

SECTION 10. STAMIS SPOOL/CONTROL INTERFACE

10.1 Introduction. This overview is intended to give the user a basic understanding of the components and procedures that are used by the SPOOL control interface program (ajsspool.c). While future changes and enhancements may occur, the overall design of the STAMIS SPOOL controller should remain as described.

10.2 General. SPOOL was designed to allow maximum control over SARSS and system printer queues while maintaining the integrity of the queues. SPOOL takes advantage of Solaris's flexibility and offers the user the ability to obtain general and detailed queue and file status information on both the file server and the workstations. SPOOL's features include: general status information, queue and file operations, and automatic status updates from all areas of SPOOL. See figure 10-1 for a diagram of how SPOOL interfaces with the SARSS spooling process. Figure 10-2 contains a diagram of the SPOOL control process.

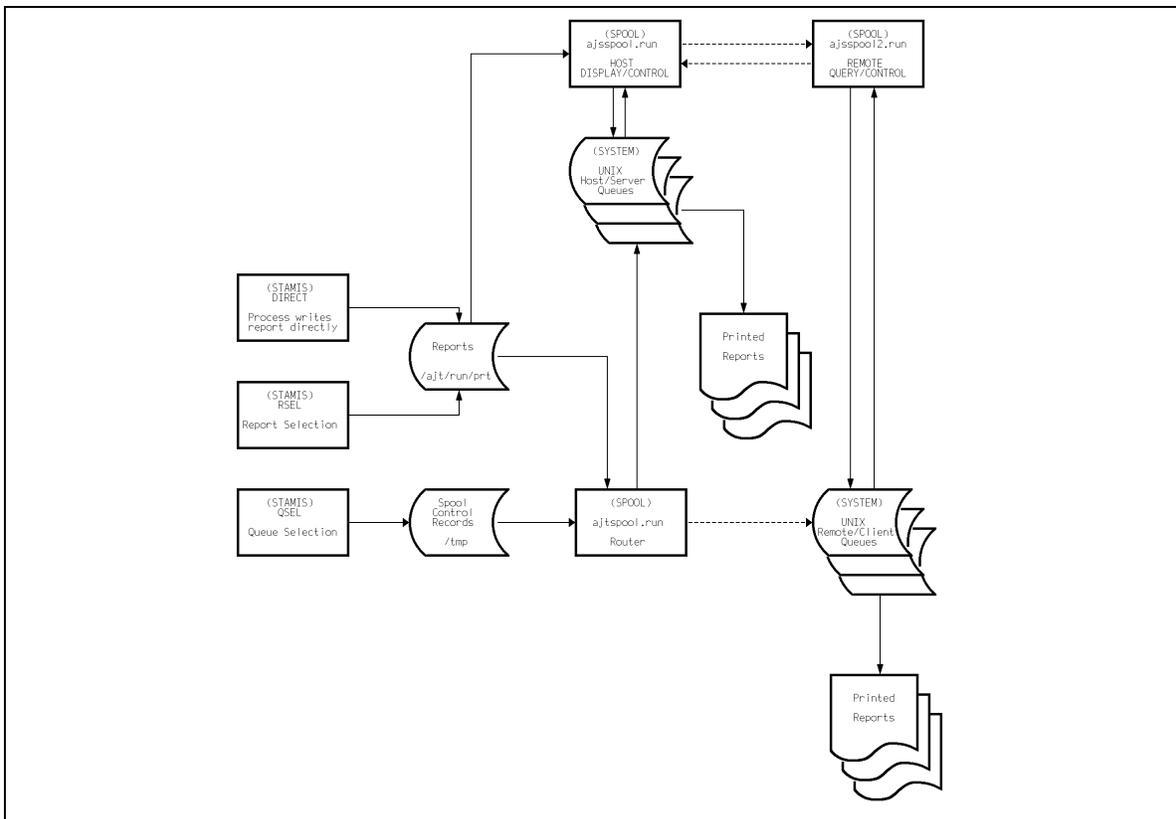


Figure 10-1. System/STAMIS Spooling Operations.

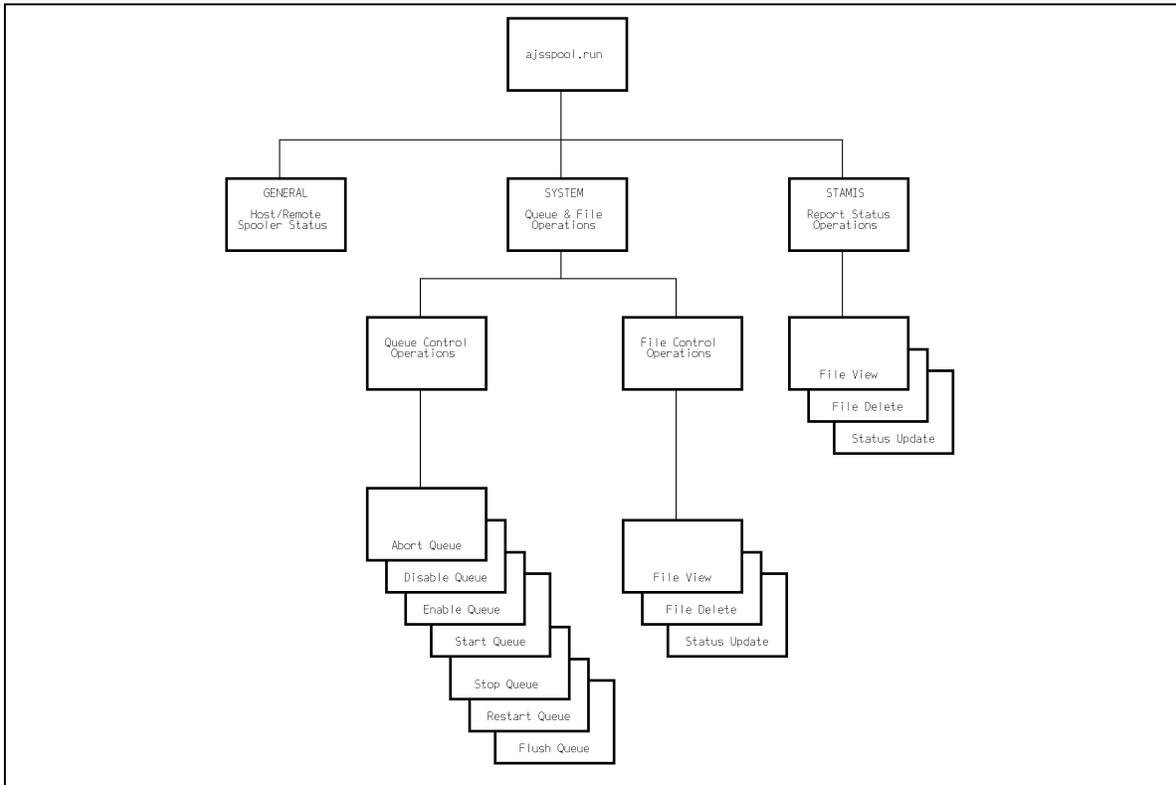


Figure 10-2. SPOOL Control Diagram.

10.3 Start-Up. Start SPOOL from the SARSS menu by entering 'SPOOL' in the action area and pressing the <ESC> key. Upon start-up, SPOOL makes a single pass through the printer definition file '/etc/printcap' to determine print queue assignments. If SPOOL determines that there is a remote assignment, a request is issued to the workstation to establish communications while SPOOL waits for a response. If the workstation responds, additional requests are made for status information at start-up (i.e., printer assignments, number and names of jobs queued, daemon status). If no response is received from the workstation within 30 seconds, SPOOL assumes that the remote connection is down, modifies the screen to reflect this (figure 10-3), and makes no more remote requests for the rest of the current session. Once SPOOL has retrieved all the required information, a status of the current printer activities is displayed on the SPOOL Status Menu screen. The function keys appear allowing the user to obtain more detailed information (see the sample screen at figure 10-4).

```

DATE 08/20/93          SPOOL STATUS MENU          TIME 16:13:25
Host/Server: sarss2ad      Remote/Client: ajt01
-----
Assigned: ajt01
Assigned: bill
Assigned: Bill's Printer
lp=
rp=ajt01
rm=ajt01
sd=/usr/spool/lpd/ajt01

Mdaemon active: Yes - 8906
SDaemon active: No - 19980
Jobs queued...: 1
Status: waiting for ajt01 to come up
-----[ ]-----

[F1] [F2] [F3] [F4] [F5] [F6] [F7] [F8]
SYSTEM  STAMIS  UPDATE  EXIT
    
```

Figure 10-3. Remote Is Down.

```

DATE 08/20/93          SPOOL STATUS MENU          TIME 16:13:25
Host/Server: sarsslid     Remote/Client: *** NONE ***
-----
Assigned: ajt01
Assigned: bill
Assigned: Bill's Printer
lp=/dev/lp
sd=/usr/spool/lpd/ajt01

Mdaemon active: Yes - 8906
SDaemon active: No - 19980
Jobs queued...: 1
Status: ajt01 is ready and printing
-----[ ]-----

[F1] [F2] [F3] [F4] [F5] [F6] [F7] [F8]
SYSTEM  STAMIS  UPDATE  EXIT
    
```

Figure 10-4. Sample SPOOL Status Menu.

10.4 Status Information. The SPOOL Status Menu, at figure 10-5, provides the minimum information needed, giving the user the ability to see at a glance the print status and the number of jobs in the queue. If the user requires more detailed information, the Status Menu provides function keys to allow the user direct access to the system and STAMIS queues.

```

DATE 08/20/93          SPOOL STATUS MENU          TIME 16:13:25
-----
Host/Server: sarss2ad          Remote/Client: ajt01
-----
Assigned: ajt01              Assigned: ajt01
Assigned: bill              Assigned: Bill's printer
Assigned: Bill's Printer    lp=/dev/lp
lp=                          sd=/usr/spool/lpd/ajt01
rp=ajt01
rm=ajt01
sd=/usr/spool/lpd/ajt01

MDaemon active: Yes - 8906   MDaemon active: Yes - 122
SDaemon active: No - 19980   SDaemon active: No - 1454
Jobs queued...: 1           Jobs queued...: 3
Status: sending to ajt01    Status: ajt01 is ready and printing
-----
[ ]
-----
[F1] SYSTEM  [F2]  [F3] STAMIS  [F4]  [F5] UPDATE  [F6]  [F7]  [F8] EXIT

```

Figure 10-5. SPOOL Status Menu.

The Status Menu is divided into two sides, the left side reflects the Host (file server) and the right side reflects the corresponding Remote (workstation) status. From the Status Menu, the users can determine their own printer and queue assignments, number of jobs in the print queue on both the Host and Remote, what supporting line printer daemons are active, and the print queue status. From the Status Menu, the user has access function keys that are defined below.

- a. (F1) SYSTEM -- Provides display and modification access to the print files that have been released to the print queue.
- b. (F3) STAMIS -- Provides display and modification access to the print files which have been created by the RSEL processes but have not been released to QSEL.
- c. (F5) UPDATE -- Provides status update for the current menu display.
- d. (F8) EXIT -- Exits the SPOOL program and returns the user to the PRINT OPTIONS MENU.
- e. (F10) -- Clears the message area.

f. (F12) -- Provides print screen capability for the current screen.

10.5 System Operations. System operations at figure 10-6 are those tasks for queues and files owned by Solaris. From the System Menu the user can review the list of jobs which are currently waiting to be printed by the system. SPOOL displays the files in the order in which the system prints them. If the printer daemon has assigned a job for printing, the name of the assigned file is displayed on the screen indicating the job has been assigned to the daemon.

DATE	SYSTEM SPOOL QUEUE MENU					TIME
SEQ	File Name	ByteSize	Loc	Opts	Assigned	Date Time
1	LSZ1.232160331	4007	r	HPFUN	dfA821sarss2ad	Aug 20 16:12
2	LSZ1.232160440	9951	r	HPFUN	dfA822sarss2ad	Aug 20 16:14
3	SPL.232160444	8764	r	HPFUN	dfA823sarss2ad	Aug 20 16:19
4	MR01.232160457	18666	h	HPFUN	dfA824sarss2ad	Aug 20 16:23

-----[]-----

[F1] QUEUE	[F2]	[F3] FILE	[F4]	[F5] UPDATE	[F6]	[F7]	[F8] EXIT
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Figure 10-6. System SPOOL Queue Menu.

- a. SEQ - Identifies the position in the queue that the print file holds.
- b. File Name - Denotes the old name of the file prior to being sent to the print queue. This cannot be changed since all files sent to print are renamed by the daemon before being stored in the queue.
- c. ByteSize - The actual byte count/size of the file as stored in the print queue. This size should always match the size the file was prior to being sent to print.
- d. Loc - Designates the current location of the file. 'r' specifies the file currently resides in the remote queue, while 'h' indicates that the file resides in the host queue.

e. Opts - List of option letters reflecting control file information for the printer daemon.

f. Assigned - The new name given to the print file by the daemon when it was added to the queue. This name consists of five parts. The first two positions of the name 'df' denotes the data file, the next position indicates the type of file for example, 'A' for ASCII, the next three (3) positions specify the job number, and the last position specifies the name of the user that sent the job to print.

g. Date & Time - Date and time that the file was assigned to the queue.

10.5.1 System Function Keys. From the System Menu, the user has access to the function keys defined below. The Queue and File function keys invoke a subset of function keys specifically for the type of operation desired.

a. (F1) QUEUE -- Provides access to commands associated with the print queue operations.

b. (F3) FILE -- Provides access to commands associated with the print queue files.

c. (F5) UPDATE -- Provides status updates for the current menu display.

d. (F8) EXIT -- Returns control to the preview SPOOL menu.

e. (F10) -- Clears the message area.

f. (F12) -- Provides print screen capability for the current screen.

10.5.2 Queue Function Keys. From the System/Queue submenu (figure 10-7), the user has access to ten (10) function keys which are defined below. The Queue function keys perform specific actions upon the users remote queue or host queue if no remote is assigned.

DATE	08/20/93	SYSTEM SPOOL QUEUE MENU				TIME	16:14:18
SEQ	File Name	ByteSize	Loc	Opts	Assigned	Date	Time
1	LSZ1.232160331	4007	r	HPFUN	dfA821sarss2ad	Aug 20	16:12
2	LSZ1.232160440	9951	r	HPFUN	dfA822sarss2ad	Aug 20	16:14
3	SPL.232160444	8764	r	HPFUN	dfA823sarss2ad	Aug 20	16:19
4	MR01.232160457	18666	h	HPFUN	dfA824sarss2ad	Aug 20	16:23

[F1] ABORT	[F2] DISABLE	[F3] ENABLE	[F4] START	[F5] STOP	[F6] RESTART	[F7] FLUSH	[F8] EXIT
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Figure 10-7. System SPOOL Queue Submenu.

a. (F1) ABORT -- Stops the current job by terminating the active spooling daemon and disables the associated print queue to prevent new jobs from being added to the queue. The job that is terminated is not lost but remains in the queue waiting for the queue to be started.

b. (F2) DISABLE -- Turns the user's system print queue off, preventing new jobs from being added to the remote queue. Any jobs currently in the queue will continue to print.

c. (F3) ENABLE -- Turns the user's system print queue on allowing new jobs to be added to the remote queue.

d. (F4) START -- Initiates the spooling daemon to begin printing jobs.

e. (F5) STOP -- Turns off the spooling daemon after the current jobs complete printing.

f. (F6) RESTART -- Attempts to start a new printer daemon for the users queue. This is useful when some abnormal condition caused the daemon to "die" unexpectedly, leaving jobs in the queue.

g. (F7) FLUSH -- Removes all jobs from the print queue. This command should be used with great care. Once the jobs are removed they cannot be recovered.

h. (F8) EXIT -- Returns control to the preview SPOOL menu.

i. (F10) -- Clears the message area.

j. (F12) -- Provides print screen capability for the current screen.

10.5.3 File Function Keys. The file function keys are used for the files contained within the users system queue. The queues are dynamic storage locations that are constantly changing as files are added, printed, and removed from the queue.

DATE	SYSTEM SPOOL QUEUE MENU					TIME
08/20/93						16:14:26
SEQ	File Name	ByteSize	Loc	Opts	Assigned	Date Time
1	LSZ1.232160331	4007	r	HPFUN	dfA821sarss2ad	Aug 20 16:12
2	LSZ1.232160440	9951	r	HPFUN	dfA822sarss2ad	Aug 20 16:14
3	SPL.232160444	8764	r	HPFUN	dfA823sarss2ad	Aug 20 16:19
4	MR01.232160457	18666	h	HPFUN	dfA824sarss2ad	Aug 20 16:23

[F1] VIEW	[F2]	[F3] DELETE	[F4]	[F5] UPDATE	[F6]	[F7]	[F8] EXIT
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Figure 10-8. System SPOOL Queue File Submenu.

a. (F1) VIEW -- Allows the user to retrieve a copy of any print file in the user's queue. This includes any job that is currently printing.

b. (F3) DELETE -- Allows the user to purge/remove any print file in the user's queue.

c. (F5) UPDATE -- Provides status update for the current menu display.

d. (F7) SEND -- Allows the user to transfer/re-route print files to an alternate location for printing.

- e. (F8) EXIT -- Returns control to the preview SPOOL menu.
- f. (F10) -- Clears the message area.
- g. (F12) -- Provides print screen capability for the current screen.

10.6 STAMIS Operations. SPOOL on the STAMIS pertains to the queue files that belong to SARSS. This is a list of all the files that reside within the SARSS print queue. Files shown at figure 10-9 have not been selected for print by the user via 'QSEL'. Once 'QSEL' is invoked, the associated files are transferred to the print queue.

DATE	08/20/93	STAMIS SPOOL QUEUE MENU				TIME	16:14:50
SEQ	File Name	ByteSize	Loc	Opts	Assigned	Date	Time
1	MR02.232155309	1551	h	r--r--r--	ajt02	Aug 20	15:53
2	BIN5.216164743	8052	h	r--r--r--	ajt05	Aug 04	16:47
3	LSZ1.232165712	5189	h	r--r--r--	ajt01	Aug 20	16:07
1	MR01.232172309	1551	h	rw-rw-r--	ajt01	Aug 20	15:53
1	MR03.232173408	1551	h	rw-rw-r--	ajt03	Aug 20	15:53

----- [] -----

[F1] VIEW	[F2]	[F3] DELETE	[F4]	[F5] UPDATE	[F6]	[F7]	[F8] EXIT
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Figure 10-9. STAMIS SPOOL Queue Menu.

- a. (F1) VIEW -- Allows the user to view the contents of any file within the STAMIS print queue as long as the user has file access permissions.
- b. (F3) DELETE -- Allows the user to purge/remove a file from the STAMIS print queue as long as the user is the owner of the file and has the proper file permissions.
- c. (F5) UPDATE -- Provides status update for the current menu display.
- d. (F8) EXIT -- Returns control to the preview SPOOL menu.
- e. (F10) -- Clears the message area.
- f. (F12) -- Provides print screen capability for the current screen.

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