 **FREEMAIN error.**

39 **Table management error.**

RMS/Online has an internal table management program that is accessed during batch processing. This error indicates that a record in this table was not found or that there was not enough program storage to accommodate the table. Make sure that the job has at least a 2048K region available. After increasing the region parameter, if this problem persists call Mantissa Product Support.

40 **Table element header invalid.**

Same as 39.

41 **VSAM error during read.**

42 **Bad return from VSAM I/O module.**

A common cause of a U3042 is when the user has the QXDCDS file open during processing (still in use by CICS or a TSO user) where the file should be closed. One such case would be during a particular type of backup.

Call Mantissa Support. (Add trace DDNAME #$#$#$#$. Last one in dump contains feedback code (FDBK). User should send output from this DDNAME to Mantissa.)

43 **File not available from VSAM I/O.**

A DD statement may be missing from CICS proc or File Control Table (FCT). Double check spelling, etc. Additionally, file may be enqueued. This would be caused by incorrect share options specified during VSAM define process. (Shareoptions must be “4,3”.)

44 **I/O error returned from VSAM.**
File full condition. DATA component of VSAM file is out of space. Check status of your files with IDCAMS LISTCAT facility or other utilities at your site. It is recommended that if you enlarge your DATA component, that you also enlarge the INDEX component. If file is not out of space, check for actual I/O error on DASD volume.

45 **VSAM invalid request.**
File full. (DATA component of VSAM file is out of space.) Check status of your files with IDCAMS LISTCAT facility or other utilities at your site. It is recommended that if you enlarge your DATA component, that you also enlarge the INDEX component. If file is not out of space, check for actual I/O error on DASD volume.

46 **VSAM illogic error.**
INDEX component full. During DEFINE process, be sure to specify space parameter for the INDEX component. IDCAMS may default to one track at your site. Remember also that RM80004 program to update the online files may not be run until something is loaded to the VSAM files. Use the Backup file and RM90008 to load from.

47 **VSAM duplicate record.**
A duplicate record has been added to a VSAM file. This error is passed to us from VSAM processing. Possible cause: record has been added or modified by program other than Mantissa supported software. These files must be maintained and updated by our software and never altered by other methods. Utilities capable of exporting VSAM files are permissible. The duplicate record may be deleted with IDCAMS utility. Normal additions, deletions and changes must be performed by our programs. This will prevent this and other errors.

48 **VSAM duplicate key.**
Same as 47.

49 **Dataset ID error.**
This is a common error presented if the DDNAME within the online assembler macro (RMSLOGEN) does not have a matching entry in the File Control Table (FCT). To diagnose, provide the user's CLIST JCL and an IDCAMS print or hex dump of the QXCNTRL file and the CDRMS2 online customization member to Mantissa Customer Support.

50 **File not open.**
Files are not open to CICS. Open files to CICS. Caution: if RESTORE (RM90008) is in progress, do not open files until it has completed. (see code 36)

51 **Garbage control data passed to SC90009.**

52 **Dynalloc for internal reader failed.**
This may be caused by an internal procedure that prohibits submission of jobs to the internal reader from CICS. This is site controlled and is usually managed with security exits or JES submission exits. Contact your technical support staff.

53 **Read error on report queue.**
Read error on RQDS VSAM file. Possible disk I/O error. Try again and if problem per-

sists, call Mantissa Product Support.

54 **File/program version/modification level mis-match.**
Insure that you are executing intended level of software. An IDCAM print of the first record for either the QXACDS / QXDCDS or the QXRCDS will indicate a version stamp for each file. If the files are found to be mismatched, use the INST03 install job to delete and redefine the files, run the INST04 job to recreate the correct QXCNTRL file. (see code 15)

55 **Open failed on repository files.**
RQDS or RDDS datasets or DD statements not found.

56 **Version/modification level mis-match.**
(see codes 15 and 54)

57 **Invalid data block within RQDS.**
A RMS/DPF print request has been issued (SPRINT). The report requested has no “top of from” (*skip to channel one*). The program is expecting an indicator within this block of data and it does not exist. It is not possible to print this particular report via RMS/DPF. It is recommended that all reports routed to RMS/DPF contain a “top of form” indicator.

58 **Error returned from ESF call interface.**
An error occurred while this system was attempting to open or process a print dataset. Check the status and name of the RMS subsystem and retry the function.

59 **Error reading auxiliary storage record from ACDS.**
The transaction information normally found in the ACDS file was not there. This transaction was restarted after the backup and restore process or the files have been changed since the last enter was made. Re-enter RMS/Online as normal.

60 **VSAM control file initialization failure.**
The initialization of the VSAM control file has failed. Check the control cards for errors in the DDNAME and DSNAME areas.

61 **Dynamic allocation failure.**
An attempt to dynamically allocate a dataset has failed. Check for internal security restrictions.

62 **Damaged storage management.**
This is usually an indicator that the online CICS component has been overlaid or its storage corrupted. Insure the programs are marked resident.

63 **No record found in data component.**
The data component pointed to by the report control dataset (QXRCDS) is missing. The data in the repository has been deleted.

64 **Repository dataset (non-base) open failed.**
The error is indicative of a problem with the subsystem. Check to see if the subsystem is down.

65 **Invalid blocksize specified in common area.**
The blocksize specification in the batch generation process is incorrect. This is not a user specified option. The error is caused by a change to the RMSBGEN macro or storage has been overlaid.

66 **VSAM No space available for adding records.**
Transaction ID for RMS/Online has failed due to a VSAM file out of space condition. At RMS installation, if you chose to use the work file in CICS, verify that this is not the culprit. The RM66 abend is is normally preceded with a DFHAC2206 CICS message that represents a time applid Transaction tranid failed condition with module DFHTFP involved. Updates to local recoverable resources will be backed out. Transaction tranid is abnormally terminated. Any changes to recoverable resources in the local system that have been performed by the current unit of work are also backed out. The abend code is either a CICS transaction abend code or a user abend code generated by a CICS ABEND. Usually a DFHAC2236 message is sent to the master terminal operator. In a transaction routing environment, the original cause of the failure is usually indicated in the conditional message. If the abend is issued by an IBM program product other than CICS, the code is documented in the library of that other product.

Action: Run a LISCAT against all VSAM files to verify whether a full file exists. Once the full file is determined, repro the information from the file, run an IDCAMS Delete/Redefine to enlarge the file. The information can then be repro'd back into the newly defined file.

Resubmit the transaction after the cause of the original abend has been corrected or removed.

67 **Unsupported DTFMT macro used in batch customization.**
Contact Mantissa Product Support.

U0001 A disastrous error has occurred in RMS. Previously issued message(s) may explain the actual cause of the abend.

U0111 Error detected in the Recovery exit for a VTAM virtual printer session.

U0506 The control block validation routines in the subsystem support module will abend a program with this abend code if the program has modified one or more file control blocks.

U0722 If a program creating a spool file exceeds the specified output limit, then it will be terminated with this abend code.

U0998 Freemain error.

U0999 Getmain error.

U2456 If a program using a subsystem dataset invalidates a subsystem access method control block, this abend code may be issued.

S0C4 This abend code may occur in an application program if it passes to a RMS interface routine an invalid parameter list address or a parameter list which is not read/write accessible under the caller’s protection key.

Requirements for reporting system abends

In the event that a system abend occurs, the user is asked to provide Mantissa Customer Support with documentation that includes:

- A description of the problem, including any actions being taken when the abend occurred.
- Include any return code, job statistics, JCL that may be helpful.
- If the problem stems from distribution issues, provide the command stream that produces the packets as well as the global manifest from the run.
- A SYSDUMP is required to diagnose system abends. Provide the dump with the following DCB criteria so that it can be reviewed with IPCS:

```
DCB=(BLKSIZE=4160,LRECL=4160,RECFM=FB)
```

CALL STATUS CODES

From ESFOPEN/ESFOPNC Interface

The status code is passed back in the first two bytes of the caller's parameter list.From ESFOPEN/ESFOPNC Interface

CODE	MEANING
' '	Two EBCDIC spaces mean successful completion of the open request.
NA	RMS interface is not active or not permitting open requests.
NC	RMS was generated without CICS support, and a call was issued to ESFOPNC.
NS	No storage was available for interface control blocks. You may try the request later.
PE	One or more parameters in the caller's parameter list were in error.
RC	The open request has been cancelled by RMS. This usually means that RMS has abnormally terminated.
UE	The request has been rejected by the interface exit.
01	The open request has been rejected because the RMS file queue was full.
02	The open request has been rejected because no more spool space was available.
03	The open request has been rejected because no storage was available for control blocks. Please notify the systems department.
04	The open request has been rejected because no file exists with the requested file sequence number.
05	The open request has been rejected because the specified file owner name does not match the owner name of the requested file.
06	The open request has been rejected because the specified file destination name does not match the destination name of the requested file.
07	The initial open request has been rejected because the file was not permanently closed.
08	This status code indicates a logical error in the RMS interface. Please notify the systems department.
09	The open request has been rejected because RMS has detected that one of the file's control blocks is in error.
12	The modify open request has been rejected because the file was not temporarily closed.
13	Same as status code 12, except that it will appear if the file is not temporarily closed for output processing.

Chap_09(v11r35m1).fm: Revised Sunday, November 24, 2013

CODE	MEANING
14	Same as status code 12, except that it will appear if the file is not temporarily closed for input processing.
15	The open request has been rejected because the file is being purged.
16	The open request has been rejected because the file has no valid user track allocation map.
17	The open request has been rejected because the file has affinity for another system.
18	Not used.
19	The open request has been rejected because the file is awaiting transfer to the primary JES system.
20	The open request has been rejected because the file is currently being printed on a network printer node.
21	Open rejected by system security.
22	The initial open output request has been rejected because an undefined file destination was specified.
32	The open request has been rejected by the security system because the caller has no access to the requested network group.
34	The open request has been rejected by the security system because the request is issued by an undefined userid.
36	The open request has been rejected by the security system because the request is issued by an undefined userid.
40	The open request has been rejected because a pre V10.0 parameter list has been used and the system is defined with MAXFSEQ > 65535.

FROM ESFCLOS INTERFACE

CODE	MEANING
‘ ‘	Two EBCDIC spaces mean successful completion of the close request.
CE	File control block validation error. The file control block interface address in the parameter list is not valid or points to a control block not defining the requested file, or the file is not opened by the calling task.
OL	The output limit was exceeded.
IU	A privileged task has obtained control of the requested file’s control blocks.
NA	RMS interface is not active.
NO	File with requested file sequence number has not been opened by caller’s task.
NS	No storage was available for interface control blocks. You may try the request later.
PE	One or more parameters in the caller’s parameter list were in error.
RC	Close request cancelled by RMS. This usually means that RMS has abnormally terminated.
SS	Chain error detected locating the subsystem vector table (SSVT) set by AESF-PRIV.
UE	The request has been rejected by the interface exit.
01	The close request has been rejected because the file with the specified file sequence number could not be located.
02	The close request has been rejected because mismatching file owner names were detected. This usually indicates a logical error in the interface program. Please notify the systems department.
03	The close request has been rejected because mismatching file destination names were detected. This usually indicates a logical error in the interface program. Please notify the systems department.
04	The close request has been rejected because the file was already closed.
05	The close request has been rejected. This status code indicates a logical error in the interface program. Please notify the systems department.
06	The close request has been rejected because an invalid dataset identification key has been detected in a spool block.
07	The close request has been rejected because the file is currently busy on another system in the multi access spool (MAS) configuration.
11	The close request has failed, because the file queue was full, so all the copies of a multiple destination file were not created.

FROM ESFWRIT INTERFACE

CODE	MEANING
‘ ‘	Two EBCDIC spaces mean successful completion of the write request.
CE	File control block validation error. The file control block interface address in the parameter list is not valid or points to a control block not defining the requested file, or the file is not opened by the calling task.
IU	A privileged task has obtained control of the requested file’s control blocks.
NA	RMS interface is not active.

CODE	MEANING
NO	File with requested file sequence number has not been opened.
NS	No storage was available for interface control blocks. You may try the request later.
OL	The write request has been rejected because the output limit was exceeded.
PE	One or more parameters in the caller's parameter list were in error.
RC	Write request cancelled by RMS. This usually means that RMS has termianted abnormally.
SS	Chain error detected locating the subsystem vector table (SSVT) set by AESF-PRIV.
UE	The request has been rejected by the interface exit.
01	The write request has been rejected because the file with the requested file sequence number could not be located.
02	The write request has been rejected because mismatching file owner names were detected. This status code usually indicates a logical error in the interface program. Please notify the systems department.
03	The write request has been rejected because mismatching file destination names were detected. This status code usually indicates a logical error in the interface program. Please notify the systems department.
04	The write request has been rejected because the file was not opened for output processing.
05	The write request has been rejected. This status code indicates a logical error in the interface program. Please notify the systems department.
06	The write request has been rejected because an invalid dataset identification key has been detected in a spool block.
07	The write request has been rejected because no more spool space was available. The record has been discarded.
08	The write request has been rejected because the file is currently busy on another system in the multi access spool (MAS) configuration.

FROM ESFREAD INTERFACE

CODE	MEANING
‘ ‘	Two EBCDIC spaces mean successful completion of the read request.
CE	File control block validation error. The file control block interface address in the parameter list is not valid or points to a control block not defining the requested file, or the file is not opened by the calling task.
IU	A privileged task has obtained control of the requested file’s control blocks.
NA	RMS interface is not active.
NS	No storage was available for interface control blocks. You may try the request later.
PE	One or more parameters in the caller’s parameter list were in error.
RC	Read request cancelled by RMS. This usually means that RMS has terminated abnormally.
SS	Chain error detected locating the subsystem vector table (SSVT) set by AESFPRIV.
UE	The request has been rejected by the interface exit.
01	The read request has been rejected because the file with the requested file sequence number could not be located.
02	The read request has been rejected because mismatching file owner names were detected. This status code usually indicates a logical error in the interface program. Please notify the systems department.
03	The read request has been rejected because mismatching file destination names were detected. This status code usually indicates a logical error in the interface program. Please notify the systems department.
04	The read request has been rejected because the requested file has not been opened for input processing.
05	The read request has been rejected. This status code indicates a logical error in the interface program. Please notify the systems department.
06	The read request has been rejected because RMS detected an invalid spool data block chain.
07	End of file detected.
08	The read request has been issued after end of file.
09	The read request has been successfully completed, and the first record of the file’s next copy has been returned in the caller’s parameter list. This status code can only occur if a file with multiple copies is being read. This status code indicates that the previous copy of the file has been completed and that the first record of the next copy is available to the caller.
10	The read request has been rejected because the file is currently busy on another system in the multi access spool (MAS) configuration.
11	Warning the supplied buffer was too small so the record read has been cut off to the right.
21	The read request has been rejected, because the spanned records were not in right sequence.
22	The read request has been rejected, because a spanned record length error was detected.
23	The read request has been rejected, because backwards read of spanned records is not supported.

FROM ESFSTAT/ESFSTAC INTERFACE

CODE	MEANING
‘ ‘	Two EBCDIC spaces mean successful completion of the status request.
NA	RMS interface is not active.
NC	RMS was generated without CICS support, and a call was issued to ESFSTAC.
NS	No storage was available for interface control blocks. Try the request again later.
PE	One or more parameters in the caller’s parameter list were in error.
RC	Request cancelled by RMS. This usually means that RMS has abnormally terminated.
UE	The request has been rejected by the interface exit.
01	Status request terminated. User status table is full. The available entries have been filled.
02	Status request rejected. This status code indicates a logical error in the interface program. Please notify the systems department.
03	Status request rejected because an undefined related node name was specified.
04	Status request rejected because an undefined file destination was specified.
05	The request has been cancelled because the user had no access to the specified group.
06	The request has been cancelled because the user had no access to the specified node.
07	The request has been cancelled because an undefined userid was specified in a userid related request.
08	Status request rejected because a related group was specified.
09	Status request rejected because a related node was specified.
10	Status request rejected by the security exit.
32	Status request rejected by the security system because the caller has no access to the requested network group.
34	Status request rejected by the security system because the request is issued by an undefined userid.
36	Status request rejected by the security system because an undefined file destination was specified.
40	The status request has been rejected because a pre V10.0 parameter list has been used and the system is defined with MAXFSEQ > 65535.

FROM ESFPURG/ESFPURC INTERFACE

CODE	MEANING
‘ ‘	Two EBCDIC spaces mean successful completion of the purge request.
NA	RMS interface is not active.
NC	RMS was generated without CICS support, and a call was issued to ESFPURC.
NS	No storage was available for interface control blocks. Try the request again later.
PE	One or more parameters in the caller’s parameter list were in error.
RC	Request cancelled by RMS. This usually means that RMS has terminated abnormally.

CODE	MEANING
UE	The request has been rejected by the interface exit.
01	The purge request has been rejected because no file exists with the specified file sequence number.
02	The purge request has been rejected because the specified file owner name does not match the owner name of the requested file.
03	The purge request has been rejected because the requested file was not permanently closed.
04	The purge request has been rejected because the requested file is already scheduled for purge processing.
05	The purge request has been rejected because the requested file has no valid user track allocation map (UTAM).
06	The purge request has been rejected because the requested file is being transferred to the primary JES system.
07	The purge request has been rejected because the file is currently being printed on a network printer node.
08	The purge request has been rejected because the file is currently busy on another system in the multi access spool (MAS) configuration.
09	The purge request has been rejected by the security exit.
32	The purge request has been rejected by the security system because the caller has no access to requested network group.
34	The purge request has been rejected by the security system because the request is issued by an undefined userid.
36	The purge request has been rejected by the security system because an undefined file was destination specified.
40	The purge request has been rejected because a pre V10.0 parameter list has been used and the system is defined with MAXFSEQ > 65535.

FROM ESFROUT/ESFROUC INTERFACE

CODE	MEANING
‘ ‘	Two EBCDIC spaces mean successful completion of the route or requeue request.
NA	RMS interface is not active.
NC	RMS was generated without CICS support, and a call was issued to ESFROUC.
NS	No storage was available for interface control blocks. Try the request again later.
PE	One or more parameters in the caller’s parameter list were in error.
RC	One or more parameters in the caller’s parameter list were in error.
UE	The request has been rejected by the interface exit.
01	The request has been rejected because no file exists with the specified file sequence number.
02	The request has been rejected because the file owner name specified does not match the owner name of the requested file.
03	The request has been rejected because the requested file is not permanently closed.
04	The request has been rejected because the requested file is scheduled for purge processing.
95	The request has been rejected because the requested file is being transferred to the primary JES system.
06	The request has been rejected because the file is currently being printed on a network printer node.
07	The request has been rejected because the file is currently busy on another system in the multi access spool (MAS) configuration.
08	The request has been rejected because an undefined new file destination was specified.
09	The request has been rejected by the security exit.
32	The route request has been rejected by the security system because the caller has no access to the requested network group.
34	The route request has been rejected by the security system because the request is issued by an undefined userid.
36	The route request has been rejected by the security system because an undefined file destination was specified.
40	The route request has been rejected because a pre V10.0 parameter list has been used and the system is defined with MAXFSEQ > 65535.

FROM ESFNECT INTERFACE

CODE	MEANING
‘ ‘	Two EBCDIC spaces mean successful completion of the network command request.
NA	RMS interface is not active.
NS	No storage was available for interface control blocks. Try the request again later.
PE	One or more parameters in the caller’s parameter list were in error.

CODE	MEANING
RC	Request cancelled by RMS. This usually means that RMS has abnormally terminated.
UE	The request has been rejected by the interface exit.
01	The command request has been rejected because no network has been defined in the RMS initialization parameters.
02	The command request has been rejected because the specified terminal name is not defined in the RMS initialization parameters.
03	The command request has been rejected because no internal command buffer was available. Try the request again later.
04	The command request has been rejected by the security system.

FROM ESFCOMI INTERFACE

Request scheduling codes:

CODE	MEANING
‘ ‘	Two EBCDIC spaces indicate that the communication request has been successfully scheduled for execution.
CE	Two EBCDIC spaces indicate that the communication request has been successfully scheduled for execution.
CS	A communication end (CEND) has been scheduled during open processing. The channel has been closed down.
IC	For an open request: The channel name in the caller’s parameter list does not exist. For all other requests: The communication channel is in closing state and does not accept new requests.
IG	The specified communication channel cannot be used on open channel request with a channel name code of R, N, or U because a non-zero network group is specified in the corresponding CID definition.
IP	The channel password in the caller’s parameter list is incorrect.
IU	The communication channel is in use by another program.
IZ	The communication channel is not started.
NA	The communication interface is not active, and/or open requests are not permitted.
NC	No communication channels have been defined in the RMS initialization parameters.
NS	No storage was available for the interface control blocks. You may try the request again later.
PE	One or more fields in the caller’s parameter list were in error.
QE	Queue empty. No responses or messages are currently pending.
RE	Request error. Communication requests may not be issued from request completion exit routines.
RX	The maximum number of concurrent receive requests have been exceeded.
SX	The maximum number of concurrent send requests have been exceeded.
SS	Chain error detected locating the subsystem vector table (SSVT) set by AESFPRIV.
UE	The request has been rejected by the interface exit (RMSUSS).
UG	The specified group number was not authorized for this user.
IU	The userid in the caller’s parameter list does not exist.

Request Completion Codes:

If the scheduling status code was not two EBCDIC spaces, then the completion status code will be the same as the scheduling status code.

If the scheduling status code was two EBCDIC spaces, then the following completion status codes are possible:

CODE	MEANING
‘ ‘	Two EBCDIC spaces indicate that the communication request has been successfully completed.
RC	The request has been cancelled because the communication channel is closing down.
IG	The request has been cancelled because an undefined network group number is specified in an open channel request with a channel name code of N.
IN	The request has been cancelled, because an undefined related node name is specified in an open channel request with a channel name code of R.
SE	The request has been cancelled by the RMS security exit, which is entered for the first command sent after a communication channel is opened.
UG	The request has been cancelled because the user has no access to the specified group.
UI	The request has been cancelled because an undefined userid was specified in an open channel request with a channel name code of U.

DYNAMIC ALLOCATION RETURN CODES

The following is a list of dynamic allocation return codes. These are issued when the subsystem request has been rejected. The dynamic allocation facility is fully described in the OS manuals SPL: *JOB MANAGEMENT* and *MVS SYSTEM MACROS AND FACILITIES.*

```
S99INFO MESSAGE

X'0001' RM7501 NO STORAGE AVAILABLE IN SUPOOL 230
X'0002' RM7502 INVALID OUTPUT CLASS
X'0003' RM7503 INVALID SEQUENCE NUMBER
X'0004' RM7504 INVALID FORMS NUMBER
X'0005' RM7505 INVALID OWNER NAME
X'0006' RM7506 MISSING OR INVALID DESTINATION NAME
X'0007' RM7507 INVALID RETAIN SUBPARAMETER
X'0008' RM7508 INVALID SYSTEM AFFINITY NAME
X'0009' RM7509 ONLY 13 SYBSYS SUBPARAMETERS ARE SUPPORTED
X'000A' RM7510 ALLOCATION FAILED - SUBSYSTEM NOT ACTIVE
X'000B' RM7511 ALLOCATION FAILED - REJECTED BY INTERFACE EXIT
X'000C' RM7512 ALLOCATION FAILED - UNABLE TO LOCATE THE INTERFACE EXIT
X'000D' RM7513 ALLOCATION REQUEST CANCELLED BY SYSTEM OPERATOR -
SUBSYSTEM NOT ACTIVE
X'000E' RM7514 USER FIELD EXCEEDS 4 CHARACTERS
X'000F' RM7515 INVALID HOLD SUBPARAMETER
X'0010' RM7516 INVALID DELETE SUBPARAMETER
X'0011' RM7517 INVALID FCB SUBPARAMETER
X'0012' RM7518 INVALID COPIES SUBPARAMETER
X'0013' RM7519 INVALID OUTLIM SUBPARAMETER
X'0014' RM7520 ALLOCATION FAILED - RETURN CODE 'XX' FROM RMS CLOSE
```

Chapter 10

TUTORIAL

Report Distribution Tutorial

DISTRIBUTION PROBLEM DEFINITION AND RESULTS

Example

In this section we will detail a report distribution problem using the RMS/Online Distribution Definition Facility and define our distribution requirements to the system.

Our report distribution problem will involve a service bureau that is providing processing services to some manufacturing companies. The three companies, Successful Products Company, New Directions Corporation and Headquarters Company, use the service bureau for an Inventory Control Application. Each of the companies has been assigned a unique client number by the service bureau. Those numbers are CL001, CL002 and CL003, respectively.

The service bureau has contracted to supply each of its clients with three Inventory Control Reports. The Year-to-Date Stock Status Report, The Vendor Activity Report and the Year-to-Date Profitability Report. Each client, however, has some unique distribution requirements that are detailed in the chart below:

COMPANY	CLIENT	REPORT	COPIES
Successful Products	CL001	Stock Vendor Profit	1 1 1
New Directions Corp.	CL002	Stock Vendor Profit	2 0 1
Headquarters	CL003	Stock Vendor Profit Profit from (CL001)	1 1 1 1

Headquarters Company owns the Successful Products Company and wants to receive a copy of their Profit Report whenever it is produced.

The Inventory Control application creates two SYSOUT datasets that have had their DD SYSOUT parameters coded as shown below so that RMS/RDC can eventually process them.

1. MVS: DD SYSOUT = (Q,INR01,STK1)
   VSE: * $$ LST CLASS=Q,DEST=(RMS,INR01)
2. MVS:DD SYSOUT = (Q,INR02,STK1)
   VSE: * $$ LST CLASS=Q,DEST=(RMS,INR02)

The dataset named INR01 has two logical reports in it:

- Year-to-Date Stock Status
- Vendor Activity

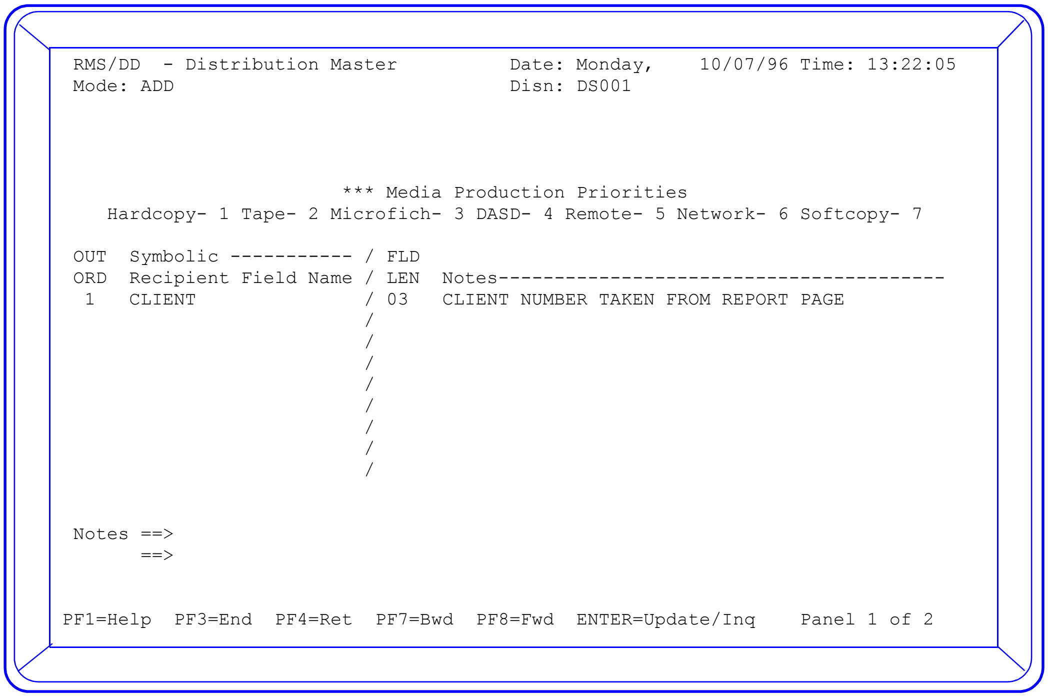
The dataset named INR02 has one logical report in it:

- Year-to-Date Profitability

If these reports were printed without being packaged by RMS/RDC, they would be printed in SYSOUT sequence; logical report within SYSOUT, endpoint (*Client number*) within logical report. It would then be necessary for report distribution personnel to go through a series of tear and stack operations to distribute the reports. Additionally, given the previous distribution problem, several reports would be produced that would have to be thrown away.

Now let's define these reports and their distribution requirements using RMS/Online Distribution Definition.

Screen 1 - Define the Distribution Options

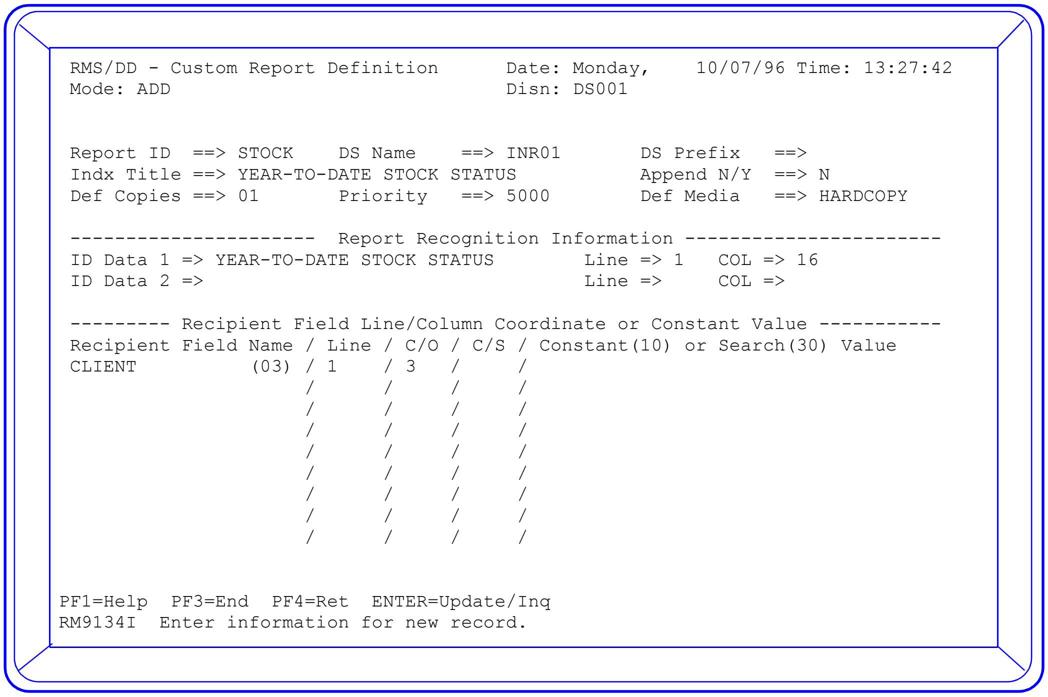


```
RMS/DD  - Distribution Master          Date: Monday,    10/07/96 Time: 13:22:05
Mode: ADD                              Disn: DS001




                        *** Media Production Priorities
   Hardcopy- 1 Tape- 2 Microfich- 3 DASD- 4 Remote- 5 Network- 6 Softcopy- 7

OUT  Symbolic ----------- / FLD
ORD  Recipient Field Name / LEN  Notes---------------------------------------
 1   CLIENT               / 03   CLIENT NUMBER TAKEN FROM REPORT PAGE
                          /
                          /
                          /
                          /
                          /
                          /
                          /
                          /


Notes ==>
      ==>


PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 2
```

Our first screen is displayed by entering an ADO from the RMS/DD Primary Menu and is used to add a distribution master to the distribution database. The base record in this case will be known as DS001.

Additionally, we will use this screen to control output media production priorities (*in what sequence I want the various output media to be produced*) and also define the grouping characteristics for the application or applications that would be using the distribution definition. In this case our grouping characteristics are quite simple in that the reports will be packaged by client number which will be 3 characters in length on each report processed. A more complex set of grouping characteristics might be region number, district number, sales office number. In that case we would define 3 fields and their length.

Screen 2 - Define the “Stock” Report

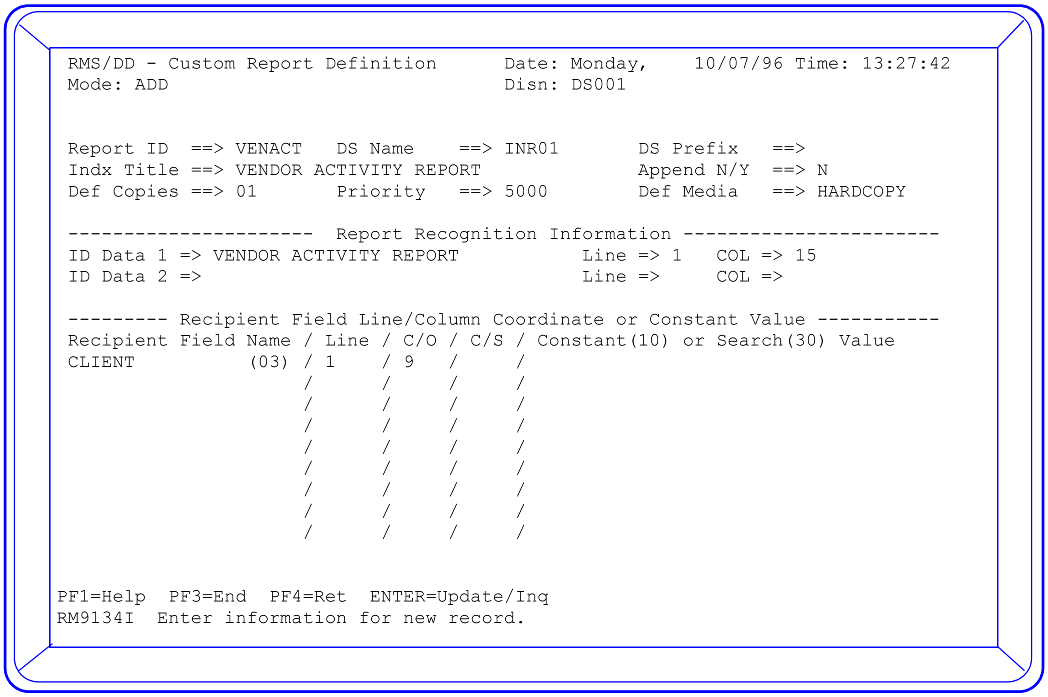


```
 RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 13:27:42
 Mode: ADD                              Disn: DS001


 Report ID  ==> STOCK    DS Name    ==> INR01       DS Prefix   ==>
 Indx Title ==> YEAR-TO-DATE STOCK STATUS           Append N/Y  ==> N
 Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

 ----------------------  Report Recognition Information -----------------------
 ID Data 1 => YEAR-TO-DATE STOCK STATUS        Line => 1   COL => 16
 ID Data 2 =>                                  Line =>     COL =>

 --------- Recipient Field Line/Column Coordinate or Constant Value -----------
 Recipient Field Name / Line / C/O / C/S / Constant(10) or Search(30) Value
 CLIENT          (03) / 1    / 3   /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /
                      /      /     /     /


PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

Once we have defined our base definition record and its grouping characteristics, we are ready to define the reports that will participate in this distribution definition. To do this, enter ACD in the RMS/DD Primary Menu which will display the report panel needed. The first report we will define to the system is the Year-to-Date Stock Status Report.

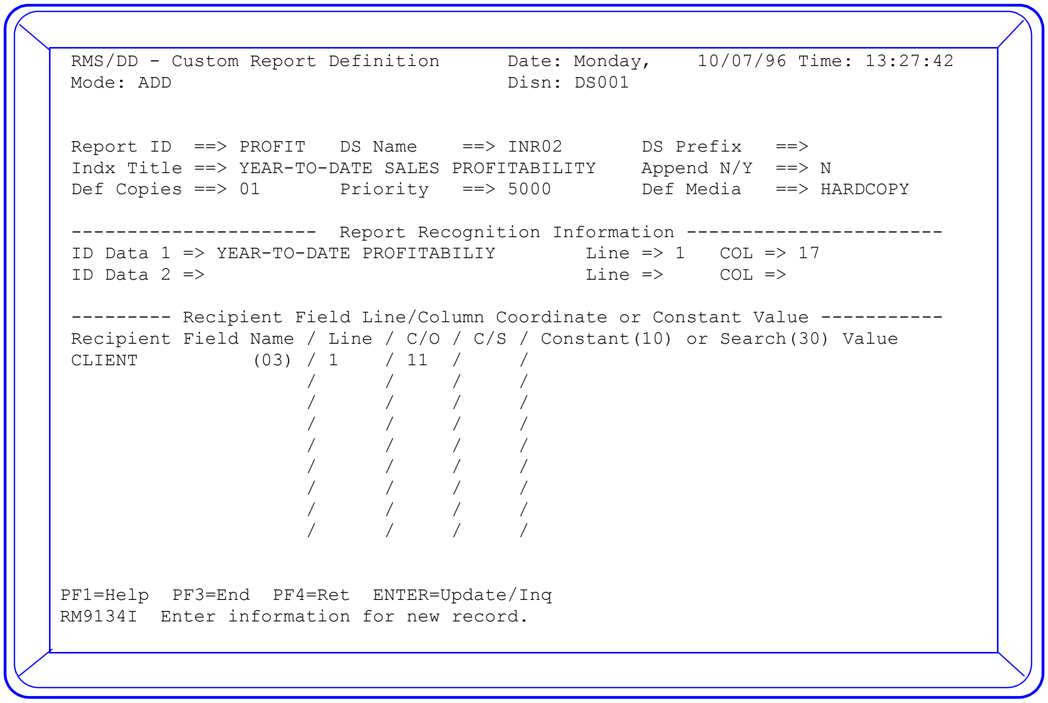
REPORT ID	Up to 8 characters that will be used internally in processing to reference this report.
DS NAME	The 8 character name placed in the external writer name field in the original creating DD SYSOUT statement or the name assigned via the RMS dataset filter.
INDX TITLE	Name that I wish to appear on manifest when this report is included in a report packet.
DEF COPIES	The most commonly required number of copies that recipients of this report will receive.
RECIPIENT FIELD	In the “stock” report, client is in line 1 and column 3.

Screen 3 - Define the “VENACT” Report



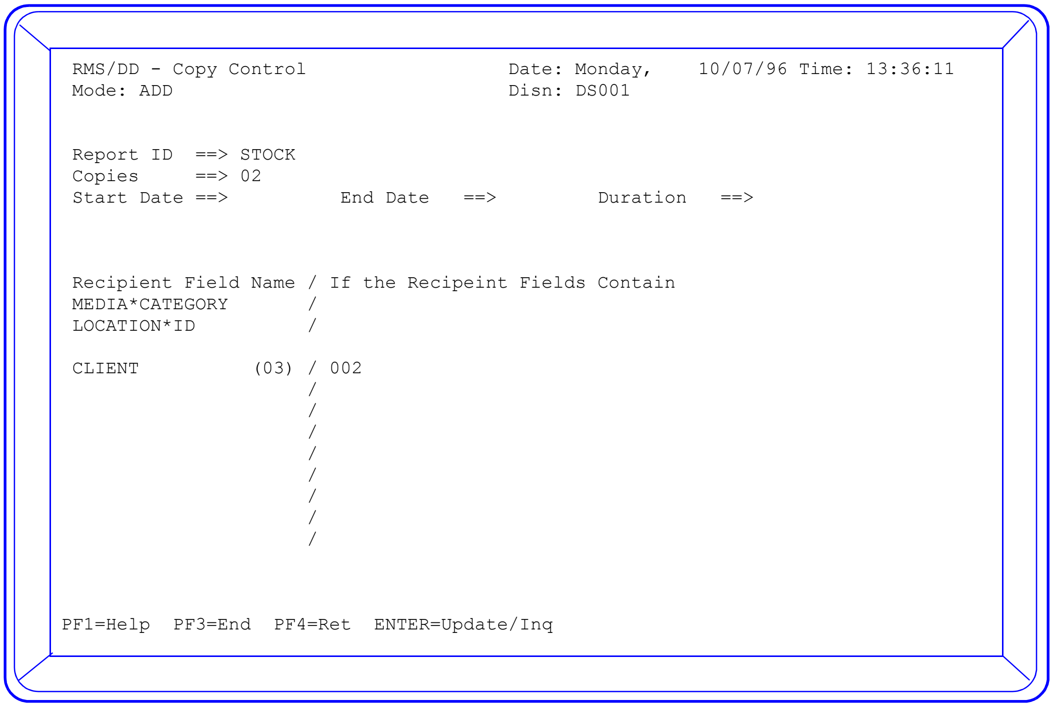
```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 13:27:42
Mode: ADD                              Disn: DS001


Report ID  ==> VENACT   DS Name    ==> INR01       DS Prefix   ==>
Indx Title ==> VENDOR ACTIVITY REPORT              Append N/Y  ==> N
Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 => VENDOR ACTIVITY REPORT           Line => 1    COL => 15
ID Data 2 =>                                  Line =>      COL =>

--------- Recipient Field Line/Column Coordinate or Constant Value -----------
Recipient Field Name / Line / C/O / C/S / Constant(10) or Search(30) Value
CLIENT          (03) / 1    / 9   /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /


PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

Screen 4 - Define the “PROFIT” Report



```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 13:27:42
Mode: ADD                              Disn: DS001


Report ID  ==> PROFIT   DS Name    ==> INR02       DS Prefix   ==>
Indx Title ==> YEAR-TO-DATE SALES PROFITABILITY    Append N/Y  ==> N
Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 => YEAR-TO-DATE PROFITABILIY        Line => 1    COL => 17
ID Data 2 =>                                  Line =>      COL =>

--------- Recipient Field Line/Column Coordinate or Constant Value -----------
Recipient Field Name / Line / C/O / C/S / Constant(10) or Search(30) Value
CLIENT          (03) / 1    / 11  /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /


PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

Screen 5 - Adjust Stock Report Copies for Client 002



```
 RMS/DD - Copy Control                  Date: Monday,    10/07/96 Time: 13:36:11
 Mode: ADD                              Disn: DS001


 Report ID  ==> STOCK
 Copies     ==> 02
 Start Date ==>          End Date   ==>         Duration   ==>



 Recipient Field Name / If the Recipeint Fields Contain
 MEDIA*CATEGORY       /
 LOCATION*ID          /

 CLIENT          (03) / 002
                      /
                      /
                      /
                      /
                      /
                      /
                      /
                      /



PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
```

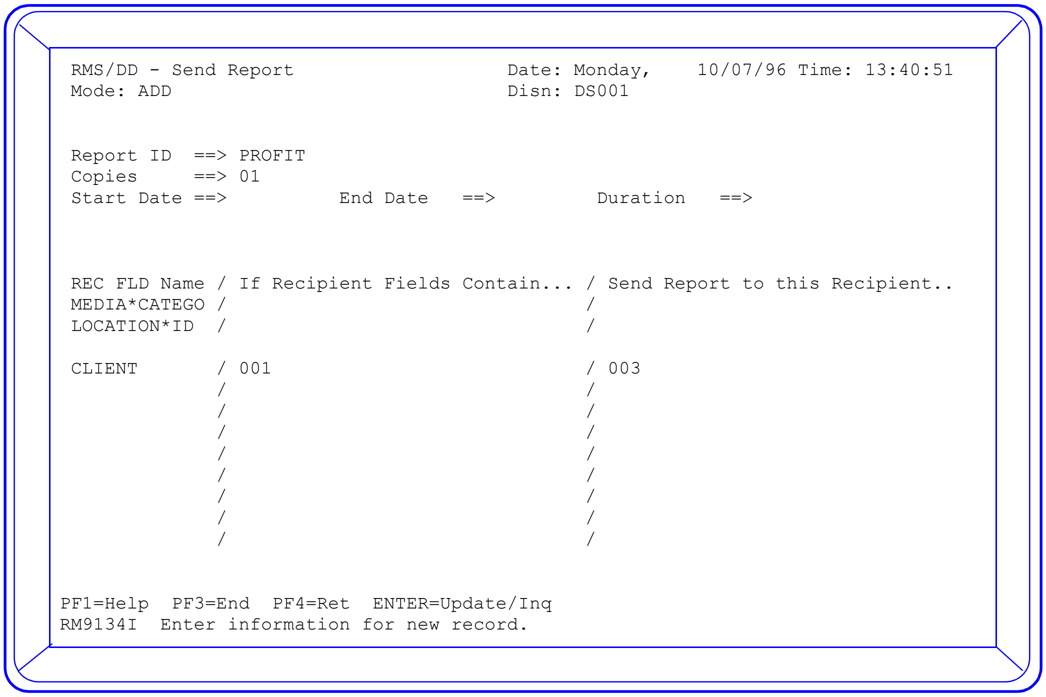
Following the default definition of each of the reports, we must then deal with the exceptions. Remembering our distribution problem, we must now take care of some special requirements regarding number of copies of certain reports for client 002.

We will use the Copy Control screen to deal with these exceptions. Enter ACC on the RMS/DD Primary Menu to display the Copy Control panel.

REPORT ID	Supply the 8 character name assigned to this report.
COPIES	Enter the number of copies this recipient is to receive (*this value should be different than the default number of copies assigned when adding the Stock Report to the database.*)
CLIENT	Supply the value for client number for which this exception is to be invoked.

This same process is repeated to produce 0 copies of the VENACT Report for Client 002.

Screen 6 - Send Client 001 Profit Report to Client 003



```
 RMS/DD - Send Report                   Date: Monday,    10/07/96 Time: 13:40:51
 Mode: ADD                              Disn: DS001


 Report ID  ==> PROFIT
 Copies     ==> 01
 Start Date ==>          End Date   ==>         Duration    ==>



 REC FLD Name / If Recipient Fields Contain... / Send Report to this Recipient..
 MEDIA*CATEGO /                                /
 LOCATION*ID  /                                /

 CLIENT       / 001                            / 003
              /                                /
              /                                /
              /                                /
              /                                /
              /                                /
              /                                /
              /                                /
              /                                /


PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

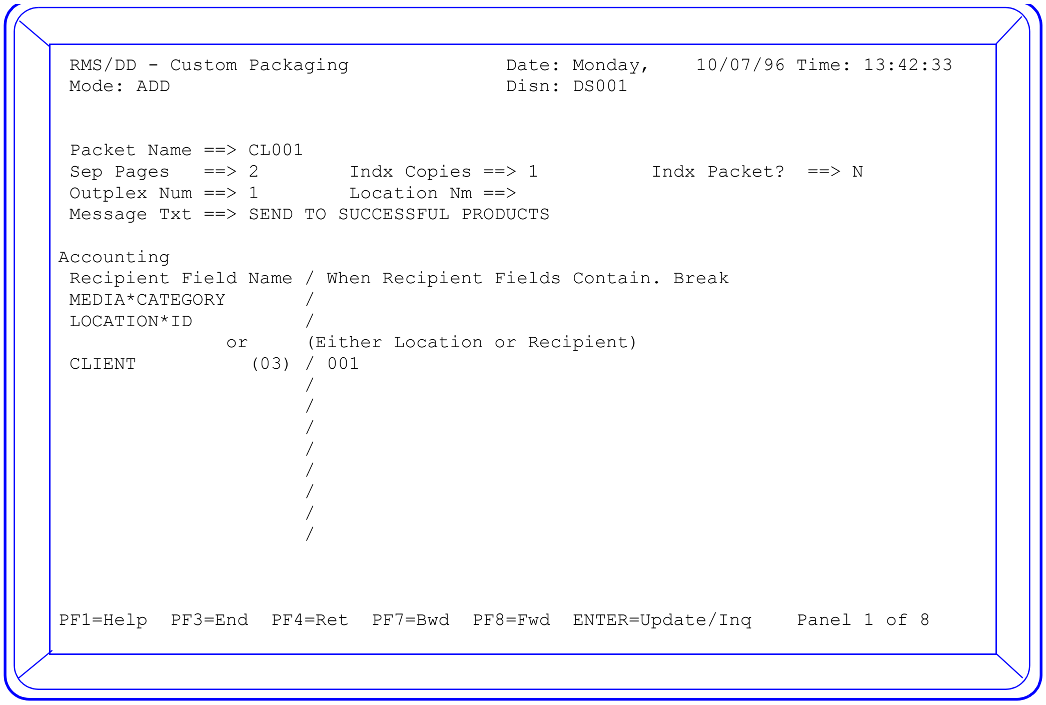
We will now use the Send Report screen to send a copy of Client 001's Profit Report to Client 003. To do this, enter ASR on the RMS/DD Primary Menu. This will display the Send Report panel needed.

REPORT ID	8 character identifier of report to be sent.
COPIES	Number of copies to be sent.
FROM	Client Value in Profit Report from which you want to send the report.
TO	Client Value to which you wish to send the Profit Report.

CHAPTER 10: TUTORIAL

Chap_10(v11r35m1).fm: Revised Sunday, November 24, 2013

Screen 7 - Define Client 001 Packaging Requirements



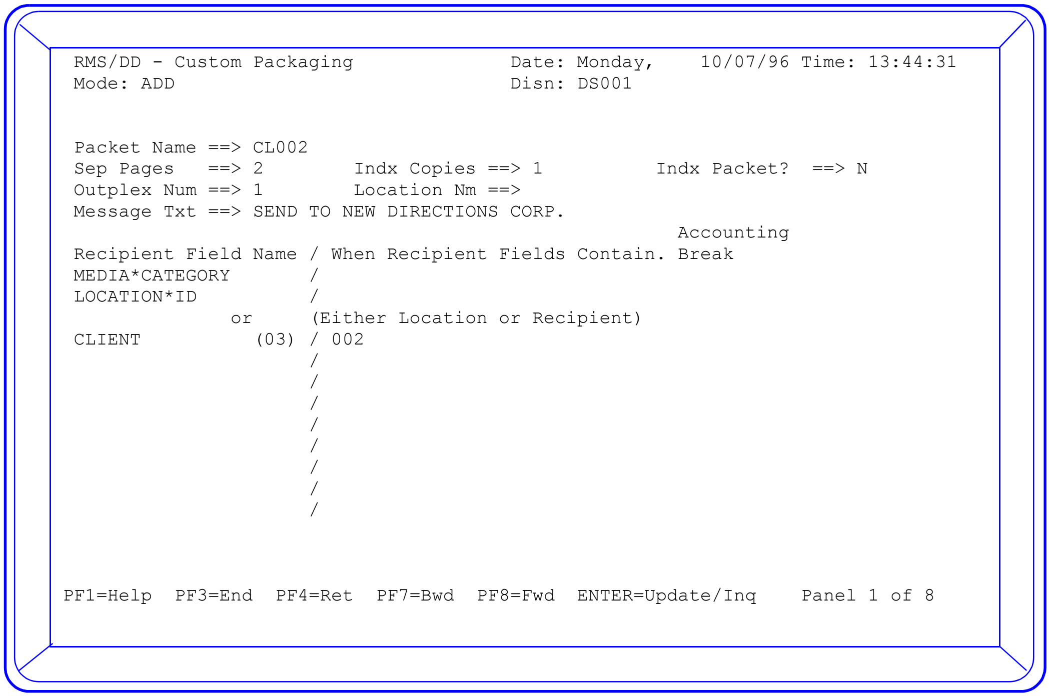
```
 RMS/DD - Custom Packaging              Date: Monday,    10/07/96 Time: 13:42:33
 Mode: ADD                              Disn: DS001


 Packet Name ==> CL001
 Sep Pages   ==> 2        Indx Copies ==> 1          Indx Packet?  ==> N
 Outplex Num ==> 1        Location Nm ==>
 Message Txt ==> SEND TO SUCCESSFUL PRODUCTS

Accounting
 Recipient Field Name / When Recipient Fields Contain. Break
 MEDIA*CATEGORY       /
 LOCATION*ID          /
               or     (Either Location or Recipient)
 CLIENT          (03) / 001
                      /
                      /
                      /
                      /
                      /
                      /
                      /
                      /



PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 8
```

This screen is used to control Banner Page and Index (*Manifest*) information. To do this, enter ACP on the RMS/DD Primary Menu. This will display the Custom Packaging panel.

PACKET NAME	Packet Name you wish to appear on Banner Page.
SEP PAGES	Number of system generated separator pages you wish for this recipient.
OUTPLEX NUM	Optional field used to specify whether you want your reports to start printing on an odd page number.
MESSAGE TEXT	Message data to be printed on banner page.
INDX COPIES	Number of copies of the packet manifest this recipient is to receive.
INDEX PACKET	A packet containing manifest reports from all packets can be made. If this is such a packet, place a ‘Y’ in this field.
COMPARISON VALUE	Value to be used as comparison to cause the packet to be generated.

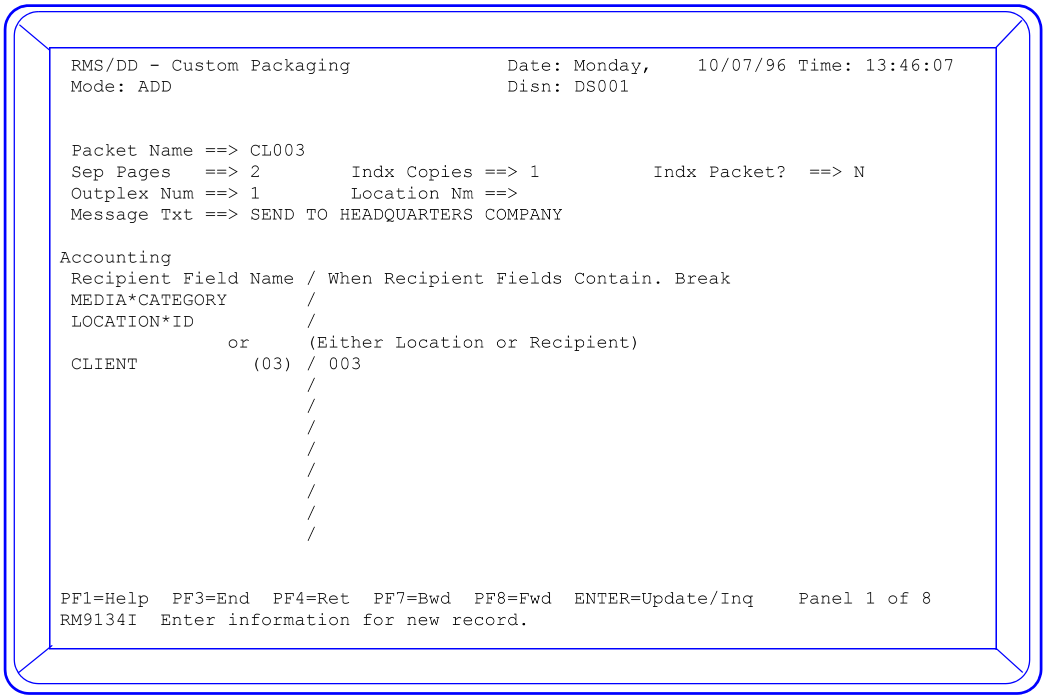
The same process would be repeated to control packet creation for clients 002 and 003. The next two screens will accomplish this.

Screen 8 - Define Client 002 Packaging Requirements



```
RMS/DD - Custom Packaging                Date: Monday,    10/07/96 Time: 13:44:31
Mode: ADD                                Disn: DS001


Packet Name ==> CL002
Sep Pages   ==> 2        Indx Copies ==> 1          Indx Packet?  ==> N
Outplex Num ==> 1        Location Nm ==>
Message Txt ==> SEND TO NEW DIRECTIONS CORP.
                                                       Accounting
Recipient Field Name / When Recipient Fields Contain. Break
MEDIA*CATEGORY       /
LOCATION*ID          /
              or     (Either Location or Recipient)
CLIENT          (03) / 002
                     /
                     /
                     /
                     /
                     /
                     /
                     /
                     /



PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 8
```

Screen 9 - Define Client 003 Packaging Requirements



```
 RMS/DD - Custom Packaging                Date: Monday,    10/07/96 Time: 13:46:07
 Mode: ADD                                Disn: DS001


 Packet Name ==> CL003
 Sep Pages   ==> 2        Indx Copies ==> 1          Indx Packet?  ==> N
 Outplex Num ==> 1        Location Nm ==>
 Message Txt ==> SEND TO HEADQUARTERS COMPANY

Accounting
 Recipient Field Name / When Recipient Fields Contain. Break
 MEDIA*CATEGORY       /
 LOCATION*ID          /
               or     (Either Location or Recipient)
 CLIENT          (03) / 003
                      /
                      /
                      /
                      /
                      /
                      /
                      /
                      /


PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 8
RM9134I  Enter information for new record.
```

DATASET PROFILE (MVS ONLY)

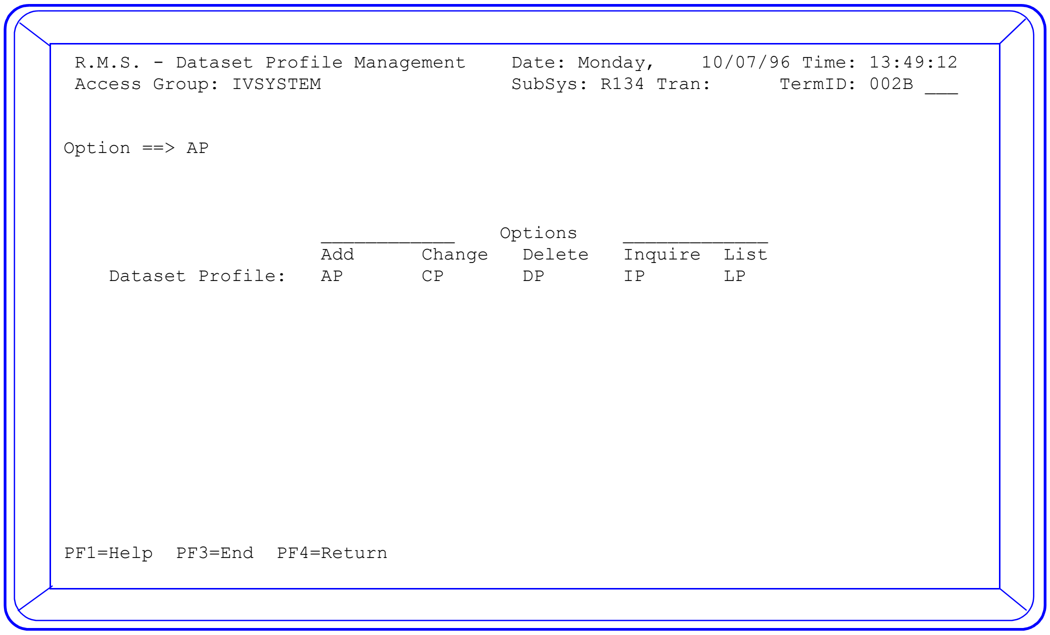
The RMS Dataset Profile capability permits you to selectively designate SYSOUT datasets to be processed by the RMS subsystem. As application Job Control Language is processed, the attributes of the Job and individual DD statements are presented to JES Exit 6. This exit then compares each SYSOUT's attributes to a storage resident table of dataset profiles. A match in attributes causes the dataset that would have been routed to JES and places it directly in the subsystem repository. The assigned attributes are determined by the dataset profile.

The current JES Exit can also route datasets to RMS. RMS is the Mantissa Enhanced Spooling Facility (*ESF*). ESF has a separate subsystem of its own. You can use the dataset profile screen to route SYSOUT datasets to the ESF subsystem instead of the RMS subsystem. The following discussion will specify how this optional redirection takes place. Please note that it is NOT possible to send the same SYSOUT dataset to both subsystems.

Dataset profiles are used by JES Exit 6 to re-route JES output to the RMS subsystem or another subsystem. To enter a new dataset profile or alter an existing profile, use the Dataset Profile panel in the RMS/Online facility.

Specifying Capture Criteria

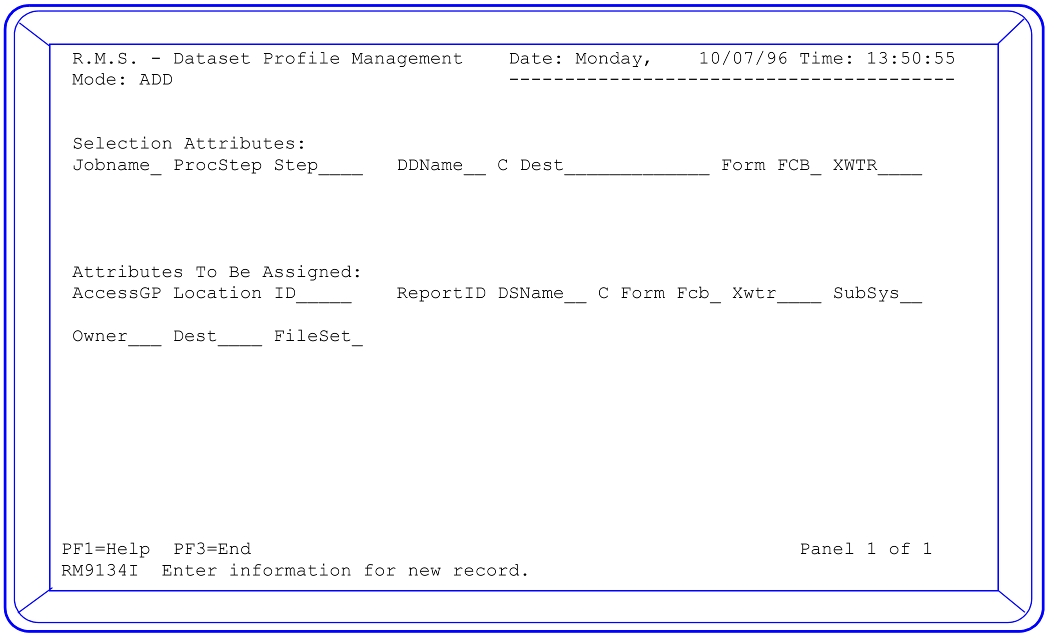
From the main menu option 4 (*Sysout/Report Profile Management*), enter "AP" for Add Dataset Profile.



```
 R.M.S. - Dataset Profile Management    Date: Monday,    10/07/96 Time: 13:49:12
 Access Group: IVSYSTEM                 SubSys: R134 Tran:      TermID: 002B ___


Option ==> AP




                       ____________    Options    _____________
                       Add      Change   Delete   Inquire  List
    Dataset Profile:   AP       CP       DP       IP       LP









PF1=Help  PF3=End  PF4=Return
```

A blank Dataset Profile panel will be displayed. The screen has two major parts:

- Selection Attributes
- Attributes to be assigned



```
R.M.S. - Dataset Profile Management    Date: Monday,    10/07/96 Time: 13:50:55
Mode: ADD                              ----------------------------------------


Selection Attributes:
Jobname_ ProcStep Step____   DDName__ C Dest_____________ Form FCB_ XWTR____




Attributes To Be Assigned:
AccessGP Location ID_____    ReportID DSName__ C Form Fcb_ Xwtr____ SubSys__

Owner___ Dest____ FileSet_








PF1=Help  PF3=End                                                  Panel 1 of 1
RM9134I  Enter information for new record.
```

The following discussion will explain the use of each panel.

SELECTION ATTRIBUTES

JES Exit 6 compares all SYSOUT datasets against a storage resident table of the dataset profiles. The comparison is against the selection attributes of each dataset profile record. The exit makes its comparison such that a more specific selection specification for a SYSOUT dataset will be used before a more general one. This allows you to specify default selection attributes for SYSOUT datasets. The following table summarizes the order in which JES Exit 6 groups the dataset profile Selection Profiles for comparison against the JES SYSOUT datasets. Dataset profiles which specify more selection attribute fields are compared first and dataset profiles which only specify an output class, destination or external writer name are used last..

	COMPARISON ORDER								
ATTRIBUTE	1	2	3	4	5	6	7	8	9
Job Name	X	X	X	X	X				
Proc Name	X	X							
Step Name	X	X	X	X					
DD Name	X	X	X	X					
Class	X			X	X	X	X	X	X
Destination	X			X	X	X		X	
Form	X								
FCB	X								
Writer Name	X					X	X		

Job Name may contain the wild card character ‘*’. This allows a selection based upon a portion of the Job Name. The following are valid wild card designations:

ABC*	Select all datasets whose Jobnames begin with ABC
ABC	Select all datasets whose Jobnames are ABC only

Completing Selection Fields

The fields for selection attributes correspond to the actual SYSOUT attributes. At least one field must be entered in order to save the record. Spaces in a field specify that the attribute is not to be used in the comparison. Some fields allow a variable designation. This means that the field will return a match condition in the comparison if any value exists in that attribute for the SYSOUT dataset. Those fields and the appropriate variable designation are summarized in the following table. These designations may be used to complete the assigned attributes described later.

ATTRIBUTE FIELD	VARIABLE NAME
Job Name	&JOB
Proc Name	none
Step Name	none
DD Name	none
Class	none
Destination	&DEST
Form	none
FCB	none
Writer Name	&XWTR

ATTRIBUTES TO BE ASSIGNED

Once JES Exit 6 identifies a match in the dataset profile table, the SYSOUT dataset then has certain attributes assigned to it. Some of these attributes are specific to RMS/Online and others are replacements for standard JES SYSOUT attributes. The bottom portion of the dataset profile panel allows you to specify as few or as many of these attributes you wish. If an attribute field is left blank the default value is assigned. The attributes and defaults are:

ACCESS GROUP	Specify the Access Group in which to place to place this SYSOUT dataset. The default value is “DEFAULT”.
LOCATION	Specify the Location in which to place this SYSOUT dataset. The default value is “DEFAULT”.
REPORT ID	The report ID to assign to this SYSOUT dataset. The default value is “DEFAULT”.
DATASET NAME	The report repository Dataset Name to assign to this SYSOUT dataset. This is the name used by the RM80001 and RM80004 programs in the SELECT statements. Default value is “DEFAULT”.
CLASS	The class to associate with this dataset. The default value is the JES class. If Owner is RMSCBASE, and Destination is RMSC0004 and the Class if left blank, the default is P to indicate that the dataset should have an index entry added to the RCDS (Report Control Dataset).
FORM	The form name to associate with this dataset. The default value is the JES form name.
FCB	The FCB name for this dataset. The default value is the JES FCB name.

EXTERNAL WRITER NAME	This is an alternate external writer name to give to the dataset. This is useful if the dataset is going to RMS and a different external writer name is needed.
SUBSYS	This is the subsystem to pass the dataset to after assigning new attributes. To place the SYSOUT dataset into the RMS report repository specify your site's name assigned to the RMS subsystem. To send a dataset to RMS, specify your site's Subsystem ID for the RMS subsystem. **A default value may be passed via the 'S=' parameter on the INST11 JOB. (Reference the Installation section of this manual). If a value is not entered and no default set, the dataset will remain in JES.**
OWNER	Specifies the owner of the dataset. This must be equal to "RMSCBASE" for all datasets sent to the RMS Subsystem. Other values are acceptable if the dataset is going to RMS/Spool.
DESTINATION	This specifies the destination of the dataset. This must be equal to "RMSC0004" for all datasets sent to the RMS Subsystem. If the dataset is going to RMS/Spool, specify the printer node to receive the dataset.
FILESET	Specifies the fileset to be used to catalog this dataset in the RMS Subsystem.

Some output fields accept variables for their value. This decreases the number of specific dataset profiles needed.The valid variable names are specified in the Selection Attribute discussion. The fields accepting variables are summarized in the following table.

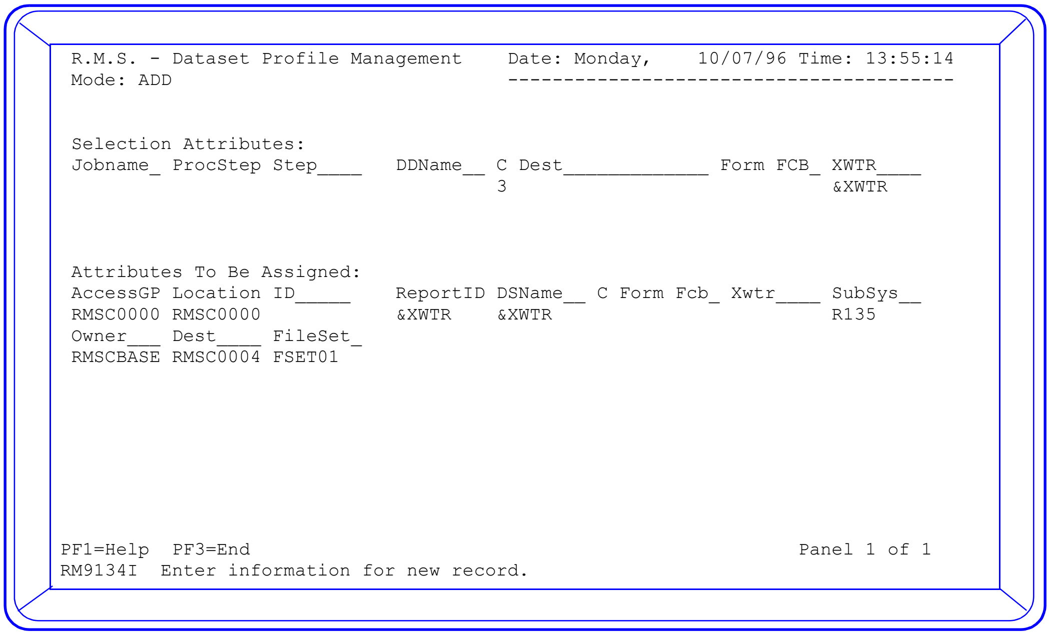
ATTRIBUTE	ACCEPTED VARIABLES
Access Group	None
Location	None
Report ID	&XWTR; &JOB
Dataset Name	&XWTR; &JOB
Class	None
Form	None
FCB	None
XWTR	None
SUBSYS	None
Owner	None
Destination	None
FileSet	None

NOTE: The source code for JES Exit 6 is included in the source library supplied with the product. It is possible to change the manner in which SYSOUT datasets are handled in this exit.

EXAMPLES OF SYSOUT/REPORT MANAGEMENT CODING

Existing Customer

This example shows the use of the variable &XWTR. An existing customer has already coded the “External Writer” name field into the JCL of current job streams.



```
 R.M.S. - Dataset Profile Management    Date: Monday,    10/07/96 Time: 13:55:14
 Mode: ADD                              ----------------------------------------


 Selection Attributes:
 Jobname_ ProcStep Step____   DDName__ C Dest_____________ Form FCB_ XWTR____
                                       3                             &XWTR



 Attributes To Be Assigned:
 AccessGP Location ID_____    ReportID DSName__ C Form Fcb_ Xwtr____ SubSys__
 RMSC0000 RMSC0000            &XWTR    &XWTR                         R135
 Owner___ Dest____ FileSet_
 RMSCBASE RMSC0004 FSET01







PF1=Help  PF3=End                                                 Panel 1 of 1
RM9134I  Enter information for new record.
```

This example shows how the use of CLASS and the Variable &XWTR can be used to move jobs from Class=3 directly to the new RMS repository and not have to use the External Writer from JES any longer.

The assigned attributes consist of the following fields:

ACCESSGP	LOCATIONID	REPORTID	DSNAME	SUBSYS
RMSC0000	RMSC0000	&XWTR	&XWTR	R115

OWNER	DEST	FILESET
RMSCBASE	RMSC0004	FSET01

Output attributes have been assigned so that all reports having CLASS=3 and an external writer name will be captured and sent to the RMS repository in the following manner:

ACCESS GROUP	=RMSC0000
LOCATION ID	=RMSC0000
REPORT ID	=The Name in the External Writer name field of the JCL.
DSNAME	=The Name in the External Writer name field of the JCL.

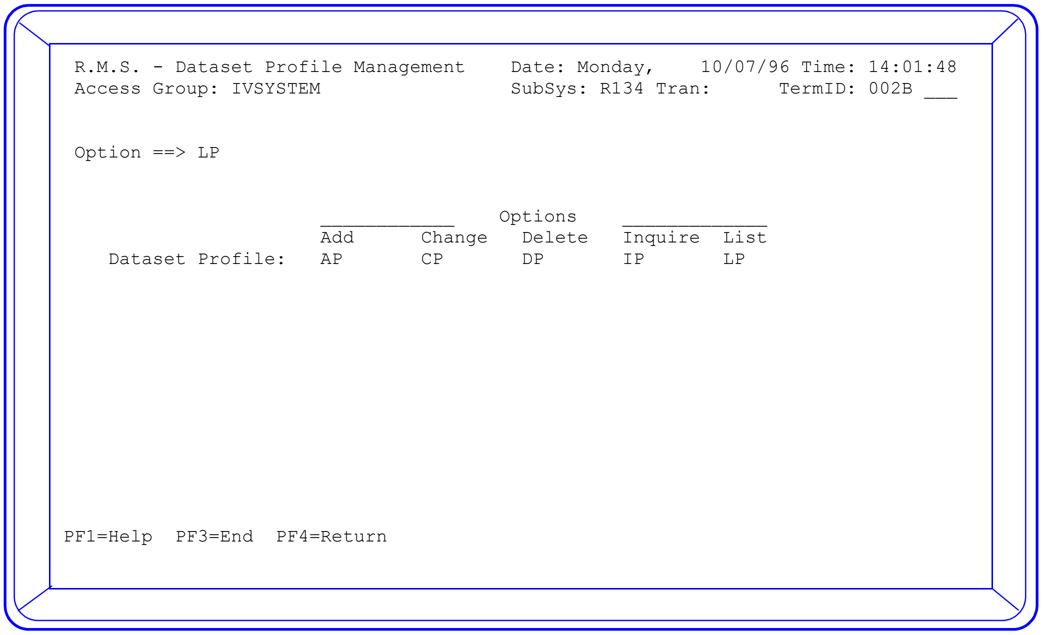
SUBSYS	=R135 (The RMS subsystem)
OWNER	=RMSCBASE
DEST	=RMSC0004

All reports meeting the selection criteria will be placed into the repository and will be viewable by using Access Group RMSC0000 and Location ID RMSC0000:

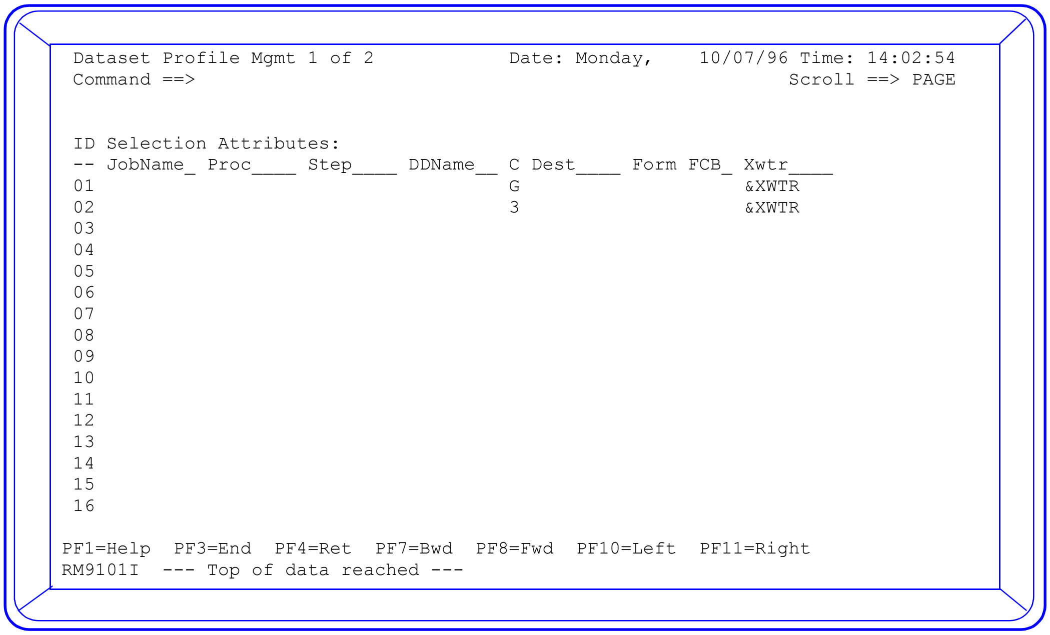
The DSname is used during the actual distribution and archive runs and will be selected for distribution by using the External Writer Name as coded in the JCL.

VIEWING DATASET PROFILES

To view all existing dataset profiles, select option 4 (*Sysout/Report Management*) from the main menu and then specify “**LP**” for (*List Dataset Profiles*).



```
R.M.S. - Dataset Profile Management    Date: Monday,    10/07/96 Time: 14:01:48
Access Group: IVSYSTEM                 SubSys: R134 Tran:       TermID: 002B ___


Option ==> LP


                      ____________    Options    _____________
                      Add      Change   Delete   Inquire  List
   Dataset Profile:   AP       CP       DP       IP       LP













PF1=Help  PF3=End  PF4=Return
```



```
Dataset Profile Mgmt 1 of 2            Date: Monday,    10/07/96 Time: 14:02:54
Command ==>                                                     Scroll ==> PAGE


ID Selection Attributes:
-- JobName_ Proc____ Step____ DDName__ C Dest____ Form FCB_ Xwtr____
01                                     G                    &XWTR
02                                     3                    &XWTR
03
04
05
06
07
08
09
10
11
12
13
14
15
16

PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  PF10=Left  PF11=Right
RM9101I  --- Top of data reached ---
```

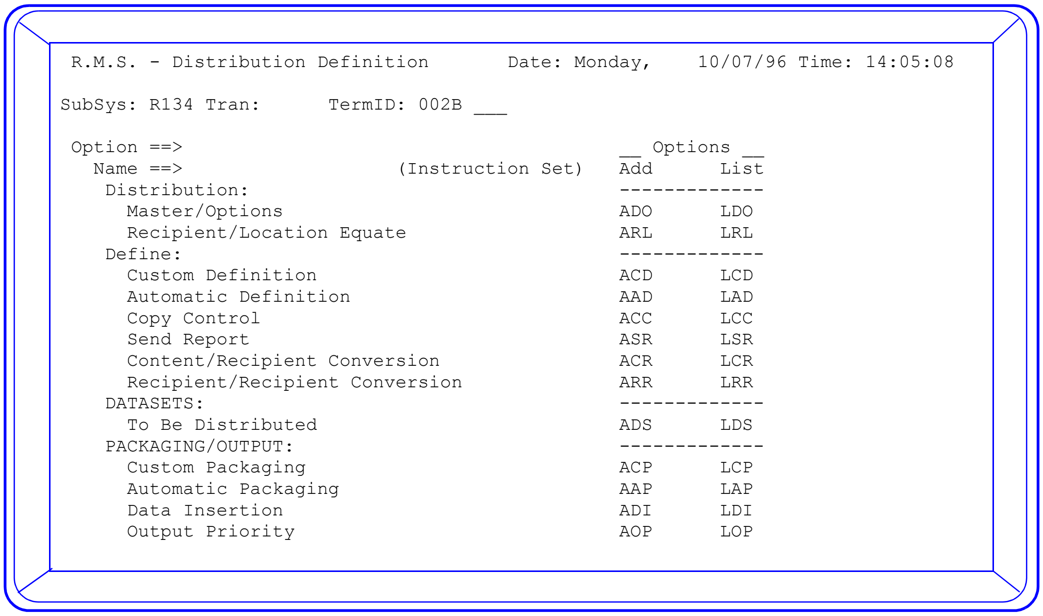
You may change (C), inquire (I), or delete (D) a specific line similar to all other system administration functions.

Select the desired option and perform one of the following:

ON THE COMMAND LINE:	C followed by the line number you wish to change. (*i.e., C5 - select the line number to change*)
ON THE LINE DESIRED:	Move the cursor to the line number field at the line you wish to change and place a “C” in column one. (*i.e., - Profile name etc. becomes C5 - Profile name*)

USING THE PRIMARY MENU

1. Once you have logged on to RMS/Online, select Option 3 from the Main Menu and press the <ENTER> key. The Primary Menu should now be displayed, as shown below:



```
 R.M.S. - Distribution Definition       Date: Monday,    10/07/96 Time: 14:05:08

SubSys: R134 Tran:      TermID: 002B ___

 Option ==>                                          __ Options __
   Name ==>                      (Instruction Set)   Add      List
    Distribution:                                    -------------
      Master/Options                                 ADO      LDO
      Recipient/Location Equate                      ARL      LRL
    Define:                                          -------------
      Custom Definition                              ACD      LCD
      Automatic Definition                           AAD      LAD
      Copy Control                                   ACC      LCC
      Send Report                                    ASR      LSR
      Content/Recipient Conversion                   ACR      LCR
      Recipient/Recipient Conversion                 ARR      LRR
    DATASETS:                                        -------------
      To Be Distributed                              ADS      LDS
    PACKAGING/OUTPUT:                                -------------
      Custom Packaging                               ACP      LCP
      Automatic Packaging                            AAP      LAP
      Data Insertion                                 ADI      LDI
      Output Priority                                AOP      LOP
```

This screen requires you to enter two items: a three-letter code for the desired option and a distribution set name. All options are listed on the left side of the screen, with the associated three-letter codes to the right. The distribution set name can be any valid name up to 16 alphanumeric characters. Note that there are additional options available by selecting the “L”ist option. For example, enter the following to list all Custom Definition panels that have been defined (*you will learn about Custom Definition later in this tutorial*).

`OPTION ==>LCD      NAME ==> RDMSCASE <ENTER>`

A list of the custom definition records is presented.

RDMSCASE is an instruction set that is distributed with the system. You can now change, delete and inquire on any of the records listed on the screen. Don’t worry about the purpose of the Custom Definition Panel, just familiarize yourself with how to use the menu options.

Suppose, for example, in the list displayed there are three panels defined and you want to change the second panel. There are two ways of doing this. The first method requires you to enter “C2” at the SELECT OPTION ==> prompt. The second method requires you to move the cursor (*with the tab*) to the first position of the line containing the listing of the second Custom Definition panel. Next, enter a “C” over the ID number and press <ENTER>.

The system will then display the second panel for you to make the desired changes. You don't need to change a panel at this point in the tutorial. You'll perform this function later in this chapter.

The "D"elete and "I"nquire functions can be accessed in the same way as "C"hange.

Now press the following key twice to return to the RMS/DD Primary Menu:

`<PF3>`

Creating a Packet Containing a Single Report

1. Suppose you receive the following memo:

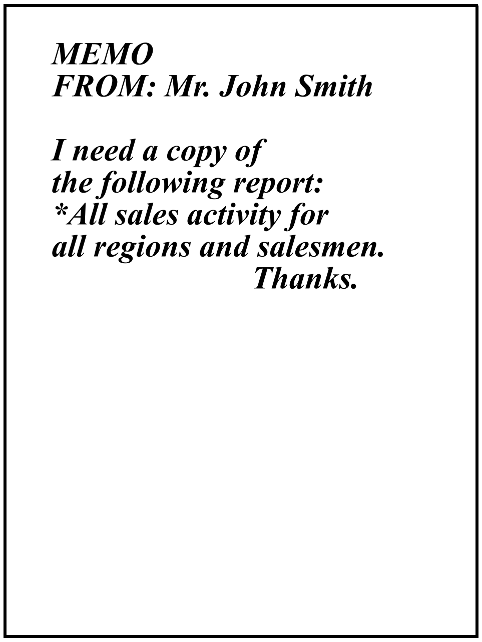
   This memo tells you the name of the report you need to print. The step-by-step instructions that follow will enable you to build the set of instructions (*referred to as an instruction set*) to create a packet containing this report. The term packet is used since most applications require multiple reports to be bundled and sent to each desired location.

   The order in which the panels are defined in this tutorial is just a suggested approach. You can define the panels in any order with which you feel comfortable. There is one exception. You must always ***add*** a Distribution Options (*ADO, as shown below*) Panel first.

2. The RMS/DD Primary Menu should be displayed (*if it is not, press the <PF3> key*). When creating a new instruction set, you must always begin by entering the following at the OPTION ==> prompt:
3. ADO **TAB**
4. Now enter the following at the NAME ==> prompt:

   `TUTORIAL1 <ENTER>`

   If this name is not accepted, enter the next highest number (*i.e.,TUTORIAL2*). It is possible that someone followed this tutorial and did not delete their distribution set name.

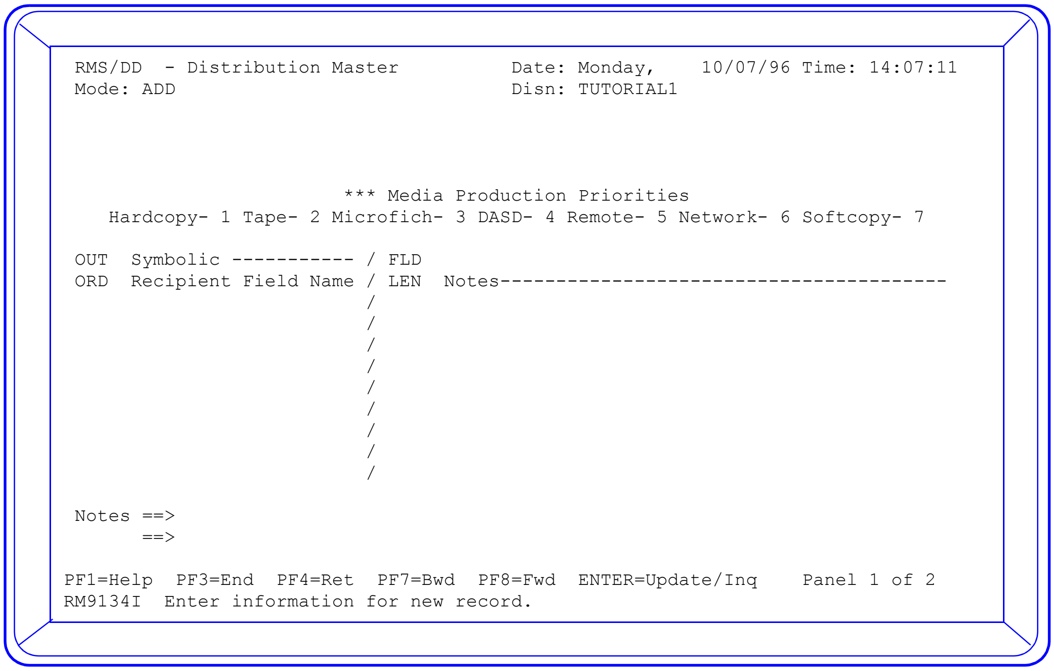


MEMO
FROM: Mr. John Smith

I need a copy of
the following report:
****All sales activity for***
all regions and salesmen.
Thanks.

NOTE: When you complete this tutorial, be sure to delete the distribution set.

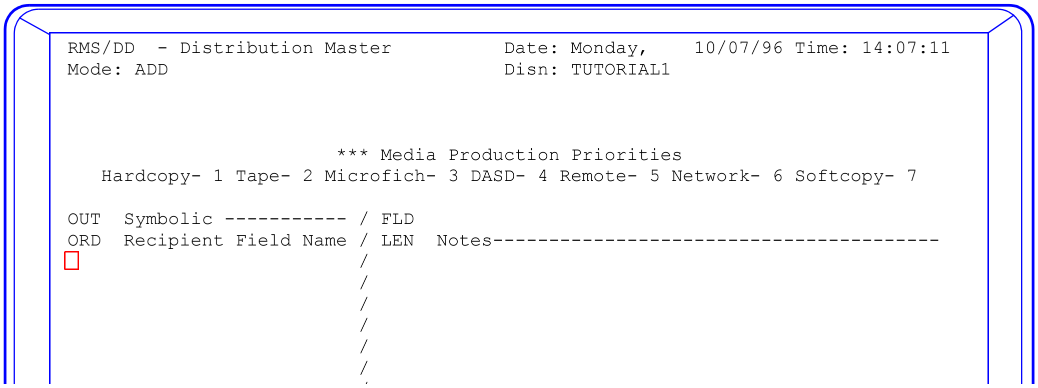
The RMS/DD - DISTRIBUTION MASTER screen should now be displayed, as shown in the illustration below:



```
RMS/DD  - Distribution Master          Date: Monday,    10/07/96 Time: 14:07:11
Mode: ADD                              Disn: TUTORIAL1




                       *** Media Production Priorities
   Hardcopy- 1 Tape- 2 Microfich- 3 DASD- 4 Remote- 5 Network- 6 Softcopy- 7

OUT  Symbolic ----------- / FLD
ORD  Recipient Field Name / LEN  Notes----------------------------------------
                          /
                          /
                          /
                          /
                          /
                          /
                          /
                          /
                          /


Notes ==>
      ==>

PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 2
RM9134I  Enter information for new record.
```

The name of the screen can always be found in the upper left corner. Below the name, the system will display the mode. Since we entered ADO (Add *Distribution Options*) to get to this point, the system shows the mode as “ADD”. The system date and time are also shown in the upper right corner of the screen. Also be aware that all available options are always displayed in the Function Key Menu at the bottom of each screen. To perform the desired function, simply press the associated PF key. For example, PF1 will always display a help message on the currently displayed DD panel (*you can also enter? PF1 to display a help message on the current field within the panel.*)

The cursor should now be positioned on the screen as shown below:



```
RMS/DD  - Distribution Master          Date: Monday,    10/07/96 Time: 14:07:11
Mode: ADD                              Disn: TUTORIAL1




                       *** Media Production Priorities
   Hardcopy- 1 Tape- 2 Microfich- 3 DASD- 4 Remote- 5 Network- 6 Softcopy- 7

OUT  Symbolic ----------- / FLD
ORD  Recipient Field Name / LEN  Notes----------------------------------------
                          /
                          /
                          /
                          /
                          /
                          /
```

This section of the screen is used to assign the desired output priority to all available media types. For this example, you want “HARDCOPY” to have a priority of “1” (*you do not need to be concerned with the other priority assignments.*) Be sure, however, that each media type is assigned a different priority number (from 1 to 7). This does not tell the system which reports should be sent to the different media types, it simply designates a priority if these media types are created.

CHAPTER 10: TUTORIAL

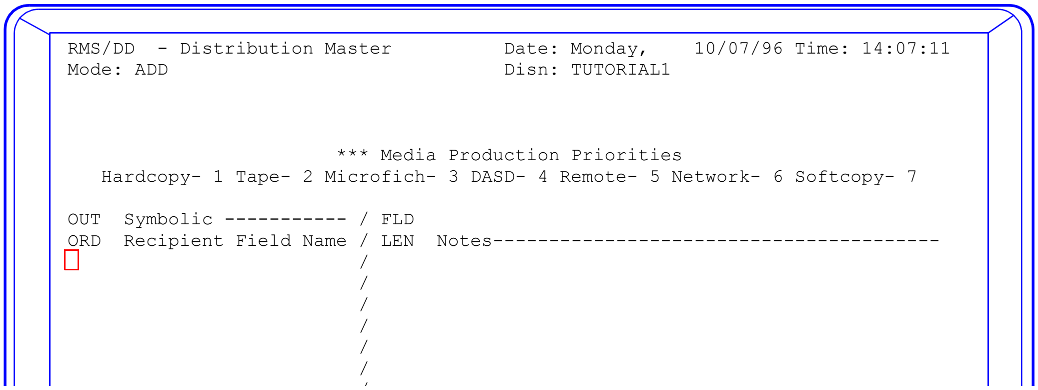
Chap_10(v11r35m1).fm: Revised Sunday, November 24, 2013

The default settings are shown above. The defaults are automatically displayed. If you do not want to change them, simply proceed to the RECIPIENT FIELD NAME area.

Since we don't need to change the default priorities for this example, enter the following to proceed:

`<TAB>`

Continue pressing the <TAB> key until the cursor is positioned in the OUT ORD field, as shown below:



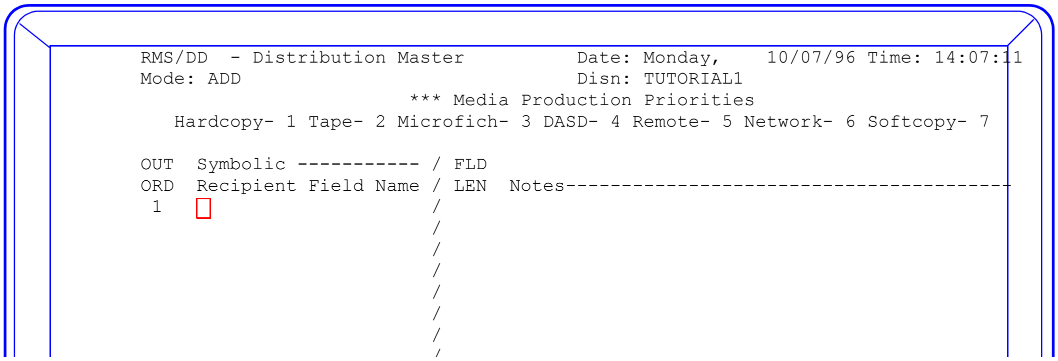
```
RMS/DD  - Distribution Master          Date: Monday,     10/07/96 Time: 14:07:11
Mode: ADD                              Disn: TUTORIAL1



                     *** Media Production Priorities
   Hardcopy- 1 Tape- 2 Microfich- 3 DASD- 4 Remote- 5 Network- 6 Softcopy- 7

OUT  Symbolic ----------- / FLD
ORD  Recipient Field Name / LEN  Notes----------------------------------------
                          /
                          /
                          /
                          /
                          /
                          /
```

The bottom area of the screen is used to define a key structure that will govern how the reports will be ordered. You must define at least one element, also called a Recipient Field. These represent the pieces of data that will bring pages together that go to the same recipients. The whole idea behind this concept is to assign each page a key (*set of recipient fields)* that will cause (*when sorted by key*) all pages going to the same recipient to come together. For this example, you need to select the report (*as specified in the original specifications*) that shows all sales activity in all regions. In this case, you are only concerned with one report. However, for multiple reports (*which you will be concerned with later*) the OUT ORD will determine the order in which the reports are ultimately sorted. For example, if you select REGION as the first key and SALESMAN as the second key, the system will first sort all reports with the same REGION value and will then sort the reports by SALESMAN within each REGION.

Now enter the following in the OUT ORD field:

`1`

The cursor should now be in the RECIPIENT FIELD NAME field, as shown below:

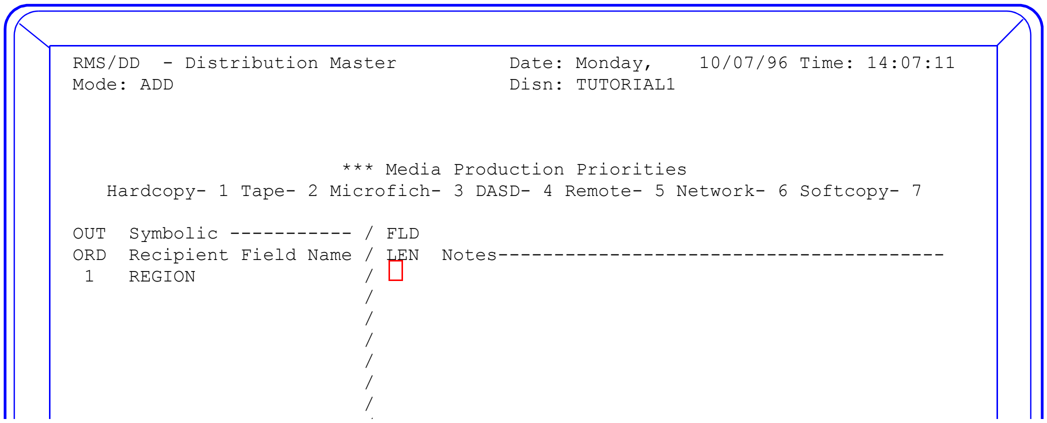


```
RMS/DD  - Distribution Master          Date: Monday,     10/07/96 Time: 14:07:11
Mode: ADD                              Disn: TUTORIAL1
                     *** Media Production Priorities
   Hardcopy- 1 Tape- 2 Microfich- 3 DASD- 4 Remote- 5 Network- 6 Softcopy- 7

OUT  Symbolic ----------- / FLD
ORD  Recipient Field Name / LEN  Notes----------------------------------------
 1                        /
                          /
                          /
                          /
                          /
                          /
                          /
```

Enter the following in the RECIPIENT FIELD NAME field:

REGION <TAB>

The cursor should now be in the /LEN (length of the key) field, as shown below:

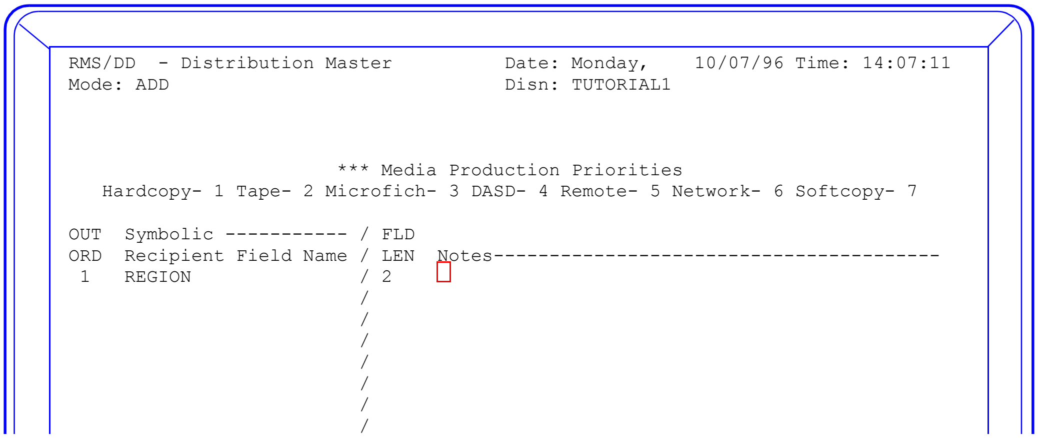


```
RMS/DD  - Distribution Master          Date: Monday,    10/07/96 Time: 14:07:11
Mode: ADD                              Disn: TUTORIAL1



                        *** Media Production Priorities
   Hardcopy- 1 Tape- 2 Microfich- 3 DASD- 4 Remote- 5 Network- 6 Softcopy- 7

OUT  Symbolic ----------- / FLD
ORD  Recipient Field Name / LEN  Notes----------------------------------------
 1   REGION               /
                          /
                          /
                          /
                          /
                          /
                          /
```

Enter the following in the /LEN field:

2 <TAB>

The cursor should now be in the NOTES field, as illustrated below:



```
RMS/DD  - Distribution Master          Date: Monday,    10/07/96 Time: 14:07:11
Mode: ADD                              Disn: TUTORIAL1



                        *** Media Production Priorities
   Hardcopy- 1 Tape- 2 Microfich- 3 DASD- 4 Remote- 5 Network- 6 Softcopy- 7

OUT  Symbolic ----------- / FLD
ORD  Recipient Field Name / LEN  Notes----------------------------------------
 1   REGION               / 2
                          /
                          /
                          /
                          /
                          /
                          /
                          /
```

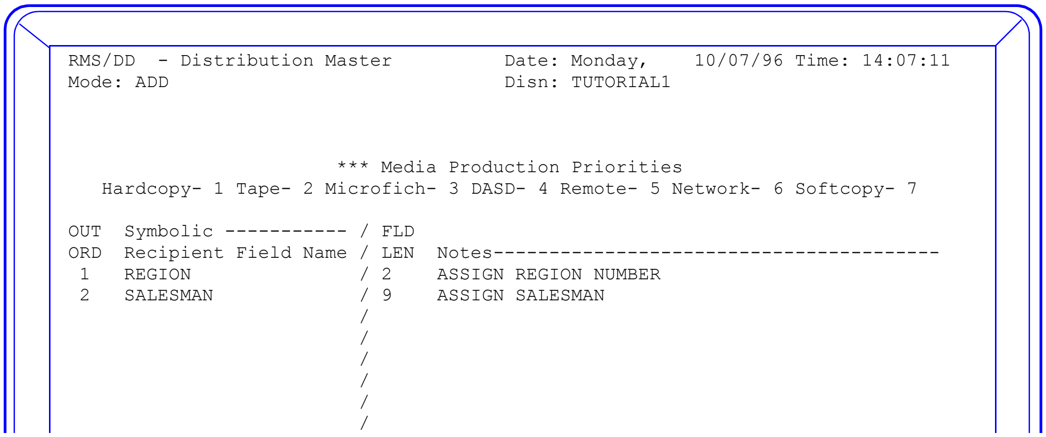
The NOTES field is optional and can be used to help describe the key. Enter the following in the NOTES field:

ASSIGN REGION NUMBER <TAB>

The cursor should now be on the next line and in the OUT ORD field. You are now ready to enter the information for the second recipient field.

NOTE: CAUTION! Although the task in the original memo does not require the use of this recipient field (key), some of the more advanced functions later in the tutorial will require this recipient field. Be sure to define all recipient fields that may be required. You cannot add recipient fields to this panel without converting all other panels (with the ADR command from the RMS/DD Primary Menu).

Enter the information as shown in the following illustration. Use the <TAB> key to move the cursor.



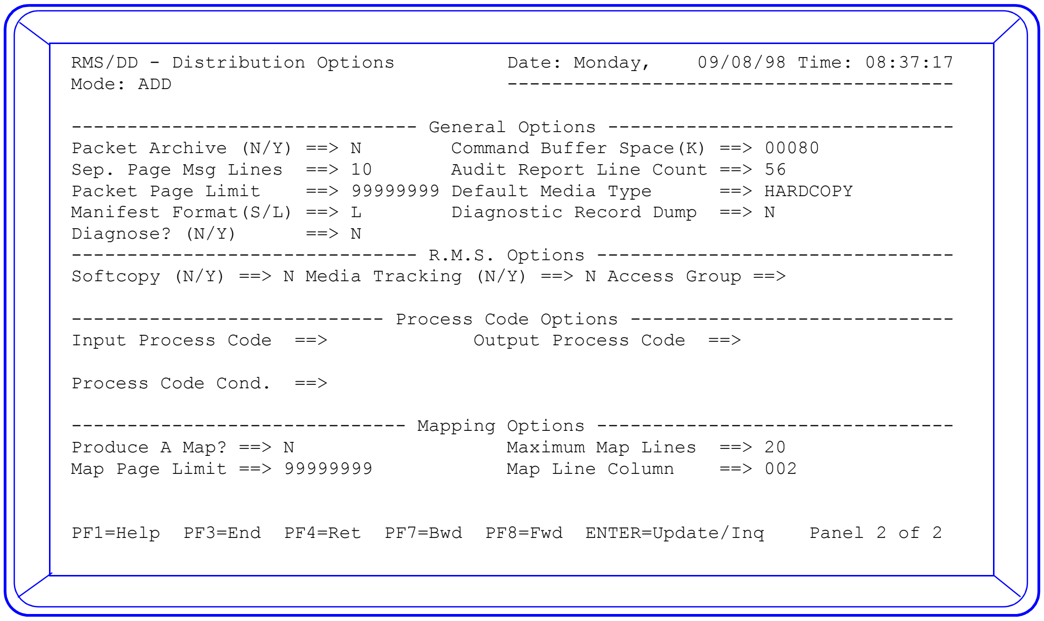
```
RMS/DD  - Distribution Master          Date: Monday,    10/07/96 Time: 14:07:11
Mode: ADD                              Disn: TUTORIAL1



                        *** Media Production Priorities
   Hardcopy- 1 Tape- 2 Microfich- 3 DASD- 4 Remote- 5 Network- 6 Softcopy- 7

OUT  Symbolic ----------- / FLD
ORD  Recipient Field Name / LEN  Notes---------------------------------------
 1   REGION               / 2    ASSIGN REGION NUMBER
 2   SALESMAN             / 9    ASSIGN SALESMAN
                          /
                          /
                          /
                          /
                          /
                          /
```

Once you have entered all the information for the SALESMAN key, you have completed the first DISTRIBUTION OPTIONS PANEL.

Do **NOT** press the <ENTER> key at this point. You must first press the following key to display the second DISTRIBUTION OPTIONS PANEL:

`<PF8>`

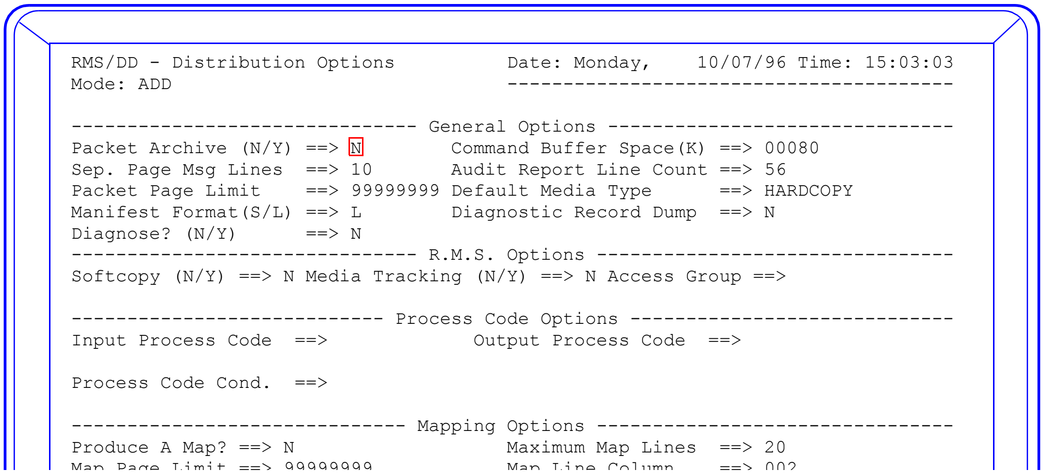
The DISTRIBUTION OPTIONS PANEL should now be displayed, as shown below:



```
RMS/DD - Distribution Options          Date: Monday,    09/08/98 Time: 08:37:17
Mode: ADD                              ----------------------------------------

------------------------------- General Options -------------------------------
Packet Archive (N/Y) ==> N        Command Buffer Space(K) ==> 00080
Sep. Page Msg Lines  ==> 10       Audit Report Line Count ==> 56
Packet Page Limit    ==> 99999999 Default Media Type      ==> HARDCOPY
Manifest Format(S/L) ==> L        Diagnostic Record Dump  ==> N
Diagnose? (N/Y)      ==> N
------------------------------- R.M.S. Options --------------------------------
Softcopy (N/Y) ==> N Media Tracking (N/Y) ==> N Access Group ==>

---------------------------- Process Code Options ----------------------------
Input Process Code  ==>             Output Process Code  ==>

Process Code Cond.  ==>

------------------------------ Mapping Options --------------------------------
Produce A Map? ==> N                Maximum Map Lines  ==> 20
Map Page Limit ==> 99999999         Map Line Column    ==> 002


PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 2 of 2
```

DISTRIBUTION OPTIONS PANEL

The cursor should be located in the PACKET ARCHIVE (Y/N) ==> field, as shown below:



```
RMS/DD - Distribution Options          Date: Monday,    10/07/96 Time: 15:03:03
Mode: ADD                              ----------------------------------------

------------------------------- General Options -------------------------------
Packet Archive (N/Y)  ==> N        Command Buffer Space(K) ==> 00080
Sep. Page Msg Lines   ==> 10       Audit Report Line Count ==> 56
Packet Page Limit     ==> 99999999 Default Media Type      ==> HARDCOPY
Manifest Format(S/L)  ==> L        Diagnostic Record Dump  ==> N
Diagnose? (N/Y)       ==> N
------------------------------- R.M.S. Options -------------------------------
Softcopy (N/Y) ==> N Media Tracking (N/Y) ==> N Access Group ==>

---------------------------- Process Code Options -----------------------------
Input Process Code  ==>              Output Process Code  ==>

Process Code Cond.  ==>

------------------------------ Mapping Options --------------------------------
Produce A Map? ==> N                    Maximum Map Lines   ==> 20
Map Page Limit ==> 99999999             Map Line Column     ==> 002
```

The purpose of this field is to tell the system to create a file containing a copy of each packet created during the execution of this instruction set. The file that is created is sent to the QXARCHO DD statement and can be used as input to RM80001 (*which is used for report recovery*).

You do not need to change the default for this field. Press the following key:

`<TAB>`

The cursor should now be located in the

`COMMAND BUFFER SPACE (K) ==> FIELD.`

The purpose of this field is to specify the size of the space that holds the command stream. The default is 80K bytes. If you specify a value here, it replaces the default (it is not in addition to the default). The default buffer space is adequate for this tutorial. Press the following key to advance to the next field:

`<TAB>`

The cursor should now be located in the SEP. PAGE MSG LINES ==> field. This field is used to specify the desired number of message lines that the system will print on the start and end separator pages. This value can be from 0 to 25. The default is 10. You do not need to change the default for this tutorial. Press the following key:

`<TAB>`

The cursor should now be located in the AUDIT REPORT LINE COUNT ==> field. The purpose of this field is to set the maximum number of lines to print on each page of the RMS/RDC system reports. It has no effect on your distributed reports. The maximum number of lines is 66. The default is 56. Do not change the default value. Press the following key to advance to the next field:

`<TAB>`

The cursor should now be in the PACKET PAGE LIMIT ==> field. This field is used to limit the total number of pages to be printed for any reports within the packet. This feature is commonly used when testing to avoid printing entire packets. The default is 99999999. Do not change the default for this field. Press the following key:

`<TAB>`

The cursor is now in the DEFAULT MEDIA TYPE ==> field. This feature is used to specify the desired default media type to which all reports will be output. You will see how to override this value for specific reports later in the tutorial. The default is HARDCOPY. Do not change the default since your memo indicated that a hardcopy is desired. Press the following key:

`<TAB>`

The cursor should now be located in the MANIFEST FORMAT ==> field. The system can print a listing of all reports that are contained in each packet. This listing is called a "manifest".

You can enter "S" or "L" in this field. The "S" indicates that the manifest report will contain a short (1 line) listing for each report in the packet. The "L" indicates that the manifest report will contain a long (2 line) listing for each report in the packet. The default value is "L"ong. Do not change the default. Press the following key to advance to the next field

`<TAB>`

The cursor is now in the DIAGNOSTIC RECORD DUMP ==> field. You can specify "Y" or "N" in this field.

This field is used to indicate whether you want the system to print a trace of all RMS/RDC sort key records that are generated during the RMS/RDC run. This feature is useful when debugging (*tracing errors*) in your instructions. The default for this field is "N". You should change the default so that you can see how this feature works (*the record dump will be printed when the command stream is run*). Enter the following in this field:

`Y`

The "Y" should overwrite the "N".

The cursor should automatically advance to the DIAGNOSE? (Y/N) ==> field. You can specify "Y" or "N" in this field. The purpose of this field is to produce command-format edit information only. This is used when you do not want to print the reports, but you want to be sure your command stream is working as desired. No reports will be processed when you specify "Y" in this field. The default is "N".

Do not change the default value. Press the following key to advance to the next field:

`<TAB>`

The cursor should now be in the SOFTCOPY (Y/N) ==>field. This field is used to indicate that reports will be made available for on-line viewing. Although the current memo does not require that reports be made available through RMS/Online, you will need to use it later in this exercise. Therefore, change the default "N" to "Y". Enter the following in this field:

`Y`

The cursor should automatically advance to the MEDIA TRACKING ==> field. The purpose of this field is to request that the system send tracking (index) records to the RMS/Online files about all packets and reports produced by RMS/RDC. The tracked information goes to a file named Report Control Data Set (RCDS). The default setting is "N". Press the following key; leave the default unchanged and advance to the next field:

`<TAB>`

The cursor is now located in the ACCESS GROUP ==> field. This option is used to specify the name of the group of reports that will be viewed with RMS/Online and/or tracked with the MEDIA*TRACKING option.

This field is automatically left blank. Access Group is required. Enter the following key to advance to the next field:

`<IVSYSTEM>`

The cursor should now be located in the INPUT PROCESS CODE ==> field. This field is used to specify the name of a previously processed base dataset(s). You will learn more about this function later. For now simply press the following key to advance to the next field:

`<TAB>`

The cursor should now be in the OUTPUT PROCESS CODE ==> field. This feature is used in conjunction with the INPUT PROCESS CODE. It used to flag datasets that are selected with this command stream. You will learn more about this feature later. For now, simply press the following key to advance to the next field:

`<TAB>`

The cursor should now be located in the PROCESS CODE COND. ==> field. This field is used to enter a comparison code that is used to compare the process code on the dataset to the specified INPUT PROCESS CODE. You will learn more about this feature later. Press the following key to move to the next field:

`<TAB>`

You are now in the area of the panel that allows you to build a map (like the ones that were shown at the beginning of this tutorial).

The cursor should now be in the PRODUCE A MAP? ==> field. You can enter "Y" or "N". If you enter "Y", the system will produce the selected reports with a row/column map. The three fields that follow allow you to specify other conditions for the mapped data.

Since we have already given you the mapped data, you do not need to produce another map. Enter the following:

`N`

The cursor should automatically move to the MAXIMUM MAP LINES ==> field. This field is used to specify the number of lines the system should print of each page of the mapped data report. The default is 20 lines.

Since you are not mapping data now, press the following to advance to the next field:

`<TAB>`

The cursor is now in the MAP PAGE LIMIT ==> field. This field is used to specify the desired number of pages the system should print of each mapped data report. The default is 99999999.

Since you are not mapping data, the default value can be left unchanged. Press the following key:

`<TAB>`

The cursor is now in the MAP LINE COLUMN ==> field. The system automatically prints the column number guide on the first line of the report (as shown on your mapped data). However, you can specify the desired column number to print the line number guide. This allows you to print the map so that line/column information does not overwrite any important data on the report(s). You do not need to be concerned with entering a value in this field.

You are now finished with the DISTRIBUTION OPTIONS PANEL 2.

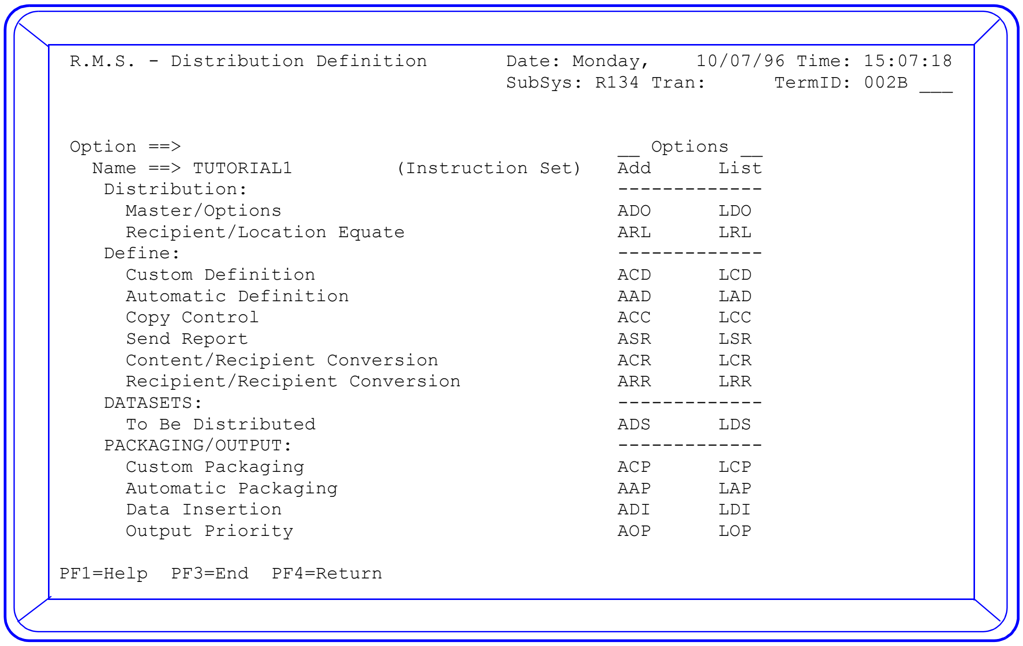
Press the key shown below to save this panel:

`<ENTER>`

Now press the following key to re-display the RMS/DD Primary Menu:

`<PF3>`

The Primary Menu will be displayed, as shown below:



```
 R.M.S. - Distribution Definition       Date: Monday,    10/07/96 Time: 15:07:18
                                        SubSys: R134 Tran:      TermID: 002B ___


 Option ==>                                        __ Options __
   Name ==> TUTORIAL1         (Instruction Set)    Add      List
    Distribution:                                  -------------
      Master/Options                               ADO      LDO
      Recipient/Location Equate                    ARL      LRL
    Define:                                        -------------
      Custom Definition                            ACD      LCD
      Automatic Definition                         AAD      LAD
      Copy Control                                 ACC      LCC
      Send Report                                  ASR      LSR
      Content/Recipient Conversion                 ACR      LCR
      Recipient/Recipient Conversion               ARR      LRR
    DATASETS:                                      -------------
      To Be Distributed                            ADS      LDS
    PACKAGING/OUTPUT:                              -------------
      Custom Packaging                             ACP      LCP
      Automatic Packaging                          AAP      LAP
      Data Insertion                               ADI      LDI
      Output Priority                              AOP      LOP

PF1=Help  PF3=End  PF4=Return
```

You are now ready to continue creating the instruction set.

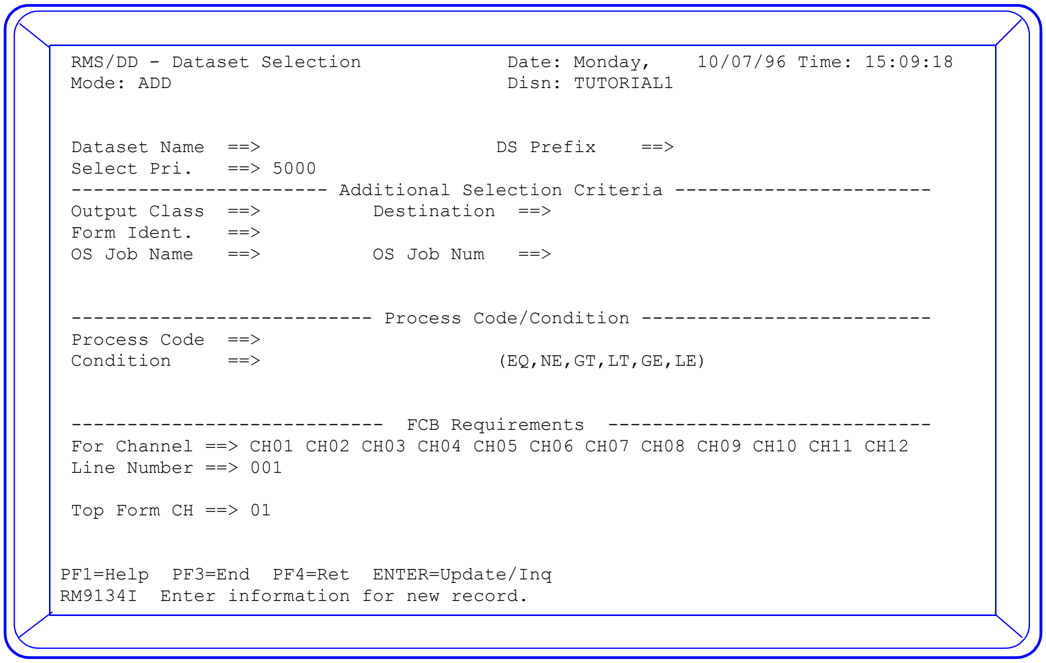
DATASET SELECTION PANEL

The next step is to define the data that you want to select and include in this distribution. For this example, you only want to define one report dataset.

Enter the following at the OPTION ==> prompt to display the Dataset Selection Panel:

`ADS <ENTER>`

The Dataset Selection Panel should be displayed, as shown below:



```
 RMS/DD - Dataset Selection             Date: Monday,    10/07/96 Time: 15:09:18
 Mode: ADD                              Disn: TUTORIAL1


 Dataset Name  ==>                     DS Prefix    ==>
 Select Pri.   ==> 5000
 ----------------------- Additional Selection Criteria -----------------------
 Output Class  ==>          Destination  ==>
 Form Ident.   ==>
 OS Job Name   ==>          OS Job Num   ==>


 --------------------------- Process Code/Condition --------------------------
 Process Code  ==>
 Condition     ==>                     (EQ,NE,GT,LT,GE,LE)


 ----------------------------  FCB Requirements  -----------------------------
 For Channel ==> CH01 CH02 CH03 CH04 CH05 CH06 CH07 CH08 CH09 CH10 CH11 CH12
 Line Number ==> 001

 Top Form CH ==> 01


PF1=Help  PF3=End  PF4=Ret  ENTER=Update/Inq
RM9134I  Enter information for new record.
```

This panel allows you to select the desired datasets to be processed by this instruction set. Select a dataset by indicating a specific name or select a group of datasets by indicating a generic name (*that includes the wildcard character "*"*). As you will see, there are other parameters, besides name, that must be specified on this panel.

The cursor should be located in the DATASET NAME ==> field, as shown below:

This field (*you* must *specify a DATASET NAME or DS PREFIX, which is the generic name*) is used to specify the full name that will be used to select the desired dataset for processing. The name can be up to 8 alphanumeric characters in length, but it must begin with an alpha character.

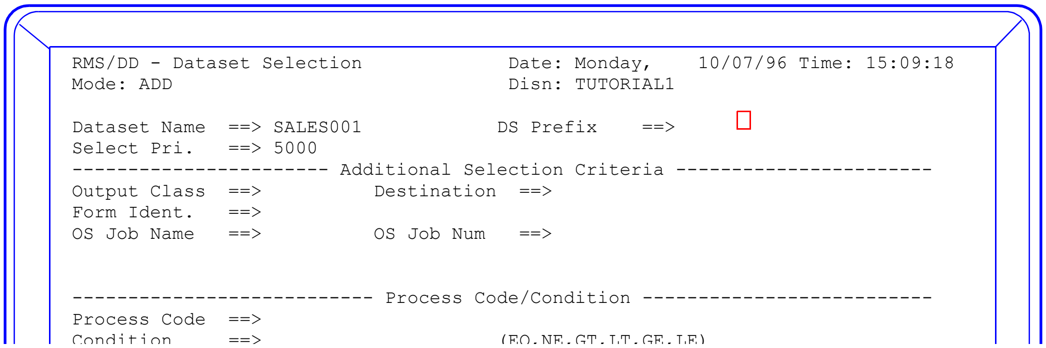
The dataset name comes from the original SYSOUT DD which created dataset. If the dataset profile capability is used, the dataset name is the name assigned in the profile record. If the external writer interface was used, following is a sample SYSOUT DD statement that could have been used to create the dataset:

```
MVS: //YOURDD DD SYSOUT=(Q,XXXXXXXX,FORM),DEST=LOCAL
VSE: * $$ LST CLASS=Q,DEST=(RMS,XXXXXXXX)
      WHERE:
            Q      = CLASS      XXXXXXXX     = DATASET NAME
            FORM   = FORM ID    LOCAL        = DESTINATION
```

Enter the following for the dataset name for this example:

SALES001 <TAB>

The cursor should now be located in the DS PREFIX ==> field, as shown below:



```
RMS/DD - Dataset Selection              Date: Monday,    10/07/96 Time: 15:09:18
Mode: ADD                               Disn: TUTORIAL1

Dataset Name  ==> SALES001             DS Prefix    ==>
Select Pri.   ==> 5000
----------------------- Additional Selection Criteria -----------------------
Output Class  ==>          Destination  ==>
Form Ident.   ==>
OS Job Name   ==>          OS Job Num   ==>


--------------------------- Process Code/Condition --------------------------
Process Code  ==>
Condition     ==>                      (EQ,NE,GT,LT,GE,LE)
```

This field, as described previously, is used if you want to select a group of datasets that have some common element to their name. For example, if you wanted to select all datasets whose names begin with “REG”, you would enter “REG” in the DS PREFIX field. Remember, however, that the DS PREFIX field should only be used if the DATASET NAME field is left blank.

Since you already specified a DATASET NAME, press the following key to leave this field blank and advance to the next field:

<TAB>

The cursor should now be located in the SELECT PRI ==> field. “SELECT PRI” stands for selection priority.

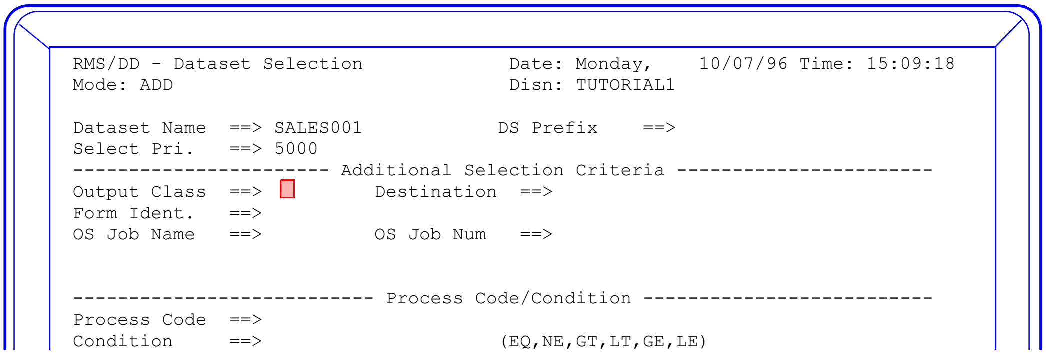
This optional field allows you to assign a priority number to a dataset (which is applicable when more than one dataset is being selected). This priority number tells the system the order in which to select the desired datasets. If you do not indicate a selection priority (*by not changing the default*), the system will select the datasets in alphabetical order. The priority number can be from 1 to 9999. The default priority is 5000.

Since you are only selecting one dataset for this example, the default does not need to be changed.

Press the following key to advance to the next field:

<TAB>

The cursor should now move down to the ADDITIONAL SELECTION CRITERIA area of the panel in the OUTPUT CLASS ==> field, as shown below:



```
RMS/DD - Dataset Selection              Date: Monday,    10/07/96 Time: 15:09:18
Mode: ADD                               Disn: TUTORIAL1

Dataset Name  ==> SALES001             DS Prefix    ==>
Select Pri.   ==> 5000
----------------------- Additional Selection Criteria -----------------------
Output Class  ==>          Destination  ==>
Form Ident.   ==>
OS Job Name   ==>          OS Job Num   ==>


--------------------------- Process Code/Condition --------------------------
Process Code  ==>
Condition     ==>                      (EQ,NE,GT,LT,GE,LE)
```

This field allows you to select datasets that have a specific class assignment. This output class is the class from the original SYSOUT DD from which the dataset entered the repository (*not the class to which you want it to go*).

It is not necessary to enter an OUTPUT CLASS here. Press the following key to move to the next field:

<TAB>

The cursor should now be located in the DESTINATION ==> field as shown below: If a destination identifier is specified in this field, the system will select all datasets with a matching destination identifier.

The destination is from the original SYSOUT DD with which the dataset entered the repository (*not the destination to which you want to send the report*).

If you are using NJE, use the short format specification for NODE:REMOTE destinations (*NnnnnRnnnn*).

This example does not call for the use of a destination. Enter the following to advance to the next field:

<TAB>

The cursor should now be located in the OS JOB NAME ==> field. This optional field is used to select datasets by job name. For this example, you can leave this field blank.

Press the following key to advance to the next field:

<TAB>

The cursor should be located in the OS JOB NUM ==> (OS JOB NUMBER) field. This optional field is used to limit the dataset selection to those with a matching OS/MVS job number. For this example, this field can be left blank.

Press the following key to advance to the next field:

<TAB>

The cursor should now move to the PROCESS CODE/CONDITION area of the panel in the PROCESS CODE ==> field.

The purpose of this field is to specify a process code that will limit dataset selection to previously processed base datasets. You are not concerned with this feature for this example.

Press the following key to leave this field blank and to advance to the next field:

<TAB>

The cursor is now in the CONDITION ==> field. This field is used in conjunction with the PROCESS CODE. This field is used to specify the desired comparison condition (i.e., EQ equal, NE - not equal) for the comparison of the string specified in the PROCESS CODE field and the process codes of previously queued datasets.

You do not need to enter a value in this field. Press the following key to advance to the next field:

<TAB>

The cursor is now in the FOR CHANNEL ==> field. The purpose of this field is to select the desired channel number. You are not concerned with this field for this example. Press the following key to continue:

<TAB>

The cursor is now in the LINE NUMBER ==> field. This field is used to enter the report page line number that the channel skip will represent. You are not concerned with this feature for this example. Press the following key to move to the next field:

<TAB>

You are now at the TOP FORM CH ==> field. This field is used to specify the top of form channel. You are not concerned with this feature for this example.

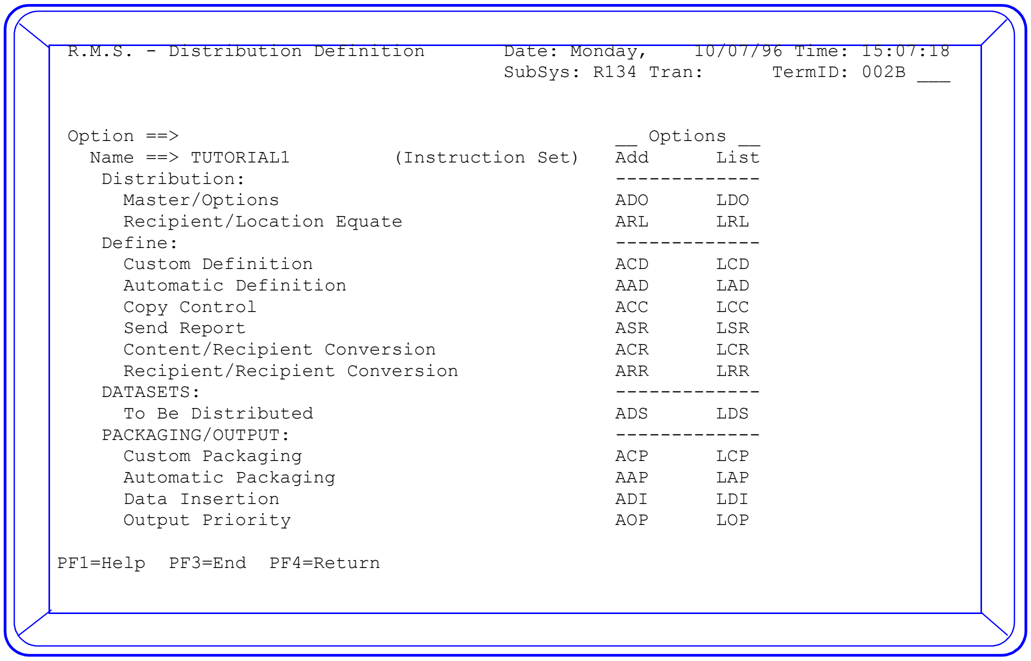
You have now specified all necessary parameters for this panel. Press the following key to tell the system to save these parameters.

<ENTER>

Now press the following key to return to the RMS/DD Primary Menu to continue creating the instruction set:

<PF3>

The RMS/DD Primary Menu should now be displayed, as shown below:



```
R.M.S. - Distribution Definition       Date: Monday,    10/07/96 Time: 15:07:18
                                       SubSys: R134 Tran:      TermID: 002B ___


Option ==>                                          __ Options __
  Name ==> TUTORIAL1         (Instruction Set)      Add      List
   Distribution:                                    -------------
     Master/Options                                 ADO      LDO
     Recipient/Location Equate                      ARL      LRL
   Define:                                          -------------
     Custom Definition                              ACD      LCD
     Automatic Definition                           AAD      LAD
     Copy Control                                   ACC      LCC
     Send Report                                    ASR      LSR
     Content/Recipient Conversion                   ACR      LCR
     Recipient/Recipient Conversion                 ARR      LRR
   DATASETS:                                        -------------
     To Be Distributed                              ADS      LDS
   PACKAGING/OUTPUT:                                -------------
     Custom Packaging                               ACP      LCP
     Automatic Packaging                            AAP      LAP
     Data Insertion                                 ADI      LDI
     Output Priority                                AOP      LOP

PF1=Help  PF3=End  PF4=Return
```

CUSTOM REPORT DEFINITION PANEL FOR SALES ACTIVITY REPORT

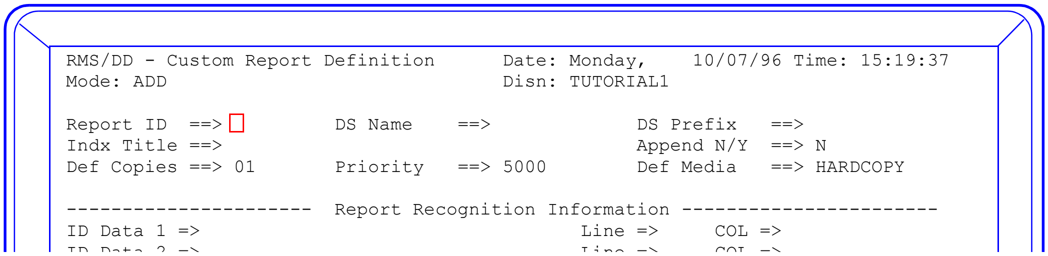
Now that you are back at the RMS/DD Primary Menu, you can continue defining the instruction set to complete the task. The next step is to create a Custom Report Definition Panel.

Enter the following to display the Custom Report Definition Panel:

ACD <ENTER>

This panel is used to provide the system with specific descriptions of identifying features of the desired report(s). The system is quite flexible and allows you to identify any number of reports with its appropriate Custom Report Definition Panel. However, for this example, we are only concerned with a single report.

The cursor should be located in the REPORT ID ==> field, as shown below:

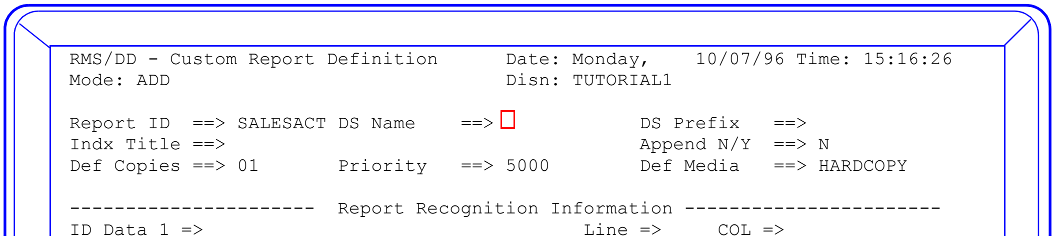


```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 15:19:37
Mode: ADD                              Disn: TUTORIAL1

Report ID  ==> ☐        DS Name    ==>             DS Prefix    ==>
Indx Title ==>                                     Append N/Y   ==> N
Def Copies ==> 01       Priority   ==> 5000        Def Media    ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 =>                                  Line =>     COL =>
ID Data 2 =>                                  Line =>     COL =>
```

You must enter a value in this field. The purpose of this field is to specify a logical name for the report (*a name that identifies, for example, the contents of the report*). Your company probably has naming guidelines that dictate how you assign REPORT IDs. However, for this tutorial, enter the following in this field:

SALESACT

The cursor should now be in the DS NAME ==> field, as shown below:



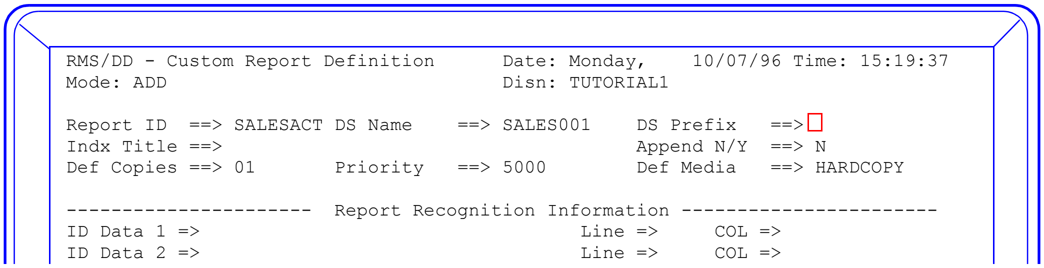
```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 15:16:26
Mode: ADD                              Disn: TUTORIAL1

Report ID  ==> SALESACT DS Name    ==> ☐           DS Prefix   ==>
Indx Title ==>                                     Append N/Y  ==> N
Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 =>                                  Line =>     COL =>
```

The DS (base datasets) NAME field is used to limit the application of this panel to those with a matching name. This name must be the same as the dataset name that was specified previously on the Dataset Selection Panel. A complete and specific name of up to 8 alphanumeric characters must be entered in this field. No wildcard (*) characters can be used here.

Enter the following in the DS NAME ==> field:

SALES001

The cursor should now be in the **DS PREFIX** ==> field, as shown below:



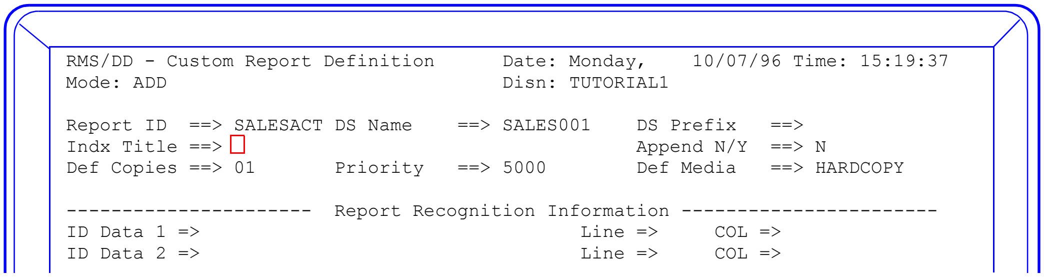
```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 15:19:37
Mode: ADD                              Disn: TUTORIAL1

Report ID  ==> SALESACT DS Name    ==> SALES001    DS Prefix   ==>☐
Indx Title ==>                                     Append N/Y  ==> N
Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 =>                                  Line =>     COL =>
ID Data 2 =>                                  Line =>     COL =>
```

This field is used if you have multiple datasets that could contain this report. This field can contain up to 8 alphanumeric characters, and can include the wildcard (*) character. Only use this field if the DS NAME field is **not** used. For this example, we are not concerned with this field.

Press the following key to advance to the next field:

<TAB>

The cursor should now be in the INDX TITLE ==> field, as shown below:



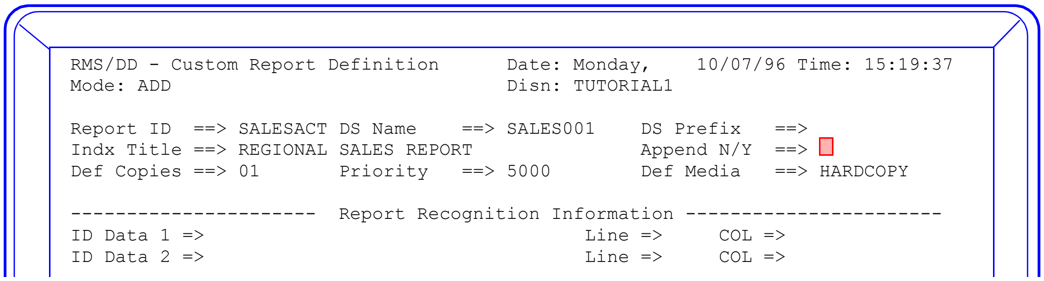
```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 15:19:37
Mode: ADD                              Disn: TUTORIAL1

Report ID  ==> SALESACT DS Name    ==> SALES001    DS Prefix   ==>
Indx Title ==> ☐                                   Append N/Y  ==> N
Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 =>                                  Line =>     COL =>
ID Data 2 =>                                  Line =>     COL =>
```

This field is used to specify a descriptive title (more descriptive than the REPORT ID) that will appear on the packet manifest. The packet manifest is a listing of all reports in the packet (in this case there will only be one report). The INDX (index) TITLE can contain up to 30 alphanumeric characters.

Enter the following in the INDX TITLE ==> field:

`REGIONAL SALES REPORT <TAB>`

The cursor should now be located in the APND Y/N ==> field, as shown below:



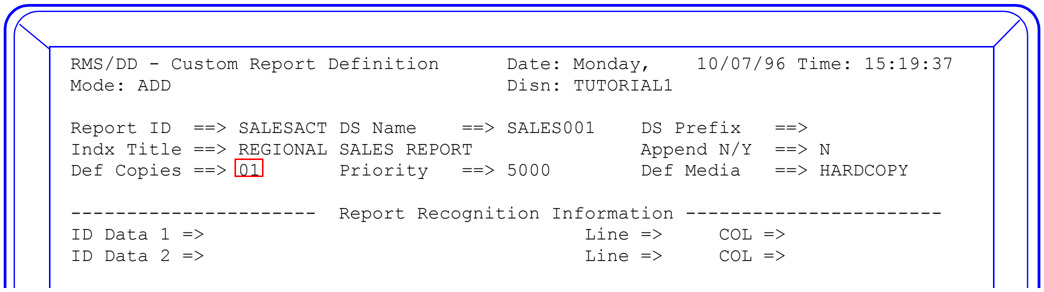
```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 15:19:37
Mode: ADD                              Disn: TUTORIAL1

Report ID  ==> SALESACT DS Name    ==> SALES001    DS Prefix   ==>
Indx Title ==> REGIONAL SALES REPORT               Append N/Y  ==> 
Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 =>                                Line =>     COL =>
ID Data 2 =>                                Line =>     COL =>
```

This field is used to tell the system whether you want to append pages that match the criteria on this panel to the previously processed page. We are not concerned with this feature for this example. The default (N) is automatically displayed. We do not want to change the default.

Enter the following to advance the cursor to the next field:

`<TAB>`

The cursor should now be located in the DEF COPIES ==> field, as shown below:



```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 15:19:37
Mode: ADD                              Disn: TUTORIAL1

Report ID  ==> SALESACT DS Name    ==> SALES001    DS Prefix   ==>
Indx Title ==> REGIONAL SALES REPORT               Append N/Y  ==> N
Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 =>                                Line =>     COL =>
ID Data 2 =>                                Line =>     COL =>
```

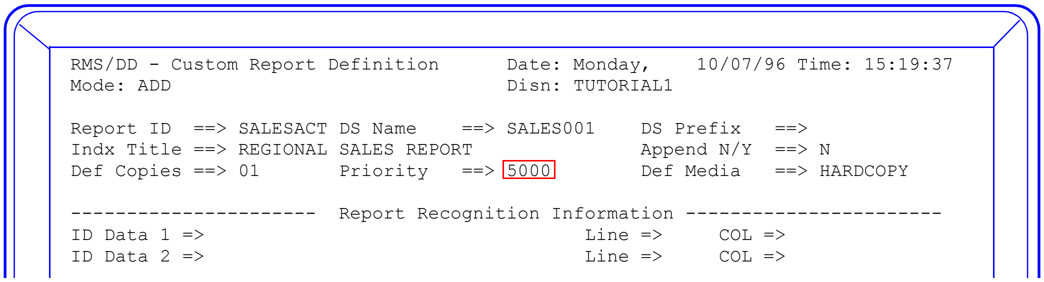
This field is used to specify the desired number of copies of the report. Unless otherwise specified on the COPY CONTROL PANEL (which you will learn about later), the system will print the number of copies specified in this field. The default (1 copy) is automatically displayed.

For this tutorial, we only need one copy of the report (*as specified on the original memo*) so we don't need to change the default.

Enter the following to advance to the next field:

`<TAB>`

The cursor should now be located in the PRIORITY ==> field, as shown in the illustration below:



```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 15:19:37
Mode: ADD                              Disn: TUTORIAL1

Report ID  ==> SALESACT DS Name    ==> SALES001    DS Prefix   ==>
Indx Title ==> REGIONAL SALES REPORT               Append N/Y  ==> N
Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 =>                                Line =>     COL =>
ID Data 2 =>                                Line =>     COL =>
```

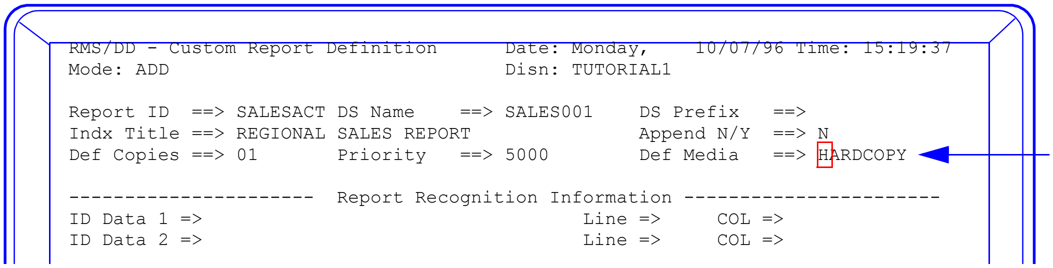
This optional field can be used if you are printing more than one report in a packet. This priority number will tell the system the desired order to print the reports. If you want a report to be printed at the beginning of a packet, it should be assigned the lowest priority number. The priority numbers can range from 0 to 9999. The default (*5000*) is automatically displayed.

The packet we are creating for this example will only contain one report. Therefore, the priority number is not applicable. The default does not need to be changed.

Enter the following to advance the cursor to the next field:

<TAB>

The cursor should now be located in the DEF MEDIA ==> field, as shown in the illustration below:



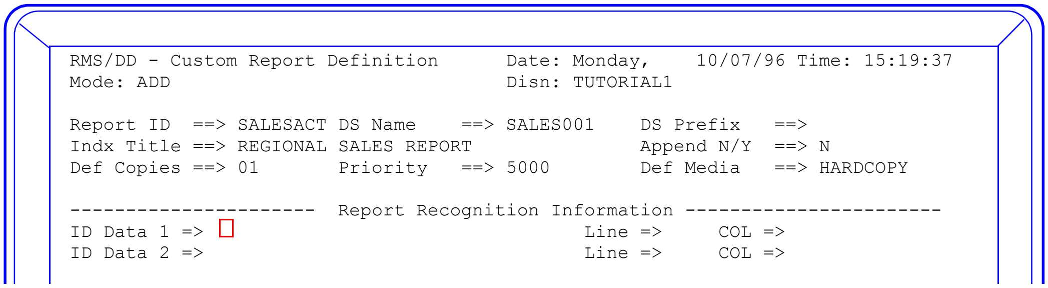
```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 15:19:37
Mode: ADD                              Disn: TUTORIAL1

Report ID  ==> SALESACT DS Name    ==> SALES001    DS Prefix   ==>
Indx Title ==> REGIONAL SALES REPORT               Append N/Y  ==> N
Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 =>                                  Line =>     COL =>
ID Data 2 =>                                  Line =>     COL =>
```

This field is used to tell the system to which media you want to send the packet. All pages in this report will be sent to this media, unless otherwise specified on the SEND REPORT PANEL (*which you will learn about later*). The default media is HARDCOPY. Since that is what we need for this task, we do not need to change the default.

Enter the following to advance the cursor to the next field:

<TAB>

The cursor should now move to the REPORT RECOGNITION INFORMATION area of the screen, as shown below:



```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 15:19:37
Mode: ADD                              Disn: TUTORIAL1

Report ID  ==> SALESACT DS Name    ==> SALES001    DS Prefix   ==>
Indx Title ==> REGIONAL SALES REPORT               Append N/Y  ==> N
Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 =>                                  Line =>     COL =>
ID Data 2 =>                                  Line =>     COL =>
```

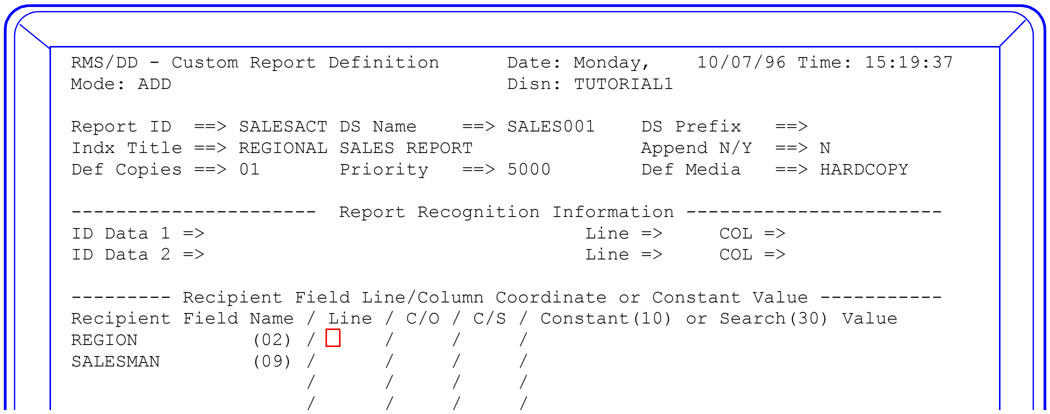
This area of the screen is used to specify a string and its location that uniquely identifies the report. The string can be up to 30 alphanumeric characters. If you omit an INDEX TITLE (*step 6 above*), the ID DATA can be used as the title on the manifest. The system will look for one or two strings (*ID DATA 1 and ID DATA 2*) in the specified location (*LINE and COLumn*). The column number indicates the location of the first character of the string.

Since there is only one report within your dataset, the dataset name alone is enough to identify the report.

For this example, leave this area blank. Continue to press the following key until the cursor has moved to the bottom portion of the screen (*RECIPIENT FIELD LINE/COLUMN COORDINATE OR CONSTANT VALUE*):

<TAB>

The cursor should now be in the RECIPIENT FIELD LINE/ COLUMN COORDINATE OR CONSTANT VALUE area of the screen, as shown below:



```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 15:19:37
Mode: ADD                              Disn: TUTORIAL1

Report ID  ==> SALESACT DS Name    ==> SALES001    DS Prefix   ==>
Indx Title ==> REGIONAL SALES REPORT               Append N/Y  ==> N
Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 =>                                  Line =>     COL =>
ID Data 2 =>                                  Line =>     COL =>

--------- Recipient Field Line/Column Coordinate or Constant Value -----------
Recipient Field Name / Line / C/O / C/S / Constant(10) or Search(30) Value
REGION          (02) /      /     /     /
SALESMAN        (09) /      /     /     /
                     /      /     /     /
                     /      /     /     /
```

On the DISTRIBUTION MASTER SCREEN you told the system about desired keys (*name, length, and optional description*) to govern the distribution of reports. Now you are telling the system where it can find those key elements or recipient fields on the report. Note that the recipient fields that were previously defined are automatically displayed (*along with their length*) and the cursor is shown in the /LINE field. Since the REGION number can be found on the third line of the report (*your reports will have different recipient fields with different line/column coordinates*), enter the following in the /LINE field:

`3 <TAB>`

The cursor should now be in the C/O field. The “C” stands for Column and the “O” stands for Offset.

If the recipient field (*in this case REGION number*) you are looking for is always in the same place on each report page, you should specify the column number of the first character in the REGION number.

If the string will not always be in the same place, you will need to tell the system how to find the desired string. You do this by specifying a search value in the CONSTANT OR SEARCH VALUE field (*below*). You must also specify the distance (*how many characters*) from the beginning of the search value to the recipient field for which you are looking. This distance is called the “O”ffset. You do not need to be concerned with the offset for this example.

Remember, refer to your mapped data to find the location of the REGION number. Since we are dealing with only one report and we know the REGION number’s location (*column 10*), enter the following in the C/O field:

`10 <TAB>`

The cursor should now be in the **C/S** field. This is where you specify whether you are filling the recipient field with a CONSTANT value or the SEARCH string (*from which the offset is derived).* Since you only need to provide the line and column number of the REGION number, press the following key to leave this field blank and advance to the next field:

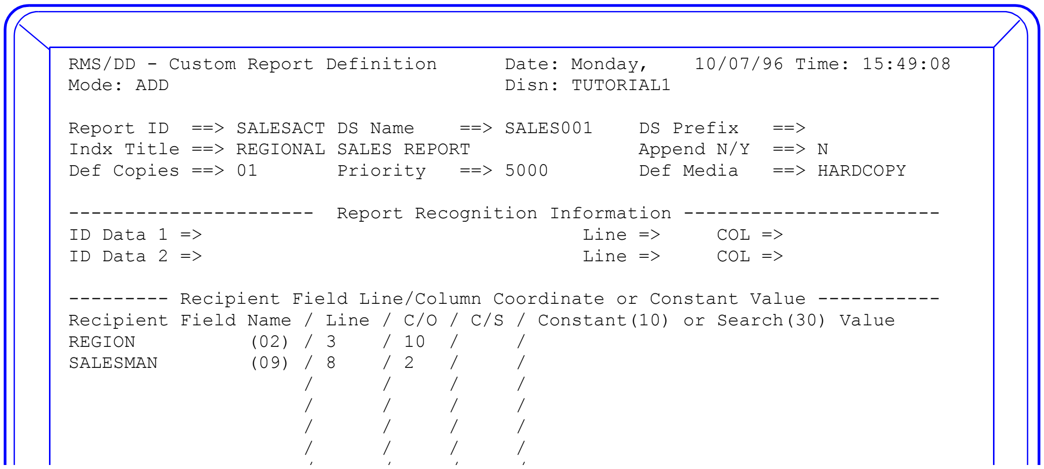
<TAB>

If you were searching for a string that was not in a constant location (*and the number in the C/O field indicated offset*), you would enter “S”earch in this field.

The cursor should now be in the CONSTANT (10) OR SEARCH (30) VALUE field. The REGION number can vary, so you are not filling the field with a constant value or searching the specified line for a string and offset. Press the following key to leave this field blank and advance to the next field:

<TAB>

The cursor should now move to the next line where you can fill in the information about the SALESMAN field (*key*). Enter the information as shown below. Press the <TAB> key to move the cursor.



```
RMS/DD - Custom Report Definition      Date: Monday,    10/07/96 Time: 15:49:08
Mode: ADD                              Disn: TUTORIAL1

Report ID   ==> SALESACT DS Name    ==> SALES001    DS Prefix   ==>
Indx Title ==> REGIONAL SALES REPORT               Append N/Y  ==> N
Def Copies ==> 01       Priority   ==> 5000        Def Media   ==> HARDCOPY

----------------------  Report Recognition Information -----------------------
ID Data 1 =>                                Line =>     COL =>
ID Data 2 =>                                Line =>     COL =>

--------- Recipient Field Line/Column Coordinate or Constant Value -----------
Recipient Field Name / Line / C/O / C/S / Constant(10) or Search(30) Value
REGION          (02) / 3    / 10  /     /
SALESMAN        (09) / 8    / 2   /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /
                     /      /     /     /
```

Refer to the map of the REGIONAL SALES REPORT - SALESMAN SUMMARY to verify the location of this information.

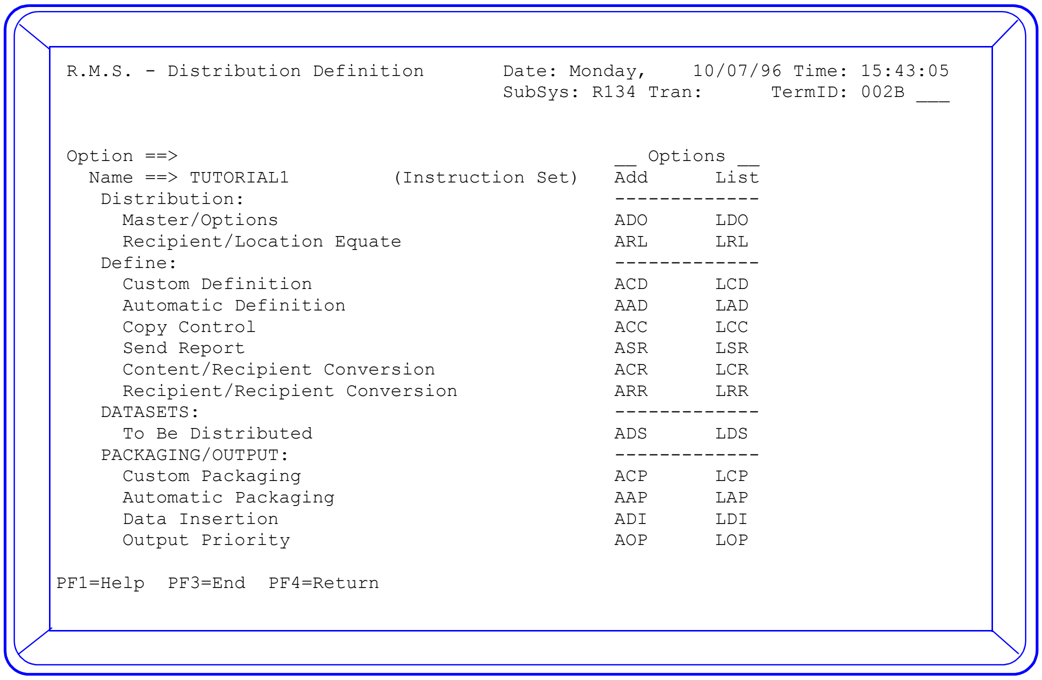
You have now completed the CUSTOM REPORT DEFINITION PANEL. Press the following key to tell the system to save this panel:

<ENTER>

Now press the following to get back to the Primary Menu:

`PF3`

The RMS/DD Primary Menu should now be displayed, as shown below:



```
 R.M.S. - Distribution Definition       Date: Monday,    10/07/96 Time: 15:43:05
                                        SubSys: R134 Tran:      TermID: 002B ___


 Option ==>                                       __ Options __
   Name ==> TUTORIAL1         (Instruction Set)   Add      List
    Distribution:                                 -------------
      Master/Options                              ADO      LDO
      Recipient/Location Equate                   ARL      LRL
    Define:                                       -------------
      Custom Definition                           ACD      LCD
      Automatic Definition                        AAD      LAD
      Copy Control                                ACC      LCC
      Send Report                                 ASR      LSR
      Content/Recipient Conversion                ACR      LCR
      Recipient/Recipient Conversion              ARR      LRR
    DATASETS:                                     -------------
      To Be Distributed                           ADS      LDS
    PACKAGING/OUTPUT:                             -------------
      Custom Packaging                            ACP      LCP
      Automatic Packaging                         AAP      LAP
      Data Insertion                              ADI      LDI
      Output Priority                             AOP      LOP

PF1=Help  PF3=End  PF4=Return
```

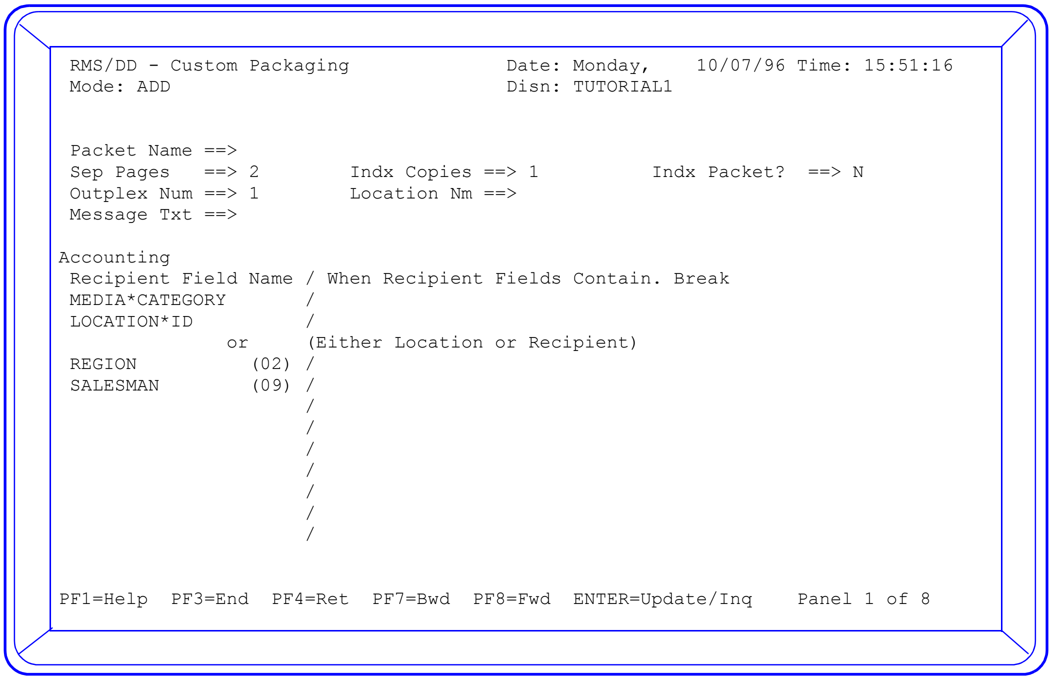
CUSTOM PACKAGING PANEL FOR SALES ACTIVITY REPORT

The RMS/DD Primary Menu should be displayed. You are now ready to fill in the parameters of the Custom Packaging Panel for the REGION 1 report. This panel is used to describe the conditions for creating a new packet.

Enter the following at the OPTION ==> prompt to display the Custom Packaging Panel:

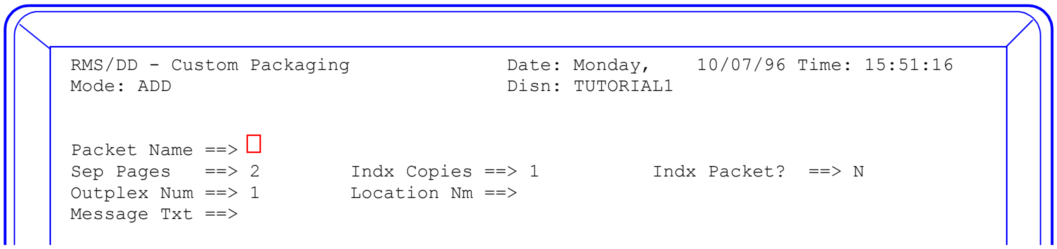
`ACP <TAB>`

The Custom Packaging Panel should now be displayed, as shown below:



```
 RMS/DD - Custom Packaging                Date: Monday,    10/07/96 Time: 15:51:16
 Mode: ADD                                Disn: TUTORIAL1


 Packet Name ==>
 Sep Pages   ==> 2        Indx Copies ==> 1           Indx Packet?  ==> N
 Outplex Num ==> 1        Location Nm ==>
 Message Txt ==>

Accounting
 Recipient Field Name / When Recipient Fields Contain. Break
 MEDIA*CATEGORY       /
 LOCATION*ID          /
               or     (Either Location or Recipient)
 REGION          (02) /
 SALESMAN        (09) /
                      /
                      /
                      /
                      /
                      /
                      /
                      /


PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/Inq    Panel 1 of 8
```

The cursor should be located in the PACKET NAME ==> field, as shown below:



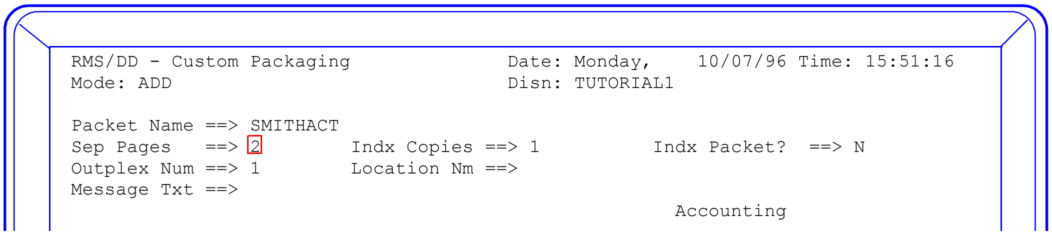
```
 RMS/DD - Custom Packaging                Date: Monday,    10/07/96 Time: 15:51:16
 Mode: ADD                                Disn: TUTORIAL1


 Packet Name ==>
 Sep Pages   ==> 2        Indx Copies ==> 1           Indx Packet?  ==> N
 Outplex Num ==> 1        Location Nm ==>
 Message Txt ==>
```

This field is used to specify a name for the packet. Just as you were able to specify a logical name for your report (*REPORT ID*), you can specify an easily-recognizable name for the entire packet. You can enter up to 8 alphanumeric characters in this field.

Enter the following in the PACKET NAME field:

`SMITHACT`

The cursor should now be located in the SEP PAGES ==> field, as shown below:



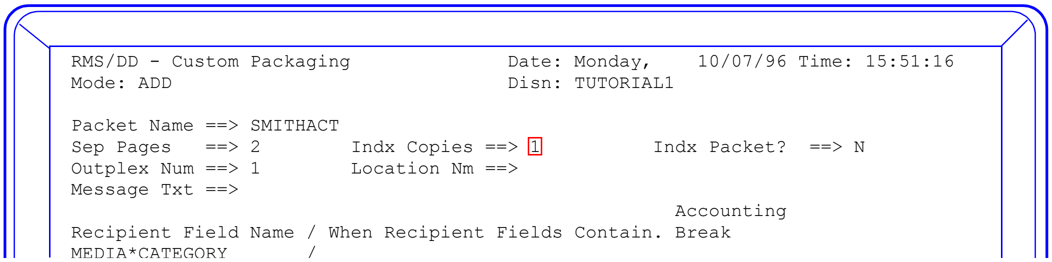
```
 RMS/DD - Custom Packaging                Date: Monday,    10/07/96 Time: 15:51:16
 Mode: ADD                                Disn: TUTORIAL1

 Packet Name ==> SMITHACT
 Sep Pages   ==> 2        Indx Copies ==> 1           Indx Packet?  ==> N
 Outplex Num ==> 1        Location Nm ==>
 Message Txt ==>
                                                         Accounting
```

“SEP PAGES” stands for separator pages. A separator page is simply the page that is located between packets. This field allows you to specify the number of desired pages between the end of one packet and the beginning of the next. The default number of separator pages is 2. For this example, we don’t need to change the default.

Enter the following to advance to the next field:

<TAB>

The cursor should now be located in the INDX COPIES ==> field, as shown below:



```
RMS/DD - Custom Packaging               Date: Monday,    10/07/96 Time: 15:51:16
Mode: ADD                               Disn: TUTORIAL1

Packet Name ==> SMITHACT
Sep Pages   ==> 2         Indx Copies ==> 1          Indx Packet?  ==> N
Outplex Num ==> 1         Location Nm ==>
Message Txt ==>
                                                   Accounting
Recipient Field Name / When Recipient Fields Contain. Break
MEDIA*CATEGORY       /
```

“INDX COPIES” stands for index copies. An index (*or manifest*) is a report showing a list of all reports in the packet. The index contains a list of the INDEX TITLE(s) that was specified on the Custom Report Definition panel(s). The default number of copies of the index is 1. For this example, you do not need to change the default.

Enter the following to advance to the next field:

<TAB>

The cursor should now be located in the INDEX PACKET? ==> field.

This optional field is used to specify whether the packet being created by this Custom Packaging Panel is the panel that describes the “global manifest.” The global manifest is the report containing the packet index reports (*as described above)* for all packets created by this instruction set.

The default (*as automatically shown on the screen*) is (N)o. Since this is not the global manifest packet that you are currently creating, do not change the default setting for this field.

Enter the following to advance to the next field:

<TAB>

The cursor should now be located in the OUTPLEX NUM==> field (*where n=1 to 8*). You should be concerned with this field only if your printer has the ability to print multiple logical pages on one physical page. This optional field is used to specify whether you want your reports to start printing on an odd page number. This means that each new report will start on the front of a new page, rather than on the back of the previous report.

Since you are creating a packet with only one report for this example, do not change the default setting of “1”.

Enter the following to advance to the next field:

<TAB>

The cursor should now be located in the LOCATION NM ==> (*location name*) field. The location name can be especially handy when sending the report to Softcopy (*to be viewed on-line*). This field allows you to specify a name for the location to receive the packet created by this Custom Packaging Panel. You can omit a location name for this example.

Enter the following to advance to the next field:

<TAB>

The cursor should now be located in the MESSAGE TXT ==> field.

When RMS prints a packet, it includes a flag (*separator*) page. You can think of this page as a title page.

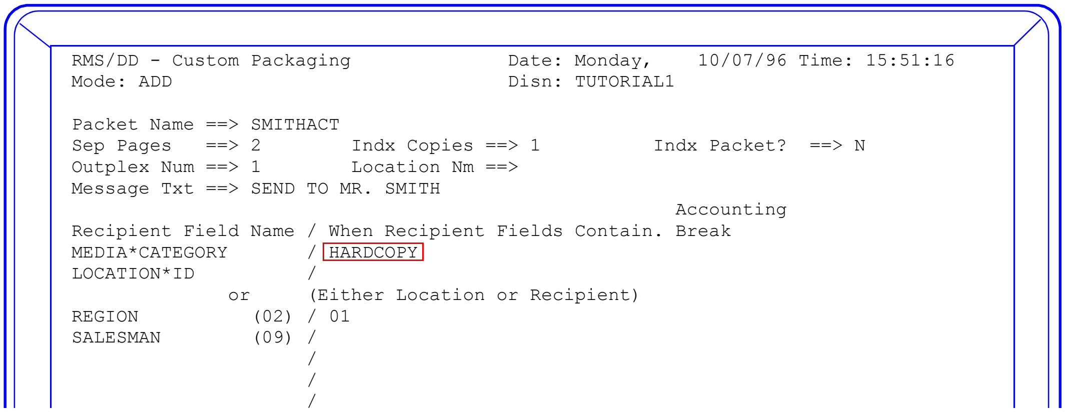
Enter the following in the MESSAGE TXT field:

`SEND TO MR. SMITH <TAB>`

The string can be up to 30 alphanumeric characters in length.

The cursor should now jump to the middle area of the screen in the WHEN RECIPIENT FIELDS CONTAIN field. You will notice that there are several categories for this field: MEDIA*CATEGORY, LOCATION*ID, or the keys you defined previously.

The cursor should now be located next to MEDIA*CATEGORY, as shown below:



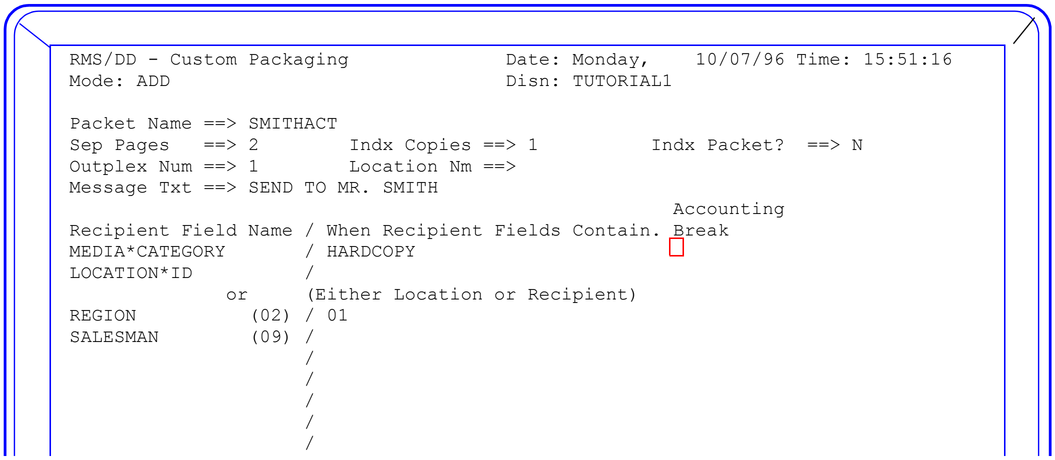
```
RMS/DD - Custom Packaging              Date: Monday,    10/07/96 Time: 15:51:16
Mode: ADD                              Disn: TUTORIAL1

Packet Name ==> SMITHACT
Sep Pages   ==> 2        Indx Copies ==> 1          Indx Packet?  ==> N
Outplex Num ==> 1        Location Nm ==>
Message Txt ==> SEND TO MR. SMITH
                                                      Accounting
Recipient Field Name / When Recipient Fields Contain. Break
MEDIA*CATEGORY       / HARDCOPY
LOCATION*ID          /
              or     (Either Location or Recipient)
REGION          (02) / 01
SALESMAN        (09) /
                     /
                     /
                     /
```

The MEDIA*CATEGORY field allows you to specify the desired media(s) to which to send the report. For this example, we only want to send the report to HARDCOPY.

Enter the following in this field to specify media category HARDCOPY:

`HARDCOPY<TAB>`

The cursor should now be located in the ACCOUNTING BREAK (Y/N) field, as shown below:



```
RMS/DD - Custom Packaging              Date: Monday,    10/07/96 Time: 15:51:16
Mode: ADD                              Disn: TUTORIAL1

Packet Name ==> SMITHACT
Sep Pages   ==> 2        Indx Copies ==> 1          Indx Packet?  ==> N
Outplex Num ==> 1        Location Nm ==>
Message Txt ==> SEND TO MR. SMITH
                                                      Accounting
Recipient Field Name / When Recipient Fields Contain. Break
MEDIA*CATEGORY       / HARDCOPY
LOCATION*ID          /
              or     (Either Location or Recipient)
REGION          (02) / 01
SALESMAN        (09) /
                     /
                     /
                     /
                     /
                     /
```

This field is used to specify whether you want to create a new line or listing on the packet manifest (*lists all reports in the packet*) whenever a change of the specified contents, if any, of the recipient field(s) is encountered.

The default for this field is (N)o. In this case, however, the system does not display the default. Leaving the field blank is equivalent to the default. Since we want the default for this field, press the following key to advance the cursor to the next field:

`<TAB>`

The cursor should now be located next to LOCATION*ID. This field allows you to specify the LOCATION ID. If the ID is specified, the system will create a packet when this ID is encountered (*and when any other conditions specified on this panel are encountered*.) You will learn more about LOCATION ID later in this chapter.

For this example, leave this field blank. Press the following key:

`<TAB>`

Once again, the cursor is in the ACCOUNTING BREAK (*Y/N*) field. Leave this field blank. Press the following key.

You will notice that the system will automatically display the keys that you defined earlier on the Distribution Option Panel. It also displays their length.

The cursor should now be located next to the first key, REGION (*length 2*). You can specify a specific value for this key in this field. This means that if you specify, for example, “01” in this field, the system would open (*begin*) a packet when the REGION number is “01”.

Since the original memo requested a copy of this entire report, you do not have to be selective for either the REGION or the SALESMAN keys. You simply specify where to start this packet and let all other REGIONs continue to be included in this packet.

NOTE: The value entered for the recipient fields specify where the packet begins. The packet will continue until new Custom Packaging information is matched. For this example, this Custom Packaging Panel will create one packet with the entire report.

Enter the following in this field:

`01<TAB>`

Press the following key to use the default in the ACCOUNTING BREAK (*Y/N*) field:

`<TAB>`

The cursor should now be next to the second key, SALESMAN (*length 10*.) You do not need to enter a value here since the packet will be opened when a match on the REGION number is found and we want all the data included in the packet. Remember, the match on the recipient field tells the system when to open the packet. It will continue to include data until another match on a Custom Packaging Panel is encountered. When the match is found, the first packet is closed and another opened. Press the following key:

`<TAB>`

Once again, we just need the default value in the ACCOUNTING BREAK (*Y/N*) field. Press the following key:

`<TAB>`

You may have noticed that the bottom of the Custom Packaging Panel indicates that it is Panel 1 of 8. The other panels are referred to as Output Control Panels. They allow you to specify the necessary information about each type of media that you want to send your packet(s) to. There are seven identical panels, enough for every possible media type. In this case, you are only sending the packet to HARDCOPY. Therefore, you only need to define one of these panels.

Press the following key to display the first Output Control Panel:

`<PF8>`

The first Output Control Panel to be displayed is the Hardcopy panel. This is the one you need to define. You should already be familiar with the items shown on the Output Control Panel.

You should use the default values for all fields, except CLASS. Press the <TAB> key until the cursor is in the CLASS ==> field.

Now enter the letter of an appropriate class for your environment.

Now press the following key to save the Custom Packaging Panels you just created:

<ENTER>

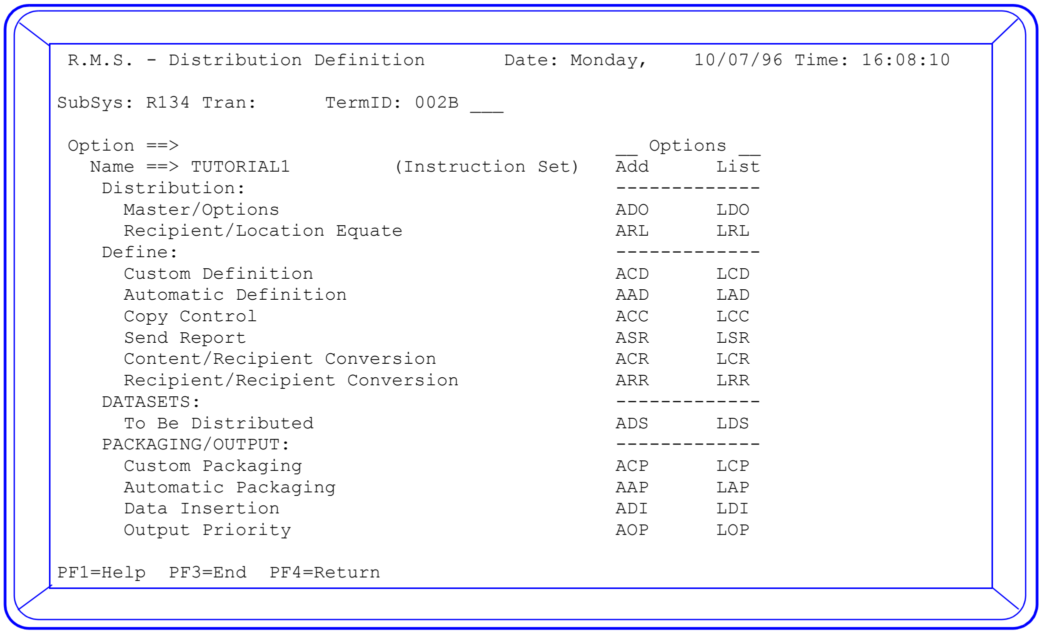
You have now specified all necessary information for the packet we want to create and for media type HARDCOPY. If you were sending packet(s) to other media types, you would define an Output Control Panel for each type.

Press the following key to return to the RMS/DD Primary Menu so you can continue creating the instruction set:

<PF3>

The RMS/DD Primary Menu should now be displayed, as shown:

You have now completed the Tutorial.



```
 R.M.S. - Distribution Definition       Date: Monday,    10/07/96 Time: 16:08:10

SubSys: R134 Tran:      TermID: 002B ___

 Option ==>                                       __ Options __
   Name ==> TUTORIAL1         (Instruction Set)   Add      List
    Distribution:                                 -------------
      Master/Options                              ADO      LDO
      Recipient/Location Equate                   ARL      LRL
    Define:                                       -------------
      Custom Definition                           ACD      LCD
      Automatic Definition                        AAD      LAD
      Copy Control                                ACC      LCC
      Send Report                                 ASR      LSR
      Content/Recipient Conversion                ACR      LCR
      Recipient/Recipient Conversion              ARR      LRR
    DATASETS:                                     -------------
      To Be Distributed                           ADS      LDS
    PACKAGING/OUTPUT:                             -------------
      Custom Packaging                            ACP      LCP
      Automatic Packaging                         AAP      LAP
      Data Insertion                              ADI      LDI
      Output Priority                             AOP      LOP

PF1=Help  PF3=End  PF4=Return
```

Chapter 11

INSTALLATION

MVS System Installation/Verification

INTRODUCTION

Installation tasks may need to be assigned to certain key individuals as certain disciplines are needed:

1. Who will be the primary installation administrator?
2. Who will have the authority to submit the installation JOB?
3. Who will be authorized to copy the cataloged procedures into the system PROCLIB?
4. Who will install and coordinate the use of the JES2 exits?
5. Who will move programs to CICS or production LINK libraries?
6. Who will coordinate with the application programmers, the users, and computer operations to conduct RMS testing?

Use the space provided to indicate the completion date and person assigned to each task. Completion of all items insures that you have a working system that has been verified and is ready for productive use.

NOTE: Any reference in this document to vvrm indicates a reference to the current version (vv), release(r), and modification (m) level of the software. For example, if you were told to edit the member RvvrmSUP, you would edit R1135SUP if the release being installed was 11.35.

NOTE: Late-breaking installation notes: — Review the content of the PDS member #README for installation errata or tips that may not be included in this publication.

RELEASE LEVEL UPGRADE

When making the transition from an older level of RMS/ONLINE to a more recent version, it is usually desirable to maintain the integrity of the data residing in the current database. Also, some internal record restructuring may be necessary between releases.

In order to install a new release of the system without destroying your existing data, the following procedure is required:

1. Back up the VSAM files using the backup module (RM90007) from your current release.
2. Install the new release.
3. Restore the back up files using the restore module (RM90008) from the new release.

In addition to restructuring your database files, new Help System records should be taken from the distributed .HELP dataset and used to replace the existing Help System records. Use the provided JCL (*see HELPREPL in the installation JCL library*). These help system records may need customizing to meet installation standards. The upgrade can be done once all of the installation tasks are complete.

Base dataset archive files created by a prior version of RMS may be processed by current release programs.

RMS MVS INSTALLATION CHECKLIST

TASK	DESCRIPTION	INITIALS	DATE
1.0	Prior release		
1.1	Upload distribution software		
1.2	Receive distribution software		
2.0	Review Software		
2.1	Allocate PDS files and load SRCLIB		
2.2	Product Configuration		
2.3	Software installation		
2.4	Verify success of install job		
2.5	Link RMS SVC (*only if customization is required*)		
3.0	Allocate repository datasets		
3.1	Customize RvvrmSUP		
3.2	Customize RMS procedures RvvrmSUB and RMSCOLD		
3.3	Cold start RMS		
3.4	Create QXCNTRL dataset		
3.5	Allocate VSAM files for fileset		
3.6	Load initial VSAM files		
3.7	Update CICS		
3.8	Update TSO		
3.9	Customize start-up parameters for the control region. Member RvvrmCTP		
3.10	Start RvvrmCTL		
4.0	Customize and move procedures to PROCLIB		
4.1	Run RMSRGEN		
4.2	Run RMSQXIDX		
4.3	Run RMSMAP		
4.4	Run RMSRUN		
4.5	Run ARCHIVE test		
4.6	Run BACKUP/RESTORE test		
4.7	Sign On		
4.8	RMS/DPF		
4.9	RMS/System Administration		
4.10	RMS/Distribution Definition		
4.11	Sysout Management		
4.12	RMS/Resource Security		
4.13	RMS/Help Facility		
5.0	Assemble/Link JES EXIT3/EXIT6		
5.1	Configure JES2 Parameters		
5.2	JES EXIT Verification		
6.0	Install CICS Transaction Gateway		

TASK	DESCRIPTION	INITIALS	DATE
6.1	Install RMS/WebAccess		
6.1a	Installation under Websphere		
6.1b	Installation under Tomcat		
6.2	Customizing RMS/WebAccess for your installation		
6.3	.jar check (required for Tomcat 4.x)		
6.4	Configure CICS Definitions		
6.5	Install the RMS External Security Manager Exit (optional)		
6.6	Installation verification		

Task 1

Upload install files

TASK	DESCRIPTION	O/R	DATE:	COMPLETED BY:
1.0	Prior release	R	/ /	

Do not use installation JCL from a prior release. Older JCL is not compatible especially in Tasks 1 and 2.

For all dataset examples where vvrm occurs, use the following to encode:
vv = version level (Example: 11)
r = release level (Example: 3)
m = modification level (Example: 5)
nn = PTM level (Example: 00)
This name will vary with version, release, modification, and PTM level. See cover page for version, modification and PTM level. The current version is **"V1135P00".**

TASK	DESCRIPTION	O/R	DATE:	COMPLETED BY:
1.1	Upload distribution software	R	/ /	

Mantissa's RMS Release 11.35 PTM 00 product is now distributed via files obtained from our FTP site (ftp.mantissa.com) or on a CD.

The files that comprise this release were created on the z/OS operating system using the XMIT(TSO TRANSMIT) function. There are six files that need to be binary transferred to your OS for installation. Each file will be used in various Tasks to complete the installation process.

All six files must be FTP'd to your z/OS system. Ensure that:

- Transfer must be binary (no CRLF or ASCII translation).
- The z/OS output datasets must be preallocated with an LRECL=80 and record format of fixed. This is very important! The RECEIVE command requires the XMIT files be LRECL=80 and fixed. We usually use: LRECL=80 BLKSIZE=3120 RECFM=FB. The six files are:
  - hlq.V35.JCL (650 blocks)
  - hlq.V35.LINK (6000 blocks)
  - hlq.V35.LOAD (1500 blocks)

- hlq.V35.FILES (250 blocks)
- hlq.V35.HELP (200 blocks)
- hlq.V35.PTMS (10 blocks)

As an alternative to pre-allocating, append an SMS defined qualifier to the dataset names and let SMS build the datasets.

These files can be found in the Outgoing/RMS/V1135/ZOS folder and have a prefix of OO1135.

Put the files to z/OS with the following commands from FTP:

```
bin
put OO1135.JCL 'hlq.V35.JCL' (rep
put OO1135.LINK 'hlq.V35.LINK' (rep
put OO1135.LOAD 'hlq.V35. LOAD' (rep
put OO1135. FILES 'hlq.V35. FILES' (rep
put OO1135. HELP 'hlq.V35. HELP' (rep
put OO1135.PTMS 'hlq.V35.PTMS' (rep
```

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
1.2	Receive distribution software	R	/ /

Once the files have been uploaded, then execute the following commands on TSO (Note the UNIT and VOLUME are optional):

- RECEIVE INDATASET('hlq.V35.JCL'). When prompted by message “INMR906A Enter restore parameters or 'DELETE' or 'END' +”, enter:

  da('dist.oo.v1135p00.jcl') blksize(3120) new unit(unit) volume(volume)
- RECEIVE INDATASET('hlq.V35.LINK'). When prompted by message “INMR906A Enter restore parameters or 'DELETE' or 'END' +”, enter:

  da('dist.oo.v1135p00.link') blksize(6144) new unit(unit) volume(volume)
- RECEIVE INDATASET('hlq.V35.LOAD'). When prompted by message “INMR906A Enter restore parameters or 'DELETE' or 'END' +”, enter:

  da('dist.oo.v1135p00.load') blksize(6144) new unit(unit) volume(volume)
- RECEIVE INDATASET('hlq.V35. FILES'). When prompted by message “INMR906A Enter restore parameters or 'DELETE' or 'END' +”, enter:

  da('dist.oo.v1135p00.files') blksize(32760) new unit(unit) volume(volume)
- RECEIVE INDATASET('hlq.V35. HELP'). When prompted by message “INMR906A Enter restore parameters or 'DELETE' or 'END' +”, enter:

  da('dist.oo.v1135p00.help') blksize(4096) new unit(unit) volume(volume)
- RECEIVE INDATASET('hlq.V35.PTMS'). When prompted by message “INMR906A Enter restore parameters or 'DELETE' or 'END' +”, enter:

  da('dist.oo.v1135p00.ptms') blksize(3120) new unit(unit) volume(volume)

NOTE: The HLQ for the RECEIVE RESTORE parameter statements specify 'dist.oo.v1135p00'. All the installation JCL refers to that HLQ. If you change this value to match your installation standards, the JCL will have to be modified.

NOTE: The UNIT() and VOLUME() operands are optional but shown in case your installation puts RECEIVE files on work packs by default. If the datasets are pre-allocated then the blksize, new, unit, and volume information does not have to be entered.

Once all the data files are successfully transferred and received, you are ready to begin the installation of RMS.

Task 2

Installing the System

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
2.0	Review software library requirements	R	/ /

These symbolics are in the install JCL. Review them before proceeding to the customization task.

`SYSDASD=‘SYSDA’,`	DASD symbolic unit.
`ASMPGM=‘IEV90’,`	Name of the assembler program. IFOX00 may be used if your installation does not have IEV90 (*ASSEMBLER H*).
`LEDPGM=’IEWL’,`	Name of the linkage editor program.
`MACLIB=’SYS1.MACLIB’,`	System macro library containing DCBD macro.
`ZAPPGM=’AMASPZAP’,`	Name of the superzap program.
`SYSOUT=’E’,`	Execution SYSOUT class. You may want to alter this symbolic for sending the installation listing to a HELD class for verification.
`UNITTYP=’CART’,`	Installation TAPE unit for 3480 cartridge drive depending on the type of media provided.
`SRCLIB=’PROD.OO.VvvrmPnn.JCL’,`	This is the name of the dataset that will contain the installation Customization Guide and sample source members and JCL after the install process.

NOTE: Attributes of the SRCLIB dataset:
Organization: PO
Record Format: FB
Record Length: 80
Block size: at least 3120
Space: at least 6 cylinders
Directory Blocks: 120

The **`#README`** member will contain an index and description of all members in **`SRCLIB`**.

`CICSLIB=’CICSTS13.LOADLIB’,`	**`The CICS`** loadlib containing the module **`DFHEAI0`**.

The following dataset(s) are used to contain the RMS executables. See the parameter descriptions below for the contents and authorization requirements of each library. It is important to know one library can be setup to hold all the members.

Chap_11(v11r35m1).fm: Revised Sunday, November 24, 2013

All of the JCL samples assume this and use a step library. The library(ies) can be link listed, but it is not necessary. JCL member ALLOCLIB contains one “link library”. Change if using different PDS’s.

Each RMS subsystem will load some modules into the CSA if they are not in the LPA list. If several subsystems are to be executed on one MVS, placing the SLOAD library in an LPA list will reduce CSA requirements.

NOTE: Attributes of the executable dataset(s):
Organization: PO
Record Format: U
Record Length: 0
Block size: at least 6144
Space: at least 40 cylinders if only allocating one library
Directory Blocks: 40

ALOAD='PROD.OO.VvvrmPnn.LINK',	**ALOAD** is the **DSN** of the authorized library that will contain authorized programs.
BLOAD='PROD.OO.VvvrmPnn.LINK',	Specifies the DSN of a library for programs *NOT* requiring the MVS authorization facility.
OLOAD='PROD.OO.VvvrmPnn.LINK',	Specifies the DSN for the Online program library. For those who will install for both CICS and TSO, only one program library will be required.
SLOAD='PROD.OO.VvvrmPnn.LINK'	Specifies the DSN for the RMS subsystem program library. This library must be *authorized*.

The following dataset is used to contain the object modules used by the RMS system. The object library was added to the system to allow for greater flexibility in performing updates to the product (i.e.: applying PTM's) without effecting product customization that is in place. Refer to the note below for the attributes of the dataset.

NOTE: Attributes of the OBJLIB dataset:
Organization: PO
Record Format: U
Record Length: 0
Block size: at least 6144
Space: 20 cylinders
Directory Blocks: 100

OBJLIB='PROD.OO.VvvrmPnn.LOAD',	Specifies the DSN for the RMS object module library.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
2.1	Allocate PDS files and load SRCLIB	R	/ /

Using the notes in the above step, insure that all libraries are allocated and available for use. A sample allocation job (ALLOCLIB) is included in the distribution dataset “DIST.OO.V1135P00.JCL”. In addition, this job will also copy the distributed JCL and SOURCE members to the SRCLIB dataset just allocated. This dataset (SRCLIB) will be used from here on out to tailor the distributed JCL to your production system. This will allow you to retain a copy of the base system without changes.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
2.2	Product Configuration	R	/ /

A sample installation job (INST00) is included in the new production dataset SRCLIB. Customize the JCL, the batch component customization records and the online component customization records according to the following notes. The JCL is setup with an inline procedure. The values of the member are in the over-ride area. The online customization records are under the block entitled “ONLINE CUSTOMIZATION”. These records will be saved in member “CDRMS2” in SRCLIB after the job completes. The batch customization records are under the block entitled “RMS BATCH PROGRAM CUSTOMIZATION”. These records will be saved in a member “CDRMS1” in SRCLIB after the job completes.

Do not alter the JCL items marked <<< DO NOT CHANGE >>>.

Refer to the “Archive/Distribution Component Configuration” and “Online Component Configuration” sections for descriptions of the keywords.

Once ready, submit install job INST00.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
2.3	Software installation	R	/ /

A sample installation job (INST01) is included in the new production dataset SRCLIB. Customize the JCL which is setup as an inline procedure with the overrides at the bottom. This JOB will take the customization parms saved in Task 2.2 and assemble them, link them in to the appropriate modules and copy any additional executables to the appropriate executable libraries. Once ready, submit install job INST01.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
2.4	Verify success of install job	R	/ /

Verify the successful completion of the installation. Check the condition codes to verify a successful installation. If any of the steps, especially the link edit steps, proved to be unsuccessful, the installation procedure can be rerun since all work files are temporary datasets. Unresolved WXTRNS ($UNRESOLVED(W)) will cause a condition code of 004 and are acceptable. A condition code of 004 is also acceptable on any step performing an IEBCOPY.

Perform an `F LLA,REFRESH` *after installation if a library was link listed.*

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
2.5	RMS SVC	O	/ /

RMS must use an SVC to communicate with its subsystem. Please refer to the *“RMS SVC”* section in “Component Configurations”.

Task 3

Prepare Repository/Start RMS Subsystem

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
3.0	Allocate repository datasets	R	/ /

RMS requires that the datasets be allocated and catalogued for checkpoint and data files. Sample job ALLOCSUB can be used to allocate and catalogue the SPOOL and checkpoint datasets.

Beginning with RMS/Online Release 11.35, users are now REQUIRED to use keywords CHKPT and CHKPTDSN for the checkpoint dataset and SPOOLFIL for each SPOOL dataset. The SPOOLDSN and SPOOL keywords are not valid and will be flagged as an error if used. Be sure to add a sequence number into the SPOOL DSN names to help keep the EXTENTS in order.

RMS now supports SPOOL repository dataset extents greater than 65K tracks (maximum 983,000 tracks) in size and the extent may be located anywhere within the first 983,000 tracks on a 3,390 disk. In order to properly define and use these datasets, the additional JCL parameter DSNTYPE must be added to the DD statements (see examples below). DSNTYPE is required even if the dataset is less than 65,000 tracks.

The RMS/Online checkpoint dataset is required and is still limited to one (1) extent. It is represented in the subsystem parameter deck, in the same manner it has always been, by use of the CHKPT and CHKPTDSN keywords.

```
//ALLOC          EXEC     PGM=IEFBR14
//SYSPRINT       DD       SYSOUT=*
//********************************************************************
//RMSSPL01       DD       DSN=PROD.OO.V1135P00.RMSSPL01,
//                        DISP=(NEW,CATLG,DELETE),
//                        DSNTYPE=LARGE,
//                        UNIT=3390,VOL=SER=vvvvvv,DCB=DSORG=PS,SPACE=(CYL,8000,,CONTIG)
//RMSSPL02       DD       DSN=PROD.OO.V1135P00.RMSSPL02,
//                        DISP=(NEW,CATLG,DELETE),
//                        DSNTYPE=LARGE,
//                        UNIT=3390,VOL=SER=vvvvvv,DCB=DSORG=PS,SPACE=(CYL,8000,,CONTIG)
//RMSSPL03       DD       DSN=PROD.OO.V1135P00.RMSSPL03,
//                        DISP=(NEW,CATLG,DELETE),
//                        DSNTYPE=LARGE,
//                        UNIT=3390,VOL=SER=vvvvvv,DCB=DSORG=PS,SPACE=(CYL,8000,,CONTIG)
//RMSSPL04       DD       DSN=PROD.OO.V1135P00.RMSSPL04,
//                        DISP=(NEW,CATLG,DELETE),
//                        DSNTYPE=LARGE,
//                        UNIT=3390,VOL=SER=vvvvvv,DCB=DSORG=PS,SPACE=(CYL,8000,,CONTIG)
//********************************************************************
//RMSCHKPT       DD       DSN=PROD.OO.V1135P00.ESFCHKPT,
//                        DISP=(NEW,CATLG,DELETE),
//                        DSNTYPE=LARGE,
//                        UNIT=3390,VOL=SER=MAN171,DCB=DSORG=PS,SPACE=(CYL,2250,,CONTIG)
//********************************************************************
```

The sample SPOOLFIL extents and checkpoint dataset shown above would be coded in the RvvrmSUP (parameter deck) as follows:

CHKPT=vvvvvv	Checkpoint Volume
CHKPTDSN=PROD.OO.V1135P00.RMSCHKPT	Checkpoint dataset name
SPOOLFIL=PROD.OO.V1135P00.RMSSPL01	1st Spool volume
SPOOLFIL=PROD.OO.V1135P00.RMSSPL02	2nd
SPOOLFIL=PROD.OO.V1135P00.RMSSPL03	3rd
SPOOLFIL=PROD.OO.V1135P00.RMSSPL04	4th

See "Space Allocations" section in "RMS Subsystem Initialization" on page 541 for help in estimating and allocating space.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
3.1	Customize RvvrmSUP	R	/ /

The RMS system requires parameter definitions for customization. Copy the RvvrmSUP from the SRCLIB referenced in task 2 of this chapter to a new name. These parameters must be updated to tailor the RMS system. Please refer to the *"Initialization Parameters"* section in "RMS Subsystem Initialization" on page 541 for descriptions of the parameters.

NOTE: When customizing the RvvrmSUP member, pay close attention to the NUMFQES, SUBID, and WTO parameters.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
3.2	Customize RMS procedures RvvrmSUB and RMSCOLD	R	/ /

Modify the RvvrmSUB and RMSCOLD procedures to reference the customized RvvrmSUP from the previous task.

Add these two procedures to a MVS procedure library. Your installation may have a separate procedure library defined for all started tasks.

The ESFPARM statement is required and must point to the member customized above (RvvrmSUP).

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
3.3	Cold start RMS	R	/ /

This section contains instructions for starting the RMS system for the first time. Further information about controlling RMS can be found in sections "RMS Initialization Options" and "RMS Operator Commands" in "RMS Subsystem Initialization" on page 541. After the first time, use the PROC RvvrmSUB to startup the RMS system with a warm start.

Start RMS by entering the following MVS operator command:

```
START RMSCOLD
```

RMS will inform the operator about progress during initialization with the following WTO messages:

```
<RM7053    Reply Y or N to confirm checkpoint record change
<RM7059    Cold start is in progress
```

```
<RM7024     Formatting xxxxxx
<RM7100     Simple cold start completed
```

RMS initialization has successfully completed and is now ready to process work. The operator may now enter the following display-status command. Precede the 'DS' command with the communication character listed in the COMCHAR parm in the RvvrmSUP subsystem parm member in your JCLLIB.

```
<DS
```

RMS will respond with the following messages:

```
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7818     0 Outstanding I/O-requests
<RM7817     Open file count: 0/ Output, 0/ IN
<RM7818     0% Spool utilization
<RM7820     0 File queue elements in use - total
```

TASK	DESCRIPTION	O/R	COMPLETED DATE BY
3.4	Create QXCNTRL dataset	R	/ /

Create the QXCNTRL dataset using member INST02 from your JCL library.

RMS provides file integrity through the use of a control file (QXCNTRL). This dataset contains the names of the VSAM and repository datasets that represent one fileset. The fileset name is indicated in the FSNAME value. In addition, the name of the SUBSYSTEM managing the repository files is designated.

Please refer to the CONTROL FILE CONFIGURATION section in "Component Configurations" on page 516 for information on setting up the QXCNTRL file.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
3.5	Allocate VSAM files for a fileset	R	/ /

Please refer to the "VSAM DATASET CONFIGURATION" section in "Component Configurations" on page 516

Run the job INST03 from your JCL library. This will define the VSAM files for administrative functions and online viewing.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
3.6	Load initial VSAM files	R	/ /

A sample installation job (INST04) is included in SRCLIB. Customize the JCL which is setup as an inline procedure with the overrides at the bottom. Once ready, submit the install job INST04 and optionally job INST05 to load the files with test data.

CICS Environment Preparation

TASK	Description	O/R	Date: Completed By:
3.7	Update CICS	R	/ /

If you are using CICS to view reports, copy the CICS table entries from the SRCLIB library. These are INST06 (RDO), and INST07 (macro). These may need to be customized based on your internal standards. Proper operation of the system demands that the share option for the VSAM files remain unchanged and that the files be LSR controlled. The RMS transactions must have the RESSEC parameter set to NO (default) or have sufficient authority in the external security manager to be able to issue an "EXEC CICS INQUIRE" for SYSTEM, TRANSACTION and PROGRAM resources.

To integrate RMS/Online into an existing front-end menu, refer to the section entitled "CICS front-end for RMS/Online" found in "Component Configurations" on page 516.

132 Column Support CICS Table Parms

The following changes are required in order to use RMS/Online 132 column support features.

IN THE TCT:	DEFSCRN=(24,80) ALTSCRN=(27,132)	or whatever desired for default for the large screen
IN THE PCT FOR THE TRANSACTION DESIRING LARGE SCREEN SUPPORT:	SCRNSZE=ALTERNATE	

Add the following two DD statements to your CICS JCL. They must go in the DFHSIP step and are required.

```
//QXRQDS DD       DSNAME=PROD.OO.VvvrmPnn.RMSCHKPT,DISP=SHR
//QXRDDS DD       DSNAME=PROD.OO.VvvrmPnn.RMSSPOOL,DISP=SHR
```

NOTE: The DDNAMEs of these files must match the DDNAMEs specified for the RQFN= and RDFN= values in the RMSOLGEN macro that is coded as part of the installation procedure for RMS/ONLINE. The defaults are used above.

TSO Environment Preparation

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
3.8	Update TSO	R	/ /

If you are using TSO to view reports, copy CLIST Member TSOCLIST from your SRCLIB library to SYS1.CLIST with the name you will use in the CLIST (*example RMSOL*). Insert the command to execute the CLIST in your main ISPF menu library (*e.g. SYS1.ISPPLIB*) for example if R is the menu choice: R,'CMD(%RMSOL)'.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
3.9	Customize start-up parameters for the control region. Member RvvrmCTP	R	/ /

The RMS system requires parameter definitions for customization. Copy the RvvrmCTP from the SRCLIB referenced in Task 2 of this chapter to a new name. These parameters must be updated to tailor the RMS system. Please refer to the RMS CONTROLLER CONFIGURATION section in "Component Configurations" on page 516.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
3.10	Start RvvrmCTL	R	/ /

Modify the RvvrmCTL procedure to reference the customized RvvrmCTP from the previous task. Add this procedure to a MVS procedure library. Your installation may have a separate procedure library defined for all started tasks.

You should now start the RMS Controller task by using the following command:

```
S RvvrmCTL
```

Several messages will be issued indicating that the control region has been initialized. The RM0302 and RM0309 messages indicate that the external writer component has been initialized. Write down the selection criteria that the External Writer is using. You will need this in the report generation step.

The external writer component will transport your reports to the repository and purge them immediately from the JES spool.

Task 4

System Verification

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
4.0	Customize and move common procedures to PROCLIB	R	/ /

Customize and move all procedure members to an installation PROCLIB. They can be found in the SRCLIB library referenced in Task 2.

PROCLIB CONTENT	
Name	**Description**
CCANCEL	CICS CANCEL REPORT
CDPRINT	CICS DATASET PRINT
COPYISN	COPY INSTRUCTION SET
DEFPRU	PUNCH/PRINT DISTRIBUTION INSTRUCTION SET
QSERV	BASE DATASET ARCHIVE / RECOVER
RDMS	REPORT DISTRIBUTION
TCANCEL	TSO CANCEL REPORT
TDPRINT	TSO DATASET PRINT
VSARC	NON BASE DATASET ARCHIVE

PROCLIB CONTENT	
Name	**Description**
VSRES	NON BASE DATASET RESTORE

TASK	**DESCRIPTION**	**O/R**	**DATE: COMPLETED BY:**
4.1	Run RMSRGEN	R	/ /

The job stream RMSRGEN is a program that creates two reports (INR01 and INR02) for the RMS repository. Before submitting RMSRGEN JCL, change the sysout class listed under the INVOCLS statement. The writer class in the RvvrmCTP member must match the sysout class listed in the INVOCLS = statement within the RMSRGEN job JCL. This will assure that the datasets to be drained are drained by the writer in the control region (RMSCTL).

If your site chooses to use the DESTINATION and it is different from the site default destination, code a DEST statement in the RMSRGEN JCL under the INVOCLS= statement as DEST='LOCAL'. LOCAL is defined as the destination name your site will be using. This will serve as your DESTINATION for QXWTR SERVICE. In addition to this DEST statement, go below to both INVOUT DD statements for INR01 and INR02 and add a DEST=&DEST statement. These symbolics will bring in the DEST statement from the job statement.

TASK	**DESCRIPTION**	**O/R**	**DATE: COMPLETED BY:**
4.2	Run RMSQXIDX	R	/ /

The member RMSQXIDX contains the job control for RM80001. It will list all queue datasets in the repository.

TASK	**DESCRIPTION**	**O/R**	**DATE: COMPLETED BY:**
4.3	Run RMSMAP	R	/ /

The member RMSMAP contains the job control for RM80004. It will produce a grid marked copy (*a map*) of the reports generated in the previous step.

TASK	**DESCRIPTION**	**O/R**	**DATE: COMPLETED BY:**
4.4	Run RMSRUN	R	/ /

The member RMSRUN contains the job control for RM80004. The RMSRUN job will distribute the reports INR01 and INR02 from the repository using the distribution definition RDMSCASE.

TASK	**DESCRIPTION**	**O/R**	**DATE: COMPLETED BY:**
4.5	Run ARCHIVE test	R	/ /

The member RMSQXARC contains the job control statements necessary to backup reports residing in the repository to a media (tape or disk) for storage and eventual retrieval.

The member RMSQXRES contains the job control and parameters necessary to recover reports from the archive created in the previous step.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
4.6	Run BACKUP/RESTORE tests	R	/ /

The member RMSVSARC contains the job control necessary to backup all files used in the online system. The member RMSVSRES contains the job control necessary to recover reports used in the online system.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
4.7	Sign On	R	/ /

Initial User ID/Password

After the system is installed and the files delivered on the distribution tape have been loaded, you have a "starter" user record. The user identification is SYSUI, and the password for this user is SYSPW. You will need this user ID and password to sign on to RMS/ONLINE.

Sign-On RMS/ONLINE using default userid = SYSUI and PASSWORD = SYSPW.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
4.8	RMS/DPF	R	/ /

Use the Display/Print User Guide to verify all DPF functions.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
4.9	RMS/System Administration	R	/ /

Use System Administration manual as a guide for setting up a test environment

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
4.10	RMS/Distribution Definition	R	/ /

See Chapter 3 of the Distribution Definition manual for instructions and reference.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
4.11	Sysout Management	R	/ /

See the Systems Administration Chapter to establish the sysout capture requirements for your RMS system. Decisions ***must*** be made as to classes, destinations, jobnames, etc. to be captured by RMS prior to installation of the JES exits in a later task.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
4.12	RMS/Resource Security	R	/ /

See Chapter 5 of the System Administration manual for examples.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
4.13	RMS/Help Facility	R	/ /

RMS/Help Facility. See Chapter 8 of the System Administration manual for examples.

Task 5

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
5.0	Assemble/Link JES EXIT3/EXIT6	O	/ /

Beginning with RMS 11.35, the RMS JES Exits (RMSPLRT3 and RMSPLRT6) are no longer loaded dynamically. Implementation of the RMS Exits are only supported on z/OS 1.8 (APAR OA21346) and higher. If RMS 11.35 is being installed on a lower level z/OS, please contact Mantissa Customer Support before proceeding with the implementation of RMS JES Exits.

If you will be using the RMS/SUBSYSTEM Filter Capability, JES Exits 3 and 6 should be assembled and linked into an authorized library. This should only be done by personnel with a clear understanding of the application of JES Exits. The following table is a short form reference for the install jobs that relate to these exits and the filter program.

SRCLIB MEMBER	PROGRAM	DESCRIPTION
INST09	RMSPLRT3	JES EXIT3 Assemble/Link
INST10	RMSPLRT6	JES EXIT6 Assemble/Link

Please refer to the JES EXITS section in “Component Configurations”..

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
5.1	Configure JES2 Parameters		/ /

The RMS JES2 Exits may be tested, without restarting JES2, by entering the following JES2 commands from the console (where x represents 3 or 6):

```
$ADD LOADMOD(RMSPLRTx),STORAGE=CSA  (command to load the exit)
$T EXIT(x),ROUTINES=RMSPOOLx        (command to define the routine)
```

$T EXIT(x),STATUS=ENABLED	(command to enable the exit)
$T LOADMOD(RMSPLRTx),REFRESH	(command to reload the exit)
$DEL LOADMOD(RMSPLRTx)	(command to delete the exit)

To place the RMS JES2 Exits into production, the following commands can be installed into the JES2 Initialization Parameters (where x represents 3 or 6):

```
LOADMOD(RMSPLRTx),REFRESH
EXIT(00x),ROUTINES=(RMSPOOLx),STATUS=DISABLED,TRACE=NO
```

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
5.2	JES Exit Verification		/ /

Based on capture criteria chosen and entered when completing task 3.10, run the RMSRGEN job to produce sample reports to be captured by the JES exit FILTER. Verify capture by viewing the captured data online using ACCESS GROUP = RMSC0000 and LOCATION = RMSC0000. This will show all base datasets moved to the RMS repository.

Task 6

RMS/WebAccess Installation

Introduction

RMS/WebAccess is an optional feature of RMS/Online that provides access to company reports from an Internet browser.

NOTE: If you are not installing RMS/WebAccess, you can skip Task 6.

Required Products/Levels

RMS/WebAccess requires that the following products/features are installed at these levels:

☐ Required
- IBM z/OS Version 1.2 or higher
- IBM CICS Transaction Server Version 1.3 or higher
- IBM z/OS Communications Server (TCP/IP)
- IBM CICS Transaction Gateway (CICS TG, CTG) or higher
- Operating Systems
  - Linux under VM
  - Linux operating system on an Intel platform.
  - Windows 2000 or XP (Professional or Server editions)
- Java Application Servers, such as, IBM Websphere 4.x+, BEA Weblogic 6.x+ or Jakarta Tomcat 4.x+
- Web Servers, such as, Microsoft IIS, IBM Web Server or Apache Web Server

Preparing for Installation

During installation, variables to be set by the customer are indicated as {variable}. A customer's local guidelines or procedures may dictate the value of these variables. The following table lists the variables and suggested settings:

VARIABLE	SUGGESTED SETTING
{rms-webapp-name}	webaccx.x
{rms-path} or {ServletContainerHome}	{path to}/webaccx.x

NOTE: x.x is the version number of your install.

{path to}/webaccx.x is the physical path of your RMS/WebAccess install.

Based on the definition of the {rms-webapp-name}, the format of the browser request address will have the form:

http://ip-address/rms-webapp-name}/
or
http://DNS-hostname/{rms-webapp-name}/

To activate the RMS/WebAccess feature, the following tasks should be accomplished. There are sample installation jobs supplied in the &SRCLIB (PROD.OO.VvvrmPnn.JCL) dataset loaded earlier in the install process. Comments and notes contained in the sample installation jobs may contain updated installation instructions.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
6.0	Install CICS Transaction Gateway	R	/ /

In order to interact with CICS on z/OS, IBM provides CICS Transaction Gateway. CICS Transaction Gateway Version 5 (or higher) runs on AIX, HP-UX, z/OS, Solaris, Linux, Windows 2000, Windows NT and Windows XP.

NOTE: To install and run IBM CICS TG, it is necessary to have a Java Runtime Environment (JRE) installed on your machine. CICS TG is shipped with a JRE on the installation CD. You could use that or download a JRE from the Sun Java website.

1. Obtain and install the IBM CICS Transaction Gateway.

   After installation, the wizard might automatically come up, for you to specify the servers for your location. You can choose this method or the method outlined in step 2 below. We recommend using the method outline below for a smooth install.

2. Installation under Windows.

   - Go to the folder C:\Program Files\IBM\IBM CICS Transaction Gateway\bin or where the CTG executables are placed using the command prompt.

     NOTE: Depending on your environment, CICS TG might install on the different physical drive. Locate the installation home by using Windows Search for something like "ctgcfg".

   - Type "ctgcfg" on the command prompt. This will open the CTG configuration tool.
   - Under the "Java Gateway" tree header, click "TCP" and on the right frame click "Enable protocol handler".

     Use these values for the various properties of TCP settings.:

Port=2006

Handler wakeup timeout(ms)=1000

Connection timeout(ms)=2000

Idle timeout(ms)=600000

Ping time frequency(ms)=60000

SO_LINGER setting=0

Do not check “Drop working connections”

Do not check “Require clients to use security classes”

> **NOTE:** These are mostly default settings, you may change them and fine tune them as per your installation. But keep track of the port number above, since this is the port that CICS on z/OS would be listening on.

- Right-click the “Client” tree header and then in the pop-up choose “New Server”.

  Use these values for various properties of Server connection:

  Server name=cicszos

  Description=cics on z/OS

  Initial Transaction={blank}

  Model terminal definition={blank}

  Network protocol=TCP/IP

  TCP/IP settings

    Hostname or IP address={the IP address or host name of your z/OS installation}

    Port=2006

    Connection timeout(s)=0

  Do not check the “Use windows credentials for security”

  Do not check the “Use upper case security”

  Check the “Send TCP/IP keepalive packets”

> **NOTE:** These are mostly default settings, you may change them and fine tune them as per your installation. But keep track of the port number and the IP address above, since this is the port that CICS on z/OS would be listening on.

- Exit CTG Configuration tool.

3. Starting the CTG server.

- You could install CTG as a service and have it startup as Windows boots or have it as a batch file or as a command line argument.
- Here is a sample script that you could use from the command prompt or as a startup batch file. Again the choice is up to you.

```
c:\
cd C:\Program Files\IBM\IBM CICS Transaction Gateway\bin
ctgstart
```

4. Starting the CTG client.
   - You could install CTG as a service and have it startup as Windows boots or have it as a batch file or as a command line argument.
   - The CTG client defined in the configuration has to be started to enable communication with the CTG server.
   - Here is a sample script that you could use from the command prompt or as a startup batch file. Again the choice is up to you.

```
c:\
cd C:\Program Files\IBM\IBM CICS Transaction Gateway\bin
cicscli -s=cicszos {reference server name}
```

5. Check the CTG client and server.
   - Here is a sample script that you could use from the command prompt or as a startup batch file. Again the choice is up to you.

```
c:\
cd C:\Program Files\IBM\IBM CICS Transaction Gateway\bin
cicscli -l
```

NOTE: The status shown must be “available” to continue.

6. A few notes on CTG
   - CTG allows you to set up trace information that could be useful during the initial installation process. Of course you can disable the trace when the system is pushed to production.
   - Bring up the CTG Configuration tool. Go to the folder C:\Program Files\IBM\IBM CICS Transaction Gateway\bin or where the CTG executables are placed using the command prompt.
   - Type “ctgcfg” on the command prompt. This will open the CTG configuration tool.
   - On the toolbar, click “Tools/Trace Settings”. There are various parameters that you can check/uncheck for the trace. The one that we have found useful here is to check the “Gateway” box under the “Gateway Trace”. You might have to restart the CTG after clicking ok for the trace to output trace information on the command window.
   - The CTG also provides some contextual help that could be useful.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
6.1	Install RMS/WebAccess	R	/ /

NOTE: Webaccx.x indicates the major and minor version of webaccess. Other application server installations are similar. Please contact Mantissa for installation instructions for your specific application server.

Websphere Option

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
6.1a	Installation under Websphere	R	/ /

If you are going to use RMS/WebAccess under Websphere, the following steps 1-6 are required.

Start the WebSphere Administrative Console, e.g.: http://localhost:9090/admin. Give any suitable login username.

1. Choose Nodes > Server > Enterprise Apps > Install.
2. Navigate to the WAR file's location.
3. Enter the application's name in the App Name text input field; for example, webaccx.x.
4. Enter the context name for the application in the Context Root text input field; for example, /webaccx.x.
5. Restart Websphere.
6. Test the application by going to http://urllocation:port/name_of_war. i.e. http://urllocation:port/webaccx.x.

   Port 9080 is the default port for websphere installations. Please check the port on your machine.

Tomcat Option

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
6.1b	Installation under Tomcat	R	/ /

If you are going to use RMS/WebAccess under Tomcat, the following steps 1-9 are required.

Webaccx.x.war would be run in a browser as http://serverlocation:port/webaccx.x

1. Stop tomcat.
2. Go to the following directory: $TOMCAT_HOME/webapps/ .
3. Copy the file [application_name].war to this directory.
4. You may do one of two things next (both have the same outcome although the first only requires you to restart tomcat once). Removing the war file once it has been unzipped will prevent it being unzipped again and potentially overwriting any file you may have changed.
5. Start tomcat (tomcat automatically will unzip the war).
6. Stop tomcat.
7. Delete the .war file or copy elsewhere.
8. Start Tomcat.
9. Test the application by going to http://urllocation:port/name_of_war. i.e. http://urllocation:port/webaccx.x.

   Port 8080 is the default port for tomcat installations. Please check the port on your machine by going to {TOMCAT-HOME}\conf\server.xml.

```
<!-- Define a non-SSL Coyote HTTP/1.1 Connector on port 8080 -->
    <Connector className=”org.apache.coyote.tomcat4.CoyoteConnector"
    port="8080" minProcessors="5" maxProcessors="75"
    enableLookups="true" redirectPort="8443"
    acceptCount="100" debug="0" connectionTimeout="20000"
    useURIValidationHack="false" disableUploadTimeout="true" />.
```

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
6.2	Customizing RMS/WebAccess for your installation	R	/ /

1. In the file “webaccx.x/WEB-INF/resources/webaccess.properties”

- Modify

  session.gatewayURL=x.x.x.x

  where x.x.x.x is the IP address for the installation for your CICS TG server

  session.communication=cicstg
  session.cicstg.debug=true

  After you have verified that RMS/WebAccess has been installed correctly, please change “session.cicstg.debug=false” since this provides a big performance penalty.

- Modify

  session.executeable=RMrrvm
  session.servername=CICSZOS
  session.transactionid=B35B

  The value of the “session.transactionid” property is specified in the TCD7 parm within the RMSOLGEN customization macro found in Task 2.2. The “servername” is the name specified in the CICS Transaction Gateway customization.

- Modify

  stylesheets.caching=true

- Modify

  mail.mailhost=x.x.x.x

  Change this to the IP address of your SMTP mail host.

- Modify

  output.max.pages=100

  This is the default value for output of pages out of WebAccess. As you increase this value, the system will undertake a performance penalty.

- Modify

  session.timeout=600000

  This value is in minutes. You could set it to say 30 to set a time-out of 30 minutes.

2. In the file “webaccx.x/WEB-INF/resources/log4j.txt” or “webaccx.x/WEB-INF/classes/log4j.txt”

- Modify

```
log4j.rootCategory=DEBUG, A2
```

This value is set to “DEBUG” only during the initial installation period. For production systems it should be set to “log4j.rootCategory=ERROR, A2”.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
6.3	.jar check (required for Tomcat 4.x)	R	/ /

batik.jar is required for output of pdf, text and xml files from the webaccess system. This file can be obtained from http://xml.apache.org/batik/. Download the latest binary release and after uncompressing the binary release locate the batik.jar file and include it in the classpath of your application server intallation. For example in Tomcat 4.x place this file under {TOMCAT-HOME}\common\endorsed.

TASK	DESCRIPTION	DATE: COMPLETED BY:
6.4	Configure CICS definitions	

Tailor CICS with the entries in the sample install job INST19. Be sure to read all notes in this job for the latest installation instructions. There are some basic SIT requirements described at the top of this member that need to be considered. Some of the steps are not necessary since your installation may already have some of the components installed.

This sample job must be modified to remove some statements at the end (which should be placed in your CICS PROC). Be sure the transaction definitions in the RDO group RMSvvrm match the definitions in the RMSOLGEN Online Customization done earlier. See the TCD7 and TCD8 parms for the RMS/WebAccess transactions.

TASK	DESCRIPTION	DATE: COMPLETED BY:
6.5	Install the RMS External Security Manager Exit (optional)	

If an external security manager (ESM) will be implemented, modify the sample exit (SEC0020) to conform to local security administration. Use sample job INST20 to compile and link the exit with the RMvvrm executable. “RMS/WebAccess CICS Security Management” in “Component Configurations” on page 516 provides details for implementing an ESM.

TASK	DESCRIPTION	DATE: COMPLETED BY:
6.6	Installation verification	

After starting your runtime server, WebSphere or a compliant application server, request the following address from Microsoft Internet Explorer browser:

```
http://ip-address/{rms-webapp-name}/
```

VSE System Installation/Verification

INTRODUCTION

Installation tasks may need to be assigned to certain key individuals as certain disciplines are needed.

Use the checklist provided to indicate the completion date and person assigned to each task. Completion of all items insures that you have a working system that has been verified and is ready for productive use.

Late-breaking Installation notes

Review the content of the member #README.S for installation errata or tips that may not be included in this publication.

System Requirements

Library requirements are 25,000 blocks, approximately 50 cylinders of a 3390.

Minimum partition sizes are as follows:

- RMS Subsystem

FILES	PARTITION SIZE
500	1M
2500	2M
After the first Meg, each additional Meg will allow approximately 2,000 more files into the repository.	

Try to ALLOC the partitions to the larger size on the console (ALLOC ?, F?=10M) first. If this fails, you must change your VSIZE IPL parameter. If you change your VSIZE= value to accommodate these partitions, be sure to reformat your page datasets (add a TYPE=F parm to the DPD statements).
Note: The last dataset will need to be adjusted to handle the additional pages.

- RMS controller 3072K
- Archive Batch work 1024K
- Distribution Batch work 1536K

NOTE: For all dataset examples where vvrm occurs, use the following to encode:
vv = version level (Example: 11)
r = release level (Example: 3)
m = modification level (Example: 5)
nn = PTM level (Example: 00)

RELEASE LEVEL UPGRADE

When making the transition from an older level of RMS/ONLINE to a more recent version, it is usually desirable to maintain the integrity of the data residing in the current database. Also, some internal record restructuring may be necessary between releases.

In order to install a new release of the system without destroying your existing data, the following procedure is required:

1. Back up the VSAM files using the backup module (RM90007) from your current release.
2. Install the new release.
3. Restore the back up files using the restore module (RM90008) from the new release.

In addition to restructuring your database files, new Help System records should be taken from the distributed HELP dataset and used to replace the existing Help System records. Use the provided JCL (*see HELPREPL.J*). These help system records may need customizing to meet installation standards. The upgrade can be done once all of the installation tasks are complete.

Base dataset archive files created by a prior version of RMS may be processed by current release programs.

RMS VSE INSTALLATION CHECKLIST

TASK	DESCRIPTION	INITIALS	DATE
1.0	Discard install JCL from prior RMS release		
1.1	Select / Create library and sublibrary		
1.2	Upload the distribution software		
2.0	Customize and run INST01		
2.1	Move SVA members		
2.2	Determine RMS repository dataset locations		
2.3	Customize RMS repository JCL and parms		
3.0	Cold start RMS		
3.1	Warm start RMS		
3.2	Create QXCNTRL dataset		
3.3	Allocate VSAM files		
3.4	Load the CICS VSAM files		
4.0	Add CICS table entries		
4.1	Modify CICS JCL statements		
5.0	Customize procedures		
5.1	Start RMSCTL		
5.2	Run RMSRGEN		
5.3	Run RMSQXIDX		
5.4	Run RMSMAP		
5.5	Run RMSRUN		
5.6	Run ARCHIVE tests		
5.7	Run Backup/Restore tests		
6.0	Sign On		
6.1	RMS/DPF		
6.2	RMS/System Administration		
6.3	RMS/Distribution Definition		
6.4	Sysout Management		
6.5	RMS/Resource Security		
6.6	RMS/Help Facility		
7.0	Install CICS Transaction Gateway		
7.1	Install RMS/WebAccess		
7.1a	Installation under Websphere		
7.1b	Installation under Tomcat		
7.2	Customizing RMS/WebAccess for your installation		
7.3	.jar check (required for Tomcat 4.x)		
7.4	Configure CICS Definitions		
7.5	Install the RMS External Security Manager Exit (optional)		

Task 1

Download Install Job

TASK	DESCRIPTION	DATE: COMPLETED BY:
1.0	Discard install JCL from prior RMS release	/ /

TASK	DESCRIPTION	DATE: COMPLETED BY:
1.1	Select / Create library and sublibrary	/ /

Use the following JCL to Define your new Library.

```
// JOB LIBR - DEFINE MANTISSA PRODUCTS LIBRARY
// DLBL AOM,'MANTISSA.AOM.PRODUCTS.LIBRARY',1999/365
// EXTENT ,VVVVVV,1,0,####,###
// EXEC LIBR,PARM='MSHP'
DEFINE LIB=AOM
DEFINE SUBLIB=AOM.DOvvrm
/*
/&
```

The following JCL is a sample of how to Archive your new library to a history file. You should receive a cover letter along with this manual giving you the appropriate ARCHIVE and COMPRISES values for the release you are installing.

NOTE: If you do not have the above referenced “cover letter”, call Mantissa Corporation Customer Support for the required information.

```
// JOB ARCHIVE - RMS/ONLINE Vvvrm
// DLBL IJSYSHF,'MANTISSA.AOM.HISTORY.FILE', 1999/365
// EXTENT SYS002,1,0,####,###
// ASSGN SYS002,DISK,VOL=VVVVVV,SHR
// EXEC MSHP,SIZE=750K
        ARCHIVE V11UR2
        COMPRISES 1980-V11-35
        RESOLVE 'MANTISSA RMS/ONLINE Vvv.rm
        ARCHIVE 1980-V11-35-UR2
        RESIDENCE PRODUCT=V11UR2 PRODUCTION=AOM.DOvvrm -
        GENERATION=AOM.DOvvrm
/*
/&
```

The following member types will be loaded.

member.J	JCL
member.OBJ	Object deck
member.PHASE	Executable program
member.PROC	JCL procedure
member.S	Source member/samples
member.A	Macros

TASK	DESCRIPTION	DATE: COMPLETED BY:
1.2	Upload the distribution software	/ /

Mantissa's RMS Release 11.35 PTM 00 product is now distributed via files obtained from our FTP site (ftp.mantissa.com) or on a CD.

DO NOT USE THE JCL FROM A PRIOR RELEASE!

There are two files that need to be binary transferred to your OS for installation per the RMS Systems Reference manual – Chapter 11. One file catalogues the .OBJ and .PHASE members. The other catalogues all the JCL and source (.A, .J, .PROC and .S). These files can be found in the Outgoing/RMS/V1135/VSE folder and named VSE_syslink.txt and VSE_sysdemo.txt. The transfer must be binary (no CRLF or ASCII translation) with fixed 80 byte records. Once the data files are successfully transferred and received, you are ready to begin the installation of RMS.

The JCL must be tailored to match the library setup you defined above. There are several references to the libraries in the various job steps within. Search for LIBDEF to find them. They have as a default, "AOM.DOvvrm" as the library.sublibrary. You could just edit the JCL to catalog the members and then edit each job JCL as needed or edit them all and do it once. They also include a PROC named RMSLABEL which contains the JCL for all datasets used in the RMS system. As you place files, update this PROC since it is called in most jobs.

Once all JCL has been checked, submit them to VSE and verify their successful completion. You are ready to begin the installation of RMS.

Member #README.S in the library contains current information about this install.

Task 2

Installing the System

TASK	DESCRIPTION	DATE:	COMPLETED BY:
2.0	Customize and run INST01	/ /	

Change the INST01.J job to customize the online and batch programs to match your installation’s requirements. Instructions are imbedded in the member. Once completed, run the job.

Do not alter the JCL items marked <<< DO NOT CHANGE >>>.

Refer to the “Archive/Distribution Component Configuration” and “Online Component Configuration” sections in “Component Configurations” on page 516 for descriptions of the keywords.

TASK	DESCRIPTION	DATE:	COMPLETED BY:
2.1	Move SVA members	/ /	

Four phases must be SVA resident. Job RMSSDL.J should be run at every IPL in BG before RMS is started. Alternatively, you could add those four phases to a user SVA loadlist. The names for the phases must match the names specified in the start-up parms described in the following steps.

Change JCL and add a POWER job card with the name RvvrmSDL.

TASK	DESCRIPTION	DATE:	COMPLETED BY:
2.2	Determine RMS Repository dataset locations	/ /	

RMS needs one checkpoint dataset and one or more SPOOL datasets. These must be permanently allocated as part of the RMS installation process. Only CKD disk types are supported at present.

The file names for the repository datasets are generated in RMS using the following scheme: C+ volume id and S+volume id. If your volume is labeled “DOS001” then the DLBL for the checkpoint should be “// DLBL CDOS001,... ". Likewise, the spool volume should be “// DLBL SDOS001,... ". You may have multiple copies of RMS running, but the restriction of the generated file names needs to be considered. If you use STDLABEL’s there can only be one 'C??????' and/or one 'S??????' dataset on volume '??????'. If you use our procedures to specify the JCL, then each subsystem can specify a checkpoint and/or spool dataset on any one volume.

Please refer to the SPACE ALLOCATION section in “RMS Subsystem Initialization” on page 541

TASK	DESCRIPTION	DATE: COMPLETED BY:
2.3	Customize RMS repository JCL and parms	/ /

Make a copy of the original RMS.J JCL. Change JCL and add a POWER job card with the name RvvrmSUB. Customize the start-up JCL with your library names and file names. This JCL includes a set of start-up parameters that must be customized prior to starting the system. Please refer to “RMS Subsystem Initialization” on page 541. This JCL should be left in your RDR queue permanently. It should be released at every IPL after the RMS SDL job has completed.

NOTE: When customizing the RMS parameters, please pay close attention to the NUMFQES, SUBID and WTO parameters. The CHKPT and the SPOOL parms specify where the repository data files are located.

Determine where your repository datasets are to reside and modify the JCL. They must be outside of VSAM. Also see “Space Allocations” at the end of this chapter for help in estimating space requirements.

The following is a sample of the JCL stream required to execute the RMS system:

```
// JOB RMS - EXECUTE RMS SUBSYSTEM
// EXEC PROC=RMSLABEL
        which contains:
         *CHECKPOINT DATASET
         *SPOOL DATASET
         *STATISTIC DATASET
// LIBDEF *,SEARCH=(MANTISSA.DOvvrm)
// EXEC RvvrmEXE,SIZE=500K
.
.
RMS PARMS
.
.
/*
/&
```

The EXEC statement is required and must execute the RMS main load module, which is normally assigned the name RvvrmEXE. See “RMS Subsystem Initialization” on page 541 entitled “Initialization Parms” for further information about the parm values that can be specified.

The assignment of SYS010 is only required if the list option is required during start-up.

The assignment of SYS009 is only required if the SMF=YES initialization parameter is specified in the RMS parms.

Task 3

Prepare Report Repository/Start RMS Subsystem.

Task	Description	Date: Completed By:
3.0	Format start RMS	/ /

This section contains instructions for starting the RMS system for the first time.

Start RMS by submitting RvvrmSUB to VSE with a DISP=D and a “Format” start option. The operator should reply ‘Y’ to the CONFIRM CHECKPOINT request. RMS will inform the operator about progress during initialization with the following WTO messages:

```
<RM7059     Cold-start In Progress
<RM7024     Formatting xxxxxx
<RM7068     RMS end of task module ESFEOTSK installed
<RM7100     Simple COLD start completed
```

RMS initialization has successfully completed and is now ready to process work. The operator may now enter the display-status command (assume RMS is running in F5):

```
MSG F5
5 DS
```

RMS will respond with the following messages:

```
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7820     SPOOL PCB Writes/Max/Current load   0/   0/   0
<RM7816     0 Outstanding I/O-requests
<RM7817     Open file count: 0/ Output, 0/ Input
<RM7818     0% Spool utilization
<RM7820     0 file queue elements in use- Total 500
<RM7822     VTAM ACB closed
<RM7318     Virtual printer interface halted
```

RMS performed a FORMAT start of the RMS subsystem which initialized the repository. Shutdown the subsystem by entering MSG XX on the console (xx=partition identifier). When the system responds, enter # SHUTDOWN.

Warm Start

Task	Description	Date: Completed By:
3.1	Warm Start RMS	/ /

The RMS JCL should now be changed to a production mode. The start option should be changed to “warm” and the DISP should be changed to K. Submit this JCL to POWER. In “Warm” mode, RMS will retain the datasets in the repository from the previous execution. This JCL can be left in the reader queue to be used whenever RMS is to be started.

TASK	DESCRIPTION	DATE: COMPLETED BY:
3.2	Create QXCNTRL dataset	/ /

Create the QXCNTRL dataset using member INST02.J from your JCL library.

RMS provides file integrity through the use of a control file (QXCNTRL). This dataset contains the names of the VSAM and repository datasets used by the system. In addition, the name of the SUBSYSTEM managing the repository files must be designated. The dataset must be a sequential file (not in VSAM space).

Please refer to the CONTROL FILE CONFIGURATION section in “Component Configurations” on page 516 for information on setting up the QXCNTRL file.

TASK	Description	Date: Completed By:
3.3	Allocate VSAM files	/ /

Please refer to the VSAM DATASET CONFIGURATION section in “Component Configurations” on page 516.

Run the job INST03.J from your JCL library. This will define the VSAM files for administrative functions and online viewing. Also, there are definitions for sort files used in report distribution that may be modified.

TASK	DESCRIPTION	DATE: COMPLETED BY:
3.4	Load the CICS VSAM files	/ /

Customize INST04.J and run to load the files with test data.

Task 4

CICS Environment Preparation

TASK	DESCRIPTION	DATE: COMPLETED BY:
4.0	Add CICS table entries	/ /

Copy the CICS table entries from the library. These are members INST05.S and INST06.S. These may need to be customized based on your internal standards. Proper operation of the system demands that the share option for the VSAM files remain unchanged. The RMS transactions must have the RESSEC parameter set to NO (default) or have sufficient authority in the external security manager to be able to issue an “EXEC CICS INQUIRE” for SYSTEM, TRANSACTION and PROGRAM resources.

To integrate RMS/Online into an existing front-end menu, refer to the section entitled “CICS front-end for RMS/Online” found later in this section.

132 Column Support CICS Table Parms

The following changes are required in order to use RMS/Online 132 column support features.

IN THE TCT:	DEFSCRN=(24,80) ALTSCRN=(27,132)	or whatever desired for default for the large screen
IN THE PCT FOR THE TRANSACTION DESIRING LARGE SCREEN SUPPORT:	SCRNSZE=ALTERNATE	

TASK	**DESCRIPTION**	**DATE:**	**COMPLETED BY:**
4.1	Modify CICS JCL statements	/ /	

Add the following required JCL statements to your CICS start-up JCL.

```
************************************************************
* RMS/ONLINE DEFINITION FILES
************************************************************
// DLBL QXRCDS,'PROD.DO.VvvrmPnn.QXRCDS',,VSAM,CAT=VSESPUC
// DLBL QXDCDS,'PROD.DO.VvvrmPnn.QXDCDS',,VSAM,CAT=VSESPUC
// DLBL QXACDS,'PROD.DO.VvvrmPnn.QXACDS',,VSAM,CAT=VSESPUC
// DLBL QXRQDS,'PROD.DO.VvvrmPnn.RMSCHKPT',10
// EXTENT SYS024,DOSRES,,,6855,105
// ASSGN SYS024,DISK,VOL=DOSRES,SHR
// DLBL SDOSRES,'PROD.DO.VvvrmPnn.RMSSPOOL',10
// EXTENT SYS025,DOSRES,,0,6960,1500
// ASSGN SYS025,DISK,VOL=DOSRES,SHR
************************************************************
```

NOTE: The DLBLs of these files must match the DDNAMEs specified for the parm values in the RMSOLGEN macro that is coded as part of the installation procedure for RMS/Online Job “INST01”. The defaults are used above. The system numbers (SYS024 and SYS025) can be changed but must not be used by any other component of CICS.

Task 5

JCL Preparation

TASK	**DESCRIPTION**	**DATE:**	**COMPLETED BY:**
5.0	Customize procedures	/ /	

Customize all procedure members available for execution. The sample PROCs contains a LIBDEF statement to access the Mantissa library.

PROCLIB CONTENT	
NAME	**DESCRIPTION**
QSERV	BASE DATASET ARCHIVE / RECOVER
RDMS	REPORT DISTRIBUTION
VSARC	NON-BASE DATASET ARCHIVE
VSRES	NON-BASE DATASET RESTORE

TASK	**DESCRIPTION**	**DATE: COMPLETED BY:**
5.1	Start RMSCTL	/ /

The RMSCTL.J member is a job provided with the RMS product that contains as many as three separate functions, depending on user needs. The RMSCTL "control region" has the following functions:

- It contains a writer that moves print data from VSE/POWER to the RMS repository.
- It contains an Index task that will generate index records for online viewing of report datasets moved to the repository.
- It contains a purge task that purges print datasets marked for purge by the restore process (see the RMVSRES.J job).
- Archive tasks to archive perform the group archive of distributed datasets.
- Print and recovery task to perform print on demand operations and viewable dataset recover operations requested by RMS/Online users.

After the RMSCTL writer task has started all print with a POWER LST DEST=(????, ...) value equal to the "DEST" parm in the RMSCTL parm data will be moved to the RMS subsystem specified in the RMSCTL parm "SSNAME".

NOTE: The DEST value must be a different name than any other RMS/Online or RMS/Online SUBID value. See the details of how to control this task in the '*RMS Controller'* section of the *Systems Administration Manual*.

Also, if VSE/POWER has a NDT defined, the value chosen for the DEST parameter must be added to the NDT.

```
Example: PNODE NODE=RMS,APPLID=RMS
```

RMSCTL.J is the job delivered on the installation tape. Change JCL and add a POWER job card with the name RvvrmCTL. Customize this job to your installation standards and submit it to POWER. This JCL should be left in your RDR queue permanently. It should be released at every IPL. If not started, start the RMSCTL task by using the following command:

```
R RDR,RvvrmCTL
```

Several messages will be issued indicating that the control region has been initialized. One of these messages will indicate that the external writer component has been initialized.

The external writer component will transport your reports to the repository and purge them immediately from the POWER LST SPOOL.

In order to stop the CTL job, enter the message ID # displayed when the job started and 'P'(i.e., 34 P). The controller *must* be stopped before the subsystem is shutdown.

TASK	**DESCRIPTION**	**DATE: COMPLETED BY:**
5.2	Run RMSRGEN	/ /

The JOB stream RMSRGEN.J is a job that will create 2 reports (*INR01 and INR02*) and place them on the POWER queue. Set the DEST=Parm for the LST card to be equal to the subid for your RMS subsystem (default=RMS). This will permit the datasets to be drained by the writer component of the control region (*RMSCTL*).

TASK	DESCRIPTION	DATE: COMPLETED BY:
5.3	Run RMSQXIDX	/ /

The member RMSQXIDX.J contains the job control to list all queue datasets in the repository.

TASK	DESCRIPTION	DATE: COMPLETED BY:
5.4	Run RMSMAP	/ /

The member RMSMAP.J contains the job control to produce a grid marked copy (*a map*) of the reports generated in the previous step.

TASK	DESCRIPTION	DATE: COMPLETED BY:
5.5	Run RMSRUN	/ /

The member RMSRUN.J contains the job control to distribute the reports INR01 and INR02 from the repository using the distribution definition RDMSCASE.

TASK	DESCRIPTION	DATE: COMPLETED BY:
5.6	Run ARCHIVE tests	/ /

The member RMSQXARC.J contains the job control and control statements necessary to backup reports residing in the repository to a media (*tape or disk*) for storage and eventual retrieval. Change the QXARCHO TLBL statement to contain a valid DSN.

The member RMSQXRES.J contains the job control and parameters necessary to recover reports from the archive created in the previous step. Change the QXARCHI TLBL statement to contain a valid DSN.

TASK	DESCRIPTION	DATE: COMPLETED BY:
5.7	Run Backup/Restore tests	/ /

The member RMSVSARC.J contains the job control necessary to backup all files used in the online system. The member RMSVSRES.J contains the job control necessary to recover reports used in the online system.

Task 6

Installation Verification

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
6.0	Sign On	R	/ /

Initial User ID/Password

After the system is installed and the files delivered on the distribution tape have been loaded, you have a “starter” user record. The user identification is SYSUI, and the password for this user is SYSPW. You will need this user ID and password to sign on to RMS/ONLINE.

Sign-On RMS/ONLINE using default userid = SYSUI and PASSWORD = SYSPW.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
6.1	RMS/DPF	R	/ /

Use the Display/Print User Guide in this manual to verify all DPF functions.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
6.2	RMS/System Administration	R	/ /

Use System Administration manual as a guide for setting up a test environment

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
6.3	RMS/Distribution Definition	R	/ /

See Chapter 3 of the Distribution Definition manual for instructions and reference.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
6.4	Sysout Management	R	/ /

See the Systems Administration Chapter to establish the sysout capture requirements for your RMS system. Decisions ***must*** be made as to classes, destinations, jobnames, etc. to be captured by RMS prior to installation of the JES exits in a later task.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
6.5	RMS/Resource Security	R	/ /

See Chapter 5 of the System Administration manual for examples.

Task	Description	O/R	Date: Completed By:
6.6	RMS/Help Facility	R	/ /

RMS/Help Facility. See Chapter 8 of the System Administration manual for examples.

Task 7

CICS Transaction Gateway and RMS/WebAccess

Required Products/Levels

RMS/WebAccess requires that the following products/features are installed at these levels:

❐ Required

- VSE/ESA 2.5 or higher
- CICS Transaction Server 1.1 or higher
- IBM CICS Transaction Gateway (CICS TG, CTG) or higher
- Operating Systems
  - Linux under VM
  - Linux operating system on an Intel platform
  - Windows 2000 or XP (Professional or Server editions)
- Java Application Servers, such as, IBM Websphere 4.x+, BEA Weblogic 6.x+ or Jakarta Tomcat 4.x+
- Web Servers, such as, Microsoft IIS, IBM Web Server or Apache Web Server

Preparing for Installation

During installation, variables to be set by the customer are indicated as {variable}. A customer's local guidelines or procedures may dictate the value of these variables. The following table lists the variables and suggested settings:

Variable	Suggested Setting
{rms-webapp-name}	webaccx.x
{rms-path} or {ServletContainerHome}	{path to}/webaccx.x

Note: x.x is the version number of your install.

{path to}/webaccx.x is the physical path of your RMS/WebAccess install.

Based on the definition of the {rms-webapp-name}, the format of the browser request address will have the form:

http://ip-address/rms-webapp-name}/
or
http://DNS-hostname/{rms-webapp-name}/

Task	Description	O/R	Date: Completed By:
7.0	Install CICS Transaction Gateway	R	/ /

In order to interact with CICS on VSE, IBM provides CICS Transaction Gateway. CICS Transaction Gateway Version 5 or higher runs on AIX, HP-UX, z/OS, Solaris, Linux, Windows 2000, Windows NT and Windows XP.

> **NOTE:** To install and run IBM CICS TG, it is necessary to have a Java Runtime Environment (JRE) installed on your machine. CICS TG is shipped with a JRE on the installation CD. You could use that or download a JRE from the Sun Java website.

1. Obtain and install the IBM CICS Transaction Gateway.

   After installation, the wizard might automatically come up, for you to specify the servers for your location. You can choose this method or the method outlined in step 2 below. We recommend using the method outline below for a smooth install.

2. Installation under Windows.

   - Go to the folder C:\Program Files\IBM\IBM CICS Transaction Gateway\bin or where the CTG executables are placed using the command prompt.

     > **NOTE:** Depending on your environment, CICS TG might install on the different physical drive. Locate the installation home by using Windows Search for something like “ctgcfg”.

   - Type “ctgcfg” on the command prompt. This will open the CTG configuration tool.
   - Under the “Java Gateway” tree header, click “TCP” and on the right frame click “Enable protocol handler”.

     Use these values for the various properties of TCP settings:

     Port=2006

     Handler wakeup timeout(ms)=1000

     Connection timeout(ms)=2000

     Idle timeout(ms)=600000

     Ping time frequency(ms)=60000

     SO_LINGER setting=0

     Do not check “Drop working connections”

     Do not check “Require clients to use security classes”

     > **NOTE:** These are mostly default settings, you may change them and fine tune them as per your installation. But keep track of the port number above, since this is the port that CICS on VSE would be listening on.

   - Right-click the “Client” tree header and then in the pop-up choose “New Server”.

     Use these values for various properties of Server connection:

     Server name=cicsvse

     Description=cics on vse

     Initial Transaction={blank}

     Model terminal definition={blank}

     Network protocol=TCP/IP

     TCP/IP settings

Hostname or IP address={the IP address or host name of your VSE installation}

Port=2006

Connection timeout(s)=0

Do not check the “Use windows credentials for security”

Do not check the “Use upper case security”

Check the “Send TCP/IP keepalive packets”

> **NOTE:** These are mostly default settings, you may change them and fine tune them as per your installation. But keep track of the port number and the IP address above, since this is the port that CICS on VSE would be listening on.

- Exit CTG Configuration tool.

3. Starting the CTG server
   - You could install CTG as a service and have it startup as Windows boots or have it as a batch file or as a command line argument.
   - Here is a sample script that you could use from the command prompt or as a startup batch file. Again the choice is up to you.

```
c:\
cd C:\Program Files\IBM\IBM CICS Transaction Gateway\bin
ctgstart
```

4. Starting the CTG client.
   - You could install CTG as a service and have it startup as Windows boots or have it as a batch file or as a command line argument.
   - The CTG client defined in the configuration has to be started to enable communication with the CTG server.
   - Here is a sample script that you could use from the command prompt or as a startup batch file. Again the choice is up to you.

```
c:\
cd C:\Program Files\IBM\IBM CICS Transaction Gateway\bin
cicscli -s=cicszos {reference server name}
```

5. Check the CTG client and server.
   - Here is a sample script that you could use from the command prompt or as a startup batch file. Again the choice is up to you.

```
c:\
cd C:\Program Files\IBM\IBM CICS Transaction Gateway\bin
cicscli -l
```

> **NOTE:** The status shown must be “available” to continue.

6. A few notes on CTG
   - CTG allows you to set up trace information that could be useful during the initial installation process. Of course you can disable the trace when the system is pushed to production.

- Bring up the CTG Configuration tool. Go to the folder C:\Program Files\IBM\IBM CICS Transaction Gateway\bin or where the CTG executables are placed using the command prompt.
- Type “ctgcfg” on the command prompt. This will open the CTG configuration tool.
- On the toolbar, click “Tools/Trace Settings”. There are various parameters that you can check/uncheck for the trace. The one that we have found useful here is to check the “Gateway” box under the “Gateway Trace”. You might have to restart the CTG after clicking ok for the trace to output trace information on the command window.
- The CTG also provides some contextual help that could be useful.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
7.1	Install RMS/WebAccess	R	/ /

NOTE: Webaccx.x indicates the major and minor version of webaccess. Other application server installations are similar. Please contact Mantissa for installation instructions for your specific application server.

Websphere Option

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
7.1a	Installation under Websphere	R	/ /

If you are going to use RMS/WebAccess under Websphere, the following steps 1-6 are required.

Start the WebSphere Administrative Console, e.g.: http://localhost:9090/admin. Give any suitable login username.

1. Choose Nodes > Server > Enterprise Apps > Install.
2. Navigate to the WAR file’s location.
3. Enter the application’s name in the App Name text input field; for example, webaccx.x.
4. Enter the context name for the application in the Context Root text input field; for example, /webaccx.x.
5. Restart Websphere.
6. Test the application by going to http://urllocation:port/name_of_war. i.e. http://urllocation:port/webaccx.x.

   Port 9080 is the default port for websphere installations. Please check the port on your machine.

Tomcat Option

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
7.1b	Installation under Tomcat	R	/ /

If you are going to use RMS/WebAccess under Tomcat, the following steps 1-9 are required.

Webaccx.x.war would be run in a browser as http://serverlocation:port/webaccx.x

1. Stop tomcat.
2. Go to the following directory: $TOMCAT_HOME/webapps/ .
3. Copy the file [application_name].war to this directory.
4. You may do one of two things next (both have the same outcome although the first only requires you to restart tomcat once). Removing the war file once it has been unzipped will prevent it being unzipped again and potentially overwriting any file you may have changed.
5. Start tomcat (tomcat automatically will unzip the war).
6. Stop tomcat.
7. Delete the .war file or copy elsewhere.
8. Start Tomcat.
9. Test the application by going to http://urllocation:port/name_of_war. i.e. http://urllocation:port/webaccx.x.

   Port 8080 is the default port for tomcat installations. Please check the port on your machine by going to {TOMCAT-HOME}\conf\server.xml.

```
<!-- Define a non-SSL Coyote HTTP/1.1 Connector on port 8080 -->
    <Connector className="org.apache.coyote.tomcat4.CoyoteConnector"
    port="8080" minProcessors="5" maxProcessors="75"
    enableLookups="true" redirectPort="8443"
    acceptCount="100" debug="0" connectionTimeout="20000"
    useURIValidationHack="false" disableUploadTimeout="true" />.
```

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
7.2	Customizing RMS/WebAccess for your installation	R	/ /

1. In the file “webaccx.x/WEB-INF/resources/webaccess.properties”

- Modify

  session.gatewayURL=x.x.x.x

  where x.x.x.x is the IP address for the installation for your CICS TG server

  session.communication=cicstg
  session.cicstg.debug=true

  After you have verified that RMS/WebAccess has been installed correctly, please change “session.cicstg.debug=false” since this provides a big performance penalty.

- Modify

  session.executeable=RMrrvm
  session.servername=CICSVSE
  session.transactionid=B35B

  The value of the “session.transactionid” property is specified in the TCD7 parm within the RMSOLGEN customization macro found in Task 2.0. The “servername” is the name specified in the CICS Transaction Gateway customization.

- Modify

  stylesheets.caching=true
- Modify

  mail.mailhost=x.x.x.x

  Change this to the IP address of your SMTP mail host.
- Modify

  output.max.pages=100

  This is the default value for output of pages out of WebAccess. As you increase this value, the system will undertake a performance penalty.
- Modify

  session.timeout=600000

  This value is in minutes. You could set it to say 30 to set a time-out of 30 minutes.

2. In the file “webaccx.x/WEB-INF/resources/log4j.txt” or “webaccx.x/WEB-INF/classes/log4j.txt”

- Modify

  log4j.rootCategory=DEBUG, A2

  This value is set to “DEBUG” only during the initial installation period. For production systems it should be set to “log4j.rootCategory=ERROR, A2”.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
7.3	.jar check (required for Tomcat 4.x)	R	/ /

batik.jar is required for output of pdf, text and xml files from the webaccess system. This file can be obtained from http://xml.apache.org/batik/. Download the latest binary release and after uncompressing the binary release locate the batik.jar file and include it in the classpath of your application server intallation. For example in Tomcat 4.x place this file under {TOMCAT-HOME}\common\endorsed.

TASK	DESCRIPTION	O/R	DATE: COMPLETED BY:
7.4	Configure CICS Definitions	R	/ /

Copy the CICS table entries from the library. They are in member INST07.S. This member will need to be customized based on your internal standards.

TASK	DESCRIPTION	DATE: COMPLETED BY:
7.5	Install the RMS External Security Manager Exit (optional)	/ /

If an external security manager (ESM) will be implemented, modify the sample exit (SEC0020) to conform to local security administration. Use sample job INST08.J to compile and link the exit with the RMvvrm executable. “RMS/WebAccess CICS Security Management” in “Component Configurations” on page 516 provides details for implementing an ESM.

Component Configurations

ARCHIVE / DISTRIBUTION COMPONENT CONFIGURATION

Each of the RMS/Basic versions (*MVS/VSE*) may be individually tailored to your particular operating environment by specifying certain keyword parameters on an assembly macro called RMSBGEN. The format of the RMSBGEN macro is as follows:

- The first source statement must specify “RMSBGEN” between columns 2 and 10 followed by one or more spaces, followed by a succession of keyword operands separated by commas, and extending up to 71.
- Continuation of a statement is indicated by placing any non-blank character in column 72 of the statement to be continued. The last parameter of the continued statement must be followed by a comma.
- Values in continuation statement must begin in 16.
- Values not specified will assume default values.

Acceptable parameters of the RMSBGEN macro and the default values are listed below. The keywords may be specified in any order.

KEYWORD	VALUE	FUNCTION
CKPTIME	12000	Specifies default interval for checkpoint retries. Note 1.
CKPTRY=	999999999	Specifies default number of checkpoint retries. Note 1.
DC01=...DC15=		These parameters can be used to define up to 15 command/ command lines that will be input to each RMS input command stream after the first command is read from QXPARMS. These parameters also are used to globally specify batch usermods. For information on the available usermods, refer to member SETUMOD in the installation PDS where INST01 is or in &SRCLIB after the install for later changes. For VSE, the member is SETUMOD.S. ex. DC01=' RUNOPT UMOD(001) UMOD(005)', Note 2.
EMSGRC=	08	Return code that is to be set as the result of an error message. Must not be greater than 32.
IMSGRC=	00	Return code that is to be set as the result of an informational message. Must be less than or equal to 32.
OMDESC=	6	Description code for all write to operator messages.
OMRTEC=	2	Route code to be assigned to all write to operator messages.
ONAME=	Spaces	Used to enter the name that will appear on the system generated reports. Limited to 40 characters. The value specified must be enclosed in quotes (i.e., your organization name).
OPSYS=	MVS	Used to specify the operating system - For VSE, Code “DOS”.
PMRTEC=	11	Route code to be assigned to all write to programmer messages. Descriptor code is 0.
WMSGRC	04	Return code that is to be set as the result of a warning message. Must not be greater than 32.

NOTES:

1. Special datasets called CHECKPOINT DATASETS are used for synchronization of the drain process by the External Writer (*within the RMSCTL task*) and subsequent dataset selection for the purpose of archive or distribution. The use of checkpoints will suspend processing until the checkpoints are found in the RMS Report Repository. If a CHECKPOINT DATASET is selected, but not found, the requesting component will wait for a specified interval and test again.

   The interval of time between each successive test from the first is specified by the RMS Subsystem Initialization parameter CKPTIME = as a number of seconds specified in hundredths of a second. The number of additional tests after the first may be specified by the parameter CKPTRY = as a number between 1 and 999999999. The default for these two parameters, as shipped by Mantissa, is 120.00 seconds (12000) and 999,999,999 tries.

2. Certain installation defaults could be established using these 15 command/command lines. Primarily it is intended to allow default RUN*OPTIONS parameter such as COMMAND*BUFFER*SPACE or LINE*COUNT. Code this parameter using the correct syntax including continuation specification.

ONLINE COMPONENT CONFIGURATION

Each of the RMS/Online versions (*MVS/VSE*) may be individually tailored to your particular operating environment by specifying certain keyword parameters on an assembly macro called RMSOGEN. The format of the RMSOGEN macro is as follows:

- The first source statement must specify “” between columns 2 and 10 followed by one or more spaces, followed by a succession of keyword operands separated by commas, and extending up to 71.
- Continuation of a statement is indicated by placing any non-blank character in column 72 of the statement to be continued. The last parameter of the continued statement must be followed by a comma.
- Values in continuation statement must begin in 16.
- Values not specified will assume default values.

Acceptable parameters available within the RMSOGEN macro and the default values are listed below. The keywords may be specified in any order. Any undocumented parameters are reserved and should not be changed or the options used.

RMSOGEN MACRO PARAMETERS

Keyword	Values	Function
MAXFILE	nnn	The MAXFILE keyword in RMSOGEN controls the number of spool extents that will be/can be opened for all subsystems associated with all the transactions sets in the customization.
VML	vvrm	Version, release and modification level of RMS.
TCD0	RM00	RMS/Online Base transaction code. This allows access to the main menu and all functions. Resource Security will secure each main menu option.
TCD1	RM01	Display Print transaction code. This takes the user directly to the Display/Print menu. It eliminates going first to the main menu and entering option 1.
TCD2	RM02	System Administration transaction code. This takes the user directly to the System Administration menu.
TCD3	RM03	RDMS/DD transaction code. This takes the user directly to the Distribution Definition menu.

RMSOGEN Macro Parameters		
Keyword	**Values**	**Function**
TCD4	RM04	RMS/DM transaction code. This takes the user directly to the Dataset Management menu. This option is currently not available. It is a future addition to the system and will provide online management of the RMS report queue.
TCD5	RM05	RMS/RS transaction code. This takes the user directly to the Resource Security menu.
TCD6	RM06	HELP MAINT transaction code. This takes the user directly to the Help Management menu.
TCD7	RM0B	RMS/WebAccess BASE transaction: This transaction defines ID used to initiate RMS from the Web. If used, it must be the same as the TRANSID value in the CICS definition (see installation job INST19) and the network server property "session.transactionid".
TCD8	RM0F	RMS transaction used in the operation of RMS/WebAccess.
ACFN	QXACDS	ACDS FILE IDENTIFIER. This will be the DDNAME for the Administrative Control Data Set.
RCFN	QXRCDS	RCDS FILE IDENTIFIER. This will be the DDNAME for the Report Control Data Set.
DCFN	QXDCDS	DCDS FILE IDENTIFIER. This will be the DDNAME for the Distribution Control Data Set.
FSNAME		FILE SET NAME.
RQFN	QXRQDS	RQDS FILE IDENTIFIER. This will be the DDNAME for the Report Queue Data Set. Relates to RMSPARM parameter CHKPTDSN.
RDFN	QXRDDS	RDDS FILE IDENTIFIER. This will be the DDNAME for the RMS Spool dataset. Relates to RMSPARM parameter SPOOLDSN.
BIVI	0200	Buffer Invalidation Interval (mmss). Default is two minutes.
UMOD	(nnn,nnn)	Refer to SETUMOD member for Online Usermods to reference. This parameter must be placed in the first transaction set.
WKFN	QXACDS	DDNAME for workfile. This file houses work records in RMS Online under CICS. If it is left out or specifies the same name as the ACFN parm, the work records will be written to the ACDS dataset. If a unique name is entered, RMS will use this file for the work record. The file is housed in virtual storage and its contents are deleted each time CICS is cycled. Must also be specified in INST01 job at system customization.
P2PPT	RMvvrmM	MAPSET PPT ENTRY NAME. This is a program containing the map set operations for RM00 transactions. Only change this if the program is linked as a name other than RMvvrm.
ABPFX	RM	ABEND CODE PREFIX. This will be the first two characters of the abend codes from RM00 transaction.
MSPFX	RM	MESSAGE CODE PREFIX. This will be the first two characters of the messages codes from the RM00 transaction.

RMSOGEN MACRO PARAMETERS

Keyword	Values	Function
RTIME	00	MINIMUM TRANSACTION RESPONSE TIME. This will be the minimum response time (with some degree of accuracy) for the RM00 transaction. Line speeds and activity will also affect the actual resulting response time.
DELAS	N	DELETE AUX STORAGE RECORDS AFTER TRANSACTION. "N" causes the aux storage records to be left on the ACDS file. "Y' causes these records to be deleted. Use of "Y" will increase response time. These records will be needed and created again on the next enter.
JOBQ	JOB	JOB RECORD SET QUALIFIER. This will be the second level qualifier for the help panel JCL model panels. The first qualifier is PRT. For VSE this value is VSEJOB.
PWUT	0	USER PASSWORD USE THRESHOLD IN DAYS. This is the number of days the password will be valid before requesting a change. A value of "0" will cause no required change in the user password.
PWRT	5	USER PASSWORD RETRY THRESHOLD. This is the number of times a user is allowed to retry his password. After limit is reached, he returns to CICS.
SAUI	SYSUI	ADMINISTRATOR USER ID. This is the System Administrator ID distributed with the product.
SAPW	SYSPW	ADMINISTRATOR PASSWORD. This is the System Administrator password distributed with the product.
SAAG	IVSYSTEM	ACCESS GROUP. This is the default Access Group distributed with the product.
LANG	ENG	SYSTEM HELP FILE LANGUAGE. This is the first pointer to the system help panels. This allows for multi-language help panel translations to be housed within the help system.
UCTRAN	Y	UPPERCASE TRANSLATE (Y/N). This will force translation to upper case of all data entered via a terminal.
ENV	MVS	OPERATING SYSTEM ENVIRONMENT. This is the operating system under which the product will run. For VSE, code "DOS"..
VARID	$	JCL VARIABLE IDENTIFIER. This is the character which will begin each variable within the model JCL help panels. Only change this if the character is changed within the JCL help panels. For example: $CLASS will be the variable for the class attribute replaced when print request are serviced by RMS/Online.
FINDLIM	999999999	FINDLIM indicates the search range capability within an Online report. The default is 5,000 lines if not set using this parameter at installation.
SSN	Rvrm	Subsystem name for the repository. Relates to the RvvrrSUP parameter SUBID and the RvvrrCTP parameter SSNAME.

RMSOGEN MACRO PARAMETERS		
Keyword	**Values**	**Function**
PST1	Rvrm	Output Service request for target subsystem. This parameter should be the same as SSN for the primary (BASE) subsystem. For other subsystems in a "CACHE" environment, it should be equal to the primary (BASE) subsystem.
FSN	FSET01	Fileset Name is the associated Index file set. This parameter will be the fileset name used in the RvvrrCTP and INST02 member.
DUMMY	DUMMY	DUMMY parameter is used to signify the end of all parms. DO NOT DELETE THIS PARM! Add to each transaction set.

Initial User ID/Password

After the system is installed and the files delivered on the distribution tape have been loaded, you have a “starter” user record. The user identification is SYSUI, the password for this user is SYSPW. You will need this user ID and password to sign on to RMS/ONLINE.

CONTROL FILE CONFIGURATION

Control files are simply a way to define the characteristics of a file set. A file set consists of the following:

1. ACDS - Administrative control dataset
2. RCDS - Retention Control dataset
3. DCDS - Distribution Control dataset
4. Cache - One or more subsystems containing documents or reports associated with this fileset.

Parameters used to build the control file must be entered in a specific sequence. Parameters and their values may be entered in mixed case.

These parameters fall into three categories, directives, VSAM and utility file definitions and Cache Array member definitions. You are said to be using a cache ARRAY if you describe more than one physical subsystem to contain the reports and documents for a fileset.

Directives

A directive is a command that describes a processing characteristic of the file set. fsName, ignoreAux, tmessagelevel, drain, maxpercent, minfreeblk, and minfreefqe keywords are directives. The drain, ignoreaux, maxpercent, minfreeblk, and minfreefqe directives apply directly to cache array support and may be ignored if you do not intend to use array support. These values apply to all cache array members.

fsname - File set name

```
Options          aaaaaaaa
Default          n/a
```

NOTE: fsname is a 1 to 8 character alphameric value conforming to dd naming conventions. This is the logical name of all the associated files.

fencePrimary - Fence the primary subsystem.

This option is used in a cache array environment to describe the action taken by the system if the space is exhausted in all auxiliary array members. Write operations will always attempt to avoid the addition of documents and reports to the primary array member; the bias is always toward the use of the auxiliary cache members. If fencePrimary is YES and all auxiliary members are full, the system will not use the primary to add a report. The system will give a wait-on-space condition message.

`Options`	`YES/NO`
`Default`	`NO`

NOTE: In a single member system, “no” must be specified.

ignoreAux - Ignore Auxiliary Subsystems if down (for write operations)

This option is used to describe what action should be taken when and auxiliary subsystem is found to be down when evaluated for the purpose of writing to the system.

`Options`	`IGNORE/WAIT`
`Default`	`IGNORE`

NOTE: The ignored subsystem will be placed off line for the purpose of the current job execution. It will be reconsidered if the cache bank is totally exhausted and the system enters a wait-on-space state.

drain - Drain a subsystem

This option is used in a cache array environment to designate cache members that are to be drained. You would use this option if you wanted to gradually withdraw a cache member from the array. The effect on decisions relating to the use of cache members is to exclude the designated member from write operations and treat it as read only.

`Options`	`ssss Name of the subsystem to be drained`
`Default`	`n/a`

NOTE: Multiple drain commands may be entered.

useOrder - Use order of cache array members

useOrder establishes criteria for using a cache member as a write target. Use UTIL if you want to balance the load on all cache members based strictly on the percentage utilization. Use SEQ if you want to fill the cache member from the last to the first (if fenceprimary(no) is specified). Use FREE if you want to balance based on the remaining free space left in the subsystem at the time the system makes a request for free space.

`Options`	`UTIL/SEQ/FREE`
`Default`	`FREE`

UTIL	Use the array member with the lowest percent utilization meeting maxpercent, minfreeblk and minfreeFQE requirements.
SEQ	Use the first array member, from the last array member to the first, meeting maxpercent, minfreeblk, minfreefqe requirements.
FREE	Use the array member with maximum number of free data blocks meeting maxpercent, minfreeblk, minfreefqe requirements.

Using FREE will load the high space systems to the exclusion of the other cache members. UTIL will guarantee that the load is spread by actual available space assigned to the cache members. UTIL and FREE will be almost identical in situations where the allocated space is the same in all cache members. EXCEPTION: UTIL bases the decision to use a cache member as a write target on a whole number change in the percentage utilization of a subsystem. For example, for a cache member that has 2,000,000 blocks allocated, blocks will be used for 20,000 consecutive blocks (1%) with a UTIL allocation before a switch to the next cache member.

In the same situation (symmetrical systems) the FREE option would switch to the system with the largest number of free blocks, potentially varying the target cache member on a dataset boundary.

maxpercent - Maximum percentage utilization (before NOT being considered)

This value is used to screen cache members that may be marginal from an available space standpoint.

Options	**nn**
Range	**01 - 99**
Default	**97**

minfreeBlk - Minimum free blocks (before use)

This value is used to screen cache members that may fall within the maxPercent boundaries but still represent a potential point of failure owing to estimated size of the report or document. Take the largest viewable report or other document you anticipate creating, divide that size by the block size of the cache members (assumes symmetrical members), then quadruple that number and use it as the minFreeBlk value.

Options	**nnnnnnnn**
Range	**3000 - 9999999**
Default	**3000**

minfreeFqe - Minimum free file queue elements (before use)

This value is used to screen cache members that may fall within the maxPercent, and minfreeblk constraints but still represent a potential point of failure owing to an extremely low numbers of free directory (file queue element) entries.

Options	**nnnnnnnn**
Range	**100 - 34000000**
Default	**100**

The value selected for minfreeFQE should be considered carefully. A cache array can have hundreds of members. Each of those members has it's own set of file queue elements. Further, each cache member may be shared between up to seven CPU's in a complex. Each CPU across which the cache member is shared can be adding entries to the cache. It is not uncommon to have burst mode document creation rates exceeding 200 per second even in a low mip rate (120) environment. The value you select should be large enough to avoid having all the fqe's consumed between the time the status request is made and the decision to use a system as the target for a write operation. Though the default is 100, the value should be at least this value times the number of cpu's in the MAS (multi-access spool) environment + 100.

tmessageLevel - Trace message level

This option is used to set the trace level and verbosity level of the messages created by the subsystem assignment module. It will rarely, if ever be used in a production environment.

Options	**naaa**
Position 1	**0-9 DEFAULT IS 0**
Position 2-4	**W in any of these positions = wait after trace message.**

NOTE: Extreme care should be used for this option. Even a small number of processed datasets would cause extremely elongated run times owing to the wait after each message.

Position 2-4	**C in any of these positions = put any message to the console.**
Position 2-4	**P in any of these positions = put any message to the QXSTATS DD if applicable. Note that not all programs that produce messages have QXSTATS available as an output option.**
Default	**0**

NOTE: tmessageLevel(9pcw) and tmessageLevel(9wpc) are equivalent; the order of "w", "p", "c" options is inconsequential.

RMS Integrity via QXCNTRL

RMS provides file integrity through the use of the control file (QXCNTRL). This dataset contains the names of the VSAM and repository datasets that represent one fileset. The fileset name is indicated in the FSNAME value. In addition, the name of the SUBSYSTEM managing the repository files is designated.

Reserve Major/Minor name information is as follows:

- The major name used for the reserve request is RMvvvvvv (*where vvvvvv is the volume label of the device containing the QXCNTRL file*).
- The minor name used for the reserve request is the Dataset Name of the QXCNTRL file.

Sample QXCNTRL Definition (INST02) without an array.

```
//jobname        JOB (t,000,0000),’MANTISSA’,
//                        CLASS=A,
//                        MSGCLASS=A,
//                        NOTIFY=XXXX
//RM90050        EXEC     PGM=RM90050,REGION=4096K
//STEPLIB        DD       DSNAME=PROD.OO.VvvrmPnn.LINK,DISP=SHR
//SYSPRINT       DD       SYSOUT=*
//SYSOUT         DD       SYSOUT=*
//SYSUDUMP       DD       SYSOUT=*
//QXCNTRL        DD       DSN=PROD.OO.VvvrmPnn.QXCNTRL,
//                        UNIT=SYSDA,DISP=(,CATLG,DELETE),
//                        SPACE=(TRK,(1,0))
//QXPARMS        DD       *

FSNAME(FSET01)
DDNAME(QXACDS) DSNAME(PROD.OO.VvvrmPnn.QXACDS)
DDNAME(QXDCDS) DSNAME(PROD.OO.VvvrmPnn.QXDCDS)
DDNAME(QXRCDS) DSNAME(PROD.OO.VvvrmPnn.QXRCDS)
SSNAME(Rvrm)
DDNAME(QXRQDS) DSNAME(PROD.OO.VvvrmPnn.RMSCHKPT)
DDNAME(QXRDDS) DSNAME(PROD.OO.VvvrmPnn.RMSSPOOL)
DDNAME(QXVSIN) DSNAME(PROD.OO.VvvrmPnn.QXDCDS)
DDNAME(QXVSOUT) DSNAME(PROD.OO.VvvrmPnn.TSO.QXDCDS)
/*
//
```

NOTE: The STEPLIB should specify the same DSN as in the BLOAD symbolic in the installation job.

The DDNAME and DSNAME names should be the name of the VSAM files to be created for the RMS/Online system.

```
DDNAME(QXVSIN)   DSNAME(PROD.OO.VvvrmPnn.QXDCDS)
DDNAME(QXVSOUT)  DSNAME(PROD.OO.VvvrmPnn.TSO.QXDCDS)
```

NOTE: ****** Very Important -** If you are installing both the CICS and TSO versions of RMS/ONLINE special care should be taken when specifying the DDNAMEs and the DSNAMEs. ONLY THE QXRCDS, QXRQDS, and QXRDDS CAN BE SHARED BY BOTH SYSTEMS. You will have to create a set of ACDS and DCDS files for both CICS and TSO. If you are maintaining your RMS data with TSO, setup another ACDS and DCDS. Once the RMS changes are made, REPRO the whole ACDS/DCDS to the CICS copies of the ACDS/DCDS.

Sample TSO RMS QXCNTRL:

```
FSNAME(FSET01)
DDNAME(QXACDS) DSNAME(PROD.OO.VvvrmPnn.TSO.QXACDS)
DDNAME(QXDCDS) DSNAME(PROD.OO.VvvrmPnn.TSO.QXDCDS)
DDNAME(QXRCDS) DSNAME(PROD.OO.VvvrmPnn.QXRCDS)
SSNAME(RMS)
DDNAME(QXRQDS) DSNAME(PROD.OO.VvvrmPnn.RMSCHKPT)
DDNAME(QXRDDS) DSNAME(PROD.OO.VvvrmPnn.RMSSPOOL)
DDNAME(QXVSIN)  DSNAME(PROD.OO.VvvrmPnn.QXDCDS)
DDNAME(QXVSOUT)  DSNAME(PROD.OO.VvvrmPnn.TSO.QXDCDS)
```

Adding an auxiliary subsystem to cache array

One of the many benefits of the new auxiliary subsystem technology is the ability to add additional subsystems (one to many) while RMS is active and jobs are running. This coupled with the 3.4 million FQE limit per subsystem allows for virtually unlimited growth potential for your RMS environment.

The steps below outline what is required to bring an auxiliary subsystem into the cache array.

Run an IEFBR14 job to allocate the SPOOL and CHKPT datasets. Refer to the Installation Guide for guidelines on allocating the repository datasets.

Create a new subsystem parameter deck modeled after the primary subsystem member in your RMS JCL library. Edit the member to reflect the appropriate SPOOL & CHKPT volumes and names. Select a unique SUBID. Because there are a limited number of characters available for the COMCHAR keyword for communicating with the subsystem, we recommend not specifying a COMCHAR. Use the MVS modify command to communicate with the subsystems in the array.

Create a new subsystem proc and copy it into your production PROCLIB.

Reinitialize the QXCNTRL file governing the FILESET that this subsystem is to be added to by including the information for the new subsystem(s). To add A135, place the SSNAME and DDNAMES for the auxiliary subsystem after the PRIMARY set. Placement of additional subsystems can be made in any order after the PRIMARY. For example:

```
SSNAME(R135)
DDNAME(QXRQDS)  DSNAME(PROD.OO.V1135P00.RMSCHKPT)
DDNAME(QXRDDS)  DSNAME(PROD.OO.V1135P00.RMSSPOOL)
*    -------------------------------------------------
SSNAME(A135)
DDNAME(QXRQDS)  DSNAME(PROD.OO.V1135P00.A.RMSCHKPT)
DDNAME(QXRDDS)  DSNAME(PROD.OO.V1135P00.A.RMSSPOOL)
*    -------------------------------------------------
```

Modify CDRMS2 in your RMS JCL library to include the new files. Refer to the CDRMS2X member for an example of how to customize RMS to include support for auxiliary subsystems. Additional transaction codes in CICS are not required as the transactions codes from the primary set are used for all of the subsystems in the one array.

Run REINSTLO to relink the UTT0011 (Online) module. Verify the condition codes from the REINSTLO job. A condition code of ‘04’ is acceptable.

Specify the DDNAMES for the new RQDS & RDDS files in the startup proc for CICS.

Start the new subsystem using OPTION=FORMAT. Once the format has completed the new subsystem is a candidate for any jobs currently running and for any new jobs submitted for processing.

Sample QXCNTRL Definition (INST02) with an array.

```
fsName(fset01  )
tmessageLevel(0)
fencePrimary(yes)
Drain(D135    )
Drain(C135    )
useorder(free)
maxpercent(95)
minfreeBlk(2000)
minFreeFqe(100)
inactiveAux(ignore)
*    -------------------------------------------------------------
ddName(QXACDS)  DSNAME(PROD.OO.V1135Pnn.QXACDS)
ddName(QXDCDS)  DSNAME(PROD.OO.V1135Pnn.QXDCDS)
ddName(QXRCDS)  DSNAME(PROD.OO.V1135Pnn.QXRCDS)
*    -----------------------------------------------------
ddName(QXVSIN)   DSNAME(PROD.OO.V1135Pnn.QXDCDS)
ddName(QXVSOUT)  DSNAME(PROD.OO.V1135Pnn.TSO.QXDCDS)
*    -----------------------------------------------------
```

```
ssName(R135)
ddName(QXRQDS)  DSNAME(PROD.OO.V1135Pnn.RMSCHKPT)
ddName(QXRDDS)  DSNAME(PROD.OO.V1135Pnn.RMSSPOOL)
*    ------------------------------------------------------------
ssName(A135)
ddName(QXRQDS)  DSNAME(PROD.OO.V1135Pnn.A.RMSCHKPT)
ddName(QXRDDS)  DSNAME(PROD.OO.V1135Pnn.A.RMSSPOOL)
*    ------------------------------------------------------------
ssName(B135)
ddName(QXRQDS)  DSNAME(PROD.OO.V1135Pnn.B.RMSCHKPT)
ddName(QXRDDS)  DSNAME(PROD.OO.V1135Pnn.B.RMSSPOOL)
*    ------------------------------------------------------------
ssName(C135)
ddName(QXRQDS)  DSNAME(PROD.OO.V1135Pnn.C.RMSCHKPT)
ddName(QXRDDS)  DSNAME(PROD.OO.V1135Pnn.C.RMSSPOOL)
*    ------------------------------------------------------------
ssName(D135)
ddName(QXRQDS)  DSNAME(PROD.OO.V1135Pnn.D.RMSCHKPT)
ddName(QXRDDS)  DSNAME(PROD.OO.V1135Pnn.D.RMSSPOOL)
*    ------------------------------------------------------------
/*
```

MULTIPLE FILESETS

Fileset association is established at installation with job INST02 that initializes the Control File dataset — QXCNTRL. This file defines the relationship between:

- Subsystem
- The VSAM files
- The Repository files
- The fileset name(s)

For **each** fileset definition, a separate install job (INST02) must be executed:

```
//INST02 JOB(,),’MANTISSA’,CLASS=A
//RM90050     EXEC     PGM=RM90050,REGION=4M
//STEPLIB     DD       DSN=PROD.OO.VvvrmPnn.LINK,DISP=SHR
//SYSPRINT    DD       SYSOUT=*
//SYSOUT      DD       SYSOUT=*
```

An additional **QXCNTRL** Control file must be created

```
//SYSUDUMP    DD       SYSOUT=*
//QXCNTRL     DD       DSN=TEST.OO.VvvrmPnn.QXCNTRL,
//                     DISP=(,CATLG,DELETE),
//                     UNIT=SYSDA,
//                     SPACE=(TRK(1,0))
//QXPARMS     DD       *
```

New Fileset id

```
FSNAME(FSET02)
```

Additional Filesets

New RMS VSAM files

```
DDNAME(QXACDS)  DSNAME(TEST.00.VvvrmPnn.QXACDS)
DDNAME(QXDCDS)  DSNAME(TEST.00.VvvrmPnn.QXDCDS)
DDNAME(QXRCDS)  DSNAME(TEST.00.VvvrmPnn.QXRCDS)
```

SAME SubSystem

```
SSNAME(R134)
```

Same Repository files

```
DDNAME(QXRQDS)  DSNAME(TEST.00.VvvrmPnn.RMSCHKPT)
DDNAME(QXRDDS)  DSNAME(TEST.00.VvvrmPnn.RMSSPOOL)
```

Let’s Recap

For each additional fileset:

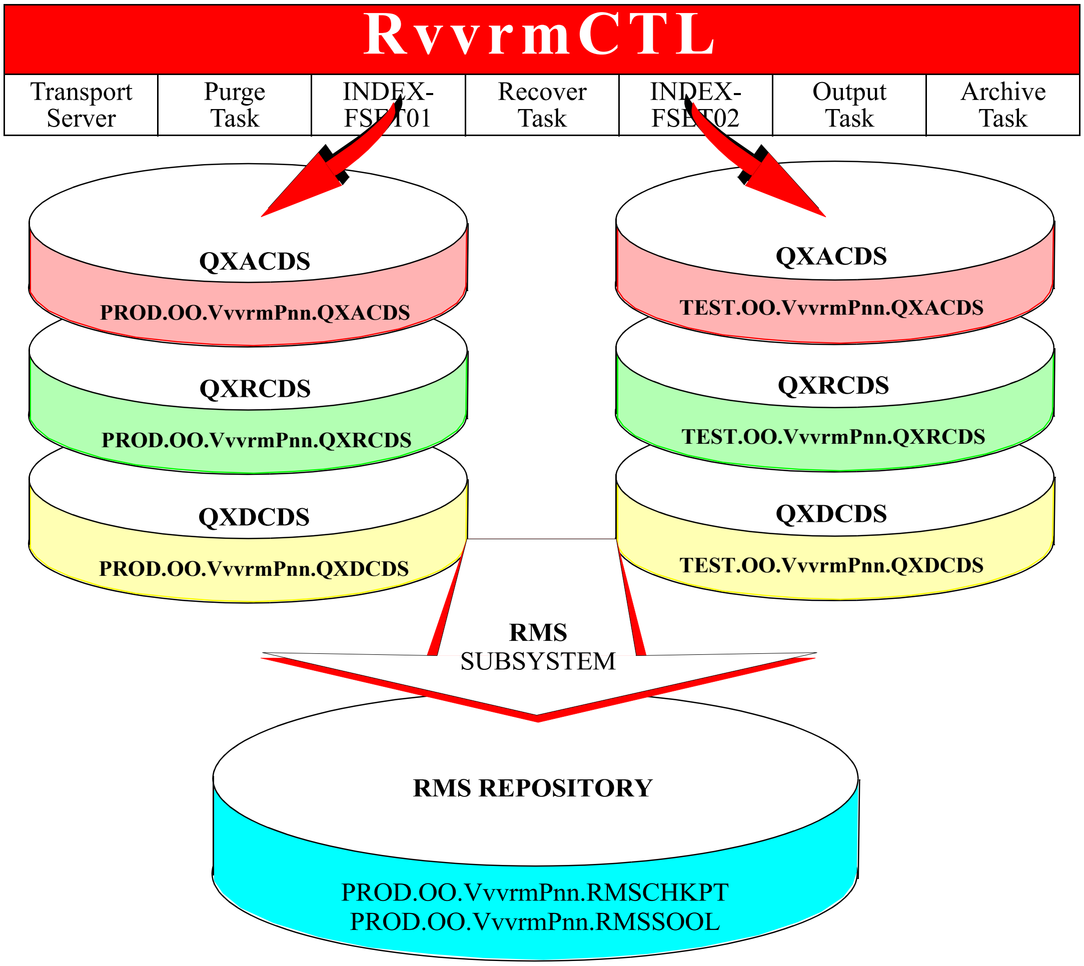
1. In INST02 modify:
   - **QXCNTRL** ....Control file to retain file information associated with the fileset

being created. A unique QXCNTRL for each fileset.

- **VSAM files**..................................Unique VSAM files; QXACDS, QXRCDS, and QXDCDS must be created for each fileset.
- **FSNAME** ....Unique for each fileset.

2. In INST02 indicate:
   - **Same SUBSYSTEM**
   - **Same REPOSITORY FILES**

The following diagram demonstrates the relationship in a multi-fileset environment:


RvvrmCTL
Transport Server
Purge Task
INDEX-FSET01
Recover Task
INDEX-FSET02
Output Task
Archive Task
QXACDS
PROD.OO.VvvrmPnn.QXACDS
QXRCDS
PROD.OO.VvvrmPnn.QXRCDS
QXDCDS
PROD.OO.VvvrmPnn.QXDCDS
QXACDS
TEST.OO.VvvrmPnn.QXACDS
QXRCDS
TEST.OO.VvvrmPnn.QXRCDS
QXDCDS
TEST.OO.VvvrmPnn.QXDCDS
RMS SUBSYSTEM
RMS REPOSITORY
PROD.OO.VvvrmPnn.RMSCHKPT
PROD.OO.VvvrmPnn.RMSSOOL

RvvrmCTL Startup: The FSETnn is an entry in QXPARMS DD

Once INST02 has run for each fileset and the VSAM files for each fileset have been defined, the Startup for the control region can be modified to accommodate the multiple filesets. RvvrmCTL has a DD statement referencing a parm member containing the attributes desired for the Controller. This parm member will override the option fields in the startup proc:

Controller startup

Overrides these parms

```
//RvvrmCTL PROC OPTION=’CLASS(GH) JOBLOG*CLASS(I) SSNAME(R134)’,
//        CLASS1=’E’,                        SYSOUT CLASS FOR AUDIT REPORT
//        CLASS2=’E’,                        SYSOUT CLASS FOR SNAP DUMPS
//        CLASS3=’E’,                        SYSOUT CLASS FOR ABEND DUMP
//    STEPLIB=’PROD.OO.VvvrmPnn.LINK,        STEPLIB FOR RMS PROGRAMS
//        QCDSN=’PROD.OO.VvvrmPnn.QXCNTRL’,  QXCNTRL DSN
//        QPDSN=’PROD.OO.VvvrmPnn.JCL(RvvrmCTP)’,QXPARMS MEMBER
//        RSIZE=’17M’                        REGION SIZE
//*-------------------------------------------------------------------*
//IEFPROC        EXEC     PGM=RM99999,
//                        PARM=’&OPTION’,
//                        TIME=1440
//                        REGION=&RSIZE
//STEPLIB        DD       DSN=&STEPLIB,DISP=SHR
//*-------------------------------------------------------------------*
//QXCNTRL        DD       DISP=SHR,DSN=&QCDSN
//FSET01         DD       DISP=SHR,DSN=&QCDSN
//FSET02         DD       DSN=TEST.OO.VvvrmPnn.QXCNTRL,DISP=SHR
//FSET0n         DD       DSN=HLQn.OO.VvvrmPnn.QXCNTRL,DISP=SHR
//QXAUDIT        DD       DCB=BLKSIZE=133,SYSOUT=&CLASS1
//QXSTATS        DD       DCB=BLKSIZE=133,SYSOUT=&CLASS1
//QXPARMS        DD       DISP=SHR,DSN=&QPDSN
//SYSABEND       DD       DCB=BLKSIZE=133,SYSOUT=&CLASS3
//SYSDUMP        DD       DCB=BLKSIZE=133,SYSOUT=&CLASS3
//QXSNAP         DD       SYSOUT=&CLASS2
```

QPARMS refers to Proc variable &QPDSN

Each fileset **QXCNTRL** file is referenced

Parm Member: RvvrmCTP

```
SSNAME                    (R134)
CLASS                     (34U)
DEST                      (LOCAL)
JC                        (U)
DEFAULT*FILESET           (FSET01)
FS01                      (FSET01)
FS02                      (FSET02)
FS0n                      (FSET0n)
STATSLOG*LIMIT            (00500)
PURGELOG*LIMIT            (00500)
TRANSLOG*LIMIT            (00500)
RECOVERLOG*LIMIT          (00500)
OUTPUTLOG*LIMIT           (00500)
ARCHIVELOG*LIMIT          (00500)
INDEXLOG*LIMIT            (00500)
STATS*CLASS               (E)
STATS*DESTINATION         (LOCAL)
INDEX*LOCK*SPAN           (00200)
```

Subsystem

Criteria for Transport subtask

Fileset for base datasets

Fileset for distributed datasets

Fileset2 for distributed datasets

Filesetn for distributed datasets

NOTE: The DDNAMES referenced in the RvvrmCTL ***must match*** the multiple fileset names assigned in the RvvrmCTP.

RvvrmCTL DDNAME	RvvrmCTP Parms
FSET01	FS01**(FSET01)**
FSET02	FS02**(FSET02)**
FSET0n	FS0n**(FSET0n)**

Mantissa sends the install tape using FSETnn. However, you can name the filesets whatever you desire, something more reflective of your site, being careful to make the changes during the INST02 execution and RvvrmCTL, RvvrmCTP setup.

Notice that in the DD QXCNTRL we reference only one QXCNTRL file and include any additional QXCNTRL files under DD statements for each FSETnn we will be using. It is because this reference to the QXCNTRL file is used by the archive task to obtain the Subsystem name, the checkpoint dataset and the spool dataset. The VSAM files referenced in the QXCNTRL are not used here.

Multiple Fileset DDNAMES: Site oriented

```
//RvvrmCTL PROC OPTION=’CLASS(GH) JOBLOG*CLASS(I) SSNAME(R134)’,
//       CLASS1=’E’,                         SYSOUT CLASS FOR AUDIT REPORT
//       CLASS2=’E’,                         SYSOUT CLASS FOR SNAP DUMPS
//       CLASS3=’E’,                         SYSOUT CLASS FOR ABEND DUMP
//   STEPLIB=’PROD.OO.VvvrmPnn.LINK,         STEPLIB FOR RMS PROGRAMS
//       QCDSN=’PROD.OO.VvvrmPnn.QXCNTRL’,  QXCNTRL DSN
//       QPDSN=’PROD.OO.VvvrmPnn.JCL(RvvrmCTP)’,QXPARMS MEMBER
//       RSIZE=’17M’                         REGION SIZE
//IEFPROC        EXEC     PGM=RM99999,
//                        PARM=’&OPTION’,
//*------------------------------------------------------------------*
//IEFPROC        EXEC     PGM=RM99999,
//                        PARM=’&OPTION’,
//                        TIME=1440
//                        REGION=&RSIZE
//STEPLIB        DD       DSN=&STEPLIB,DISP=SHR
//*------------------------------------------------------------------*
//QXCNTRL        DD       DISP=SHR,DSN=&QCDSN
//PROD01         DD       DISP=SHR,DSN=&QCDSN
//PROD02         DD       DSN=TEST.OO.VvvrmPnn.QXCNTRL,DISP=SHR
//PROD0n         DD       DSN=HLQn.OO.VvvrmPnn.QXCNTRL,DISP=SHR
//QXAUDIT        DD       DCB=BLKSIZE=133,SYSOUT=&CLASS1
//QXSTATS        DD       DCB=BLKSIZE=133,SYSOUT=&CLASS1
//QXPARMS        DD       DISP=SHR,DSN=&QPDSN
//SYSABEND       DD       DCB=BLKSIZE=133,SYSOUT=&CLASS3
//SYSDUMP        DD       DCB=BLKSIZE=133,SYSOUT=&CLASS3
//QXSNAP         DD       SYSOUT=&CLASS2
                          MUST MATCH

SSNAME                    (R134)          Subsystem
CLASS                     (340)
DEST                      (LOCAL)           Criteria for Transport subtask
JC                        (U)
DEFAULT*FILESET           (PROD01)          Fileset for base datasets
FS01                      (PROD01)          Fileset for distributed datasets
FS02                      (PROD02)          Fileset2 for distributed datasets
FS0n                      (PROD0n)          Filesetn for distributed datasets
```

FSNAME must be built in INST02.

```
FSNAME (PROD01)
DDNAME (QXACDS)  DSNAME (PROD.OO.VvvrmPnn.QXACDS)
DDNAME (QXDCDS)  DSNAME (PROD.OO.VvvrmPnn.QXDCDS)
DDNAME (QXRCDS)  DSNAME (PROD.OO.VvvrmPnn.QXRCDS)
SSNAME (R134)
DDNAME (QXRQDS)  DSNAME (PROD.OO.VvvrmPnn.RMSCHKPT)
DDNAME (QXRDDS)  DSNAME (PROD.OO.VvvrmPnn.RMSSPOOL)
```

VSAM DATASET CONFIGURATION

VSAM Space Allocation

VSAM space for the QXRCDS (Index) file is specified using VSAM access method services (IDCAMS). There is a sample IDCAMS file allocation in the distributed SRCLIB member (INST03). In order to determine the space requirements for the index (QXRCDS), use the following formula:

(1150 * VER) = bytes required.

where:

VER = total number of report (include NON-Softcopy reports if Media Tracking is used) versions that will tracked and viewed.

NOTE: For trial customers the ACDS and DCDS file sizes should be used as delivered in the INST03 jobs. As users and distribution requirements change, these file sizes should be monitored via IDCAMS LISTCAT or other means established by your installation DASD standards.

Description and Suggested Placement of VSAM Datasets

QXACDS

Administrative Control Data Set contains data related to administrative functions such as Security and Report Retention. File will experience medium activity in online environment; batch activity will occur during the Backup/Restore process (*RM90007/RM90008*).

QXRCDS

Report Control Data Set contains data related to each report sent to and tracked by RMS/ONLINE. It is a control file for the actual report data stored in the QXRQDS/QXRDDS files. It references fields such as REPORT*ID, report dataset name, creation job names, dates and times. File will experience high activity in batch and online environment, especially during Backup/Restore process (*RM90007/RM90008*).

QXDCDS

A Distribution Control Data Set contains information related to DISTRIBUTION DEFINITION instruction sets. It will experience low activity in batch and online environment and can be placed anywhere in the DASD configuration.

QXWKDS

The QXWKDS file is an optional work file for CICS that can be defined at system setup to handle the transaction work records RMS uses to save the state information in our pseudo-conversational transactions. These records will go into the QXACDS file if you opt not to implement the QXWKDS file. The work dataset as distributed is defined as a 4000 record CICS data table with the USER attribute. This will handle approximately 1000 RMS Online users (average of 4 records per user). The number of records specified may be altered to any value based on the number of RMS Online users. Use of the QXWKDS will significantly reduce the CICS overhead involved between our pseudo-conversational transactions. The reduction is gained by removing the transaction work record I/O from the QXACDS dataset on DASD to the memory-to-memory transfers from the data table backed QXWKDS.

Placement

The most efficient way to configure these clusters for optimum performance in batch and online environments is by allocating them across 3 or more volumes, separating Index and Data Components as shown. It is important to note that each dataset does not require an entire volume, If three separate volumes are not available, suggestions are made for a 2-volume configuration. As with any VSAM cluster, it is advantageous to separate Index and Data Components for performance considerations.

THREE VOLUME CONFIGURATION		
VOL1	**VOL2**	**VOL3**
VOL001 QXRCDS Index QXACDS Index QXDCDS Index	VOL002 QXRCDS Data	VOL003 QXACDS Data QXDCDS Data

TWO VOLUME CONFIGURATION	
VOL001 QXRCDS Index QXACDS Index & Data QXDCDS Index & Data	VOL002 QXRCDS Data

RMS CONTROLLER CONFIGURATION

The following table contains information relating to the commands and the point at which the parameter may be entered. Blank lines are valid, but comments are not allowed.

RVVRMCTL PROCESS CONTROL COMMANDS

COMMAND	FUNCTION	ACCEPTABLE VALUES	MAY BE CHANGED WITH MODIFY COMMAND
ARCHIOFF	Used to turn off archive processing.	N/A	No
ARCHnOFF	Used to turn off a specific archive task. N = 1-3.	N/A	No
CLASS C	Used to control writer dataset selection.	From 1 to 8 classes; CANCEL	Yes
DEST D	Used to control writer dataset selection.	Valid Destination; CANCEL	Yes
EXIT (eeeeeeee)	Used to designate the name of the processing exit for each dataset retrieved by the writer.	Load Module Name. Note: must be authorized. CANCEL	No
DEFAULT*FILESET	FileSet name for WRITER datasets.	1 - 8 character fileset name to be assigned to all datasets. Blanks and special characters are not allowed.	No
FS01 - FS08	Used to specify the FileSet association for viewable datasets.	1 - 8 character alphameric name of a DD statement in the control region JCL which points to the control file for a fileset. Blanks and special characters are not allowed.	No

RVVRMCTL PROCESS CONTROL COMMANDS			
COMMAND	FUNCTION	ACCEPTABLE VALUES	MAY BE CHANGED WITH MODIFY COMMAND
INDEX*LOCK*SPAN (nnnnn)	Sets the number of consecutive write operations to the FILESET RCDS file before the file is de-queued.	100-10000	No
INDEXOFF	Used to turn off index processing.	N/A	No
INDXnOFF	Used to turn off a specific index task. n=1-8.	N/A	No
JOBLOG*CLASS JC	Used to control writer dataset selection.	From 1 to 8 classes; CANCEL	Yes
OUTPTOFF	Used to turn off output processing.	N/A	No
OUTPnOFF	Used to turn off a specific OUTPUT task. N= 1-2	N/A	No
PROCESS*GROUP PG	Used to establish writer process group.	1 to 4 character process group identifier.	No
PURGEOFF	Used to turn off purge processing.	N/A	No
RECOVOFF	Used to turn off recover processing.	N/A	No
RECOnOFF	Used to turn off a specific recovery task. N= 1-2	N/A	No
TPORTON	Used to turn on writer processing.	N/A	Yes

RVVRMCTL LOG CONTROL COMMANDS			
COMMAND	FUNCTION	ACCEPTABLE VALUES	MAY BE CHANGED WITH MODIFY COMMAND
ARCHIVELOG*LIMIT ALL	Used to control the number of lines written to the ARCHIVE log file before the log is closed and re-opened.	500 - 999,999	Yes
INDEXLOG*LIMIT ILL	Used to control the number of lines written to the INDEX log file before the log is closed and re-opened.	500 - 999,999	Yes
OUTPUTLOG*LIMIT OLL	Used to control the number of lines written to the OUTPUT log file before the log is closed and re-opened.	500 - 999,999	Yes
PURGELOG*LIMIT PLL	Used to control the number of lines written to the PURGE log file before the log is closed and re-opened.	500 - 999,999	Yes

RVVRMCTL LOG CONTROL COMMANDS			
RECOVERLOG*LIMIT RLL	Used to control the number of lines written to the RECOVER log file before the log is closed and re-opened.	500 - 999,999	Yes
STATSLOG*LIMIT SLL	Used to control the number of lines written to the STATUS log file before the log is closed and re-opened.	500 - 999,999	Yes
TRANSLOG*LIMIT TLL	Used to control the number of lines written to the TRANSPORT log file before the log is closed and re-opened.	500 - 999,999	Yes
STATS*CLASS	Used to control the output CLASS of the control region logs.	N/A	N
STATS*DEST	Used to control the DESTINATION of the control region logs. Leaving this parameter out will cause statistics to be routed to local SPOOL system.	N/A	N
WL (*ALL*)	Used to close and re-open all the log files. To close and open individual log files enter the first three bytes of the log file name (i.e., PUR, REC, TRA, ARC, IND, or OUT).	N/A	Yes

CICS FRONT END FOR RMS/ONLINE

A sample program is available to help setup a front end to RMS/ONLINE in an easy straight forward manner. This will allow the organization to kickoff RMS from a menu and give more flexibility on how RMS is invoked and what happens at exit time.

To implement this option, use sample program FRONTEND in our sample library (*HLQ.JCL)*. The COMMAREA lengths and format are very important so don't change them. COMMFE_PROG_NAME tells RMS what program to XCTL back to. RMS will XTCL back with a comm length of 100. If COMMFE_RC not = X'0000', an error occurred and a message will be in COMMFE_MSG. See label AFTER_PART for handling the return from RMS. This part of the program can be tailored to fit your requirements.

Change the source using the following guidelines. There are several ways to start-up RMS. The COMMAREA allows for the organization to preset data (like user id and password) for RMS to use at start time. This reduces the interaction needed from the user to get into the system. There are several ways to do this.

- To go directly to a submenu (*i.e., display/print*) place the appropriate transaction id into EIBTRNID.
- RM01 = Display/Print menu
  RM02 = System Administration etc.
- To bypass the sign-on screen, place the desired user id and password into the appropriate fields in the commarea.

- Another way to go directly to a submenu is to use the appropriate fast path code with transaction code RM00. To use this method, the userid and password must be placed in the common area. Then the appropriate menu number should be placed in COMMFE_FAST_PATH.

  1 = Display/Print menu
  2 = System Administration etc.

Now, let's discuss two ways to implement your front end.

- If you are front ending RMS from an existing menu, copy the COMMAREA definition into your menu program, add the tests for commlength and the code to setup the fields being passed. Reassemble your menu program and you are ready to test.
- If you are front ending RMS from an existing menu, but want to XCTL to a separate front end program, change FRONTEND to setup the fields being passed. Make sure the menu and FRONTEND are in sync when they interface. Assemble and link FRONTEND and your menu program. Add FRONTEND to the CICS program table.

COMMAREA FIELD DESCRIPTIONS			
COMMFE_AREA	DS	0CL100	COMMAREA passed by FRONTEND/menu
COMMFE_PROG_NAME	DS	CL8	PROGRAM NAME to return to (either menu or FRONTEND)
COMMFE_RC	DS	XL2	RETURN CODE value (x'0000' = OK)
COMMFE_MSG	DS	0CL70	returning ERROR MSG
COMMFE_DATA	DS	0CL70	area for FAST PATH data
COMMFE_RESERV	DS	CL5	RESERVED for RMS
COMMFE_PARMS	DS	0CL65	FAST PATH parms
COMMFE_USER_ID	DS	CL8	USERID
COMMFE_FILL1	DS	CL1	filler (set to blank)
COMMFE_USER_PSWD	DS	CL8	PASSWORD
COMMFE_FILL2	DS	CL1	filler (set to blank)
COMMFE_FAST_PATH	DS	CL8	FAST PATH data
COMMFE_FILL3	DS	CL1	filler (set to blank)
COMMFE_EXPAND1	DS	CL38	expansion area (fill out 65/70)
COMMFE_EXPAND2	DS	CL20	expansion area (fill out 100)

RMS/WEBACCESS CICS SECURITY MANAGEMENT

Overview

RMS/WebAccess security is handled internally via RMS/Online security processing or externally via the SEC0020 exit and an external security manager (ESM). RMS security is described in the RMS Systems Reference manual.

RMS/WebAccess external security management is handled through the SEC0020 exit. A sample assembler user exit is provided (in the install library). The exit handles both Sign-On security functions and resource security functions. The exit uses the CICS EXEC QUERY SECURITY API command to determine whether the user has access to resources defined in the external security manager (ESM).

RMS communicates with the exit via the RMS/WebAccess Security Exit Parameter list as illustrated in Figures 1 and 3.

On completion of each request, the exit passes a return code of “P” for permit or “D” for deny in the return code field (RM30RC) to RMS indicating the results of the security request. If the request is denied, additional information is provided in the return code modifier field (RM30RC1) and the returned message field (RM30MSG).

The sample exit was developed using the RACF ESM. All installation and configuration examples assume a RACF ESM. The exit should be easily modified to work with other ESMs.

Dependencies

In the Transaction Gateway implementation, the USERID and PASSWORD provided at logon will be passed to either the ESM or RMS Internal Security.

The rest of this section deals with using the security exit and ESM.

Sign-On Security

When a Sign-On request is received from RMS, the exit initiates a VERIFY USERID to determine if the userid/password combination is valid. If a Sign-On request is made with the RM30PW1 and RM30PW2 fields non-blank, the exit initiates a CHANGE PASSWORD. If successful, the Sign-On process continues.

The exit attempts to read the RMS User Record. If a User Record is not present, a new User Record is constructed based on a skeleton User Record and added to the RMS administrative file (ACDS). On completion of the Sign-On request, the exit passes a return code of “P” for permit or “D” for deny back to RMS. If the request is denied, the exit returns the address of a message (RM30MSG). Possible messages are shown in Figure 2.

Access Security

Access security provides for user id linkage to specific or general combinations of Access Group, Location, and Report Id. The exit initiates a QUERY SECURITY to determine if the user has read access for the requested resource. On completion of each request, the exit passes a return code of “P” for permit or “D” for deny back to RMS indicating the results of the security request

ESM Definitions

The exit requires two RACF classes to be defined in the class-descriptor table (ICHRRCDE) as follows:

```
$RMSVIEW ICHERCDE CLASS=$RMSVIEW,                                    +
               ID=128,                                               +
               MAXLNTH=34,                                           +
               FIRST=ALPHA,                                          +
               OTHER=ANY,                                            +
               POSIT=27,                                             +
               OPER=NO,                                              +
               DFTUACC=NONE
$RMSCMD  ICHERCDE CLASS=$RMSCMD,                                     +
               ID=130,                                               +
               MAXLNTH=43,                                           +
               FIRST=ANY,                                            +
               OTHER=ANY,                                            +
               POSIT=27,                                             +
                  OPER=NO,                                         +
                  DFTUACC=NONE
            ICHERCDE
```

When entries are added to the class-descriptor table, corresponding entries should be added to the RACF router table (using the ICHRFRTB macro) as follows:

```
ICHRFR01 CSECT
         ICHRFRTB CLASS=$RMSVIEW,ACTION=RACF
         ICHRFRTB CLASS=$RMSCMD,ACTION=RACF
ENDTAB   ICHRFRTB TYPE=END
         END   ICHRFR01
```

For further information concerning the assemble and link of the tables, please refer to the System Programming Library: RACF. An IPL is required after the classes have been added to the class-descriptor table and router table.

Following the IPL, the new classes can be activated by entering:

```
SETROPTS CLASSACT($RMSVIEW)
```

$RMSVIEW Security Class

The $RMSVIEW security class contains profiles defining a specific or generic Access Group, Location and Report Id for viewing. Profiles are defined in the form (using a period as a separator):

```
AccessGroup.Location.ReportId
```

The following examples define specific generic profiles:

```
RDEFINE $RMSVIEW MANTISSA.AREA01.MYSALES UACC(NONE)
RDEFINE $RMSVIEW MANTISSA.AREA01.PROFITS UACC(NONE)
RDEFINE $RMSVIEW MANTISSA.CJHOLLER.TELECOM UACC(NONE)
```

After the profile has been defined, a user id can be added to the access list of the profile as follows:

```
PERMIT MANTISSA.AREA01.MYSALES CLASS($RMSVIEW) ID(WEBA2) ACCESS(READ)
PERMIT MANTISSA.AREA01.PROFITS CLASS($RMSVIEW) ID(P390A) ACCESS(READ)
```

Execute the SETROPTS REFRESH GENERIC(*) command to refresh RACF in-storage profile lists and global access checking tables.

$RMSCMD Security Class

The $RMSCMD security class contains profiles defining a specific or generic combination of RMS commands. Profiles are defined in the form (using a period as a separator):

```
FunctionCode.AccessGroup.Transaction
```

The following examples define specific generic profiles:

```
RDEFINE $RMSCMD DP.IVSYSTEM PRINT UACC(NONE)
RDEFINE $RMSCMD DP.MANTISSA.PS UACC(NONE)
RDEFINE $RMSCMD DP.MANTISSA.PE UACC(NONE)
```

After the profile has been defined, a user id can be added to the access list of the profile as follows:

```
PERMIT DP.IVSYSTEM.PRINT CLASS($RMSCMD) ID(WEBA2) ACCESS(READ)
```

Execute the SETROPTS REFRESH GENERIC(*) command to refresh RACF in-storage profile lists and global access checking tables.

Exit Modifications

The defined constant, DEFUI, is the user id of a skeleton default RMS User Record. If no User Record is found for a user signing on to RMS/WebAccess, the exit will read the DEFUI User Record from the ACDS file and use it as a skeleton record to construct the new user a User Record.

Compile and Link Exit

This exit uses MACROs that are contained in the RMS SRCLIB library (PROD.OO.VvvrmPpp.JCL). Place the SRCLIB DD reference in the SYSLIB concatenation of the compile job INST02.

After testing, the RMvvrmS module can be switched into production.

Parameter List: Sign-On Request

Figure 1

FIELD	VALUE ON ENTRY TO EXIT	VALUE ON RETURN FROM EXIT
RM30OC	SCSIGN	Same
RM30UI	User ID	Blanks
RM30PW	Current password	Blanks
RM30PW1	New password (A non-blank field indicates a request to change the password.)	Blanks
RM30PW2	New password - verify (This field must be equal to RM30PW1 for a password change request.)	Blanks
RM30AAC	Address of ACDS	Same
RM30RC		PERMIT or DENY
RM30MSG		If RM30RC = DENY, an address of a returned message. The first two bytes of the message contain the length of the message
RM30REA		ESM Reason Code
RM30RES		ESM Response Code

Returned Messages: Sign-On Request

Figure 2

RM30RC1	RM30MSG
1	RMW0001E The ESM responded with an unknown return code.
2	RMW0002E The ESM is not initialized.
3	RMW0003E The ESM is not responding.
4	RMW0004E The ESM return code could not be decoded.
5	RMW0005E The userid you provided is invalid.
6	RMW0006E The userid is not known to the ESM.
7	RMW0007E The userid is revoked.
8	RMW0008E The supplied password is wrong.
9	RMW0009E Your password has expired.

10	RMW0010E The two new passwords you provided do not match.
11	RMW0011E The new password you provided is not acceptable.
12	RMW0012E The change password failed in SECLABEL processing.
13	RMW0013E The user connection to the default group is revoked.
14	RMW0014E The RMS skeleton user record could not be found.
15	RMW0015E The RMS user record could not be created.

Parameter List: Report Access Request

Figure 3

FIELD	VALUE ON ENTRY TO EXIT	VALUE ON RETURN FROM EXIT
RM30OC	ACCESS	Same
RM30UI	User ID	Blanks
RM30FC	SCLRPA	Same
RM30AG	Access Group	Same
RM30LOC	Location	Same
RM30RID	Report Id	Same
RM30RC		PERMIT or DENY

RMS SVC

SVC Installation

The RMS SVC is designed to use an extended SVC router (ESR) or a user SVC. The RMS ESR SVC does not occupy an SVC number. ESR is called (SVC 109) with a routing code in register 15 indicating the module to be given control. The SVC routing code is chosen by the user and is specified in the RMS initialization parm SVCCODE. When the SVCCODE value is less than 200, then an ESR code specification is assumed. When the SVCCODE value is greater than or equal to 200, a type-4 user SVC is assumed.

NOTE: Current releases of the IBM Diagnosis Reference manual state that under SVC 109 the routine code number 00 - 199 are reserved for IBM, therefore the installation must choose a user SVC that is greater than or equal to 200.

If you want RMS to process the SVC as an ESR, then USERZAP 36 must be specified to enable SVC numbers greater than or equal to 200.

RMS will dynamically install the SVC if it is not already a part of MVS. RMS will follow the standard MVS search algorithm looking for a module named “RMSSVC” (LPA, LINKLIST, STEPLIB). Once found, RMS will place the address of the module in the supervisor at the location based on the SVCCODE= value specified in the parms. It doesn't matter if the SVCCODE= value matches the ALIAS names (IGX.... or IGC......) assembled into the distributed RMSSVC module. The specified parm SVCCODE= number must not be used by any other product.

NOTE: Continue only if there is a requirement to pre-install the SVC into MVS at IPL time.

If a user wants to install the SVC into the supervisor manually via a LINKLIB or LPALIB where the SVC is loaded by MVS at IPL time, consider the following. The only time re-linking the RMSSVC module is necessary is when the default SVCCODE number is already used. The default for RMS/Spool is 250. If it is being used elsewhere, change the number by changing the alias name value and re-link (examples on following pages). Make sure the SVCCODE= parm value matches the number you use, else RMS will dynamically install the SVC as described above and not use the installed SVC's.

When the SVCCODE value is less than 200, then an ESR code specification is assumed unless USERZAP 36 is specified. The SVCCODE must match the two last characters in the corresponding SVC load module. The alias of the load module must be IGX000xx, where xx must match the code specified in this parameter. When the SVCCODE value is greater than or equal to 200, a type-4 user SVC is assumed. The alias of the load module must be IGC00xxx, where xxx must follow the rules for naming type-4 user SVCs. For example, if SVCCODE=232, then the corresponding SVC module name must be IGC0023B. If SVCCODE=241, then the corresponding SVC module name must be IGC0024A.

NOTE: The installation must choose either an ESR SVC or a user SVC, but NOT both. The installation must update the SVCCODE parameter in the RMSPARM dataset after the RMS SVC is installed.

Examples of installing SVCs follow. The first is installed into LINKLST and can be activated by a “F LLA,REFRESH” command. The second is installed into the LPA and requires an IPL to activate.

EXAMPLE: **#1 (Must be tailored for your installation)**

The following JCL is an example of installing user SVC 241.

```
//LINKSVC         EXEC     PGM=IEWL,PARM='NCAL,XREF,MAP,LIST,RENT,AMODE=31,RMODE=24
//SYSPRINT        DD       SYSOUT=*
//SYSLMOD         DD       DISP=SHR,DSN=YOUR.AUTH.LINKLIB
//SYSLIB          DD       DISP=SHR,DSN=RMS.LOADLIB
//SYSUT1          DD       UNIT=SYSDA,SPACE=(CYL,(3,2)),DSN=&SYSUT1
//SYSLIN          DD       *
        INCLUDE SYSLIB(RMSSVC)
        ALIAS IGC0024A
        ENTRY IGX00010
        SETOPT PARM(REUS=RENT,AMODE(31),RMODE(24))
        NAME RMSSVC(R)
/*
```

NOTE: It is the responsibility of the installation to determine if IGC0024A is already installed in their environment**.** Perform an F LLA, REFRESH after this job has run.

EXAMPLE: **#2 (Must be tailored for your installation)**

The following JCL is an example of installing the SVC ESR 10.

```
//LINKSVC        EXEC     PGM=IEWL,PARM=’NCAL,XREF,MAP,LIST,RENT,AMODE=31,RMODE=24
//SYSPRINT       DD       SYSOUT=*
//SYSLMOD        DD       DISP=SHR,DSN=YOUR.USER.LPALIB
//SYSLIB         DD       DISP=SHR,DSN=RMS.LOADLIB
//SYSUT1         DD       UNIT=SYSDA,SPACE=(CYL,(3,2)),DSN=&SYSUT1
//SYSLIN         DD       *
        INCLUDE SYSLIB(RMSSVC)
        ALIAS IGX00010
        SETOPT PARM(REUS=RENT,AMODE(31),RMODE(24))
        NAME RMSSVC(R)
/*
```

NOTE: It is the responsibility of the installation to determine if IGX00010 is already installed in their environment. An IPL is necessary after this job has run.

JES EXITS

JES Exit Installation

This installation is only required if users want send reports directly from JES to Spool without going through JES Spool.

NOTE: The INST11 job (Program RM95959) will load the RMS filter table. Review this entire section for information concerning activation and deactivation of the RMS JES exits.

The exits must be assembled with macro libraries that match the level of JES2 you are operating. Integrity checks have been included in RMSPLRT3, RMSPLRT6 and RM95959 to assure that the exits are compiled under the same JES2 version, release and modification level that they are loaded under. Please contact Mantissa Customer Support when any message concerning the JES2 level is displayed during compilation or loading of the exits.

JES Exit 6 (*RMSPLRT6*) requires the use of one word of the 4 word (*16 byte*) JES Converter save area. All JES Exit 6 programs loaded use the same 4 word save area. The installation must coordinate the use of this 4 word area for Exit 6 programs installed. An equate, CNVWAD, has been included in RMSPLRT6 to indicate which JES Converter save area word to use. The value must be 0, 4, 8 or 12. The Exit is shipped with CNVWAD set to 12 to use the last word.

NOTE: Perform an F LLA, REFRESH after JES EXITS are assembled/linked.

INST11 should be customized and run to load the filter table. You must have created an administrative control dataset (QXACDS) and added filter records in order to successfully run the job. Capability has been included in the RM95959 program to activate/deactivate the RMS Exits 3 and 6. The INST11 job executes the RM95959 program. The DEACT parameter is used to instruct the program to load the filter table, but to leave the exits in a deactivated state. In the absence of the DEACT parameter, the program activates the RMS JES2 exits. The S= parameter provides a default subsystem name for Dataset Profile Management when no value is coded in the SubSys field of the attributes to be assigned. The following examples illustrate the use of the parameters in the INST11 job:

`// PARM=’S=RMS’`	will load the filter table, set the default SubSys to RMS and activate the exits;

`// PARM='DEACT,S=RMS'`	will load the filter table, set the default SubSys to RMS and leave the exits in a deactivated state;
`// PARM='REFRESH,S=RMS'`	will refresh (*reload*) the filter table, set the default SubSys to RMS and activate the exits;
`// PARM='DEACT,REFRESH,S=RMS'`	will refresh (*reload*) the filter table, set the default SubSys to RMS and leave the exits in a deactivated state.

NOTES:

1. Exit 3 and Exit 6 must be defined to JES in order to use RMS exits. Refer to Task 5.1.
   All JES Exit 3 or Exit 6 programs loaded may be disabled using standard JES commands. If only RMS Exit 3 and 6 are to be disabled, use PARM='DEACT' as described above.
2. RMSPLRT3 and RMSPLRT6 must be in a library accessible to RM95959 (Filter Load.)

RM95959 must reside in an authorized library.

RMS Subsystem Initialization

OVERVIEW

Initialization is the series of operations performed each time RMS is started. During initialization, RMS:

- Loads routines and initializes buffers,
- Locates and initializes checkpoint and spool volumes, and
- Initializes tables and subsystem interfaces.

Parameters and *options* tailor RMS during initialization. Execution flow is governed by these *parameters* and *options*. These can be re-specified to reflect changes in the system configuration and the work load each time RMS is initialized.

The initialization *parameters* specify RMS functions and defaults. The parameters specify:

- Spool and checkpoint control parameters.
- Changes to RMS default parameters.
- Multi-access Spool control.

The initialization *options* specify RMS initialization characteristics:

- RMS “cold” start or “warm” start.
- Initialization dataset printout.
- Spool volume formatting.
- RMS system logging.
- File queue rebuilding.

Space Allocations

NOTE: It is better from a performance standpoint to allocate small RMS data extents on multiple volumes. Additional extents, if any, must have the same name as the first extent. The checkpoint and first data file must be cataloged.

Use the chart below for estimating DASD file sizes for the repository checkpoint and spool files. These figures are based on an after compression line length of 100 bytes. Your actual compression will vary based on the amount of white space on your report lines. Typical compression is greater than the estimates used here. Be sure to allocate your files in cylinders.

NUMFQES SPECIFIED IN RMSPARM *	ESTIMATED NUMBER OF LINES PER REPORT	BLKSIZE (BUFSIZE) SPECIFIED IN RMSPARM **	DASD TYPE	SPOOL SIZE IN CYLINDERS	NUMBER OF SPOOL VOLUMES	CHECKPOINT SIZE IN CYLINDERS
1,000	1,000	5,492	3380	152	1	1
1,000	1,000	11,476	3380	146	2	1
1,000	1,000	23,476	3380	141	1	1
1,000	1,000	5,727	3390	146	2	1
1,000	1,000	13,682	3390	122	1	1
1,000	1,000	27,998	3390	117	2	1

NUMFQES SPECIFIED IN RMSPARM *	ESTIMATED NUMBER OF LINES PER REPORT	BLKSIZE (BUFSIZE) SPECIFIED IN RMSPARM **	DASD TYPE	SPOOL SIZE IN CYLINDERS	NUMBER OF SPOOL VOLUMES	CHECKPOINT SIZE IN CYLINDERS
3,500	1,000	5,492	3380	531	1	3
3,500	1,000	11,476	3380	507	2	3
3,500	1,000	23,476	3380	497	1	3
3,500	1,000	5,727	3390	510	2	3
3,500	1,000	13,682	3390	426	1	3
3,500	1,000	27,998	3390	417	2	3
7,000	1,000	5,492	3380	1,062	1	5
7,000	1,000	11,476	3380	1,016	2	5
7,000	1,000	23,476	3380	994	1	5
7,000	1,000	5,727	3390	1,019	2	5
7,000	1,000	13,682	3390	852	1	5
7,000	1,000	27,998	3390	834	2	5
25,000	1,000	5,492	3380	3,794	4	17
25,000	1,000	11,476	3380	3,631	4	17
25,000	1,000	23,476	3380	3,547	4	17
25,000	1,000	5,727	3390	3,638	4	15
25,000	1,000	13,682	3390	3,046	3	15
25,000	1,000	27,998	3390	2,974	3	15
50,000	1,000	5,492	3380	7,587	8	33
50,000	1,000	11,476	3380	7,261	7	33
50,000	1,000	23,476	3380	7,097	7	33
50,000	1,000	5,727	3390	7,276	7	30
50,000	1,000	13,682	3390	6,091	6	30
50,000	1,000	27,998	3390	5,951	6	30
100,000	1,000	5,492	3380	15,174	15	65
100,000	1,000	11,476	3380	14,522	15	65
100,000	1,000	23,476	3380	14,197	14	65
100,000	1,000	5,727	3390	14,551	15	60
100,000	1,000	13,682	3390	12,141	12	60
100,000	1,000	27,998	3390	11,904	12	60

* EQUATES TO ESTIMATED MINIMUM NUMBER OF REPORTS THIS SPOOL DATASET WILL BE EXPECTED TO HOLD.
** EQUATES TO BLOCKSIZE OF THE SPOOL DATASET.

INITIALIZATION PARAMETERS

The RMSPARM dataset specifies initialization parameters. The parameter statements are coded on card image records and form a sequential dataset or a member of a partitioned dataset.

The initialization parameters allow the user to specify the functions and characteristics RMS will perform during execution. Parameters and their functions are summarized on the following pages.

Changes to any parameters marked with an asterisk (*) will require a RMS “cold” or “format” start. The parameters which deal with various optional RMS features are flagged in the OPTION column with the name of the applicable feature, e.g., MAS (*the Multi-access-spool feature*).

Syntax Rules

The following syntax rules apply to the initialization parameters exceptions are described in parentheses:

- Columns 1 through 71 contain data; columns 72 to 80 are ignored.
- Records with blanks in columns 1 through 71 or an asterisk (*) in column 1 are ignored.
- The keyword parameter must begin in column 1. Only one parameter can be coded per record. Several sub-parameters can be coded on the same record.
- A parameter is separated from its sub-parameters by at least one blank; sub-parameters are separated from each other by commas.
- Sub-parameters can be continued on successive records; continuation is indicated by a comma followed by a blank. Comments cannot be continued.
- Sub-parameters cannot contain embedded blanks. The first blank terminates the parameter statement, and the rest of the record is comments.
- Character specifications, unless otherwise noted, are alphanumeric, national characters and the period (.).
- Numeric values cannot exceed 8 digits in length.
- A parameter dataset is terminated at “end of file”.

Due to to complexity of installations requiring multiple subsystems and to help ease the support requirements for the new cache array feature, RMS now provides a way for multiple subsystems to share a set of parms. This capability, added in version 11.35, implements the use of selection logic to tie an initialization parameter to a specific subsystem while letting the rest of the parms apply to all.

The commands can be in any case and be combined. For example,

ifjobid=aux01sub,ifsmfid=s0w1,sid=axz1 *for z/os

Descriptions:

ifjobid=xxxxxxxx,----initialization parameter ----	The ifjobid tells RMS this parameter only applies to the subsystem with a jobname equal to "xxxxxxxx".
ifsmfid=xxxx,----initialization parameter -----	The ifsmfid tells RMS this parameter only applies to the subsystem with a smfid equal to "xxxx".
ifsubid=xxxx,----initialization parameter -----	The ifsubid tells RMS this parameter only applies to the subsystem with a subid equal to "xxxx".

Using this capability, installations can have a single parmlib member that applies to any number of subsystems letting the selection logic control the unique parameters for each subsystem.

Example:

------- parameters common to all subsystems refering to this member--

```
BLKSIZE=9076            Spool file block size
WTO=ALL                 ALL/SEVERE WTO messages to console
*WTO=SEVERE             SEVERE WTO messages to console
COMPANY=(MANTISSA CORPORATION)
PGNLEN=255              Programmer name field length
```

```
   SPBLKALC=CIRCULAR       ALLOCATE SPOOL BLOCKS THIS WAY
   *
*-- parameters to specific jobname/subsystems refering to this member-*
   ifjobid=CASP1135,CHKPT=MAN171
   ifjobid=CASP1135,CHKPTDSN=PROD.OO.V1135P00.RMSCHKPT
   ifjobid=CASP1135,SPOOLFIL=PROD.OO.V1135P00.RMSSPL01
   ifjobid=CASP1135,SPOOLFIL=PROD.OO.V1135P00.RMSSPL02
   ifjobid=CASP1135,SPOOLFIL=PROD.OO.V1135P00.RMSSPL03
   ifjobid=CASP1135,SPOOLFIL=PROD.OO.V1135P00.RMSSPL04
   ifjobid=CASP1135,SPOOLFIL=PROD.OO.V1135P00.RMSSPL05
   ifjobid=CASP1135,SPOOLFIL=PROD.OO.V1135P00.RMSSPL06
   ifjobid=CASP1135,SPOOLFIL=PROD.OO.V1135P00.RMSSPL07
   ifjobid=CASP1135,SPOOLFIL=PROD.OO.V1135P00.RMSSPL08
   ifjobid=CASP1135,SUBID=P135
   Ifjobid=CASP1135,CODE=NT3PCCY6ZD1Q5XAIJGZCZZCZGGJGJGGJ   1/25/2010

   ifjobid=AUX01SUB,CHKPT=MANEM3
   ifjobid=AUX01SUB,CHKPTDSN=PROD.OO. V1135P00.AUX01SUB.RMSCHKPT
   ifjobid=AUX01SUB,SPOOLFIL=PROD.OO. V1135P00.AUX01SUB.RMSSPL01
   ifjobid=AUX01SUB,SUBID=AUX1
   Ifjobid=AUX01SUB,CODE=KU16ZCZTZD4QI7Q1MFCAZCCB42QECDCJ    1-15-2010

   ifjobid=AUX02SUB,CHKPT=MANEM4
   ifjobid=AUX02SUB,CHKPTdsn=PROD.OO. V1135P00.AUX02SUB.RMSCHKPT
   ifjobid=AUX02SUB,SPOOLFIL=PROD.OO. V1135P00.AUX02SUB.RMSSPL01
   ifjobid=AUX02SUB,SUBID=AUX2
   Ifjobid=AUX02SUB,CODE=KU16ZCZTZD4QI7Q1MFCAZCCB42QECDCJ    1-15-2010
```

RMS Initialization Parameters

OPTION	EXPLANATION
BACKOUT *	Specifies dynamic backout support.
BLKSIZE *	Specifies the size, in bytes, of each spool buffer.
CHKPT *	Specifies the volume containing the checkpoint dataset.
CHKPTDSN *	Specifies the dataset name of the RMS checkpoint dataset.
CKPTIME	Specifies, in seconds, the checkpoint interval for warm start.
CMBBUFS	Specifies the number of RMS console message buffers.
CODE	Specifies the RMS code.
COMCHAR	Specifies the character used to identify RMS commands from local system consoles.
COMPANY	Specifies the company name.
DEFNODE	Specifies a default node definition.
DEFSID (MAS)	Specifies the default RMS system identifier.
DESTVAL	Specifies file destination validation.
FILELIM	Specifies the number of hours files should be retained after being printed.
LOGBUFS	Specifies the number of system log file buffers. This parameter has no meaning when NOLOG is specified.
LOGCLAS	Specifies the system log output class. This parameter has no meaning when NOLOG is specified.
LOGLCNT	Specifies lines per page for the system log. This parameter has no meaning when NOLOG is specified.
MAXDORM (MAS)	Specifies, in hundredths of a second, the maximum time a member of a multi-access spool (MAS) configuration may refrain from attempting to access the shared queues.
MAXFSCT	Specifies the maximum number of file control table entries allocated cross memory status requests.
MAXFSEQ *	Specifies the maximum file sequence number. This parameter will directly relate to the required region size on your RMS subsystem. Example: 125,000 will require a 64 meg region.
MINDORM (MAS)	*** NO LONGER USED *** Specifies, in hundredths of a second, the minimum time a member of a multi-access-spool (MAS) configuration must wait after releasing control of the shared queues before attempting access again.
NODE	Specifies the characteristics of RMSFILES.
NUMCMBS	Specifies the number of cross memory command buffers.
NUMFQES *	Specifies the number of file queue elements. This parameter will directly relate to the required region size on your RMS subsystem. Example: 125,000 will require a 64 meg region.
OUTLIM	Specifies the output limit to be used by default. If an output file exceeds its output limit, then it will be abnormally terminated with a user ABEND 722(default is 16,777,215 which is the maximum).
PGNLEN *	Specifies the length of the RMS programmer name.
PURGINT	Specifies the number of seconds between purge checks.
ROUTCDE=(2,11)	Specifies the WTO Routing Codes (VSE Only).
SECUCALL	Specifies the security exit invoked for file owner or user ID.
SPOOL *	Specifies RMS volume serial number(s).

OPTION	EXPLANATION
SPOOLDSN *	Specifies RMS dataset name.
SUBID	Specifies the 1 to 4 character subsystem name identifying this subsystem to the operating system.
SVCCODE	Specifies the ESR SVC code or the user SVC number.
SYNCTOL (MAS)	Specifies, in seconds, the time interval a member of a multi-access spool (MAS) configuration may remain dormant before another member of the configuration will consider it inactive.
Sn * (MAS)	Specifies the name of each member of the multi-access spool (MAS) configuration. S1, S2, etc.
TGWARN	Specifies a threshold percentage spool utilization warning message.
WARNTIM (MAS)	Specifies, in hundredths of a second, the time interval from the first denied request for access to the shared queues of a member of a multi-access spool (MAS) configuration to the time that configuration will assume the member controlling the queues to be down.
WTO	Specify ALL during initial test and SEVERE when in production mode. All will cause more console messages to appear.
XEQBUFS	Specifies the number of spool buffers for the cross memory processor.
*Changes to any parameters marked with an asterisk (*) will require a RMS "cold" or "format" start.	

INITIALIZATION PARAMETER DESCRIPTION

This section describes the RMS initialization parameters, their functions, formats, and default values.

PARAMETER	FUNCTION	FORMAT/DEFAULT
BACKOUT=YES/NO	The BACKOUT parameter specifies whether or not the dynamic backout feature (DBF) should be activated.	BACKOUT=YES must be specified, so all files opened by an application program for output processing will automatically be closed and purged if the program abnormally terminates. Default=NO
BLKSIZE=nnnn (same as old parameter "Bufsize")	The BLKSIZE parameter specifies the size of each spool buffer as a decimal number of bytes.	RMS does not support more than 8 spool blocks per track, so the BLKSIZE parameter specified must not be less than the track size divided by 8. Upper limit: 32768. A change to this parameter requires a RMS "format" start. Default=9076
CHKPT=cccccccc	The CHKPT parameter specifies the volume serial number of the volume that contains the RMS checkpoint dataset. The value you specify for CHKPT should be from one to six characters that define a valid volume serial number.	The checkpoint dataset is frequently referenced, so only low-usage datasets should be allocated on the same volume as the checkpoint dataset. RMS performance could otherwise be seriously degraded. A change to this parameter requires a RMS cold start. Default=SPOOL

CHAPTER 11: INSTALLATION

Chap_11(v11r35m1).fm: Revised Sunday, November 24, 2013

PARAMETER	FUNCTION	FORMAT/DEFAULT
CHKPTDSN=ccccccc **MVS only**	The CHKPTDSN parameter specifies a 1- to 44-character name which is to be used as the dataset name of the RMS checkpoint dataset.	Default = PROD.OO.VvvrmPnn.RMSCHKPT A change to this parameter requires a RMS cold start.
CKPTIME=nnnn	The CKPTIME parameter specifies, in seconds, the interval at which certain checkpoints of RMS information are taken for warm start. (Checkpoints are taken, for example, when a file changes its status in the RMS file queue.) The time interval specified is a maximum checkpoint time for a non-shared RMS system (*that is, a single-member configuration*).	For RMS systems sharing spool and checkpoint datasets, the time interval specified is used for print checkpoints only. For these systems, a value of 120 or greater is recommended.
CMBBUFS=nnn	The CMBBUFS parameter specifies the number of internal console message/command buffers to be provided for RMS. The number of buffers should be sufficient to accommodate all outstanding operator requests and still allow message processing to continue. Severe system degradation may occur if the value of CMBBUFS is too small.	Lower limit: 50 Upper limit: 65535 Default=50
CODE	The security CODE parameter must be specified, as assigned by your RMS supplier. This code is based on your company name, CPUID, and expiration date. Each CODE can contain up to 4-CPUs. If you have more, up to 5 CODE parameters can be entered. This parameter must be specified.	Required Default =none
COMPANY	Company name to whom RMS is licensed.	Required
COMCHAR=c	The COMCHAR parameter specifies the character that will be used to identify RMS commands from MVS system consoles. If a command from an MVS console begins with the character specified, then RMS will process the command. The value should be a special character that is not used by any other subsystem that may be operating concurrently with RMS.	When the COMCHAR is omitted, the MODIFY command must be used to communicate with RMS. Default= none
DEFNODE	This parameter must be specified as shown. Default = None DEFNODE RMSFILE,RMSSPOOL	
DEFSID=cccc	The DEFSID parameter specifies the system identifier to be used if none is specified in the SUBSYS parameter on the DD statement.	This parameter must be specified.
DESTVAL= YES/NO	The DESTVAL parameter specifies whether or not validation of RMS file destinations should be performed.	If DESTVAL=YES is specified, then RMS will only allow printer node names or their aliases or JES2/JES3 destinations to be specified as file destinations. Default = YES

Chap_11(v11r35m1).fm: Revised Sunday, November 24, 2013

PARAMETER	FUNCTION	FORMAT/DEFAULT
FILELIM=nnnn	The FILELIM parameter is required and must be FILELIM=0. This specifies the number of hours that files should be retained.	No automatic purge will take place if a value of 0 is specified. Default = 24
LOGBUFS=nnnn	The LOGBUFS parameter specifies the number of internal log-file buffers to be allocated. This parameter has no meaning if the NOLOG options are specified.	Lower limit: 50 Upper limit: 65535 Default = 500
LOGCLAS=c	The LOGCLAS parameter specifies the JES output class to be assigned to the RMS log-file SYSOUT datasets. This JES output class will be a spin data set when the WRITELOG command is issued. This parameter has no meaning if the NOLOG option is specified.	The class specified should be in the range A-Z or 0-9. Default = A
LOGLCNT=nnnn	The LOGLCNT parameter specifies the output line count for the RMS log-file SYSOUT datasets. This parameter has no meaning if the NOLOG option is specified.	Lower limit: 1 Upper limit: 16777215 Default = 42
MAXDORM=nnnn **(MVS only)**	The MAXDORM parameter specifies, in hundredths of a second, the maximum time a member of a multi-access-spool (MAS) configuration may refrain from attempting to gain control of the shared queues. When processors are active in RMS, this parameter has little meaning because, out of necessity, control of the shared queues is frequently requested. However, when RMS is idle, this parameter ensures that RMS periodically looks at the shared queues for eligible work which other members of the configuration may have placed there.	If the value specified for MAXDORM is too small, excessive system time could be expended in unnecessary attempts to reacquire the queue. However, if the value specified is too large, the start of certain functions and the responses to certain display commands may be delayed. Lower limit: 100 Upper limit: 6000 Default = 1000 (10 seconds) Recommended: 100 (1 sec.)
MAXFSCT=nnnn	The MAXFSCT parameter specifies the maximum number of file status control table entries to be allowed for cross-memory status requests.	The size of the FSCT should be considered carefully because the control table is allocated in the common storage area. Lower limit: 1 Upper limit: 1000 Default = 100
MAXFSEQ=nnnn	The MAXFSEQ parameter specifies the maximum file sequence number which RMS may assign a spool file. A change to this parameter requires a RMS cold start.	The value must not be less than the value of the NUMFQES parameter. If it is, then the value of NUMFQES will be used. Lower limit: 1 Upper limit: NUMFQES + 1 Default = 9999

PARAMETER	FUNCTION	FORMAT/DEFAULT
MINDORM=nnn **(MVS only)**	*** NO LONGER USED *** The MINDORM parameter specifies, in hundredths of a second, the minimum time a member of a multi-access-spool (MAS) configuration must wait after releasing control of the shared queues before again attempting to gain control of the queue.	This parameter is used to prevent one member of a multi-access spool configuration from monopolizing control of the shared queues. Lower limit: 0 Upper limit: 3000 Default = 200 (2 seconds) Recommended: 10 (.1 sec.)
MINHOLD=nnn **(MVS only)**	The MINHOLD parameter specifies, in hundredths of a second, the minimum length of time a member of a multi-access-spool (MAS) configuration must maintain control of the shared queues after gaining control of the queue. This parameter is provided to minimize the thrashing that could occur with the shared queues in a pure contention environment (*one in which all members of the configuration specify MINHOLD=0*)	Setting this parameter to a high value will tend to immobilize other members of the configuration. Lower limit: 0 Upper limit: 16777215 Default = 10 (0.1 seconds) Recommended: 100 (1 sec.)
NODE	These parameters are required and must be coded as shown.	
NUMCMBS=nnnn	The NUMCMBS parameter specifies the number of cross-memory command buffers to be allocated. The command buffers are used to queue commands entered from MVS system consoles to the RMS system.	The value of NUMCMBS should be considered carefully because these buffers are allocated in the common-storage area. Lower limit: 5 Upper limit: 50 Default = 5
NUMFQES=nnnn	The NUMFQES parameter specifies the number of file-queue elements (FQE's) to be allocated in the RMS file queue.	Lower limit: 100 Upper limit: 3,400,000 A change to this parameter requires a RMS/Online cold start. Default = 500
OUTLIM=nnnn	Specifies the output limit to be used by default. If an output file exceeds its output limit, then it will be abended with a user abend 722.	Lower limit: 1000 Upper limit: 16777215 Default = 16777215
PGNLEN=nnn	The PGNLEN parameter specifies the length of the programmer's name field used in the current RMS environment.	Lower limit: 0 Upper limit: 255 A change to this parameter requires a RMS cold start. Default = 16

NODE:

```
NODE RMSC0001,RMSFILE,GROUP=1
NODE RMSC0002,RMSFILE,GROUP=2
NODE RMSC0003,RMSFILE,GROUP=3
NODE RMSC0004,RMSFILE,GROUP=4
NODE RMSC0005,RMSFILE,GROUP=5
NODE RMSC0006,RMSFILE,GROUP=6
NODE RMSC0007,RMSFILE,GROUP=7
```

PARAMETER	FUNCTION	FORMAT/DEFAULT
PURGINT=nnnn	The PURGINT parameter is required and must be PURGINT=180. This specifies the interval, in seconds, between each scan of the file queue in order to find files satisfying the condition defined by the FILELIM parameter.	Lower limit: 0 Upper limit: 86400 Default = 180
SECUCALL=OWNER	The SECUCALL parameter *is required and must be* SEUCALL=OWNER and this specifies that the security exit should be invoked on the basis of owner.	Default = OWNER
SPOOL=cccccc **(VSE only)**	The SPOOL parameter specifies the volume serial number of a volume containing a RMS dataset to be used. Any 1 to 6 character string that defines a valid volume serial number may be used.	If more than one spool volume is used, i.e., more than one SPOOL= parameter is specified, then the order of the SPOOL parameter records must be the same each time RMS is started; otherwise, a system warm start will be impossible. A change to this parameter requires a RMS cold or format start. Default = SPOOL0
SPOOLDSN=cccccccc	**(Parameter is not used beginning with release 11.35)**	
SPOOLFIL=cccccccc **(MVS only)**	The SPOOLFIL parameter specifies a 1 to 44 character name of a catalogued dataset to be used as an extent of the RMS repository. The order specified determines which extent the dataset becomes. Be sure to add a sequence number into the DSN names to help keep the EXTENTS in order. Any change to the order of the SPOOLFIL paramters will render the repository unusable and a "COLD" start will be required.	A change to this parameter requires a RMS cold or format start. Default = none
SUBID=cccc	The SUBID parameter specifies the 1- to 4-character subsystem name identifying this subsystem to the environment.	Default = RMS
SVCCODE=nnn	The SVCCODE parameter specifies either an ESR (extended SVC router) type 4 SVC route code or a user-SVC number to be used by RMS. See “Link RMS SVC” task.	Lower limit: 0 Upper limit: 255 (check your operating system’s limitations) Default = 10
SYNCTOL=Nnn **(MVS only)**	The SYNCTOL parameter specifies, in seconds, the time interval that must elapse before one RMS system in a multi-access-spool (MAS) configuration is assumed not to be operating. This parameter allows for imprecise synchronization of TOD clocks (*caused by human intervention*) in a multi-access-spool environment. Actions such as cold-start, warm-start, or ESYS operator commands are rejected unless the time stamps of affected systems in the shared checkpoint record are greater than the current time minus this parameter.	Lower limit: 0 Upper limit: 600 (10 minutes) Default = 300 (5 minutes) Recommended: 300 (5 min.)

PARAMETER	FUNCTION	FORMAT/DEFAULT
Sn SID=cccc **(MVS only)**	The Sn parameter is required to identify each system in a multi-access-spool (MAS) configuration. The initialization dataset for each system must contain the Sn parameters of all systems in the configuration. That is, if there are three systems (*A158, B158, C158*) in the configuration, the initialization dataset for each system would contain the following parameters: S1 SID=A158 S2 SID=B158 S3 SID=C158	For a single system configuration, the system identifier for S1 defaults to the generated SMF system ID. For multi-access spool configurations, the system IDs must be specified for each system, and no default is permitted.
TGWARN=nnn	The TGWARN parameter specifies the threshold percentage of spool space that causes the message RM7818 xxx % SPOOL UTILIZATION to be issued by RMS. A value of 0 indicates that every use of spool space will be reported, and a value of 101 indicates that no message will be issued.	Lower limit: 0 Upper limit: 101 Default = 80
WARNTIM=nnn **(MVS only)**	The WARNTIM parameter specifies, in hundredths of a second, the time interval from the first denied request for access to the shared queues of a member of a multi-access-spool (MAS) configuration to the time that configuration will assume the member controlling the queues to be down. When this situation occurs, RMS issues the RM7070 message, indicating a lock-out situation, and resets the timer interval to the WARNTIM value.	Lower limit: 500 (5 seconds) Upper limit: 15000 (2 1/2 minutes) Default = 1000 (10 seconds) Recommended: 3000 (30 sec.)
WTO=SEVERE	The WTO parameter *is required and must be* WTO=ALL during installation. Can be changed to WTO=SEVERE after system is installed in production.	Default = ALL
XEQBUFS=nnnn	The XEQBUFS parameter specifies the number of spool buffers to be allocated to the RMS cross-memory request processor, which takes care of all writing and reading of spool files. To reduce the I/O activity on the spool data-sets and to keep the RMS service times to a minimum, an adequately large spool-buffer pool should be specified.	It is recommended that you allocate 2 spool buffers per open spool file. The default value of 10 spool buffers is sufficient for 5 active open spool files at the same time. Lower limit: 4 Upper limit: 65535 Default = 1000

MULTI-ACCESS SPOOL (MVS ONLY)

It is possible to operate from two to seven systems as members of a multi-access spool (MAS) configuration.

The operation of each system in the configuration is independent and includes all functions previously described for a single RMS system. Each RMS system can control the creation and maintenance of spool files, schedule output for print processing, and communicate with operators and communication-interface users. However, all spool and checkpoint datasets (*PROD.OO.VvvrmPnn.RMSSPOOL and PROD.OO.VvvrmPnn.RMSCHKPT*) are used by all systems in the configuration.

The systems logically share a common spool file queue. If one system in the configuration fails, the others may continue processing from the common queue because all systems are functionally the same. Only work in process on the failed system is interrupted. This work may be recovered by a warm start of the failed system while other systems continue processing, or, as explained later, by operator command on one of the other systems.

Shared DASD hardware features (*two channel switch, two channel switch additional, and string switching*) are used to access all the spool and checkpoint datasets.

A copy of the RMS file queue and other status information (*for example, spool space allocation maps*) is written to the checkpoint dataset for possible warm start, as with a single RMS system. This information is available to all systems, one at a time, as needed. RESERVE/RELEASE channel commands and a checkpoint lock are used to prevent simultaneous referencing and updating of information kept in the checkpoint dataset.

Each system in the configuration must have at least one channel path to each volume containing checkpoint or spool datasets, and these devices must be specified as shared during MVS system generation. It is recommended that each CPU in a multiprocessor configuration have a channel path to each shared volume.

Configuration

To invoke the multi-access-spool feature, the initialization parameters CHKPT and SPOOL must specify the same volumes for all systems in the configuration. To make the common spool and checkpoint data compatible, all systems must also specify the same values for the BLKSIZE, MAXFSEQ, NUMFQES, and Sn initialization parameters.

Starting the Multi-access SPOOL Configuration

Before the configuration is started, the TOD clocks on each system should be carefully synchronized with a single time source. Because this synchronization is externally performed and subject to error, the initialization parameter SYNCTOL is provided to specify the maximum error (*in seconds*) which RMS should assume. If the synchronization error is actually greater than SYNCTOL, then RMS will not be able to detect certain illegal operator actions (*for example, performing cold start with other systems active*). On the other hand, certain legal operator actions (*for example, warm start after system failure*) may be disallowed if attempted before SYNCTOL seconds have elapsed since system failure.

The members of the configuration are specified by the Sn initialization parameter. For example:

```
S1 SID=A158
S2 SID=B158
```

defines a two-system configuration where A158 and B158 are the SMF system ID's set during the IPL of the systems (or overridden by the SID initialization parameter). One system must initially do a RMS cold start with no other systems active and must define all members of the configuration. Other members join operation by warm start and must also specify identical Sn parameters. A cold start is required to change or add members of the configuration. If only one or no Sn parameter is specified, RMS operates as a single system.

There are three types of warm starts:

- If a warm start is specified by the operator and RMS detects that no other members of the configuration are active, a total-configuration warm start is performed, and all in-process work is recovered as in a single system.
- A warm start is performed when warm start is specified and other members of the configuration are active. The warm-starting system joins the active configuration and recovers only work in process on the system at the time of a failure, if any.
- Restart for another system is performed when a system has failed and cannot be immediately warm-started. The system operator enters the ESYS command on any active member of the configuration. In-process work on the specified system is recovered and made available for selection by other members of the configuration, subject to system affinity for restart.

The algorithm for using the common RMS queues and other information in the checkpoint dataset is determined by the MINHOLD and MAXDORM initialization parameters. These need not be the same for all systems in the configuration and should be set according to characteristics such as the number of members in the configuration, relative CPU speeds, and response requirements.

File Creation and Queuing

In a multi-access-spool configuration, files enter the common queue from any system in the configuration. Unless special actions are taken, files are eligible for processing on any system in the configuration as in single-system operation.

Individual files may be given affinity to a single system in the configuration. If a file's affinity is to a specific system in the configuration, the file can be selected for processing only by the system specified.

RMS INITIALIZATION OPTIONS

When RMS is started it uses initialization options to determine how it will perform the current initialization. The initialization options, which are described below may be specified in either of two ways; as parameters on the EXEC statement in the RMS procedure (PARM=) or as options specified at the console.

Starting and Stopping RMS

If the options are not specified on the EXEC statement, then RMS requests them from the operator by issuing the following WTOR operator message:

```
xx <RM7000 SPECIFY OPTIONS FOR RMS
```

The operator then enters the options in the standard OS reply format. Options may be entered in uppercase or lowercase and must be separated by commas. If conflicting options (*for example, WARM,COLD*) are entered, the latter option overrides the former one.

If the options are specified on the EXEC statement, RMS prompts the operator with the following message:

```
RM7059 All - system xxxxxxxx- start is in process.
```

OPTION	EXPLANATION	DEFAULT
FORMAT/NOFMT	FORMAT specifies that RMS is to format all existing spool datasets. RMS will automatically be cold started when FORMAT is specified.	NOFMT specifies that RMS is not to format existing spool datasets.
COLD/WARM	COLD specifies that RMS is to be cold started. All files in the system are purged and all file data on the spool datasets are deleted.	WARM specifies that RMS is to be "warm" started. RMS remembers all spool files and continues processing files from where they were when the system was stopped.
BUILDQ	BUILDQ specifies that RMS is to perform a warm start and rebuild the file queue.	
LIST/NOLIST	LIST specifies that RMS is to print the contents of the initialization dataset and any error messages that occur during initialization. (*The LIST output is directed to the file allocated to the ddname ESFLIST in the RMS procedure*).	NOLIST specifies that RMS is not to print the statements in the initialization dataset nor any error messages that occur during initialization.
NOLOG/LOG	NOLOG specifies that RMS is not to maintain a RMS system log file. (*The LOG output is directed to a JES spin SYSOUT dataset*)	LOG specifies that RMS is to maintain a RMS system log, which contains all the messages issued by the RMS system.
SCAN	SCAN specifies that RMS is to scan the initialization parameters for syntax errors and then terminate itself. All other initialization options specified, except LIST NOLIST, will be ignored.	

Recovery and Warm Start

During execution, RMS maintains an in-memory list of spool files and their status. Any change of spool file status will be reflected in the checkpoint dataset. In a Multi-Access Spool environment, the checkpoint dataset is shared by all systems ensuring equal status in all active RMS systems. Each time RMS updates the file queue, a checkpoint is taken. The checkpoint dataset allows RMS to resume operation after a planned or unplanned system outage (*for example, a power failure*).

RMS OPERATOR COMMANDS

MVS

The MVS version of RMS provides two ways to enter operator commands. Either of the following two formats are acceptable:

```
F    RvvrmSUB,command
```

(*where RvvrmSUB is the name of the procedure used to start the RMS system)* or simply by entering the command preceded by the subsystem communication character (<):

```
<command
```

The subsystem communication character is chosen by the systems department and is specified in the RMS parameter dataset.

VSE

The VSE version of RMS can be enabled for communication by entering MSG Fn where n is the partition in which the

RMS subsystem is active. Once the interface is enabled, precede each command with n space, where n is the partition running the subsystem and space is one blank character.

Commands

The RMS commands are listed below in alphabetic order. For each command the description contains a brief introductory sentence, the command format, and a description of the operands.

Messages received in response to these commands are described in *RMS Messages and Codes.*

The following syntax notation applies throughout this manual:

- Capital letters represent values that must be specified as shown (*i.e., they are keywords*).
- Lower case letters represent operand values for which a name, address, or value must be substituted.
- Operands or symbols enclosed in < > are optional. If not so enclosed, then the item or group of items **must** be specified. Optional operands are those that may be specified or omitted independently of other operands. In some cases the omission of an operand may cause the corresponding feature or function to be omitted; in other cases specific values are assigned by default when an operand is omitted.
- An “or” bar (|) between operands indicates that one operand from among those shown must be specified.

CHKPT Force Checkpoint

CHKPT	The **CHKPT** command is used to explicitly force RMS to take a checkpoint. The **CHKPT** command has no operands.

DA Display Active

DA	The **DA** command is used to display the files active in the RMS system. The **DA** command has no operands.

DF Display File

DF	**<file sequence number or >**
	<file sequence range (seq1-seq2)>
	The DF command is used to display the status of one or more files. These files can be selected using the optional operands.
	Examples:
	Display file with file sequence number 512:
	`DF512`
	Display files in the range from 19-341:
	`DF19-341`

Disk

DISK	The Disk command is used to display the current configuration of the RMS system. The command will display the version, release and modification level of the RMS system; checkpoint dataset name and volumes; spool dataset name and volumes; and block size of the repository. The Disk command has no operands.

DS Display Status

DS	The DS command is used to display the current status of the RMS system. RMS will display the number of outstanding I/O -operations, the number of files currently opened (*input and output*), the current spool utilization expressed as a percentage of the total spool space available, the number of files currently allocated, and whether or not the

RMS system is in shutdown sequence.
The DS command has no operands.

ESYS Restart/Reset System (MVS only)

ESYS **,system-id**
or RESET=systemid

The ESYS command with only a "system-id" operand is used to restart on this system the file processing which was being performed upon the named system in the multi-access spool configuration.

The ESYS command with the "RESET=system-id" operand is used to reset the checkpoint dataset lock if another member of the multi-access spool configuration failed while it was holding the checkpoint lock.

In both cases the system-id must be the name of a system in the multi-access spool configuration.

EXAMPLE:

Restart system A158 on this system:

ESYS,A158

Reset checkpoint dataset lock held by system A158:

ESYS,RESET=A158

LSYS List System Status (MVS Only)

LSYS The LSYS command is used to display the name and status of each system in a multi-access spool configuration.

The LSYS command has no operands.

SHUTDOWN Terminate RMS

SHUTDOWN The SHUTDOWN command is used to initiate a normal termination sequence of the RMS system.

RMS will no longer accept any open-file requests, and when all currently opened files have been closed, RMS will terminate execution.

If one or more RMS resource clean-ups have failed, then it may be necessary to abnormally terminate RMS with the OS Cancel command.

WRITELOG

WRITELOG The WRITELOG command is used to close the current RMS system log file and to allocate and open a new log file.

The WRITELOG command is only valid if the LOG option has been specified (*or assumed by default*) at initialization time.

The WRITELOG command causes the current RMS system log file, which is a JES spin sysout file, to be released for JES print processing.

The WRITELOG command has no operands.

RMS/WebAccess Application Server Notes

SUPPORTED PLATFORMS

RMS/WebAccess will work on any platform that supports the Sun Java Specification 2.1 and above. An application server is used as a container for the RMS/WebAccess servlets and JSPs to run on.

The following add-on engines transform a web server into a servlet and JSP capable environment.

PRODUCT	TYPE OF PRODUCT	SUPPORT FOR JAVA SERVLETS	SUPPORT FOR JSP PAGES
Apache Tomcat	**Server and Add-on Engine**		
	3.2.1	2.2	1.1
	4.0	2.3	1.2
Apache Web Server Jserv	Server and Add-on Engine	2.0	No
ATG Dynamo Application Server	Server	2.2	1.1
Bajie Server	Server	2.3	1.2
BEA WebLogic Server	Server	2.2	1.1
Borland AppServer	Server	2.2	1.1
Brokat Server Technologies	Server	2.2	1.1
Caucho Technology Resin	Add-on Engine	2.2	1.1
EasyThings Web Server	Server	2.2	1.1
ExOffice Intalio	Server	2.2	1.1
Gefion Software WAICoolRunner	Add-on Engine	2.2	1.1
Gefion Software Lite WebServer	Server	2.2	1.1
HP Bluestone Total-e-Server	Server	2.2	1.1
IBM WebSphere Application Server 4.0	Server	2.2	1.1
IONA iPortal Application Server	Server	2.2	1.1
iPlanet™ Application Server 6.0	Server	2.2	1.1
iPlanet Web Server	**Server**		
	4.0	2.1	1.0
	4.1	2.2	1.1
Lutris Technologies Enhydra	Server	2.2	1.1
Macromedia JRun	Server and Add-on Engine	2.2	1.1
Jetty	**Server**		
	3.1	2.2	1.1
	4.0	2.3	1.2
New Atlanta ServletExec	**Add-on Engine**		
	3.1	2.2	1.1
	4.0	2.3 PFD2	1.2 PFD2
Novocode NetForge	Server	2.1	No
Oracle 9i JServer	Database/Server	2.2	1.1
Orion Application Server	Server	2.3 PFD2	1.1
ParaChat Server 3.0	Server	Yes	No
Pramati Server	Server	2.1	1.1
Secant Technologies ModelMethods Enterprise Server	Server	2.1	1.0
Servertec Internet Server	Server	2.2	1.1
Silverstream Application Server	Server	2.2	1.1
SITEFORUM Web Server and Interaction Platform	Server	Yes	No
Sybase EAServer	Server	2.2	1.1
Tagtraum Industries jo!	Server	2.1, 2.2	1.1

PRODUCT	TYPE OF PRODUCT	SUPPORT FOR JAVA SERVLETS	SUPPORT FOR JSP PAGES
Trifork Enterprise Application Server	Server	2.2	1.1
vqSoft vqServer	Server	2.0	No
W3C Jigsaw	Server	2.2	No
Zeus Technology Web Server	Server	2.2	No

Application servers that support J2EE specification 1.2+ will work with RMS/WebAccess

LOAD BALANCING

RMS/WebAccess can be load balanced across multiple servers for better performance and management of a large user base. The number of servers required for your installation will be determined based on the setup that you require.

Load Balancing requires that a customer has a high performance Webserver that will act as the load balancer. Users will access a URL that is provided to them by their system administrator. User requests will then be forwarded to a different server each time they access the URL. This is done in a round-robin technique. Mantissa Corporation customer support will guide you in where the changes are to be made for the load balancer.

The index.jsp file residing in the {ServletContainerHome}/webacc folder is a sample used for implementing load balancing at Mantissa Corporation. The <welcome_file> entry in the web.xml file shown in Figure 3 above points to the index.jsp.

The “servers.addElement” entries in the index.jsp describes the URLs of the Mantissa servers.

Chap_11(v11r35m1).fm: Revised Sunday, November 24, 2013

Appendix-A

SYSTEM EXIT PROGRAMS

What is an Exit?

Processing routines which you write yourself are known as exits. RMS contains various exits which are summarized in the table below. Exits may be written in any language, with the only requirement being that they adhere to standard call/save conventions (*automatic for high-level languages*).

Exit Summary

PROGRAM	ENTRY POINT	SAMPLE NAME	EXIT DESCRIPTION
RM00	SEC0001	SEC0001	Sign-On
RM00	SEC0005	SEC0005	Security Validation
RM00	SEC0010		Security Logging
RM00	SEC0015	SEC0015	Sign-on / Validation (CICS)
RM00	SEC0020	SEC0020	WebAccess Processing (CICS)
RM00	PXR0001	PXR0001	Print Characteristics
RM80000	*		Input Exit Facility
RM80000	QXWSMFX	QXWSMFX	SMF Processing
RM80001	SECURITY	SECURITY	Security Processing
RM80001	*	RM8EX4	Output Processing
RM80004	SECURITY	SECURITY	Security Processing
*The exit is dynamically loaded. The entry point is specified at the time the exit is processed by the linkage editor.			

General Exit Characteristics

An exit is a routine which is called to perform special user processing. This special processing may be for queue dataset access security and/or output reformatting. Each exit routine has the following characteristics:

1. It must adhere to standard call/save conventions, and must be written as a called sub-routine.
2. An exit must be a separate load module in a library accessible to RMS *OR* be link edited with an RMS module. Refer to individual exit documentation for the type of run time binding required for a particular exit.
3. Exits link edited with an RMS program have a predetermined entry point name. Refer to the Exit Summary in this section.
4. Exits may be written in any programming language.

The interface between RMS and a user exit is accomplished via sub-routine calls employing standard linkage conventions. After the processing necessitated by each call, the user exit returns control to RMS. Each call passes a single parameter which affords access to all the data areas necessary to direct and support exit processing.

The Parameter List

RMS places addresses in registers 1, 13, 14 and 15 so that your exit routine can access the information it needs when it receives control. The registers contain addresses of the following information.

REGISTER	REGISTER USE
1	Contains the address of a parameter list consisting of one address constant.

9	Contains the EIB address.
10	Contains the EISTG address.
13	Contains the address of an 18 full word save area. The contents of general registers 14 through 12 should be stored starting at the fourth full word. That is, your save area begins at a displacement of 12 bytes off register 13.
14	Contains the return address. At the end of the processing performed by your exit, you should return to RMS at this address.
15	Contains the entry point address of your exit.

After the processing performed as the result of each call, control must be returned to RMS. The return to RMS is accomplished in an assembler language program using the RETURN macro and in a COBOL program with the ‘GOBACK’ or ‘EXIT PROGRAM’.

RM00 RMS/Online Exits

The user must furnish an Assembler (*or comparable language*) subroutine for processing at these points. To activate an exit, the module is linked into RMS/ONLINE resolving the weak external reference for that exit. (*See the list at the end of this section for appropriate module names for each exit.*)

No pseudo-conversational terminal I/O is allowed in the exit. Note that R1 points to a list of addresses terminated with the high order bit (x‘80000000’) on in the last address entry.

Sign-On Exit	This exit point allows a customer to give to RMS/ONLINE the USERID and PASSWORD of the user signing on to the system. The most common use for this exit is to avoid the user having to sign on to both their installation security system (*RACF, ACF2, TOPSECRET, etc*.) and RMS/ONLINE. The exit will pass the correct USERID and a common password. This avoids dual USERID’s and PASSWORDS. User Master records must still be entered to RMS/ONLINE for resource security (*transactions and reports*) and JCL customization. The USERID and the common PASSWORD must be found within RMS/ONLINE. If the user ID returned is invalid or if the password is invalid, access is denied, and the Access Authorization Panel is returned. Should you not want this panel, the exit should return to CICS or TSO rather than returning to RM00 program.
Security Validation Exit	A security validation exit point is available to the user. The appropriate fields in the parameter list are set and passed to the exit for processing. The exit, based on the information passed, either “denies” or “permits” access by setting the appropriate return code flag.
Security Logging Exit	An exit point in Resource Security is available after security checking for logging purposes.
Print Characteristics Exit	There is an exit available during print release processing which allows modification to the print characteristics which are passed to the print processor. Normally RMS/ONLINE will request print information from the terminal operator after a print option has been selected. This may not be desirable or

acceptable in some installations. The available exit will allow the fields normally requested on this panel to be filled in by the exit sub-routines. All fields contained in the passed parameter list contain default values which may be modified or left as is for print processing. This exit is activated at two points.

The first is before the print characteristics panel is displayed. The fields may be filled in as desired and if the 'Option Byte' is left unchanged (X'00'), the characteristics panel will not be displayed. If the option byte is non-zero, the panel will be displayed with the data passed from the exit.

The other exit point is after the panel has been displayed, allowing editing of the fields from the panel. If the option byte contains X'00' on return, then processing continues as normal, otherwise an error message is produced and the panel is re-displayed.

Linking the Exits

When re-linking RMS modules to include the exit, be sure to keep the order and entry points assigned correctly. Use the following as example input to the linkage-editor when installing an exit:

```
CICS MVS
        INCLUDE SYSLOAD(SEC0001)
        INCLUDE SYSLOAD(RMvvrm)
        ORDER DFHEAI,UT90000
        ENTRY UT90000
        MODE AMODE(31),RMODE(24)
        NAME newname(R)

CICS VSE
        PHASE newname, *
        INCLUDE SEC0001
        INCLUDE RMvvrm
        ENTRY UT90000
        MODE AMODE(31),RMODE(24)

TSO MVS

        INCLUDE SYSLOAD(SEC0001)
        INCLUDE SYSLOAD(TSvvrm)
        ENTRY UT00120
        MODE AMODE(31),RMODE(24)
        NAME newname(R)
```

Security Exit Parameter List

SECURITY EXIT PARAMETER LIST			
OFFSET	LENGTH	FORMAT	DESCRIPTION
0	1	B	**Operation Code** X'02' = Access Request X'0A' = System Sign-On
1	1	B	Function Code 1 X'00' = Main Menu X'01' = TX - Display Print X'02' = TX - System Administration X'03' = TX - Distribution Definition X'04' = TX - Print Dataset Management X'05' = TX - Resource Security X'06' = TX - Help Management X'08' = Location/Report Access X'09' = Dataset Security
2	1	C	Return Code X'D7' = Permit Access ('P') X'C4' = Deny Access ('D') X'08' = Invalid Request
3	7	C	Reserved
11	4	A	Address of Returned Message
15	4	A	Address of ACDS Name
19	8	C	Access Group
27	8	C	User ID
35	8	C	Password
66	1	B	Function Code 2 X'01' = Location Verification
67	16	C	Resource1
67	16	C	Location
83	8	C	Resource2
83	8	C	Report ID

Print Characteristics Exit Parameter List

Refer to the sample exit, PXR0001, in the JCL library for a current parameter list.

RM80000 (External Writer) Exits

The RMS writer supports two types of exits, an input exit and an SMF accounting record exit. These exits may be written in any language, with the only requirement being that they adhere to standard call/save conventions (*automatic for high level languages*).

The interface between the writer and a user exit is accomplished via subroutine calls employing standard linkage conventions. After the processing necessitated by each call, the user exit returns control to the writer program. Each call passes a single parameter which affords access to all the data areas necessary to direct and support exit processing.

Input Exit

The input exit facility affords data accessibility for those with a need to review/change report information before it is placed in the repository. Writing an input exit routine is very much like writing a batch program to read a sequential file. The interface with the writer is the same as with any other called program; the RMS writer calls the exit routine and the routine responds appropriately to the action codes and data passed at that time.

Before attempting to write an exit routine, it is suggested that you become familiar with the characteristics of the exit routine and the writer console commands.

Potential Uses

With the thought in mind that the input exit facility is provided for the review and possible modification of the report data prior to its being stored in the repository, consider the following general types of uses for the exit.

- Deletion of unnecessary data from individual print lines. For example, if your print data contains information; i.e., record description information sort fields, etc. that is no longer needed, you could delete it.
- Deletion of unnecessary reprint lines. In some cases SYSOUT data may contain report break records that were used by pre-existing distribution systems. The exit facility would allow for the elimination of the lines without effecting the actual report data.
- Insertion of control data lines. In some cases, SYSOUT data may not contain Top of Page lines. Using the insert facility, you could add a line containing a Top of Page Skip command in front of each report page.

Loading The Input Exit

Writer input exits are loaded into main storage as the result of specifying the EXIT operand on the writer start/modify console command. It may also be entered via the JCL procedure parameter list symbolic OPTION.

EXAMPLE:

```
S PPPPPPPP,OPTION='CLASS(Q) EXIT (PROGNAME)'
```

OR

```
F PPPPPPPP,CLASS(Q) EXIT (PROGNAME)
```

Input Exit Processing

An input exit routine is loaded as the result of the entry of a writer start or modify command specifying the keyword EXIT (nnnnnnnn) in standard processing operands. Once loaded all SYSOUT datasets processed by the writer are made available to the exit. The sequence of events for this processing cycle are as follows:

1. The writer loads your exit routine into main storage unless the exit is already resident.
2. Each time a SYSOUT dataset is processed, an “open” action code is passed to the exit. No print data is available. However, the dataset characteristics are present in the input exit data area. The exit program might key any one-time initialization processing off the occurrence of this action code. In addition, the exit could examine the characteristics data to determine if the current dataset is one that should be processed. If not, a “bypass” disposition could be set causing the writer to bypass the exit for the current SYSOUT dataset.
3. XWTR calls the exit passing a “write” action along with a single line of print. The line is available for manipulation by the exit. This step is repeated until all print data for the current SYSOUT dataset has been passed to the exit. The disposition code returned by the exit determines the final status of the line. The available codes are:

D	Delete the current print line. This causes the system not to store the print line in the repository.

I	Insert a new line. A new print line value has been placed in the buffer area by the exit. It should be written to the repository in front of the original line. Upon completion of the insert operation, the writer will pass the original line back to the exit. At this time, the exit may elect to insert more lines or continue normally by returning a blank disposition code value.
U	Update the current print line. The print passed to the exit has been changed, therefore the writer must update the original data retrieved from JES. When updating a print line you should also update the corresponding length value.
" "	A blank disposition causes the writer to proceed with normal processing.

4. At the end of each SYSOUT dataset, the writer calls the exit passing a "CLOSE" action code indicating all print data for the current entry has been processed.
5. The writer calls the exit providing a "TERMINATE" action code which indicates the end of all processing. This can occur as the result of either of the two following events.

A new exit was requested via the entry of a modify command.
A controlled shutdown has been requested.

The above steps are repeated for each SYSOUT dataset retrieved by the writer while an exit is active.

Each time the exit routine is called, Register 1 contains the address of a parameter list that contains one address. This address points to the INPUT EXIT DATA AREA.

After the processing performed as the result of each call, control must be returned to the main program. The return is accomplished in an assembler language program using the return macro and in a COBOL program with the 'GOBACK' or 'EXIT PROGRAM'.

Input Exit Data Area Definition

The single address parameter list contains the address of the input exit data area.

INPUT EXIT DATA AREA FORMAT

OFFSET	LENGTH	FORMAT	DESCRIPTION
0	1	C	Action Code O=Open W=Write (See Note:1) C=Close T=Terminate

NOTES:

1. Actual print data is available only with the "W" action code.

2. Bypass disposition is only valid in response to an open action code.

3. If a disposition of "U" is specified to update the current write action code SYSOUT record, the record length must be updated to reflect the new length.

INPUT EXIT DATA AREA FORMAT			
1	1	C	Record Disposition Flag D=Delete I=Insert U=Update B=Bypass Exit Processing this Dataset (See Note 2) “ “=Leave As Is
2	78	C	Dataset Characteristics
2	8	C	JES Job Name
10	5	C	JES Job Number
15	8	C	Report Name (from external writer name)
23	1	C	SYSOUT Class
24	4	C	Forms Identifier
28	8	C	Remote Destination ID
36	44	C	JES Dataset Name
80	8	C	Drain Start Date (mm/dd/yy)
88	4	P	Drain Start Time (0 HHMMSSF) F=Sign
92	8	C	Drain End Date (hh/dd/yy)
100	4	P	Drain End Time (0 HHMMSSF) F=Sign
104	2	B	**Record Length** (See Note:3)
106	240		Input Record
106	1	B	Print Control Command
107	239	C	Print Data

NOTES:

1. Actual print data is available only with the “W” action code.
2. Bypass disposition is only valid in response to an open action code.
3. If a disposition of “U” is specified to update the current write action code SYSOUT record, the record length must be updated to reflect the new length.

SMF Exit

The SMF exit provides the user an opportunity to generate accounting records for each SYSOUT dataset processed by the writer. Writing an SMF exit routine is very much like writing a batch program to read a sequential file. The interface with the writer is the same as with any other called program; the main program calls the exit routine and the routine responds appropriately to the action codes passed at that time.

SMF Exit Processing

The SMF exit must be included in the RM80000 module using the linkage editor, and it must have a primary entry point named QXWSMFX.

The SMF exit is called each time a SYSOUT dataset has been successfully placed in the repository. At this time, an action code of “CLOSE” is passed in the SMF parameter list along with the data necessary for the construction of an accounting record.

At termination, your exit is called again using an action code of “TERMINATE”. Your exit program should perform any needed termination processing and then return control to the calling program.

SMF Exit Data Area Definition

The single address parameter list contains the address of the SMF exit data area.

SMF EXIT AREA FORMAT

OFFSET	LENGTH	FORMAT	DESCRIPTION
Action Code: C=Close, T=Terminate			
1	1		Reserved
2	102		Dataset Characteristics:
2	8	C	JES Job Name
10	5	C	JES Job Number
15	8	C	Report Name (from external writer name SYSOUT parameter)
23	1	C	SYSOUT Class
24	4	C	Forms Identifier
28	8	C	Remote Destination ID
36	44	C	JES Dataset Name
80	8	C	Drain Start Date
88	4	P	Drain Start Time
92	8	C	Drain End Date
100	4	P	Drain End Time
104	52		SMF Fields:
104	8	C	User Exit Name
112	1	C	QDS Original Record Format
113	6	P	Number of Lines Drained
119	6	P	Number of Channel Ones
125	4	P	Number of Report Index Queues
129	4	P	Number of Data Blocks
133	6	P	Number of Input Characters
139	6	P	Number of Output Characters
145	2	B	Number of copies from SSOB
147	4	B	Address of JFCB
151	4	B	Address of SSOB

RM80001 (Archive/Recovery) Exits

RM80001 has two types of exits, a security exit and an output exit. These exits may be written in any language, with the only requirement being that they adhere to standard call/save conventions (*automatic for high level languages*).

The interface between RM80001and a user exit is accomplished via subroutine calls employing standard linkage conventions. After the processing necessitated by each call, the user exit returns control to the writer program. Each call passes a single parameter which affords access to all the data areas necessary to direct and support exit processing.

Append_a.fm: Revised Sunday, November 24, 2013

Security Exit

Potential Uses

The security exit facility allows the data center to restrict queue dataset retrieval. Through the use of the security exit, access to the report data residing in the dataset can be limited to a need-to-know basis. The security access decision is made at the individual SYSOUT stream level using a standard call parameter list containing the dataset attributes.

Security Exit Processing

The security exit must be included in the RM80001 execution module using the linkage editor, and it must have a primary entry point named SECURITY.

The security exit is called each time a selected queue dataset is located, but prior to reading any actual report data. The processing sequence for this exit type is as follows:

1. During RM80001 initialization your exit is called with an ‘INITIAL’ action code. At this time, the exit should perform any one-time initialization processing (*i.e., open any needed security files, load any needed security tables, etc.*).
2. Each time RM80001 locates a selected queue dataset entry your exit is called using an “ACCESS” action code. Your exit program should perform access determination at this time, and return the appropriate access code.
3. At termination, your exit program is called using a “TERMINATE” action code. Your exit should perform any necessary termination processing at this time.

Security Exit Data Area Definition

The single address parameter list contains the address of the security data area.

SECURITY EXIT DATA AREA FORMAT

OFFSET	LENGTH	FORMAT	DESCRIPTION
0	1	B	Operation Code X'01'=Initialization X'02'=Dataset Access X'03'=Termination
1	1	B	Reserved for Future Use
2	1	C	Request Return Code P=Permit Access D=Deny Access
3	16		Reserved for Future Use
19	8	C	Access Group of the selected queue dataset
27	8	C	User Identification This data element is user supplied and acquired from the USER *ID parameter on the RUN*OPTIONS command.
35	8	C	Password This data element is user supplied and acquired from the password parameter on the RUN*OPTIONS command.
43	8	C	JES Job Name JES job name of the job that created the selected queue dataset.
51	8	C	Destination Identification Destination ID of the JES remote that was assigned via the DEST operand of the creating DD statement for the queue dataset.

SECURITY EXIT DATA AREA FORMAT			
OFFSET	**LENGTH**	**FORMAT**	**DESCRIPTION**
59	4	C	Forms Identification Forms ID assigned via the Forms ID sub-parameter of the creating DD statement for the queue dataset.
63	3		Reserved for Future Use
66	1	B	Function Code X'01' Recovery in progress X'02' Archive create in progress
67	8	C	Queue Dataset Name Queue dataset name assigned via the JCL external writer name sub-parameter on the creating DD statement.
75	8	B	Reserved for Future Use
83	4	C	Subsystem Identification ID of the subsystem being used to access the dataset.
87	4	B	Dataset Name Address Address of the 44 byte dataset name.

Output Exit

The output exit facility affords data accessibility for those with a need to produce customized output. Writing an output exit routine is very much like writing a batch program to read a sequential file. The interface with RM80001 is the same as with any other called program; RM80001 calls the output exit routine and the routine responds appropriately to the action codes and data passed at that time.

Before attempting to write an output exit routine, it is suggested that you become familiar with the characteristics of the output exit routine and the RM80001 control record requirements.

Potential Uses

With the thought in mind that the RM80001 exit facility is provided for the production of customized output, consider the following general types of uses for the exit.

1. Production of Host-Formatted Microfiche Files.

   This capability is noteworthy for several reasons:

   - It permits use of the non-intelligent units without a repass of each dataset.
   - It reduces the possibility that application programs will have to be changed to accommodate the production of microfiche.
   - Because the report data for each recipient is available in collated sequence, substantial savings may be attained because of a reduction in the number of fiche produced for each recipient.
   - Overall operation is streamlined since datasets are collected and placed on tape at one time rather than requiring a tape mount for each dataset.
   - Isolating microfiche related changes makes equipment upgrades easier as well as application transparent.

2. Creation of Print Files for Remote Transmission/Print
3. Creation of Print Files for Off-line High Speed Printers

Loading Output Exit

RM80001 exits are loaded into storage as the result of specifying the exit name in the queue dataset select record. Multiple exits may be activated during a single execution. The only limitation for an exit is that of available address space.

Output Exit Processing

An output exit must be a separate load module cataloged in a library accessible to RMS.

An output exit routine is loaded whenever a queue dataset select record specifies exit output. As the queue datasets selected by this control record are processed, the following sequence of events takes place:

1. RM80001 loads your exit routine into main storage unless the exit is already resident. Steps 1 through 4 are repeated for each queue dataset selected as the result of the current queue dataset select record.
2. RM80001 calls the exit program passing an “OPEN” action code. No actual print data is associated with the open call. The exit program might key any one-time initialization processing off the occurrence of this action code.
3. RM80001 calls the exit passing a “WRITE” action along with a single line of print data. Step 3 is repeated until all print data in the current queue dataset has been passed to the exit program.
4. RM80001 calls the exit program passing a “CLOSE” action code indicating that all print data for the current queue dataset has been passed to the exit.
5. RM80001 calls the exit providing a “TERMINATE” action code which indicates the end of all processing. The exit might perform any file termination processing as the result of recognizing this action code.
6. Each time the exit routine is called, register 1 contains the address of a parameter list that contains one address. This address points to the OUTPUT EXIT DATA AREA.

Output Exit Data Area Definition

The single address parameter list contains the address of the exit data area.

OUTPUT EXIT DATA AREA FORMAT			
OFFSET	LENGTH	FORMAT	DESCRIPTION
0	1	C	Action Code O=Open W=Write (See Note: 1) C=Close T=Terminate
1	240		Data Record Area
1	1	B	Machine Control Character
2	239	C	Print Data
241	2	B	Actual print record length including the control character.
243	80		Reserved for Future Use
323	64		Reserved for Future Use
387			**Accounting Data** (See Note: 2)
Note:1- Actual print data available only with the “W” action code. Note:2- Accounting Data. (See following accounting record descriptions.)			

MVS Accounting Data

OS/MVS ACCOUNTING DATA

OFFSET	LENGTH	FORMAT	DESCRIPTION
0	8	C	Date added to repository MM/DD/YY.
8	4	P	Drain Start Time Packed Decimal 0HHMMSSF; where F=Sign.
12	4	P	Drain End Time Packed Decimal 0HHMMSSF; where F=Sign.
16	8	C	Job Name Name of the OS/MVS job that created this queue dataset.
24	8	B	Job Number OS/MVS Job Number that created this queue dataset.
32	8	C	Queue Dataset Name Name specified in the external writer name sub field of the SYSOUT DD statement parameter or, if omitted, the OS/MVS Job Name of the job that created this entry.

NOTE: VSE Accounting Data - The accounting data area contains the POWER/VS accounting data as described in the POWER/VS reference manual for list (type L) queue datasets. This data definition is subject to change.

Additional Output Exit Considerations

Use of the CONCATENATION option in the dataset select record can cause multiple datasets to be passed to the exit as a continuous data stream. Specifying the same exit name in consecutive queue dataset select records will cause the exit to remain resident across the retrieval of multiple datasets.

NOTE: VSE ONLY- It is necessary for a VSE COBOL program to know whether it is a main or called program. When being used as an exit, it is a called program. All COBOL - All exits should have the relocatable library member ‘STRIP00’ included during the link-edit. STRIP00 contains an entry point of ILBDUMNS0 and an indicator byte to inform the COBOL program that is a ‘CALLED’ program. Not including STRIP00 at link-edit time will cause an unpredictable system interrupt at execution time.

RM80004 (Distribution Component) Exits

Security Exit

Potential Uses

The security exit facility allows the data center to restrict queue dataset retrieval. Through the use of the security exit, access to the report data residing in the repository can be controlled. The security access decision is made at the individual SYSOUT stream level using a standard call parameter list containing the dataset attributes.

Security Exit Processing

The security exit must be included in the RM80004 load module using the linkage editor, and it must have a primary entry point named SECURITY. The security exit is called each time a selected queue dataset is located, but prior to reading any actual report data. The processing sequence for this exit type is as follows:

1. During program initialization your exit is called with an 'INITIAL' action code. At this time, the exit should perform any one-time initialization processing (*i.e., open any needed security files, load any needed security tables, etc*.).
2. Each time RMS locates a selected queue dataset entry your exit is called using an 'ACCESS' action code. Your exit program should perform access determination at this time, and return the appropriate access code.
3. At termination, your exit program is called using a 'TERMINATE' action code. Your exit should perform any necessary termination processing at this time.

Security Exit Data Area Definition

The single address parameter list contains the address of the security data area.

SECURITY EXIT DATA AREA FORMAT

OFFSET	LENGTH	FORMAT	DESCRIPTION
0	1	B	Operation Code X'01'=Initialization X'02'=Dataset Access X'03'=Termination
1	1	B	Reserved for Future Use
2	1	C	Request Return Code P=Permit Access D=Deny Access
3	16		Reserved for Future Use
19	8	C	Access Group of the selected queue dataset
27	8	C	User Identification This data element is user supplied and acquired from the USER *ID parameter on the RUN*OPTIONS command.
35	8	C	Password This data element is user supplied and acquired from the password parameter on the RUN*OPTIONS command.
43	8	C	JES Job Name JES job name of the job that created the selected queue dataset.
51	8	C	Destination Identification Destination ID of the JES remote that was assigned via the DEST operand of the creating DD statement for the queue dataset.
59	4	C	Forms Identification Forms ID assigned via the Forms ID sub-parameter of the creating DD statement for the queue dataset.
63	3		Reserved for Future Use
66	1	B	Function Code X'01' Recovery in progress X'02' Archive create in progress

SECURITY EXIT DATA AREA FORMAT			
OFFSET	LENGTH	FORMAT	DESCRIPTION
67	8	C	Queue Dataset Name Name specified in the external writer name sub-field of the SYSOUT DD statement parameter or if omitted, the OS/MVS job name of the job that created the entry.
75	8	B	Reserved for Future Use
83	4	C	Subsystem Identification ID of the subsystem being used to access the dataset.
87	4	B	Dataset Name Address Address of the 44 byte dataset name.

NOTE: VSE ONLY- It is necessary for a VSE COBOL program to know whether it is a main or called program. When being used as an exit, it is a called program. All COBOL - All exits should have the relocatable library member ‘STRIP00’ included during the link-edit. STRIP00 contains an entry point of ILBDUMNS0 and an indicator byte to inform the COBOL program that is a ‘CALLED’ program. Not including STRIP00 at link-edit time will cause an unpredictable system interrupt at execution time.

RMS User Exit Parm List

The assembler language macro, USREXEC, can be used to map the area passed to a user exit program. Note that the macro will expand differently based on the parameters supplied when the macro is invoked. The most important is the parameter **TYPE=**. This parameter causes the macro to expand for either RM80000 exit programs or RM80001/RM80004 exit programs. The value **STD** will cause the default, parm list for RM80000, to be overridden and a parm list for RM80001/RM80004 exits to be mapped.

RMS/WebAccess CICS Security Management

Security Management

Overview

RMS/WebAccess external security management is handled through the SEC0020 exit. A sample assembler user exit is provided (in the install library). The exit handles both Sign On security functions and resource security functions. The exit uses the CICS EXEC QUERY SECURITY API command to determine whether the user has access to resources defined in the external security manager (ESM).

RMS communicates with the exit via the RMS/WebAccess Security Exit Parameter list as illustrated in Figures 1 and 3.

On completion of each request, the exit passes a return code of “P” for permit or “D” for deny in the return code field (RM30RC) to RMS indicating the results of the security request. If the request is denied, additional information is provided in the return code modifier field (RM30RC1) and the returned message field (RM30MSG).

The sample exit was developed using the RACF ESM. All installation and configuration examples assume a RACF ESM. The exit should be easily modified to work with other ESMs.

Dependencies

The CICS User Replaceable Module (URM), RMSXOPUS, must be defined and installed in CICS. RMSXOPUS examines elements of the incoming IIOP request and generates a USERID for each transaction. RMSXOPUS must be specified in the TCPIPSERVICE definition as the URM, otherwise CICS will default to the DFHXOPUS URM, which will set the default CICS USERID for each RMS/WebAccess transaction.

Sign On Security

When a Sign On request is received from RMS, the exit initiates a VERIFY USERID to determine if the userid/password combination is valid. If a Sign On request is made with the RM30PW1 and RM30PW2 fields non-blank, the exit initiates a CHANGE PASSWORD. If successful, the Sign On process continues.

The exit attempts to read the RMS User Record. If a User Record is not present, a new User Record is constructed based on a skeleton User Record and added to the RMS administrative file (ACDS). On completion of the Sign On request, the exit passes a return code of “P” for permit or “D” for deny back to RMS. If the request is denied, the exit returns the address of a message (RM30MSG). Possible messages are shown in Figure 2.

Access Security

Access security provides for user id linkage to specific or general combinations of Access Group, Location, and Report Id. The exit initiates a QUERY SECURITY to determine if the user has read access for the requested resource. On completion of each request, the exit passes a return code of “P” for permit or “D” for deny back to RMS indicating the results of the security request

ESM Definitions

The exit requires two RACF classes to be defined in the class-descriptor table (ICHRRCDE) as follows:

```
$RMSVIEW ICHERCDE CLASS=$RMSVIEW,                               +
            ID=128,                                             +
            MAXLNTH=34,                                         +
            FIRST=ALPHA,                                        +
            OTHER=ANY,                                          +
            POSIT=27,                                           +
```

APPENDIX

Append_a.fm: Revised Sunday, November 24, 2013

```
                OPER=NO,                                            +
                DFTUACC=NONE
$RMSCMD   ICHERCDE CLASS=$RMSCMD,                                   +
                ID=130,                                             +
                MAXLNTH=43,                                         +
                FIRST=ANY,                                          +
                OTHER=ANY,                                          +
                POSIT=27,                                           +
                OPER=NO,                                            +
                DFTUACC=NONE
                ICHERCDE
```

When entries are added to the class-descriptor table, corresponding entries should be added to the RACF router table (using the ICHRFRTB macro) as follows:

```
ICHRFR01  CSECT
                ICHRFRTB CLASS=$RMSVIEW,ACTION=RACF
                ICHRFRTB CLASS=$RMSCMD,ACTION=RACF
ENDTAB  ICHRFRTB TYPE=END
                END    ICHRFR01
```

For further information concerning the assemble and link of the tables, please refer to the System Programming Library: RACF. An IPL is required after the classes have been added to the class-descriptor table and router table.

Following the IPL, the new classes can be activated by entering:

```
SETROPTS CLASSACT($RMSVIEW)
```

$RMSVIEW Security Class

The $RMSVIEW security class contains profiles defining a specific or generic Access Group, Location and Report Id for viewing. Profiles are defined in the form (using a period as a separator):

```
AccessGroup.Location.ReportId
```

The following examples define specific generic profiles:

```
RDEFINE $RMSVIEW                    MANTISSA.AREA01.MYSALESUACC(NONE)
RDEFINE $RMSVIEW                    MANTISSA.AREA01.PROFITSUACC(NONE)
RDEFINE $RMSVIEW                    MANTISSA.CJHOLLER.TELECOMUACC(NONE)
```

After the profile has been defined, a user id can be added to the access list of the profile as follows:

```
PERMIT  MANTISSA.AREA01.MYSALES                        CLASS($RMSVIEW)
ID(WEBA2)   ACCESS(READ)
PERMIT  MANTISSA.AREA01.PROFITS                        CLASS($RMSVIEW)
ID(P390A)      ACCESS(READ)
```

Execute the SETROPTS REFRESH GENERIC(*) command to refresh RACF in-storage profile lists and global access checking tables.

$RMSCMD Security Class

The $RMSCMD security class contains profiles defining a specific or generic combination of RMS commands. Profiles are defined in the form (using a period as a separator):

FunctionCode.AccessGroup.Transaction

The following examples define specific generic profiles:

```
RDEFINE    $RMSCMD              DP.IVSYSTEM PRINT           UACC(NONE)
RDEFINE    $RMSCMD              DP.MANTISSA.PS              UACC(NONE)
RDEFINE    $RMSCMD              DP.MANTISSA.PE              UACC(NONE)
```

After the profile has been defined, a user id can be added to the access list of the profile as follows:

```
PERMIT DP.IVSYSTEM.PRINTCLASS($RMSCMD) ID(WEBA2)      ACCESS(READ)
```

Execute the SETROPTS REFRESH GENERIC(*) command to refresh RACF in-storage profile lists and global access checking tables.

RMS Interregion Operating Considerations

When RMS/WebAccess will be used to view reports in other CICS regions (interregion), the USERID specified on the DEFINE SESSIONS remote definition must be authorized to view reports in addition to the Sign On user id. See the RMS/WebAccess Installation Considerations for more details.

Exit Modifications

The defined constant, DEFUI, is the user id of a skeleton default RMS User Record. If no User Record is found for a user signing on to RMS/WebAccess, the exit will read the DEFUI User Record from the ACDS file and use it as a skeleton record to construct the new user a User Record.

Compile and Link the Exit

This exit uses MACROs that are contained in the RMS SRCLIB library (PROD.OO.VvvrmPpp.JCL). Place the SRCLIB DD reference in the SYSLIB concatenation of the compile job. The following job was used to compile and link the exit.

After making installation specific JCL changes, the following JCL can be used to compile and link the exit into the RMvvrmS module:

```
//TMHAAA   JOB (TMHA,'CICS PGM ASSEMBLY'),'SEC EXIT',
//             CLASS=R,MSGCLASS=V,MSGLEVEL=(1,1)
//*
//*    USE CICS 3 OR ABOVE LIBRARIES
//*
//PROCLIB     JCLLIB ORDER=CICSTS13.CICS.SDFHPROC
//CICTR   EXEC  DFHEITAL,
//         OUTC=V,
//         ASMBLR=ASMA90,
//         PROGLIB=PROD.OO.V1134P00.LINK
//*
//TRN.SYSIN    DD *
//*    (place source code here)
/*
//ASM.SYSLIB DD
//            DD DSN=PROD.OO.V1134P00.JCL,DISP=SHR
/*
//*
//LKED.SYSIN   DD *
  ENTRY SEC0020
  MODE AMODE(31),RMODE(24)
  NAME SEC0020(R)
/*
//LKMOD    EXEC PGM=HEWL,REGION=3000K,
//              PARM=(XREF,LIST,MAP,LET,NCAL),
//              COND=(4,LT,CICTR.LKED)
//SYSLOAD    DD DSN=PROD.OO.V1134P00.LINK,DISP=SHR
//SYSLMOD    DD DSN=PROD.OO.V1134P00.LINK,DISP=SHR
//CICSLIB    DD DSN=CICSTS13.CICS.SDFHLOAD,DISP=SHR
//SYSUT1     DD UNIT=SYSDA,DCB=BLKSIZE=1024,
//              SPACE=(1024,(1500,20))
//SYSPRINT   DD SYSOUT=*
```

```
//LKMOD.SYSLIN DD *
 INCLUDE SYSLOAD(SEC0020)
 INCLUDE SYSLOAD(RM1134)
 ORDER DFHEAI,UT90000
 ENTRY UT90000
  MODE AMODE(31),RMODE(24)
  NAME RM1134S(R)
/*
```

After testing, the RMvvrmS module can be switched into production.

Parameter List - Sign On Request

Figure 1:

FIELD	VALUE ON ENTRY TO EXIT	VALUE ON RETURN FROM EXIT
RM30OC	SCSIGN	Same
RM30UI	User ID	Blanks
RM30PW	Current password	Blanks
RM30PW1	New password (A non-blank field indicates a request to change the password.)	Blanks
RM30PW2	New password - verify (This field must be equal to RM30PW1 for a password change request.)	Blanks
RM30AAC	Address of ACDS	Same
RM30RC		PERMIT or DENY
RM30MSG		If RM30RC = DENY, an address of a returned message. The first two bytes of the message contain the length of the message
RM30REA		ESM Reason Code
RM30RES		ESM Response Code

Possible Returned Messages from Sign On Request

Figure 2:

RC1	RETURNED MESSAGE
1	RMW0001E The ESM responded with an unknown return code.
2	RMW0002E The ESM is not initialized.
3	RMW0003E The ESM is not responding.
4	RMW0004E The ESM return code could not be decoded.
5	RMW0005E The userid you provided is invalid.
6	RMW0006E The userid is not known to the ESM.
7	RMW0007E The userid is revoked.
8	RMW0008E The supplied password is wrong.
9	RMW0009E Your password has expired.
10	RMW0010E The two new passwords you provided do not match.

11	RMW0011E The new password you provided is not acceptable.
12	RMW0012E The change password failed in SECLABEL processing.
13	RMW0013E The user connection to the default group is revoked.
14	RMW0014E The RMS skeleton user record could not be found.
15	RMW0015E The RMS user record could not be created.

Parameter List - Report Access Request

Figure 3:

FIELD	VALUE ON ENTRY TO EXIT	VALUE ON RETURN FROM EXIT
RM30OC	ACCESS	Same
RM30UI	User ID	Blanks
RM30FC	SCLRPA	Same
RM30AG	Access Group	Same
RM30LOC	Location	Same
RM30RID	Report Id	Same
RM30RC		PERMIT or DENY

RMS/Online Security Calls

Figure 4:

PROGRAM	TYPE OF CALL	RM30 FIELDS						
		OC	FC	FC2	AG	LN	RID	TXC
SC10001	Report	ACCESS	LRPA		RM00AG	RM00LN	RM00RID	
	Transaction	ACCESS	SCTDP		RM00DAG			x
SC10002	Report	ACCESS	LRPA		LRAG	LRLOC	LRREP	
	Report	ACCESS	LRPA	SCHEAD	RM00AG	RM00LN	RM00RID	
	Report	ACCESS	LRPA		RM00AG	RM00LN	RM00RID	
	Print/Recover	ACCESS	SCTDP		RM00DAG			x
SC10003	Report	ACCESS	LRPA		RM00AG	RM00LN	RM00RID	
	Print	ACCESS	SCDP		RM00DAG			x
SC10004	Print/Recover	ACCESS	SCTDP		RM00DAG			x
RM00000	Sign On	SCSIGN						
RM00001	General Menu	ACCESS	RM00SC		RM00DAG			x
RM00004	File Maint List	ACCESS	RM01ASC		RM00DAG			x
RM00005	Add/chg/del/inq	ACCESS	SCAGA	SCCKAG	SECAGRP			
UT90021	Help Management	ACCESS	SCTHM		RM00DAG			x
WA10001	Sign On	SCSIGN						
	Report	ACCESS	SCLRPA		KY02AG	KY02LN	KY02RID	

Appendix-B

FIELD LEVEL SECURITY

Transactions

The field level security component will allow you to prevent a user from viewing and/or modifying fields in System Administration and Distribution Definition components of RMS/ONLINE. These field level security records will only be used when the function in question is part of that user's security profile. You may also place a default value in a field for the user and this value will always be displayed in the field (*with the modified data tag on.*)

The following transactions are supported for Field Level Security:

```
SYSTEM ADMINISTRATION
      AA/CA/IA/DA - ACCESS GROUP RECORD MAINTENANCE
      AU/CU/IU/DU - USER RECORD MAINTENANCE
      AL/CL/IL/DL - LOCATION RECORD MAINTENANCE
      AR/CR/IR/DR - RETENTION CONTROL RECORD MAINTENANCE
DISTRIBUTION DEFINITION
      ADO/CDO/IDO/DDO - DISTRIBUTION OPTIONS
      ARL/CRL/IRL/DRL - RECIPIENT/LOCATION EQUATE
      ACD/CCD/ICD/DCD - CUSTOM DEFINITION
      AAD/CAD/IAD/DAD - AUTOMATIC DEFINITION
      ACC/CCC/ICD/DCD - COPY CONTROL
      ASR/CSR/ISR/DSR - SEND REPORT
      ACR/CCR/ICR/DCR - CONTENT/RECIPIENT CONVERSION
      ARR/CRR/IRR/DRR - RECIPIENT/RECIPIENT CONVERSION
      ADS/CDS/IDS/DDS - DATASET SELECT
      ACP/CCP/ICP/DCP - CUSTOM PACKAGING
      AAP/CAP/IAP/DAP - AUTOMATIC PACKAGING
      ADI/CDI/IDI/DDI - DATA INSERTION
      AOP/COP/IOP/DOP - OUTPUT PRIORITY
```

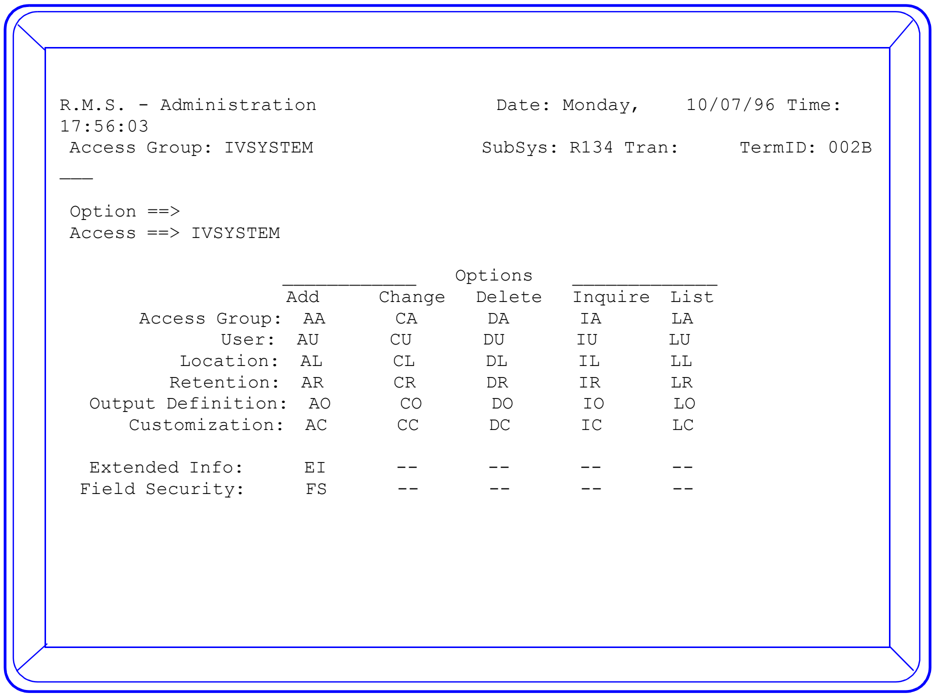
The 'FS' (*Field Security*) transaction has been added to System Administration for the maintenance of this function. The security is defined at the ADD level of a transaction and is carried over to the CHANGE, INQUIRE and DELETE levels.:

The following is an example of how Field Level Security might be used.

1. Access the Administrative Menu
2. Enter 'FS' in the Options field and this will give you the Field Security Menu (*See example 'A'.*)
3. In the option field you may select 'AFS' or 'LFS' to either add a security record or list those for the User specified. In the example we chose to add ('AFS') a field security record for user 'Tom', transaction 'AU' (*Add User; this will include security for 'CU', 'DU' and 'IU'*). After depressing ENTER, a prototype screen is displayed. You may enter the attributes for each field which you desire action on. The following are the only valid actions:

@	will make the field non-display.
!	will make the field protected from entry 'data'- any data entered will be placed in the field as a default with the 'modified data tag' on and protected.
?	question marks may be used in combination with data to allow the user to modify a portion of a field (*only the portion with ?'s.*)

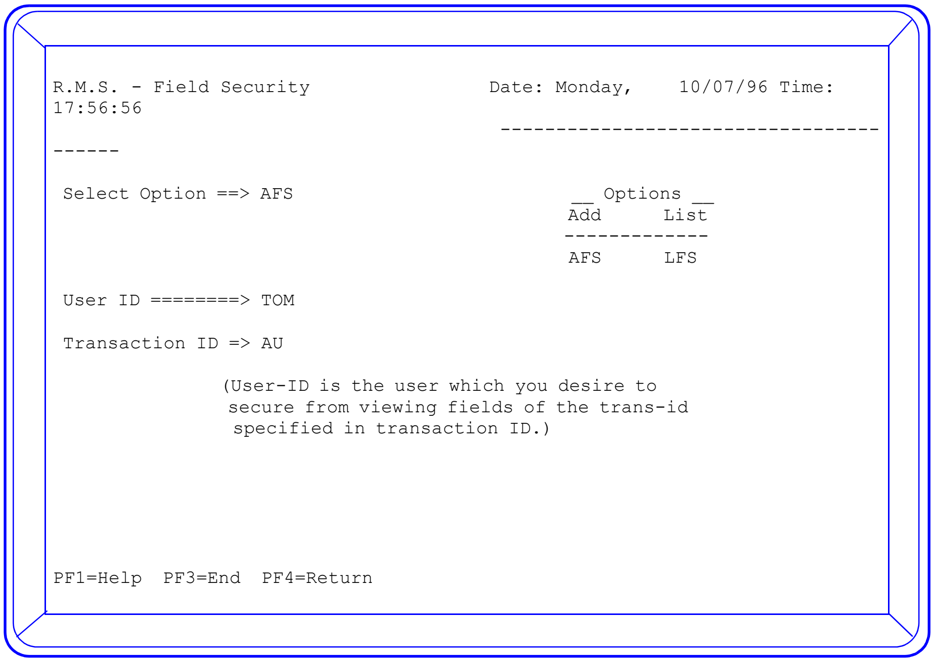
In the following example (*next pages*), we have chosen to make the default Access Group IVSYSTEM. The default location will always be DENVER, and the user ID to begin with IV.



```
R.M.S. - Administration                Date: Monday,    10/07/96 Time:
17:56:03
 Access Group: IVSYSTEM               SubSys: R134 Tran:      TermID: 002B
___

 Option ==>
 Access ==> IVSYSTEM

                       _____________     Options    ______________
                        Add      Change   Delete   Inquire  List
        Access Group:  AA        CA       DA        IA       LA
                User:  AU        CU       DU        IU       LU
            Location:  AL        CL       DL        IL       LL
           Retention:  AR        CR       DR        IR       LR
   Output Definition:  AO        CO       DO        IO       LO
       Customization:  AC        CC       DC        IC       LC

   Extended Info:      EI        --       --        --       --
  Field Security:      FS        --       --        --       --
```

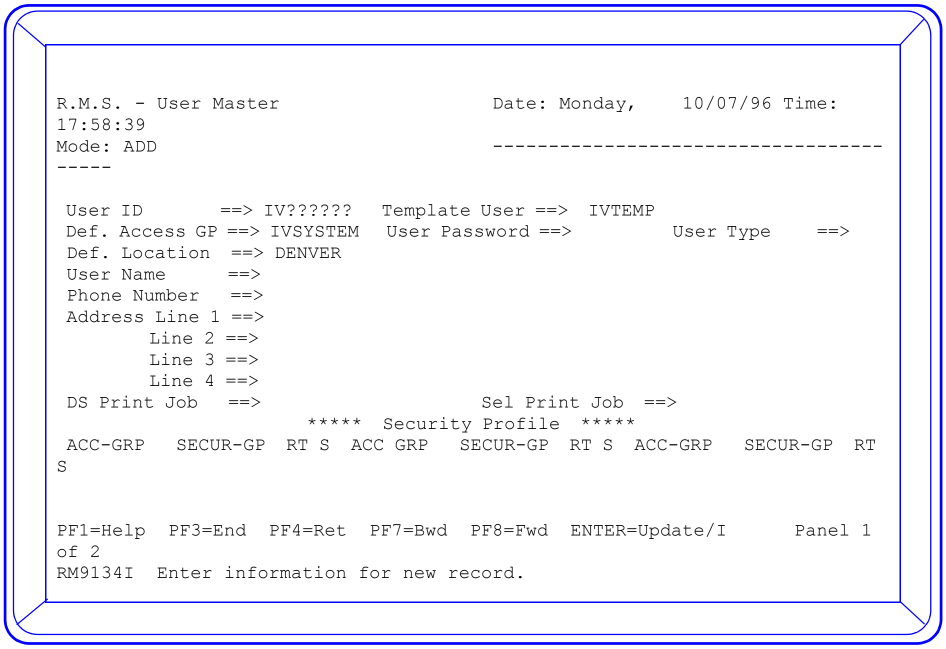
Example A

To get to the Field Level Security panel, key FS and <ENTER>.



```
R.M.S. - Field Security                Date: Monday,    10/07/96 Time:
17:56:56
                                        ----------------------------------
------

 Select Option ==> AFS                                __ Options __
                                                      Add      List
                                                      -------------
                                                      AFS      LFS

 User ID ========> TOM

 Transaction ID => AU

                (User-ID is the user which you desire to
                 secure from viewing fields of the trans-id
                  specified in transaction ID.)




PF1=Help  PF3=End  PF4=Return
```

Example B



```
R.M.S. - User Master                   Date: Monday,    10/07/96 Time:
17:58:39
Mode: ADD                              -----------------------------------
-----

 User ID       ==> IV??????   Template User ==>  IVTEMP
 Def. Access GP ==> IVSYSTEM   User Password ==>         User Type    ==>
 Def. Location  ==> DENVER
 User Name      ==>
 Phone Number   ==>
 Address Line 1 ==>
        Line 2 ==>
        Line 3 ==>
        Line 4 ==>
 DS Print Job   ==>                     Sel Print Job  ==>
                         *****  Security Profile  *****
 ACC-GRP   SECUR-GP  RT S  ACC GRP   SECUR-GP  RT S  ACC-GRP   SECUR-GP  RT
S


PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1
of 2
RM9134I  Enter information for new record.
```

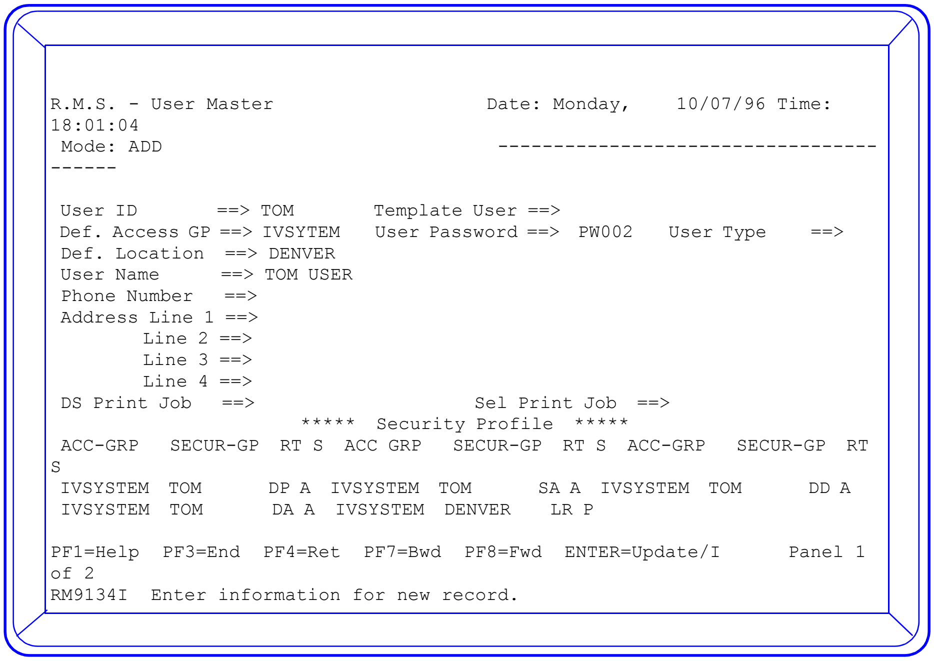
Example C

APPENDIX

Access Group Security for DD:

Access Group Security has been added for the Distribution Definition resource type. This now allows you to limit access to Distribution Instruction Sets based on the Access Group specified for the instruction set.

In order to accomplish this, specify the Access Group in the Access Group field of the user profile and 'DA' (*for Distribution Access*) in the 'RT' field. Doing this will allow the user access to only those Instruction Sets that have the specified Access Group (*IVSYSTEM*) in the Distribution Options record. Any user who is defined as a System Administrator will have access to any Distribution Definition.



```
R.M.S. - User Master                   Date: Monday,    10/07/96 Time:
18:01:04
 Mode: ADD                              ----------------------------------
------

 User ID       ==> TOM       Template User ==>
 Def. Access GP ==> IVSYTEM   User Password ==>  PW002   User Type    ==>
 Def. Location  ==> DENVER
 User Name      ==> TOM USER
 Phone Number   ==>
 Address Line 1 ==>
        Line 2 ==>
        Line 3 ==>
        Line 4 ==>
 DS Print Job   ==>                   Sel Print Job  ==>
                      *****  Security Profile  *****
 ACC-GRP   SECUR-GP  RT S  ACC GRP   SECUR-GP  RT S  ACC-GRP   SECUR-GP  RT
S
 IVSYSTEM  TOM      DP A  IVSYSTEM  TOM      SA A  IVSYSTEM  TOM      DD A
 IVSYSTEM  TOM      DA A  IVSYSTEM  DENVER    LR P

PF1=Help  PF3=End  PF4=Ret  PF7=Bwd  PF8=Fwd  ENTER=Update/I      Panel 1
of 2
RM9134I  Enter information for new record.
```

APPENDIX

Append_b.fm: Revised Sunday, November 24, 2013

Appendix-C

DISTRIBUTION INSTRUCTIONS

Using Keyword Commands

This chapter provides step-by-step information for building an instruction set in RMS/BASIC. The tasks described in this chapter are the same as those described in the tutorial for RMS/DD. Refer to RMS/DD tutorial for information on using the DD panels. The second part of this chapter contains keyword commands and their definitions.

You may ask why this chapter exists since RMS has an On-line definition facility that accomplishes the same tasks as the keyword command facility. There are two reasons. First, RMS still supports all the keyword commands that predated the On-line definition facility. Second, many large RMS users maintain their own in-house definition facility. They translate the information in those definition systems to equivalent RMS command streams.

MVS

The commands used in this chapter are entered into the file used by the QXPARMS DD statement. They can be entered in-stream by using the following:

```
//QXPARMS DD *
commands
.
.
```

The other, and most common, method is to add and edit a “P”artitioned “D”ata “Set” library member containing the commands. This member can then be used by specifying the following:

```
//QXPARMS DD DSNAME=MANTISSA.LIB(MEMNAME),DISP=SHR
```

VSE

The keywords should be placed after the // EXEC statement in the SYSIPT area.

Refer to **the Installation section** in this manual for more details on JCL for RM80004 execution.

Distribution Key Definition and Development

Distribution keys are defined and developed using two RM80004 commands. The distribution key structure is defined using the DEFINE*KEY command. This command lets you assign a symbolic name, length, and start location for each distribution key element.

Distribution keys are developed using the IDENTIFY*FORMAT (*IF*) command. IF commands permit the extraction of key data from the report page and the introduction of constant data into key element fields.

Though other RM80004 commands such as TRANSLATE, BROADCAST, and COPY may play an important part in the distribution process, understanding the relationship between the DEFINE*KEY and IDENTIFY*FORMAT commands is an essential step toward grasping the flexibility and power of the system.

Consider the following distribution application:

- There is a queue dataset which contains 2 reports. Each of the reports contains the report data for 2 companies. We wish to combine the data for each company so that 2 report segments will be generated instead of 4. The following is true of the reports.
- Report number 1 contains the heading “Trial Balance” on line 1, column 55. The company number is on line 2, column 15.
  Report number 2 contains the heading “Exceptions” on line 2, column 40. The company number is on line 3,

column 95.
The name of the queue dataset is GLUPDT. The company number that appears on the reports is 3 characters long.

The following DEFINE*KEY and IDENTIFY*FORMAT commands will define and develop a distribution key consisting of company number.

```
DEFINE*KEY -
      KEY*ELEMENT1 (COMPANY,1,3)

IDENTIFY*REPORT WHEN NAME (GLUPDT) -
      AND FORMAT*DATA1 IS (1,55,TRIAL BALANCE) -
            THEN COMPANY (2,15)

IDENTIFY*REPORT WHEN NAME (GLUPDT) -
      AND FORMAT*DATA1 IS (2,40,EXCEPTIONS) -
            COMPANY (3,95)
```

Each of these IDENTIFY*REPORT commands represent an IF...THEN statement. The first IDENTIFY*REPORT is the equivalent of the following statement:

IF	the name of the dataset that is being scanned is GLUPDT and line 01, column 055 is equal to “TRIAL BALANCE”
THEN	extract 03 characters of key data from line 2, column 015 and place it in positions 1-3 of the distribution recipient key.

During the Scan phase of execution the IDENTIFY*FORMAT (*IF*) commands are examined for each page of report data processed. IF commands are always evaluated in the order in which they are entered into the system. Once all the conditions expressed in an IF command are satisfied, key element development is initiated.

Report pages that do not satisfy the IF command conditions are assigned the distribution key value of the preceding page for which the conditions were satisfied. Processing proceeds as if normal key element development has been performed.

As each key element is developed, a check is made to determine whether a translate group id has been specified. If it has, then translate group is searched for a value equal to the key element. A match causes the key element to be replaced. After the translation, if any, the key element is then placed in the distribution key at the location and for the length specified in the DEFINE*KEY command.

After all the key elements have been placed in the distribution key, the IF command is checked to determine if a translate group number has been specified. If it has, the designated translate group is searched. The data specified in the translate group is compared to the entire distribution key. A match causes replacement of the distribution key.

If a copy group number has been specified in the IF command, the comparison values specified in the COPY commands with a matching group ID are searched.

If the distribution key matches an entry in the copy group, the page has the indicated number of copies produced. Internal sequencing causes the copied pages to print in the proper location for copies 2-n. Those distribution keys not listed in the COPY group receive the number of copies indicated in the IF command or 01, the default.

If a broadcast group has been specified in the IF command, the comparison values specified in the BROADCAST commands with this group ID are searched. When the distribution key value matches a value in the BROADCAST group, the page is broadcast to the designated key. From 1 to 99 copies of the report may be broadcast.

If the resulting distribution key value for a page is all spaces, RM80004 sets the distribution key equal to that of the previous report page.

Special provisions have also been made to permit the generation of constant key element data and scanning for floating key identifier data. Trailing pages such as those containing totals may be designated as "append" pages that are to have the same distribution key assigned as the last page processed.

Selecting Base Datasets for Distribution

Base datasets are retrieved using the qualifying information specified in the SELECT command. The NAME parameter may be used to specify the full dataset name of from 1 to 8 characters. The following is an example of a SELECT statement for dataset DSEDIT.

```
SELECT -
      NAME (DSEDIT)
```

When selecting by specific name, if there is more than one queue dataset with the specified name, the entry most recently created is selected for processing.

The GNAME parameter is used to select by name prefix. Selection by prefix always implies selection of every queue dataset that has this prefix.

Both the NAME and GNAME forms of selection permit positions in the name to be ignored during the comparison. The positions in the name which are to be ignored are indicated by using a mask character (*) in that position of the name. For example, all datasets having an 'A' in position 1, a 'C' in position 3 and a 'D' in position 4 will be selected by using the following command.

```
SELECT -
      GNAME (A*CD)
```

Other dataset attributes may be used to refine the selection process. For example, the following queue dataset select record will select the dataset DIS01 which also has a class of 'A', and a form identification of 'S1PT'.

```
SELECT -
      NAME (DIS01) -
            CLASS (A) -
                  FORM (S1PT)
```

Available selection qualifiers vary slightly by operating system. The section "Control Statements", SELECT command, outlines the available selection options for each of the systems.

Any number of queue datasets may be selected for processing during a single execution. Selection by prefix and full name may be intermixed to attain the desired results. Datasets are always retrieved in the same order as the SELECT records. Retrieval by prefix causes the datasets to be retrieved in alphabetical sequence.

Getting Started

There are 13 commands, each with several parameters. You may not use all of these commands in your instruction set, but RM80004 expects to find these commands in the order listed below:

RUN*OPTIONS
DEFINE*KEY
RECOVER
PRIORITY
TRANSLATE
BROADCAST
COPY
IDENTIFY*REPORT
INSERT*DATA*STREAM
OUTPUT*CONTROL

CREATE*PACKET
FORM*CONTROL*BUFFER
SELECT

Each command has several parameters. For example, the SELECT command is used to select the desired dataset. Within this command, you must specify the dataset name, among other optional parameters.

This tutorial will provide you with the necessary parameters for each command that is required to complete the tasks. Refer to the RMS/BASIC Reference Guide for more information on coding in RMS/BASIC.

Control Statements

This chapter describes the RM80004 command formats. Commands are grouped under the categories of Process, Input and Output control commands. Within these categories, the commands are presented in alphabetical order. Parameters associated with each command are organized by the categories REQUIRED and OPTIONAL. Within these categories, the parameters are also alphabetized. Parameters may be coded in random order.

RM80004 commands enable you to design a distribution key structure that reflects your unique distribution requirements, define the logical reports that will be processed by the system, vary the copy count for each logical report/recipient combination, and broadcast all or part of specific reports to additional recipients in your distribution network.

The system functions are invoked by issuing commands and specifying the associated parameters.

RM80004 has commands for:

- Defining the structure of a distribution key.
- Identifying logical reports to be processed.
- Translating keys to attain key consistency.
- Broadcasting one or more copies of a report to additional recipients.
- Establishing descriptive report titles for manifest lists.
- Segmenting output into manageable packets of data representing one recipient.
- Assigning attributes such as class, remote ID, form ID, etc., to each packet.
- Selecting queue datasets for processing by the system.
- Establishing run and time options and command debug options.

There are two types of RM80004 commands: option commands that establish execution options and definition commands which describe the distribution key structure and distribution requirements.

Option Commands

The option commands are:

- OUTPUT*CONTROL which assigns output attributes to packets of data created by the SEGMENT command.
- PRIORITY which permits assignment of the output sequence, i.e., priority scheduling of output.
- RECOVER which activates recovery of reports.
- RUN*OPTIONS which activates key trace, mapping, report archival, and other RM80004 options.

Definition Commands

The definition commands are:

- BROADCAST which enables additional copies of a report to be sent to alternate recipients in the distribution network.
- COPY which is used to vary the number of copies of a report for a specific distribution recipient.
- DEFINE*KEY which assigns symbolic names, start locations and lengths for the key segments that compose the distribution key.
- FORM*CONTROL*BUFFER which defines the channel control characteristics of a group of logical reports.
- IDENTIFY*REPORT which identifies a logical report to be processed by RM80004.
- CREATE*PACKET which causes RM80004 to partition system output upon the occurrence of a specific distribution key/key element.
- SELECT which designates datasets to be processed.
- TRANSLATE which permits alteration of a key segment or entire key.

Task/Command Cross Reference

Figure 1 on the following page is a cross-reference of various distribution tasks and the RM80004 commands used to accomplish those tasks.

TASK	DESCRIPTION	COMMAND
Archive	distributed reports	RUN*OPTIONS
Assign	output attributes to a segment of report data	OUTPUT*CONTROL
Change	number of copies to be printed	IDENTIFY*REPORT
Define	the form control characteristics	FORM*CONTROL BUFFER
Identify	a logical report to be processed	IDENTIFY*REPORT
Insert	data into the job stream	INSERT*DATA*STREAM
Limit	the output for a segment	RUN*OPTIONS
Recover	lost report data	RECOVER
Route	data to an RJE site	OUTPUT*CONTROL
Segment	the output data stream	SEGMENT
Select	queue datasets for distribution	SELECT
Send	one user’s report data to an additional user	BROADCAST
Set	reporting line count	RUN*OPTIONS
Set Priority	of output for a distribution recipient	PRIORITY
Trace	the development of distribution keys	RUN*OPTIONS
Translate	a distribution key or key segment	TRANSLATE

Command Order

Commands must be presented to RM80004 in a prescribed order. All RM80004 commands except the DEFINE*KEY are optional. When present, the other RM80004 commands should be entered in the following order.

1.	RUN*OPTIONS		OPTIONAL
2.	DEFINE*KEY		REQUIRED
3.	RECOVER		OPTIONAL
4.	PRIORITY		OPTIONAL
5.	TRANSLATE	nnnn commands per group	OPTIONAL

6.	BROADCAST	nnnn commands per group	OPTIONAL
7.	COPY	nnnn commands per group	OPTIONAL
8.	IDENTIFY*REPORT	1 for each logical report processed	OPTIONAL
9.	INSERT*DATA*STREAM		OPTIONAL
10.	OUTPUT*CONTROL		OPTIONAL
11.	CREATE*PACKET		
	.		
	.		
	.		
	.		
	.		
12.	FORM*CONTROL*BUFFER		OPTIONAL
13.	SELECT		
	.		
	.		
	.		
nn	FORM*CONTROL*BUFFER		
nn	SELECT		

Language Considerations

All RMS commands have the general structure:

```
COMMAND parameters. . . . .
```

COMMAND indicates the functional nature of the service requested, parameters describe the service.

Commands begin at or to the right of the left margin. The margins are 2 and 72. Commands are separated from their associated parameters (*if any*) by one or more spaces, comments, or reserved words. A comment is any character string that begins with a $* and ends with an *$. Comments may begin in position 1. Comments may not contain an imbedded *$. Commands beginning in position 1 are assumed to be positional control records.

Parameter Set

All parameters are specified by means of keyword parameters. Keyword parameters usually have an associated value. A keyword is a *specific* character string. For example, in:

```
SELECT
        NAME (REPORT1)
```

NAME is a keyword that indicates that the value “REPORT1” is the name of a queue entry to be selected for processing. Value data is always enclosed in parentheses. A value may be a sub-list with entries that are separated by commas. Parentheses and commas are not permitted as value data.

Continuation is not permitted between a keyword and its associated value.

Command Continuation

Commands may be continued on several records. Each record except the last must have a hyphen as the last non-blank before or at the right margin. A hyphen indicates the continuation of a command. A keyword and its associated value must be contained in the same record. Command continuation is illustrated in the following example:

```
COPY GROUP*ID -
      WHEN COMPANY (005) REPORT*ID (TRIAL) -
      SEND COPIES (3)
```

Reserved Words

The following reserved words may be used for clarity in coding RMS commands but are treated as comments:

```
ADD         IF  (after INITIAL command is found)
EQ
EQUAL       END
IS
SEND
SET
THEN
TO
WHEN
```

Field Comparison/Replacement

Some of the RMS commands permit comparison and replacement at the character level. Specifying an asterisk (*) in a compared field causes the system to ignore that character position during comparison operations, i.e., treat as equal. When used in a replacement value field, the asterisk causes that position to retain its initial value.

Process Control Commands

This section provides reference information relating to all RM80004 process control commands. These commands are:

- **DEFINE*KEY** which is used to assign symbolic names, key element start locations and length attributes to distribution key elements.
- **RECOVER** which is used to select specific recipients and/or reports during the execution of RM80004.
- **RUN*OPTIONS** which activate trace, mapping, segment archiving, and other RM80004 options.

Notation Conventions

The notation convention used to describe the format of RM80004 commands is not part of the command structure. Rather, it serves only as a basis for describing the structure of the commands.

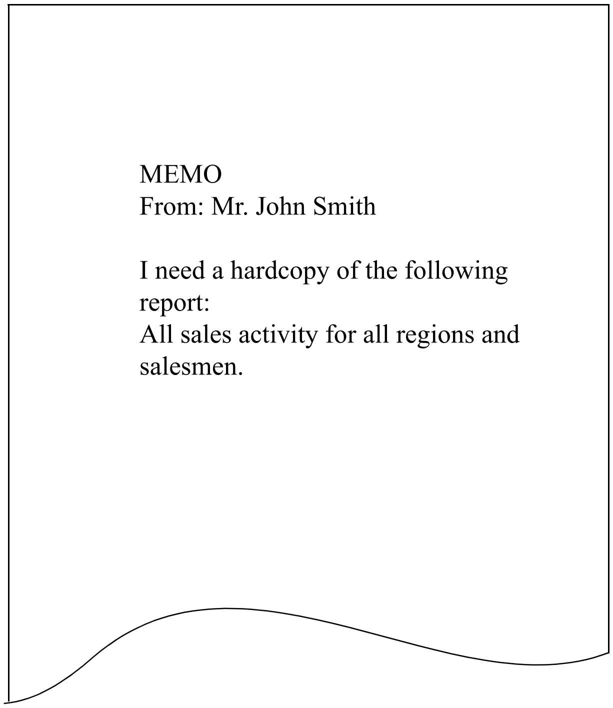
All command-format illustrations in this book adhere to the following conventions:

- Brackets [ ] indicate an optional parameter or sub-parameter.
- Braces { } indicate a choice of entry; if no default value is indicated, one of the entries must be chosen.
- Vertical Bar | is used to separate alternative items. Only one of the items may be selected.
- Other punctuation such as parentheses, commas, spaces, etc. *must* be entered as shown.
- **Bold** face indicates the exact characters to be entered. Upper case only.
- Lower case type in the format illustration specifies data to be supplied by the user.
- Underscored type indicates a default option. The underscored value is assumed if the parameter is omitted.

Distribution Definition With Keywords Tutorial

Begin Coding

Suppose you receive the following memo:



MEMO
From: Mr. John Smith

I need a hardcopy of the following report:
All sales activity for all regions and salesmen.

The following basic code will meet this requirement (*an explanation of each command is provided below)*. Note that any words shown in lower case letters are optional and are used only for clarity. The “-” at the end of a line indicates that the command continues on the next line.

```
DEFINE*KEY-
      KEY*ELEMENT1(REGION,1,2)-
      KEY*ELEMENT2(SALESMAN,3,9)
IDENTIFY*REPORT-
      IF NAME(SALES001)-
            THEN-
                  REPORT*ID(SALESACT)-
                  MANIFEST*TITLE(REGIONAL SALES REPORT)-
                  REGION(1,10)-
                  SALESMAN(8,2)
OUTPUT*CONTROL-
      CLASS(W)
CREATE*PACKET when REGION(01)-
      THEN NAME(SMITHACT)-
            MESSAGE*DATA(SEND TO MR. SMITH)
SELECT-
      NAME(SALES001)
```

Understanding Each Command

Now let’s look at the individual commands to see what they do.

Defining the Key Elements

The first command, and its parameters, is shown below:

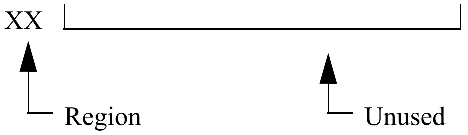
```
DEFINE*KEY-
      KEY*ELEMENT1(REGION,1,2)-
      KEY*ELEMENT2(SALESMAN,3,9)
```

When processing reports into packets, you need to define a method that governs how these reports are sorted. RMS/BASIC uses “keys” (*also called key elements*) to sort the reports. The DEFINE*KEY command sets up a key structure according to the parameters provided.

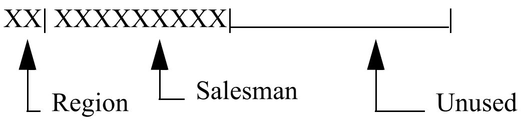
Since you were asked to send a report of all sales activity for all regions and salesmen, REGION and SALESMAN would be the logical key elements to build. Note here that for the one report going to one recipient, both elements are not necessary. However, other requests for parts of this report are anticipated. This also insures that the report is sorted first by region and then by salesman. Be sure to define **all anticipated** key elements at one time.

Right now you are simply telling the system how to build the key structure (*not where to find REGION and SALESMAN on the report*)

1. The code KEY*ELEMENT1(REGION,1,2) tells the system that the first key element is REGION and that it begins in the first position of the key structure (*which has a length of 30*) and is 2 characters long.
2. The key structure now looks like the following:



3. The code KEY*ELEMENT2(SALESMAN,3,9) specifies that the SALESMAN key begins in the third position and is 9 positions long.
4. The key structure now looks like the following:



Think of the DEFINE*KEY command as a record layout for the distribution key. It defines the name, order, and length of each element within the key. Values will be placed in this key structure by using the names of the elements assigned here.

Identifying the Report

The next step is to identify the desired reports from the dataset. This is done with the IDENTIFY*REPORT command, as shown below:

```
IDENTIFY*REPORT
      IF NAME(SALES001)-
            THEN-
                  REPORT*ID(SALESACT)-
                  MANIFEST*TITLE(REGIONAL SALES REPORT)-
                  REGION(1,10)-
```

```
SALESMAN(8,2)
```

Remember, all words shown in lowercase are optional and are used only for clarity.

1. The parameter NAME(SALES001) identifies the name of the dataset that contains the desired reports. This is the same name from which the dataset was taken from QXSPOOL. Since there are no other reports within the dataset, this is enough information to identify the Sales Report. If other reports were contained within the SALES001 dataset, you would need to further qualify the matching criteria by using the FORMAT*DATA1 and possibly the FORMAT*DATA2 parameters.
2. The parameter REPORT*ID(SALESACT) provides the system with a specific name to give to the report you are creating.
3. The parameter MANIFEST*TITLE (*REGIONAL SALES REPORT*) tells the system what to print on the manifest report.
4. At this point, RM80004 must know exactly where to find the keys for which you defined the structure with the DEFINE*KEY command. The following parameters serve this function:

```
REGION(1,10)
SALESMAN(8,2)
```

Controlling the Output

Most report management environments require that certain types of reports go to specific output classes. The OUTPUT*CONTROL command, as shown below, is used to specify the output class:

```
OUTPUT*CONTROL-
CLASS(W)
```

NOTE: This example uses Output Class W. However, if your regulations dictate a different output class, simply specify the desired class letter instead of “W”.

Creating the Packet to Contain the Report

The next step is to provide the system with the necessary information to create the packet that will contain the sales activity report. The CREATE*PACKET command (*and its parameters*) perform this function.

1. The first thing you need to tell the system is when to open (*or begin*) the packet. Once the packet is open it will remain open until another CREATE*PACKET command is matched with the sorted distribution key.

   Therefore, the code CREATE*PACKET when REGION(01) tells RM80004 to open a packet when it encounters REGION number 01 and remain open until another CREATE*PACKET is matched. There may only be one CREATE*PACKET (*as in this example*), which means that all reports will go into this packet.

2. Now that you have told the system when to open the packet, you need to give the packet a name:

```
CREATE*PACKET WHEN REGION(01)-
THEN NAME(SMITHACT)-
```

   This name will appear as large block letters on the beginning and ending separator pages.

3. The last bit of information you should provide is the routing instructions that will be printed on the separator page of the packet. The following code performs this function:

APPENDIX

Append_c.fm: Revised Sunday, November 24, 2013

```
MESSAGE*DATA(SEND TO MR. SMITH)
```

Selecting the Dataset

The last step to completing Mr. Smith's requirements is to specify the name of the dataset containing the reports to be routed to Mr. Smith. This is done with the SELECT command.

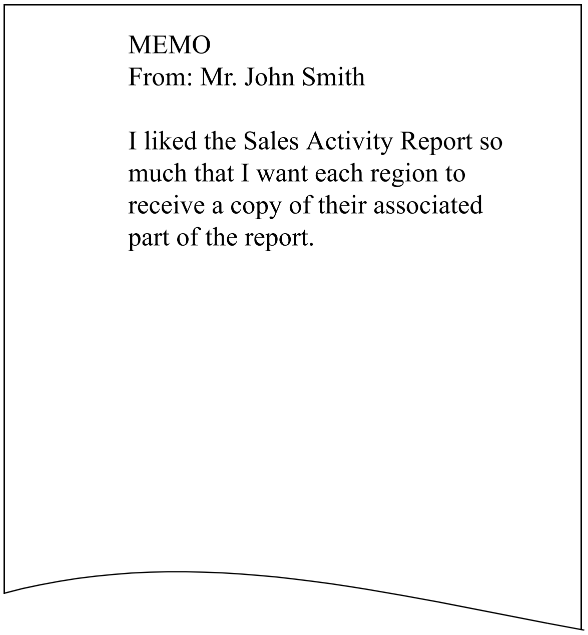
1. Within the SELECT command you must specify the name of the dataset:

```
SELECT-
      NAME(SALES001)
```

NOTE: You can select more than one dataset with the SELECT command. If this is the case, use the GNAME parameter instead of the NAME parameter. Refer to the RM80004 section of this manual for more information on the GNAME and other SELECT parameters.

Some New Requirements

Now suppose that you receive the following memo from Mr. Smith:



MEMO
From: Mr. John Smith

I liked the Sales Activity Report so much that I want each region to receive a copy of their associated part of the report.

As a reminder, you have written the instructions as shown below:

```
DEFINE*KEY-
      KEY*ELEMENT1(REGION,1,2)-
      KEY*ELEMENT2(SALESMAN,3,9)
IDENTIFY*REPORT-
      IF NAME(SALES001)-
            THEN-
                  REPORT*ID(SALESACT)-
                  MANIFEST*TITLE(REGIONAL SALES REPORT)-
                  REGION(1,10)-
                  SALESMAN(8,2)
OUTPUT*CONTROL-
```

```
      CLASS(W)
CREATE*PACKET WHEN REGION(01)-
                  THEN NAME(SMITHACT)-
                        MESSAGE*DATA(SEND TO MR. SMITH)
SELECT-
      NAME(SALES001)
```

The additions necessary to meet Mr. Smith's new requirements are shown below (*the additions are shown in bold*):

```
DEFINE*KEY-
      KEY*ELEMENT1(REGION,1,2)-
      KEY*ELEMENT2(SALESMAN,3,9)
IDENTIFY*REPORT-
      IF NAME(SALES001)-
      THEN-
            REPORT*ID(SALESACT)-
            MANIFEST*TITLE(REGIONAL SALES REPORT)-
            REGION(1,10)-
            SALESMAN(8,2)
OUTPUT*CONTROL-
      CLASS(W)
CREATE*PACKET WHEN REGION(01)-
      THEN NAME(SMITHACT)-
            MESSAGE*DATA(SEND TO MR. SMITH)
CREATE*PACKET WHEN REGION(ROLLOVER)-
      THEN NAME(REGION**,REGION)-
            MESSAGE*DATA(SEND TO REGION**)
      MANIFEST*DETAIL*BREAK(SALESMAN)
SELECT-
      NAME(SALES001)
```

The new code / new concepts.

1. Since we need to send it to every region, we need to be sure that the system knows to create a new packet when the region number changes (*each region only needs its own report*). Instead of including a CREATE*PACKET statement for each report, RM80004 offers a shortcut, as shown below:

```
CREATE*PACKET WHEN REGION(ROLLOVER)-
```

The word ROLLOVER tells the system that a new packet should be created every time the specified key (*in this case REGION*) changes.

2. Next you need to specify a name for each of these packets. To keep the naming conventions consistent, each packet will be named REGION03, REGION06, etc.

Once again, instead of including a NAME statement for each packet, you can use a shortcut:

```
CREATE*PACKET WHEN REGION(ROLLOVER)-
      THEN NAME(REGION**)-
```

The system will substitute the actual region number for the "**". This will allow the packets to be named as you want, REGION03, REGION06, etc.

3. Just as you specified on the title page of the packet for Mr. Smith, you can specify a message to be printed on the title pages of each of the packets you are now creating.

Once again, you can use the wildcard characters to tell the system to substitute the actual current value of the key:

```
MESSAGE*DATA(SEND TO REGION **)
```

4. RM80004 prints a separate report (*called a manifest report*) that lists all reports that were bundled in each packet. You have the option of telling the system to print a listing each time a specific key changes. In this case, you can tell the system to print a line on the manifest report each time the salesman number changes. This allows you to check to be sure which salesmen were included in the packet. The following code is used to perform this function:

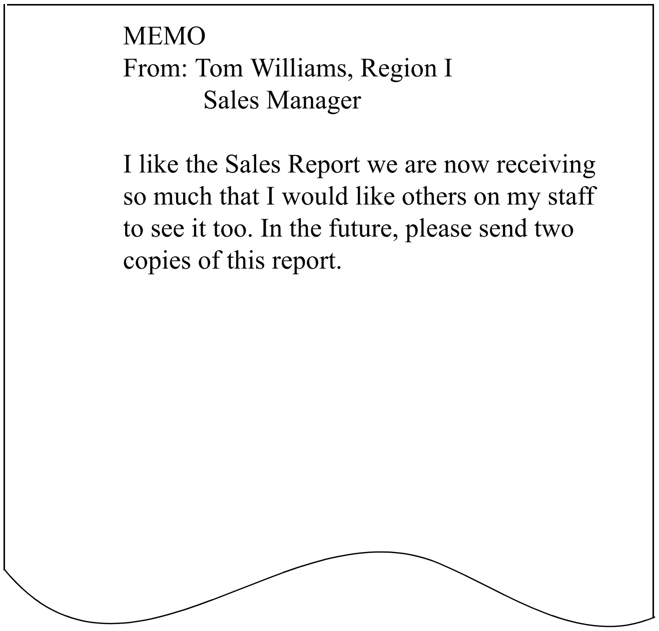
```
MANIFEST*DETAIL*BREAK(SALESMAN)
```

You have now completed all requirements of the first and second memos from Mr. Smith.

Sending Additional Copies

You have now completed the code to send Mr. Smith a copy of all sales activity for all of region 01. In addition, you are sending all other regions a copy of their own report.

Now you need to satisfy a new requirement, as shown in the memo below:



MEMO
From: Tom Williams, Region I
Sales Manager

I like the Sales Report we are now receiving so much that I would like others on my staff to see it too. In the future, please send two copies of this report.

Your current BASIC code looks like the following:

```
DEFINE*KEY-
      KEY*ELEMENT1(REGION,1,2)
      KEY*ELEMENT2(SALESMAN,3,9)
IDENTIFY*REPORT-
      IF NAME(SALES001)-
            THEN-
            REPORT*ID(SALESACT)-
            MANIFEST*TITLE(REGIONAL SALES REPORT)-
            REGION(1,10)-
            SALESMAN(8,2)
OUTPUT*CONTROL-
      CLASS(W)
CREATE*PACKET WHEN REGION(01)-
      THEN NAME(SMITHACT)-
            MESSAGE*DATA(SEND TO MR. SMITH)
CREATE*PACKET WHEN REGION(ROLLOVER)-
      THEN NAME(REGION **)-
            MESSAGE*DATA(SEND TO REGION **)
      MANIFEST*DETAIL*BREAK(SALESMAN)
SELECT-
      NAME(SALES001)
```

The new memo requires the following additional code (*new code is shown in bold*):

```
DEFINE*KEY-
      KEY*ELEMENT1(REGION,1,2)-
      KEY*ELEMENT2(SALESMAN,3,9)

COPY-
      GROUP*ID(C1)-
      WHEN REPORT*ID(SALESACT) and-
            REGION(01)-
            THEN COPIES(2)

IDENTIFY*REPORT-
      IF NAME(SALES001)-
      THEN-
            REPORT*ID(SALESACT)-
            MANIFEST*TITLE(REGIONAL SALES REPORT)-
            REGION(1,10)-
            SALESMAN(8,2)-
            COPY*GROUP(C1)
OUTPUT*CONTROL-
      CLASS(W)
CREATE*PACKET WHEN REGION(01)-
      THEN NAME(SMITHACT)-
            MESSAGE*DATA(SEND TO MR. SMITH)
CREATE*PACKET WHEN REGION(ROLLOVER)-
      THEN NAME(REGION **)-
            MESSAGE*DATA(SEND TO REGION **)
      MANIFEST*DETAIL*BREAK(SALESMAN)
SELECT-
      NAME(SALES001)
```

1. Since Mr. Williams is from region 01, you know that you must now send 2 copies of the region 01 activity report. The default number of copies of each report is 1. (*you can change the default, if desired*). Since Mr. Williams' request introduces an exception to the normal one copy everyone else gets, the COPY command is used to accommodate his request.
2. The first parameter "GROUP*ID(C1)" is linked to the IDENTIFY*REPORT statement(s) that will use this group (*in our example, only one is required*). If other regions required exceptions to the one copy, they could also be placed in this table. Since the group id (C1) has been assigned, you must specify the command COPY*GROUP(C1) in the IDENTIFY*REPORT command, as shown above.
3. The next parameter of the COPY command should tell the system the name of the report (*as named in the IDENTIFY*REPORT command*) you want to vary from the default:

```
COPY-
      GROUP*ID(C1)-
      WHEN REPORT*ID(SALESACT) AND-
```

4. Next you must tell the system precisely which key element value(s) to which you want this exception to apply:

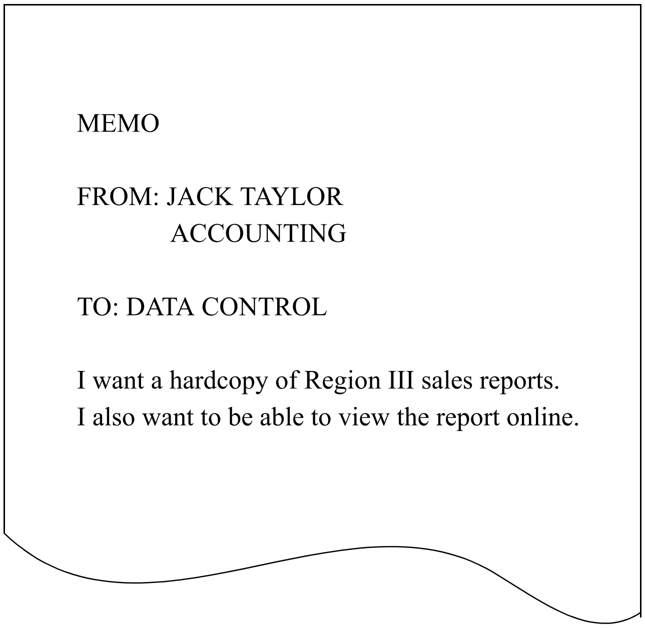
```
COPY-
      GROUP*ID(C1)-
      WHEN REPORT*ID(SALESACT) AND-
            REGION(01)-
```

5. Finally, you must specify the number of copies you want to send of the report:

```
COPY-
      GROUP*ID(C1)-
      WHEN REPORT*ID(SALESACT) AND-
            REGION(01)-
      THEN COPIES(2)
```

Another Memo

You have now created the code to send two copies of region 01's sales activity report to Mr. Smith and individual regional reports to their respective regions. Now suppose you receive the following memo:



MEMO

FROM: JACK TAYLOR
ACCOUNTING

TO: DATA CONTROL

I want a hardcopy of Region III sales reports.
I also want to be able to view the report online.

The current code is shown below:

```
DEFINE*KEY-
      KEY*ELEMENT1(REGION,1,2)-
      KEY*ELEMENT2(SALESMAN,3,9)
COPY-
      GROUP*ID(C1)-
      WHEN REPORT*ID(SALESACT) AND-
            REGION(01)-
      THEN COPIES(2)
IDENTIFY*REPORT-
      IF NAME(SALES001)-
            THEN-
REPORT*ID(SALESACT)-
            MANIFEST*TITLE(REGIONAL SALES REPORT)-
            REGION(1,10)-
            SALESMAN(8,2)-
            COPY*GROUP(C1)
OUTPUT*CONTROL-
      CLASS(W)
CREATE*PACKET WHEN REGION(01)-
      THEN NAME(SMITHACT)-
            MESSAGE*DATA(SEND TO MR. SMITH)
CREATE*PACKET WHEN REGION(ROLLOVER)-
      THEN NAME(REGION **)-
            MESSAGE*DATA(SEND TO REGION **)
      MANIFEST*DETAIL*BREAK(SALESMAN)
SELECT-
      NAME(SALES001)
```

The new code with new requirements shown in bold type:

```
RUN*OPTIONS-
      SOFTCOPY-
      ACCESS GROUP(SALES)
DEFINE*KEY-
      KEY*ELEMENT1(REGION,1,2)-
      KEY*ELEMENT2(SALESMAN,3,9)
BROADCAST-
      GROUP*ID(B1)-
      WHEN REPORT*ID(SALESACT) AND REGION(03)-
      THEN *REGION(AC)
BROADCAST-
      GROUP*ID(B1)
      WHEN REPORT*ID(SALESACT) AND REGION(03)-
      THEN *REGION(AC)-
      *MEDIA*CATEGORY(SOFTCOPY)
COPY-
      GROUP*ID(C1)-
      WHEN REPORT*ID(SALESACT) AND-
            REGION(01)-
      THEN COPIES(2)
IDENTIFY*REPORT-
      IF NAME(SALES001)-
      THEN-
            REPORT*ID(SALESACT)-
            MANIFEST*TITLE(REGIONAL SALES REPORT)-
            REGION(1,10)-
            SALESMAN(8,2)-
            COPY*GROUP(C1)-
            BROADCAST*GROUP(B1)
OUTPUT*CONTROL-
      CLASS(W)
CREATE*PACKET when REGION(01)-
      THEN NAME(SMITHACT)-
            MESSAGE*DATA(SEND TO MR. SMITH)
CREATE*PACKET WHEN REGION(ROLLOVER)-
      THEN NAME(REGION **)-
            MESSAGE*DATA(SEND TO REGION **)
      MANIFEST*DETAIL*BREAK(SALESMAN)
CREATE*PACKET-
      WHEN REGION(AC) AND MEDIA*CATEGORY(HARDCOPY)-
      THEN NAME(ACCTING)-
      MESSAGE*DATA(SEND TO JACK TAYLOR)
OUTPUT*CONTROL-
      MEDIA*CATEGORY(SOFTCOPY)
CREATE*PACKET-
      WHEN REGION(AC) AND MEDIA*CATEGORY(SOFTCOPY)-
      THEN NAME(ACCTING)-
      LOCATION*NAME(ACCOUNTING)
SELECT-
      NAME(SALES001)
```

1. The first command is the RUN*OPTIONS command. Use the RUN*OPTIONS parameter SOFTCOPY to tell the system that RM80004 is to open the necessary files to send a report to the SOFTCOPY program. The ACCESS*GROUP parameter is used to specify a group name for files going to SOFTCOPY. The RUN*OPTIONS code would look like the following:

```
      RUN*OPTIONS-
            SOFTCOPY-
            ACCESS GROUP(SALES)
```

2. Next, you must use BROADCAST to specify the conditions to place the value “AC” (*representing Accounting*) into the REGION key element. Specify a BROADCAST statement for the hardcopy and one for the softcopy, as shown below. Note that the command BROADCAST*GROUP(B1) must also be added to the IDENTIFY*REPORT command.

```
      BROADCAST-
            GROUP*ID(B1)-
            WHEN REPORT*ID(SALESACT) AND REGION(03)-
            THEN *REGION(AC)

      BROADCAST-
            GROUP*ID(B1)
            WHEN REPORT*ID(SALESACT) AND REGION(03)-
            THEN *REGION(AC)-
            *MEDIA*CATEGORY(SOFTCOPY)
```

3. Now you must specify a CREATE*PACKET for the hardcopy and softcopy. Note that the OUTPUT*CONTROL command is used between the CREATE*PACKET commands to change the MEDIA*CATEGORY to SOFTCOPY.

```
CREATE*PACKET-
WHEN REGION(AC) AND MEDIA*CATEGORY(HARDCOPY)-
THEN NAME(ACCTING)-
      MESSAGE*DATA(SEND TO JACK TAYLOR)

OUTPUT*CONTROL-
      MEDIA*CATEGORY(SOFTCOPY)

CREATE*PACKET-
WHEN REGION(AC) AND MEDIA*CATEGORY(SOFTCOPY)-
THEN NAME(ACCTING)-
      LOCATION*NAME(ACCOUNTING)
```

That completes the code necessary to send a hardcopy and softcopy of region 3's sales report to Jack Taylor in Accounting.

Other Considerations

There may be instances when reports are added to the dataset and are not accounted for with the currently defined IDENFITY*REPORT and CREATE*PACKET statements.

This means that these reports are bundled with the packet processed immediately preceding the added report(s). Since this is not the desired outcome, default custom report definition and packaging should be defined to process these added report(s).

The way to identify these reports is to build a unique key that identifies them as being defaults.

Add the following IDENTIFY*REPORT statement:

```
IDENTIFY*REPORT-
      WHEN GNAME(*) AND REPORT*ID(DEFAULT)
      THEN MANIFEST*TITLE(UNKNOWN.SEND TO SUPERVISOR)
            REGION(CONSTANT,99)-
            SALESMAN(CONSTANT,999)
```

NOTE: The "*" specified in the GNAME keyword tells the system to accept a dataset with any name. In other words, if the dataset has not matched any other IDENTIFY*REPORT statements, you want it to be processed by this IDENTIFY*REPORT.

The REPORT*ID "DEFAULT" (*it can also be DEFAULT#, where # may be 1 through 9*) will always be placed last for comparison with report pages.

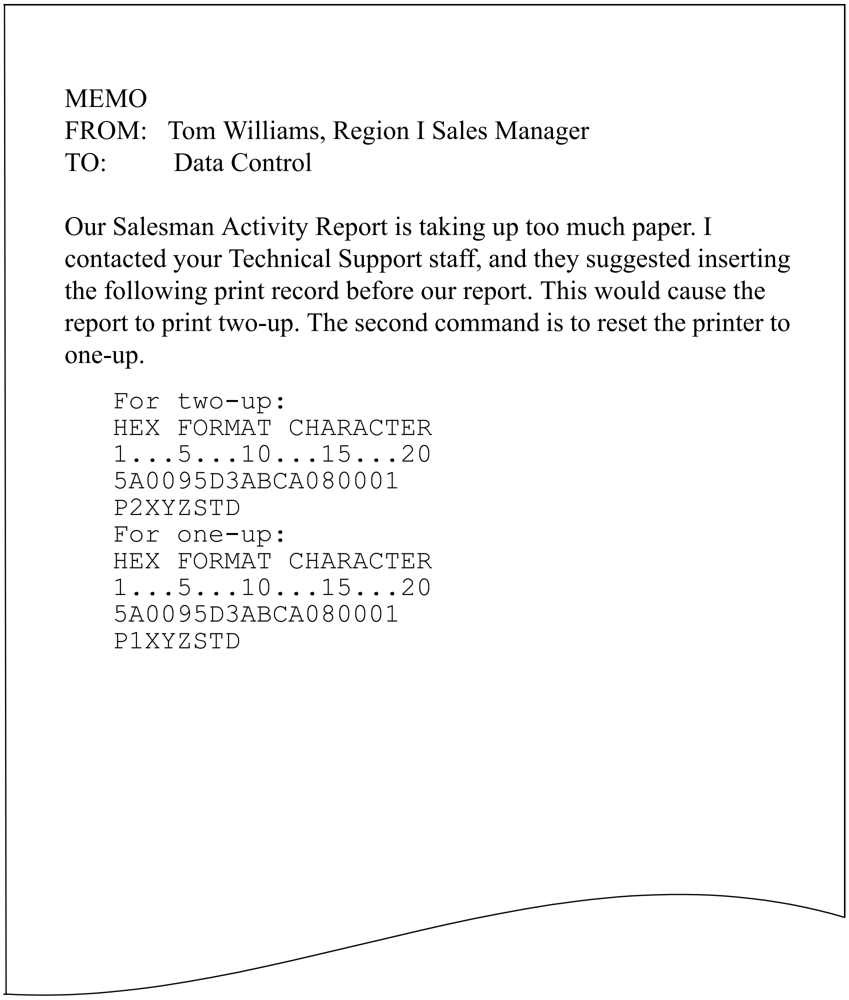
The keys "99" and "999" are arbitrary values. You can use any value that is easily recognizable as the default.

Add the following CREATE*PACKET to contain default report(s):

```
CREATE*PACKET-
      WHEN REGION(99) AND SALESMAN(999)-
      THEN NAME(DEFAULTS)-
            MESSAGE*DATA(UNKNOWN. SEND TO SUPERVISOR)-
```

Inserting Data

Suppose you receive another memo, as shown below:



MEMO
FROM: Tom Williams, Region I Sales Manager
TO: Data Control

Our Salesman Activity Report is taking up too much paper. I contacted your Technical Support staff, and they suggested inserting the following print record before our report. This would cause the report to print two-up. The second command is to reset the printer to one-up.

```
For two-up:
HEX FORMAT CHARACTER
1...5...10...15...20
5A0095D3ABCA080001
P2XYZSTD
For one-up:
HEX FORMAT CHARACTER
1...5...10...15...20
5A0095D3ABCA080001
P1XYZSTD
```

NOTE: The above examples are for illustrative purposes only. Be sure to use your own printer controls for your applications.

You must complete an INSERT*DATA*STREAM command for each of the above formats, as shown below:

```
INSERT*DATA*STREAM-
      WHEN SEGMENT*NAME(REGION01)-
      THEN BEFORE*REPORT*ID(SALESACT)-
            INSERT*HEX*DATA(1,1,5A0095D3ABCA080001)-
            INSERT*DATA(1,10,P2XYZSTD)

INSERT*DATA*STREAM-
      WHEN SEGMENT*NAME(REGION01)
      THEN AFTER*REPORT*ID(SALESACT)-
            INSERT*HEX*DATA(1,1,5A0095D3ABC080001)-
            INSERT*DATA(1,10,P1XYZSTD)
```

Each INSERT*DATA command tells the system into which report (*SEGMENT*NAME*) the data should be inserted. It also specifies where to insert the report (*BEFORE*REPORT*ID and AFTER*REPORT*ID*) and exactly what data to insert (*INSERT*HEX*DATA and INSERT*DATA*). The INSERT*HEX*DATA is used to insert hexadecimal data and the INSERT*DATA is used to insert character data.

Distribution Instruction Sets Examples

```
$*--------------------------------------------------------------*$
$* EXAMPLE 001*$
$*    *$
$* DESCRIPTION: THIS DEMONSTRATES AN INSTRUCTION SET THAT*$
$*                 PROCESSES ONE PRINT FILE AND PLACES*$
$*                     ALL REPORTS IN ONE PACKET.*$
$*                                                                *$
$*----------------------- BEGIN COMMANDS -----------------------*$
 RUN*OPTIONS -
      KEY*TRACE
$*--------------------------------------------------------------*$
 DEFINE*KEY -
      KEY*ELEMENT1 (CLIENT,1,3)
$*--------------------------------------------------------------*$
 IDENTIFY*REPORT -
      WHEN NAME (INR01) -
      THEN REPORT*ID (REPORT01) -
           MANIFEST*TITLE (INVENTORY REPORT NO. 001)
           CLIENT IS (CONSTANT,001)
$*--------------------------------------------------------------*$
   OUTPUT*CONTROL -
      CLASS (A)
$*--------------------------------------------------------------*$
   CREATE*PACKET -
       WHEN CLIENT IS (001) -
       THEN NAME (CL001) -
           MESSAGE*DATA (CLIENT 001 INVENTORY REPORTS)
$*--------------------------------------------------------------*$
   SELECT NAME (INR01)
$*-----------------------END COMMANDS ----------------------*$
$*--------------------------------------------------------------*$
$* EXAMPLE 002*$
$*    *$
$* DESCRIPTION: THIS DEMONSTRATES AN INSTRUCTION SET THAT*$
$*              PROCESSES ONE PRINT FILE AND PLACES ALL*$
$*    REPORTS IN ONE HARDCOPY PACKET AND ALSO*$
$*    PLACES A COPY IN A SOFTCOPY LOCATION.*$
$*           *$
$*                  *$
$*        *$
$*----------------------- BEGIN COMMANDS *$
   RUN*OPTIONS -
       KEY*TRACE
      SOFTCOPY -
      ACCESS*GROUP (IVSYSTEM)
$*--------------------------------------------------------------*$
   DEFINE*KEY -
       KEY*ELEMENT1 (CLIENT,1,3)
$*--------------------------------------------------------------*$
   BROADCAST -
      GROUP*ID (B1) -
      WHEN MEDIA*CATEGORY (HARDCOPY) -
            *MEDIA*CATEGORY (SOFTCOPY) -
            COPIES (1)
$*--------------------------------------------------------------*$
      IDENTIFY*REPORT -
       WHEN NAME (INR01) -
       THEN REPORT*ID (REPORT01) -
      BROADCAST*GROUP (B1) -
      MANIFEST*TITLE (INVENTORY REPORT NO. 001) -
      CLIENT IS (CONSTANT, 001) -
$*--------------------------------------------------------------*$
      OUTPUT*CONTROL -
       MEDIA*CATEGORY (SOFTCOPY) -
      CLASS (H)
$*--------------------------------------------------------------*$
   CREATE*PACKET -
            WHEN CLIENT IS (001) -
                  MEDIA*CATEGORY (SOFTCOPY) -
            THEN NAME (CL001) -
                  LOCATION*NAME (DENVER) -
                  MESSAGE*DATA (CLIENT 001 INVENTORY REPORTS)
$*--------------------------------------------------------------*$
   OUTPUT*CONTROL -
       MEDIA*CATEGORY (HARDCOPY) -
      CLASS (A)
$*--------------------------------------------------------------*$
   CREATE*PACKET -
         WHEN CLIENT IS (001) -
                  THEN NAME (CL001) -
                  MESSAGE*DATA (CLIENT 001 INVENTORY REPORTS)
```

```
$*--------------------------------------------------------------*$
      SELECT NAME (INR01)
$*------------------------ END COMMANDS*$

$*--------------------------------------------------------------*$
$* EXAMPLE 003*$
$*    *$
$* DESCRIPTION: THIS DEMONSTRATES AN INSTRUCTION SET THAT*$
$*                 PROCESSES ONE PRINT FILE WITH MULTIPLE*$
$*                 AND USES AUTOPACKAGING(ROLLOVER)*$
$*                 TO AUTOMATICALLY BUILD PACKETS FOR*$
$*                 ALL END POINTS.*$
$*----------------------- BEGIN COMMANDS *$
   RUN*OPTIONS -
       KEY*TRACE
$*--------------------------------------------------------------*$
   DEFINE*KEY -
       KEY*ELEMENT1 (DEPT,1,4)
$*--------------------------------------------------------------*$
   IDENTIFY*REPORT -
       WHEN NAME (INR01) -
            FORMAT*DATA1 IS (1,50,EDIT REPORT) -
       THEN REPORT*ID (EDITRPT) -
            MANIFEST*TITLE (INVENTORY DAILY EDIT) -
            DEPT IS (2,5)
$*---------------------------------------------------------------$
   IDENTIFY*REPORT -
       WHEN NAME (INR01) -
            FORMAT*DATA1 IS (2,35,JOURNAL) -
       THEN REPORT*ID (JOURNAL) -
            MANIFEST*TITLE (DAILY PARTS JOURNAL) -
            DEPT IS (4,13)
$*--------------------------------------------------------------*$
   OUTPUT*CONTROL -
       CLASS (A)
$*--------------------------------------------------------------*$
   CREATE*PACKET -
       WHEN DEPT IS (ROLLOVER) -
       THEN NAME (DEPT****,DEPT) -
            MESSAGE*DATA (ROUTE TO DEPARTMENT ****)
$*--------------------------------------------------------------*$
   SELECT NAME (INR01)
$*------------------------ END COMMANDS*$

$*--------------------------------------------------------------*$
$* EXAMPLE 004 *$
$*    *$
$* DESCRIPTION: THIS DEMONSTRATES AN INSTRUCTION SET THAT *$
$*                 PROCESSES TWO PRINT FILES WITH MULTIPLE*S
$*                 REPORTS AND USES MULTIPLE ELEMENTS *$
$*                 (OR RECIPIENT FIELDS)TO DETERMINE*$
$*                 THE ORDER WITHIN THE PACKETS.*$
$*                 THE REPORTS ARE PRODUCED WITH*$
$*                 OFFICER NUMBER ON THE REPORT PAGE.*$
$*    *$
$*                 THE OFFICER NUMBER TELLS US WHICH*$
$*                 BRANCH NUMBER TO SEND THE REPORTS.*$
$*          *$
$*    *$
$*          THE REQUIRED ORDER AND PACKAGING IS BY BRANCH*$
$*          SO WE WILL TRANSLATE THE OFFICER NUMBER TO A *$
$*          BRANCH NUMBER. *$
$*    *$
$*----------------------- BEGIN COMMANDS *$
   RUN*OPTIONS -
       KEY*TRACE
$*---------------------------------------------------------------*$
   DEFINE*KEY -
       KEY*ELEMENT1 (BRANCH,1,3) -
       KEY*ELEMENT2 (OFFICER,4,3)
                          $*--------------------------------*$
                          $* THE REPORTS IN THE PACKET WILL *S
                          $* BE SORTED BY BRANCH AND THEN*$
                          $* WITHIN THE PACKET THE REPORTS*$
                          $* WILL BE IN ORDER BY OFFICER.*$
                          $--------------------------------*$
$*---------------------------------------------------------------*$
   TRANSLATE -
       GROUP*ID (T1) -
       WHEN OFFICER (001) -
       THEN *BRANCH (015)
   TRANSLATE -
       GROUP*ID (T1) -
       WHEN OFFICER (002) -
       THEN *BRANCH (009)
   TRANSLATE -
       GROUP*ID (T1) -
       WHEN OFFICER (003) -
       THEN *BRANCH (004)
   TRANSLATE -
       GROUP*ID (T1) -
       WHEN OFFICER (004) -
       THEN *BRANCH (015)
                           $*-------------------------------*$
                           $* ANY NUMBER OF TRANSLATES FOR*$
                           $* ANY NUMBER OF OFFICERS *$
                           $*-------------------------------*$
$*-------------------------------------------------------------*$
   IDENTIFY*REPORT -
       WHEN NAME (CC001) -
            FORMAT*DATA1 IS (2,62,PAYMENT EDIT) -
   THEN REPORT*ID (EDIT) -
            MANIFEST*TITLE (DAILY PAYMENT EDIT REPORT) -
            OFFICER (6,32) -
            TRANSLATE*GROUP (T1)$**$
$*    *$

$*    *$
IDENTIFY*REPORT -
       WHEN NAME (CC001) -
            FORMAT*DATA1 IS (2,63,POSTING JOURNAL) -
       THEN REPORT*ID (POSTING) -
            MANIFEST*TITLE (DAILY POSTING JOURNAL) -
            OFFICER (5,15) -
```

```
               TRANSLATE*GROUP (T1)
$*    *$
   IDENTIFY*REPORT -
       WHEN NAME (CC002) -
            FORMAT*DATA1 IS (1,55,LOAN BALANCE) -
       THEN REPORT*ID (BALANCE) -
            MANIFEST*TITLE (CONSUMER LOANS BALANCES) -
            OFFICER (5,15) -
            TRANSLATE*GROUP (T1)
                            $**$
                            $* NOTICE ALL IR COMMANDS *$
                            $* USE THE SAME TRANSLATE TABLE*$
                            $**$
$*    *$
   OUTPUT*CONTROL -
       CLASS (A)
$*    *$
   CREATE*PACKET -
       WHEN BRANCH IS (ROLLOVER) -
       THEN NAME (BRCH***,BRANCH) -
            MESSAGE*DATA (ROUTE TO BRANCH ***)
$*    *$
   SELECT NAME (CC001)
   SELECT NAME (CC002)
$*----------------------- END COMMANDS*$
```

Keyword Command Summary

DEFINE*KEY

The format of the DEFINE*KEY command is:

```
DEFINE*KEY  [KEYNAME (distribution key name)]
DK          [KEY*ELEMENT1 (element name,start Position,length)]
            [KEY*ELEMENT2 (element name,start position,length)]
            .
            .
            .
            [KEY*ELEMENT9(element name,start position,length)]
```

*DEFINE*KEY Command Summary*

The DEFINE*KEY command is a required command that is used to designate name, start location, and length attributes of each key element. Through the use of the DEFINE*KEY command, meaningful names may be assigned to the key elements that will be used to form the total distribution key. Key element definition is subject to the following requirements:

- name - key element names may be from 1 to 19 characters in length. The characters [(,), $*, *s,] may not appear in an element name. Element names must not duplicate any RM80004 command or parameter keywords. Note that two names are created by the designation of a symbolic element name. The designated name is used in subsequent RM80004 commands for the specification of comparison values. **The same name with an asterisk (*) prefix may be used for the specification of replacement values.**
- start position - refers to the location within the 30 character distribution key that this particular element begins. Acceptable start locations are 01-30. Key elements may not overlap.
- length - is the length of a key element. The maximum length of a key element is (*30 - start position*) + 1.

*DEFINE*KEY PARAMETERS*

Optional Parameters

KEYNAME (distribution key name)
is an optional parameter which assigns a symbolic name to the entire distribution key. The length and start location for this distribution key is automatically set at 1 and 30 respectively.

KEY*ELEMENTn (element name,start position,length)
KEY*ELEMENTn
(where n is a value of 1 to 9). is an optional parameter that permits the assignment of an element name, start location and length to a key element.
Alternate Keyword(s): KEn(*where n is a value of 1 to 9*)

EXAMPLE: DEFINE* KEY

The following command defines a distribution key consisting of key MEDIA, REGION and COMPANY. The entire key will be referred to as DISTKEY.

```
DEFINE*KEY -
    KEYNAME (DISTKEY) -
    KEY*ELEMENT1 (MEDIA,1,1) -
    KEY*ELEMENT2 (REGION,2,2) -
```

KEY*ELEMENT3 (COMPANY,4,3)

Note that the symbolic names DISTKEY, MEDIA, REGION and COMPANY may now be used in subsequent RM80004 commands. Two symbolic names are created by each KEY*ELEMENTn parameter of this command.

One group of names is used to reference input or comparison elements of the key data. The other group is formed by giving the group 1 names an asterisk prefix. This second group of names is used to specify output or replacement elements of the distribution key. The following table indicates the names and attributes resulting from the preceding DEFINE*KEY command.

ELEMENT NAME	START LOCATION	LENGTH
Group 1		
DISTKEY (Default)	01 (Default)	30
MEDIA	01	01
REGION	02	02
COMPANY	04	03
Group 2		
*DISTKEY	01	30
*MEDIA	01	01
*REGION	02	02
*COMPANY	04	03

RECOVER

The format of the RECOVER command is:

```
RECOVER
RC          [element name (comparison value).....]
                          [LOCATION*ID (comparison value)]
                          [MEDIA*CATEGORY (comparison value)]
                          [REPORT*ID (report identifier)]
```

RECOVER Command Summary

The RECOVER command is used to select specific recipients and/or specific reports during the execution of RM80004.

RECOVER PARAMETERS

Required Parameters

NONE

Optional Parameters

element name (comparison value).....	is an optional parameter that establishes comparison values determine if the RECOVER operation should take place. element name is the name of the key element established by the DEFINE*KEY command. Multiple element names and comparison values may be specified.
LOCATION*ID (comparison value)	is an optional parameter that establishes a specific location for which the RECOVER operation should take place. **Alternate Keyword(s):** LOCI
MEDIA*CATEGORY (comparison value)	is an optional parameter that establishes a specific category of

output for which the RECOVER operation should take place. See IDENTIFY*REPORT for valid values that may be specified.

Alternate Keyword(s): MCAT

REPORT*ID (report identifier) is an optional parameter that provides an additional level of qualification in establishing reports that are to be included. REPORT*ID is the name for the report established in the IDENTIFY*REPORT.

Alternate Keyword(s): RID

RUN*OPTIONS

The format of the RUN*OPTIONS command is:

```
RUN*OPTIONS
RUNOPT[ACCESS*GROUP (access group name)]
    [ARCHIVE]
    [COMMAND*BUFFER*SPACE (nnnnnnn | 80000)]
    [INPUT*PROCESS*CODE (comparison value, operation code| EQ)]
    [KEY*TRACE]
    [LINE*COUNT (lines per page | 50)]
    [MAP]
    [MAP*LINE*COLUMN (column number | 2)]
    [MAXIMUM*MAP*LINES (lines to map | 20)]
    [MAXIMUM*MAP*PAGES (pages to map | 99999999)]
    [MEDIA*CATEGORY (HARDCOPY, TAPE, MICROFICHE, DASD,
    REMOTE, NETWORK, SOFTCOPY | priority 1,......., priority 7)]
    [MEDIA*TRACKING]
    [MESSAGE*DATA*LINES (message lines | 10)]
    [OUTPUT*PROCESS*CODE (character string | GENERATE)]
    [PASSWORD (character string)]
    [SEGMENT*PAGE*LIMIT (page output limit | 99999999)]
    [SHORT*MANIFEST]
    [SOFTCOPY]
    [USER*ID (character string)]
```

*RUN*OPTIONS Command Summary*

The RUN*OPTIONS command is used to set various RM80004 execution options. The majority of the options are for use during the development of distribution command sets.

*RUN*OPTIONS PARAMETERS*

Required Parameters

None.

Optional Parameters

ACCESS*GROUP (access group name) is an optional parameter used to specify the access group qualifier for viewable (*SOFTCOPY)* *a*nd tracked (*see MEDIA*TRACKING*) reports.

ARCHIVE is an optional parameter that causes RM80004 to create a file containing all segments created during the RM80004 execution. The archive file is suitable as input to RMS/ARC and allows recovery of lost reports or entire segments without reloading the source report data. This parameter is ignored if "MAP" is also specified.

COMMAND*BUFFER*SPACE (nnnnnnn | 80000)is an optional parameter used to request space for the system parameters. Use 100 as the average command length in determining the storage required. The default is 80,000.

Alternate Keyword(s): CBS

INPUT*PROCESS*CODE (comparison code | EQ)is an optional parameter used to restrict RMS execution to a group of previously processed queue datasets. The string specified as the comparison value operand can be from 1 to 11 positions. It is compared to the process code value contained in each QDS entry selected during the RMS execution. A match condition is determined using the operation code operand. The possible operation codes are:
EQ-equal to (*default*)
GE-greater than or equal to
GT-greater than
LE-less than or equal to
LT-less than
NE-not equal

The use of the masked comparison character "*" in any comparison value position causes that position to be ignored in the comparison operation. This would allow the selection of groups of process codes, i.e.,

INPUT*PROCESS*CODE (A********,NE)**would cause the selection of all processed QDS entries other than those having an "A" in their first position.

Alternate Keyword(s): IPC

NOTE: Once a QDS has been assigned a process code it can only be selected using the INPUT*PROCESS*CODE or PROCESS*CODE operands on either the RUN*OPTIONS or SELECT commands, respectively.

The OUTPUT*PROCESS*CODE operand can be used to change an existing process code.

An INPUT*PROCESS*CODE of all "*" with an operation code of EQ will result in all process QDS entries being processed.

KEY*TRACE is an optional parameter that causes each distribution key developed to be printed on the execution summary report.

Alternate Keyword(s): KT

LINE*COUNT (lines per page | 50) is an optional parameter that is used to set the maximum line count for the RM80004 system report. Acceptable line count values are 20 through 66, default is 50.

Alternate Keyword(s): LC

MAP is an optional parameter that causes all queue datasets processed to be mapped. Mapping reproduces the first n lines (*see MAXIMUM*MAP*LINES*) of each page with the line number printed in the position you designate (*see MAP*LINE*COLUMN*).

MAP*LINE*COLUMN (column number | 2) is an optional parameter that is used to indicate the line number column print location for mapped output. The default is column 2. The maximum value that may be specified is 204.

Alternate Keyword(s): MLC

MAXIMUM*MAP*LINES (lines to map | 20) is an optional parameter used to set the number of lines on each physical report page that will be mapped. The default is 20. Many applications require that only the first 5 lines be mapped.

Alternate Keyword(s): MML

MAXIMUM*MAP*PAGES (pages to map | 99999999)is an optional parameter used to limit the number of pages mapped for each queue dataset.

Alternate Keyword(s): MMP

MEDIA*CATEGORY (HARDCOPY, TAPE, MICROFICHE, DASD, REMOTE, NETWORK, SOFTCOPY | priority 1, priority 2......., priority 7)This optional parameter allows you to designate the output priority of the logical output media group. (*See IDENTIFY*REPORT for an explanation of MEDIA*CATEGORY*).

Alternate Keywordd(s): MCAT

MEDIA*TRACKING is an optional parameter used to request that report tracking information be added to QXRCDS. If this option is specified, you must include a DD statement for QXARCHO in your execution JOB control.

MESSAGE*DATA*LINES (message*lines | 10)is an optional parameter used to control the number of message lines printed on the start and end separator pages for each packet. The value may range from 00 to 25. The default is 10.

OUTPUT*PROCESS*CODE (character string | GENERATE)is an optional parameter used to provide a value that is to indicate the selected queue datasets have been processed. Upon successful completion of the RMS execution, each selected QDS is updated with the specified value. Of the two possible values, character string is a user supplied value from 1 to 11 characters in length. A value of GENERATE indicates the RMS software is to automatically assign a value. This assigned value will be in the form of:

```
YYDDHHMMSS
```

Alternate Keyword(s): OPC

NOTE: Once an entry has been assigned a process code, it can only be re-processed by selecting its specific process code value via the INPUT*PROCESS*CODE or the PROCESS*CODE operands on either the RUN*OPTIONS or SELECT commands, respectively. OUTPUT*PROCESS*CODE is not valid for an RMS Recover Request.

PASSWORD(character string)	is an optional parameter used to provide a password for the user written security exit. This value is from one to eight characters in length and user supplied.
SEGMENT*PAGE*LIMIT(page output limit | 99999999)	is an optional parameter used to limit the total output for each copy of each report in a packet to the value specified for page output limit. The minimum is 1. The maximum and the default is 99,999,999 pages. **Alternate Keyword(s): SPL**
SHORT*MANIFEST	is an optional parameter that indicates that the abbreviated form of the packet manifest will be created. The short manifest does not include information about the JES job that created the source data. **Alternate Keyword(s): SM**
SOFTCOPY	is an optional parameter used to indicate that RM80004 is to place report tracking index information in QXRCDS, and SOFTCOPY reports in QXRQDS. Specification of this option forces the 'ARCHIVE' option to be activated. Use of this parameter forces the ARCHIVE option to be activated. Your RM80004 JCL must include DD statements for QXRCDS, QXRQDS, QXCNTRL and QXARCHO if this option is used.

NOTE: This is a required parameter for producing output for NETWORK media for download to RMS/DESKTOP.

USER*ID (character string)	is an optional parameter used by a user written security exit to identify the user attempting the RMS execution. It can be from 1 to 8 characters in length and is user defined.

Input Process Commands

This section provides reference information relating to all RM80004 input process commands. These commands are:

- **BROADCAST** which permits copies of a report to be sent to additional distribution recipients.
- **COPY**which is used to vary the number of copies each recipient in the distribution network will receive.
- **FORM*CONTROL*BUFFER** which identifies the channel control characteristics of processed queue datasets.
- **IDENTIFY*REPORT** which identifies the logical reports to be processed by the system.
- **SELECT** which controls which datasets will be processed.
- **TRANSLATE** which permits one key value to be substituted for another.

"Notation Conventions" in "About This Book" describes the command documentation notation.

BROADCAST

The format of the BROADCAST command is:

BROADCAST
BC **[**element name (comparison value)....**]**
{*element name (replacement value)....}
{**COPIES** (number of copies | 1)}
[GROUP*ID (group identifier | 1)**]**
[LOCATION*ID (comparison value)**]**
[*LOCATION*ID (replacement value)**]**
[MEDIA*CATEGORY (comparison value | HARDCOPY)**]**
[*MEDIA*CATEGORY (replacement value | HARDCOPY)**]**
[REPORT*ID (report identifier)**]**

BROADCAST Command Summary

The BROADCAST command is used to send reports to other recipients (packets) in addition to original recipients.

BROADCAST PARAMETERS

Required Parameters

COPIES (*number of copies* | *1*)

is a required parameter that specifies the number of copies to be sent to an additional distribution recipient in the event that a distribution or key element(s) equals the comparison data designated in this command.

***element name** (*replacement value*)....

is a required parameter that designates a destination broadcast key element replacement value. This value is substituted for the key element value in the generated broadcast key.

Optional Parameters

element name (*comparison value*)....

is an optional parameter that establishes comparison values which determine if the broadcast operation should take place. element name is the name of the key element established by the DEFINE*KEY command. Multiple element names and comparison values may be specified.

GROUP*ID (*group identifier* | *01*)

is an optional parameter that indicates that this BROADCAST command belongs to a specific group of BROADCAST commands. GROUP*ID corresponds to a BROADCAST*GROUP value in one or more IDENTIFY*REPORT command(s). Group identifier may be any alphanumeric value from 1 to 2 characters in length.
Alternate Keyword(s): GID

LOCATION*ID (*comparison value*)

is an optional parameter that establishes a comparison value which determines if the broadcast operation should take place.
Alternate Keyword(s): LOCI

***LOCATION*ID** (*replacement value*)

is an optional parameter that designates a destination location identifier replacement value.
Alternate Keyword(s): LOCI

MEDIA*CATEGORY (*comparison value | HARDCOPY*)

is an optional parameter that establishes a comparison value which determines if the broadcast operation should take place. (*See IDENTIFY*REPORT for valid comparison values.*)
Alternate Keyword(s): MCAT

***MEDIA*CATEGORY** (*replacement value | HARDCOPY*)

is an optional parameter that designates the media category replacement value. This value is substituted for the media category value in the generated broadcast key. (*See IDENTIFY* REPORT for valid replacement values.*)
Alternate Keyword(s): *MCAT

REPORT*ID (*report identifier*)

is an optional parameter that provides an additional level of qualification in establishing the conditions under which additional copies of a report are to be distributed. REPORT*ID is the symbolic name for the report established in the IDENTIFY*REPORT command. This name may be used for recovering individual reports from archived segments in RMS/ARC.
Alternate Keyword(s): RID

Notes on the BROADCAST Command:

1. The number of copies going to the original recipient is not affected by the BROADCAST command.
2. Do not BROADCAST copies of a report to a recipient that is already receiving the same report. Because RM80004 distributes a page at a time, this will result in a packet which contains page 1, page 1, page 2, page 2, etc. To handle copy-count exceptions, use the COPY command.

COPY

The format of the COPY command is:

```
COPY COPIES(number of copies) element name (comparison value)...
     [GROUP*ID (group identifier | 01)]
     [LOCATION*ID (comparison value)]
     [MEDIA*CATEGORY (comparison value | HARDCOPY)]
     [REPORT*ID (report identifier)]
```

COPY PARAMETERS

Required Parameters

COPIES (*number of copies***)**

is a required parameter that designates the number of copies to be created by the system in the event that a distribution key or key segment(s) equals the comparison data designated in this command.

element name (*comparison value***)...**

is a required parameter that establishes comparison values which determine if additional copies should be created. element name is the name of the element established by the DEFINE*KEY command. Multiple element names and comparison values may be specified.

Optional Parameters

GROUP*ID (*group identifier* | 01**)**

is an optional parameter that indicates that this COPY command belongs to a specific group of COPY commands. GROUP*ID corresponds to a COPY*GROUP value specified in an IDENTIFY*REPORT command. Group identifier may be any alphanumeric value from 1 to 2 characters in length.
Alternate Keyword(s): GID

LOCATION*ID (*comparison value***)**

is an optional parameter that establishes a comparison value which determines if additional copies should be created.
Alternate Keyword(s): LOCI

MEDIA*CATEGORY (*comparison value* | *HARDCOPY***)**

is an optional parameter that establishes a comparison value which determines if the number of copies is to be altered. (*See IDENTIFY*REPORT for value comparison values.*)

REPORT*ID (*report identifier***)**

is an optional parameter that provides an additional level of qualification in establishing the conditions under which additional copies of a report are to be distributed. REPORT*ID is the symbolic name for the report established in the IDENTIFY*REPORT.
Alternate Keyword(s): RID

FORM*CONTROL*BUFFER

The format of the FORM*CONTROL*BUFFER command is:

FORM*CONTROL*BUFFER
FCB[CHANNEL*1 (line number |1)**]**
[CHANNEL*2 (line number)**]**
[CHANNEL*3 (line number)**]**
[CHANNEL*4 (line number)**]**
[CHANNEL*5 (line number)**]**
[**CHANNEL*6** (line number)**]**
[CHANNEL*7 (line number)**]**
[CHANNEL*8 (line number)**]**
[CHANNEL*9 (line number)**]**
[**CHANNEL*10** (line number)**]**
[CHANNEL*10 (line number)**]**
[CHANNEL*11 (line number)**]**
[CHANNEL*12 (line number)**]**

*FORM*CONTROL*BUFFER Command Summary*

The FORM*CONTROL*BUFFER command is used to describe the channel control characteristics of a group of queue datasets to RM80004. Channel control descriptions are essential for RM80004 to map and/or extract key data from report pages if multiple form types are processed.

*FORM*CONTROL*BUFFER PARAMETERS*

Optional Parameters

CHANNEL*n (line number)

is an optional parameter that establishes a channel/line number relationship. n is a value of 1 to 12.
Alternate Keyword(s): 'CHANNEL*' may be reduced to 'CH', i.e., CHANNEL*12 may be coded as CH12.

*NOTES on FORM*CONTROL*BUFFER:*

1. Care should be taken not to specify the same line number for two different channels.
2. The FORM*CONTROL*BUFFER command should immediately precede the SELECT commands to which it pertains.

IDENTIFY*REPORT

The format of the IDENTIFY*REPORT command is:

IDENTIFY*REPORT
IR {**NAME** (name) | **GNAME** (name prefix)**}**
element-name {(line,column[,translate group]| (**CONSTANT**,value) |
(**SEARCH**,line,offset,search value[,translate group])**}**
[APPEND]
[BROADCAST*GROUP (group identifier)**]**
[COPIES (number of copies | 1)**]**
[COPY*GROUP (group identifier)**]**
[FORMAT*DATA1 (line,{column | **SEARCH**},character string)**]**
[FORMAT*DATA2 (line,{column | **SEARCH**},character string)**]**
[MANIFEST*TITLE (title data | * | FD1 | FD2)**]**
[MEDIA*CATEGORY (see below | HARDCOPY)**]**
[REPORT*ID (report identifier)**]**
[REPORT*PRIORITY (report priority | 5000)**]**
[TRANSLATE*GROUP (group identifier)**]**
[VARIABLE*MANIFEST*TITLE (line,column,length)**]**
[VARIABLE*REPORT*ID (line,column,length)**]**

*IDENTIFY*REPORT Command Summary*

The IDENTIFY*REPORT command is used to identify a logical report that will be processed by RM80004. IDENTIFY*REPORT commands form a series of conditional statements that are evaluated during the SCAN PHASE of system execution. Options designated in the IF command take effect if the queue dataset name and format data designated in the command match that of the page of report data currently being processed.

*IDENTIFY*REPORT PARAMETERS*

Required Parameters

NAME (name)

is a required parameter that limits the evaluation of the IDENTIFY*REPORT command to those queue datasets with matching names. The queue dataset name may be from 1 to 8 characters.

GNAME (name prefix)

is a required parameter that limits the evaluation of the IDENTIFY*REPORT command to those queue datasets with names that match the indicated prefix.

element name {(li*ne,column[,translate group*]) |
(**CONSTANT***,value*) |
(**SEARCH***,line offset,search value [,translate group]*)}

is a required parameter that designates either the relative or exact location of data that is to be used as a key element or CONSTANT data that will be placed in the key element area. Up to 9 key element name references may be coded for each IDENTIFY*REPORT statement.

There are three options for determining and specifying the element name sub-parameters:

- **element name** (*line,column[,translate group*)
This format is used when the exact line and column location of the key data on a report page is known. Line number may be from 01 to 66. Column number may be any value from 002 to 204. Translate group is used only when the data on the page needs to be translated.

line

is the line number on which the key element data is located.

column

is the column location of the key element data.

translate group (*group identifier*)

is an optional parameter used to designate a group identifier for a TRANSLATE group that the system is to search in order to determine whether a new value is to be substituted. Group identifier may be any alphanumeric value from 1 to 2 characters in length.

- **element name** (*CONSTANT,value*)

This format is used when it is necessary to place a fixed character string in a key element. Constant value may be any character string that does not contain the characters ‘(‘, ‘)’, or ‘,’. The maximum length for constant data is 10 bytes or key element length, whichever is smaller.

CONSTANT

must be coded exactly as shown.

value

is the character string which is to be placed in the distribution key element.

- **element name** (*SEARCH,line,offset,search value[,translate group*)

This format is used when the data to be used as a key is at a fixed displacement from a specific character string (*the search value*). This format can be used to handle floating key data that has a consistent leading character string.

SEARCH	must be coded exactly as shown.
line	is the line number on which the key element data appears.
offset	the displacement from the beginning of search value of the key element data.

search value	is the character string from which a search operation is to be attempted.

NOTE: The last format is intended for use only when key data location varies from page to page in relationship to a fixed character string. It should not be used to search for individual distribution recipient keys.

Optional Parameters

APPEND

is an optional parameter which causes all pages matching the IDENTIFY*REPORT criteria to be assigned the same distribution key as the previous page of report data.

BROADCAST*GROUP (*group identifier*)

is an optional parameter that designates an alphanumeric identifier for broadcast table that the system will search to determine if the page associated with the current distribution key should be distributed to additional recipients. Group identifier may be any alphanumeric value from 1 to 2 characters in length.
Alternate Keyword(s): BG

COPIES (*number of copies* | *1*)

is an optional parameter which designates the default number of copies to be produced for the report defined by the IDENTIFY*REPORT command. The default is 1 copy. From 0 to 99 may be specified.

COPY*GROUP (*group identifie*r)

is an optional parameter that designates the identifier of a copy table. The system will search to determine if the page associated with the current distribution key is to have other than the default number of copies produced. Group identifier may be any alphanumeric value from 1 to 2 characters in length.
Alternate Keyword(s): CG

FORMAT*DATA1 (li*ne,{column* | *SEARCH}*,character string)

is an optional parameter that is used to supply the system with a character string that uniquely identifies a logical report. Format data is usually all or part of a report title.

line

is the line number on which the character string appears. Lines 1 through 88 may be designated.

column | SEARCH

is the column number of the first position of the character string. If SEARCH is coded, the system performs a search on the designated line for the character string. Valid column numbers are 2 to 204.

character string

is a string of characters that uniquely identifies a particular logical report. This data is usually but not always report title data. The maximum character string length is 30.

Alternate Keyword(s): FD1, FORMAT*DATA, FD

FORMAT*DATA2 (*line,{column* | SEARCH*},character string*)

is an optional parameter that is used to supply the system with a character string that helps uniquely identify a logical report. This string is usually all or part of a report title.

line

is the line number on which the character string appears. Lines 1 through 88 may be designated.

column | SEARCH

is the column number of the first position of the character string. If SEARCH is coded, the system performs a search on the designated line for the character string. Valid column numbers are 2 to 204.

character string

is a string of characters that uniquely identifies a particular logical report. This data is usually but not always report title data. The maximum character string length is 30.

Alternate Keyword(s): FD2

MANIFEST*TITLE title data **|** FD1 | FD2 |*****

is an optional parameter used to provide a descriptive report title to be used on packet and global manifest lists. The maximum length is 30. Specifying * or FD1 causes the system to use the character string coded in FORMAT*DATA1. Specifying FD2 causes the system to use the character string coded in FORMAT*DATA2. The specification of the operand requires that the REPORT*ID operand also be coded.

MEDIA*CATEGORY (*see below* | *HARDCOPY*)

is an optional parameter that specifies the logical media category. RM80004 supports 7 logical media groupings for the segregation of reports/recipients during output. This parameter is treated as a superior distribution key to KEY*ELEMENT 1. It is intended to allow you to order the output from RM80004 based on the media.
The categories, their default priority and abbreviated names are as follows:

CATEGORY NAME	**DEFAULT PRIORITY**	**ABBREVIATED NAME**
HARDCOPY	1	HC
TAPE	2	TP
MICROFICHE	4	MF
DASD	5	DA
REMOTE	6	RM
NETWORK**	7	NW
SOFTCOPY*	8	SC

*requires RMS/ONLINE
**requires RMS/SPOOL and RMS/DESKTOP.
All categories except SOFTCOPY indicate output is to be in the form of print line images with IBM machine control characters directed to the DD statement designated in an OUTPUT*CONTROL/SEGMENT set. SOFTCOPY (*requires RMS ONLINE*) indicates data is to be directed to the RMS ONLINE viewing dataset.
The grouping, and therefore the order of output, is listed above, i.e., HARDCOPY designated reports will be output first, TAPE designated reports second, etc. The priority of the categories may be altered by the RUN*OPTION command.

REPORT*ID (*report identifier*)

is an optional parameter that assigns an internal use mnemonic to the logical report defined by this IDENTIFY*REPORT command. Report identifier may be any alphanumeric value, from 1 to 8 characters in length. This name may be used for recovering individual reports from archived segments to RMS/ARC. The REPORT*ID is used in conjunction with the MANIFEST*TITLE operand to provide logical report descriptions on the manifest reports.
Alternate Keyword(s): RID

REPORT*PRIORITY (*report priority | 5000*)

is an optional parameter that may be used to assign the priority of a report within an output segment. The default priority is 5000. The lower the priority assigned, the closer to the front of a segment the report will print. Report priority must be a numeric value from 0 to 9999.
Alternate Keyword(s): RP, PRIORITY, PRI

TRANSLATE*GROUP (*group identifier*)

is an optional parameter used to designate a group identifier for a TRANSLATE group that the system is to search in order to determine whether a new value is to be substituted. Group identifier may be any alphanumeric value from 1 to 2 characters in length.
Alternate Keyword(s): TG

VARIABLE*MANIFEST*TITLE (*line,column,length*)

is an optional parameter that is used to specify the location on the report page of the manifest title information in lieu of the MANIFEST*TITLE command. If this parameter is used, then the REPORT*ID parameter must be omitted.
Alternate Keyword(s): VMT

VARIABLE*REPORT*ID (*line,column,length*)

is an optional parameter used in conjunction with the VARIABLE*MANIFEST*TITLE to specify the location on the report page of the REPORT*ID.
Alternate Keyword(s): VRID

Notes on IDENTIFY*REPORT:

1. IDENTIFY*REPORT commands are evaluated in the order they occur in the input stream. This fact can become significant in some situations. Any time two or more IDENTIFY*REPORT commands might conflict because the format data for report “A” is also in an identical location on report “B”, the first matching IDENTIFY*REPORT governs the distribution. One, and only one, IF command is in effect for a given page.
2. Pages which do not match any IDENTIFY*REPORT selection criteria are automatically appended to the last page assigned a distribution key.
3. Three levels of logical report qualifications are available with the IF command. They are:
   - A. Dataset name (*NAME operand*)
   - B. FORMAT*DATA1
   - C. FORMAT*DATA2

   NAME is sufficient where the queue dataset contains only one logical report. Both NAME and FORMAT*DATA1 should be used if the queue dataset contains more than one logical report. Use NAME, FORMAT*DATA1, and FORMAT*DATA2 only where two levels of qualification are not sufficient.

4. VARIABLE*MANIFEST*TITLE and VARIABLE*REPORT*ID are to be used only for structured reports.

SELECT

The format of the SELECT command is:

SELECT
SEL{NAME (name) | **GNAME** (name prefix)}
    [CLASS (class)**]**
    [DESTINATION (dest id)**]**
    [EXIT*NAME (program name)**]**
    [FORM (form id)**]**
    [JOB*NAME (job name)**]**
    [JOB*NUMBER (nnnn)**]**
    [PROCESS*CODE (comparison value, operation code | EQ)**]**
    [QUEUE*DATASET*NUMBER (nnnn)**]**
    [TOP*OF*FORM*CHAN (channel | 1)**]**

SELECT Command Summary

QUEUE datasets are selected for processing using the qualifying information specified in the SELECT command. Two types of selection are permitted; specific name or generic prefix. Both types permit positions in the name to specific name or generic prefix. Both types permit positions in the name to be ignored by placing an asterisk (*) in those positions of the name or name prefix.

Any number of queue datasets may be selected for processing during a single execution. Selection by prefix and full name may be intermixed to attain the desired results. Datasets are always retrieved in the same order as the SELECT records. Retrieval by prefix causes the datasets to be retrieved in alphabetical sequence.

SELECT PARAMETERS

Required Parameters

NAME (*name*)

is a required parameter used to specify the full dataset name of from 1 to 8 characters. If there is more than one queue dataset with the specified name, the entry most recently created is selected for processing.

GNAME (*name prefix*)

is a required parameter used to select by name prefix. Selection by prefix always implies selection of *every* queue dataset having this prefix.

NOTE: Note: The maximum length of records in a print dataset is 240 characters.

Optional Parameters

CLASS (*class*)

is an optional parameter used to limit selection to those entries with a matching class. Valid classes are A-Z, 1-9.

DESTINATION (*dest id*)

is an optional parameter used to limit selection to those entries with a matching destination identifier. NJE users should use the short format specification for NODE:REMOTE destinations (*NnnnRnnn*).
Alternate Keyword(s): DEST

EXIT*NAME (*program name*)

is an optional parameter used to specify the name of a user exit that is to receive RM80004 output. Note that all standard RM80004 output/segmentation facilities are negated by the use of an exit, therefore, segment commands should not be used when an exit is to be invoked.

FORM (*form id*)

is an optional parameter used to limit selection to those entries with a matching forms identifier.

JOB*NAME (*job name*)

is an optional parameter used to limit selection to those entries created in the OS/MVS job matching the supplied name.

JOB*NUMBER (*nnnnn*)

is an optional parameter used to limit selection to those entries created in the OS/MVS job matching the designated job number.

PROCESS*CODE (*comparison value, operation code* | *EQ*)

is an optional parameter used to restrict RMS execution to a group of previously processed queue datasets. The string specified as the comparison value operand can be from 1 to 11 positions. It is compared to the process code value contained in each QDS entry selected during the RMS execution. A match condition is determined using the operation code operand. The possible operation codes are:

EQ - equal to (default)
GE - greater than or equal to
GT - greater than
LE - less than or equal to
LT - less than
NE - not equal

The use of the masked comparison character “*” in any comparison value position causes that position to be ignored in the comparison operation. This would allow the selection of groups of process codes, i.e.,

INPUT*PROCESS*CODE (*A**********, NE*)

would cause the select of all processed QDS entries other than those having an “A” in their first position.
Alternate Keyword(s): PCODE

*Notes on PROCESS*CODE:*

1. Once a QDS has been assigned a process code it can only be selected using either the INPUT*PROCESS*CODE operand on the RUN*OPTIONS or the PROCESS*CODE operand on the SELECT command.
2. The OUTPUT*PROCESS*CODE operand can be used to change an existing process code.

3. Specifying the process code on the SELECT command overrides that specified on the RUN*OPTIONS.

QUEUE*DATASET*NUMBER (nnnnn)

is an optional parameter used to limit selection to the repository entry with the matching queue number.
Alternate keyword(s): QDN

REPORT*NUMBER
RN

TOP*OF*FORM*CHAN (*channel* | *1*)

is an optional parameter used to designate the queue dataset top of form channel. Channel 1 is the default. Valid entries are 1-9, A, B, and C for channels 1-12 respectively.
Alternate Keyword(s): TOPCH

TRANSLATE

The format of the TRANSLATE command is:

TRANSLATE
TR **[GROUP*ID** (group identifier | 01)**]**
{INPUT*VALUE (translation “from” value) |
element name (translate “from” value)....**}**
[MEDIA*CATEGORY (translate “from” value | HARDCOPY)**]**
[*LOCATION*ID (translate “to” location identifier)**]**
[*MEDIA*CATEGORY (translate “to” value)**]**
{OUTPUT*VALUE (translate “to” value) |
*element name (translate “to” value)....**}**
[REPORT*ID (report identifier)**]**

TRANSLATE Command Summary

The TRANSLATE command is used to substitute some value for either a key element or an entire distribution key. Translate commands can be grouped by a group identifier for ease of reference. The number of entries in each table will, of course, vary depending on the number of full key or key element translations you require. Most applications do not require this capability. Translation is used to alter otherwise unsuitable keys or key elements to achieve the proper sort sequence of distribution keys. For example, consider an application where 3 reports are to be distributed for 2 recipients.

If one of the 3 reports had a recipient name rather than the actual recipient number (*bank number, department number, etc.*), then the TRANSLATE command could be used to substitute the recipient number for the non-usable names for that report.

If a TRANSLATE command refers to a key element, always use the INPUT*VALUE/OUTPUT*VALUE parameters. If the TRANSLATE command was coded in reference to the TRANSLATE*GROUP parameter (*that is, if the intent is to translate all or part of the entire key*) in the IDENTIFY*REPORT command, use the element name/*element name parameters.

Translation for other than “INPUT*VALUE/OUTPUT*VALUE” occurs in two cycles. During translation cycle #1 designated key element comparison values are tested and if all are found to match, replacement key element values are substituted in the designated key elements. During cycle #2, designated key element comparison values are tested and if found to match, a location identifier is assigned to the key being tested. TRANSLATE commands that specify *LOCATION*ID only participate in cycle #2 translation test.

TRANSLATE PARAMETERS

Required Parameters

INPUT*VALUE (*translate "from" value*) | element name (*translate "from" value*)....

is a required parameter that is used to specify the comparison or "from" value for the translate operation. Use of INPUT*VALUE should be restricted to translation at the key element level. "element name" may be any element name defined in the DEFINE*KEY command. Multiple element names representing different key elements may be used to form the total comparison value.
Alternate Keyword(s): IV

OUTPUT*VALUE (*translate "to" value*)| *element name (*translate "to" value*)....

is a required parameter that is used to specify the replacement or "to" value for the translate operation. Use of the OUTPUT*value should be restricted to translation at the key element level. "*element name" may be any element name defined in the DEFINE*KEY command. Multiple element names may be used to form the total replacement value.
Alternate Keyword(s): OV

Optional Parameters

GROUP*ID (*group identifier* | *01*)
is an optional parameter that indicates that this TRANSLATE command belongs to a specific group of TRANSLATE commands. GROUP*ID corresponds to a TRANSLATE*GROUP value in one or more IDENTIFY*REPORT commands. Group identifier may be any alphanumeric value from 1 to 2 characters in length.
Alternate Keyword(s): GID

***LOCATION*ID** (*replacement value*)

is an optional parameter that specifies a location identifier of 1 to 16 characters that should be assigned to the specified distribution key(s) during translation cycle #2.
Alternate Keyword(s): LOCI

MEDIA*CATEGORY (*translate "from" value* | *HARDCOPY*)

is an optional parameter that establishes a comparison value which determines if the full key translation operation should take place. (*See IDENTIFY*REPORT for valid comparison values.*)
Alternate Keyword(s): MCAT

***MEDIA*CATEGORY** *(translate "to" value*)

is an optional parameter that designates the media category replacement value. This value is substituted for the media category value in the translated distribution key.

Alternate Keyword(s): *MCAT

REPORT*ID (*report identifier*)

is an optional parameter that provides an additional level of qualification in establishing the condition under which translation is to occur. REPORT*ID is the symbolic name for the report established in the IDENTIFY*REPORT command.
Alternate Keyword(s): RID

Notes on TRANSLATE Commands:

1. In order to avoid inadvertent translation of key data, place all TRANSLATE commands for key elements (*INPUT*VALUE/OUTPUT*VALUE*) in a separate translate table.
2. Do not intermix use of INPUT*VALUE and element name or OUTPUT*VALUE and *element name. Unpredictable results may occur.

OUTPUT PROCESS COMMANDS

This section provides reference information relating to all RM80004 output process commands. These commands are:

- **INSERT*DATA*STREAM** which permits data to be inserted within the output data stream.
- **OUTPUT*CONTROL** which assigns output attributes to packets of data created by the CREATE*PACKET command.
- **PRIORITY** which permits assignment of the output sequence, i.e., priority scheduling of output.
- **CREATE*PACKET** which governs the partitioning of output.

Notation Conventions in “About This Book” describes the command documentation notation.

INSERT*DATA*STREAM

The format of the INSERT*DATA*STREAM command is:

```
INSERT*DATA*STREAM
IDS [AFTER*REPORT*ID (report id)]
    [BEFORE*REPORT*ID (report id)]
    [CONTROL*CHAR]
    [COPY*NUMBER (value [ EQ | test])]
    [INSERT*DATA (line, column, character string)]
    [INSERT*HEX*DATA (line, column, hexadecimal string)]
    [LOCATION*NAME (comparison value)]
    [NUMBER*TIMES (number of times | 1)]
    [ON*END*SEP]
    [ON*REPORT*ID (report id)]
    [ON*START*SEP]
    [SEGMENT*NAME (segment identifier)]
```

*INSERT*DATA*STREAM PARAMETERS*

Optional Parameters

AFTER*REPORT*ID (*report id*)

is an optional parameter that indicates insertion of data after a specific report ID.
Alternate Keyword(s): ARI

BEFORE*REPORT*ID (*report id*)

is an optional parameter that indicates insertion of data before a specific report ID.
Alternate Keyword(s): BRI

CONTROL*CHAR

is an optional parameter that indicates print command characters (*all skipping and spacing*) will be supplied. Machine control characters must be supplied for each line refer-

APPENDIX

Append_c.fm: Revised Sunday, November 24, 2013

enced. If CONTROL*CHAR is omitted, the system advances to the top of a new page (*channel 1*) before insertion is performed.
Alternate Keyword(s): CC

COPY*NUMBER (*value, test*)

is an optional parameter that may be used to designate the copy for which the insertion should occur, value. Test is an optional qualifier of the designated copy number. Valid tests are:
EQ- (*default*) insert only if copy number is equal to “value”
GT- insert only if copy number is greater than “value”
LT- insert only if copy number is less than “value”
GE- insert only if copy number is greater than or equal to “value”
LE- insert only if copy number is less than or equal to “value”
Alternate Keyword(s): COPY

INSERT*DATA (*line, column, character string*)

is an optional parameter that provides data to be inserted in character format.
Line - If the CONTROL*CHAR is specified, Line indicates the relative line slot (1-50). Otherwise, Line indicates the line on which the data is to be printed.
Column - __ The starting column for this data string.
Character String - Any alphanumeric data string. The data line is in the format.

1-1	Print control command (*must be provided if CONTROL* CHAR specified)*
2-404	Print data

Alternate Keyword(s): ID

INSERT*HEX*DATA (*line, column, hexadecimal character string*)

is an optional parameter that provides hexadecimal data to be inserted.

Line	If the CONTROL*CHAR is specified, Line indicates the relative line slot (1-50). Otherwise, Line indicates the line on which the data is to be printed.
Column	The starting column for this data string. The data line is in the format.
1-1	Print control command (*must be provided if CONTROL* CHAR specified*).
2-204	Print data. Any hexadecimal data string. Valid characters are 0, 9 and A-F. An odd number of characters will be right justified with a leading zero.

Alternate Keyword(s): IHD

LOCATION*NAME (*comparison valu*e)

is an optional parameter that limits the insertion to packets for the specified locations.
Alternate Keyword(s): LN

NUMBER*TIMES (*number of times* | *1*)

is an optional parameter that indicates the number of times (1-9) the data is to be inserted.

Alternate Keyword(s): NT

ON*END*SEP

is an optional parameter that limits this INSERT*DATA*STREAM command to printing the data stream on the RM80004 end separator page. At the time the data is to be inserted, the printer will be on line 49. The user is responsible for supplying machine control commands for spacing, skipping or printing from this point.
Alternate Keyword(s): OES

ON*REPORT*ID (*report id*)

is an optional parameter that limits this INSERT*DATA*STREAM command to printing the data stream at the end of each page. The user is responsible for supplying machine control commands for spacing, skipping or printing from this point.
Alternate Keyword(s): ORI

ON*START*SEP

is an optional parameter that limits this INSERT*DATA*STREAM command to printing the data stream on the RM80004 start separator page. At the time the data is to be inserted, the printer will be on line 49. The user is responsible for supplying machine control commands for spacing, skipping or printing from this point.
Alternate Keyword(s): OSS

SEGMENT*NAME (*segment identifier*)

is an optional parameter that limits this INSERT*DATA*STREAM command to a unique packet or segment name. The SEGMENT*NAME is the same as the name parameter of the CREATE*PACKET command. Omitting this parameter indicates that the command applies to all segments. The use of the asterisk(*) to ignore positions in the SEGMENT*NAME is permitted.
Alternate Keyword(s): SN

Notes on Special Report ID's:

1. In addition to the REPORT*ID referenced in the IDENTIFY*REPORT command, special report ID's have been assigned. They are:

STARTSEP	start separator pages
ENDSEP	end separator pages
MANIFEST	manifest
* _____	all REPORT*ID except above

2. Since continuation of a value within a parameter is not allowed with the keyword facility, multiple INSERT*DATA and/or INSERT*HEX*DATA commands may be used to form an entire line of data. The maximum number of parameters within one INSERT*DATA*STREAM command is 200.
3. AFTER*REPORT*ID and BEFORE*REPORT*ID may be specified on the same command. ON*START*SEP and ON*END*SEP may be specified on the same command, but the pairs cannot be mixed.
4. When using the ON*START*SEP or ON*END*SEP parameters, the DOS/VS[E] user must ensure the *RM80004* separator pages are invoked via the SEPARATOR*PAGES operand on the OUTPUT*CONTROL command.

OUTPUT*CONTROL

The format of the OUTPUT*CONTROL command is:

OUTPUT*CONTROL
OUTCTL[BURST]
[CHARS (name1[,name 2, name 3, name 4])**]**
[CLASS (output class | 1)**]**
[COPIES (number of copies | A)**]**
[**DDNAME** (name | SEGMENT NAME)**]**
[DESTINATION (dest ID | LOCAL)**]**
[DISPOSITION (disp | SPIN)**]**
[**EXTERNAL*WRITER*NAME** (name)**]**
[FLASH (name[,copies])**]**
[FORM*CONTROL*BUFFER (fcb name)**]**
[FORM (form name)**]**
[LRECL (nn | 133)**]**
[MEDIA*CATEGORY (HARDCOPY | value**]**
[SEPARATOR*PAGES (number separators | 2)**]**
[UCS (name)**]**

OUTPUT*CONTROL Command Summary

OUTPUT*CONTROL commands are used to assign the required output characteristics to one or more segments of report data. These characteristics include:

CLASS
COPY COUNT (*Job Entry System*)
DESTINATION (RJE)
DISPOSITION
FORM
NUMBER OF SEPARATOR PAGES (*RM80004RM80004 generated*)

The relationship between the OUTPUT*CONTROL command and SEGMENT command(s) is positional. When RM80004 encounters an OUTPUT*CONTROL command, it stores all the designated attributes. Every SEGMENT command encountered until the next OUTPUT*CONTROL is “tagged” with these attributes. Therefore, multiple SEGMENT commands may require only one OUTPUT*CONTROL command.

RM80004 permits a segment of report data to be directed to a specific DD statement with the DDNAME parameter. All other parameters, with the exception of SEPARATOR*PAGES, are ignored when the DDNAME parameter is used. For DOS/VSE, use of the DDNAME parameter requires a POWER LST statement. For MVS, use of the DDNAME parameter requires that a DD statement with the indicated name be added to the RM80004 JCL. All such DD statements for RM80004 output *must* specify full DCB information. When RM80004 output is directed to SYSOUT, the record format should *always* be FM. Specification of FBM or FM for disk or tape datasets will cause position 1 of each record to be lost.

OUTPUT*CONTROL PARAMETERS

Required Parameters

None

Optional Parameters

BURST

is an optional parameter used to indicate that, if printed on an IBM 3800 printer, the

"Burster, Trimmer, Stacker" feature is to be used.

CHARS (*name 1[,name 2, name 3, name 4*])

is an optional parameter used to indicate, if printed on an IBM 3800 printer, the name(s) of from 1 to 4 character arrangement tables to be used. If more than one character set name is entered, the OPTCD parameter of the DCB is set to "J". This indicates that the dataset contains TRC characters.

CLASS (*output class* | *A*)

is an optional parameter used to assign an output class. Valid entries are A-Z and 0-9. The default is A.

COPIES (*number of copies* | *1*)

is an optional parameter used to designate the JES copy count. The default is 1. The maximum is 99.

DDNAME (*name* | *SEGMENT NAME*)

is an optional parameter used to specify the name of a DD statement that has been added to the RM80004 JCL. For DOS/VSE, the name should be specified as a sys### which will correspond to a POWER LST statement in the job. For MVS, the name supplied must, of course, conform to DD naming conventions. When the DDNAME parameter is used all other parameters except MEDIA*CATEGORY and SEPARATOR*PAGES are ignored. DDNAME must be used for OS/VS1 and SVS. OS/MVS RM80004 will dynamically allocate the output file using the segment name specified in the CREATE*PACKET command if DDNAME parameter is omitted.

DESTINATION (*dest OD* | *LOCAL*)

is an optional parameter used to supply a remote destination name. The default destination is LOCAL. JES2 NJE users should specify NODE:REMOTE destinations using the short form NnnnRnnn convention. See JES2 NJE DESTINATION parameter for a full explanation of this form.
Alternate Keyword(s): DEST

DISPOSITION (*disp* | *SPIN*)

is an optional parameter used to request alternate disposition of the output dataset. Specify H for HOLD disposition. The default is SPIN, the equivalent of FREE=CLOSE.
Alternate Keyword(s): DISP

EXTERNAL*WRITER*NAME (name)

is an optional parameter used to specify the external writer sub-parameter of the SYSOUT parameter in file dynamically allocated by RM80004. A potential use of this parameter is to route output from RM80004 back to the repository via the XWTR interface. This may be accomplished by specifying the class supported by the RMS External Writer and assigning the report a queue dataset name using the EXTERNAL*WRITER*NAME parameter.
Alternate Keyword(s): EWN

FLASH (*name[,copies*)

is an optional parameter used to indicate, if printed on an IBM 3800 printer, the name of the forms overlay to be used and optionally the number of copies on which the forms overlay is to be printed.

FORM*CONTROL*BUFFER (f*cb name***)**

is an optional parameter used to request the form control buffer image to be used.
Alternate Keyword(s): FCB

FORM (*form name*)

is an optional parameter used to designate the form identifier of the output data.

FORMDEF (form definition name)

Is an optional parameter used to request the form definition to be used

PAGEDEF (page definition name)

Is an optional parameter used to request the page definition to be used .

LRECL (*nnn* | *32000*)

is an optional parameter used to designate the logical record length. The default is 32000. This is the record length of the output records from RM80004. The maximum input record length for RM80004 is 32000 characters. If this parameter is not entered, the output file produced will be a variable length format with a maximum record length of 32000.

MEDIA*CATEGORY (Hardcopy | value)

is an optional parameter that may be specified to indicate the MEDIA*CATEGORY(s) to which this OUTPUT*CONTROL command pertains. (*See IDENTIFY*REPORT for valid values.*)

SEPARATOR*PAGES (*number separators* | *2*)

is an optional parameter used to enter the number of RM80004 separator pages you wish to have generated. From 0 to 9 pages may be generated. The default is 2 pages (*front and back*). This should not be confused with operating system separator pages which are produced as the result of printer start-up parameters.
Alternate Keyword(s): SEP

UCS (name)

is an optional parameter used to describe the character set to be used for printing on an IBM1403 or IBM3211 printer. “name” specifies the 1 to 4 character name suffix of the character set desired.

PRIORITY

The format of the PRIORITY command is:

PRIORITY
OUTPUT*PRIORITY
OUTPRI element name(comparison value)...
  [MEDIA*CATEGORY (HARDCOPY|value)**]**
  {OUTPUT*PRIORITY (output priority)**}**

PRIORITY Command Summary

The PRIORITY command is used to alter the output sequence of report data bearing a consistent distribution key value. The actual distribution key is not altered by this command. All data to be distributed by RM80004 is assigned a default priority of 5000. The lower the priority, the earlier the data will be output by RM80004.

PRIORITY PARAMETERS

Required Parameters

element name (*comparison value*)...

is a required parameter which establishes a comparison value that will be used to determine if the priority should be altered.

OUTPUT*PRIORITY (*output priority*)

is a required parameter that assigns a priority of 0 to 9999 to distribution keys matching the comparison value(s).
Alternate Keyword(s): OP,PRIORITY,PRI

Optional Parameters

MEDIA*CATEGORY (HARDCOPY|value)

is an optional parameter that establishes a comparison value that will be used to determine if the priority should be altered. (*See IDENTIFY*REPORT for valid comparison values*).

CREATE*PACKET

The format of the CREATE*PACKET command is:

CREATE*PACKET
CP NAME {(name[,distribution key start])}
[element name (comparison value | ROLLOVER) |LOCATION*ID
(comparison value)**]**
[OUTPLEX]
[GLOBAL*MANIFEST]
[LOCATION*ID]
[LOCATION*NAME (mask, element name1,....,element name 9)**]**
[MANIFEST*COPIES (number | 1)**]**
[MANIFEST*DETAIL*BREAK (element name1,....,element name 9)**]**
[MEDIA*CATEGORY (HARDCOPY | value)**]**
[MESSAGE*DATA (message text)**]**
[REPORT*ID (report identifier)**]**
[SEPARATOR*PAGES (number separator s)**]**

*CREATE*PACKET Command Summary*

The CREATE*PACKET command provides a way to partition report data processed by RM80004 into packets of output to be distributed to recipients in the distribution network. During the OUTPUT phase of RM80004 processing, comparison data entered via the CREATE*PACKET commands is compared to the content of the distribution key associated with each page. If an equal condition occurs, the current output file is closed and a new packet is created. Two forms of comparisons are available in the CREATE*PACKET command, specific and rollover.

Specific Segmentation

With specific comparison, the key element comparison values entered are compared to the corresponding areas of the output data distribution keys. Equality causes division once for each CREATE*PACKET command.

Rollover Segmentation

Rollover comparison provides the ability to define nonspecific CREATE*PACKET commands that are used as models for the construction of dynamic entries. It is triggered by the entry of contiguous *'s in the name parameter (*maximum of 7 * positions*), and a distribution key start value. The distribution key start operand may be specified as either a key element name defined via the DEFINE*KEY command, or as an absolute numeric value. Once invoked, a new RM80004 recipient packet is generated each time the specified distribution key element value(s) change.

CREATE*PACKET PARAMETERS

Required Parameters

NAME (*name[,distribution key start*)

Is a required parameter that designates the name to be assigned to the packet.

name

For fixed comparison, this is a 1-8 character name that conforms to DD naming conventions for OS/MVS and JOB naming conventions for DOS/VS[E].

For rollover comparison, the first character must be alphabetic. The remaining 7 may be made up of alphanumerics and an “*” string. The number of asterisks in the string indicates the number of positions of the name to be resolved using distribution key values.

distribution key start

is an optional sub-parameter that points to a start location in the distribution key from which data will be taken to complete the packet name. This may be specific as either a key element name or an absolute numeric value. As an example, a specification of: NAME (*Dept***,Deptnbr*) indicates that the distribution key data found at the location represented by Deptnbr is to be used to generate the last 3 positions of the segment name. Invalid names generated as the result of the segment name. Invalid names generated as the result of this automatic generation capability will have the invalid positions of the name replaced with the “$” character.

NOTE: If the RUN*OPTION archive is specified, the name value resulting from this command is used as the archived entry's queue dataset name.

element name (comparison value)

is a required parameter that is used to specify the value(s) that will determine if a new report packet is to be created. The maximum length of the comparison value is governed by the length attribute established by the define key command.

Rollover

When rollover segmentation is used, the comparison value must be specified as “rollover”. An “*” in any comparison value position causes the position to be ignored in the comparison operation.

elementname (ROLLOVER)

LOCATION*ID (*comparison value*)

is an optional parameter that may be tested to determine if a new packet is to be created. The packet operations may be performed either on the basis of key elements or LOCATION*ID, but not both.
Alternate Keyword(s): LOCI

Optional Parameters

OUTPLEX

is an optional parameter that is used to specify even page boundaries for reports within a packet. This will ensure a physical break between reports for printers with duplex print capabilities.

GLOBAL*MANIFEST

is an optional parameter that indicates that this CREATE*PACKET command is to be used to control the name of the global manifest report produced by each execution of RM80004.

LOCATION*NAME

This optional parameter can be specified to designate a name for the location to receive this segment. The first parameter enclosed in the parenthesis may be either an absolute name or a model to be used to construct the name. The second through tenth sub-parameters specify the key elements that will be used to fill and complete the model. Each position in the model that is occupied by an “*” will be replaced by the value(s) in the specified key elements. The names key elements will be treated as a string of contiguous data from which the replacement will be performed.
Example 1: LOCATION*NAME (BIRMINGHAM)
Example 2: LNAME(BANK****BRANCH***,BANKKEY,BRANCHKEY)
Alternate Keyword(s): LNAME

MANIFEST*COPIES (*number* | *1*)

is an optional parameter that designates the number of copies of either the global or segment manifest to be produced. The default is one copy. From 0-9 may be specified.
Alternate Keyword(s): MC

MANIFEST*DETAIL*BREAK (*element name1,....,element name 9*)

is an optional parameter that is used to specify sub-accounting breaks on the packet manifest. The element values indicate the KEY*ELEMENT names for each level of break desired.
Alternate Keyword(s): MDB

MEDIA*CATEGORY (*HARDCOPY* | *value*)

is an optional parameter that, when coded, specifies the media category(s) that must be present with the distribution key for this SEGMENT to be created. (*See IDENTIFY*REPORT for an explanation of MEDIA*CATEGORY.*)

MESSAGE*DATA (*message text*)

is an optional parameter that designates up to 30 characters of text data to be printed on the system generated flag pages. DOS/VSE is limited to 16 characters.
Alternate Keyword(s): MD

REPORT*ID (*report identifier*)

is an optional parameter that is used to specify an 8 character report identifier that will be used as a second level comparison value. Specification of the REPORT*ID parameter is equivalent to the following IF statement:

If the comparison values are equal to the distribution key values
and
REPORT*ID is equal to xxxxxx
THEN start a new packet.

NOTE: This parameter is not available for rollover comparison.

Alternate Keyword(s): RID

SEPARATOR*PAGES (*number separators*)

is an optional parameter used to override the number of RM80004 separator pages specified in the OUTPUT*CONTROL command. From 0 to 9 separator pages may be generated. For DOS, these separator pages are in addition to the separator pages generated by power.
Alternate Keyword(s): SEP

Appendix-D

RESOURCE SECURITY CATEGORIES, TYPES AND CODES

Transaction Security

RMS/DPF	DP
SYSTEM ADMINISTRATION	SA
RMS/DD	DD
RMS/DM	DM
RMS/RS	RS
HELP MANAGEMENT	HM
LOCATION/REPORT SECURITY	LR

NOTE: The type codes are used in the Resource Type (RT field) of the User Master record.

Resource Types with Associated Resource ID's

RESOURCE TYPE DP - DISPLAY PRINT

RESOURCE	DESCRIPTION
AD	Administrator Information Leaflet
AI	Archive Information Leaflet
C	Cancel a report
D	Display a report
FD	Administrative Format Delete
FS	Administrative Format Save
I	Index of available reports
O	Output Request
P	RMS/DPF - Print Transaction
PS	RMS/DPF - Print Start Transaction
R	Recover Request
RI	Report Information Leaflet
S	Administrative Display
V	Versions of a report

Resource Type HM - Help Management

RESOURCE	DESCRIPTION
A	RMS/DPF/HELP - Add Transaction
C	RMS/DPF/HELP - Copy Transaction
D	RMS/DPF/HELP - Delete Transaction
I	RMS/DPF/HELP - Insert Transaction
J	JOB SUBMISSION
L	RMS/DPF/HELP - List Transaction
U	RMS/DPF/HELP - Update Transaction
V	RMS/DPF/HELP - View Transaction

Resource Type SA - System Administration

RESOURCE	DESCRIPTION
AA	Add Access Group
AC	Add Customization
AL	Add Location
AR	Add Retention
AO	Add Output Definition
AU	Add User
CA	Change Access Group
CC	Change Customization
CL	Change Location
CR	Change Retention
CO	Change Output Definition
CU	Change User
DA	Delete Access Group
DC	Delete Customization
DL	Delete Location
DR	Delete Retention
DO	Delete Output Definition
DU	Delete User
FS	Field Security
IA	Inquire Access Group
IC	Inquire Customization
IL	Inquire Location
IR	Inquire Retention
IO	Inquire Output Definition
IU	Inquire User
EI	Extended Information
LA	List Access Group
LC	Location Customization

RESOURCE	DESCRIPTION
LU	List User
LL	List Location
LR	List Retention
LO	List Output Definition

Resource Type RS - Resource Security

RESOURCE	DESCRIPTION
ADD	Add RMS/DD TX Security
ADM	Add RMS/DM TX Security
ADP	Add RMS/DPF TX Security
AHM	Add Help Management TX Security
ALR	Add Location/Report Security
ARS	Add RMD/RS TX Security
ASA	Add RMS/RS TX Security
DDD	Delete RMS/DD TX Security
DDM	Delete RMS/DM TX Security
DDP	Delete RMS/DPF TX Security
DHM	Delete Help Management TX Security
DLR	Delete Location/Report Security
DRS	Delete RMS/RS TX Security
DSA	Delete System Administration TX Security
IDD	Inquire RMS.DD TX Security
IDM	Inquire RMS/DM TX Security
IDP	Inquire RMS/DPF TX Security
IHM	Inquire Help Management TX Security
ILR	Inquire Location/Report Security
IRS	Inquire RMS/RS TX Security
ISA	Inquire System Administration TX Security
LLR	List/Locate/Report Security
LHM	List/Help Management
LDM	List/DM TX Security
LDD	List/DD TX Security
LDP	List/DPF TX Security
LSA	List/RS TX Security
LRS	List/RS TX Security

Resource Type DD - Distribution Definition

RESOURCE	DESCRIPTION
AFS	Add Field Security
ADO	Add Master Options
ARL	Add Recipient/Location Equate
ACD	Add Custom Definition
AAD	Add Automatic Definition
ACC	Add Copy Control
ASR	Add Send Report
ACR	Add Content/Recipient Conversion
ARR	Add Recipient/Recipient Conversion
ADR	Add/Distribution Reorganization
ADS	Add Distribution Selection
ACP	Add Custom Packaging
AAP	Add Automatic Packaging
ADI	Add Data Insertion
AOP	Add Output Priority
CDO	Change Master Options
CRL	Change Recipient/Location Equate
CCD	Change Custom Definition
CAD	Change Automatic Packaging
CCC	Change Copy Control
CFS	Change Field Security
CSR	Change Send Report
CCR	Change Content/Recipient Converstion
CRR	Change Recipient/Recipient Conversion
CDS	Change Distribution Selection
CCP	Change Custom Packaging
CAP	Change Automatic Packaging
CDI	Change Data Insertion
CDR	Change/Distribution Reorganization
COP	Change Output Priority
DDO	Delete Master Options
DDR	Delete Distribution Restructure
DRL	Delete Recipient/Location Equate
DCD	Delete Custom Definition
DAD	Delete Automatic Definition
DCC	Delete Copy Control
DFS	Delete Field Security
DSR	Delete Send Report
DCR	Delete Content/Recipient Conversion

Resource Type DD - Distribution Definition

RESOURCE	DESCRIPTION
DRR	Delete Recipient/Recipient Converstion
DDS	Delete Distribution Selection
DCP	Delete Custom Packaging
DAP	Delete Automatic Packaging
DDI	Delete Data Insertion
DDR	Delete Distribution Reorganization
DOP	Delete Output Priority
IDO	Inquire Master Options
IDR	Inquire/Distribution Restructure
IFS	Inquire Field Security
IRL	Inquire Recipient/Location Equate
ICD	Inquire Custom Definition
IAD	Inquire Automatic Definition
ICC	Inquire Copy Control
ISR	Inquire Send Report
ICR	Inquire Content/Recipient Conversion
IRR	Inquire Recipient/Recipient Conversion
IDS	Inquire Distribution Selection
ICP	Inquire Custom Packaging
IAP	Inquire Automatic Packaging
IDI	Inquire Data Insertion
IOP	Inquire Output Priority
LDO	List Master Options
LFS	List Field Security
LRL	List Recipient/Location Equate
LCD	List Custom Definition
LAD	List Automatic Definition
LCC	List Copy Control
LSR	List Send Report
LCR	List Content/Recipient Conversion
LRR	List Recipient/Recipient Conversion
LDS	List Distribution Selection
LCP	List Custom Packaging
LDI	List Data Insertion
LOP	List Output Priority

Administrative Documents

This appendix contains sample documents which can be used by your data center personnel to document/define RMS setup information. You are given permission to freely copy these worksheets for use within your company.

Access Group Master

```
***ACCESS GROUP***

       ACCESS GROUP IDENTIFIER ___________________________________________________

       SECURED/UNSECURED (S/U) ___________________________________________________

       DESCRIPTION _______________________________________________________________

***ADMINISTRATOR***

       ADMINISTRATOR ID __________________________________________________________

       PHONE NUMBER ______________________________________________________________

       ADMINISTRATOR NAME ________________________________________________________

***USER INFORMATION***

       USER ID ___________________________________________________________________

       TEMPLATE USER _____________________________________________________________

       DEFAULT ACCESS GP _________________________________________________________

       USER PASWORD ______________________________________________________________

       USER TYPE _________________________________________________________________

       DEFAULT LOCATION __________________________________________________________

       USER NAME _________________________________________________________________

       PHONE NUMBER ______________________________________________________________

       ADDRESS LINE 1 ____________________________________________________________

       ADDRESS LINE 2 ____________________________________________________________

       ADDRESS LINE 3 ____________________________________________________________

       ADDRESS LINE 4 ____________________________________________________________

       DS PRINT JOB ______________________________________________________________

       SEL PRINT JOB _____________________________________________________________
```

Security Profile

ACCESS GROUP	SECURITY GROUP	RESOURCE TYPE	SECURITY TYPE

```
RESOURCE TYPES                       SECURITY TYPES
DD     = DISTRIBUTION DEFIN          A = ALL
DM     = PRINT DATASET MGMT          P = PARTIAL
DP     = DISPLAY PRINT
HM     = HELP MANAGEMENT
LR     = LOCATION REPORT
RS     = RESOURCE SECURITY
SA     = SYSTEMS ADMIN.
```

User Master

JOB STATEMENT INFORMATION: SELECTIVE PRINT

JOB STATEMENT INFORMATION: DATASET PRINT

JOB STATEMENT CANCEL REPORT

Appendix-E

LEAFLET

Prototype

```
%*-----------------------------------------------*~D
%|            - ARCHIVE INFORMATION -           %|~D
%|                                              %|~D
%| DSN > +&RTADN                                %|~D
%| ON VOLSER > +&RTAVL                          %|~D
%| DATE/TIME > +&RTRRD %*+&RTRRT                %|~D
%*-----------------------------------------------*~D
~ D
~ D
~ D
~ D
~ D
~ D
~ D
~ D
~ D
~ D
~ D
~ D
~ D
~ D
~ D
~ D-PF3-END
```

THE LEAFLET PROTOTYPE FOR THE ARCHIVE INFORMATION (AI) PANEL

Leaflet Variable Symbol

VARIABLE	LENGTH	TYPE	DESCRIPTION
AGADMI	008	CHAR	ACCESS GROUP ADMINISTRATORS ID
AGADMN	040	CHAR	ADMINISTRATORS NAME
AGAPN	021	CHAR	ADMINISTRATORS PHONE NUMBER
AGGPD1	060	CHAR	ACCESS GROUP DESCRIPTION 1
AGGPD2	060	CHAR	ACCESS GROUP DESCRIPTION 2
AGGPD3	060	CHAR	ACCESS GROUP DESCRIPTION 3
DATE	008	CHAR	CURRENT DATE
DOW	015	CHAR	DAY OF WEEK
LVGBST	001	CHAR	3800 BURST SPECIFIED IF ‘Y’
LVGC1N	004	CHAR	NAME OF ARRANGEMENT TABLE #1
LVGC2N	004	CHAR	NAME OF ARRANGEMENT TABLE #2
LVGC3N	004	CHAR	NAME OF ARRANGEMENT TABLE #3
LVGC4N	004	CHAR	NAME OF ARRANGEMENT TABLE #4
LVGCHR	001	CHAR	3800 CHARACTER ARRANGEMENT
LVGCLS	001	CHAR	SEGMENT - CLASS
LVGCPY	003	CHAR	SEGMENT - COPY COUNT
LVGDDN	008	CHAR	SEGMENT - DDNAME
LVGDSP	001	CHAR	SEGMENT - DISPOSITION
LVGFAV	001	CHAR	SEGMENT - FCB EXTENDED FUNCTION
LVGFCB	004	CHAR	SEGMENT - FCB ID
LVGFLS	004	CHAR	NAME OF FORM FLASH FOR 3800
LVGFRM	004	CHAR	SEGMENT FORM ID
LVGFS#	003	CHAR	NUMBER OF COPIES TO BE FLASHED
LVGNS	010	NUM	SEGMENT - NUMBER OF SEPARATOR PG
LVGRJE	008	CHAR	SEGMENT - ‘TO REMOTE’ ID
LVGRLN	003	CHAR	SEGMENT - RECORD LENGTH
LVGUCF	001	CHAR	UCS FOLD SPECIFIED IF ‘Y’
LVGUCN	004	CHAR	UCS TABLE NAME
LVGUCV	001	CHAR	UCS VERIFY SPECIFED IF ‘Y’
LVGWRN	008	CHAR	SEGMENT - WRITER NAME
LVMSG	030	CHAR	SEPARATOR MESSAGE DATALVMSG
RTADN	044	CHAR	ARCHIVE DATASET NAME
RTAVL	006	CHAR	ARCHIVE VOL SER (FIRST VOL)
RTDDN	008	CHAR	DATA DATASET NAME
RTDIF	040	CHAR	DISTRIBUTION IDENT. FIELD
RTDVL	006	CHAR	DATA VOL SER
RTLP	010	NUM	LOCATIONS PROCESSED
RTPLP	010	NUM	PRINT LINES PROCESSED
RTPP	010	NUM	PAGES PROCESSED
RTQDN	044	CHAR	QUEUE DATASET NAME
RTQVL	006	CHAR	QUEUE VOL SER
RTRIF	040	CHAR	RUN IDENTIFICATION FIELD

VARIABLE	LENGTH	TYPE	DESCRIPTION
RTRRD	006	CHAR	RM80004 RUN DATE (HHMMSS)
RTRRT	006	CHAR	RM80004 RUN TIME
RVAG	008	CHAR	ACCESS GROUP
RVDD	006	CHAR	DATASET DATE (MMDDYY)
RVDNA	008	CHAR	DATASET NAME
RVDNU	004	CHAR	DATASET NUMBER
RVDT	006	CHAR	DATASET TIME (HHMMSS)
RVDTE	006	CHAR	RM80004 DATE (MMDDYY)
RVJNA	008	CHAR	JOB NAME
RVJNU	004	CHAR	JOB NUMBER
RVMTN	010	CHAR	MEDIA TYPE NAME
RVNL	004	CHAR	NUMBER OF LINES
RVREP	008	CHAR	REPORT ID
RVRPT	035	CHAR	REPORT TITLE
RVTFC	002	HEX	TOP OF FORMS CHANNEL
RVTME	006	CHAR	RM80004 TIME
SACADW	015	CHAR	DAY OF WEEK
SACED	008	NUM	EDITED DATE
SACET	008	NUM	EDITED TIME
SATERM	008	CHAR	TERMINAL ID
SAUSER	008	CHAR	USER ID
SAVM	004	CHAR	VERSION/MOD LEVEL
TIME	008	CHAR	CURRENT TIME
USADR1	040	CHAR	USERS ADDRESS LINE 1
USADR2	040	CHAR	USERS ADDRESS LINE 2
USADR3	040	CHAR	USERS ADDRESS LINE 3
USADR4	040	CHAR	USERS ADDRESS LINE 4
USDPJC	020	CHAR	USERS DPRINT JCL NAME
USER	008	CHAR	USER ID
USNAME	040	CHAR	USERS NAME
USPHON	040	CHAR	USERS PHONE NUMBER
USSPJC	020	CHAR	USERS SPRINT JCL NAME
USUTYP	001	CHAR	USER TYPE

Leaflet Variable Symbol

Appendix-F

JCL VARIABLE SYMBOLS

Variable for PRT.JOB.PRINT Substitution

VARIABLE SYMBOL	LENGTH	DESCRIPTION
$DATE	6	CURRENT DATE
$TIME	6	CURRENT TIME
$QXAVOL	6	ARCHIVE VOLS SER
$USER	8	USER ID
$LRECL	3	PRINT LRECL
$AG	8	ACCESS GROUP
$LOC	16	LOCATION
$SEG	8	SEGMENT NAME
$REPORT	8	REPORT ID
$RDATE	6	RELEASE DATE
$RTIME	6	RELEASE TIME
$OUTC	1	OUTPUT PRINT CLASS
$DEST	8	PRINT DESTINATION
$CHARS	19	CHARACTER SETS
$OPTCD	1	OPTCD
$MEDIA	10	MEDIA
$DSID	8	DATASET ID
$FORM	4	FORM
$CFORM	5	FORM (PRECEDED BY A COMMA)
$FCB	4	FCB
$COPIES	3	COPIES
$PASSWORD	8	PASSWORD AS ENTERED ON PANEL
$FLASH	4	FORMS FLASH NAME
$EWN	4	FORMS FLASH NAME
$RUNDT	6	RM80004 RUN DATE
$RUNTM	6	RM80004 RUN TIME
$JOBNA	8	RM80004 JOB NAME
$JOBNU	8	RM80004 JOB NUMBER
$DDNAME	8	OUTPUT CONTROL DDNAME
$SJC1	72	JCL LINE 1 (SPRINT)
$SJC2	72	JCL LINE 2 (SPRINT) FROM USER RECORD

VARIABLE SYMBOL	LENGTH	DESCRIPTION
$SJC3	72	JCL LINE 3 (SPRINT) FROM USER RECORD
$SJC4	72	JCL LINE 4 (SPRINT) FROM USER RECORD
$DJC1	72	JCL LINE 1 (DPRINT)
$DJC2	72	JCL LINE 2 (SPRINT) FROM USER RECORD
$DJC3	72	JCL LINE 3 (SPRINT) FROM USER RECORD
$DJC4	72	JCL LINE 4 (SPRINT) FROM USER RECORD

Cancel Job Stream Variable Symbols

VARIABLE SYMBOL	LENGTH	DESCRIPTION
$DATE	6	CURRENT DATE
$TIME	6	CURRENT TIME
$USER	8	USER ID
$CJC1	72	JCL LINE 1 (CANCEL) FROM USER RECORD
$CJC2	72	JCL LINE 2 (CANCEL) FROM USER RECORD
$CJC3	72	JCL LINE 3 (CANCEL) FROM USER RECORD
$CJC4	72	JCL LINE 4 (CANCEL) FROM USER RECORD

Appendix-G

RMS/BASIC

File and Job Control Requirements

RM80001 File/Job Control Requirements

File Requirements

RMS Repository Files

RMS Repository files are formatted and maintained by the RMS SUBSYSTEM. These files may reside on any DASD supported by the operating system. Multi access spool support is available for up to 7 CPUs sharing the same spool files.

RMS SYSIN File

Input consists of control statements and dataset select records Input file processing is terminated by encountering a '/ *'.

Input is assumed to be 80 character unblocked records. The symbolic name for the RMSARC/OS/MVS input file is QXPARMS. The RECFM is FB. The blocksize is 80.

RMS SYSOUT File

All input commands and dataset select records are printed on the output print file for documentation of system activity. As each data file is selected for processing, statistical data concerning the dataset is also listed on the output print file.

RMSARC/OS/MVS produces the command and statistical list under the DD named QXSTATS. The RECFM for this report is FA. RECOVERed report data may be produced under the default DD QXPRINT, under a user selected DD, to name. Regardless, the output RECFM is FM. The LRECL is selectable at the output entry level.

Utility Input/Output Files

RMS output characteristics are selectable via JCL options. The files and their symbolic names are listed below.

SYMBOLIC FILE NAMES FOR JOB CONTROL

DD/LBL NAME	USED FOR
QXPARMS VSE - SYSIPT	System input file from which all input commands and queue dataset select records are read
QXSTATS VSE - SYSLST	System print unit used for printing all commands and queue dataset select records are read
QXPRINT VSE - SYS012	System print file used for default printing of report data
QXCNTRL	DD name for the integrity file
QXARCHO VSE - SYS010	DD name for archive output
QXARCHI VSE - SYS011	DD name for archive input
QXSNAP VSE - SYSLST	DD name for "snap dump" created in conjunction with certain error messages

RM80004 File/Job Control Requirements

File Requirements

RMS Repository Files

RMS Repository files are formatted and maintained by the RMS SUBSYSTEM. These files may reside on any DASD supported by the operating system. Multi access spool support is available for up to 7 CPUs sharing the same spool files.

RMS SYSIN File

Input to RMS consists of control statements and dataset select records. Input file processing is terminated by encountering a ‘/*’.

Input is assumed to be 80 character records. The DD name for the SYSIN file is QXPARMS. The RECFM is FB. QXPARMS may be a PDS member.

RMS SYSOUT File

All input commands and dataset select records are printed on the output print file for documentation of system activity. As each data file is selected for processing, statistical data concerning the dataset is also listed on the output print file.

RMS produces the command and statistical list under the DD named QXSTATS. The RECFM for this report is FA. Restructured report data may be produced under the default DD QXPRINT, under a user selected DD, or the name specified in the SEGMENT command using dynamic allocation (*OS/MVS*). Regardless, the output RECFM is FM. The LRECL is selectable at the output segment level.

Work Files

RM80004 uses 3 work files. These files are used to store and sort the generated distribution key records.

SYMBOLIC FILE NAMES FOR JOB CONTROL

DD NAME/LBL	USED FOR
QXPARMS VSE - SYSIPT	System input file from which all input commands, and queue dataset select records are read.
QXSTATS VSE - SYSLST	System print file used for printing all commands, selection report data and restructured report data.
STATFIL	A system file that contains the counts of the number of lines and pages distributed within the RMS system. See RMS200 for a sample job to report this information.
QXPRINT VSE - SYS012	System print file used for default printing or ordered report data, and manifest(s).
SORTOUT, SORTIN,	SORT output, input files respectively.
SORTWK01 VSE - SYS001	SORT work file.
QXCNTRL	DD name for the file control dataset
QXARCHO VSE - SYS010	DD name for the optional segment archive file (used only when RUN*OPTION ARCHIVE is specified).
QXSNAP VSE - SYSLST	DD name for file to receive “snap dumps” created in conjunction with certain error messages.

Calculating Disk Work Space Requirements

RM80004 creates one distribution recipient key record for each copy of each page that is distributed. For instance, let's take a situation where we have a 3,000 page report that is to be divided among 5 users. Each user is to receive 2 copies of that report. In this case, 6,000 pages are to be distributed (3,000 x 2). 20,000 pages broadcast to each of 5 different users would require enough space to accommodate 100,000 distribution recipient key records.

Each distribution record has an average length of 158 bytes. The blocksize is 4004 bytes. In most cases, one of these blocks will accommodate the distribution key data for 30 pages. In general, enough space must be allocated for 3.25 times the number of sort records (*SORTIN, SORTOUT, SORTWK (1.25 x SORTIN*)). Some sort/merge programs require less work space than others. Refer to the sort merge reference manual for the sort installed at your installation.

Appendix-H

CONVERSION FROM POSITIONAL COMMANDS

Overview

This document is meant to help users or support staff that are converting instruction sets from positional parameters ($I,$K,,,) to the keyword parameters (IDENTIFY*FORMAT, DEFINE*KEY,,,,,). This is not meant to be a reference manual and may not cover all possibilities of code that exist for the old positional parameters. The flexibility and lack of structure allowed in the positional commands may not lend it self to a true one for one conversion to the keyword commands.

One important starting point for the conversion of any set of commands is that the person converting the commands should study the commands and the results of the commands enough to be familiar with what the positional commands are doing with the reports. This is also a great time to identify any unwanted reports or packets not wanted and delete these by assigning a copy count of zero to these pages.

Conversions

Following is a list of the keyword commands and the positional commands that make up or are equivalent to this keyword command. There are some commands without equivalents and some have multiple occurrences of positional commands.

COMMAND	OPERAND	POSITIONAL EQUIVALENTS
RUN*OPTIONS		
	KEY*TRACE	$T
	MAP	Queued Dataset Select Card (QDSC). This statement simply lists the dataset name in column 1 and a map option in column 46. See the QDSC command at the end of this section.
	DEFINE*KEY	There are no positional statements that make up the DEFINE*KEY commands. Look at the areas commonly referenced in the positional commands and use these areas as elements of the DEFINE*KEY command. The $K commands will be a good source for what will make up a key element.
	RECOVER	There are no positional statements that are equivalent to this command.
	PRIORITY	There are no positional statements that are equivalent to this command.
TRANSLATE(element)	There are two types of translate commands. The element translate is referenced from the $K card and will be done first here.	
	GROUP*ID	$M COL 03-04
	INPUT*VALUE	$M COL 07-36
	OUTPUT*VALUE	$M COL 39-68
TRANSLATE(key level)	The second type of translate command is referenced from the $I card. It is used for translation of any part of the 30 byte key. The format is different in both structures.	
	GROUP*ID	$M COL 03-04

Append_h.fm: Revised Sunday, November 24, 2013

COMMAND	OPERAND	POSITIONAL EQUIVALENTS
RUN*OPTIONS		
	element name	Not on the positional command. This is determined by the DEFINE*KEY command above. There may be as many as nine elements referenced in this command. This will be part of the comparison key value found in columns 07-36. There may be more than one element within the comparison. The elements not referenced may be skipped by the use of *'s in the comparison value.
	*element name	This is the replacement value for the element. It will be found in the $M card in columns 39-68. Here again, there may be multiple elements embedded within the replacement value.

COMMAND	OPERAND	POSITIONAL EQUIVALENTS
BROADCAST		$B
	GROUP*ID	$B COL 03-04
	COPIES	$B COL 05-06
	element name	$B COL 09-38 This field is similar to that found in the TRANSLATE command. It will be the entire key referenced in the $B command and may contain multiple elements.
	*element name	$B col 39-69 This is the replacement value for the element. It also may contain multiple elements. Elements affected by this command may be skipped with *'s in the replacement value.
COPY		$C
	GROUP*ID	$C COL 03-04
	COPIES	$C COL 05-06
	element name	$C COL 09-38 This is the comparison key value to have the copy change to take effect. The elements will be combined into one value. Any elements skipped will have *'s in those relative positions in this comparison key value field.
IDENTIFY*REPORT		$I $K $R
	NAME	$I COL 03-11
	FORMAT*DATA1	$1 COL 21-22 make up the line sub-parm $1 COL 23-25 make up the col sub-parm $1 COL 28-57 make up the data sub-parm
	element name	$K This card will contain all information that defines what will normally be an element of the distribution key. Each $K card will be at least one key element. There may be multiple $K cards that go into the building of the elements referenced in the IDENTIFY*REPORT command.

COMMAND	OPERAND	POSITIONAL EQUIVALENTS
	APPEND	$I COL 16 will contain a “P”
	BROADCAST*GROUP	$I COL 17-18
	COPIES	$I COL 12-13
	COPY*GROUP	$I COL 14-15
	MANIFEST*TITLE	$R COL 13-42
	REPORT*ID	$I COL 59-66
	TRANSLATE*GROUP	$I COL 19-20
OUTPUT*CONTROL		$O
	DDNAME	$0 COL 04-11
	SEPARATOR*PAGES	$0 COL 13
	CLASS	$0 COL 15
	DISPOSITION	$0 COL 17 H = Hold, default is spin
	COPIES	$0 COL 19-20
	FORM	$0 COL 23-26
	FCB	$0 COL 28-31
	DEST	$0 COL 33-40
	LRECL	$0 COL 42-44
	EXTERNAL*WRITER*NAME	$0 COL 46-53
CREATE*PACKET		$S
	NAME	$S COL 04-11
	element name	$S COL 19-48 This field will be like all other comparison value fields. It will contain at least one key element. Columns 13-17 will contain the starting position and length of the comparison field in the distribution key.
	MESSAGE*DATA	$S COL 50-79
FORMS*CONTROL*BUFFER		$F
	CHANNEL*1-12	$F COL 04-63 This field will contain up to 12 Cnnn fields. Channels must always be specified in ascending sequence regardless of the buffer position. One blank will appear between each field.
SELECT		Queue Dataset Select Card. This card (QDSC) starts in position 1 with the name of the dataset to be selected or an * and the prefix of the datasets to be selected. The single name will be the equivalent of the SELECT NAME (name) command. The * will indicate the need for SELECT GNAME (prefix) command.
	DESTINATION	QDSC COL 19-26
	CLASS	QDSC COL 27
	FORM	QDSC COL 33-36
	TOP*OF*FORM*CHAN	QDSC COL 48

Append_h.fm: Revised Sunday, November 24, 2013

Appendix-I

REPORTS

System Reports

RMS/Online Reports

RMS/Online provides a set of management reports that will make managing your reports easier. The reports are designed to help you take a high-level look at what reports have been distributed through RDMS and help you cross reference your online viewable reports to look at areas of interest in the viewing repository.

This facility consists of a batch program that may be scheduled and run at any point in your daily, weekly, or monthly processing cycle. It is control record driven and may be run on the entire file or a selected portion. The following describes the control record for selecting which reports are produced and the portion of the reports selected for isolation.

COMPANY:aaaa.......	This record allows identification of your company and/or department for which these reports are being selected. It is placed on each page of any report produced on the run. You may use up to 40 alphanumeric characters for this identification.
REPORT:RMS001 - RMS013	This is the basic report selection method. There are thirteen different reports that may be selected during any run. Multiple selection of a single report is not permitted and is ingored. The following are report descriptions of each of the thirteen reports and the selection criteria that limit their scope.

RMS/Online Reports on File by Location

RMS001

This report lists all selected reports and is sorted by online location. The list shows all the occurrences of the report within the selection criteria. With the selection criteria, a single online location may be isolated for review. This allows a view of all reports within that location. If no selection request records are entered, all occurrences of the report are listed.

Additional selection request records:

LOCATION:aaa......	Select a single location for processing or a generic match followed by an '*'.
ACCESS GROUP:aaa......	Select a single access group for processing.
MEDIA:aaa......	Select a single media category for processing.
REPORT ID:AAA......	Select a single report identifier for processing or a generic match followed by an '*'.

RMS/Online Reports on File by Report

RMS002

This report lists all selected reports and is sorted by the report identifier. The list shows all the occurrences of the report within the selection criteria. If no selection request records are entered, all occurrences of the report are listed.

Additional selection request records:

LOCATION:aaa......	Select a single location for processing.
ACCESS GROUP:aaa......	Select a single access group for processing.
MEDIA:aaa......	Select a single media category for processing.
REPORT ID:AAA......	Select a single report identifier for processing or a generic match followed by an ‘*’.

RMS/Online System Administration Archive Datasets

RMS003

This report lists all archive datasets referenced by the version records held in the online database. There is no selection criteria for this report. All datasets are listed.

RMS/Online Distribution Definition Reports within Instruction Set by Report

RMS004

This report lists the instruction set that placed the selected reports in the online repository. If no selection request records are entered, all reports are listed with their correct instruction set. Multiple report selections are not allowed.

Additional selection request records:

REPORT ID:AAA......	Select a single report identifier for processing or a generic match followed by an ‘*’.

RMS/Online Distribution Definition Reports within Instruction Set by Instruction Set

RMS005

This report lists the report identifiers of all reports processed by an instruction set. If no selection request records are entered, all reports are listed with their correct instruction set. Multiple report selections are not allowed. The instruction set is the name of records entered in RMS/ONLINE Distribution Definition *(main menu item 3 of RMS/ ONLINE)*.

Additional selection request records:

REPORT ID:AAA......	Select a single report identifier for processing or a generic match followed by an ‘*’.
INSTRUCTION SET:AAA......	Select a single instruction set for processing or a generic match followed by an ‘*’.

RMS/Online Distribution Definition Datasets Processed by Instruction Set

RMS006

This report lists all selected reports and is sorted by the report identifier. The list shows all the occurrences of the report within the selection criteria. If no selection request records are entered, all occurrences of the report are listed.

Additional selection request records:

DATASET:AAA......	Select a single data set for processing or a generic match followed by an '*'.
INSTRUCTION SET:AAA......	Select a single instruction set for processing or a generic match followed by an '*'.

RMS/Online System Administration User List

RMS007

This report lists all user records in the online database. There is no selection criteria for this report. All users are listed.

RMS/Online System Administration Locations

RMS008

This report lists all location records in the online database. There is no selection criteria for this report. All locations are listed.

RMS/Online System Administration Access Groups

RMS009

This report lists all access group records in the online database. There is no selection criteria for this report. All access groups are listed.

RMS/Online System Administration Security Groups (Transactions)

RMS010

This report lists all the security groups that govern security of transactions in the online database. There is no selection criteria for this report. This is a handy list to have when adding user records and setting up security for those users. All security groups are listed.

RMS/Online System Administration Security Groups (Locations)

RMS011

This report lists all the security groups that govern security of transactions in the online database. There is no selection criteria for this report. This is a handy list to have when adding user records and setting up security for those users. All security groups are listed.

RMS/Online Send Report by Report ID

RMS012

This report lists all the send report distributions records in the online database. This report shows any occurrences of sending a report to any media in the distribution cycle. It is sorted by report id and shows the instruction set in which the send can be found. All send report records with a valid report id (not blank or '*') are listed on the report.

RMS/Online Reports on File by Location

RMS013

This report lists all selected reports and is sorted by online location. The list shows all the occurrences of the report within the selection criteria. With the selection criteria, a single online location may be isolated for review. This allows a view of all reports within that location. If no selection request records are entered, all occurrences of the report are listed.

Additional selection request records:

LOCATION:aaa......	Select a single location for processing or a generic match followed by an '*'.
MEDIA:aaa......	Select a single media category for processing.
REPORT ID:AAA......	Select a single report identifier for processing or a generic match followed by an '*'.

RMS/Basic Statistical Reports

RMS200

This report lists statistical counters (number of lines, number of pages) of all distributed reports. The list shows all the occurrences of the report within the selection criteria.

Selection criteria:

COMPANY:aaaa.......	This record allows identification of your company and/or department for which these reports are being selected. It is placed on each page of any report produced on the run. You may use up to 40 alphanumeric characters for this identification.
DATE: mm/dd/yy mm/dd/yy......	Specifies a date range to be processed.

Appendix-J

RMS UTILITIES

RM90044, RM90046 and Weekly VSAM File Maintenance

Overview

RMS provides utility programs users can utilize to meet specific needs within their organization. The section explains the functionality behind three of these utility programs and details how they might be incorporated into your environment.

- RM90044
- RM90046
- Weekly VSAM File Maintenance

PRINT PUNCH (Program RM90044)

The print punch program is provided in the install JCL library member DEFPRPU.

The RM90044 program is used to punch an Online instruction set to print, or to a PDS member containing the RMS commands in keyword form. RM90044 is useful when the need arises to make mass changes to an instruction set and the task of making such changes to each panel within the instruction set is too labor intensive.

To send the instruction set DEFCON1 to print, modify the DEFPRPU member as follows:

DEFPRPU JCL MEMBER

```
//OOvvrm JOB (01,MT,853,T),'MANTISSA/BHAM',
//       CLASS=A,
//       MSGCLASS=V,
//       REGION=4M,
//       NOTIFY=
//*
//DISTPCH  PROC DMY='',                        << DO NOT CHANGE >>
//  SYSOUT='V',                              SYSOUT CLASS
// STEPLIB='PROD.OO.VvvrmP00.LINK',         STEPLIB FOR RMS/ONLINE PROGRAMS
//   QCDSN='PROD.OO.VvvrmP00.QXCNTRL',   QXCNTRL DSN OR DSN PREFIX
//  ABNSOC='E',                              ABEND DUMP SYSOUT CLASS
//  AUDSOC='E',                              SYSOUT CLASS
//  MSGSOC='E',                              SYSOUT CLASS
//   RSIZE='4096K'
//RM90044  EXEC PGM=RM90044,
//             REGION=&RSIZE,
//             PARM=DEFCON1  ⇓ YOUR INSTRUCTION*SET*NAME GOES HERE
//STEPLIB  DD  DSN=&STEPLIB,
//             DISP=SHR
//QXCNTRL  DD  DSN=&QCDSN,
//             DISP=SHR
//QXPRINT  DD  SYSOUT=&AUDSOC, ⇓ REFERS TO THE PROC VARIABLE TO IDENTIFY
CLASS
//             DCB=(RECFM=FM,
//             LRECL=133,
//             BLKSIZE=133)
//QXPUNCH  DD  SYSOUT=&SYSOUT
//* --------- <<<< DO NOT REMOVE THESE STATEMENTS >>>> --------*
//AUDSOC   DD  SYSOUT=&AUDSOC          <<< AUDIT SYSOUT    >>> |
//ABNLDUMP DD  SYSOUT=&ABNSOC          <<< NO AID FOR ABEND>>> |
//SYSUDUMP DD  SYSOUT=&ABNSOC          <<< SYSUDUMP CLASS   >>> |
//SYSPRINT DD  SYSOUT=&MSGSOC          <<< MESSAGE  CLASS   >>> |
//DUMMY    DD  DUMMY&DMY               <<< DO NOT REMOVE    >>> |
//* --------- <<<< DO NOT REMOVE THESE STATEMENTS >>>> --------*
//*--------------------------------------------------------------------*
//* OVERRIDE PROCEDURE DEFAULTS BELOW                                  *
//*--------------------------------------------------------------------*
//DISTPCH  PEND
//DISTPCH  EXEC DISTPCH,                       << DO NOT CHANGE >>
//*        *-----------------------------------------------------------*
//*        * DEFAULT SYSOUT CLASS
//*        *-----------------------------------------------------------*
//  SYSOUT='V',                          SYSOUT CLASS
//*        *-----------------------------------------------------------*
//*        * STEPLIB FOR RMS ONLINE PROGRAMS
//*        *-----------------------------------------------------------*
// STEPLIB='PROD.OO.VvvrmP00.LINK',     STEPLIB FOR RMS/ONLINE PROGRAMS
//*        *-----------------------------------------------------------*
//*        * QXCNTRL FILE GOVERNING ACCESS TO AN RMS FILE CLUSTER
//*        *-----------------------------------------------------------*
//   QCDSN='PROD.OO.VvvrmP00.QXCNTRL',  QXCNTRL DSN OR DSN PREFIX
//*        *-----------------------------------------------------------*
//*        * ABEND DUMP SYSOUT CLASS
//*        *-----------------------------------------------------------*
//  ABNSOC='E',                          ABEND DUMP SYSOUT CLASS
//*        *-----------------------------------------------------------*
//*        * RMS AUDIT TRAIL SYSOUT CLASS
//*        *-----------------------------------------------------------*
//  AUDSOC='E',                          SYSOUT CLASS
//*        *-----------------------------------------------------------*
//*        * MESSAGE SYSOUT CLASS
//*        *-----------------------------------------------------------*
//  MSGSOC='E',                          SYSOUT CLASS
//   RSIZE='4096K'
```

To send the instruction set DEFCON1 to a PDS member, modify the DEFPRPU member as follows:

DEFPRPU JCL MEMBER

```
//OOvvrm JOB (01,MT,853,T),'MANTISSA/BHAM',
//       CLASS=A,
//       MSGCLASS=V,
//       REGION=4M,
//       NOTIFY=
//*
//DISTPCH  PROC DMY='',                       << DO NOT CHANGE >>
//  SYSOUT='V',                          SYSOUT CLASS
// STEPLIB='PROD.OO.VvvrmP00.LINK',     STEPLIB FOR RMS/ONLINE PROGRAMS
//   QCDSN='PROD.OO.VvvrmP00.QXCNTRL',  QXCNTRL DSN OR DSN PREFIX
//  ABNSOC='E',                          ABEND DUMP SYSOUT CLASS
//  AUDSOC='E',                          SYSOUT CLASS
//  MSGSOC='E',                          SYSOUT CLASS
//   RSIZE='4096K'
//RM90044  EXEC PGM=RM90044,
//              REGION=&RSIZE,
//              PARM=DEFCON1  ⇓ YOUR INSTRUCTION*SET*NAME GOES HERE
//STEPLIB  DD  DSN=&STEPLIB,
//              DISP=SHR
//QXCNTRL  DD  DSN=&QCDSN,
//              DISP=SHR
```

```
//QXPRINT  DD  SYSOUT=&AUDSOC,
//             DCB=(RECFM=FM,
//             LRECL=133,
//             BLKSIZE=133)
//QXPUNCH  DD  DSN=PROD.OO.JCLLIB(DEFCON1),DISP=SHR  ⇓ SPECIFY PDS
MEMBER
//* --------- <<<< DO NOT REMOVE THESE STATEMENTS >>>> --------*
//AUDSOC   DD  SYSOUT=&AUDSOC          <<< AUDIT SYSOUT    >>> |
//ABNLDUMP DD  SYSOUT=&ABNSOC          <<< NO AID FOR ABEND>>> |
//SYSUDUMP DD  SYSOUT=&ABNSOC          <<< SYSUDUMP CLASS  >>> |
//SYSPRINT DD  SYSOUT=&MSGSOC          <<< MESSAGE  CLASS  >>> |
//DUMMY    DD  DUMMY&DMY               <<< DO NOT REMOVE   >>> |
//* --------- <<<< DO NOT REMOVE THESE STATEMENTS >>>> --------*
//*-----------------------------------------------------------------*
//* OVERRIDE PROCEDURE DEFAULTS BELOW                               *
//*-----------------------------------------------------------------*
//DISTPCH  PEND
//DISTPCH  EXEC DISTPCH,                         << DO NOT CHANGE >>
//*        *--------------------------------------------------------*
//*        * DEFAULT SYSOUT CLASS
//*        *--------------------------------------------------------*
//  SYSOUT='V',                        SYSOUT CLASS
//*        *--------------------------------------------------------*
//*        * STEPLIB FOR RMS ONLINE PROGRAMS
//*        *--------------------------------------------------------*
// STEPLIB='PROD.OO.VvvrmP00.LINK',   STEPLIB FOR RMS/ONLINE PROGRAMS
//*        *--------------------------------------------------------*
//*        * QXCNTRL FILE GOVERNING ACCESS TO AN RMS FILE CLUSTER
//*        *--------------------------------------------------------*
//   QCDSN='PROD.OO.VvvrmP00.QXCNTRL',  QXCNTRL DSN OR DSN PREFIX
//*        *--------------------------------------------------------*
//*        * ABEND DUMP SYSOUT CLASS
//*        *--------------------------------------------------------*
//  ABNSOC='E',                        ABEND DUMP SYSOUT CLASS
//*        *--------------------------------------------------------*
//*        * RMS AUDIT TRAIL SYSOUT CLASS
//*        *--------------------------------------------------------*
//  AUDSOC='E',                        SYSOUT CLASS
//*        *--------------------------------------------------------*
//*        * MESSAGE SYSOUT CLASS
//*        *--------------------------------------------------------*
//  MSGSOC='E',                        SYSOUT CLASS
//   RSIZE='4096K'
```

Once the instruction set has been punched to the PDS library the necessary changes can be made.

Once changed the commands can then be executed by altering the QXPARMS DD in the RM80004 job to reference the newly created library member.

FROM:

```
//QXPARMS DD *
            RUN*OPTIONS INSTRUCTION*SET*NAME(DEFCON1)
```

TO:

```
//QXPARMS DD DSN=PROD.OO.JCLLIB(DEFCON1),DISP=SHR
```

NOTE: At the present time there is not a utility program to upload the new PDS member back into the Online QXDCDS file. The RM90044 program will not remove the instruction set from the DCDS file, it will remain in the file until you manually delete it using the delete function within RMS Online Distribution Definition.

COPYISN (Program RM90046)

The RM90046 program is used to move an online instruction set from one DCDS file to another. This program provides a way to copy an instruction set that has been certified in test and is now ready to be moved into production.

The COPYISN proc resides in the JCL library member COPYISN.

The RM90046 program uses QXVSIN and QXVSOUT referenced in the QXCNTRL file.

- **QXVSIN** represents the ‘from’ DCDS file that contains the instruction set to be copied.
- **QXVSOUT** represents the ‘to’ DCDS file which will house the specified instruction set.

To verify the QXVSIN and QXVSOUT specifications are correct in the QXCNTRL file, browse it using 3.4 in ISPF. Once in browse mode, PF11 or shift right.

If the QXCNTRL file was not initialized with valid DCDS file specifications for QXVSIN and QXVSOUT, do the following before submitting the COPYISN job.

- Run the INST02 job from the install JCL library to initialize a new QXCNTRL file.
- If you choose, you can allocate a QXCNTRL file specifically for use with the RM90046 program so that you do not reference the production QXCNTRL file.

In the JCL sample below, specify the instruction set name to copy on the QXPARMS DD.

```
//COPYISN  JOB (0000,0001),'HOLLER',CLASS=A,MSGCLASS=E
//LIBRARY  JCLLIB ORDER=PROD.OO.VvvrmP00.JCL
//COPYISN  PROC DMY='',                <<< DO NOT CHANGE >>>
//* ------------------------------------------------------------------*
//* COPYISN PROCEDURE                                                 *
//*         COPY DISTRIBUTION INSTRUCTION SET FROM ONE DCDS FILE      *
//*         TO ANOTHER.                                               *
//* ------------------------------------------------------------------*
//* ------------------------------------------------------------------*
//* NOTE: CHANGE QXPARMS SYSIN MEMBER TO THE NAME OF THE ISN BEING    *
//*       COPIED.  THE PARM VALUE MUST BEGIN IN COLUMN 1.             *
//* ------------------------------------------------------------------*
//  DCDSIN='PROD.OO.VvvrmP00.TSO.QXDCDS',      COPY FROM TSO DCDS FILE
// DCDSOUT='PROD.OO.VvvrmP00.QXDCDS',         COPY TO CICS DCDS FILE
//*        *----------------------------------------------------------*
//*        * DEFAULT SYSOUT CLASS
//*        *----------------------------------------------------------*
//  SYSOUT='E',                        SYSOUT CLASS
//*        *----------------------------------------------------------*
//*        * ABEND DUMP SYSOUT CLASS
//*        *----------------------------------------------------------*
//  ABNSOC='E',                        ABEND DUMP SYSOUT CLASS
//*        *----------------------------------------------------------*
//*        * RMS AUDIT TRAIL SYSOUT CLASS
//*        *----------------------------------------------------------*
//  AUDSOC='E',                        SYSOUT CLASS
//*        *----------------------------------------------------------*
//*        * MESSAGE SYSOUT CLASS
//*        *----------------------------------------------------------*
//  MSGSOC='E',                        SYSOUT CLASS
```

```
//*        *-----------------------------------------------------------*
//*        * STEPLIB FOR RMS PROGRAMS - NON-AUTHORIZED PROGRAMS
//*        *-----------------------------------------------------------*
// STEPLIB='PROD.OO.VvvrmP00.LINK',   STEPLIB FOR RMS PROGRAMS
//*        *-----------------------------------------------------------*
//*        * QXCNTRL FILE GOVERNING ACCESS TO AN RMS FILE CLUSTER
//*        *-----------------------------------------------------------*
//   QCDSN='PROD.OO.VvvrmP00.RM90046.QXCNTRL',  QXCNTRL
//   RSIZE=4096K                       <<< DO NOT CHANGE <<<
//RM90046  EXEC PGM=RM90046,
//             REGION=&RSIZE
//STEPLIB  DD  DSN=&STEPLIB,
//             DISP=SHR
//QXCNTRL  DD  DSN=&QCDSN,          ⇓ Refers to the QXCNTRL file that
houses:
//             DISP=SHR
//QXVSIN   DD  DSN=&DCDSIN,         ⇓DCDS filename copied 'from'
//             DISP=SHR                        and
//QXVSOUT  DD  DSN=&DCDSOUT,        ⇓DCDS filename copied 'to'
//             DISP=SHR
//QXPRINT  DD  SYSOUT=&SYSOUT
//SYSOUT   DD  SYSOUT=&SYSOUT
//QXPARMS  DD  DDNAME=QXPARMS
//* --------- <<<< DO NOT REMOVE THESE STATEMENTS >>>> --------*
//AUDSOC   DD  SYSOUT=&AUDSOC          <<< AUDIT SYSOUT    >>> |
//ABNLDUMP DD  SYSOUT=&ABNSOC          <<< NO AID FOR ABEND>>> |
//SYSUDUMP DD  SYSOUT=&ABNSOC          <<< SYSUDUMP CLASS  >>> |
//SYSPRINT DD  SYSOUT=&MSGSOC          <<< MESSAGE  CLASS  >>> |
//DUMMY    DD  DUMMY&DMY               <<< DO NOT REMOVE   >>> |
//* --------- <<<< DO NOT REMOVE THESE STATEMENTS >>>> --------*
// PEND
//RM90046 EXEC PROC=COPYISN
//*------------------------------------------------------------------*
//* OVERRIDE PROCEDURE DEFAULTS BELOW                                *
//*------------------------------------------------------------------*
//RM90046.QXPARMS  DD *
INSTRUCTION*SET*NAME(RDMSCASE)           ⇓ ISN TO BE COPIED
/*
```

Sample of COPYISN executed from a proclib:

If site standards dictate that procs reside in a system proclib, use the JCL sample below with the appropriate changes to execute the COPYISN proc.

```
//COPYISN1 JOB (0000,0001),'HOLLER',CLASS=A,MSGCLASS=E
//COPYISN  EXEC COPYISN
//RM90046.QXCNTRL  DD DISP=SHR,DSN=PROD.OO.VvvrmP00.RM90046.QXCNTRL
//RM90046.QXPARMS  DD *
INSTRUCTION*SET*NAME(RDMSCASE)⇓ ISN TO BE COPIED
/*
```

WEEKLY VSAM FILE MAINTENANCE (MAINT01)

Mantissa recommends implementing one of the following methods for maintaining the VSAM files on a weekly basis. Regardless of which method you choose, it is prudent to maintain the VSAM files on a periodic basis to ensure VSAM file integrity.

MAINT01

The MAINT01 job provides a technique for RMS Online users who run only $R UPDATE restores (RM90008) to maintain their VSAM files. Because the RM90008 $R UPDATE restore does not update the files, periodically it becomes necessary for the VSAM files to be reorganized. The file reorganization clears up CA/CI splits that exist within the files. MAINT01 will delete the temp storage and print control records that are written to the QXACDS file owing to the fact that RMS Online functions in pseudo-conversational mode to CICS.

MAINT01 is executed from member INST12 in the RMS installation JCL library. To execute MAINT01:

- Ensure your RMS Control Region is down
- VSAM files (QXACDS, QXDCDS, and QXRCDS) must be closed & disabled in CICS

Verifying successful condition codes for the job steps at step completion ensures the VSAM files do not become corrupted if unexpected results are received when the job executes.

RMS Release 11.33 and above allows Online users the option to use a virtual worktable within CICS storage to handle the temp storage and print control records. If you are using this work dataset (QXWKDS), it is not necessary to sort the QXACDS file to remove the temp storage and print control records, as these will be housed in the worktable that exists in CICS. The worktable is cleared and reloaded each time CICS is cycled.

IDCAMS: DELETE/DEFINE

If restore options other than $R UPDATE are regularly used, running an IDCAMS DELETE/DEFINE job is recommended to reorganize the VSAM files between the RM90007 (backup) and RM90008 (restore) jobs.

Glossary

REPORT MANAGEMENT

Terminology

Archiving

The copying of report data to alternate media in order to free space in the repository and permit subsequent recovery.RMS supports the following types of archive files:

ARCHIVE TYPE	CREATED BY	WHEN?	CHARACTERISTICS
Bulk	**RM80001**	**On Demand**	**Frees Repository space, permits recovery of any number of BASE datasets.**
Packet	**RM80004**	**During Distribution**	**Permits printing of all or part of a distributed packet. Recovery may be initiated by batch job or RMS/ONLINE transaction.**
Group	**Control Region**	**Automatically, based on retention criteria**	**Permits reload and printing of individual reports. Recovery is initiated from RMS/Online.**

Automatic Packaging Panel

This panel provides you with the capability to create multiple packets from a single panel. This panel is particularly useful when you need to define many packets, but do not want to define packaging criteria for each. This time-saving panel provides great packet definition flexibility.

Auto Report Definition Panel

This panel is used to define multiple reports with a single panel. Only use this panel if all reports you want to select have the same identifying structure. For example, the REPORT ID and recipient fields data must be found in the same location (*line and column)* on each report.

Base Dataset

A single selectable repository entry. The base dataset may contain any number of reports. The name of the dataset is either the name of the job that created the entry or the name specified in the external writer name field of the SYSOUT DD statement with which the report was created. Dataset names may also be assigned through use of the RMS Dataset Profile capability.

Broadcast

The BROADCAST command allows you to send one user’s report data to an additional user.

Broadcasting

The term broadcasting is used in reference to the distribution of a report(s) to an endpoint(s) in addition to the originally specified endpoint.

Checkpoint Dataset

A non-processable queue entry with a name beginning with the character '@'. The checkpoint dataset is used to define the end of a unit of work for processing by any of the RMS systems. Its presence in the repository provides a means by which the RMS software can ensure all reports to be processed during the current execution have been drained from JES.

Common Definitions

This chapter contains the definitions of commonly used terms in this manual and in a Report Management environment. References to the documentation are included where appropriate.

Content/Recipient Conversion Panel

This panel is used to convert the value of a single element or recipient field from a character string found on the report to a different value before being placed in the distribution key. It is commonly used to convert values found on one report to a set of values found on other reports so these common elements will sort together.

Copy Control Panel

This optional panel is used to specify the number of copies of a report going to a specific location if it varies from the default value specified on the CUSTOM REPORT DEFINITION PANEL. First enter *as specified on the CUSTOM REPORT DEFINITION PANEL*, then enter the number of copies that will override the default. Enter "*" in REPORT ID if all ID's should be affected by this panel. You can also enter the start and end dates during which the override will be in effect or you can enter the start date and the duration (*number of days*). Enter the specific values for the location or recipient fields you want the panel to affect.

CREATE*PACKET

The CREATE*PACKET command is used to tell RM80004 when to open a new packet. This packet will not be closed until another CREATE*PACKET command matches the attributes of the current page in the output stream. Once closed, the packet is never re-opened.

Custom Packaging Panel

This panel provides you with the specifications to bundle the desired reports that are to be distributed to a common endpoint. This panel is used to tell RM80004 when to open a new packet. This packet will not be closed until another CREATE*PACKET command matches the attributes of the current page in the output stream. Once closed, the packet is never re-opened.

Custom Report Definition Panel

This panel allows you to specify the necessary parameters to identify a specific report(s) to be processed by RMS. This panel is equivalent to the RMS/BASIC IDENTIFY*REPORT command. This panel provides ID information, it does not actually select reports.

Data Insertion Panel

This optional panel is used to insert data into any desired point in the specified report(s) packet. Data can be inserted at the beginning of a report, or at the end of a report. In addition, the data can be added to the start or end separator pages. This panel can be valuable for inserting laser printer control parameters such as DJDE and X'5A' control records.

Dataset Selection Panel

This screen allows you to select the desired datasets from the repository for printing distribution. Two types of selection are available - by specific name or by generic prefix. Generic prefix select allows the use of the wildcard character "*", which will match any character. As many datasets as desired can be selected during a single execution.

Define*Key

The DEFINE*KEY command is required and is used to specify the name, start position, and length of each key element. The key elements determine the sort order of the reports. Refer to the definition of Distribution Key for more information.

Distribution Endpoint

The distribution endpoint is usually an end user identification. This endpoint provides the system with an identification code for the recipient of any specified reports.

Distribution Key

The key, constructed through the use of RM80004 control commands, that governs the output sequence of the report data being processed. The distribution key is 30 characters long. For every page, it is initialized to spaces by RM80004 before interpretation of any key definition commands.

Distribution Key Element

Part of the distribution key. For example, if the distribution key consists of the division and district office numbers, both division and district numbers are considered key elements.

Distribution Options Panel

This panel allows you to define the priority of the media to which you are sending the selected datasets. This part of the panel is the command equivalent to the RM80004 command MEDIA*CATEGORY parameter of the RUN*OPTIONS command. This panel also allows you to specify the identifying key name and up to 9 key elements. The key name and the elements are used to describe items on a report so the system can identify the report for selection and processing. This part of the panel is equivalent to the RM80004 DEFINE*KEY command. This panel establishes the instruction set (*when deleted the instruction set is deleted*). Panel 1 of 2 establishes the recipient fields, their names and lengths. Panel 2 of 2 sets all the run options. These panels are equivalent to the DEFINE*KEY and RUN*OPTION commands.

Extracting

The recovery of queue datasets (reports) from an archive dataset created by RMS/ARC.

FORM*CONTROL*BUFFER

The FORM*CONTROL*BUFFER command is used to specify the channel control characteristics of datasets.

IDENTIFY*REPORT

The IDENTIFY*REPORT command is used to distinguish between reports within the selected datasets. It gives the report a logical name and establishes the way that the report distribution key is built.

INSERT*DATA*STREAM

The INSERT*DATA*STREAM command allows you to insert any desired data into a report(s). You can insert character or hexadecimal data. In addition, the command provides such options as inserting the data before or after the REPORT ID, testing for a specific copy number and inserting only under specified conditions, inserting the data a specified number of times, and testing and inserting the data for a specific LOCATIPage Format Data

A data string(s) within the first eighty eight (88) lines of the top of a report page that uniquely identifies a particular report. This data may be any alphanumeric data string of up to 30 characters. Usually, the page format data is part of the title or heading data for the report.

Key Element

The key element is a part of the distribution key (*see the definition of Distribution Key*). It serves as a parameter to tell the system the specific pieces that make up the distribution key. For example, if the distribution key consists of a region number and a company name, the region number and company name are the key elements.

Mapping

Mapping is an RMS process that allows you to produce a report, or part of a report, with a horizontal and vertical line/column number guide. This tool is particularly helpful in determining the location of key elements (*see the definition of Key Element*).

ORDER PHASE

During this phase, RM80004 sorts the keys selected in the Scan Phase.

OUTPUT*CONTROL

The OUTPUT*CONTROL command and its parameters are used to assign the desired output characteristics to one or more packets of report data. All CREATE*PACKET commands following this command will use these print characteristics.

Output Phase

During this part of distribution processing, RM80004 reads all output control commands and executes them accordingly. This is the last phase of RM80004 execution. When this phase starts, the distribution key for each page has been produced (*Scan phase)* and sorted (*Order Phase*). The sorted distribution key records are read and compared with the CREATE*PACKET (*custom packaging panels*) commands for the making of packets.

Output Priority Panel

This optional panel is used to control the order of production of reports meeting the conditions specified on this panel. A low priority number will cause the report to be processed before a report with a high priority number. Simply enter the desired priority number in the PRIORITY field. Then you can enter the start and end dates during which this panel will be in effect. If you prefer, you can enter the start date and the duration (*number of days*). The default priority is 5000. The priority numbers can range from 1 to 9999.

Page Format Data

This is a commonly used term that refers to a data string that is contained within the first 88 lines at the top of a report page that uniquely identifies a particular report. Usually, the page format data is part of the title or heading data for the report.

Priority

The PRIORITY command is used to alter the output sequence of reports with the same key element value.

Recipient/Location Equate Panel

This panel is used to define a LOCATION ID. The ID is simply a logical name assignment to a specific set of identifying elements in a report. The identifying elements (*key elements, also called recipients*) are defined once, and the LOCATION ID can be on all panels allowing the use of this feature.

Recipient/Recipient Convert Panel

This panel is used to convert the contents of one or more variables from one value to another. This conversion takes place only when the specified value(s) occurs in the indicated variable(s). For example, suppose you want to specify a REGION number when the COMPANY number is a certain value. In addition, you want this conversion to occur only when the MEDIA*CATEGORY is HARDCOPY (*indicate the media type by specifying the first letter)*. The media type specified on this panel must match the type specified for the REPORT ID on the CUSTOM DEFINITION PANEL. The SEND REPORT PANEL can be used to send to other media types.

Report

A group of print data pages each bearing consistent page format data.

Report Mapping

A distribution component installation aid that reproduces a report with horizontal and vertical reference numbers. The line number of each line is also printed in print positions 2 and 3 or at the column location you select (*see RUN*OPTIONS*). Mapping *eliminates* the need to research program listings or output dumps to determine the line/column location of page format and key data. Mapped report data provides all the information necessary to prepare RM80004 control commands. Mapping is requested via the RUN*OPTIONS command.

Report Top of Form

Top of Form refers to the channel delimiting the beginning of each page of a queue dataset. Channel 1 is the default. [Equivalent terms: Report Top of Form]

RMS/ARC

RMS/ARC is the Report Management and Recovery System, and provides report backup, recovery, and output media control for all report data.

RUN*OPTIONS

The RUN*OPTIONS command and its parameters are used to set a variety of execution options, such as number of lines per page, set the key trace for error tracking, and map the report for line and column rulers for definition purposes.

Scan Phase

During this phase, RM80004 builds the keys as defined by the key element structure.

SELECT

This command allows you to specify the reports that should be processed by RM80004. You can select a report(s) by its specific name or you can select multiple reports at one time with the use of wildcard character(s).

Send Report Panel

This optional panel is used to send a report(s) to a destination in addition to the one originally specified. In the REPORT ID field, enter the REPORT ID, as specified on the CUSTOM REPORT DEFINITION PANEL. Enter "*" for the REPORT ID if all IDs will be sent to the endpoint specified on this panel. In addition, enter the number of copies of the report(s) that will be going to the new destination. If desired, enter the start and end dates that this panel will be effective or enter the start date and duration (*number of days*) that this panel will be effective.

Set Reorganization Panel

This optional panel is used to alter the key definitions specified on the DISTRIBUTION OPTIONS PANEL. It can also be used to make a copy of an instruction set.

TRANSLATE

The TRANSLATE command is used to substitute the value in a key element for another value. Translate commands can be grouped together with a group identifier. This command is useful when you need to alter unsuitable keys or key elements to achieve the proper sort sequence of distribution keys.

WAITARC

WAITARC is the process code assigned to BASE datasets that were not indexed when they were transferred to the repository. The WAITARC PROCESS CODE is assigned after an RM80001 ARCHIVE PURGE job has run and selected the datasets. BASE datasets that are not indexed are considered to be non-managed datasets. Non-managed datasets are candidates for purge processing once the RM80001 archive purge job has run and there are no RETENTION-BASED ARCHIVE SUMMARY files (Owner=RMSC0007) remaining to be processed by the Archive sub-task.

WAITARCINDX

WAITARCINDX is the process code assigned to BASE datasets that were indexed when they were transferred to the repository, meaning there was a DEFAULT*FILESET in the control region start-up parameters, or if the datasets were transferred via the JES exit, the profile record in the Online (Main menu #4) had a FILESET specified. The WAITARCINDX PROCESS CODE is assigned after an RM80001 archive purge job has run and selected the datasets. BASE datasets that are indexed are considered to be managed datasets. Managed datasets are maintained by the RM90007/RM90008 programs and are not candidates for purge processing until the backup and restore programs have run, and all RETENTION-BASED ARCHIVE SUMMARY files (Owner=RMSC0007) have been processed by the control region.

Index of References

Symbols

! 581
$B 656
$C 656
$F 657
$I 655, 656
$K 655, 656
$R 656
$S 657
$T 655
? 581
@ 581

Numerics

132 Column Support 485

A

- Access authorization panel 141, 234
  - bypassing 78
- Access group 209
  - adding 145
  - distributing data to 211
- Administration
  - finding 240
- Administrative control dataset records 137
- Administrative documents 642
- Administrative menu panel 144, 170, 172, 175, 180
- AESFPRIV 432
- AFTER_PART 532
- ALLOCLIB 480
- ALOAD 480
- Alphabetical cross reference 134
- ALTSCRN 506
- AN 241
- Apache Tomcat 557
- Apache Web Server Jserv 557
- Application areas
  - archive/recovery 35, 37
  - selective printing 36
  - tracking 37
- ARCHIVE 487
- Archive / Distribution Component Configuration 516
- Archiving data 669
  - full dataset 131
  - management 117, 204
  - packets 611
- ATG Dynamo Application Server 557
- authorized 480
- Auto report definition panel 98, 669
- Automatic packaging panel 101, 669
- auxiliary subsystem 524

B

- BACKOUT 545, 546
- Backup 112
- Bajie Server 557
- Base datasets 77
  - definition of 669
  - example of 43, 137
  - naming conventions 44
  - scan phase 71
- BEA WebLogic Server 557
- BLOAD 480
- Borland AppServer 557
- Brokat Server Technologies 557
- BUFFSIZE 545, 546

C

- cache array 520, 524
- Call interface modules
  - ESFCLOS 425
  - ESFCOMI 432
  - ESFNECT 430
  - ESFOPEN 423
  - ESFOPNC 423
  - ESFPURC 428
  - ESFPURG 428
  - ESFREAD 427

- ESFROUC 430
- ESFROUT 430
- ESFSTAC 428
- ESFSTAT 428
- ESFWRIT 425

Case study
  - system administration 169

Caucho Technology Resin 557
CDRMS1 481
CDRMS2 481
CEND 432
CHANNEL 618
Checkpoint
  - dataset 517
  - lock 552
  - requirements 482

checkpoint 554
Checkpoint dataset 670
  - naming conventions 44

CHKPT 555
CICS 485, 505, 523
CICS front end for RMS/Online 532
CICS front-end for RMS/Online 505
CICS PROC 496
CICS setup for RMS/Online 532
CICS Transaction Gateway 491, 510
CID 432
CKD disk types 502
Command description
  - display panel 240

Command order 118
  - using keyword commands 589

Command sequence error 294
Commands
  - archive/recover 115
  - format and parameters 119
  - task cross reference 589

Commands - archive/recovery
  - AFTER*REPORT*ID 119
  - ARCHIVE 124
  - BEFORE*REPORT*ID 119
  - BURST 122
  - CHARS 122
  - CHECKPOINT*RECOVERY 124
  - CLASS 122, 127
  - CONCATENATE 127
  - CONCATENATION 572
  - CONTROL*CHAR 119
  - COPIES 122
  - CROSS*REFERENCE 127
  - DASD 117
  - DD 637
  - DDNAME 122
  - DESTINATION 122, 127
  - DISPOSITION 123
  - DM 637
  - DOS*COMPAT 124
  - DP 637
  - ENDSEP 121
  - EXIT*NAME 128
  - FLASH 123
  - FORM 123, 128
  - FORM*CONTROL*BUFFER 123
  - GENERATE 126
  - GNAME 127
  - INPUT*PROCESS*CODE 125, 612
  - INSERT*DATA 118, 119
  - INSERT*DATA*STREAM 119
  - INSERT*HEX*DATA 119
  - JOB*NAME 128
  - JOB*NUMBER 128
  - LRECL 123
  - MANIFEST 121
  - NAME 127
  - NUMBER*TIMES 119
  - OUTPUT*CONTROL 118, 119, 121
  - PROCESS*CODE 128
  - PURGE 124
  - RECOVER 124, 132
  - REPORT*ID 611, 617, 622, 626, 636
  - REPORT*NUMBER 129
  - REPOSITORY*RELOAD 128
  - RETRIEVE 125
  - RUN*MODE 118, 119
  - RUN*MODE (ARCHIVE Mode) 123
  - RUN*MODE (RECOVER Mode) 124
  - RUN*MODE (RETRIEVE Mode) 124
  - RUN*OPTION 118, 119
  - RUN*OPTIONS 125
  - SEGMENT*NAME 119
  - SELECT 118, 127
  - SELECT(OS/MVS) 127
  - SEPARATOR*PAGES 123
  - STARTSEP 121
  - UCS 123
  - USER*ID 126

Commands - distribution
  APPEND 620, 657
  BROADCAST 291, 292, 585, 586, 589, 601, 614, 620, 657, 669
  BROADCAST*GROUP 601
  BURST 630
  CHARS 631
  CLASS 623, 631, 657
  COMMAND*BUFFER*SPACE 295
  COPIES 631, 656
  COPY 585, 586, 589, 598, 614, 616
  COPY*GROUP 598
  CREATE*PACKET 292, 594, 596, 602, 628, 633, 635, 657, 670
  cross reference of tasks 589
  DEFINE*KEY 589, 593, 609, 655
  DEST 657
  DISPOSITION 631, 657
  DUPLEX 635
  ENDSEP 629
  EXTERNAL*WRITER*NAME 123
  FCB 657
  FORM 632
  FORM*CONTROL*BUFFER 292, 604, 614, 617, 618, 624, 657, 671
  FORMS*CONTROL* BUFFER 657
  GNAME 587
  GROUP*ID 598, 615, 617, 655, 656
  IDENFITY*REPORT 602
  IDENTIFY*FORMAT 585, 586, 655
  IDENTIFY*REPORT 291, 292, 586, 594, 598, 601, 614, 618, 619, 620, 622, 656, 657, 671
  INDEX PACKET 292
  INPUT*VALUE 626
  INSERT*DATA 604
  INSERT*DATA*STREAM 119, 603, 604, 627, 628, 672
  INSERT*HEX*DATA 604
  LOCATION*ID 610, 615, 617, 626, 635
  LOCATION*NAME 635
  LRECL 632
  MANIFEST 629
  MANIFEST*COPIES 635
  MANIFEST*DETAIL*BREAK 635
  MANIFEST*TITLE 594, 621
  MEDIA*CATEGORY 610, 613, 616, 617, 621, 626, 632, 633, 635
  MESSAGE*DATA 636
  NAME 587, 623, 656
  OUTPUT*CONTROL 122, 293, 294, 594, 615, 616, 620, 623, 630, 631, 632, 657, 672
  PRIORITY 633, 655
  RECOVER 610, 655
  REGION 601
  REPORT*ID 594, 602, 616
  ROLLOVER 596, 634
  RUN*OPTIONS 126, 291, 601, 611, 612, 613, 614, 655, 673
  SEARCH 619
  SEGMENT*NAME 604, 629
  SEGMENT*PAGE*LIMIT 614
  SELECT 587, 588, 595, 614, 618, 619, 623, 624, 625, 657, 673
  SEPARATOR*PAGES 294, 632, 636
  SOFTCOPY 601, 614
  STARTSEP 629
  task command cross reference 589
  TRANSLATE 585, 614, 622, 625, 626, 655, 657, 674
  UCS 632
  understanding commands 592
Commands, diagnostic
  484
Commands, distribution
  LINE*RUN*OPTIONS 517
  RUN*OPTIONS 517
Commands, SUBSYSTEM
  DA 555
  DS 555
  SHUTDOWN 556
  Startup
    BUILDQ 554
    COLD/WARM 554
    SCAN 554
COMMAREA 532, 533
COMMAREA Field Descriptions 533
COMMFE_FAST_PATH 533
COMMFE_MSG 532
COMMFE_PROG_NAME 532
COMMFE_RC not = X'0000' 532
Common definitions 670
Configure CICS definitions 496
Configure JES2 Parameters 489
Content/recipient conversion panel 99, 670
Control File Configuration 520
Control parameters 530

RO_Reference_Guide(v11r35m1)IX.fm: Revised Sunday, November 24, 2013

INDEX OF REFERENCES

- ARCHIOFF 530
- ARCHIVELOG*LIMIT 531
- ARCHnOFF 530
- DEFAULT*FILESET 530
- DEST 530
- EXIT 530
- FS01 - FS08 530
- INDEX*LOCK*SPAN 531
- INDEXLOG*LIMIT 531
- INDEXOFF 531
- INDXnOFF 531
- JOBLOG*CLASS 531
- OUTPnOFF 531
- OUTPTOFF 531
- OUTPUTLOG*LIMIT 531
- PROCESS*GROUP 531
- PURGELOG*LIMIT 531
- PURGEOFF 531
- RECOnOFF 531
- RECOVERLOG*LIMIT 532
- RECOVOFF 531
- STATS*CLASS 532
- STATS*DEST 532
- STATSLOG*LIMIT 532
- TPORTON 531
- TRANSLOG*LIMIT 532
- WL 532

Control region
- modify commands example 59
- stop command 59

Controller Customization 485
Controller startup 57, 486
Conversion from positional 655
Copy control panel 89, 670
Create QXCNTRL dataset 484
CSA requirements 480
Custom packaging panel 94, 469, 470, 471, 670
Custom report definition panel 463, 670
- recognizable unique characteristics 85

D

Data capture
- JES Exit 6 filter 65, 445

Data insertion panel 103, 670
Dataset
- selection report 291

Dataset profile for capture
- assigning viewing attributes 48
- selection attributes 47
- viewing 449

Dataset selection panel 671
- base datasets 91

DEFINE*KEY 586
DEFSCRN 506
DEST 487
Device reserves
- reserve request 523

DF 555
Directives 520
Disk work space
- how to calculate space for RM80004 653

Display 236
Display commands
- AD 287
- AN 241
- ANOTE 241
- CLOSEW 241
- COLUMN SELECT 241, 282
- CW 241
- FIND 242
- FR 242
- FS 242
- H 243
- HEADER 243
- L 243
- LE 243
- LEFT 243
- LN 243
- LOCATE 243
- OPENR 243
- OPENW 244
- OR 243
- OW 244
- PE 244
- PF 244, 287
- PRINT END 244
- PRINT START 244
- PS 244
- REPORTI 244, 286
- RESET 244
- RI 244
- RIGHT 244
- RS 244
- RT 244
- S 244

- SA 637
- SCALE 244
- SEARCH RANGE 244
- SR 244
- WINDOW SET 245
- WS 245

Display file 555
Display panel 239, 281
- command description 240

Display status 555
Display/print menu panel 236, 278
Distribution Definition 488, 509
Distribution definition 592
Distribution endpoint 671
Distribution ID 76
Distribution key 671
Distribution key element 671
Distribution options panel 81, 82, 452, 456, 458, 671
Distribution terms
- global manifest 77
- instruction set 77
- packet manifest 77
- recipient field 77
- report page 77
- report page format data 77
- system command buffer 77

DLBL 506
Docgroup Definition 163
Document Retreival System (DRS) 26
drain 521

E

EasyThings Web Server 557
EBCDIC 432
EIB 562
EIBTRNID 532
EISTG 562
EMSGRC 516
End 231
ESM 496, 515
ESR SVC 538, 546
estimating DASD file sizes 541
ESYS 552, 556
Exits
- CHKPT 545, 546, 552, 555
- PXR0001 561
- SEC0001 561
- SEC0005 561
- SEC0010 561

ExOffice Intalio 557
Explicit vs. implicit definition 75
External Security Manager Exit 477, 496, 515
External Writer 486
Extracting 671

F

fencePrimary 520
File management
- backup 112
- repository sharing 199
- restore 113

FILELIM 545, 548
Find/repeat find 231
Format
- format save, retrieve, delete 283
- save, retrieve, delete 242
- saving for later use 283

FORMAT/ NOFMT 554
Formating reports online
- administrative locks 241
- deleting 283
- retrieving 241, 283
- saving 283
- selecting columns 241

FORMDEF 632
FREE=CLOSE 293
FRONTEND 532, 533
fsname 520

G

Gefion Software Lite WebServer 557
Gefion Software WAICoolRunner 557
Generic archive 134
Generic report retrieval 130, 134
Glossary of terms 669

H

Help 231
Help Facility 489, 510
HM 637

HP Bluestone Total-e-Server 557

I

IBM OS/390 490
IBM WebSphere Application Server 4.0 557
ignoreAux 521
Implicit vs. explicit definition 73
IMSGRC 516
Index 236
Index panel 237, 279
indexjsp 558
Initial user ID/password 488, 509, 520
Initialization options
  for RMS/SPOOL 553
Initialization Parameter Descriptions & Defaults 546
Initialization Parameters 483, 542
Initialization parameters 486
Input process commands 614
INST01 481
INST01.J 502
INST02 484, 527
INST02.J 505
INST03.J 505
INST04.J 505
INST05.S 505
INST06.S 505
INST07.S 515
INST09 489
INST10 489
INST11 539
INST19 496
  tailoring CICS for WebAccess 496
INST20 496, 515
Install options - BASIC
  CKPTIME 545, 547
  CKPTRY 516
  DC01 516
Installation 479, 502
  assembler/link JES exit 3/exit 6 489
  CICS environment preparation
    Create CICS QXCNTRL dataset 484
  download install job 477, 501
  environment preparations 505
  JCL Preparation 506
  preparation of report repository 504
  QXCNTRL creation 484, 505
  RMSCOLD modifications 483
  system verification 486
  TSO environment 485
Installation Verification 509
Instruction set 77
  reorganization and copy 108
INVOCLS 487
IONA iPortal Application Server 557
iPlanet Web Server 557
iPlanetTM Application Server 6.0 557

J

JES Exit 476, 489, 509, 539
  Verification 490
JES EXIT3 Assemble/Link 489
JES EXIT3/EXIT6 489
JES EXIT6 Assemble/Link 489
JES EXITS 489
Jetty 557

K

Key element 672

L

Language considerations 590
Leaflet variable symbol 646
link listed 480
List system status 556
LIST/NOLIST 554
Locating information within reports
  find operands 284
Location master panel 150, 173, 174, 176, 177, 178
  retrievable print characteristics 179
Location/report security 214
Logical report 76
LPA 480
LR 637
Lutris Technologies Enhydra 557

M

Macromedia JRun 557
Mapping 672
Mapping options

- maximum map lines 458
  - map page limit
    - map line column 84
- MAS
  - File Creation and Queuing 553
  - three types of warm starts 552
- MAS Configuration 552
- MAS Startup 552
- maxpercent 522
- minfreeBlk 522
- minfreeFqe 522
- Multi-Access Spool 554
- Multi-access Spool 551
- Multiple Fileset
  - controller parms 527
  - controller startup 527
  - DDNAMES 528
  - QXCNTRL 528
- Multiple report recovery 133, 136
- MVS
  - Operator Commands 554

N

- NDT 507
- New Atlanta ServletExec 557
- ANOTE 241
- Notation conventions 591
- Note pad 231, 287
  - listing notes 243
  - panel 247
- Novocode NetForge 557
- NUMFQES 483

O

- object modules 480
- OLOAD 480
- Online
  - Sign On 488, 509
- On-line Component Configuration 517
- OPENR 286
- Operator Commands 554
- Oracle 9i JServer 557
- Order phase 73
- Orion Application Server 557
- Output phase 73, 672
- Output priority panel 96, 672

P

- Page format data 672
- PAGEDEF 632
- Panel format 137
- ParaChat Server 3.0 557
- Parameter set 118, 590
- Parameters, SUBSYSTEM
  - Startup
    - CHKPTDSN 545, 547
    - CMBBUFS 545, 547
    - COMCHAR 545, 547
    - DEFNODE 545, 547
    - DEFSID 547
    - DEFSID MAS 545
    - DESTVAL 545, 547
    - LOGBUFS 545, 548
    - LOGCLAS 545, 548
    - LOGLCNT 545, 548
    - LSYS 556
    - MAXDORM 548, 553
    - MAXDORM MAS 545
    - MAXFSCT 545, 548
    - MAXFSEQ 545, 548
    - MINDORM 549
    - MINDORM MAS 545
    - MINHOLD 549, 553
    - NODE 545, 549
    - NOLOG/LOG 554
    - NUMCMBS 545, 549
    - NUMFQES 545, 549
    - PGNLEN 545
    - PURGINT 545, 550
    - RESERVE/RELEASE 552
    - SID 552
    - SPOOL 545, 550
    - SPOOLDSN 546, 550
    - SUBID 546, 550
    - SVCCODE 546, 550
    - SYNCTOL 550, 552
    - SYNCTOL MAS 546
    - TGWARN 546, 551
    - TOD clocks 552
    - WMSGRC 516
    - WRITELOG 556
    - WTO 546, 551
    - WTOR 553

    - XEQBUFS 546, 551
- Password 488, 509, 520
- Path profiles 210
- Performance
  - checkpoint file allocation 541
  - repository file allocation 541
- PERMIT 535
- PF key and option assignments 205
- PF keys 138
- PGLEN 549
- PMRTEC 516
- POWER LST DEST= 507
- POWER LST SPOOL 507
- Pramati Server 557
- PRIMARY 524
- Primary menu 451
- Primary menu panel 79, 142, 235, 277
- Print characteristics exit parameter list 564
- Print characteristics panel
  - entering physical print characteristics 246
- Print image tape output 130
- Printing selective pages
  - page end 290
  - print start 289
- Priority 673
- Problem solving 291
- Procedures, JCL
  - CCANCEL 486
  - CDPRINT 486
  - COPYISN 486
  - QSERV 506
  - RDMS 506
  - TCANCEL 486
  - TDPRINT 486
  - VSARC 486, 506
  - VSRES 487, 506
  - WARNTIM 551
  - WARNTIM MAS 546
- Process code 93
- Process code condition 458
- Process code/condition 92
- process codes 92
- PROCLIB CONTENT 486
- Program function key utilization 231
- Programs
  - Generic archive 131
  - report archive examples 130
  - RM80000 561
  - RM80000 exits 564
  - RM80001 129, 135, 561, 651
  - RM80001 commands 115
  - RM80001 examples 129
  - RM80004 295, 561, 572, 573, 652, 653
  - RM90007 112
  - RM90008 112
  - RMSUSS 432

Q

- QSERV 486, 506
- Queue dataset 673
- Queue dataset concatenation 673
- QXACDS 530
- QXARCHI 651
- QXARCHO 651, 652
- QXCNTRL 484, 505, 651, 652
  - file defined 505
- QXCNTRL Creation 484, 505
- QXCNTRL creation, CICS and TSO 484
- QXDCDS 530
- QXPARMS 651, 652
- QXPRINT 651, 652
- QXRCDS 530
  - space requirements 529
- QXSNAP 651, 652
- QXSTATS 651, 652
- QXWSMFX 561

R

- RDEFINE 535
- RDMS 486, 506
- RDO group RMS1134 496
- Recipient/location equate panel 97, 673
- Recipient/recipient convert panel 100, 673
- Recovery 554
- Recovery using list attribute 135
- Recreating an archive directory list 136
- Report 673
- Report access requirements 229
- Report archive
  - examples 130
- Report definition cycle
  - selecting a group of reports to define 65

Report environment 62
Report formatting 282
Report mapping 673
Report processing overview 64
Report recovery 135
    qualified by class 130
Report repository
    preparation for installation 483
Report top of form 673
REPORT*ID 128
Repository 40
Repository file
    requirements 482
repository file allocation 541
Repository Management 109
Repository sharing 199
Reserve Major/Minor 523
Reserve request 523
Reserves
    major name 523
    minor name 523
Resource Security 489, 509
Resource security panel 193, 195
    access characteristics of reports 198
    deny option 194
    field/values/descriptions 190, 192
    identifying needed reports 196
    limiting security to a location 197
Resource types
    codes and id’s 637
    RS 637
Resources 209
RESSEC parameter 485, 505
Restore 112
Retention control panel 152
RM00 533, 561
RM00 exits
    print characteristics 562
    security logging 562
    security validation 562
    sign-on 562
RM01 532
RM02 532
RM80001
    guide to commands 115
RMS
    Recovery and Warm Start 554
RMS controller 52
RMS initialization 484
RMS Initialization Options 553
RMS Initialization Parameters 545
RMS messages 297
    abnormal condition messages 393
    call status codes 423
    cleanup messages 350
    nucleus messages 347
    RMS/SPOOL subtasks 376
RMS Operator Commands 554
RMS repository 43, 137
RMS Repository dataset locations 502
RMS startup options 553
    BUILDQ 554
    COLD/WARM 554
    FORMAT/NOFMT 554
    LIST/NOLIST 554
    NOLOG/LOG 554
    SCAN 554
RMS SVC 537
RMS/ARC 673
RMS/DD primary menu panel
    distribution functions 80
RMS/DeskTop
    How RMS/DeskTop Works 30
RMS/DPF 488, 509
RMS/SPOOL initialization options 553
RMS/WebAccess under a Java Servlet 2.2+
    Application Server Platforms 557
    Load Balancing 558
RMSBGEN default values 516
RMSBGEN macro 516
RMSC0000 490
RMSCOLD 483
    modifications for installation 483
RMSCTL 58
RMSCTL.J 507
RMSMAP 487, 508
RMSMAP.J 508
RMSOGEN 517
RMSOGEN default values 517
RMSOGEN macro 517
RMSOGEN Macro Parameters 517
RMSOLGEN 496
RMSPARM 483
RMSPLRT3 539, 540

RMSPLRT6 539, 540
RMSQXARC 487
RMSQXARC.J 508
RMSQXIDX 487, 508
RMSQXIDX.J 508
RMSQXRES 488
RMSQXRES.J 508
RMSRGEN 487, 507
RMSRGEN.J 508
RMSRUN 487, 508
RMSRUN.J 508
RMSSDL.J 502
RMSVSARC 488
RMSVSARC.J 508
RMSVSRES 488
RMSVSRES.J 508
RMVSRES.J 507
ROUTCDE 545
RUN*OPTIONS 517
RvvrmCTL 507
RvvrmSUB 483, 504

S

S1 552
S2 552
Scan phase 71, 673
SCRNSZE 506
Scroll left 231
Scroll operations 245
Scroll right 231
Scroll/page down 231
Scroll/page up 231
SEC0020 496, 515
Secant Technologies ModelMethods Enterprise Server 557
SECUCALL 545, 550
SECURITY 561
Security considerations for user records 212
Security definition
  definition of 62
Security exit parameter list 564
Security group 209
Security level definition 209
Security maintenance 210
  security profiles 210
Security profile 147
Selection attributes
  JES Exit 6
    dataset profiles 444
Send report panel 674
  specifying recipients of reports 90
servers.addElement 558
Servertec Internet Server 557
Set reorganization panel 291, 674
SETROPTS REFRESH GENERIC 536
Sign On CICS 488, 509
Silverstream Application Server 557
SITEFORUM Web Server and Interaction Platform 557
SLOAD 480
Sn *MAS 546
SnSID 551
SORTIN 652
SORTOUT 652
SORTWK01 652
Space Allocation 503
Space Allocations 483
Specific archive 132
Specific report archive 135
Specific report recovery 132, 135
SRCLIB member 489
Starting and Stopping RMS 553
Starting RMS, first time 483
Starting the Multi-access SPOOL Configuration 552
SUBID 483
Subsystem customization
  MVS 483, 486
Subsystem initialization 541
SVA 502
SVA members 502
SVC 537, 538
SVC install JCL 538, 539
SVCCODE 537, 538
Switch note 231
Switch report 231
Switch windows 231
Sybase EAServer 557
Syntax Rules 543
Syntax rules 543
SYS009 503
SYS010 503

SYS024 506
SYS025 506
Sysout Management 488, 509
System concepts
    definition and terms 109
System exit programs 561, 581, 585
System facilities
    base datasets 115
System help facilities 231
System implementation
    OS/MVS implementation 116
System security 209
System user panels 231, 232
System verification 486
Systems customization panel 157

T

Tagtraum Industries jo! 557
Task/panel cross reference 276
TCD7 parm 496
TCD8 parm 496
tmessageLevel 522
Tomcat 494, 513
Transaction security add/delete/inquire panel 213
Trifork Enterprise Application Server 558
TSO 485, 523
Tutorial 236
    example
        distribution definition 435

U

Upgrade 475, 498
Upgrading 475, 498
useOrder 521
User 209
User master panel 146, 149, 181, 184, 186, 189
    customizing JCL 183, 186, 189
    panel 2 183
    panel 3 187

V

Versions 236
Versions panel 238, 280
Virtual printer 353
vqSoft vqServer 558
VSAM
    file placement 529
    space allocation 529
    three volume configuration 530
    two volume configuration 530
VSAM Datasets
    Defining and placement 529
    optimum performance 529
    Placement 529
    QXACDS 529
    QXDCDS 529
    QXRCDS 529
    QXWKDS 529
    share option 485
VSARC 506
VSE
    132 Column Support 506
    allocating SPOOL datasets 502
    CICS setup 505, 515
    CICS start-up JCL statements 506
    Customizing subsystem parms 503
    history file 501
    Operator Commands 554
    PROCLIB CONTENT 506
    QXCNTRL creation 505
    stop controller 507
    Subsystem Format Start 504
    VSAM file allocation 505
VSE/POWER 507
VSRES 506

W

W3C Jigsaw 558
Warm start 554
WebAccess 490, 491
    Installation 490
    System requirements 490, 510
WebAccess Document Groups 162
WebAccess Installation 493, 513
Websphere 494, 513
Windowing features
    CLOSEW 286
    OPENR 286
    window set 285
    ZOOM 286
WTO 483

Z

Zeus Technology Web Server 558
Zoom windows 231