



Report Management System
On Line Viewing System

Version 1R3

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Corsair Technology Inc.
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The SPIN-X/Report Management System is a powerful, yet easy-to-use set of programs that automates the distribution of selected portions of selected reports to selected audiences by means of on-line viewing or a hard-copy . The system can be quickly and easily tailored to add new report recipients, delete old ones, add or delete reports, archive and retrieve distributions, define security and billing options and release reports for printing or viewing when appropriate. The Report Management System (RMS) is composed of five sections, according to function: on-line viewing, administration, distribution, archive and retrieval, and database services.

Each RMS component combines functionality with ease of use. The Report Management On-line Viewing System is a full-screen printout display processor with search capabilities. The Report Management Administration System features menu-driven programs. Full console control of the Report Management Distribution System is maintained by the RMS Operator.

The Report Management System ensures that the right people in the right places get the right reports at the right times.

Who Is Involved With RMS

Once the Report Management System is installed on your Unisys Series 1100/XX or 2200/XXX, actual system operation involves only the on-line viewing recipients, the RMS administrator, and the system operator.

- **On-line Recipient** - views reports on-line instead of receiving hard copy prints. The on-line recipient may also select particular pages of a distribution for printing.
- **RMS Administrator** - controls report definition, recipient definitions, distribution lists, archiving parameters, security and billing information. The administrator prepares the system for operation, ensuring that a report is properly defined so it will reach the appropriate destination, whether it is a printer or an on-line viewer. However, the administrator does not control when the reports are actually printed.
- **System Operator** - controls day-to-day operations, including when to release reports for printing, queue initialization and system troubleshooting. The operator must have previous operations experience with the Unisys Series 1100/XX or 2200/XXX.

About This Manual

This manual describes the basic concepts of on-line viewing from the user's point of view. In addition, it provides a framework for defining and analyzing the report environment, and it explains how RMS is used to define and maintain the report management and distribution system.

This manual should be used by anyone who will be using the RMS On-line Viewing System.

Related Material

Report Management System documentation includes the following manuals:

SPIN-X/RMS Administrator's Guide

SPIN-X/RMS Operator's Guide

SPIN-X/RMS Reference and Installation Guide

System Support

If problems are encountered with the RMS On-line Viewing System, the response line may be called at (404) 651-2639 between 8:30 am and 5:00 pm (Eastern Standard Time) Monday-Friday.

Note: To facilitate problem determination, users should note the number of the screen on which their problem is occurring. The screen number appears in the upper right-hand corner of all Report Management System screens. Users should record any significant error message numbers and check with the RMS Administrator before calling the response line.

The SPIN-X/Report Management System is a comprehensive group of programs that automates the management and distribution of reports on Unisys 1100/2200 series mainframe computers. The system provides automated distribution of reports as printed media or as on-line reports to be read at the individual computer workstation. It allows selection of specific pages from a report for distribution and also provides a means for long-term storage of critical reports. The system is designed to be easily tailored to the specific requirements of each customer site.

The Report Management System is composed of the following five major components:

- **On-line viewing** - Provides an effective and environmentally beneficial alternative to producing large amounts of printed paper by allowing full-screen display of reports on-line.
- **Administration system** - Full-screen, user-friendly system identifies reports, defines print and on-line viewing recipients, builds distribution lists, defines the system printing environment, identifies reports for archiving and/or on-line storage, and defines any printout accounting which is to take place.
- **Distribution system** - Handles the processing and distribution of reports as they become available.
- **Archive and retrieval** - **Allows for the archiving and retrieval, and reprinting of reports without having to rerun the jobs that created them.**
- **Database servers** - Provide a secured client/server environment for SPIN-X/Report Management System operations.

A sixth secondary component is also provided.

- **Database Reorganization** - Optimizes storage for the Run-Time Database files by unloading and reloading them.

2.1 What is Report Management?

In today's fast-paced, complex work environment, quick access to information is critical. However, with the ever increasing volume of data being generated, distributing the correct information to the appropriate parties is becoming more and more difficult. This increased volume intensifies the burden on data center staff, which requires additional man power to merely keep up with responsibilities. Unfortunately, the increase in people involved usually results in a corresponding increase in distribution errors. In addition, the actual information recipients are burdened by having to wade through large amounts of data to find the information they need to accomplish their tasks. The need to bring this flow of information under control has spurred the development of report management. Report management is a structured framework, under management control, by which selected information is automatically distributed to the appropriate people in a concise, timely, and effective manner. Implementation of report management reduces the cost of report distribution, requires less manpower from the data center staff, reduces the number of errors in the distribution process, and enables report recipients to more effectively accomplish their tasks.

2.2 Who is Involved in Report Management?

Effective report management is the result of a concerted effort. It is not a trivial or solitary endeavor. Reaping the full benefits of report management requires a coordinated implementation and maintenance effort by management, the data center staff, and the people who receive reports. Management must set the policies and supply the resources necessary to enable the full use of report management capabilities.' The data center staff must create the structure under which report management will be implemented, maintained, and operated.' And finally, the report recipients must define their needs and utilize the capabilities of report management to accomplish their tasks as effectively as possible.

2.2.1 Management

Management must assume the responsibility of implementing report management while also providing the resources necessary to make the implementation successful. The policies required will vary from organization to organization and will depend upon the specific distribution and work requirements of the departments and personnel involved. An analysis should be performed to determine what policies, management controls, and resources will be required for the successful implementation of report management. Management must set guidelines to help determine on-line versus hard-copy reports benefits and restrictions. They will also be involved in setting any security related policies regarding report distribution and page selection. Before report management technologies can be implemented, management must commit the resources necessary to perform the required analysis and planning. Resources will also be required during the transition from current report distribution mechanisms to these new technologies. Management should be prepared to provide access to these resources.

2.2.2 Data Center

Implementation and maintenance of the report management system is the data center staff's responsibility. This includes establishing the mechanisms required for recipient requests for information, security restrictions, physical delivery of the reports, and day-to-day operation and maintenance of all of the processes required to accomplish report management.

The data center will have two major areas of responsibility in the day-to-day operation and maintenance of report management: report management administration and report management operation. The administrator defines and maintains report definitions, recipients, distribution lists, printer definitions, reprint requests, any auditing requirements, and configurations. The operator handles the actual processing of distributions and execution of the appropriate systems on the mainframe. One of the objectives of report management is to reduce the amount of effort required to perform these day-to-day tasks.

2.2.3 Report Recipients

Reports may either be printed or viewed on-line. The report recipient can easily determine which reports are best viewed on-line and which ones must be printed. Recipients can also provide valuable information regarding the contents of reports and what particular information in each report is critical to performing their assigned tasks so they can receive or view only those pages they need. Of course, the guidelines set by management will help define how report recipients can best use report management from an organizational standpoint.

2.3 How Does SPIN-X/RMS Work?

The SPIN-X/Report Management System (SPIN-X/RMS) is a series of programs which provides the Unisys 1100/2200 series mainframe computer the components required to establish report management. SPIN-X/RMS is comprised of four major components: the Administration System, the Distribution System, the Archive and Retrieval System, and the On-line Viewing System. These components are packaged in two separate bundles. The first bundle includes two database servers, the SPIN-X/Common Data Bank, the SPIN-X/RMS Administration System, and the SPIN-X/RMS Distribution System. The second bundle contains the SPIN-X/RMS Archive and Retrieval System and the SPIN-X/RMS On-line Viewing System. The Administration System, the Distribution System, the Archive and Retrieval System, and the On-line Viewing System all require the database server. The RMS Database Server and the Admin Database Server are each real separate instances of the same application software which are both referred to as the database engine

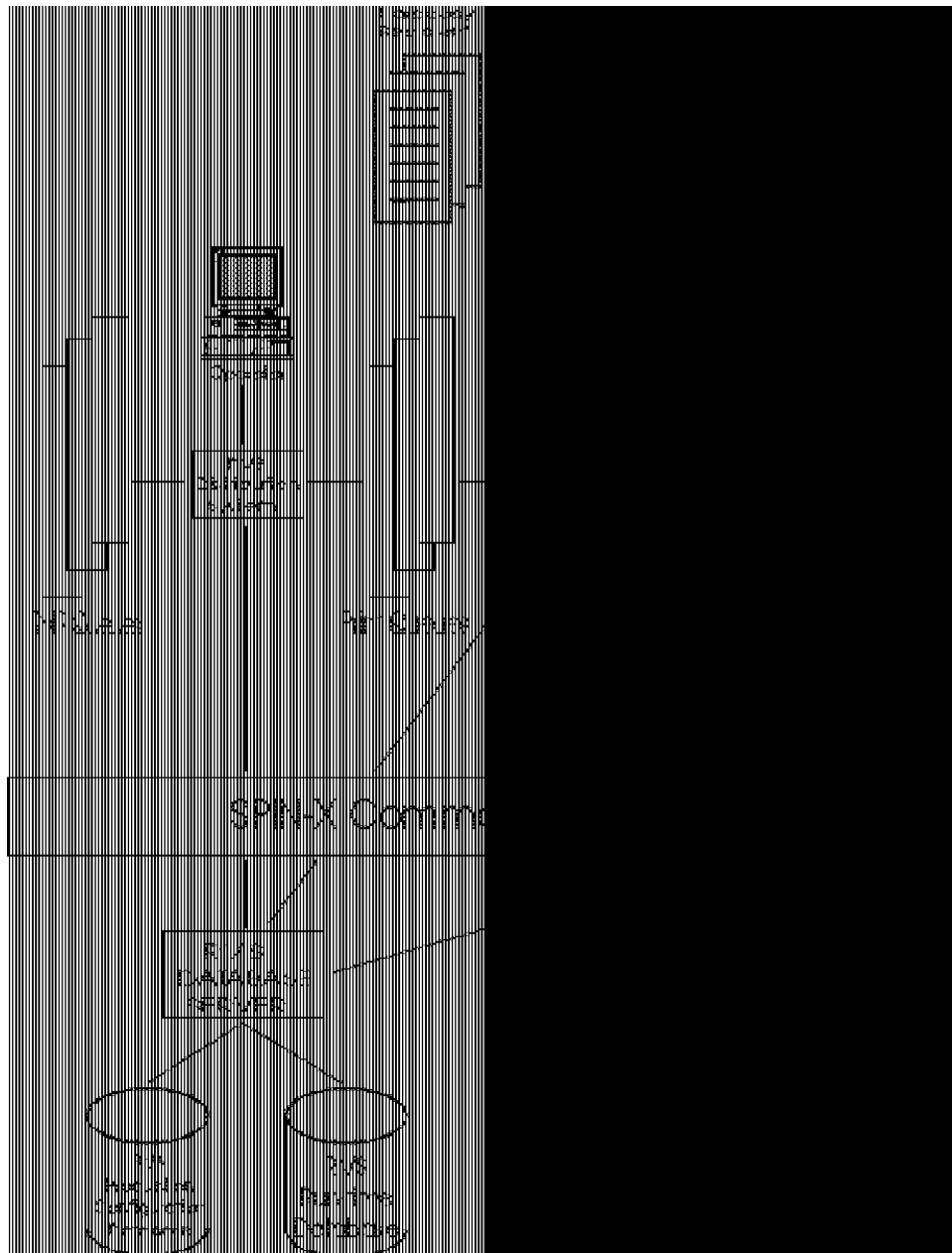


Figure 2-1

Figure 2-1 shows the relationship between the different components of SPIN-X/RMS. The database servers provide access to all SPIN-X/RMS configuration and on-line databases. Access to the database servers is provided by the SPIN-X/Common Data Bank (SPIN-X/CDB). This common bank provides inter-system communications and security. The common bank is a client/server structured messaging facility with built-in security. As the name indicates, the database servers register as servers with the SPIN-X/CDB.

The administration system accesses the SPIN-X/RMS working and production configuration databases via the SPIN-X/CDB and the database servers. The distribution system accesses both the production configuration and on-line databases in order to accomplish its task of report distribution. The archive and retrieval system and the on-line viewing system also access both the production configuration and on-line databases.

2.3.1 The SPIN-X/RMS Database Servers

The SPIN-X/RMS Database Servers are comprised of two servers: the working database server and the production and on-line database server. These servers are controlled by the SPIN-X/RMS administrator and operator. The administrator determines when working configuration databases are ready for committal to production. The operator controls when the actual committal to production is to take place. The administrator may also request resetting of the working configuration databases from the production databases.

2.3.2 The RMS Administration System

The RMS administrator uses the RMS Administration System to define and maintain all the configuration information required by RMS. This includes the definition of reports, recipients, printers, distribution lists, page selection, formatting, security, and accounting. The administration system also provides access to the other components of SPIN-X/RMS which the administrator controls. This provides a single point of entry for the SPIN-X/RMS administrator. Interfaces are provided for committing the working configuration databases to production and vice versa, for retrieving and reprinting archived reports, and for on-line viewing.

2.3.3 The RMS Distribution System

The RMS Distribution System accepts reports for processing from the OS1100 symbiont queues, loads them into the on-line databases via the database server, and performs any print distributions which are to take place. It is controlled by the system operator. The distribution system interfaces to a configurable system console for processing commands via an unsolicited keyin. The distribution system is designed to work with as little operator intervention as possible. Once input queues have been initialized, the distribution system will take care of processing and submitting all distributions for printing. The SPIN-X/RMS Distribution System interfaces with both SPIN-X/Central and SPIN-X/Xpress for printing. Prints can also be submitted to non-SPIN-X controlled printers; however, enhanced banner page information and automatic formatting will not be available.

2.3.4 The RMS Archive and Retrieval System

The RMS Archive and Retrieval System performs all the required archiving, any retrieval requests made, and any reprinting required. This system is controlled by both the system operator and the RMS administrator. The archive process requires the system operator to mount archive media when requested. Retrieval involves both the RMS administrator and the system operator. The administrator requests which reports are to be retrieved, and the operator locates and mounts the archive media. Reprinting is performed by the administrator.

2.3.5 The RMS On-line Viewing System

The RMS On-line Viewing System provides secured access to the on-line reports. The on-line viewing system is used by the RMS administrator and by OS1100 users who have been defined as having access to distributions for particular recipients. The administrator will have access to all reports stored in the on-line database and archive media of RMS. User-ids which are not defined as administrators will only have access to the reports, or portions of reports, which are destined to the recipients who have been configured for access.

2.3.6 The RMS Database Reorganization System

The RMS Database Reorganization System provides file reorganization support for the RMS Run-Time Database. In addition, it assists the RMS administrator with the relocation of the Run-Time files from fixed disk to removable packs and vice versa.

As reports are added to, removed from, and added to the RMS Run-Time Database, on occasion disk sectors may be used inefficiently. The two files contained therein (RUNTADB and LFCYCLDB) are the largest and most active of the RMS files. The Database Reorganization System includes a batch utility that will optimize these files by unloading and reloading them.

2.4 What are the Benefits of RMS?

The objective of report management is to provide a structured framework under management control by which selected information is automatically distributed to the appropriate people in a concise, timely, and efficient manner. The benefits derived from RMS will vary from organization to organization, and the extent of the benefits will depend upon the commitment by those involved in the report management process. These benefits include cost reduction, cost recovery for printing services, increased control and security over the report environment, more effective reports, and environment benefits.

2.4.1 Cost Reduction and Cost Recovery

RMS provides several mechanisms that encourage both cost reduction and cost recovery. Costs can be reduced mainly by reducing the materials required for printing and the personnel required for the printing and distribution process. By providing advanced print accounting capabilities, a more viable mechanism for print charge-back can also be implemented.

Several cost reductions can be obtained by using RMS. First, and most obvious, is a reduction in the amount of paper required for printing. By utilizing both report page selection and on-line viewing, printing can be reduced significantly. However, many costs over and above paper are involved every time a report is printed. A reduction in printer consumables other than paper, such as toner, eraser rods, staples, electricity, freon, click charges, etc., will also be achieved. Also, since less volume is being printed, the cost of maintaining the inventory of paper will be reduced, and so is the cost of printer maintenance. Reductions in the man-hours required to support all aspects of printing frees personnel to perform more productive tasks. By using the archive and retrieval functions of RMS, a lost report does not require the re-running of entire jobs to recreate reports. This will save CPU cycles and data center staff time.

By using the print accounting capabilities provided by RMS, a more realistic and viable charge-back system can be implemented. When used in conjunction with SPIN-X/Central and/or SPIN-X/Xpress, SPIN-X/RMS provides the capability of placing one of three different account numbers in the system log file printing log entries. Traditionally, the OS1100 printer driver places the account number of the job which produced the report in these log entries. SPIN-X/RMS can cause the account number for the producer, the recipient, or a predefined third party to be placed in the printing log entries. Then by using standard charge-back systems which access the OS1100 system log file for print accounting, the appropriate entity can be billed for the print.

2.4.2 Report Environment Control

RMS also provides a greater level of control over the printing environment. Each day many reports are generated that are neither required nor desired. However, the reports continue to print simply because there is no central point of control for report distribution. By using RMS and implementing a well-planned report management process, these reports can easily be identified and eliminated. Individuals often receive much more information than they could ever need; however, the information they do need is buried somewhere deep inside a large generalized report. By using RMS page selection capabilities, only the desired pages of a generalized report can be distributed based upon individual needs. Another advantage is that when the number of required copies changes, the data center programming staff does not become involved in altering runstreams to submit additional or fewer copies of reports for printing. Instead, the RMS administrator simply updates the RMS configuration databases to reflect changes in the distribution. Greater levels of security can be obtained by using the RMS page selection and on-line viewing features.

2.4.3 Report Effectiveness

By reducing report distributions to only those pages with pertinent information, the distributions become more effective. Report recipients no longer have to pore over large reports looking for the information they require. Also, when used in conjunction with SPIN-X/Central and SPIN-X/Xpress, SPIN-X/RMS generates enhanced report banner pages. These banner pages contain a full report description and mailing address for the recipient. Thus, by simply glancing at the banner page report description, the recipient can identify the report contents. By providing a full mailing address, mis-directed reports are less likely, and are more easily returned to their appropriate recipients. After all, a lost report is as ineffective as a report can get.

2.4.3.1 Banner Pages

Banner pages are an integral part of RMS. The Banner pages printed through SPIN-X/RMS combine information contained in the configuration databases and the Unisys 1100/2200 mainframe queue entries. The information in the boxes at the top and bottom of the Banner page is maintained in the RMS configuration databases.

Features of RMS Banner pages include:

- Report Description box contains four lines (up to 68 characters per line) of description about the report.
- Complete identification fields, including User-id and other pertinent information are produced from the queue entry on the Unisys mainframe.
- The Account Number on the banner page will ordinarily be that of the job which @SYMd the report. However, if you are using RMS accounting, it may be that of the recipient of the distribution or a third party defined either for the report or the distribution.
- The Recipient Address box, (at the bottom of the page), contains six lines, (up to 68 characters per line), and allows you to enter a complete address to make sure the report reaches its destination.
- Page Count is displayed in the right side of the Recipient Address box. This count is complete when the full report is printed but only approximate when page selection is used.

A sample SPIN-X/RMS Banner page appears on the following page.

Sample RMS Banner Page

**GSU COMPUTER CENTER
UNISYS 1100/2200**

REPORT DESCRIPTION

*GEORGIA STATE INSTRUCTIONAL RESOURCE CENTER
NEW ACQUISITIONS REPORT
FOR PERIOD JANUARY THRU NOVEMBER 1990
GEORGIA STATE UNIVERSITY RESEARCH FOUNDATION, INC.,
ATLANTA, GA 30303*

USERID - SYSCAK
ACCOUNT NUMBER - AC0000103521
RUNID - SYCAKA
FILENAME - 071992131559*IRCACQ-PRINT(1)
PARTNAME - *The Part Name*
PARTNUMBER - 00
DATE - JULY 19, 1992
TIME - 17:16:02
DEVICE - PRT1
FORMAT - F600
QUEUE - PR
BIN - 845

DELIVER TO

MR. MONROE JONES
COMPUTER CENTER, UNIVERSITY PLAZA
GEORGIA STATE UNIVERSITY ATLANTA, GA 30303

Pages 2

Figure 2

2.4.4 Environmental Benefits

Using RMS can result in significant environmental benefits. If an environmental awareness program is not currently instituted in your organization, RMS can provide an effective tool for starting one. Most organizations today encourage their employees to operate in an efficient, cost effective, yet environmentally sound fashion. Implementing RMS gives employees a tool that assists them in this endeavor. RMS can drastically reduce the amount of paper, toner, plastic toner containers, electricity, freon, and other such items involved in the printing process. By encouraging and enabling employees to use less paper and printing consumables, work will be accomplished in a more efficient, cost effective, and environmentally sound manner. This also provides the employees with a sense of making a difference in both their work and living environments, providing greater job and personal satisfaction.

3.1 Overview

The Report Management On-line Viewing System allows users to manipulate report data stored in the On-line Database. The On-line Program is an OS1100 demand program currently supporting print and view functions. The RMS On-line Viewing System should not be confused with the SPIN-X/Xpress PC-based viewer XPView, which is an entirely separate system.

3.1.1 User Responsibilities

Access to Report Management System distributions, both printed and through on-line viewing, is controlled by the RMS Administrator. Each user therefore has the responsibility of making sure the administrator has the most up-to-date information possible to ensure that he or she can access the necessary distributions.

On-line viewing users should periodically review the following and notify the RMS Administrator of any changes:

- Your name, user ID, and system address.
- Distributions (reports) you should be receiving. Include page ranges or strings if necessary.
- Distributions you should no longer be receiving.

3.1.2 Getting Started

On-line viewer users should familiarize themselves with the following definitions and concepts before using the viewer.

- **Page** - the basic unit in which spooled data is retained in the RMS On-line system.
- **Recipient/Address** - this combination in the RMS system uniquely identifies an entity; Recipient/Address serves the same purpose in the RMS system as User-ID does on the OS1100.
- **Job** - the qualifier*filename (cycle) that has been @SYM'd to an RMS input queue.
- **Report** - all pages or a subset of the pages of a job obtained by applying a set of page selection rules to each page of the job.
- **Distribution** - the subset of the pages of a report belonging to a given recipient.

Reports and distributions may contain all pages of their job and pages of a job may belong to more than one report or distribution; reports and distributions also may contain zero pages, meaning less than one full page.

The RMS administrator gives OS1100 users access to RMS distributions by allowing their User-IDs to access RMS recipient/addresses. More than one User-ID may have access rights to an RMS Recipient/Address and a User-ID may have rights to more than one Recipient/Address.

All of the following must be true for you to view or print a distribution:

1. You must have been given access to the On-line System by the RMS administrator.
2. You must have access rights to the Recipient/Address to whom the distribution is addressed.
3. The job must be on-line in the system.

3.2 Accessing the System

To execute the RMS On-line Viewing program, make sure that the database engine has been started and then do the following keyin: (Your RMS system administrator can tell you what, if any, qualification is required.)

@[qualifier*filename.]RMS-VIEW

This will bring up one of the screens on the following page.

3.3 The Viewer Summary Screen

The On-line Viewing System begins with a summary screen for those distributions that are registered in the Run-Time Database. The distributions are divided into two groups: on-line - those distributions that are active and are still on-line; and archive - those that are archived and are now off-line. These files will not appear in the On-line list.

If you have access to the Online System and the On-line file server is active, a summary screen display similar to one of the two following is returned when the Viewing System is started. If there are very many online files, the screen below will appear.

```

RMS DATABASE  IR3          O N L I N E   F I L E S          RMS102
  Recipient      Address      Date Time  Qualifier   File Name
===== Pgs

ENTER SEARCH KEY, ELSE 'XMIT

(PF3 OR PF12 ALSO OKAY)

-----
PF1=Help PF2=Refresh PF3=Quit PF6=Top PF10=Clear PF12=ARCHIVE XMIT=NxtScrn
ONLINE MODE: select  U-View; P-Print; B-Banner Pg.
1a ROW=03 COL= 03          10/20/95 15:14                      Poll

```

The blank lines at the top are "search keys". By filling in one or more of these you can get a list of Online Files which match the search keys. If you want to look at the complete list of online files just press 'XMIT'. This will bring up the screen below.

```

RMS DATABASE  IR3          O N L I N E   F I L E S          RMS102
  Recipient      Address      Date Time  Qualifier   File Name
===== Pgs
- $DEFAULT              10/10 16:54 SYCUT*TEXTTEST(1)          zero
- $DEFAULT              10/09 14:37 GRC1*RMS-LOGFILE(111)          2
- $DEFAULT              10/09 14:37 GRC1*RMS-LOGFILE(110)          2
- ANDERSON             LIB          10/10 16:46 PUL*ARP1104MAIN0(1)          2
- BROWN                LAW          10/10 16:51 COL*APU1104MAIN0(1)          2
- CANN                 LIB          10/10 16:52 PUL*ARP1104MAIN0(1)          2
- COL ACQ              LAW          10/10 14:46 PALS$*ACQ-RPTS(249)          zero
- COL ACQ              LAW          10/10 13:35 COL*ARP1104MAIN0(1)          zero
- COL ACQ IMPACT      LIB          10/09 15:51 COL*AOR1104MAIN0(1)          zero
- COL ACQ IMPACT      LIB          10/09 13:13 COL*AND1104MAIN0(1)          2
- COL CIRC             LAW          10/10 15:33 PALS$*CIR-RPTS(559)          2
- COL CIRC             LAW          10/10 15:11 PALS$*SAP-003(113)          2
- COL CIRC             LAW          10/10 14:14 MAIN*CRP1104COLO(1)          2
- COL CIRC             LAW          10/10 14:04 PALS$*STATS(1)          2
- COL CIRC IMPACT     LAW          10/10 15:13 MAIN*CND1104COLO(1)          3
- DIXON                LIB          10/10 10:11 PUL*ARP1104MAIN0(1)          5
- DRUMMOND            LIB          10/10 10:11 PUL*ARP1104MAIN0(1)          zero

-----
PF1=Help PF2=Refresh PF3=Quit PF6=Top PF10=Clear PF12=ARCHIVE XMIT=NxtScrn
ONLINE MODE: select  U-View; P-Print; B-Banner Pg.
1a ROW=03 COL= 03          10/10/95 17:01                      Poll

```

A user may view only the list of distributions for which he is authorized by the RMS administrator. The list above is the one which the RMS administrator at GSU sees: it is the first screen of a complete list - the administrator can see all online files.

The listed distributions are identified by the receiving recipient/address, date and time they entered the RMS Run-Time Database, and the qualifer*filename(cycle) from which the distributions were extracted when they were originally SYM'd . The distributions appear in ascending Recipient/Address order and descending date/time order (see example screen on opposite page).

Each summary screen is divided into three areas:

- **Key area** - the top portion where search keys are input. A key can include one or more of the following fields: recipient, address, date, qualifier, and file name.
- **Distribution summary entries** - a group of up to seventeen one-line entries. Each entry identifies a single distribution.
- **Menu and messages** - a list of program function keys (PFn) and commands used to provide non-search control. Program messages are displayed on the second line of this bottom area.

3.3.1 On-line and Archive Distributions.

Distributions are indexed by recipient/address in the Run-Time Database. As they are retrieved by the Viewer, they are filtered and separated into on-line entries and archive entries.

When the Viewer is started, it will attempt to build a complete screen of on-line distribution entries beginning with the top entry in the database index. If that process takes more than a couple of seconds to complete, an empty list will be displayed. (See first example screen on previous page) An empty list will call for the input of a specific search key, a confirmation to continue from the top of the list (by hitting Xmit), or a transfer to archive mode .

Pressing Xmit or entering a successful search key will bring up the Online Files display. From the Online Files display, you can view or print a distribution by tabbing down to its corresponding summary line and entering a **V** or **P** accordingly. The contents of the banner page for this distribution can be viewed by entering a **B**. The blank underlined position preceding a summary line indicates where the **V**, **P**, or **B** is entered. While the cursor is still in the key area, pressing XMIT will continue the summary listing beginning with the next sequential recipient.

When a database contains a large number of archived distributions, a search request can require several seconds to build a summary screen for on-line distributions. When there is a delay, counts are displayed in the message area at the bottom of the screen. These counts are indicators of the activity underway. The block count notes how many distribution records have been read; selected records count shows how many of those read have been selected for display.

BLOCK COUNT = 502 SLCTD RCDS = 5

3.3.2 Scrolling

You can scroll forward and backward through the distribution list by doing the following:

- To scroll forward one screen, press XMIT.
- To return to the beginning of the list, press PF6: Top .

3.3.3 Searching for particular distributions

The top of the menu screen contains fields for Recipient, Address, Date, Qualifier, and Filename. You can search for particular distributions on any or all of these fields (See example below). Valid entries in these fields restrict the display to those distributions which satisfy **all** restrictions. Entries may be entered in full or truncated at any point.

You can key in any combination or all of the following:

- **Recipient** - the name of the recipient as defined through the RMS Administration System.
- **Address** - the recipient address as defined through the RMS Administration System.

Note: The Recipient and Address fields are compared to their fields in the distributions through the last non-space character entered. Since no restrictions are placed on the characters which may comprise RMS recipient and address fields, there are no restrictions on mask values. Leading and imbedded spaces are both valid and significant. For letters the comparison is case insensitive.

- **Date** - the date the report was submitted for distribution (must be entered as four digits). The month must be between one and twelve and the day valid for the month (02/29 is always valid).
- **Qualifier** - the Qualifier for the distribution as defined through the RMS Administration System.
- **Filename** - the Filename for the distribution as defined through the RMS Administration System.

NOTE: Qualifier and Filename are also compared through the last non-space character entered. Qualifier and Filename must satisfy OS1100 syntactical requirements comprising letters, digits, hyphens (-), and dollar signs (\$). Consequently, leading and imbedded spaces are invalid. The comparison is case insensitive.

Inputting a search key of C in the Recipient field of a Summary screen would return the following screen (all online distributions whose Recipient fields begin with C).

RMS DATABASE	IR3	ONLINE FILES			RMS102
Recipient	Address	Date	Time	Qualifier	File Name
-----	-----	-----	-----	-----	----- Pgs
- CANN	LIB	10/10	16:52	PUL*ARP1104MAIN0(1)	2
- COL ACQ	LAW	10/10	14:46	PALS\$*ACQ-RPTS(249)	zero
- COL ACQ	LAW	10/10	13:35	COL*ARP1104MAIN0(1)	zero
- COL ACQ IMPACT	LIB	10/09	15:51	COL*ADR1104MAIN0(1)	zero
- COL ACQ IMPACT	LIB	10/09	13:13	COL*AND1104MAIN0(1)	2
- COL CIRC	LAW	10/10	15:33	PALS\$*CIR-RPTS(559)	2
- COL CIRC	LAW	10/10	15:11	PALS\$*SAP-003(113)	2
- COL CIRC	LAW	10/10	14:14	MAIN*CRP1104COL0(1)	2
- COL CIRC	LAW	10/10	14:04	PALS\$*STATS(1)	2
- COL CIRC IMPACT	LAW	10/10	15:13	MAIN*END1104COL0(1)	3

PF1=Help PF2=Refresh PF3=Quit PF6=Top PF10=Clear PF12=ARCHIVE XMIT=NxtScrn					
ONLINE MODE: select U-View; P-Print; B-Banner Pg.					
1a ROW=03 COL= 03 10/10/95 17:08 Poll					

The screen below shows a selection on date only.

RMS DATABASE	IR3	O N L I N E F I L E S				RMS102
Recipient	Address	Date	Time	Qualifier	File Name	Pgs
- \$DEFAULT		10/10	16:54	SVCUT*TEXTTEST(1)		zero
- ANDERSON	LIB	10/10	10:11	PUL*ARP1104MAIN0(1)		5
- BROWN	LAW	10/10	16:51	COL*APU1104MAIN0(1)		2
- CANN	LIB	10/10	10:11	PUL*ARP1104MAIN0(1)		5
- COL ACQ	LAW	10/10	14:46	PALS\$*ACQ-RPTS(249)		zero
- COL ACQ	LAW	10/10	13:35	COL*ARP1104MAIN0(1)		zero
- COL CIRC	LAW	10/10	15:33	PALS\$*CIR-RPTS(559)		2
- COL CIRC	LAW	10/10	15:11	PALS\$*SAP-003(113)		2
- COL CIRC	LAW	10/10	14:14	MAIN*CRP1104COL0(1)		2
- COL CIRC	LAW	10/10	14:04	PALS\$*STATS(1)		2
- COL CIRC IMPACT	LAW	10/10	15:13	MAIN*CN0110COLO(1)		2
- DIXON	LIB	10/10	10:11	PUL*ARP1104MAIN0(1)		zero
- DRUMMOND	LIB	10/10	10:11	PUL*ARP1104MAIN0(1)		zero
- ENGLAND	LIB	10/10	10:11	PUL*ARP1104MAIN0(1)		zero
- EVANS	LIB	10/10	10:11	PUL*ARP1104MAIN0(1)		zero
- EWING	LIB	10/10	10:11	PUL*ARP1104MAIN0(1)		zero
- FAYETTE	LIB	10/10	10:11	PUL*ARP1104MAIN0(1)		zero

PF1=Help PF2=Refresh PF3=Quit PF6=Top PF10=Clear PF12=ARCHIVE XMIT=NxtScrn
 ONLINE MODE: select U-View; P-Print; B-Banner Pg.
 1a ROW=03 COL= 03 10/11/95 16:21 Poll

3.3.4 Summary Screen Menu Functions

The summary screen supports six program function keys (**PFn**), **XMIT**, and the three functions of print (**P**), view (**V**) and banner (**B**).

3.3.4.1 Using the Summary Screen Function Keys

The following function key listings appear at the bottom of RMS summary screens.

- **PF1: Help** - Bring up Contents screen for on-line help.
- **PF2: Refresh** - Clear and refresh the screen with the last display.
- **PF3: Quit** - Exit to command mode immediately.
- **PF6: Top** - Go to the first entry in the index list.
- **PF10: Clear** - Erase all Reload requests.
- **PF12: On-line/Archive** - Change mode from on-line to archive, or from archive to on-line.
- **XMIT: NxtScrn** - Scroll down one more summary screen beginning with the next sequential distribution.

3.3.4.2 Printing from the On-line Summary Screen

You may print any distribution displayed whose data remains on-line by keying **P** (upper or lower case) in the underscore at the left of the line and pressing **XMIT**. One copy of the distribution selected will be @SYM'd to the device which was specified in the distribution recipient's record at the time the print file originally was @SYM'd. If you select more than one distribution for printing, all are processed at once with each @SYM'd separately. The completion message includes the number of distributions printed. If both print and view selections are made simultaneously, all print requests are processed, their selection fields are cleared, and the screen is redisplayed with view selections preserved. The next transmission will load the viewer program with the first distribution selected for viewing.

3.3.4.3 Selecting candidates for viewing

To view a distribution, key in a **V** (upper or lower case) in the underscore at the left of the line. You may select more than one distribution if you wish; subsequent selections will be preserved if you later return to the menu. You may then continue with your next original selection by simply pressing **XMIT** again.

3.3.4.4 Banner Page Information

Keying a **B** (upper or lower case) in the underscore at the left of the summary line will cause a screen to come up listing the fields of the banner page that is sent to the printer with this report. If there is any information in the RMS system concerning this report or report recipient, this too will be displayed. The screen below shows the banner information for a file for which there exists no mask in the RMS system but which was SYMed to an RMS queue.

```

RMS VIEWR                BANNER PAGE                RMS210
Report Description:
  THIS REPORT IS NOT DEFINED TO THE RMS SYSTEM

  THIS IS THE RMS DEFAULT REPORT DEFINITION

Recipient Name and Address:
  ***** THIS IS A DEFAULT RECIPIENT ID *****

  SYSTEM PROGRAMMING GROUP - RMS ADMINISTRATOR

Userid:  SYGRC           File Name:  SYCUT*TEXTTEST(1)
Acct No. S999848-0845   Queue In: RMS1           Output
Runid:   SYGRCA         Banner:   SYGRCA         Format: $DEFAULT
Date:    10/10/95       Width:   132 chars./line Device: RANDAL
Time:    16:54:44:52    Length:  066 lines/page  Copies:  1
-----
PF5=Return
1a ROW=24 COL= 01           10/26/95 13:35           Poll

```

3.4 The Report Viewer

After a report is selected for viewing, the RMS Report Viewer screen appears.

```

RMS REPORT VIEWER                                RMS101
Current Page Line Col   10/10 16:54 SYCUT*TEXTTEST(1)
      1      1      1  Cmd _____
=====
When I save this file in the IPF editor it is stored to my default
qualifier SYCUT. I use this qualifier to Psgm this file (report) to a queue
initialized to RMS. This gets my report into the RMS distribution system.
RMS will look at the filename and qualifier as well as my userid before
deciding what to do with the report. If no mask has been defined which
applies to my report then the default actions for this RMS queue will be
carried out, (i.e. the report could be sent to a hold queue or it could be
printed with a default banner page). Every file processed by an RMS queue
will be copied to the RMS database. There it can be selected for viewing
from any Online Files screen until it is archived or deleted.
=====
PF3: Quit  PF5: Return Xmit: Down  PF7: Up  PF10,14: Left  PF4: Page Fwd
PF6: Scale PF9: Origin PF13: Bottom PF12: Top PF11,15: Right PF8: Page Back
MSG056 - BOUNDARIES: TOP LEFT RIGHT
1a ROW=03 COL= 28      10/11/95 12:35                                N Poll

```

The viewer program contains a buffer of 132 lines by 256 characters, the maximum page size supported by RMS. The viewer loads pages into this buffer one at a time.

3.4.0.1 Information Fields

At the top of the screen are fields that identify the distribution and your current position within it. To the right of the position field headings are date, time, qualifier, and filename.

The next line contains the current page number and beginning line and column numbers. These are updated whenever page or position changes. Page number is the relative page within the distribution rather than that of the print file from which the distribution was extracted. Line and column numbers are those of the top left character on the screen.

3.4.0.2 Function Keys.

The following function key listings appear at the bottom of the RMS Report Viewer screen and allow you to access desired portions of the distribution:

- **Xmit:Down** - Scroll down one screen (16 lines) or to the bottom of the page. If currently at the bottom of a page, go to the top of the next page. Scrolling occurs only if the Command field is left blank.
- **PF3:Quit** - Exit to command mode immediately. This command will not be honored if pages have been selected for print but not yet printed.
- **PF4:Page Fwd** - Display next page beginning with line one, current starting column.
- **PF5:Return** - Return to the On - line Menu. This command will not be honored if pages have been selected for print but not yet printed.
- **PF6:Scale** - A toggle which turns on and off line and column scales. Column scales are always displayed; the line scale appears only through the last line of the page.
- **PF7:Up** - Scroll up one screen (16 lines) or to the top of the page. If currently at the top of a page, go to the bottom of the previous page unless a specific page field was entered in the Command.
- **PF8: Page Back** - Display previous page beginning with line one, current starting column.
- **PF9: Origin** - Display current page beginning at line one, column one.
- **PF10,14: Left** - Scroll left one screen (80 columns) or to column one for PF10, always to column one for PF14.
- **PF11,15: Right** - Scroll right one screen (80 columns) but not past the buffer boundary for PF11. For PF15, scroll so that the last character of the longest line on the page would be in column 80.
- **PF12: Top** - Display the first line of the page on the first line of the screen. The first line on a page will typically be blank.
- **PF13: Bottom** - If the page is shorter than the screen display the first line of the page on the first line of the screen. Otherwise, scroll so that the last line of the page appears at the bottom of the screen. The last line of the page may be blank.

3.4.1 Command Field

The command field accepts commands to move among and around the file, search for the file for a string, select pages for print, or print the set of pages which has been selected. Valid commands are erased after being processed. When the program detects errors in the command it displays a diagnostic message including the position where the error was detected and the cursor is placed on this character. Commands can be combined with function keys in many cases. In situations where a command and function key entered simultaneously contradict each other the command is processed and the function key ignored. The command verbs are:

GO

FIND

SELECT

PRINT

Command verbs need not start in column one of the Command field and are case insensitive. Any portion of the verb delimited on the right by a space is accepted. Thus f, Fi, and fIN are all valid FIND's. The GO verb is optional: a Command beginning with a character other than F, P, or S, is parsed as a GO command.

The following definitions are required for defining the Command syntax further:

<code><number></code>	One to eight digits delimited by a non - digits.
<code><variable></code>	<p>\$t or \$T: Top; first page, line or column. This always has the value one and is supported only for compatibility with IPF.</p> <p>\$c or \$C: Current page, line, or column.</p> <p>\$b or \$B: Bottom. Last page, line, or column. Last column is the length of the longest line of a page. Last line and column are always relative to the current page, and change during a FIND as the page being searched changes.</p>
<code><expression></code>	<p><code><number></code>, <code><variable></code>, <code><variable> + or - <number></code> \$t/T - <code><number></code> and \$b/B + <code><number></code> are invalid, since there are no pages before the first or after the last. <code><variable> + or - <number></code> must not evaluate to a page number that is negative or not in the report. Spaces are allowed and are inserted between the terms here for readability. Spaces are not required.</p>
<code><range></code>	<p><code><expression></code> , interpreted as <code><expression> :<expression></code> , <code><expression> :</code>, interpreted as <code><expression> :\$b</code>, <code>: <expression></code> , interpreted as <code>1: <expression></code> <code><expression1>:<expression2></code>.</p> <p><code><range></code> 's must be positive. <code><range></code> 's are specified for pages, lines, and columns: page <code><range></code> 's may be prefixed by p or P (a <code><range></code> with no prefix is a page <code><range></code>) and line and column <code><range></code> 's must be prefixed by l or L and c or C respectively. Except at the beginning of the Command field <code><range></code> 's must be delimited on the left by a prefix, space, or comma.</p>

The GO Command

```
[GO] [[p]<expression>
l
c
```

Any or all of page, line, and column expressions may be entered in any order, delimited as <range> 's above.

If no arguments are present, scroll down one screen is assumed.

When displaying a new page, the viewer defaults to line one, current start column. If only a column expression is entered, start line remains unchanged. Start column is never changed unless explicitly requested.

If neither a page expression is present nor a function key requesting a page change was entered:

- If l+1 was entered while at the bottom of a page display next page.
- If l - 1 was entered while at the top of a page display bottom of previous page.

Example1: GO p\$b
g \$B
\$b

The above statements are equivalent and instruct the viewer to display the "bottom" or last page. "p", meaning page, is implied when using \$b (bottom) or \$t (top). GO is the implied command if no command is specified.

Example2: G \$t
\$t

The above statements instruct the viewer to display the top page.

Example3: 10

The above statement instructs the viewer to display page ten.

Example4: \$t , l1 , c64

The above statement instructs the viewer to go to line one, column 64 of the first page.

The FIND Command

```
FIND [<string> [[p] <range> ]]  
l  
c
```

<string> is a set of contiguous characters not including spaces, commas, nor an odd number of contiguous quotation marks (") and delimited on the right by a space or comma. If spaces or commas are to be included in the search string, then the string must be enclosed in quotes.

Two adjacent quotation marks within the search argument are interpreted as one occurrence of the quotation mark character in the report being searched. The length of the search argument after stripping delimiters and compressing double quotation marks is 40 characters.

Page, line, and column ranges may be specified in any combination and order.

When a FIND is successful, the page on which the <string> was found is displayed beginning with the line on which the <string> was found. The start column for the display is retained so long as all of the <string> appears on the screen; otherwise the minimum adjustment of the start column is made so that the entire <string> appears.

Following a successful FIND, the search argument and limits and the position at which the string was found are saved. A subsequent FIND with no arguments causes another search for the same argument after the current position subject to the same limits. The search argument and limits are retained until the user

- enters a new <string> ,
- enters an erroneous search command,
- enters an invalid verb, or
- exits the viewer

at which time they become undefined (this is also their initial state).

Position in the file at which the next search will begin remains unchanged until the display changes as a result of another FIND, a GO command, or a function key. The position after a display resulting from a GO command or function key is before the first character displayed.

A subsequent FIND with parameters uses the new argument and limits, the latter subject to the default rules for <range> 's. The search will proceed from the character after the current position unless an explicit start page is entered, in which the search begins at start page, start line, start column.

Example1: FIND Totals

The above statement instructs the viewer to search the report from the current position to the end of the report until the word "Totals" is found.

Example2: F "Final Totals",C49

The above statement instructs the viewer to search the report from the current position to the end of the report until the phrase 'Final Totals' is found in columns 49 - 64. The column range here is the length of the phrase.

Example3: f "a "B" grade",10-20,L30:50,c20-70

The above statement instructs the viewer to search the report on pages 10 - 20, lines 30 - 50, and columns 20 -70 until the phrase 'a "B" grade' is encountered. Note the double quotes around 'B'.

The SELECT Command

```
SELECT [[p] <range> ]
```

The first successful SELECT command causes a temporary print file to be assigned. Each successful SELECT command writes the pages selected to the print file, counts them, and reports the number of pages written. Once the file has been assigned, attempts to exit to the menu or to command mode are thwarted until the file is printed or erased after the user presses the exit function key twice.

Example1: s

The above statement causes the current page to be selected.

Example2: SELECT 5

The above statement causes the 5th page to be selected.

Example3: s \$t+10:\$b-10

The above statement causes the first ten and last ten pages to be selected.

The PRINT Command

```
PRINT
```

This closes and SYM's the print file built by SELECT commands and reports the total number of pages accumulated in the file. No parameters are allowed. An error also occurs if no pages have been selected.

Example1: PRINT

The above statement causes the pages that were selected by a previous select command to be printed on the device specified in the original distribution screen for this report.

Example2: p rls1

The above statement causes the pages that were selected by a previous select command to be printed on the alternate device 'rls1'.

3.4.3 Online Help

Most of the topics covered in this chapter can be found in the on-line help. While the Viewer is running the online help screen below can be displayed by pressing PF1. More help screens can be obtained by pressing Xmit. Alternatively, the help topic can be selected from the Contents menu below.

```

                                H E L P                                Date: 10/24/95
                                RMS ON-LINE VIEWER SYSTEM              Time: 16:25:11
                                                                    HELF001-51: 1

                                CONTENTS

Help is summarized by topic in the following table. For assistance with
a topic, enter its corresponding number then press Enter <XMIT>. As an
alternative, page sequentially forward and backward through the Help
screens using <XMIT> and function key PF7. Return to this screen at any
time by pressing PF1.

*-- General ----*   *-- Report Menu ----*   *-- Report Uiewer ----*
1. VIEWER Overview   5. Search Keys           8. Command Statments
2. VIEWER Messages  6. Select Commands      9. Go
3. Help-in-context  (View, Print,           10. Find
4. Function Keys    (Banner Pg., and       11. Select
   (common)         (Reload)               12. Print
                    7. Function Keys       13. Function Keys
                    (specialized)   (specialized)

-----
PF5: Return,  Xmit: NxtScrn,  PF7: PreuScrn,  PF1: Contents  ( )
1a ROW=23 COL= 72           10/24/95 16:26           Poll

```

This chapter contains messages you may receive while using RMS On-line Viewing. Please note any error message numbers before calling the support line.

No reply from Database Engine, server n. Retry? (Y/N)

This message appears before the On-line Menu screen when displayed. Contact the RMS administrator concerning the availability of the RMS On-line system. n is the server number, which may be of interest to the RMS administrator.

Numbered messages produced by the RMS On-line system are presented in numeric order with explanations as warranted. In cases where more than one error is detected on a screen the error message refers to the first field in error.

ERR002 - CORRECT BLINKING FIELDS

Indicates a syntactical error.

ERR006 - UNDEFINED FUNCTION KEY**ERR008 - I/O ERROR FL-n, FN-n, K-n, E-n, n**

A fatal error has occurred. The various <n> represent codes indicating the error and the circumstances under which it occurred. <msg> provides a brief English description.

02 DUPLICATE KEY
10 END OF FILE
21 SEQUENCE ERROR
22 DUPLICATE KEY
23 RECORD NOT FOUND
24 BOUNDARY VIOLATION
30 HARDWARE I/O ERROR
<n> SYSTEM ERROR

The preceding are UNISYS defined direct file access error codes.

<n> FILE SERVER ACCESS ERROR

Indicates database server access error other than server not active. <n> is error code returned by server.

<n> LK01-STATUS Should indicate a program error of some sort. Contact the RMS System Administrator for further instructions.

ERR011 - RECORD NOT FOUND

The relative record does not exist. You have reached end (or beginning) of file while scrolling or have specifically requested a page which does not exist. If this message appears when the viewer is first entered either the distribution contains no pages or an error occurred while the job was being loaded into the on-line database.

MSG039 - END OF LIST

Displayed by the On-line Menu along with a blank screen when the end of the distributions is reached. Transmitting will restart the display at the beginning. The message also will be displayed if no distributions exist. This can result from incorrect recipient access restriction by the user or lack of access rights to recipients. Contact the RMS Administrator if no distributions appear after all restriction fields have been cleared.

ERR046-NUMBER OUT OF RANGE

In the On-line Menu a date is invalid: either month not between one and twelve or day is invalid for month.

ERR049-UNAUTHORIZED ACCESS

Contact RMS administrator for access to On-line System.

SG050-SELECT: P-PRINT, V-VIEW

Input prompt for on-line Menu.

MSG052 - <n> DISTRIBUTIONS PRINTED

Appears on Menu screen of on-line program after print(s) were selected there. <n> is the number of distributions printed.

MSG053 - NOT FOUND

Appears on Viewer screen after an unsuccessful search.

ERR054 - PRINT ERROR

ACSF command error while attempting to build or @SYM a file in the on-line program. <err> indicates process in progress when error occurred:

- 301 @ASG
- 302 @USE
- 303 @FREE
- 304 @SYM
- 305 error returned by DIDS to SDF routine

MSG055 - STRING FOUND BEGINNING IN COLUMN

Confirmation on the Viewer screen following a successful search. is the column in the line relative to its beginning in which the first character of the string is found. The starting column for the display will be adjusted, but only so much as is necessary for the string to be displayed on the screen in its entirety.

MSG056 - BOUNDARIES: [TOP] [BOTTOM] [LEFT] [RIGHT]

Appears on the Viewer screen after a screen has been displayed following a GO command or function key input. It indicates which boundaries of the page the current screen has reached (or exceeded, when allowed).

MSG057 - <n> PAGES g

Used by the Viewer screen for several purposes:

- 0 PAGES HAD BEEN SELECTED -if print requested before any pages were selected:
- <n> PAGES SELECTED FOR PRINT following successful SELECT
- <n> PAGES PRINTED following successful PRINT
- <n> PAGES SELECTED FOR PRINT; REPEAT FUNCTION KEY TO ABANDON if an attempt to return to the menu (PF5) or exit the program (PF3) is entered while selected pages have not been printed.

ERR058 - COMMAND ERROR AT CHARACTER <n>.<msg>

This is the Viewer's message for errors in the Command field. <n> is the character position in the field at which the error was detected. g describes the error as follows:

INVALID NUMBER/EXPRESSION/RANGE
INVALID COMMAND
UNMATCHED QUOTATION MARKS
STRING OR NUMBER TOO LONG
EXTRANEIOUS CHARACTERS OR FIELD
ARGUMENT MISSING
DUPLICATE PAGE FIELD
DUPLICATE LINE FIELD
DUPLICATE COLUMN FIELD
INVALID RANGE
RANGE DOES NOT EXIST

**UNDEFINED SEARCH ARGUMENT MSG059 - FILE SERVER
TEMPORARILY UNAVAILABLE. TRY AGAIN LATER**

The RMS Database Server has gone down. Further execution of the program is pointless until the server has been reactivated.