Corsair Technology, Inc

Report Management System
Operator's Guide
Version 1R3

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Corsair Technology Inc.
Atlanta, Georgia 30303

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i Preface

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 hard-copy or on-line means. 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) has five main sections, according to function:''administration, distribution, on-line viewing, archive and retrieval, and database services.

The Report Management Administration System is menu driven, which makes it easy to learn and use. The operator maintains full console control of the Report Management Distribution System.

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 RMS administrator, the system operator, and on-line viewing recipients.

- **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.**

- **RMS Administrator** - controls report definition, recipient definitions, distribution lists, archiving parameters, security and billing information. The administrator prepares the system for operation, ensuring that reports are properly defined so they 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.**

- **On-line Recipients** - view reports on-line instead of receiving hard copy prints. The on-line recipient may later select particular pages of a distribution for printing.

About This Manual

This manual should be used by the RMS operator, administrator, the installer of RMS, or any other individual who requires knowledge regarding the day-to-day operation of the RMS Distribution and Archive and Retrieval systems.

Related Material

Report Management System documentation includes the following manuals:

SPIN-X/RMS Reference and Installation Guide
SPIN-X/RMS Administrator's Guide
SPIN-X/RMS On-line Viewing

System Support

If problems are encountered with the SPIN-X/Report Management System please call the telephone number below between 8:30 A.M. - 5:00 P.M. Eastern Time, Monday-Friday, and request "SPIN-X technical assistance".

(404)-651-4567

(404)-651-4579-FAX

Note: To facilitate problem determination, administrators 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. Operators and on-line recipients should record any significant error message numbers before calling the response line.

Any regular mail correspondence should be sent to:

SPIN-X Project
Georgia State University
Computer Center
University Plaza
Atlanta, Georgia 30303-3083 USA

For weekday courier delivery use the following address:

SPIN-X Project
Georgia State University
Computer Center
95 Decatur Street
5th Floor
Atlanta, Georgia 30303-3083 USA

For all hours courier delivery use the following address:

SPIN-X Project
Georgia State University
Computer Center
103 Decatur Street
Room G-8
Atlanta, Georgia 30303-3083 USA

Bulletin Board sign up:

(404)-651-2661 @ a BAUD rate between 2400 - 57,600

TERMINAL SETTINGS

- Data length of 8 bits
- NO parity
- 1 stop bit
- no local echo
- ANSI or TTY terminal protocols (ANSI preferred)

The above number is for new user sign ups. A series of prompts is provided for firstname, lastname and password. If time is critical, use the TEMPCLIENT method shown below.

Dial (404)-651-2661 @ a BAUD rate between 2400 - 57,600
Enter TEMPCLIENT to the firstname prompt and hit return
hit return for the lastname prompt
Enter TEMPCLIENT to the password prompt and hit return

1 Introduction

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 in both on-line electronic and printed media. It also provides a means for long-term storage of critical reports and also allows selection of specific pages from a report for distribution. The system is designed for easy tailoring to the specific requirements of each customer site.

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

- **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.
- **Administration system** - Full-screen, user-friendly system identifies reports, defines print and on-line viewing recipients, builds distribution lists, defines the sytem printing environment, identifies reports for archiving and/or on-line storage, and defines any printout accounting which is to take place.
- **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.

A sixth secondary component is also provided.

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

2 RMS Concepts and Objectives

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 reports 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 and can lead to an increase in distribution errors. In addition, the actual report recipients are often 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 timely and effective manner. Implementation of report management reduces the number of errors in the distribution process, enables report recipients to more effectively accomplish their tasks and reduces the cost of report distribution by both restricting the flow of unneccessary paper and cutting the manpower required to distribute it.

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: if auditting has been implemented, the decision to print will carry a cost. 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 that 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".

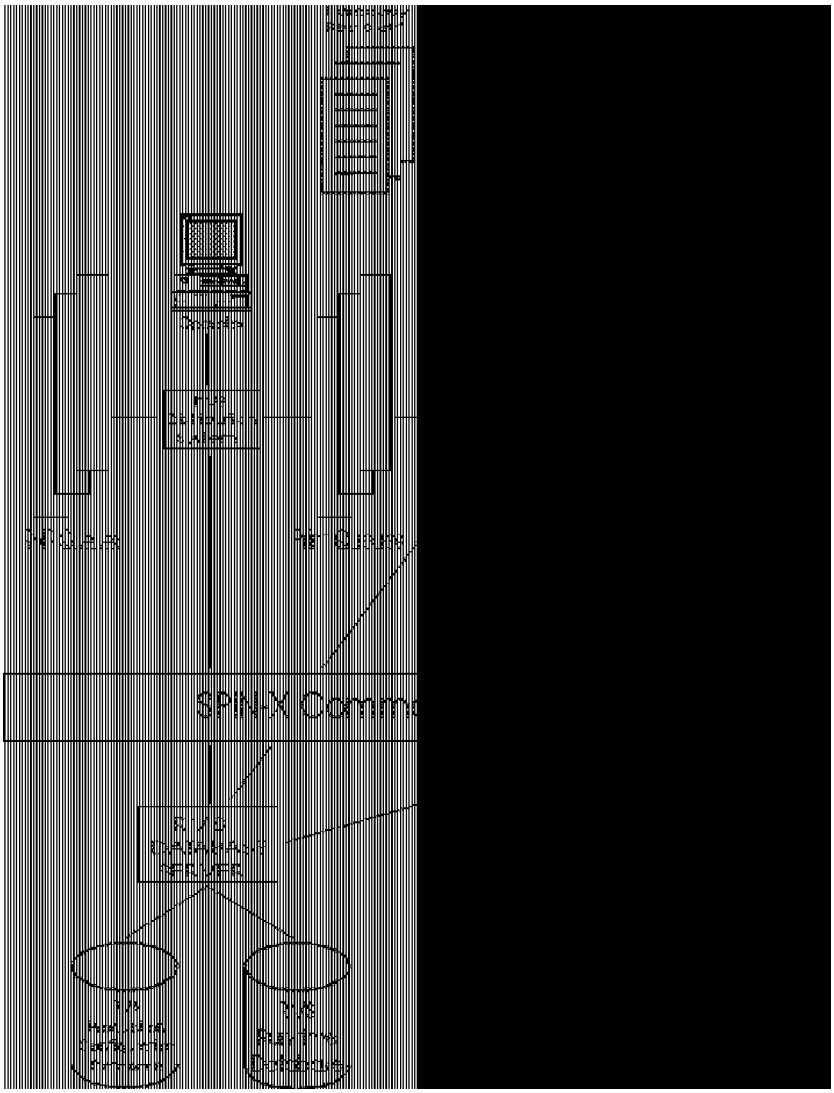


Figure 2-1

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 *Pages 2*
COMPUTER CENTER, UNIVERSITY PLAZA
GEORGIA STATE UNIVERSITY ATLANTA, GA 30303

****

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.

3 The RMS Operator's Role

3.1 Operator Responsibilities

The RMS operator is key to the successful day-to-day operation of report management. As the operator, it will be your job to ensure that all batch jobs which should be running are and to operate the RMS Distribution System. This will include issuing ST console keyins and RMS unsolicited keyins. The default RMS unsolicited keyin is RMS*.

In addition, the RMS operator often provides front-line support for report management within an organization. If someone does not receive their report, they will typically call operations to find out what happened. It will be your job to determine if RMS is operating properly and to forward individuals to the RMS or system administrator when appropriate.

3.2 SPIN-X/RMS Batch Jobs

SPIN-X/RMS has several batch jobs which must be running for the system to operate correctly. The chart on the following page details the different SPIN-X/RMS batch jobs which execute, which other jobs are dependent upon them, and their purpose. Any SPIN-X/RMS batch job which errors or aborts, **must** be reported to the appropriate parties.

RUN-ID	REQUIRED BY	DESCRIPTION
DISDBE [1]	RMS RMSARC RMSPUR RMSREC RMSRPT VIEWR (Demand)	Distribution Configuration and Run-Time Database Server
ADMDBE [2]	ADMIN (Demand) RMSRPT	Administrator Configuration Database Server
RMS [1]		Report Distribution System
RMSARC [1 3]		Archive System
RMSFIX [4]		Database Reorganization System
RMSPUR [2]		Run-Time Database House Keeping
RMSREC [2]		Retrieval and Reprint System
RMSRPT [2]		Configuration Database Report Generator
RMSUPD [2]		Update Distribution Configuration Databases from Administrator Configuration Databases
RMSRST [2]		Reset Administrator Configuration Databases Databases from Distribution Configuration Databases

Table 3.1 RMS Batch Jobs

NOTES:

1 It is the operator's responsibility to ensure that this job has been submitted and is running properly. Check with your system administrator for details on how and when this system is to be started.

2 It is the operator's responsibility to ensure that this job has run to successful completion. However, it is submitted by the SPIN-X/RMS administrator or automatically by another job.

3 RMSARC is a scheduled batch job which should always be sitting in backlog.

4 RMSFIX is a batch utility that can run only when all other RMS jobs have completed and are removed from the system. It is the operator's responsibility to bring down the Distribution System at the request of RMSFIX and to restart the Distribution System following its completion. RMSFIX is submitted by the RMS administrator. The administrator is to be notified in the event of a problem.

4 RMS Distribution System Operation

4.1 Overview

This section is for use by those responsible for Report Management System Distribution operations. Operators **must** be familiar with Unisys Series 1100/XX and 2200/XXX system operations before attempting to use the Report Management System.

4.2 Working with the Distribution System Databases

As described previously, SPIN-X/RMS has two databases: a working set and a production set. The working set is used by the administrator for working up changes to distributions, report definitions, etc. The production set is used by the Distribution System for live report distribution processing. When the RMS administrator is prepared to commit the working set to production, a batch job named RMSUPD is submitted. When the RMS administrator needs to reset the working set databases from current production, a batch job named RMSRST is submitted. These batch jobs will prompt you to bring down the RMS Distribution System when appropriate. Issue the following keyin to bring the Distribution System down:

RMS* /EXIT

Once the update or reset has completed and after the DISDBE database engine has restarted, the batch job will prompt you to restart the Distribution System. Both the DISDBE and the RMS Distribution System are started with the "**ST**" command. The "ST DISDBE" keyin will start a runstream in SYSRUN that causes an SSG runstream to be built from the DISDBE/SKEL skeleton that came on the RMS instal tape. This runstream will need to be put in SYSLIB at the time of installation in order for the "ST" command to start the DISDBE. A similar runstream is required for the RMS Distribution System.

The following section describes how to start the DISDBE and the RMS Distribution System.

4.3 Starting the SPIN-X/RMS Distribution System

To start the SPIN-X/RMS Distribution System, first ensure that the DISDBE database server is running. If it is not running, issue the following console keyin to start it:

ST DISDBE

This will cause the database engine to be loaded as shown below.

```
▶*UNISYS 1100 Operating System Level EXEC44R3-07 (RSI)*
▶Current session number:  48
▶Previous session was:  95 Nov 10    10:57:25
▶DUP ID, NEW ID IS SYCAKA
▶DATE: 111095      TIME: 111154
▶TIME [10 NOV 95-11:11:54]
▶   SUPS:   0:05.631   DSP:   0:05.631
▶**
▶@@cons
▶
▶st disdbe
▶
▶▶*TM*  * RUNID DISDBE SUBMITTED *
▶  DISDBE START
▶  DISDBE*          RMS DISDBE R/T OPTION SET ON
▶  DISDBE*RMS900:  IMITIALIZING DATABASE SERVER DISDBE
▶  DISDBE*RM026:  CDB BDI = 0400605, server name = DISDBE
▶  DISDBE*RM026:  Max servers/clients configured = 5/10
▶  DISDBE*RM026:  CDB server index = 4, CDB version = CDB 2R1C
▶
▶
▶@@end
```

The Distribution System Database Server is ready when the following line appears on the console:

***runid**RMS900: INITIALIZING DATABASE SERVER DISDBE**

Next, start the SPIN-X/RMS Distribution System by issuing the following OS1100 console keyin:

ST RMS

You will see something similar to the following.

```
▶@@cons
▶
▶st rms
▶▶  RMS   DUPLICATED.  NEW ID IS RMSC
▶  RMSC  START
▶  RMSC*RMS901:  RMS 'RMS-DIST    ' ATTACHING TO DATABASE SERVER DI
▶  RMSC*RM027:  CDB BDI = 0400605, server name = DISDBE
▶  RMSC*RM027:  CDB server index = 4, CDB version = CDB 2R1C
▶  RMSC*RMS902:  RMS 'RMS-DIST    ' IMITIALIZED
▶  RMSC*RMS007: RMS Run Mode Is Batch
▶  RMSC*RMS008: LIMITED console keyins on
▶  RMSC*RMS Version 1R3A (951110 1101:20) 951110 1145:04
▶  RMSC*RMS004: RMS Console I/O Redirected To Message Group SYSMSG
▶
▶
```

RMS is ready to accept operator keyins when the following processor call line appears on the console:

runid*RMS VERSION <version> (<absolute date/time>) <run date/time>

4.4 RMS Distribution System Operator Commands

All Report Management System commands issued by the system operator are preceded by an unsolicited operator keyin. The default keyin is **RMS***. This keyin may be changed by the RMS administrator if necessary. The following is a listing of all RMS operator keyins followed by a short description of the effects of the command.

/EXIT - terminates the current Report Management run and shuts the system down. The exit will release any intitialized queues and stop when current distribution is complete.

/KILL - immediately aborts the Report Management System, no matter what its status. **Use with caution, and use only in case of emergency**. This command will require a system restart. This command may leave partially completed distributions.

/ID - redisplays the processor call line to identify your location's version of Report Management.

/TRON <*TRACE LEVEL*> - turns the specified trace level on to assist with debugging. Use **only** at the request of Georgia State University support personnel.

/TROF <*TRACE LEVEL*> - turns the specified trace level off.

/DUMP - generates internal dump of interactivity message queues. Use **only** at the request of support personnel from Georgia State University.

/RESET - resets the system to the initial start-up state.

STATUS - provides Report Management status.

CONS <*CONSOLE ID*> - redirects the operator interaction to a different console.

INIT <*QUEUE ID*> - initializes a queue for input.

RELEASE <*QUEUE ID*> - releases a queue from processing.

QUIT - stops a report from further processing. This does not delete the entry from the queue. To delete the entry, you must first release the queue, then use the standard Unisys **SX** keyin.

FLUSHLOG - to close one logfile, submit it for printing and open a new one.

4.4.1 Trace Levels

The following are the valid Report Management System trace levels for the /TRON and /TROFF commands:

MESSAGE
MISC
DISPATCH
SMOQUE$
KEYIN$
LOADER
SCANNER
PRINTER

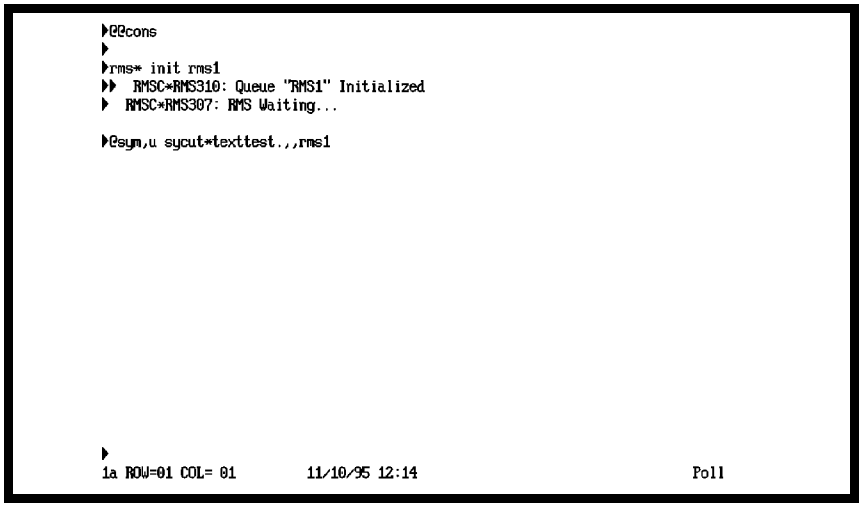
4.4.2 Console IDs

The following are valid console IDs which can be used on the CONS command. The system console (SYSMSG) is the default console.

SYSMSG
IOMSG
RSICOM
HDWCON
USER4
USER5
USER6
USER7

4.5 Using The Distribution System

Once the database engine and distribution system have been loaded some queues need to be initialized to RMS. Once this is accomplished, all files which are SYM'd to the RMS queues will be processed according to the masks created by the RMS administrator which apply to those files. To use RMS, the user needs only to know the name of the RMS queue. Initialization of a queue is shown below:



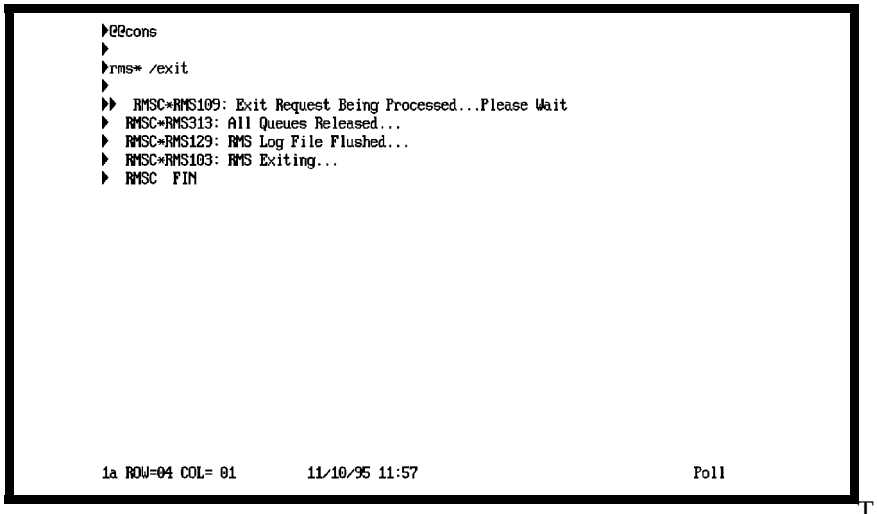
In the example above, the file symmed to the queue "RMS1" will be processed by the RMS Distribution System.

4.6 Bringing Down RMS

Issue the following keyin to bring the Distribution System down:

RMS* /EXIT

The following sequence of messages will appear on the console.

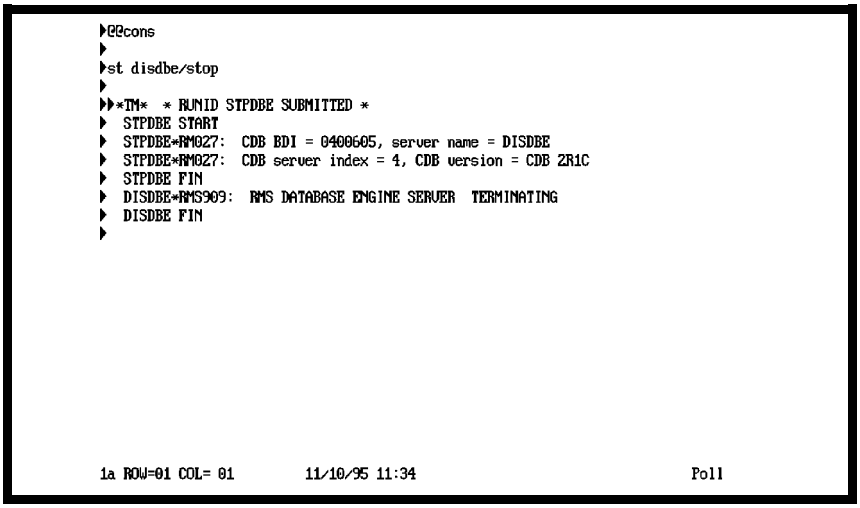


The above is an orderly shutdown which waits for all distributions to finish processing. The "/KILL" keyin, which aborts in the middle of processing, should be avoided.

After shutting down the Distribution system, unload the database engine with the following command:

ST DISDBE/STOP

This will terminate the database engine server.



As with the other "ST" commands, an appropriate runstream will need to be put in SYSLIB in order for this command to have any effect.

4.7 RMS Log File

You can submit the RMS Log File for printing by using the following keyin:

RMS* FLUSHLOG [*queue-id***]**

A sample RMS Log File appears below.

```
****************** RMS Log File ******************        111295     5:5:30   PAGE      22

================================================================================

Queue Entry Processing Begun on 1995 Nov 25 Fri  0025:53.784
          File Name = PALS$CIR-RPTS(30)
             Run-Id = CIRRES
    Account Number = A210652-999
         Project Id = PALS
            User Id = CCLIC
           Queue Id = PALS
File Saved On Reel Number 00728

Copy 00000001 of 00000003 Distributed On 1995 Nov 12 Fri  0025:55.887 For Report:  PALS
CIRC REPORTS
1 Print Out(s) In Format PR Submitted to Queue PR
To Be Delivered To:
 COLLEGE OF LAW LIBRARY             ******************************
 CIRCULATION DEPARTMENT             ***** PLACE IN BIN 0412 *****
 GEORGIA STATE UNIVERSITY           ******************************

Copy 00000002 of 00000003 Distributed On 1995 Nov 12 Fri  0025:55.887 For Report:  PALS
CIRC REPORTS
1 Print Out(s) In Format PR Submitted to Queue PR
To Be Delivered To:
 INSTRUCTIONAL RESOURCE CENTER      ******************************
 COLLEGE OF EDUCATION               ***** PLACE IN BIN 1210 *****
 GEORGIA STATE UNIVERSITY           ******************************
 (5TH FLOOR - LIBRARY SOUTH)

Copy 00000003 of 00000003 Distributed On 1995 Nov 12 Fri  0025:55.887 For Report:  PALS
CIRC REPORTS
1 Print Out(s) In Format PR Submitted to Queue PR
To Be Delivered To:
 DR. ARTURO JIMINEZ                 ******************************
 SPIN-X SUPPORT GROUP               ***** PLACE IN BIN 0845 *****
 WELLS COMPUTER CENTER              ******************************
 GEORGIA STATE UNIVERSITY


Queue Entry Processing Completed On 1995 Nov 12 Fri  0026:03.256
```

The RMS log file shows the date and time the report was submitted by the user as well as when each Report Management System report is sent to a device queue, the recipient name and address, and the format and number of copies.

5 RMS Archive and Retrieval Operation

5.1 Overview

This section describes the operator's involvement in the SPIN-X/RMS Archive and Retrieval System. The Archive and Retrieval System is composed of one scheduled batch job, two non-scheduled batch jobs, and the Distribution System Database Server (DISDBE).

5.2 The Archive Batch Job

Reports received by RMS are indexed and stored in the run-time database, which is controlled by the DISDBE database server. Archiving information about the reports (spool number, number of pages, etc.) is stored on this database also. A scheduled batch job, named RMSARC, takes reports which are ready to be archived and copies them to tape. This archive batch job will request the appropriate number of tapes to be mounted via the standard OS1100 tape mount request. A library of tapes will have to be allocated for the archiving process. Check with your RMS Administrator to determine the frequency of archiving and an estimate of the number of tapes which should be allocated for each run. Archiving information can be periodically updated, for instance, every hour, depending on the Hold Me parameters specified during installation. The number of days the report and archiving data are saved also depends on the parameters set up during installation.

For details, see the *SPIN-X/RMS Installation Guide*.

RMS reports are periodically saved to tape along with a selected tape expiration date, ensuring that reports are available for a certain number of days or weeks. RMS automatically produces a daily report showing all archiving activity.

5.2.1 Daily Purge

Report and archive information is purged on a daily basis. All report and archive data that have been processed and catalogued and are due to expire will be purged from RMS.

5.2.2 Restoration

When a report has been purged from the system and needs to be restored for printing, the RMS Administrator can search the archive for the spool name of the report (taken from the archiving activity report) and identify the tape on which the report is stored. The tape can then be loaded and the report returned to the database job disk, from which it can be printed.

At the specified time, it will again be purged from the job database.

6 RMS Database Reorganization System Operation

6.1 Overview

This section describes the operator's involvement with the SPIN-X/RMS Database Reorganization System. The Reorganization System is composed of a demand session and one batch job (RMSFIX). The operator's involvement is limited to the batch job.

6.2 The RMSFIX Batch Job

RMSFIX will reorganize and re-index the RMS Run-Time Database files of RUNDTADB and LFCYCLDB. Before it can perform these tasks, operational steps must be taken to insure that no other RMS jobs are running. When RMSFIX is ready to run, it will ask the operator to bring down the RMS Distribution System. When the operator responds in the affirmative, RMSFIX will terminate the production database server (DISDBE) and will proceed to unload the Run-Time Database files to flat files stored on fixed disk (RUNDTADB-BAK and LFCYCLDB-BAK). After it finishes making these copies, it will verify that the flat files are correct. If the RMS administrator has so specified, one or more tape copies of the flat files will be made. In that case, the operator will be requested to mount blank tapes. After all requested copies have been written to tape, the Run-Time Database files will be removed and recreated. The flat files on disk will be used as input. Part of that process can include moving the indexed database files from fixed disk to removable packs. If removable disks are specified and are unavailable at the beginning of the reload step, the operator will be asked to mount the specified disk packs. After the flat files have been fully reloaded and re-indexed, RMSFIX will restart the database server. Following that action, it will prompt the operator to restart the Distribution System. Once the Distribution System has been restarted, other RMS processing can proceed as per normal.

A RMS Operator Console Messages

A.1 Overview

This section defines the error messages which are generated by the different components of RMS and displayed on the operator's console. Each message is followed by a short description and corrective actions which can be taken. Messages prefixed by an asterisk (*) indicate that the SPIN-X customer support line should be called.

A.2 RMS Distribution System Messages

The following messages are generated by the RMS Distribution System. System errors, status, and warnings are sent to the operator console.

A.2.1 Distribution System Main Program Console Messages

These messages are generated by the RMS Distribution System main program activity. They are displayed upon the RMS operator's console.

* **RMS001: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command code displayed and call the support line.

* **RMS002: Internal Messaging Error Status <status>**

The RMS interactivity messaging system returned an error. Record the status code and call the support line.

* **RMS003: Stack Error Status <status>**

An RMS stack error has occurred. Record the status code and call the support line.

RMS004: RMS Console I/O Redirected to Message Group <cons>

Indicates the message group to which the RMS Distribution System will output console messages. Console IDs and numbers: SYSMSG (0), IOMSG (1), RSICOM (2), HDWCON (3), USER4 (4), USER5 (5), USER6 (6), USER7 (7).

RMS005: RMS Console I/O Redirected to Site Id <site-id>

Indicates the demand console to which the RMS Distribution System will output console messages.

A.2.2 Distribution System Dispatcher Console Messages

These messages are generated by the RMS Distribution System message dispatcher activity. They are displayed upon the RMS operator's console.

* **RMS101: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command code displayed and call the support line.

* **RMS102: Status <status> Returned On Message Get**

The interactivity messaging system returned a bad status on a message retrieval function. Record the status and call the support line.

RMS103: RMS Exiting . . .

The RMS system is executing a normal exit.

RMS104: RMS Killed . . .

RMS was terminated by an operator's /KILL command. This is an abortive exit.

RMS105: RMS Trace On . . .

The RMS operator has initiated the trace facilities.

RMS106: RMS Trace Off . . .

The RMS operator has disengaged the trace facilities.

RMS107: RMS Dump Completed . . .

RMS has completed processing the operator's /DUMP command.

RMS108: RMS System Reset in Progress . . . Please Wait

Appears in response to the /RESET command.

RMS109: Exit Request Being Processed . . . Please Wait

Appears in response to the /EXIT command if RMS is still processing a report for distribution. RMS will not exit with report(s) still processing.

RMS110: Report Requeued for Future Processing . . . Quit Completed

Appears in response to /QUIT command. Processing of current report is aborted, and the report is requeued for future processing.

* **RMS111: Status <status> Returned On Message Check**

The RMS internal interactivity messaging check function returned a bad status. Record the status and call the support line.

* **RMS112: An Internal Activity Synchronization Error Has Occurred**

Two or more RMS internal activities have failed to synchronize. Call the support line.

* **RMS113: An Internal Report ID Mismatch Had Occurred**

Report processing has failed to synchronize. Call the support line.

*** RMS114: An Unexpected Data Base No Find Condition Has Occurred**

Indicates no $DEFAULT report definition and recipient address is defined. Check the RMS configuration databases to see if a $DEFAULT report definition exist, and if a $DEFAULT recipient address exists. If either is not, define the missing $DEFAULT record. If both do exist, call the support line.

RMS115: Database I/O Error Status <status> Returned

An I/O error has occurred while trying to read the database. Record the status and attempt to determine the problem (not catalogued, disabled, etc.). See the System Administrator.

RMS116: RMS System Cleared and Reset . . .

Appears in response to certain errors. RMS will clear memory buffers, clear the stack, clear the message queues and reset itself.

RMS117: File <filename> Queue <queue-id> - In Progress

Appears in response to STATUS keyin. Displays what file from which queue is currently being processed.

RMS118: RMS Inactive . . .

RMS is idle and has no queues activated.

***RMS119: An Invalid Log Action <code> Was Requested**

An invalid internal log file request occurred. Record the action code and call the support line.

***RMS120: A Bad Log File Function Call <code> Was Made**

An invalid log file function was requested. Record the function code and call the support line.

RMS121: @CAT Facility Status <status> Returned For RMS Log File

Provides facility status codes for cataloging of the RMS log file. See the System Administrator.

RMS122: @ASG Facility Status <status> Returned For RMS Log File

Provides facility status codes for assigning of the RMS log file. See the System Administrator.

RMS123: @USE Facility Status <status> Returned For RMS Log File

Provides facility status codes for linking of the RMS log file name. See the System Administrator.

RMS124: @BKRPT Status Code <status> Returned For RMS Log File

Provides facility status codes for output redirection to the RMS log file. See the System Administrator.

RMS125: @FREE Facility Status <status> Returned For RMS Log File

Provides facility status codes for freeing of the RMS log file. See the System Administrator.

RMS126: @SYM Status Code <status> Returned For RMS Log File

Provides facility status codes for symbiont processing of the RMS log file. See the System Administrator.

RMS127: RMS Log File Status <status>, I/O Error <error> Returned

A bad status was returned while attempting I/O to the RMS log file. See the System Administrator.

RMS128: * WARNING *** RMS Logging Disabled. . .**

An error has occurred with respect to the log file, and logging has been disabled. If you require the log file, you should bring RMS down because no logging will take place. This message is always preceeded by one of messages RMS119 to RMS127. Take the appropriate actions required to enable RMS logging.

RMS129: RMS Log File Flushed . . .

The log file has been closed and submitted for printing. A new log file has been opened.

RMS130: Invalid Queue Name "<queue-id>" Specified On RMS Command Line

An invalid queue name was entered on the RMS Distribution System processor call line as the default output for the RMS log file.

RMS131: ER KEYIN$ Register/Deregister Error Status <status> Returned

An error status was returned by ER KEYIN$ while trying to register for the RMS console keyin. Call the System Administrator.

A.2.3 Distribution System Operator Interface Console Messages

These messages are generated by the RMS Distribution System operator console interface activity. They are displayed upon the RMS operator's console.

* **RMS201: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command displayed and call the support line.

* **RMS202: Status <status> Returned On Message Get**

The interactivity messaging system returned a bad status on a message retrieval function. Record the status and call the support line.

RMS203: "<command>" Is An Invalid Operator Command

The operator entered an unknown command.

RMS204: "<queue-id>" Is An Invalid Queue Name

An invalid queue name was entered.

RMS205: ER KEYIN$ Error Status <status> Returned

May be caused by not running the RMS Distribution System under a user ID with SSCONSOLE privilege. See the System Administrator.

RMS206: "<level>" Is An Invalid Trace Level

An invalid trace level was entered.

A.2.4 Distribution System SMOQUE$ Console Messages

These messages are generated by the RMS Distribution System SMOQUE$ handling program activity. They are displayed upon the RMS operator's console.

* **RMS301: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command displayed and call the support line.

* **RMS302: Status <status> Returned on Message Get**

The interactivity messaging system returned a bad status on a message retrieval function. Record the status and call the support line.

RMS303: SMOQUE$ Status <status> Returned For Function <code>

A bad SMOQUE$ status was returned for the displayed function. May be caused by not running under User-id with SMOQUE$ privilege.

* **RMS304: Invalid Internal Action - <code>**

An invalid SMOQUE$ action code was received. Record the action code and call the support line.

RMS305: Queue "<queue-id>" Already Initialized

Appears in response to an INIT command for a queue already initialized.

RMS306: Queue "<queue-id>" Not Initialized

Appears in response to a RELEASE command for a queue that was never initialized.

RMS307: RMS Waiting . . .

RMS is waiting for queue entries.

RMS308: RMS Processing . . .

RMS is processing queue entries.

RMS309: RMS Inactive . . .

RMS is idle. No queues are initialized.

RMS310: Queue "<queue-id>" Initialized

Appears in response to INIT command having been accepted.

RMS311: Queue "<queue-id>" Released

Appears in response to RELEASE command having been accepted.

RMS312: No More Queues Initialized . . .

Indicates no more queues are initialized to the RMS Distribution System.

RMS313: All Queues Released

Indicates all queues have been released by the RMS Distribution System.

RMS314: <number> Queue(s) Initialized

Appears in response to STATUS keyin. Indicates number of queues initialized.

RMS315: Queue - <queue-id>

Appears in response to STATUS keyin. Provides names of queues initialized.

A.2.5 Distribution System Job Loader Console Messages

These messages are generated by the RMS Distribution System report job run-time database loader activity. They are displayed upon the RMS operator's console.

* **RMS501: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command displayed and call the support line.

* **RMS502: Status <status> Returned On Message Function**

The interactivity messaging system returned a bad status on a message retrieval function. Record the status and call the support line.

RMS503: Job Load In Progress - File <filename>

Returned on a STATUS keyin. Indicates the job is being loaded into the RMS database.

A.2.6 Distribution System Page Scanner Console Messages

These messages are generated by the RMS Distribution System report page scanning program activity. They are displayed upon the RMS operator's console.

***RMS601: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command displayed and call the support line.

***RMS602: Status Returned on Message <status> Function**

The interactivity messaging system returned a bad status on a message retrieval function. Record the status and call the support line.

A.2.7 Distribution System Printout Console Messages

These messages are generated by the RMS Distribution System distribution printout program activity. They are displayed upon the RMS operator's console.

***RMS701: Invalid Internal Command <command>**

An RMS internal interactivity communications error has occurred. An unknown command code was passed. Record the command displayed and call the support line.

***RMS702: Status <status> Returned on Message <code> Function**

The interactivity messaging system returned a bad status on a message retrieval function. Record the status and call the support line.

RMS703: File Write Error <status> Code <code> Returned

An error was returned from the output I/O routine when creating a distribution.

RMS704: An Error Occurred While Creating RMS Output Files

A file creation error occurred while creating the output file for a distribution.

RMS705: @CAT Facility Status <status> Returned for RMS Output Files

The @CAT command was not processed due to an error being returned.

RMS706: @ASG Facility Status <status> Returned for RMS Output Files

The @ASG command was not processed due to an error being returned.

RMS707: @USE Facility Status <status> Returned for RMS Output Files

The @USE command was not processed due to an error being returned.

RMS708: @FREE Facility Status <status> Returned for RMS Output Files

The @FREE command was not processed due to an error being returned.

RMS709: @SYM Status Code <status> Returned for RMS Output Files

The @SYM command was not processed due to an error being returned.

***RMS710: DIDSO Status Code <status> Returned for RMS Output Files**

A file translation error occurred while creating the output file. Call the RMS support line.

RMS711: Distribution In Progress - File <filename>

Returned from the STATUS keyin. The output file is being created.

A.2.8 Database Server Access Messages

These messages are generated by the RMS Distribution System database server interface routines. They are displayed upon the RMS operator's console.

RMS901: RMS '<device>' ATTACHING TO DATABASE SERVER '<server>'.

Displayed before attempting to connect to the database server. <device> is a twelve character device name which must be unique for the current session for the server requested. <server> is the two digit server number to which the job is attaching.

RMS902: RMS '<device>' INITIALIZED

Confirmation that the batch program has attached to the database server.

RMS903: RMS UNABLE TO ATTACH TO SERVER <server> - AT

Requested server is not available. Arrange for database server to be started if possible. A response of 'A' causes the batch program to reattempt attachment to the database server; 'T' causes termination.

RMS904: '<device>' ALREADY ACTIVE RMS904: TERMINATING

The program has been denied access to the database because another program is attached as <device>. The program will terminate. This situation can occur erroneously due to corruption of the RMS/Xpress Common Bank; reloading the common bank will correct the situation.

RMS905: '<device>' TERMINATING RMS905: INITIALIZATION ERROR <error>.

Displayed after initialization failed due to an error other than missing server or duplicate device. <error> is the code returned by the common bank access routine.

* **RMS906: '<device>' TERMINATING - COM$ ERROR**

An internal COM$ error has occurred. Call the support line.

RMS908: '<device>' EXITED

Displayed after detachment from the database server.

A.2.9 Read File Printout Messages

These messages are written into RMS distribution printfiles when errors occur while reading report job printfiles for processing.

RMS800 File Read Error: I/O Error <status> Encountered

I/O error status was returned while reading the input file. See the System Administrator.

RMS801 File Read Error: ER TLBL$ Error <status> Encountered

An error occurred while processing the input file tape label. See the System Administrator.

RMS802 Read File Error: Bad File Label <label>

Indicates a bad Type 050 label in the input file. See the System Administrator.

RMS803 File Read Error: Bad SDF Image <image>

Indicates a bad SDF image in the input file. See the System Administrator.

RMS804 File Read Error: Bad Type 060 Control Image <image>

Indicates a bad Type 060 control image in the input file. See the System Administrator.

RMS805 File Read Error: Unknown Code Type <code>

An unknown or unsupported code type was encountered in an SDF image. See the System Administrator.

***RMS806 File Read Error: Internal Error <status>**

Indicates an internal error occurred while processing the input file. Record the status and call the support line.

***RMS807 File Read Error: DIDS Packet Error <status>**

An internal packet error occurred. Record the status and call the support line.

***RMS808 File Read Error: Bad DIDS Image <image>**

An internal translation error occurred. Record the status and call the support line.

***RMS809 File Read Error: DIDSOC Call Error <status>**

An internal file access error occurred. Record the status and call the support line.

***RMS899 File Read Error: Unknown DIDSIO Status <status>**

An unknown status record was received from the internal translation routine. Record the status and call the support line.

A.3 RMS Archive & Retrieval System Messages

The following messages are generated by the SPIN-X/RMS Archive and Retrieval System. All these messages are displayed on the operator console. System errors, statuses, and warnings are sent to the RMS operator's console.

RMS901: RMS '<device>' ATTACHING TO DATABASE SERVER '<server>'.

Displayed before attempting to connect to the database server. <device> is a twelve character device name which must be unique for the current session for the server requested. <server> is the two digit server number to which the job is attaching.

RMS902: RMS '<device>' INITIALIZED

Confirmation that the batch program has attached to the database server.

RMS903: RMS UNABLE TO ATTACH TO SERVER <server> - AT

Requested server is not available. Arrange for database server to be started if possible. A response of 'A' causes the batch program to reattempt attachment to the database server; 'T' causes termination.

RMS904: '<device>' ALREADY ACTIVE RMS904: TERMINATING

The program has been denied access to the database because another program is attached as <device>. The program will terminate. This situation can occur erroneously due to corruption of the RMS/Xpress Common Bank; reloading the common bank will correct the situation.

RMS905: '<device>' TERMINATING RMS905: INITIALIZATION ERROR <error>.

Displayed after initialization failed due to an error other than missing server or duplicate device. <error> is the code returned by the common bank access routine.

RMS906: '<device>' TERMINATING - COM$ ERROR

An internal COM$ error has occurred. Call the support line.

RMS908: '<device>' EXITED

Displayed after detachment from the database server.