UNISYS

System 80
Models 8-20
OS/3
Operations

**Quick-Reference
Guide**

UNISYS

Product Information Announcement

o New Release   ● Revision   o Update   o New Mail Code

Title

System 80 Models 8-20 OS/3 Operations Quick-Reference Guide

This announces the release of a revision to this guide. It was previously released as the System 80 OS/3 Operations Quick-Reference Guide, UP-9985.

This guide provides all information required to operate System 80 models 8, 10, 15, and 20 running under the OS/3 operating system. The guide is intended for use by system operators and administrators.

Changes for OS/3 Release 14 include:

●   Enhanced keyboard function-key assignments for express command entries via console screen and pull down menus.
●   An automatic boot procedure that automatically loads your supervisor each time an auto-IPL occurs.
●   Addition of the NOWRITE and WRITE parameters for the SET IO command (used to write-protect your I/O devices).
●   Security and resource management generation requirements affecting the LIMITS command.
●   A SET LX command that lets delegated console/workstation users view messages sent to logged off users.
●   Procedures for downline loading a Telcon file to front-end processor or a remote concentrator DCPs.
●   Two ICAM unsolicited messages that bring a switched line type up as either a manual dial line or an unattended line.
●   Expanded ONUERL command for running the program manually on an as-needed basis or automatically on a fixed, 7-day cycle.
●   The deletion of all information related to System 80 Models 3 through 6.
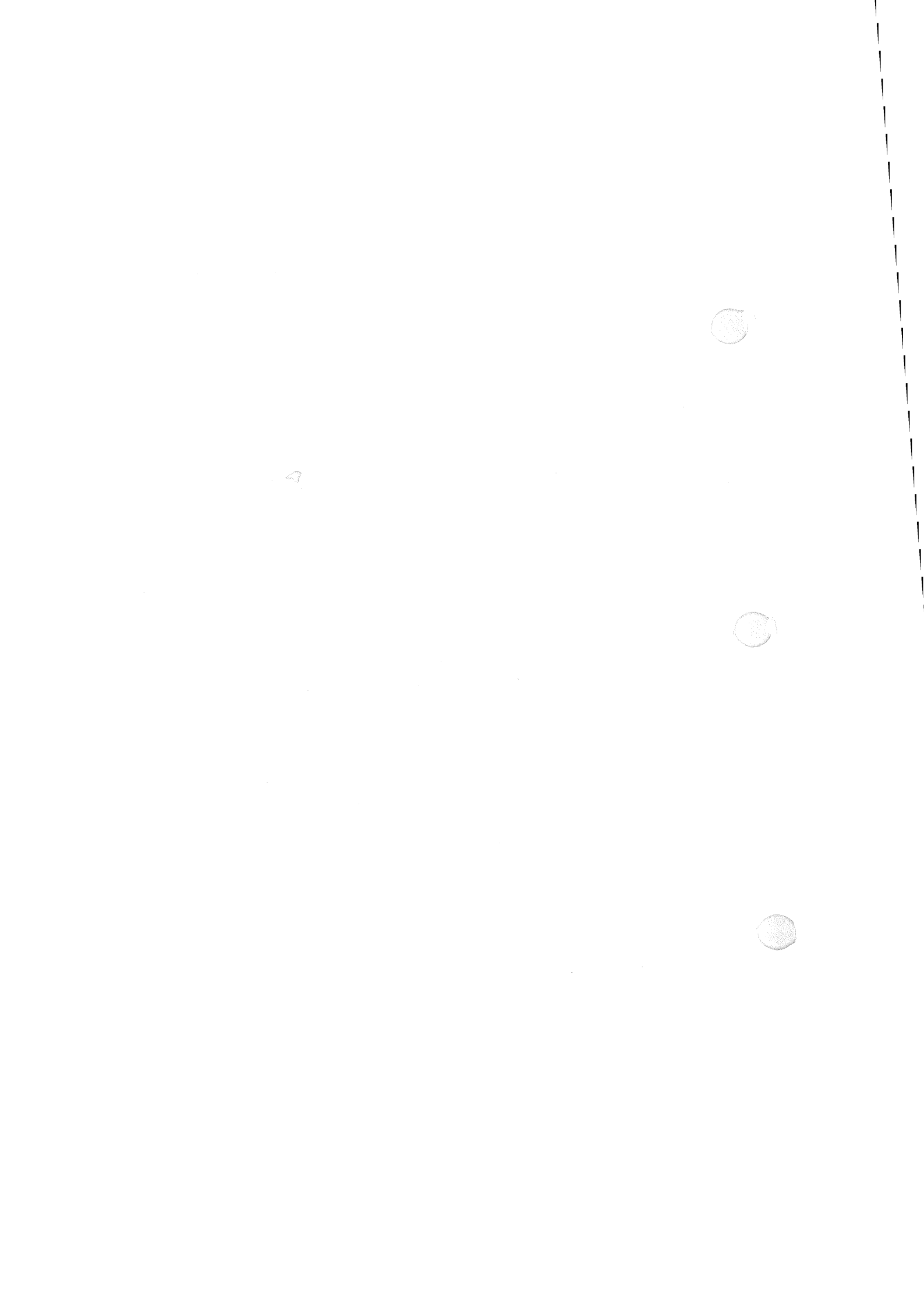
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About This Guide

This guide is a summary of the procedures and commands used in the operation of the Unisys System 80 models 8-20 operated under control of the Unisys Operating System/3 (OS/3). It is designed for use as a quick-reference guide by the system administrator and experienced operators and programmers who are familiar with the operations of Unisys systems.

Organization

The system operations summary is organized as follows:

Section 1. General Information

Contains information of a general nature, such as conventions used to illustrate the commands and messages appearing in this manual, the procedures for entering commands and messages from the console, the procedures for operating the System 80 console workstation, the general format characteristics of system commands and system messages, and the operations assigned to the function keys displayed in the console screen menu bar.

Section 2. System Power On and Initialization

Describes the procedures for powering on and initializing the system. Also provides procedures for automating supervisor loading and for reinitializing the system after a nonrecoverable error condition or when your want to load an alternate supervisor.

Section 3. System Power Off

Describes the procedures for powering off the system.

Section 4. Job Processing

Describes the commands used to initiate, schedule, execute, and terminate jobs. Also provides the commands used to perform specific job-related functions during job processing.

Section 5. Spooling Services

Describes the commands and procedures associated with the use of spooled files.

Section 6. Integrated Communications Access Method

Describes the commands and procedures for loading the ICAM symbiont, changing the ICAM name, initializing and terminating the global user service task, and directing communications operations.

Section 7. System Utility Symbionts

Describes the commands used to initialize and terminate the system utility symbiont provided by OS/3. Includes the function codes to initiate the card, tape, disk, and diskette functions.

Section 8. Interactive Services

Describes the extended set of commands and messages for operator use in controlling the interactive environment.

Section 9. Disk Cache Facility

Describes the commands used to initialize and shut down the DCF, specify the segment size, activate and remove drives from the DCF, and display DCF statistics.

Section 10. Error Data Handling

Describes the procedures to follow when reporting hardware and software problems or when sending error data to the Unisys support center.

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Related Product Information

The information presented herein has been condensed from the following documents within the OS/3 library; they are:

Note: Throughout this document, when we refer you to another document, use the version that applies to the software level in use at your site.

Interactive Services Operating Guide, UP-9972

Describes the use of the workstation and the interactive services capabilities.

Job Control Programming Guide, 7004 4623

Describes the OS/3 job control procedures and options.

Models 8-20 Installation Guide, 7004 5505

Describes the installation of OS/3 software and program products. Also defines the SYSGEN parameters for tailoring your operating system.

Models 8-20 Integrated Communications Access Method (ICAM) Operations Guide, 7004 4557

Describes how to prepare the ICAM symboint to support communications on model 8-20 systems.

Models 8-20 Operations Guide, 7004 5208

Describes the commands and operating procedures for the operator.

Spooling and Job Accounting Operating Guide, 7004 4581

Describes the spooling capabilities and controls provided for the system administrator, programmers, and operators.

System Messages Reference Manual, 7004 5190

Describes the OS/3 system messages and operator actions.

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About This Guide

Section 4. Job Processing

Section 1
General Information

Statement Conventions

- Capital letters, parentheses, and punctuation marks

  Must be entered exactly as shown.

- Lowercase letters and terms

  Represent variable information that is either displayed or entered by the operator.

- Braces { }

  Represent choices of entries.

- Brackets [ ]

  Represent optional entries.

- Ellipsis ...

  Represents an indefinite number of entries.

- Shading

  Represents a default option.

- Underlining ___

  Represents the abbreviated form of the entry.

essage/Command Keyin Procedure

- MSG WAIT key

  Pressing the key prior to typing command or message:

  1. Notifies system that a message or command is to be entered.

  2. Opens a display line on the screen of the system console for display of the message or command.

  3. Issues start of entry (▶) signal.

  4. Sets cursor (⌐ or ▶) to position where typing is to begin.

- Message keys

  Enter command or message; observe the format conventions when making your entry.

- XMIT key

  Press after your command or message entry is completed. Initiates transmittal of the command or message entered.

Notes:

1. *Commands are acted upon immediately or placed in a queue for future processing; they are never ignored or lost. Therefore, commands entered more than once will be acted upon more than once.*

2. *Unaccepted commands and messages result in a negative acknowledgment (NAK) error message from the system. Error messages of this type are identified by a blinking error symbol (▶) displayed at each end of the message. Reenter the message or command correctly.*

Format Characteristics of System Commands

►commandΔ $\begin{bmatrix} \begin{bmatrix} (\text{did}) \\ \{ ([\text{did}], \text{label}) \} \\ (\text{RDR}, \text{label}) \end{bmatrix} \end{bmatrix}$ Δ[command-parameters]

Explanation:

►

    Start-of-entry symbol; automatically precedes all lines.

command
    2-8 alphabetical characters (2 minimum) that identify the system
    command to be processed.

Δ
    Represents a required space.

did
    3-character device address to identify the device used to carry out the
    command.

did,label
    Required when a diskette is used as a card reader or a card punch. The
    label entry is 1 to 8 characters long. Must be data set label diskette with
    unblocked and unspanned records 128 bytes or less in size.

RDR,label
    Device address to be used is the input reader spool file. The label entry
    is 1 to 8 characters long.

command-parameters
    Optional positional parameters used to tailor the effect of the command
    issued.

rmat Characteristics of System Output Messages

```
nn ⎡?⎤ message-text... ⎡jobname⎤
   ⎨Δ⎬              ⎣synnn  ⎦
   ⎣*⎦
```

Explanation:

nn

A unique message number from 11 to 73 (numbers 1 through 10 are reserved for other system uses). This number serves as the message identification. Prefix your response with this number when answering a system output message.

?

Identifies an output message that requires a response before the job that issued the message can continue. Output messages requiring replies are not rolled off the screen until they are answered.

Δ

Identifies an information-only message; does not require an operator reply. Input messages (solicited and unsolicited) must include a space between the message-id and message text.

*

Identifies a message requiring an operator action. A job issuing this type of message is in the yield state; a GO command is required from operator to reactivate the job.

jobname

The name of the user job sending the message. This name is the 8-character name taken from the job preamble.

synnnn

The name of the symbiont sending the message. This 6-character name is composed of a 2-character symbiont identification concatenated with a 4-digit binary job number inserted at task initiation.

message-text

Actual message. Content is limited to a maximum of 60 characters.

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Format Characteristics of Solicited Input Messages

nnΔmessage-text

Explanation:

nn
   The unique message number of the message you are responding to.

message-text
   The actual message reply.

Format Characteristics of Unsolicited Input Messages

```
⎡00Δsymbname,  ⎤ Δmessage-text
⎢00Δsymbid      ⎥
⎢00Δsymbid(did) ⎥
⎣UNSΔjobname,   ⎦
```

Explanation:

00
   Specifies that unsolicited message is for a symbiont.

UNS
   Specifies that unsolicited message is for a user job symbiont name.

symbname
   The 8-character name of the symbiont receiving the message. For
   instance, the symbiont name of the output writer is SL$$OW00.

symbid
   The 2-character symbiont identification used to invoke the symbiont
   receiving the message. For instance, the symbiont identification of the
   output writer is PR.

symbid (did)
    The 2-character symbiont identification currently used to invoke the
    symbiont receiving the message, along with the address of the device
    used or controlled by a specific copy of the symbiont in main storage.
    For instance, the symbiont identification of the output writer using the
    printer located at device address 160 is PR (600).

did
    The device allocation (must be in parentheses) for the symbiont
    receiving the unsolicited message. This message is not acknowledged if
    the device is not assigned to the symbiont.

jobname
    The name of the user job receiving the unsolicited message.

message-text
    The actual message.

onsole Screen Function Key Assignments

The following list defines the operations performed by the function keys
displayed in the menu bar and associated pull-down menus of the console
screen. The default value for each key is shown in the function key column.

Function Keys Menu Bar / Pull-Down Menu	Description
F1:Exit	Exits the current pull-down menu being displayed. Also turns (toggles) the menu bar display on and off when pull-down menus are not being displayed.
F2:Monitors=YES	Turns the monitor display area on (YES) and off (NO)

continued

Function Keys Menu Bar / Pull-Down Menu	Description
F3:Setup	Displays the Setup pull-down menu
F1:Exit	Exits the Setup pull-down menu
F2:Job Status Monitor =YES	Turns (toggles) the Jobs monitor on (YES) and off (NO)
F3:GUST, IMS, TIP =YES	Includes (YES) or excludes (NO) the TIP, IMS, and GUST jobs in the Jobs monitor
F4:Use Highlights =YES	Turns (toggles) display highlighting on (YES) and off (NO)
F5:Maximum Lines = 7	Defines the number of jobs (lines and header) displayed in the monitor display area of the screen. The default value is 7 but it can be increased or decreased by pressing the F5 function key to pull down a second menu. From the second menu, press the function key (F2-F22) that corresponds to the new value you want specified. The actual number of lines displayed may be dynamically reduced if additional screen lines are required for other uses
F6:Job's Columns =AUTO	Automatically divides the display area into the appropiate number of columns based on the number of jobs. The display can be manually divided into 1- to 3-columns by specifying values 1, 2, or 3
F7:Spool - Out Monitor =YES	Turns (toggles) the output writer (spooling) monitor on (YES) and off (NO)
F8:Maximum Lines = 5	Defines the number of spooling jobs (lines and header) displayed in the monitor display area of the screen. The default value is 5 but can be increased or decreased by pressing the F8 function key to pull down a second menu. Select the Function key (F2-F22) in the second menu that corresponds to the new value and press that key

Function Keys Menu Bar / Pull-Down Menu	Description
F9:Display EXEC Msgs =YES	Displays (YES) or inhibits (NO) the display of EXEC (JC01) and terminated normally (JC02) messages in the display area of the screen
F10:Display USING Msgs = NO	Displays (YES) or inhibits (NO) the display of USING messages in the display area of the screen
F11:Display LOGON Msgs = NO	Displays (YES) or inhibits (NO) the display of LOGON messages in the display area of the screen
F12:Device is PC (U20) =YES	Ignore. Not used on models 8-20
F13:SAM Summary =YES	Toggles the display of the SAM summary line on (YES) and off (NO). When YES, summary line is displayed if SAM is active
F14:SAM I/O Info =YES	Toggles display of SAM I/O class data display information on (YES) and off (NO). When YES, information is displayed if SAM is active and I/O class monitoring and display enabled
F4:Jobs	Displays the Jobs command pull-down menu
F1:Exit	Exits the Jobs command pull-down menu
F2:CJ Cancel Normal-No Dump	Selects the CJ command to soft cancel job; dump not taken. Also displays second pull-down menu in which you indicate the jobs to be canceled
F3:CJ Cancel Normal- Dump	Selects the CJ command to soft cancel job; dump taken. Also displays second pull-down menu in which you indicate the jobs to be canceled
F4:CA Cancel Hard -No Dump	Selects the CA command to hard cancel job; dump not taken. Also displays second pull-down menu in which you indicate the jobs to be canceled
F5:CA Cancel Hard - Dump	Selects the CA command to hard cancel job; dump taken. Also displays second pull-down menu in which you indicate the jobs to be canceled

Function Keys Menu Bar / Pull-Down Menu	Description
F6:PA Pause	Selects the PAUSE command to suspend processing of a job. Also displays second pull-down menu in which you indicate the jobs to be paused
F7:GO Un-Pause	Selects the GO command to reactivate a suspended job. Also displays second pull-down menu in which you indicate the jobs to be reactivated
F5:MIX	Displays the MIX command pull-down menu
F1:Exit	Exits the MIX command pull-down menu
F2:DA	Issues a MIX DA command to display specific job/symbiont information
F3:DS	Issues a MIX DS command to display peripheral device information
F4:EL	Issues a MIX EL command to display error log information
F5:FR	Issues a MIX FR command to display information about unused areas (free regions) of main memory
F6:MM	Issues a MIX MM command to display information about every main memory area
F7:SC	Issues a MIX SC command to display information about shared code modules currently residing in main memory
F8:SI	Issues a MIX SI command to display information pertaining to system operations
F9:SQ	Issues a MIX SQ command to display information pertaining to outstanding symbiont requests
F10:VI	Issues a MIX VI command to display the volume serial number for each disk and tape volume currently mounted

Function Keys Menu Bar / Pull-Down Menu	Description
F6:Displ	Displays the Display command pull-down menu
F1:Exit	Exits the Displ pull-down menu
F2:Spooling	Issues a DI SPL command to display the status of completed spool files
F3:Job Status	Issues a DI JS command to display the status of jobs in the system for processing
F4:Job Queue	Issues a DI JBQ command to display the contents of all job scheduling queues
F5:Active Spool	Issues a DI SPL command to display the status of active spool files

Section 2
System Power On and Initialization

Use the procedures in this section to:

* Power on and initialize your system from a cold startup.

* Automate supervisor loading.

* Reinitialize your system after the occurrence of an unrecoverable error or when you want to load a different supervisor.

System Power On and Initialization - Cold Start

Before proceeding, decide whether you want to perform an automatic or manual IPL. And, decide if you want to automate supervisor loading.

To perform an automatic IPL, set the IPL switch on the system control panel to the AUTO position. At the end of IMPL, the system automatically initiates the IPL process. The load device is the one defined in the configuration frame.

To perform a manual IPL, set the IPL switch to the MNL position. At the end of IMPL, the system displays the configuration frame allowing you to define an alternate load device.

To automate supervisor loading, initialize your system as described in the procedure that follows. After you have the system up and running, create the YCONFIG file as described in the "Automating Supervisor Load Process" procedure. The creation of the YCONFIG file automatically loads your supervisor whenever an auto-IPL is performed.

Proceed as follows to power on your system:

Note: *The power circuit breakers located at the rear of the CEC and*
peripheral cabinets are usually left in the ON position. This allows
operating power for the equipment to be controlled from the power
on / off switch on the operator panel of each unit of equipment.
Perform steps 1 through 3 if setting the cabinet circuit breakers off is
a site procedure for powering down the equipment.

1. Set the MAIN POWER circuit breaker at the rear of the processor
    cabinet to the ON position.

2. Set the MAIN POWER circuit breaker at the rear of the I/O cabinet to
    the ON position.

3. Set the circuit breaker at the rear of the I/O expansion cabinet (when
    configured) to the ON position.

Caution

When performing step 4, it is recommended that the data files stored on your disk
subsystems are protected before powering on the system. Otherwise, a portion of the
recorded data may be accidently erased.

4. Power on peripheral devices (except diskette subsystems and
    workstations) according to the power-on procedures described in their
    respective operating guides. (Diskette subsystems power-on with CEC
    cabinets; the workstations are powered on as required by their users.)

5. Make certain that the POWER ON/OFF switch on the console monitor
    is in the ON (depressed) position.

6. Set the system LOCK/UNLOCK switch to the UNLOCK position (Model
    8 only).

7. Make certain that the IPL switch is set for the type of IPL you plan to perform:

    *   AUTO (automatic) position to IPL from load device defined in the configuration frame.

    *   MNL (manual) position to IPL from an alternate load device.

8. Set the system POWER ON/OFF switch to the ON position.

    Observe the following:

    *   The SEQ1, SEQ2, SEQ3, and P-SEQ lights on the system control panel turn on as the system steps through the power sequencing process.

    *   The P-SEQ light turns off and the PWR light turns on when power sequencing is complete.

    *   The console displays the following messages indicating that the IMPL procedure is in progress:

        ```
        HEALTH CHECK RUNNING
        BPU IMPL W08START
        BPU IMPL W09 START
        DMUX IOML START
        ```

    *   The SEQ1, SEQ2, and SEQ3 lights turn off when the IMPL procedure completes.

    *   If the IPL switch is set to position MNL, the STOP and POWER lights on the system control panel light and then the configuration frame appears on the console monitor. Go to step 9 to manually initiate the IPL process.

    *   If the IPL switch is set to position AUTO, the system automatically initiates the IPL procedure. The system turns on the RUN, WAIT, and POWER lights on the system control panel and then displays the OS/3 initial program load screen console monitor. Go to step 10.

> **Note:** If the system encounters an error during the automatic
> IPL procedure, it displays the configuration display
> frame. The cause of the error is displayed as a message in
> the upper-right corner of the frame. Go to step 9 to
> manually initate the IPL procedure.

9. Proceed as follows to manually initiate IPL:

    a. Press the ESC key, then the M key to display the manual frame.

    b. Key in the character L and then press the XMIT key reset the
        system.

    c. Key in the character N (normal program load option) followed by the
        3-digit address of the load device where your supervisor resides. (If
        you are loading from an autoload diskette, substitute the G option
        for N to prevent ejection of the diskette.)

    d. Press the XMIT key. The OS/3 Initial Program Load (IPL) screen
        replaces the manual screen on the console monitor. Continue with
        step 10.

10. Observe the OS/3 initial program load screen.

    a. If you automated supervisor loading, the following message is
        displayed on the status line of the IPL screen:

        ```
        IPL20 AUTO IPL IN XX SECONDS; DEPRESS MESSAGE WAIT TO HALT
        ```

        To let the autoload process take place, take no action. The system
        automatically loads the supervisor defined in the YCONFIG file
        when the countdown period reaches 0 (zero). System initialization is
        complete and the system is ready to process user jobs after the
        supervisor load completes. Go step 15.

        To stop the autoload process, press the message wait key before the
        countdown period (XX) shown in the message reaches 0 (times out).
        You can now perform a manual supervisor load as described in step
        11.

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b. If you did not automate supervisor loading, or elected to perform a manual IPL, the status line of the IPL screen is blank. The system takes no action. You must manually load your supervisor. Go to step 11.

11. To manually load your supervisor, you must enter its name, the load option, and the address of the load device where the supervisor resides. You have the option of accepting the default values displayed above the command input line on the screen or entering your own values in the following format:

```
supervisor-name,load-option,load-device-address
```

Note: Do not use the Q option if an SMC has been applied or if a new supervisor or ICAM has been generated.

12. Enter the supervisor load values as follows:

a. If you accept all the default values shown, press the XMIT key; no other entry is required. Go to step 13.

b. If you don't accept the default values, enter the values you want. (The cursor is automatically positioned at the command input line for you to enter your values in the format shown.)

c. Press XMIT to enter your load values. Go to step 13.

13. Observe the supervisor initialization screen. This screen displays the system date and time and some of the system generation (SYSGEN) selections. From this screen, you can either accept all of the default values shown, or you can change them.

a. To accept all the defaults on the screen, press XMIT. Then go to step 14.

b. To change any of the default values shown, key in the letter of the
line on which the default appears in the space after the cursor. Key
in your change and then press the XMIT key to enter your change.
(You can key in the line letters one at a time or all at once.) Go to
step 14 after you have made your changes.

14. Specify disk cache.

When your system displays the following message:

```
CM01 ENTER THE NUMBER OF 1024 BYTE BLOCKS OF MEMORY FOR DISK
CACHE OR NONE. VALID VALUES IN THE RANGE OF 160-8192?
```

Enter one of the following responses:

- NONE to disable disk cache operation.

- A 4-digit value, in the range of 160 to 8,192, specifying the number
  of 1,024-byte blocks to be assigned.

15. Observe the system ready status.

The system indicates that it has completed the initialization process
and is now ready to process user jobs by displaying the following
message:

```
SYSTEM 80 OS/3 version-no supnam yy/mm/dd  hh:mm:ss
```

Automating the Supervisor Load Process

Automating the supervisor load process requires no optional equipment or software. The function already exist in your system but must be activated to make it operational. The procedure is as follows:

1. Power on and initialize your system if it is not already up and running.

2. Display the interactive services logon screen.

3. Enter the logon information requested by the screen.

4. Key in the command **CFIG** and then press the **XMIT** key to display the ABP (automatic boot procedure) menu for creating/updating the YCONFIG file.

   Notes:

   1. *The system will not execute the CFIG command if security is present on your system. Your system administrator must enter his password-id before CFIG will execute.*

   2. *You must also provide a password to gain access to YCONFIG if the file exists and is cataloged. The password must conform to the one used to catalog the file. If the file is not cataloged, pressing the XMIT key will display the ABP menu.*

5. Change any default (or current) value in the ABP menu that is not acceptable then press the **XMIT** key to enter your input. Be aware that setting the WAIT TIME TO BOOT value to 0 seconds turns off the ABP function.

6. Log off interactive services.

The automatic supervisor load criteria is now setup. The supervisor loads automatically each time an auto-IPL occurs.

ystem Reinitialization

Use the following procedures to reinitialize the system after the occurrence of an unrecoverable error or when you want to load an alternate supervisor.

itial Microprogram Load Procedure

Proceed as follows to manually initiate the IMPL procedure:

1. Press the ESC key, then the M key to display the manual frame.

2. Enter the T option, followed by how much of the microcode you want to reload.

   You have the option of loading all the microcode (0), just the microcode for the BPU (1), or the microcode for the input/output system (2).

3. Press the XMIT key to enter your input.

4. Go to the initial program load (IPL) procedure.

itial Program Load Procedure

System IPL consists of two phases: the initiation and supervisor loading. The procedure for re-IPL is the same as that described in steps 9 through 15 of the power on and initialization procedure.

Keep in mind two thoughts:

* Because the disk control units for the models 8-20 need loadable microcode, you must IPL from the same control unit that contains the SYSRES devices.

* Make sure no user jobs are active. The system must be idle before you initiate the IPL procedure.

Go to step 9 of the power on and initialization procedure to re-IPL your system.

IPL Information

If the IPL process is not successful:

● IPL error message may be displayed on the console monitor; or

● The STOP or CHECK STOP indicators on the control panel light.

Look up the IPL error message in the *System Messages Reference Manual*, 7004 5190 for its meaning and the corrective action to be taken.

If the STOP or CHECK STOP indicators on the control panel light, your system has stopped and the load procedure has halted. In this case, you must display the manual frame to determine why the machine stopped. Do this by pressing the ESC key, releasing it, then pressing M for the manual frame.

The console screen clears at this point, then displays the manual frame. On the second line from the bottom of the screen, the status message (BPU STATUS=S) appears. Directly under this line, the manual frame displays INS and the number of the instruction that caused your machine to stop and the program status word (PSW) identification. Check the instruction number in the *System Messages Reference Manual*, 7004 5190, for an explanation of why your machine stopped and the corrective action you should take.

Section 3
System Power Off

Proceed as follows to power off your system:

1. Enter the SHUTDOWN command to terminate all system activity in an orderly manner.

Caution

When performing step 2, make certain that the data files stored on your disk subsystems are protected before powering off the system. Otherwise, a portion of the recorded data may be erased.

2. Power off all peripheral devices (those that power on and off separately from your system) as described in their respective operating guides.

3. Set the system POWER ON/OFF switch to the OFF position to remove dc operating power from the console, integrated disks, and diskettes subsystems. (The console screen clears and the POWER light on the console keyboard and all lights on the control panel go off.)

4. Be sure to leave the POWER ON/OFF switch on the console display in the ON (depressed) position.

Note: *Step 5 need not be performed unless you want to completely remove all power from the system due to an emergency or if the step is performed as a normal site requirement.*

5. Set the circuit breakers at the rear of the processor, the I/O cabinet, and the I/O expansion cabinet to the OFF position.

Section 4
Job Processing

Job Initialization Commands

The following commands allow you to file a job control stream for future use or to process the job control stream immediately.

Filing Job Control Streams (FILE)

$$\underline{FILE} \begin{bmatrix} \begin{array}{l} \text{(did)} \\ \{\text{[did],label)} \} \\ \text{(RDR,label)} \end{array} \end{bmatrix} \Delta$$

$$\begin{bmatrix} \begin{cases} \begin{bmatrix} \text{:alt-filename} \\ \text{:(alt-filename,} \begin{bmatrix} \text{RES} \\ \text{RUN} \\ \text{vsn} \end{bmatrix} \text{)} \end{bmatrix} \\ \text{:(alt-filename,} \begin{bmatrix} \begin{bmatrix} \text{RES} \\ \text{RUN} \\ \text{vsn} \end{bmatrix} \end{bmatrix} \text{,write-password)} \end{cases} \end{bmatrix}$$

Files jobs and JPROCs (read from an input device) into a permanent job control stream library file (YJCS) or an alternate library file. A disk or format label diskette can be used for the alternate file. Diskette input must be in data set label mode.

ning Job Control Streams (RUN/RV)

```
[                                                                   ]
|RUN [(did)           ]  Δ [[jobname[(new-name)]]]                  |
{     {([did],label)}       {(new-name)           }                 }
[     [(RDR,label)  ]       [                     ]                 ]

RVΔmod-name[(new-name)]

[                                                         ]
[[:alt-filename                                         ] ]
[[:(alt-filename, [RES])                                ] ]
[[                {RUN}                                 ] ]
[[                [vsn]                                 ] ]
[                                                       ] ]
[[:(alt-filename, [[RES]] ,read-password)              ] ]
[[                [{RUN}]                               ] ]
[[                [[vsn]]                               ] ]
[                                                       ] ]

[[PRE ]] [time+n][,key-1=val-1,...,key-n=val-n]
[|HIGH|]
[|LOW |]
[[NOR ]]
```
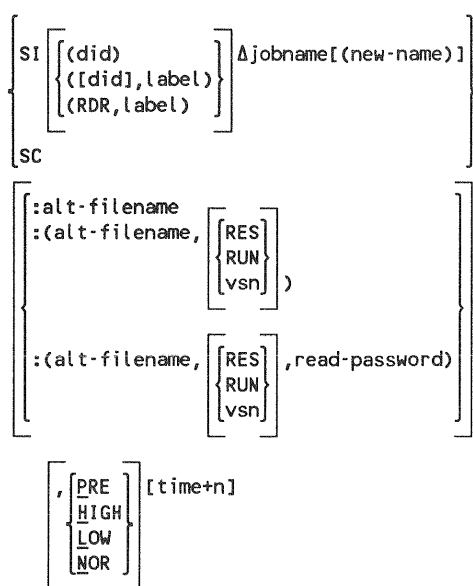
Reads job control stream from either an input device, YJCS, or alternate
job control library file, and stores it in the scheduling priority queue for
execution. The RUN command initiates the reading of the job control stream
that requires the use of input device (card reader, data set label diskette, or
spool file). Input device must be available when the RUN command is
issued, regardless of whether job control stream being read needs one.
Otherwise, the command is not accepted.

The RV command initiates reading of a prefiled job control stream that does
not contain a // CR statement, indicating input to be read and inserted into
stream. Therefore, you must include a module name (usually the same as
the job name) when you enter the RV command.

For data set label diskette and spool file input, the last // FIN job control
statement is not necessary. // FIN statements that separate groups of card
images read with // CR statements are still necessary. Jobs input from data
set label diskette to spool file must be single volume. Alternate library file
may be on disk or format label diskette. New name cannot contain blanks.

Remember, when a system card reader is placed online, the RUN command to read a job control stream from cards in the hopper is initiated when the RUN switch on the card reader is pressed or when the RUN command is entered at the console. Use one method or the other, but not both. Otherwise, an error condition is created.

Running Saved Job Control Streams (SI/SC)

```
 ⎡                                        ⎤
 │ SI  ⎡ ⎡(did)          ⎤ ⎤ Ajobname[(new-name)] │
 │     │ ⎨([did],label)⎬ │                        │
 │     │ ⎣(RDR,label)   ⎦ │                        │
 │ SC                                              │
 ⎣                                                 ⎦

 ⎡ ⎡ :alt-filename                          ⎤ ⎤
 │ │ :(alt-filename, ⎡⎡RES⎤⎤ )              │ │
 │ ⎨                  ⎢⎨RUN⎬⎥               ⎬ │
 │ │                  ⎣⎣vsn⎦⎦               │ │
 │ │ :(alt-filename, ⎡⎡RES⎤⎤ ,read-password)│ │
 │ ⎣                  ⎢⎨RUN⎬⎥               ⎦ │
 ⎣                    ⎣⎣vsn⎦⎦                 ⎦

   ⎡ ,⎡PRE ⎤ ⎤ [time+n]
   │  │HIGH│ │
   │  │LOW │ │
   ⎣  ⎣NOR ⎦ ⎦
```

Initiates running of expanded job control stream from YSAVE MIRAM library file or an alternate library file, then stores it in scheduling priority queue for execution. SI command initiates reading of job control stream that requires replacement of embedded data from input device (card reader, data set label diskette, or spool file). When issued, SI is accepted only if input device is available.

SC command initiates reading of job control stream that does not require use of input device to replace embedded data. For data set label diskette and spool file input, last // FIN job control statement is not necessary. New name cannot contain blanks.

ɔ Scheduling Commands

The following commands allow you to control jobs waiting to be scheduled
for execution.

erring Jobs Scheduled for Execution (HOLD)

```
HOLDΔ  JBQ  , PRE         , OLD    , DDP
            HIGH            NEW      LOCAL
            NOR                      RBP
            LOW                      WKSTN
            ALL
                                 [,UID=user-id][,HOST=host-id]
       jobname
```

Defers scheduling of all jobs in all queues or in a specific queue, a specific
job within a queue, a specific workstation user's jobs in all queues or a
specific queue, or a specific host's jobs in all queues or a specific queue.
Additional parameters permit the operator to defer either currently residing
(old) or newly entered jobs and to defer locally, remotely, or workstation
entered jobs. These additional parameters can be interchanged. Scheduling
remains deferred until jobs are reactivated via BEGIN command.

ιeduling Deferred Jobs (BEGIN)

```
BEGINΔ  JBQ  , PRE         , OLD    , DDP
             HIGH            NEW      LOCAL
             NOR                      RBP
             LOW                      WKSTN
             ALL
                                  [,UID=user-id][,HOST=host-id]
        jobname
```

Reinstitutes scheduling for execution of a currently deferred job within a queue, all jobs in all queues or in a specific queue, a specific workstation user's jobs in all queues or a specific queue, or a specific host's jobs in all queues or a specific queue. Additional parameters permit the operator to reinstitute scheduling of either currently residing (old) or newly entered jobs and to reinstitute DDP, locally, remotely, or workstation entered jobs. These additional parameters can be interchanged. Jobs remain deferred by HOLD command until specifically reactivated via BEGIN command.

Deleting Jobs from Scheduling Priority Queues (DELETE)

```
DELETEΔ  JBQ PRE                  , DDP                          [,log]
             HIGH                   LOCAL
             NOR                    RBP
             LOW                    WKSTN
             ALL
                                   [,UID=user-id][,HOST=host-id]
        jobname
```

Deletes specific job from a scheduling queue, all jobs in all queues or in a specific queue, a specific workstation user's jobs in all queues or a specific queue, or a specific host's jobs in all queues or a specific queue. DDP, locally, remotely, or workstation entered jobs may also be specified. Only jobs residing in a scheduling priority queue can be deleted. Specify the LOG command to print job log for all deleted jobs.

Displaying Jobs in Scheduling Priority Queues (DISPLAY)

```
DELETEΔJBQ   PRE                 , DDP
             HIGH                  LOCAL
             NOR                   RBP
             LOW                   WKSTN
             ALL
                                  [,UID=user-id][,HOST=host-id]
```

Displays contents of any or all job scheduling queues on console screen. The display format depends on the parameters specified. All jobs requested are displayed; those in deferred status (via HOLD) are displayed with parentheses around jobname. Before a queue is displayed, a system output message is displayed specifying that request was for LOCAL, RBP, DDP, WKSTN, or all jobs (QUEUED); the PRE, HIGH, or NOR queue display to follow; and whether or not a HOLD LOCAL (HL), HOLD REMOTE (HR), HOLD WORKSTATION (HW), or HOLD DDP (HD) command is currently in effect for that queue. If no jobs are found in queue requested, a system output message stating that condition is displayed.

nging Job Scheduling Priority (CHANGE)

```
CHANGEΔjobname, [PRE ]
                |HIGH|
                |NOR |
                [LOW ]
```

Changes scheduling priority of a specific job.

Job Execution Commands

The following commands control the processing of a job under execution.

Suspending Jobs in Progress (PAUSE)

PAUSEΔjobname[,jobstep-number]

Suspends processing of a job. This command may be issued at any time, and job processing suspends immediately or following completion of the specified jobstep number. Permits operator to mount new tape or disk volume, replace paper in printer, or add cards to card reader. Suspended job is reactivated via GO command.

Reactivating Suspended Jobs (GO)

GOΔjobname[,nn]

Reactivates a job suspended by PAUSE command or by job control operations. Also required as response to a message from the system preceded by an asterisk (*).

Jobs started at a workstation and paused at the system console can be restarted with a GO command at the system console only.

Changing Job Switching Priority (SWITCH)

SWITCHΔjobname,⎡+number-of-priority levels⎤[,ALL]
⎣-number-of-priority levels⎦

Changes switching priority level for job under execution. The switching priority level is changed either for the currently executing job step or for the current job step and all subsequent job steps. If priority is changed for current job step only, subsequent job steps execute under priority established (via // EXEC job control statement or default to lowest level), unless changed by another SWITCH command. A job assigned a higher level has priority over lower-level jobs for control of central processor. Levels are from 1 to n, where 1 is highest priority and n is lowest priority. (Total number of levels in your system is determined at SYSGEN.)

) Termination Commands

The following commands allow you to terminate the processing of a job, or of a symbiont or transient.

celing Jobs in Progress (CANCEL)

$$\underline{CANCEL}\Delta \begin{bmatrix} jobname \\ symbiont,S \\ synnnn,S \\ sy(did),S \\ sy \end{bmatrix} \begin{bmatrix} , \begin{Bmatrix} D \\ N \end{Bmatrix} \end{bmatrix}$$

Immediately halts all processing of a job or symbiont. May be issued at any time during processing of job and results in immediate termination of job step being executed at the time the command is given. All subsequent job steps scheduled for job are also terminated. Job run library file for job is deleted. Specify D for dump, N for no dump; symbiont is a 2-character identification used to initiate the symbiont.

: Cancel of a User's Job (CJ)

$$\underline{CJ}\Delta \begin{bmatrix} jobname \\ symbiont,S \\ synnnn,S \\ sy(did),S \\ sy \end{bmatrix} \begin{bmatrix} , \begin{Bmatrix} D \\ N \end{Bmatrix} \end{bmatrix}$$

Terminates execution of a job only when it is executing under "normal" conditions. A normal condition means that the job is running under its own key, that no wait flags are set, and that external code is not being executed.

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Stopping Execution of a Dump (END)

```
ENDΔDUMP,[jobname    ]
          │symbiont,S│
          │sy,S      │
          [sy(did),S ]
```

Terminates execution of a cancel or end of job dump for a particular job.

Terminating Jobs (STOP)

```
STOPΔjobname[,jobstep-number]
```

Provides an orderly termination of a specific job. If a jobstep number is not specified, the job stops at the end of the current job step. If a jobstep number is specified, the job stops after completion of the specified jobstep.

elected Occasion Operator Commands

The following commands allow you to perform certain functions during the
processing of a job.

splaying Portions of Main Storage (DISPLAY)

DISPLAYΔaddress[,jobname]

Displays selected areas of main storage on console screen. The address is a
hexadecimal number used for a specific (absolute) main storage address or a
job-relative main storage address. The jobname identifies a job-relative
address for the job; otherwise, an absolute address is displayed.

splaying System Information (MIX)

$$
\underline{MIX}\Delta
\begin{cases}
DA\left[,\begin{cases}jobname\\symbiont\text{-}name\end{cases}\right]\\
VI\left[,\begin{cases}did\\c/ca/caa\end{cases}\right]\\
SQ\\
SI\\
DS[,did]\\
SC\\
FR\\
MM\\
EN\\
EL\\
HF \text{ (models 10/15/20 only)}
\end{cases}
$$

Displays tables of different aspects of system information.

Reconstructing Console Display (REBUILD)

REBUILD

Clears all information from console, then restores job number header lines and rewrites all outstanding question and action request output messages on the screen. All displays other than unanswered questions and action requests are lost.

Setting Simulated Dayclock (SET CLOCK)

SETΔCLOCK,hh:mm:ss

Resets time of day in system-simulated dayclock; for example, changes from 24:00:00 to 00:00:00 at midnight.

Setting Date Field (SET DATE)

SETΔDATE,yy/mm/dd[,yyddd]

Resets calendar date in system information block date field and resets job date for every job currently in main storage (except jobs containing // SET DATE job control statement).

Setting Error Log (SET ELOG)

```
SETΔELOG,  ┌                                      ┐
           │  ┌ ON  ┐  ┌ ┌ ALL  ┐ ┐               │
           │  │ OFF │  │ │ COMM │ │               │
           │  └     ┘  │ │ MCHK │ │               │
           │           │ │ IO   │ │               │
           │           │ ⎨ TERM ⎬ │               │
           │           │ │ CLOG │ │               │
           │           │ │ RSTK │ │               │
           │           │ │ MSE  │ │               │
           │           └ └ did  ┘ ┘               │
           │                                      │
           │  ┌ factor, ┌ RSTK ┐ ┐                │
           │  │         │ MSE  │ │                │
           │  └         └      ┘ ┘                │
           └                                      ┘
```

Consult your Unisys customer engineer before using SET ELOG command.

Turns on or off communications, I/O device, machine check, and I/O
termination record error logging into YELOG file on SYSRES. IPL
procedure automatically turns on error logging and all error logging
functions; previously entered changes to the error log are lost when the
systems reloaded. SET ELOG is also used to specify a 1- to 3-character
decimal value used to redefine main storage error (MSE) or retry stack error
(RSTK) limits. When limit is exceeded, error is suppressed. Factor value
entered is multiplied by 32 to redefine millisecond time factor (F) in error
limit formula F*S:E, where S is size or number of MSE or RSTK errors, and
E is elapsed time since last interrupt of same type.

ining ONUERL (RV/RUN ONUERL)

When the LOG FILE IS NEARLY FULL message appears on the console
screen, run the system-supplied ONUERL job using either the preset
options or overriding them with other options. To override preset options,
respond to program messages at the console.

Remember that the disk containing the YRUN file and the SYSRES disk
must be similar device types.

```
[RVΔONUERL,[,,OPT=Y]      ]
{RVΔONUERL,Ntime+x[,OPT=Y]}
[RVΔONELAN                ]
```

Executes ONUERL program with preset parameters on an as-needed basis
or a fixed, 7-day cycle; or executes ONUERL with ONELAN error log
analysis graphs.

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Setting Physical Unit Blocks (SET IO)

```
SETΔIO,did, ⎡AV          ⎤  ⎡  ⎤
           │CONSOLE     │  │,O│
           │DOWN        │  │H │
           │EON         │  ⎣  ⎦
           │EOF         │
           │FEA,type-code│
           │HOME        │
           ⎨NA          ⎬
           │NOSHARE     │
           │NOWRITE     │
           │RDR         │
           │SHARE       │
           │TYPE,type-code│
           │UP          │
           ⎣WRITE       ⎦
```

Sets specific bits in physical unit blocks, which define operational characteristics and assignments of I/O devices. There is one physical unit block comprised of a 3- or 4-character *did* for each physical device in the system. All devices or subsystems must be set DOWN before attempting operations, such as forms loading, changing ribbon, etc. Required if processor is to continue operation with other peripheral devices while subject device is undergoing isolated operations. Before a procedure is performed or when power is turned off for the device, enter SET IO,*did*,DOWN. After offline procedure is completed or after turning on power independently of processor, enter SET IO,*did*,UP.

Reading Mounted Volume Serial Number (AVR)

```
AVΔdid[,did][,did]
```

Reads volume serial number of premounted prepped disk pack, diskette, or magnetic tape volume and stores it in device physical unit block. (Required when disk pack or magnetic tape is mounted on unit that does not have attention interrupt capability, such as UNISERVO® VI-C magnetic tape subsystems.)

UNISERVO is a registered trademark of Unisys Corporation.

playing Job Status (DISPLAY JS)

```
DISPLAYΔ[JS[,jobname][,ALL]           ]
        [SY[,symbiont-name][,ALL]]
```

Displays on the console screen the status of jobs in system or tasks attached to symbiont. Command allows you to display status of specific job or all jobs in main storage, specific job in scheduling priority queue, or a job being processed by the RUN or OCL processor. Includes job name and CPU time used, reason why job is not executing or job's scheduling priority queue, and status of subtasks attached to a job.

nping the Contents of Main Storage (SYSDUMP)

```
SYSDUMP
```

Dumps entire contents of main storage to YDUMP file on SYSRES. Use SYSDUMP whenever system dump is required without supervisor reloading (no re-IPL required). After main storage dumps, the SYSDUMPnn job is automatically initiated to print the SYSDUMP file (where nn is a unique number assigned by the system). The SYSDUMP file locks until SYSDUMPnn completes.

To inhibit dump printing, enter NONE when SYSDMPnn message requests type of dump to print. If you delete SYSDMPnn from job queue or cancel it before SD01 output message, enter the SET SY command to unlock YDUMP file.

ting the YDUMP File to Unlocked Condition (SET SY)

```
SETΔSY,LOFF
```

Unlocks the YDUMP file after an SY command or system error locks it.

Setting Main Storage Condition (SET MEM)

$$\underline{SET}\Delta\underline{MEM},\begin{bmatrix}\underline{DOWN}\\UP\end{bmatrix},address\begin{bmatrix},\begin{bmatrix}no\text{-}of\text{-}blocks\\1\end{bmatrix}\end{bmatrix}$$

Sets one or more main storage blocks up or down. Normally, main storage is in up (usable) condition. System automatically sets unusable block down and displays listing of all blocks currently set down on console screen. Initialize the error log (at IPL) if adding main storage or taking system-resident pack from smaller system to larger system or the additional storage will be unusable. Normally, SET MEM command is used to set a block up after your customer engineer corrects condition that made it unusable.

Changing Resource Management Memory and Job Initiation Limits (LIMITS)

$$\underline{LIMITS}\Delta\begin{bmatrix}\begin{bmatrix}\underline{SYMB}MEM=\begin{bmatrix}\underline{NL}MT\\5\text{-}100\end{bmatrix}\end{bmatrix}\\\begin{bmatrix},\underline{INT}MEM=\begin{bmatrix}\underline{NL}MT\\5\text{-}100\end{bmatrix}\end{bmatrix}\\\begin{bmatrix},\underline{JOB}MEM=\begin{bmatrix}\underline{NL}MT\\0\text{-}100\end{bmatrix}\end{bmatrix}\\\begin{bmatrix},MAX\underline{LOG}ONS=\begin{bmatrix}1\text{-}99\\5\end{bmatrix}\end{bmatrix}\\\begin{bmatrix},\underline{UP}TERMINAL=\begin{bmatrix}tttt\\*ALL\end{bmatrix}\end{bmatrix}\\[,MAX\underline{JOB}S=1\text{-}n]\\[,MAX\underline{WS}JOBS=0\text{-}n]\\[,MAX\underline{SWS}JOBS=0\text{-}n]\\[,MAX\underline{INT}USERS=0\text{-}255]\\[,MAX\underline{ENT}ERS=0\text{-}255]\\[,MAX\underline{RUN}SYMBS=1\text{-}10]\end{bmatrix}$$

Changes the resource management limits for memory usage and job initiation that were set at SYSGEN. This command can also be used to reactivate (UP) one or all terminals. Parameters are considered invalid unless resource management and security are generated at SYSGEN.

OS/3 resource management provides a means to balance batch job turnaround time and workstation response time. This is done by controlling main memory allocation and the number and types of jobs initiated. The balance among these factors was set at SYSGEN and may be adjusted to meet changing requirements.

The factors that resource management can control are the percentage of main memory to be used for symbionts and interactive and batch jobs; the maximum number of concurrent jobs, concurrent workstation jobs, and concurrent jobs on any single workstation; the maximum number of logged-on interactive users; the maximum number of concurrent batch tasks initiated with the ENTER command; the maximum number of concurrently executing run symbionts; and the maximum number of invalid logon attempts before a terminal is deactivated.

The LIMITS command may be issued any time during the session.

ting Unattended Console Feature (SET UNCON)

```
SETΔUNCON, [ON  ]
           {OFF }
           [time]
```

Sets the unattended console feature, which is a SYSGEN option. To remove the previously specified (at SYSGEN) option, specify OFF. To reactivate the previously removed option, specify ON. Specify a specific time (in minutes) to change the unattended console auto-answer time.

Terminating System Activity (SHUTDOWN)

SHUT̲DO̲W̲N̲Δ $\begin{Bmatrix} \underline{SYSTEM} \\ DDP \end{Bmatrix}$

Terminates system activity or distributed data processing (DDP) in an orderly manner. No new files, jobs, or functions are started. Shutdown occurs only when all current activities cease.

Verifying and Correcting the VTOC (VV)

VVΔ $\left[did \left[, \begin{bmatrix} END \\ FIX \\ ECnn \\ COPY \\ ALT \end{bmatrix} \right] [,ALT] \right]$

Performs a thorough analysis of the VTOC, looking for any inconsistencies among the labels in the VTOC. See the *Operations Guide*, 7004 5208.

The value *did* is the device address of the VTOC to verify, correct, or copy.

END terminates the verify routine upon completion.

FIX calls the VTOC correction routine.

EC*nn* automatically takes a dump when error condition occurs.

COPY copies VTOC to alternate VTOC.

PACK indicates that the VTOC is to be packed (i.e., reorganized).

ALT directs all commands to alternate VTOC.

ifying the VTOC during AVR (SET VV)

SETΔVV,$\begin{bmatrix} ON \\ OFF \end{bmatrix}$

ON performs automatic VTOC verification at AVR time.

OFF does not perform automatic VTOC verification at AVR time. This overrides the VVAVR SYSGEN specification, described in the *Installation Guide*, 7004 5505.

carding System Messages (FLUSH)

FLUSHΔ$\begin{bmatrix} *ALL \\ msg\text{-}prefix \end{bmatrix}$

Discards messages queued for delivery to the workstation. To discard all messages, specify *ALL. To discard only messages with a specific prefix, specify the applicable message prefix.

iating a Transient Work Area Feature (TW)

TWΔ[sz=nnn]

Initiates the transient work area feature. This feature can improve system performance by storing the most recently used transients in an area of main storage. The optional sz parameter specifies the number of 1,024-byte blocks in the work area. If the sz parameter is omitted, a 65K work area is allocated by default.

tting Memory Consolidation Conditions (SET MC)

SETΔMC,$\begin{bmatrix} ON \\ OFF \end{bmatrix}$

Enables or disables the memory consolidation (MEMCON) feature. When enabled, MEMCON causes movable jobs to be consolidated at the highest possible main storage addresses, thus creating the largest possible free regions. A job cannot be moved unless it is inactive.

A SET MC,OFF keyin does not affect ongoing MEMCON operations.

Setting Job Immovability Conditions (SET IM)

SETΔIM, {ON / OFF}

Enables or disables the job immovability (IMVJOB) feature. When enabled, IMVJOB allows relocation of immovable jobs to more efficient main storage locations. IMVJOB requires ROLLOUT to be configured for the current supervisor.

Displaying Buffer Pool Information (DI BI)

DI BI

Displays system buffer pool information at the console. This information includes the expansion region size, disk cache buffer size, transient cache buffer size, job/symbiont buffer size, and various dynamic buffer usage information.

Enabling/Disabling the Console Alarm Beeper (SET AL)

SETΔALARM, {ON / OFF / ONE}

Controls the operation of the console alarm beeper. The ON parameter causes the beeper to sound continuously when an alarm condition occurs. The OFF parameter disables the beeper. The ONE parameter causes the beeper to sound once when an alarm condition occurs.

Enabling/Disabling the Console Video Clock (SET VC)

SETΔVC, {ON / OFF}

Enables and disables display of the time-of-day clock at the upper right corner of the console screen. The ON parameter displays the clock and enables clock incrementation every 10 seconds. The OFF parameter disables clock incrementation and blanks the clock display.

anging Symbiont Execution Priorities (SET PS)

Assigns an execution priority to a specific symbiont. The priority remains in effect until it is either changed by another SET PS command or the system is rebooted.

```
SETΔPS,symbiont-name,n
```

tting Console Message Viewing Privileges (SET CV)

Allows privileged users to view the console messages sent to the operator in addition to their own messages.

```
SETΔCV, {ON  }
        {OFF}
```

wing Messages Sent to Logged Off Users (SET LX)

Lets console and delegated console users view the screen messages sent to users who have logged off. The messages are displayed only at the console or terminal issuing the command. The messages sent to the logged off users are placed in the console log regardless of whether the SET LX command is issued.

```
SETΔLX, {ON  }
        {OFF}
```

Section 5
Spooling Services

General Spooling Commands

Used to display and manipulate subfiles in the spool file; also used to change the operating mode of the spooling function.

The formats for these commands may include the following.

Spool File Directories

directory
> Identifies the specific spool file directory acted upon. When ALL is entered in place of a directory, all directories accessible to the command are acted upon. Allowable entries are:

DDPPR
> Distributed data processing output is to printer.

DDPPU
> Distributed data processing output is to card punch.

LOG
> Job, workstation, and console log input and output data is in designated job log file.

PRINT
> Subfile output is to the designated printer.

PUNCH
> Subfile output is to the designated card punch or data set label diskette.

RBPIN
  Remote batch processing input is from card reader.

RBPPR
  Remote batch processing output is to printer.

RBPPU
  Remote batch processing output is to card punch.

RDR
  Subfile input is from designated card reader, tape, or data set label
  diskette.

ool File Command Modifiers

modifier-1,...,modifier-n
  Optionally used to further identify, within specified directory, the
  subfiles being referenced. Any number of modifiers may be specified.

  Allowable modifiers are:

ACCT=$\begin{bmatrix} \text{acctno} \\ * \end{bmatrix}$
  1-4 characters

BNumb=n
  Binary job number, 1-5 characters (BE SPL, DE SPL, HO SPL, PR
  BX, RP BX only)

CART=$\begin{bmatrix} \text{cartridge-id} \\ * \end{bmatrix}$
  1-8 characters

DDPID=host-id
  1-4 characters (output writer BX function only)

```
DVC=⎡770  ⎤
     |776  |
     |789  |
     |PPC  |
     |9246 |
     |ANY  |
     |CLASS1|
     |CLASS2|
     |CLASS3|
     ⎣AUX  ⎦              NOTE: AUX is valid for DEV only.
```
Any device of the type designated that is available.

```
FILE=⎡filename⎤
     ⎣*       ⎦
```
1-8 characters

```
FORM=⎡formname⎤
     ⎣*       ⎦
```
1-8 characters

```
ID=remote-id
```
1-6 characters (output writer BX function only)

```
JOB=⎡jobname⎤
    ⎣*      ⎦
```
1-8 characters

```
LBL=labelname
```
1-8 characters for data set label diskette; 1-17 characters for card reader

```
STEP=stepno
```
3 characters (left-justified with zeros)

```
UID=user-id
```
1-6 character identification of the user on whose behalf the spool subfile was created.

```
UID=OS3CTR (or CENTRAL)
```
Designates subfiles that were directed to a central printer. OS3CTR and CENTRAL are equivalent terms.

```
VOL=volno
```
1-6 characters (diskette only)

Notes:

1. *Command keyins cannot exceed 28 characters in length, including commas.*

2. *Enter * and a modifier type to group spool file contents for processing on a first-in, first-out basis. Provides a complete spool file listing, grouped according to the modifier specified.*

moving Active Files from HOLD Condition (BEGIN ACT)

```
BEGINΔACT  , ALL
              LOG
              PRINT
              PUNCH
```

Removes HOLD condition from files currently being created in directory named.

LOG does not affect remote batch or distributed data processing job logs.

Command is ignored if modifiers entered.

Removing Closed Files from HOLD Condition (BEGIN SPL)

```
BEGINΔSPL  , ┌ ALL   ┐  [,modifier-1,...,modifier-n]
             │ DDPPR │
             │ DDPPU │
             │ LOG   │
             ┤ PRINT ├
             │ PUNCH │
             │ RBPPR │
             │ RBPPU │
             └ RDR   ┘

           ┌             ┐
           │ ,OUT=┌DID┐  │
           │      └NO ┘  │
           └             ┘
```

Removes HOLD condition from closed files in the directory named, according to modifiers specified. Also loads output writer automatically to process files in burst mode. Loads output writer for central printer as well as for auxiliary printer.

The file is printed on an auxiliary printer only if the BE SPL command comes from the workstation that initiates the job and if that workstation has an auxiliary printer attached.

If the BE SPL command is entered from the console, the RP output writer (for an auxiliary printer) is not called.

ALL cannot be specified with OUT=DID.

LOG does not affect remote job logs.

If RDR is entered without LBL=label modifier, all reader spooled files are removed from HOLD condition.

If no directory or ALL is entered, only LOG, PRINT, PUNCH, and RDR are affected.

OUT=*did* specifies the designated device that the output is to be sent to (printer, tape, disk, or punch).

OUT=NO specifies that output writer should not be called as a result of releasing the spool subfiles from a hold state. If this parameter is used, the command keyin can be up to 60 characters, including commas.

```
BEGINΔSPL [,[LOG  ]] [,modifier-1,...,modifier-n],OUT=did
           {PRINT}
           [PUNCH]
```

Removes hold status from closed files in directory named, according to modifiers specified. Also loads output writer automatically to process files in burst mode. The output is printed on the device specified by OUT=*did*.

The file is printed on an auxiliary printer only if the BE SPL command comes from the workstation that initiates the job and if that workstation has an auxiliary printer attached.

If the BE SPL command is entered from the console, the RP output writer (for an auxiliary printer) is not called.

LOG does not affect remote batch or distributed data processing job logs.

Removing Active and Closed Files from HOLD Condition (BEGIN SPQ)

BEGINΔSPQ [, [ALL
LOG
PRINT
PUNCH]]

Combines BE ACT and BE SPL commands. Removes HOLD condition from both currently active and closed files in directory named. Also loads output writer automatically to process files in burst mode.

LOG does not affect remote batch or distributed data processing job logs.

Command is ignored if modifiers entered.

Breakpointing an Active File (BRKPT)

BRKPTΔ [P] , [PRINT] ,JOB=jobname[,modifier-1,...,modifier-n][,HOLD]
       [I]   [PUNCH]

Breakpoints printer or punch file currently being created by job name and modifiers specified. P breakpoints file at end of the page; I breakpoints file immediately. Diskette files cannot be breakpointed.

HOLD holds the file after breakpoint.

This command closes files and makes them available to output writer. New file is created that contains remainder of file. You should use this command whenever warning messages indicating spool file is nearly depleted appear on console screen.

After breakpoint is taken, you should load output writer in burst mode to process the file.

If a print file is breakpointed with the HOLD option, all subsequent subfiles for the breakpointed file are also held.

'eakpointing the Console Log File (BRKPT CNSLG)

```
BRKPTΔCNSLG[,OUT=[TAPE   ]][,HOLD]
               {DISK    }
               [DISKETTE]
```

Breakpoints console log file and prints it or redirects it to specified output device. New console log file starts with first message or command after breakpoint command.

HOLD holds the file after breakpoint.

After BRKPT is issued for console log file, output writer is loaded automatically. Output writer recognizes the console log file and prints it.

If HOLD is specified for a console log file, the breakpointed log file is held, but the newly opened log subfile is not held unless HOLD is specified by subsequent commands.

Console log record collection must be set to ON with option to permit printing (specified via SET SPL,ON command in effect).

'eakpointing the Workstation Log File (BRKPT LOG)

```
BRKPTΔLOG[,OUT=[ TAPE    ]][,HOLD]
              { DISK     }
              [ DISKETTE ]
```

Breakpoints workstation log file and prints it or redirects it to specified output device. New workstation log file starts with first message or command after BRKPT command.

HOLD holds the file after breakpoint.

If HOLD is specified for a workstation log file, the breakpointed log file is held, but the newly opened log subfile is not held unless HOLD is specified by subsequent commands.

Changing the Device Type and/or Number of Copies (CHANGE SPL)

```
CHANGEΔSPL  , ┌ALL  ┐  [,modifier-1,...,modifier-n]
              │ LOG  │
              └PRINT ┘

    [,COPIES=nnn]  ,DVC= ┌770            ┐
                         │776            │
                         │789            │
                         │9246           │
                         │PPC            │
                         │ANY            │
                         │CLASS 1        │
                         │CLASS 2        │
                         │CLASS 3        │
                         │AUX,ID= ┌*      ┐│
                         └        └user-id┘┘
```

Changes device type and/or number of copies of closed spool subfiles, either queued or held, but not of active subfiles. Up to 60-character keyins are permitted. Change parameters are required; there are no defaults.

ALL includes LOG and PRINT directories only.

If no modifiers are included, the search for subfiles is based on the user who issued the command.

When AUX is specified, *user-id* must be given.

eting Closed Files (DELETE SPL)

```
DELETEΔSPL, ┌ ┌ALL  ┐ ┐ [,modifier-1,...,modifier-n]
           │ │DDPPR│ │
           │ │DDPPU│ │
           │ │LOG  │ │
           │ ⟨PRINT⟩ │
           │ │PUNCH│ │
           │ │RBPPR│ │
           │ │RBPPU│ │
           └ └RDR  ┘ ┘
```

Deletes closed files in directory named according to modifiers specified.
Includes queued files (waiting for output writer processing) and files in
HOLD condition. Active files and files in progress (being processed) cannot
be deleted.

LOG does not affect remote batch or distributed data processing job logs.

If RDR is entered without LBL=label modifier, all reader spooled files are
deleted.

If ALL is entered, LOG, PRINT, PUNCH, and RDR are affected.

playing the Status of Active Files (DISPLAY ACT)

```
DISPLAYΔACT ┌ , ┌ALL  ┐ ┐ [,modifier-1,...,modifier-n]
            │   │DDPPR│ │
            │   │DDPPU│ │
            │   ⟨PRINT⟩ │
            │   │PUNCH│ │
            │   │RBPPR│ │
            │   └RBPPU┘ │
            └           ┘
```

Displays the number of files currently being created in directory named,
according to modifiers specified.

Solicited messages are used to direct and terminate display. Includes option
to display further information about some or all of files specified in detailed
or abbreviated format.

Displaying the Status of Completed Files (DISPLAY SPL)

DISPLAYΔSPL , { ALL
DDPPR
DDPPU
LOG
PRINT
PUNCH
RBPIN
RBPPR
RBPPU
RDR } [,modifier-1,...,modifier-n]

Displays the number of completed files (queued for processing, on hold, and in progress) in directory named, according to modifiers specified.

Solicited messages are used to direct and terminate display. Includes option to display further information about some or all of files specified in detailed or abbreviated format.

LOG does not affect remote batch or distributed data processing job logs.

Displaying the Console Log Status (DISPLAY CNSLG)

DISPLAYΔCNSLG

Displays the number of lines accumulated in current console log file.

Displaying the Spooling Mode of Operation (DISPLAY SPL,STATUS)

DISPLAYΔSPL,STATUS

Displays burst or nonburst mode of operation currently in effect. For burst mode, includes selection criteria when specified. A message displays the percentage of spool file still available.

cing Active Files in HOLD Condition (HOLD ACT)

```
HOLDΔACT , ⌈ ⌈ALL  ⌉ ⌉
         ⎮ ⎮LOG  ⎮ ⎮
         ⎮ ⎨PRINT⎬ ⎮
         ⎮ ⎣PUNCH⎦ ⎮
         ⎣        ⎦
```

Places files on hold that are currently being created in directory named.

LOG does not affect remote batch or distributed data processing job logs.

Job logs for jobs found in error by run processor are not affected.

Command is ignored if modifiers entered.

cing Closed Files in HOLD Condition (HOLD SPL)

```
HOLDΔSPL , ⌈ ⌈ALL  ⌉ ⌉ [,modifier-1,...,modifier-n]
         ⎮ ⎮DDPPR⎮ ⎮
         ⎮ ⎮DDPPU⎮ ⎮
         ⎮ ⎮LOG  ⎮ ⎮
         ⎮ ⎨PRINT⎬ ⎮
         ⎮ ⎮PUNCH⎮ ⎮
         ⎮ ⎮RBPPR⎮ ⎮
         ⎮ ⎮RBPPU⎮ ⎮
         ⎮ ⎣RDR  ⎦ ⎮
         ⎣        ⎦
```

Places closed files on hold in directory named, according to modifiers specified.

LOG does not affect remote batch or distributed data processing job logs.

If ALL is entered or implied by default, all directories are affected.

Placing Active and Closed Files in HOLD Condition (HOLD SPQ)

```
HOLDΔSPQ  , ┌ ┌ALL   ┐
          │ │LOG   │
          │ │PRINT │
          │ └PUNCH ┘
          └
```

Combines HO SPL and HO ACT commands. All closed files in directory named are immediately placed in HOLD condition; all active and future files in directory are placed on hold when closed.

LOG does not affect remote batch or distributed data processing job logs.

Job logs for active jobs found in error by run processor are not affected; job logs for closed jobs that were found in error are held.

Command is ignored if modifiers entered.

Setting Spooling System Operating Mode (SET SPL, BURST/NBURST)

```
SETΔSPL, ┌BURST[,modifier]┐
         │NBURST          │
         └                ┘
```

Sets spooling system operating mode for processing output files to burst or nonburst (NBURST). All subsequently loaded output writers run in mode selected. Previously loaded output writers are not affected.

A modifier tailors file selection for burst mode processing.

ting Console Log and Workstation Log File Specifications
T SPL,CNSLG)

$$\underline{SET}\Delta SPL,\underline{C}NSLG\left[,\begin{bmatrix}ON\\OFF\end{bmatrix}\right]\left[,\begin{bmatrix}\underline{RE}TAIN\\\underline{DE}LETE\end{bmatrix}\right]\left[,\begin{bmatrix}\underline{P}RINT\\\underline{N}OPRINT\end{bmatrix}\right]$$

Turns console log and workstation log record collection function ON and OFF, deletes or accumulates (RETAIN) console log for transfer to SYSLOG, and prints or does not print console log.

Must be set to ON to accumulate or print console log or to accumulate or print workstation log via SET SPL,PRINT and SET SPL,DUMP commands, respectively.

If any optional parameters are omitted, console log file remains in same condition or mode for that parameter that it was in before the command was issued.

Blinking marker symbol (▪) in rightmost position of console line indicates message not written to console log.

ting Accumulation of Job Log and Workstation Log Files (SET SPL, VIP/ENDDUMP)

$$\underline{SET}\Delta SPL,\begin{bmatrix}DUMP\\ENDDUMP\end{bmatrix}$$

Deletes or accumulates job log and workstation log files after printing for transfer to SYSLOG. DUMP specifies files are accumulated for later routing to SYSLOG tape or disk file; ENDDUMP specifies no accumulation.

The SET SPL,CN,ON command must be in effect to accumulate workstation logs.

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Setting Job Log Printing Specifications (SET SPL,NOACT/NOLOG/ NOPRINT/PRINT)

```
SETΔSPL, NOACT
         NOLOG
         NOPRINT
         PRINT
```

Specifies which job log records are to be printed at the end of each job. NOACT specifies not to print job accounting (A) records; NOLOG specifies not to print log (L) records; NOPRINT specifies not to print job accounting (A) and log (L) records; and PRINT specifies printing of all job log (A and L) records.

JOBACCT=YES must be specified at SYSGEN to control A record printing.

Setting Spool File Printout Formats (SET SPL, HEADER/NOHDR)

```
SETΔSPL, HEADER
         NOHDR
```

Prints (HEADER) or suppresses (NOHDR) 3-page header preceding each spooled print file.

Setting Forms Change Messages (SET SPL,TEST/NOTEST)

```
SETΔSPL, TEST
         NOTEST
```

Displays (TEST) or suppresses (NOTEST) console message indicating a forms change with option to print test lines.

)ut Reader Commands

Used to load an input reader symbiont to transfer a card or data set label diskette file into the RDR spool directory.

)oling Punched Card Input Files

```
IN[(did)]Δ ⎡⎡51⎤⎤
           ⎣⎣66⎦⎦
```

Loads input reader for spooling punched card input. Specify either 51- or 66-column punched cards; if omitted, 80-column (or 96-column, if configured) punched cards are read.

A // DATA job control statement must precede jobs or data files to be spooled. Punched cards are read until a // FIN or another // DATA statement is detected.

If no device (*did*) is specified, first available card reader (SYSRDR) is expected to contain input file.

)oling Data Set Label Diskette Input Files

```
IN([did],label)Δ[RETAIN][,DELETE]
```

Loads input reader for spooling diskette input. Label must match LBL job control statement file name with maximum of 8 characters. RETAIN specifies spooled file is retained after job processing. Retained file is available for additional processing until deleted via DELETE command or via the DELETE parameter in a subsequent introduction of a spooled subfile having the same label.

Use only with single-volume input.

Spooling Tape Input Files

IN(did)

Loads input reader for spooling tape input. A // DATA job control statement must precede jobs or data files to be spooled.

Use only with single-volume input.

tput Writer Commands

Used to load an output writer symbiont according to the operating mode and selection criteria specified. Solicited and unsolicited messages are used to direct the operation of output writers that are active in the system.

Output writers are loaded under three conditions.

1. Automatically by system when files require processing and appropriate device is available.

2. Automatically when operator enters BEGIN spooling command.

3. Manually by operator using output writer commands and messages. Function codes and modifiers are included to change operating mode, select criteria, and tailor processing.

Under certain conditions, such as system set in nonburst mode, the operator manually loads output writers in order to have files printed. Other conditions include:

1. Warm start (recover files at IPL), if set to nonburst at SYSGEN.

2. BR function, if system is in nonburst mode.

3. STOP or HALT function previously entered from console and printing a job's files is incomplete.

4. IN function when reintroducing redirected tape, disk, or format label diskette output.

Manually Loading Output Writer

```
⎡PD⎤[(did)]Δ[function-code][,modifier-1,...,modifier-n]
⎨PR⎬
⎣PU⎦
```

Loads output writer for printer (PR), punch (PU), or data set label diskette (PD) file processing.

If *did* (device address) is omitted, system assumes only one device is available and selects first available device. When device address is tape, disk, or diskette unit, output file is redirected to that device (not valid with PD). PD does not require device address; job control device assignment set provides diskette location to be used.

Function-code specifies output writer mode of operation and processing criteria. (Function codes are described in a later paragraph.) If omitted, output writer is loaded in mode (burst or nonburst) assigned at SYSGEN. After function is entered and request is completed, system usually requests entry of another function. Enter function that is using solicited message reply format (described in the following paragraphs), or press XMIT key if no additional functions are required.

Command modifiers further identify files to be processed.

```
PRA[function-code],UID=user-id[,modifier-1,...,modifier-n]
```

Loads output writer for nonauxiliary destined print files created on behalf of a workstation user identified by UID.

Function-code specifies output writer mode of operation and processing criteria. (Function codes are described in a later paragraph.) If omitted, output writer is loaded in mode assigned at SYSGEN. After the function is entered and the request is completed, the system usually requests another function. Enter the function using solicited message reply format (see *Spooling and Job Accounting Operating Guide*, 7004 4581 for more details) or press the XMIT key if no additional functions are required. UID is a 1- to 6-character, left-justified identification that was entered with the LOGON command at the workstation.

Command modifiers further identify files to be processed.

```
RPABX,UID=user-id[modifier-1,...,modifier-n]
```

Loads output writer to print output, specified as destined for the auxiliary printer (via // SPOOL jproc, // ROUTE job control statement, and OPTION job control statement) at the central site rather than at the auxiliary printer.

BX specifies that the output writer is to function in the burst mode.

After the function is entered, the system usually requests another function. Enter the function using solicited message format (described in the following paragraphs) or press the XMIT key if no additional functions are required.

UID is a 1- to 6-character, left-justified identification that was entered with the LOGON command at the workstation.

Command modifiers further identify the files to be processed.

Directing Active Output Writer

Used to change operating mode or processing criteria of active output writer.
Messages are either solicited (output writer requests function from operator)
or unsolicited (operator interrupts output writer processing to enter a
function). Unsolicited messages cannot be entered if the output writer is
waiting for a response to a solicited message.

• Solicited message reply format

    0iΔfunction-code

Used to respond to function request from output writer. Both job
number (0) and message-id (i) must be included in reply. Message-id
corresponds to the message-id transmitted by requesting output writer.

Allowable functions are described under output writer function codes.

• Unsolicited message reply format

    00Δ⎡PD⎤[(did)] function-code
       ⎨PR⎬
       ⎣PU⎦

Used to interrupt active output writer to issue a function change. The
job number and message-id (00) are used to communicate with the
output writer (via the supervisor).

PD (diskette), PR (printer), or PU (punch) identifies the output writer to
be interrupted. If the did is omitted, system assumes output writer is
active at first available device.

Allowable functions are described in list of output writer function codes.
Use the DEV function code to redirect output currently being processed.

out Writer Function Codes

$\begin{bmatrix} \underline{\text{BURST}} \\ \text{BX} \end{bmatrix} \Delta[\text{,modifier-1,...,modifier-3}]$

Places the output writer in burst mode. Functions can be further qualified by optional modifiers 1 through 3. Modifiers that may be specified are listed in the description of general spooling commands. (STEP, LBL, and VOL are not used with BU and BX.) If BX is entered with modifiers, the output writer terminates after processing all files that satisfy the modifiers. If BU is entered, the output writer requests another function if more files exist that do not satisfy modifiers.

BYPASS

Terminates processing of the current file. Current file is closed and output writer continues processing next file. Bypassed files can be restarted later.

COPIES,nnn

Sets the number of copies the output writer is to produce for each file it processes. One to 255 copies (*nnn*) may be specified. If 0 is specified, 1 is assumed. File closed when processing is completed. This function cannot be used with diskette (PD) output writer.

DELETE

Deletes the file being processed and proceeds with next file to be processed.

DEVICE[,did]

Indicates that output writer is to change device it is currently using to print (punch) its output. If a new did is specified, it is assigned to the output writer and current device is deallocated. If the did is omitted, a device having the same characteristics as the current device replaces the current device. The new device remains in use as long as the same copy of output writer remains in main storage.

If output is to be redirected, specify the tape, disk, or diskette device (did) in the function code, and all subsequent output files are redirected to that device, as long as that copy of output writer is active. Redirected output to diskette is recorded in format label mode.

If some form of restart is to be performed prior to switching devices, enter the RESTART function before entering the DEVICE function.

DISPLAY

Displays the status of the current file on the console screen. The information displayed is

1. File name
2. Job name
3. Program name
4. Job step number
5. Current page (card) number
6. Total pages (cards) in file
7. Number of remaining copies
8. Existence of a breakpoint

Function is ignored if no file is open.

HALT

Terminates output writer after current file (if any) is processed. If file being processed has multiple copies, remaining copies are produced when output writer is reloaded.

HOLD

Places the current file in a HOLD condition and begins processing next file.

Files in HOLD condition are not available for processing until released by BEGIN command.

$$\text{INPUT,did[,B]}\left[,\begin{Bmatrix}\text{RET}\\\text{REL}\end{Bmatrix}\right]$$

Directs output writer to accept input from tape, disk, or diskette unit (did) identified in function code. Used to reintroduce redirected output so that it can be printed or punched.

If input is from disk or format label diskette, the B option may be included to permit specific files to be selected. When B is entered with function, a message is displayed requesting another function. Enter BX function with modifiers to specify particular files to be printed or punched.

Retains (RET) redirected print and punch output on disk or diskette after processing. Also releases (REL) redirected output previously retained. After processing, released files are deleted.

INPUT function cannot be used with PD.

NBURST

Places output writer in nonburst mode. If specified while output writer is processing a file, function does not take effect until file processing is completed.

RETAIN

Retains currently active file in a HOLD condition in spool file after it is processed. The retained file is unavailable for additional processing until released via the BEGIN command. (Otherwise, delete the retained file via the DELETE command.)

RESTART $\begin{bmatrix} ,nnn \\ ,\underline{PAGE},nnnn \\ ,\underline{CARD},nnnn \end{bmatrix}$

Restarts processing of currently active file from a number of pages or cards. If number is not specified, output writer restarts processing from beginning of file. If only *nnn* is entered, file processing is restarted *nnn* pages or cards back from current position of file. If PA or CA is entered with *nnnn*, file is positioned back to page or card identified by *nnnn*.

RESTART cannot be used with PD.

Enter RESTART,*nnn* first if used in conjunction with the DEVICE function.

SD

Provided for debugging purposes only. The message, Enter SPOOL DEBUG COMMAND, requires a reply of LOG, PRINT, RDR, or ALL to print the directories of the various queues of the spool file. When printing completes, enter HALT at the DEBUG command prompt to terminate spool debug or to enter another DEBUG command.

$$\underline{SK}IP \left[, \begin{bmatrix} nnnn \\ \underline{PAGE},nnnn \\ \underline{CA}RD,nnnn \end{bmatrix} \right]$$

Directs output writer to skip forward a specific number (*nnnn*) of pages or cards or to skip forward to a specific page number (PAGE,*nnnn*) or card number (CARD,*nnnn*). After positioning, request is made for another function.

SKIP cannot be used with PD.

<u>ST</u>OP[,<u>PAGE</u>]

Directs output writer to stop processing. If PAGE is omitted, output writer terminates immediately. If PAGE is included, output writer terminates after printing the entire current page.

File being processed is closed, but not deleted. When accessed by another output writer, file is processed from point at which it was closed.

Processing the Spool Log File

Systems that are generated with spooling maintain a job log subfile in the spool LOG file for each job processed in the system. The job log subfile contains the job's messages and job control statements (L records) and, when JOBACCT=YES was included during SYSGEN, the job's accounting (A) records. Spooling also maintains a workstation log subfile in the spool LOG file, provided the CONSOLOG parameter was included during SYSGEN. The workstation log subfile contains a record of all system messages written to and read from the workstation.

As each job or workstation session terminates, its associated job log subfile is closed and usually output to a high-speed printer as soon as the device becomes available. If the system is generated with the accumulate system job and workstation log files option (SYSLOG=YES) or if the operator issues the SET SPL,DUMP command after system initialization, the job and workstation log subfiles are marked as having been printed and then accumulated to allow further processing by user job accounting and bookkeeping programs.

A record of all messages written to and read from the console and workstation is also maintained in the spool LOG file, provided console logs are specified with the CONSOLOG parameter during SYSGEN. Console logs can be printed at any time by the operator and can also be accumulated for future use. They are accumulated when either the SYSGEN parameter RETAINLOG has been specified or the operator enters the SET SPL,CNSLG command with the RETAIN parameter included.

Two programs are provided to assist in spool LOG file processing: the SL$LOG program for system log accumulation and the JOBLOG program for job logs. SL$LOG transfers selected portions of the accumulated job log or console log subfiles from the spool LOG file to a SYSLOG file on disk or tape. After SL$LOG execution, the SYSLOG file is available for processing.

Usually SL$LOG is used to dump the job log subfiles so they can be used as input to the JOBLOG program. The JOBLOG program generates a job accounting report based on the job logs in the SYSLOG file. Since the SL$LOG program may also be used to dump the console log subfiles to SYSLOG, the following steps should be performed in the sequence shown to ensure the integrity of SYSLOG output:

1. Execute the SL$LOG program to dump the accumulated job log records.

2. Execute the JOBLOG program to produce a job accounting report.

3. Execute the SL$LOG program to dump the accumulated console log records.

4. Execute a user-written program to process the console log output.

The SL$LOG program is executed by using the RUN command with a job control stream (named DUMPLOG for disk or DUMPLOGT for tape) supplied by Unisys. The operator also uses the RUN command to execute the JOBLOG program. Using the SYSLOG file as input, JOBLOG calls on the OS/3 independent sort/merge routine to create a sorted SYSLOG output file. After the sorting process is complete, JOBLOG uses the sorted file to produce the accounting report. For a detailed description of SL$LOG program, see the *Spooling and Job Accounting Operating Guide*, 7004 4581.

Using Tape for the Job and Workstation Log SYSLOG File (RUN DUMPLOGT)

$$\underline{RUN}\Delta DUMPLOGT\left[,\left[,D=\left\{\begin{matrix}ACT\\LOG\end{matrix}\right\}\right]\left[,V=\left\{\begin{matrix}vsn\\SYSLOG\end{matrix}\right\}\right]\left[,C=\left\{\begin{matrix}Y\\N\end{matrix}\right\}\right]\right]$$

Establishes SYSLOG file on tape and transfers accumulated job and workstation log records from spool LOG file into SYSLOG.

$D=\left\{\begin{matrix}ACT\\LOG\end{matrix}\right\}$

    Specifies accounting (A) records (ACT) or log (L) and workstation (W and R) records (LOG) that are to be transferred. If omitted, all records are transferred.

$V=\left\{\begin{matrix}vsn\\SYSLOG\end{matrix}\right\}$

    Identifies volume serial number of tape to be used. If omitted, SYSLOG is used.

$C=\left\{\begin{matrix}Y\\N\end{matrix}\right\}$

    Specifies whether checkpoint records are desired. If omitted, checkpoint records are specified.

Using Disk for the Job and Workstation Log SYSLOG File (RUN DUMPLOG)

$$\underline{RUN}\Delta DUMPLOG,,F=ALLOC\left[,D=\left\{\begin{matrix}ACT\\LOG\end{matrix}\right\}\right]$$

Establishes SYSLOG file on disk and transfers accumulated job and workstation log records from spool LOG file into SYSLOG.

F=ALLOC
Specifies SYSLOG file space is allocated on disk.

D= [ACT]
   [LOG]
Specifies accounting (A) records (ACT) or log (L) and workstation (W
and R) records (LOG) are transferred. If omitted, all are transferred.

ng Job and Workstation Log Subfiles to SYSLOG File on Disk
I DUMPLOG)

RUNΔDUMPLOG [, , D= [ACT]]
                   [LOG]

Adds additional accumulated job and workstation log subfiles to existing
SYSLOG file.

D= [ACT]
   [LOG]
Specifies accounting (A) records (ACT) or log (L) and workstation (W
and R) records (LOG) are transferred. If omitted, all are transferred.

tializing Job and Workstation Log SYSLOG File on Disk
I DUMPLOG)

RUNΔDUMPLOG, , F=INIT [, D= [ACT]]
                            [LOG]

Reinitializes (effectively erases) SYSLOG file and transfers new
accumulated job and workstation log subfiles from spool LOG file to
SYSLOG.

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F=INIT
>   Specifies SYSLOG file space is reinitialized on disk.

D= $\begin{bmatrix} ACT \\ LOG \end{bmatrix}$
>   Specifies accounting A records (ACT) or log (L) and workstation (W and R) records (LOG) are transferred. If omitted, all are transferred.

Running JOBLOG Using Tape Input (RUN JBLOGT)

$$\begin{Bmatrix} RUN \\ RV \end{Bmatrix} \Delta JBLOGT \begin{bmatrix} , , V= \begin{bmatrix} vsn \\ SYSLOG \end{bmatrix} , S= \begin{bmatrix} A \\ B \\ C \end{bmatrix} \end{bmatrix}$$

Sorts tape file input to produce job accounting report.

V= $\begin{bmatrix} vsn \\ SYSLOG \end{bmatrix}$
>   Identifies volume serial number of tape containing job accounting file. If omitted, SYSLOG is used.

S= $\begin{bmatrix} A \\ B \\ C \end{bmatrix}$

>   Specifies SORT option. The A option sorts jobs in order submitted; B sorts jobs in accounting number and job name order (default condition), with subtotals taken whenever accounting number and job name sequence changes; C sorts jobs in accounting number and job name order, with subtotals taken whenever accounting number field changes.

ıing JOBLOG Using Disk Input (RUN JBLOG)

RUNΔJBLOG $\left[,,V= \begin{Bmatrix} vsn \\ RES \end{Bmatrix} ,L= \begin{Bmatrix} file\text{-}identifier \\ SYSLOG \end{Bmatrix} ,S= \begin{Bmatrix} A \\ B \\ C \end{Bmatrix} \right]$

Sorts disk file input to produce job accounting report.

V= $\begin{Bmatrix} vsn \\ RES \end{Bmatrix}$

    Identifies volume serial number of disk containing job accounting
    file. If omitted, SYSRES (RES) is used.

L= $\begin{Bmatrix} file\text{-}identifier \\ SYSLOG \end{Bmatrix}$

    Identifies file name of job accounting file. If omitted, SYSLOG is the
    name used.

S= $\begin{Bmatrix} A \\ B \\ C \end{Bmatrix}$

    Specifies SORT option. The A option sorts jobs in order submitted; B
    sorts jobs in accounting number and job name order (default
    condition), with subtotals taken whenever accounting number and
    job name sequence changes; C sorts jobs in accounting number and
    job name order, with subtotals taken whenever accounting number
    field changes.

Using Tape for the Console Log SYSLOG File (RUN DUMPLOGT)

RUNΔDUMPLOGT,,D=CON $\left[,V= \begin{bmatrix} vsn \\ SYSLOG \end{bmatrix} \right] \left[,C= \begin{Bmatrix} Y \\ N \end{Bmatrix} \right]$

Establishes SYSLOG file on tape and transfers accumulated console log
records from spool LOG file into SYSLOG.

D=CON
> Specifies only console log (C) records are transferred.

V= $\begin{bmatrix} vsn \\ SYSLOG \end{bmatrix}$
> Identifies volume serial number of tape to be used. If omitted,
> SYSLOG is used.

C= $\begin{Bmatrix} Y \\ N \end{Bmatrix}$
> Specifies whether checkpoint records are desired. If omitted,
> checkpoint records are specified.

Using Disk for the Console Log SYSLOG File (RUN DUMPLOG)

RUNΔDUMPLOG,,F=ALLOC,D=CON

Establishes SYSLOG file on disk and transfers accumulated console log
records from spool LOG file into SYSLOG.

F=ALLOC
> Specifies SYSLOG file space is allocated on disk.

D=CON
> Specifies console log (C) records only are transferred.

ing Console Log Subfiles to SYSLOG File on Disk (RUN DUMPLOG)

RUNΔDUMPLOG,,D=CON

Adds additional accumulated console log subfiles to existing SYSLOG file.

D=CON
Specifies only console log (C) records are transferred.

itializing Console Log SYSLOG File on Disk (RUN DUMPLOG)

RUNΔDUMPLOG,,F=INIT,D=CON

Reinitializes (effectively erases) SYSLOG file and transfers new accumulated console log subfiles from spool LOG file to SYSLOG.

F=INIT
Specifies SYSLOG file space is reinitialized on disk.

D=CON
Specifies only console log (C) records are transferred.

Section 6
Integrated Communications Access Method

Integrated Communications Access Method (ICAM) Procedures

The ICAM symbiont handles data communications tasks. Each symbiont may contain multiple network definitions (CCAs), and each CCA can handle one or more communications lines. One or more ICAM symbionts can be configured during SYSGEN. Each symbiont satisfies specific communications network requirements. A single ICAM symbiont can be configured to satisfy all communications requirements. You must load the appropriate ICAM symbiont before the programs requiring it can be executed or before interactive services can start for terminals. In addition, when interactive services or global networks are required, you must initiate the running of the global user service task (GUST) after loading ICAM. The ICAM symbiont remains in main storage until GUST is shut down. Then ICAM shuts itself down unless the system operator loaded ICAM with a KEEP operand. In this case, ICAM must be terminated with a CANCEL command.

Loading the ICAM Symbiont (Cn/Mn)

ICAM symbionts are named C1-C9 or M1-M9, and are assigned during SYSGEN. The command format to load ICAM is:

$$\begin{Bmatrix} Cn \\ Mn \end{Bmatrix} \Delta[KEEP]$$

Loads the specified ICAM module to handle the communications task required, where n is a number from 1 to 9. After the module is loaded, the following output message is displayed:

```
ICAM XX.X READY
```

anging the ICAM Name (SET IC)

$$\underline{SET}\Delta IC, \begin{bmatrix} Cn \\ \{Mn\} \\ C? \end{bmatrix}$$

Changes the name of the ICAM symbiont (C1-C9 or M1-M9) that is loaded if
remote batch output has output ready and ICAM is not loaded. C? causes
the system to ask the operator to supply the symbiont name to be used the
next time output is ready and ICAM is not loaded.

tializing and Terminating the Global User Service sk

You must initialize the global user service task (GUST) before starting
interactive services for terminals or before executing user programs
requiring global networks. You initiate the running of the job that executes
the GUST program, ML$$GI, through a console workstation or console
command entry. See your system administrator for the name of the GUST
job to initiate. When global network processing is no longer required for
interactive services at terminals or for user programs, you can enter an
unsolicited message to shut GUST down.

ning the Global User Service Task Job

$\underline{RUN}\Delta$ jobname

Runs the GUST job (*jobname*) to initiate execution of ML$$GI program.

Respond to ML$$GI output messages to provide the information required to
initialize the global network.

Terminating the Global User Service Task Job

```
00Δ⎡Cn⎤ΔGUΔS,network-name
    ⎣Mn⎦
```

Unsolicited message cancels GUST job to end global network processing.

Include name of currently loaded ICAM symbiont (C1-C9 or M1-M9), the 4-character name of active global network (*network-name*).

Directing ICAM Operations

On occasion, you may be required to enter an unsolicited message to mark up or down the lines, terminals, or ports in an ICAM symbiont. The general format for these messages is:

```
00Δ⎡Cn⎤ΔCCΔf,⎡xxxx⎤,nnnn
    ⎣Mn⎦    ⎣ccpp⎦

⎡Cn⎤
⎣Mn⎦
```

    Specifies name of ICAM symbiont (C1-C9 or M1-M9).

cc
    Is a two- to four-character command code for action required.

f
    Is facility type: line (L), port (P), terminal (T).

xxxx
    Is 1- to 4-character line/terminal name defined in label field of LINE or TERM macroinstruction.

ccpp
    Is the 4-character address: *cc* is an input/output microprocessor (IOMP) channel number and *pp* is a single-line communications adapter (SLCA) number.

nnnn
    Is the one- to four-character name of the network specified in the label field of the CCA macroinstruction.

The following are unsolicited messages to ICAM:

```
00Δ┌Cn┐ΔUPΔL,xxxx,nnnn
   └Mn┘
```
 Marks line specified as available (up).

```
00Δ┌Cn┐ΔDOΔL,xxxx,nnnn
   └Mn┘
```
 Marks line specified as unavailable (down).

```
00Δ┌Cn┐ΔUPΔT,xxxx,nnnn
   └Mn┘
```
 Marks terminal specified as available (up).

```
00Δ┌Cn┐ΔDOΔT,xxxx,nnnn
   └Mn┘
```
 Marks terminal specified as unavailable (down) and aborts any current session.

```
00Δ┌Cn┐ΔUPΔP,xxxx,nnnn
   └Mn┘
```
 Marks port specified as available (up).

```
00Δ┌Cn┐ΔDOΔP,xxxx,nnnn
   └Mn┘
```
 Marks port specified as unavailable (down).

```
00Δ┌Cn┐ΔCNΔL,xxxx,nnnn
   └Mn┘
```
 Notifies ICAM that dialing is completed on switched line specified.

```
00Δ┌Cn┐ΔCNΔL,ALL,nnnn
   └Mn┘
```
 Notifies ICAM that dialing is completed on all switched lines.

```
00Δ┌Cn┐ΔSTΔL,llll,cccc
   └Mn┘
```
 Displays status of a communications line (*llll*) in a CCA (*cccc*).

```
00Δ┌Cn┐ΔSTΔL,*ALL,cccc
   └Mn┘
```
 Displays status of all communications lines in a CCA (*cccc*).

00Δ⌈Cn⌉ΔSTΔT,tttt,cccc
   ⌊Mn⌋
     Displays status of a terminal/workstation (*tttt*) in a CCA (*cccc*).

00Δ⌈Cn⌉ΔSTΔU,uuuu,cccc
   ⌊Mn⌋
     Displays status of a LOCAP file (*uuuu*) in a CCA (*cccc*).

00⌈Cn⌉ΔUUΔL,llll,cca-name
  ⌊Mn⌋
     Brings up a switched line as an unattended line.

00⌈Cn⌉ΔUMΔL,llll,cca-name
  ⌊Mn⌋
     Brings up a switched line as a manual dial line.

Entering a Packet-Switched Public Data Network

Packet-switched public data network console keyins have the following
format:

00Δ⌈Cn⌉ΔccccΔnnnn,llll,dddd
   ⌊Mn⌋

⌈Cn⌉
⌊Mn⌋
     Specifies name of ICAM symbiont (C1-C9 or M1-M9).

cccc
     Is one of four command codes (STAT, CONN, DISC, TEST) for
     action required.

nnnn
     Is the 1- to 4-character network name as specified in the CCA
     macroinstruction label field.

llll
 Is the 1- to 4-character label of the VLINE macroinstruction for this
 line.

dddd
 Is the 1- to 4-character label of the PDN macroinstruction that
 identifies the packet-switched public data network affected by this
 keyin.

The following are packet-switched public data network console keyins:

00Δ [Cn] ASTATΔnnnn,llll,dddd
   [Mn]
 Displays the level 2 status of the link on the operator's console.

00Δ [Cn] ACONNΔnnnn,llll,dddd
   [Mn]
 Establishes a connection to the level 2 link.

00Δ [Cn] ADISCΔnnnn,llll,dddd
   [Mn]
 Drops a connection to the level 2 link.

00Δ [Cn] ATESTΔnnnn,llll,dddd
   [Mn]
 Initiates level 2 self-testing procedures.

wnline Loading a Telcon File to Front-End Processor ;P)

Perform the following sequence to downline load a Telcon file to a DCP
front-end processor:

1. Load the ICAM symbiont.

2. Run GUST.

3. Initialize the line over which the DCP load sequence is to occur. (GUST automatically does this unless the line was previously marked down, in which case you must enter an unsolicited command to reinitialize the line.)

4. At the DCP front-end processor, initiate a Telcon load sequence. Refer to the *DCP/OS Operations Reference Manual,* 7831 5702, for information on initiating downline loading from a DCP.

Note: *To avoid reinitializing the line, it is recommended that you start the downline load procedure at the DCP before GUST is executed.*

Downline Loading a Telcon File to Remote Concentrator (DCP)

Perform the following sequence to downline load a Telcon file to a DCP remote concentrator:

1. Load the ICAM symbiont.

2. Run GUST.

3. Initialize the line over which the DCP load sequence is to occur. (GUST automatically does this unless the line was previously marked down, in which case you must enter an unsolicited command to reinitialize the line.)

4. Start the TELRCLD job stream by entering:

    ```
    RV TELRCLD
    ```

    The following message is displayed:

    ```
    ENTER NETWORK NAME, PASSWORD, LOCAP NAME
    ```

    Respond to this message with the network (CCA) name, the password (if any), and the word LOAD (the LOCAP name).

5. At the DCP remote concentrator, initiate a Telcon load sequence. Refer to the *DCP/OS Operations Reference Manual,* 7831 5702, for information on initiating a downline load from a DCP.

6. The TELRCLD job now displays the following messages to indicate the status of the load operation:

    ```
    RCLD Established a Session
    Remote Load of DCPID 156 Started    Load ELT PRCnnn
    Remote Load of DCPID 156 Complete   Load ELT PRCnnn
    ```

7. The TELRCLD job remains in memory after the load is completed. If desired, you can use it to load another remote concentrator. To terminate the TELRCLD job, enter:

    ```
    UNS TELRCLD TERM
    ```

Section 7
System Utility Symbionts

You use the system utility symbiont (SL$$SU) to request and control the performance of many different functions using cards, tapes, disks, and diskettes.

The SU/TU command loads the system utility symbiont. SU and TU can be used interchangeably for all functions. However, we recommend you use TU for tape operations since TU increases the buffer size for all selector channel tapes from 8,189 to 32,767 bytes.

You can include the required function as a parameter with the SU/TU command. A spooling parameter can also be entred with the command, if spooling is configured in your system. When you enter the command alone to load the symbiont, enter the function as a solicited message.

After the symbiont is loaded, control it by responding with solicited messages. Use unsolicited messages only to terminate the symbiont.

ializing the System Utility Symbiont

```
[SU] Δ [function-code]   , [H]
{TU}   {XXX         }      {N}
                            {R}
                            {Y}
```

The 2- or 3-character function codes are described later under the appropriate CARD, TAPE, DISK, or DISKETTE UTILITY FUNCTIONS headings. H specifies output is placed on HOLD before it is printed or punched. N specifies output is not spooled. R specifies output is placed on HOLD after printing or punching. Y specifies output is spooled. When Y is specified or taken as the default condition, the output writer automatically prints or punches any spooled output at the end of each SU function. All possible function codes that are recognized by either symbiont can be displayed on the system console by entering XXX in place of the function code. Following this display, the symbiont requests that you enter the required function code.

When the symbiont is loaded, the following message is displayed:

```
nnΔ SYSTEM UTILITY SYMBIONT LOADED      SUNNNN
```

If a function code was included in the command entry, the symbiont completes the requested function, then requests that you enter another function. If a function code is omitted, the symbiont requests that you enter a function.

The ENTER REQUIRED FUNCTION message is displayed as follows:

Message Display	Operator Reply

(With Spooling)
 	
nn? ENTER REQUIRED FUNCTION AND
    AND SPOOL OPTION [,H,N,R,Y]
    DEFAULT=Y
	nn function-code, $\begin{bmatrix} H \\ N \\ R \\ Y \end{bmatrix}$

If the SPOOL option is incorrectly entered, the message is displayed: nn? IS $\begin{bmatrix} \text{PRINTED} \\ \text{PUNCHED} \end{bmatrix}$ OUTPUT TO BE SPOOLED FROM SU H,N,R,Y	nn $\begin{bmatrix} H \\ N \\ R \\ Y \end{bmatrix}$
(Without Spooling) nn? ENTER REQUIRED FUNCTION	nn function-code

Terminating the System Utility Symbiont

Message Entry	Symbiont Response (Messages)	Description
nn EOJ	nnΔ SYSTEM UTILITY SYMBIONT ENDED	Terminates symbiont. Reply is function request; ENTER REQ FUNCTION
00 $\begin{bmatrix} \text{SU} \\ \text{TU} \end{bmatrix}$ EOJ	nnΔ SYSTEM UTILITY SYMBIONT ENDED	Unsolicited entry used to terminate symbiont immediately (before function is completed)
00 $\begin{bmatrix} \text{SU} \\ \text{TU} \end{bmatrix}$ END	nnΔ ENTER REQ FUNCTION	Unsolicited entry used to terminate only the current function, but not the symbiont

Note: When message replies are entered incorrectly or a reply cannot be honored, the symbiont requests you to reenter the information. If no determination can be made as to why the entry is not accepted, use the unsolicited command entry to terminate either the current function or the symbiont.

Utility Functions

Function Codes

CC
Reproduces cards punched in Hollerith code.

CCB
Reproduces cards punched in binary and Hollerith code.

CCS
Reproduces and resequences source programs.

CT
Writes cards to tape in unblocked format.

CTR
Writes cards to tape in blocked format.

CP
Lists cards.

CH
Lists cards containing compressed mode.

JCP
Punches cards from the system console.

Procedure

To request specific card functions, you must:

1. Enter the SU symbiont.

2. Enter the desired function code.

3. Enter spooling option; otherwise, default is Y. (Applicable if spooling is configured.)

4. If card file is to be read, place it in the card reader designated as the system reader (SYSRDR).

    a. If system reader is not available, the following message is displayed to identify the reader assigned to read the card file:

        `nnΔUSE READER did`   `SUnnnn`

    b. If no card readers are available, the function is aborted and the following message is displayed:

        `nnΔNO READER AVAILABLE`   `SUnnnn`

    c. If no output device is available, the function code is aborted and the following message is displayed:

```
nnΔNO ⎡PUNCH  ⎤AVAILABLE                    SUnnnn
      ⎨TAPE   ⎬
      ⎣PRINTER⎦
```

Note: *All card input files must be terminated by a card with END OF DATA punched into columns 1 through 11.*

Operator Communications

Function Codes	Symbiont Message	Operator Reply
CC	Refer to step 4 of the procedure.	Refer to step 4 of the procedure.
CCB	Refer to step 4 of the procedure.	Refer to step 4 of the procedure.
CCS	Refer to step 4 of the procedure.	Refer to step 4 of the procedure.
CT	nn?CUUMMB OUTPUT TAPE B=BLK CNT	Enter tape unit device address, mode setting, and block count and block count characteristics of the output tape.
	nn?MOUNT NEXT OUTPUT TAPE. REPLY R OR END	Enter END to terminate the CT function. Dismount the unloaded tape, mount next output tape, and then enter R if the function is to continue.
	nn?DOES USER WISH TO PREP THIS TAPE? REPLY YES OR NO (This message issued only if operator did not enter END for previous message.)	Enter N if no tape prep is required; CT function resumes. Enter Y to prep the tape. Tape prep function is activated; CT function resumes when prep is completed.
CTR	nn?BLK FACTOR	Enter blocking factor (1-100 for SU, 1-400 for TU).
	nn?CUUMMB OUTPUT TAPE B=BLK CNT	Enter tape unit device address and mode setting of the output tape.
	nn?OUTPUT EXCEEDS ALLOCATED BUFFER	Reenter the function and blocking factor because the factor supplied exceeded maximum allowed and the function was terminated.
CP	Refer to step 4 of the procedure.	Refer to step 4 of the procedure.

Operator Communications (cont.)

Function Codes	Symbiont Message	Operator Reply
CH	Refer to step 4 of the procedure.	Refer to step 4 of the procedure.
JCP	Refer to step 4 of the procedure.	If 60 or more columns are needed, position cursor under the 0-60 in the scale message and transmit. If having a blank in column 1 or 61 is required, enter a right parenthesis instead of a blank in that column. To terminate the JCP function, enter END and transmit immediately.

Tape Utility Functions

Function Codes

TT
    Copies a tape to another tape.

TH
    Prints a tape in character and hexadecimal format.

THR
    Prints a tape in character, hexadecimal, deblocked format.

TP
    Prints a tape containing only standard characters.

TPR
    Prints a tape in character and deblocked format.

TRS
    Locates a specific record on a tape.

TC
    Punches cards from a tape.

INT
Preps a tape.

FSF
Forward spaces to a specific file.

BSF
Backward spaces to a specific file.

FSR
Forward spaces to a specific record.

BSR
Backward spaces to a specific record.

WTM
Writes tape marks.

REW
Rewinds a tape.

RUN
Rewinds a tape with interlock.

ERG
Erases a portion of a tape.

Procedure

To request specific tape functions, you must:

1. Enter the TU symbiont (or SU symbiont if block size does not exceed 8192 bytes).

2. Enter the desired tape function code.

3. Enter spooling option; otherwise, default is Y. (Applicable if spooling is configured.)

4. Place the input tape on the available tape unit and identify the tape unit to the symbiont.

Identifying Tape Unit to Symbiont (Tape Addressing)

Enter the tape unit identification code in the following format:

cuummb

where:

cuu
　　Is the device address (channel, subchannel, and unit).

mm
　　Is the tape mode setting. (SYSGEN settings are assumed if specification is blank, 00, or omitted.)

b
　　Is the tape block count characteristics. (Block count is not assumed if specification is omitted.)

Operator Communications

Function Codes	Symbiont Message	Operator Reply
TT	nn?CUUMMB - INPUT TAPE B=BLK CNT	Enter tape unit device address, mode setting, and block count characteristics of input tape.
	nn?CUUMMB - OUTPUT TAPE B=BLK CNT	Enter tape unit device address, mode setting, and block count characteristics of output tape.
	nn?#FILES 1-99	Enter number of files or marked files to be copied (1 through 99).
	nn?MOUNT NEXT OUTPUT TAPE. REPLY R OR END	Enter END to terminate the TT function. Dismount the unloaded tape, mount next output tape, then enter R if the function is to continue.
	nnΔSUPPLY VOLUME SERIAL NUMBER FOR NEW OUTPUT TAPE nn?XXXXXX (This message is issued only if operator did not enter END for previous message.)	Enter the volume serial number for the new output tape.
	USER LABEL RESTRICTIONS APPLY. SEE 7004 5190	Informational message. Cautions user that SU/TU does not generate user trailer or header labels for multivolume output in addition to those encountered on input tape.
	nn?END OF VOLUME? Y OR N	Enter Y to write the second marked tape after the file. Enter N if it is not to be written.

Operator Communications (cont.)

Function Codes	Symbiont Message	Operator Reply
TH	nn?CUUMMB - INPUT TAPE B=BLK CNT	Enter tape unit device address, mode setting, and block count characteristics of input tape. If block count is entered, data is considered to begin in position 3, relative to position 0, for a length of blocksize minus 3 bytes.
	nn?#BLKS OR END	Enter END to print entire tape. Enter the number of blocks to be printed if only a specific portion of tape is to be printed. Function is terminated if end-of-file code is detected before specified number of blocks is printed.
THR	nn?CUUMMB - INPUT TAPE B=BLK CNT	Enter tape unit device address, mode setting, and block count characteristics of the input tape.
	nn?#BLKS OR END	Enter END if entire tape is to be printed. Enter the number of blocks to be printed if only a specific portion of the tape is to be printed. Function is terminated if end-of-file code is detected before specified number of blocks is printed.
	nn?LOGICAL REC LNTH	Enter logical record length.
TP	Identical to the TH function	Identical to the TH function except the output is in character format rather than character and hexadecimal format.

Operator Communications (cont.)

Function Codes	Symbiont Message	Operator Reply
TPR	Identical to the THR function	Identical to the THR function except the output is in character format rather than character and hexadecimal format.
TRS	nn?CUUMMB - INPUT TAPE B=BLK CNT	Enter tape unit device address, mode setting, and block count characteristics of the input tape.
	nn?LOGICAL REC LENGTH	Enter (in bytes) the length of the logical record.
	nn?LENGTH ARGUMENT (1-30)	Enter (in bytes) the scan argument (data field) length.
	nn?STARTING DATA POSITION IN REC	Enter the byte position at which the data begins.
	nn?ENTER IN HEX-H, CHAR-C	Enter H if data is hexadecimal or enter C if data is character.
	nn?ENTER 10 BYTES, 1 CHAR PER BYTE	Enter the actual data as requested.
	nn?CONTINUE SCAN? Y/N	Enter Y to continue scan; enter N if scan is to end.
TC	nn?CUUMMB - INPUT TAPE B=BLK CNT	Enter tape unit device address, mode setting, and block count characteristics of the input tape. (The function is terminated when two consecutive tape marks are encountered.)

Operator Communications (cont.)

Function Codes	Symbiont Message	Operator Reply
INT	nn?CUUMMB - OUTPUT TAPE B=BLK CNT	Enter tape unit device address, mode setting, and block count characteristics of the output tape.
	nnΔENTER FILE LABEL nn?ΔXXXXXXXXXXXXXXXXX	Enter VOL1 record (1-6 digits). If less than 6 digits entered, the new volume serial number is left-justified and space-filled on the the right.
	nnΔENTER OWNER ID OR SCRATCH nn?XXXXXXXXXXXXXXXXX	Enter new owner identifier (1-17 characters).
FSF	nn?CUUMM - OUTPUT TAPE	Enter tape unit device address and mode setting of the tape to be spaced forward.
BSF	nn?CUUMM - OUTPUT TAPE	Enter tape unit device address and mode setting of the tape to be spaced backward.
FSR	nn?CUUMM - OUTPUT TAPE	Enter tape unit device address and mode setting of the tape to be spaced forward.
	nn?#BLKS	Enter the number of blocks to be advanced (9999 maximum).
BSR	nn?CUUMM - OUTPUT TAPE	Enter tape unit device address and mode setting of tape to be backspaced.
	nn?#BLKS	Enter number of blocks to be backspaced (9999 maximum).

Operator Communications (cont.)

Function Codes	Symbiont Message	Operator Reply
WTM	nn?CUUMM - OUTPUT TAPE	Enter tape unit device address and mode setting of tape to be marked.
REW	nn?CUUMM - OUTPUT TAPE	Enter tape unit device address and mode setting of tape to be rewound. rewound.
RUN	nn?CUUMM - OUTPUT TAPE	Enter tape unit device address and mode setting of tape (UNISERVO 16 or 20) to be rewound.
ERG	nn?CUUMM - OUTPUT TAPE	Enter tape unit device address and mode setting of the tape to be be erased.

; and Format Label Diskette Utility Functions

Function Codes

DD
> Prints a disk or format label diskette in unblocked format.

DDR
> Prints a disk or format label diskette in deblock format. (Similar to DD function except printing is reformatted to the logical record length entered.)

VTP
> Prints the volume table of contents (VTOC).

SVT
> Prints short-format VTOC file.

AVX
> Displays available extents on console screen.

Procedure

When operating the system utility on disk or format label diskettes, remember that data length on an end-of-file record is in binary zeros.

To request a specific disk or format label diskette function, you must:

1. Place the subject volume on an available disk unit.

2. Enter the SU command.

3. Enter the desired function code.

4. Enter spooling option; otherwise, default is Y. (Applicable if spooling is configured.)

Operator Communications

Function Codes	Symbiont Message	Operator Reply
DD	nn?ENTER DVC ADDRESS	Enter device address of the disk pack or format label diskette to be displayed.
	nn?CCCHH - BEGIN OR FILE-ID	Enter (in decimal) the beginning cylinder (CCC) and head (HH) to be displayed, or the file identifier (1-44 characters) as used on the BL job control statement when the file was created. If you enter less than 44 characters, the file-id is padded with blanks on the right.
	nn?CCCHH - END	Enter the last cylinder (CCC) and the head (HH) to be displayed.
	nn?NO OF TRACKS TO PRINT UP TO 9	If file-id entered, now enter number of tracks to be printed.

Operator Communications (cont.)

Function Codes	Symbiont Message	Operator Reply
DDR	nn?ENTER DVC ADDRESS	Enter device address of the disk pack or format label diskette to be displayed.
	nn?CCCHH - BEGIN OR FILE-ID	Enter (in decimal) the beginning cylinder (CCC) and head (HH) to be displayed, or the file identifier (1-44 characters) as used on the BL job control statement when the file was created. If you enter less than 44 characters, the file-id is padded with blanks on the right.
	nn?CCCHH - END	Enter the last cylinder (CCC) and the head (HH) to be displayed.
	nn?ENTER LOGICAL RECORD LENGTH	Enter the logical record size in decimal to determine print format
	nn?ENTER BLOCKSIZE	Enter the logical block size in decimal (multiple of record size)
	nn?NO OF TRACKS TO PRINT UP TO 9	If file-id entered, now enter number of tracks to be printed.

continued

Operator Communications (cont.)

Function Codes	Symbiont Message	Operator Reply
VTP	nn?ENTER DVC/VSN, DI, ALL, FILE-ID, END, OR EOJ	Enter the volume serial number or the disk unit or the format label diskette device address of the disk pack whose VTOC is to be printed and the particular option desired: DI For a listing of device-only information FILE-ID For a listing of up to 44 characters as used on the LBL statement when the file was created ALL For a full VTOC listing END To terminate the VTP function EOJ To terminate SU
SVT	nn?ENTER DVC OR VSN OR END	Enter the disk unit or the format label diskette device address or the volume serial number of the VTOC to be printed. Otherwise, enter END to terminate the SVT function.
AVX	nn?ENTER DEVICE ADDRESS	Enter the disk unit or the format label diskette device address of the disk pack or the format label diskette whose available extents are to be displayed.

a Set Label Diskette Utility Functions

Function Code

DD
Prints a data set label diskette (single-sided or double-sided) in unblocked format.

DDR
Prints a data set label diskette (single-sided or double-sided) in deblocked format.

VTP
Prints the volume table of contents (VTOC) of a data set label diskette (single-sided or double-sided).

Procedure

To request specific diskette functions, you must:

1. Place subject data set label diskette volume on the available diskette unit.

2. Enter the SU command.

3. Enter the desired function code.

4. Enter spooling option; otherwise, default is Y. (Applicable if spooling is configured.)

Operator Communications

Function Codes	Symbiont Message	Operator Reply
	DD Printing Unblocked Format	
DD Single-sided diskette	nn?ENTER DVC ADDRESS	Enter diskette unit device address of the data set label diskette to be displayed.
	nn?TTRR-BEGIN	Enter (in decimal) beginning track (TT) and sector (RR) to be displayed.
	nn?TTRR-END	Enter (in decimal) last track and sector and sector (RR) to be displayed.
DD Double-sided diskette	nn?ENTER DVC ADDRESS	Enter diskette unit device address of the data set label diskette to be displayed.
	nn?CCCHH-BEGIN	Enter (in decimal) the beginning cylinder (CCC) and head (HH) to be displayed.
	nn?CCCHH-END	Enter (in decimal) the last cylinder (CCC) and the head (HH) to be displayed.
	DDR Printing Deblocked Format	
DDR Single-sided diskette	nn?ENTER DVC ADDRESS	Enter diskette unit device address of the data set label diskette to be displayed.
	nn?TTRR-BEGIN	Enter (in decimal) beginning track (TT) and sector (RR) to be displayed.
	nn?TTRR-END	Enter (in decimal) last track and sector and sector (RR) to be displayed.
	nn?ENTER LOGICAL RECORD LENGTH	Enter (in decimal) the logical record size to determining print format.

Operator Communications (cont.)

Function Codes	Symbiont Message	Operator Reply
DDR Printing Deblocked Format		
DDR Double-sided diskette	nn?ENTER DVC ADDRESS	Enter diskette unit device address of the data set label diskette to be displayed.
	nn?CCCHH-BEGIN	Enter (in decimal) the beginning cylinder (CCC) and head (HH) to be displayed.
	nn?CCCHH-END	Enter the last cylinder (CCC) and the head (HH) to be displayed.
	nn?ENTER LOGICAL RECORD LENGTH	Enter (in decimal) the logical record size to determining print format.
DD Printing VTOC		
DD Single-sided diskette	nn?ENTER DVC ADDRESS	Enter diskette unit device address of the data set label diskette whose VTOC is to be printed.
	nn?TTRR-BEGIN	Enter 0008.
	nn?TTRR-END	Enter 0026.
DD Double-sided diskette	nn?ENTER DVC ADDRESS	Enter diskette unit device address of the data set label diskette whose VTOC is to be printed.
	nn?CCCHH-BEGIN	Enter 00000.
	nn?CCCHH-END	Enter 00001.

Section 8
Interactive Services

Interactive Services Commands

You use interactive services with an extended set of commands and messages to control the interactive system environment. (For a description of all interactive services commands, see the *Interactive Services Operations Guide*, UP-9972. These commands and messages enable you to exercise control over the interactive OS/3, all jobs within the system, all workstation users (local locations), and all terminal users (local and terminal locations).

The interactive services components are loaded automatically whenever required by the system operator and workstation users. Provided ICAM and the global user service task (GUST) are ready, a workstation user's interactive entry or your command loads interactive services for terminal users.

The following extended set of commands is available from the console.

ling Messages to Users (TELL)

```
TELLΔ[ALL     ],'text'
     [user-id]
```

Sends message not requiring a response to a specific workstation or
terminal user, or to all users.

ng Questions of Users (ASK)

```
ASKΔuser-id,'text'
```

Sends message requiring a response to a specific workstation or terminal
user, accepts reply, and displays reply on console screen.

laying System Status (STATUS)

```
STATUSΔ [JOBS            ]
        [FUNCTIONS       ]
        [RESOURCES       ]
        {TERMINALS       }
        [TERMINALS[,user-id]]
        [VOLUMES         ]
        [LIMITS          ]
```

Displays the volumes currently in use; the status of active workstations,
terminals, jobs, and functions; the status of system resources in use; and
system resource management limits. If a partial or complete user-id (one to
six characters) is entered following the TERMINALS parameter, status is
displayed for all terminals that are active with that partial or complete
user-id.

Running Interactive Sessions as Batch Jobs (ENTER)

The ENTER command is used to run a workstation or terminal user interactive session as a batch run. Sessions may be entered from a library file disk, diskette, or the spool file. Output from the session is always directed to a printer. A listing of the session as it was entered, followed by the output it produced, is printed at the conclusion of the session run.

When a batch session on cards is to be spooled, a // DATA job control statement must precede the first session card. The session cards are read into the spool file until a // FIN or another // DATA card is detected.

Starting Interactive Services (IS)

```
ISΔ[REMOTEΔSTART]
```

Used to manually start interactive services after completed interactive services shutdown, or used with remote start to initiate interactive services for terminals when ICAM and GUST are ready and no workstation entry has automatically loaded them.

Displaying Log File (RECALL)

```
RECALLΔ[LASTΔnn           ][,prefix]
       [hh:mm:ss-hh:mm:ss]
```

Displays all or part of your log file. You can recall a number of messages (LAST *nn* parameter) or you can recall the entire log contents for a particular time period (minute (*mm*) and second (*ss*) entries are optional). The optional prefix parameter allows you to recall only those messages that begin with the prefix (up to eight characters).

RECALL only uses available lines on the screen.

fying Bulletin and/or Log Values (SET IS)

```
SETΔIS,┌BULLDEF┐,┌YES┐
       │BULLOVR│ │NO │
       │WLOGDEF│ └   ┘
       └WLOGOVR┘
```

The BULLDEF and WLOGDEF parameters allow you to modify the
bulletin and log default settings in the logon menu. The YES or NO
parameter becomes the default setting.

The BULLOVR and WLOGOVR parameters allow you to specify whether
interactive users can override the bulletin and log default settings in the
logon menu.

ninating User Tasks or Sessions (REMOVE)

```
REMOVEΔ┌task-id┐
       │user-id│
       └ALL    ┘
```

Terminates a single command for a specific task, a specific workstation or
terminal user session, or all user sessions. Following termination, a
cancellation message is displayed on the terminated user's screen.

ractive Services Messages

You use unsolicited messages provided by interactive services for additional
control over the interactive environment. The following extended set of
messages is available only from the console.

ninating User Sessions (REMOVE Message)

```
00ΔREMOVEΔ┌task-id┐
          │user-id│
          └ALL    ┘
```

Terminates specific workstation or terminal user session, all user sessions,
or a single command for a specific task.

Restricting New User Sessions (CLOSE Message)

00ΔISΔCLOSE

Restricts new workstation and terminal user sessions from starting. Does not affect currently active sessions.

Releasing New User Session Restrictions (OPEN Message)

00ΔISΔOPEN

Removes previously entered CLOSE or reverses incomplete SHUTDOWN to permit new workstation and terminal user sessions to start.

Terminating Interactive Services (SHUTDOWN Message)

00ΔISΔSHUTDOWN

Terminates interactive services after all sessions have been completed. OPEN message can stop shutdown in progress; otherwise, IS command restarts terminated interactive services.

Controlling Interactive Services for Terminals (REMOTE Message)

```
00ΔISΔREMOTEΔ⎡START    ⎤
              ⎨SHUTDOWN⎬
              ⎣CANCEL  ⎦
```

Provides additional control over interactive services for terminals. Starts interactive services for terminals after ICAM and GUST are ready, terminates interactive services after last terminal session completes, or terminates interactive services for terminals immediately.

Section 9
Disk Cache Facility

The disk cache facility (DCF) reads into a reserved cache storage area all or a portion of a track being read, eliminating subsequent reads of that same disk area.

CM [SIZ=m] [SEG=n]
    Initializes DCF, if not initialized during IPL.

    m
        is the cache buffer size in 1,024-byte blocks. Valid values are 160 to 8,192. This value overrides the cache buffer size defined at DCF initialization.

    n
        is the cache segment size in 1,024 byte blocks. Valid values are 2 to 24. This value overrides the value specified by the CACHESEGSIZE parameter in SUPGEN.

00 CM RESEG=n
    Resegments cache buffer with a different segment size than was allocated during DCF initialization.

00 CM REMOVE dvc# (,dvc#,...dvc#)
    Removes specified drive from cache.

00 CM ACTIVATE dvc# (,dvc#,...,dvc#)
    Activates specified drive to cache.

00 CM SHUTDOWN
Removes DCF from the system.

00 CM STA
Displays DCF statistics.

00 CM STARES
Displays DCF statistics and resets all counters maintained by DCF.

00 CM STATIME=n
Displays DCF statistics every n minutes. Valid values are 1 through 999 minutes.

00 CM STARESTIME=n
Displays DCF statistics and resets all counters, except disk stat counters, every n minutes. Valid values are 1 through 999 minutes.

00 CM STADISK=did
Displays DCF statistics for the specified disk.

00 CM STARESDISK=did
Displays DCF statistics and resets all counters maintained by DCF for the specified disk.

00 CM TIMER=OFF
Turns off timer statistics set by STATIME or STARESTIME.

Section 10
Error Data Handling

Use the following information and procedures to report hardware and software errors and to send error data to the Unisys support center. Telephone calls to the support center should be made by the system administrator or another authorized person.

Customers in the continental United States can call: **1-800-328-0440**

International customers should contact their Unisys subsidiary.

Note: *It is important to call as soon as possible after you encounter a problem so that you can save needed information by using appropriate dump procedures.*

What to Do before Calling the Support Center

Before making your telephone call, consult all available documentation, such as:

- Programming or operating guides and reference manuals

- System messages manual

- Software release announcements (SRAs)

These manuals may answer your questions, or provide you with a solution to your problem.

When you do call, be prepared to provide the following types of information:

- Your name, telephone number, and the name of your company

- Your software release level

- Your SMP level and SMCs beyond your SMP level

- SYSGEN, ICAM, and IMS generation information

- Console log data and any error messages

en You Call

When you call the support center in the continental United States, you are prompted for a call routing code and other preliminary routing information. If you use a push-button telephone, enter the requested codes by pushing the appropriate buttons on the telephone. (Calls from rotary phones are automatically intercepted by a receptionist.)

When prompted, enter the codes that identify the model of your System 80 and whether you need hardware or software support.

After this preliminary information is entered, a receptionist will verify your service entitlement and then direct your call to the appropriate support center specialist.

User Communication Form

The User Communication Form (UCF) is the Unisys form used to record the information needed to correct a problem. UCFs are created electronically by support center representatives.

When you call the support center with a problem that has not already been reported, the support representative creates a UCF by using the information you provide on the telephone. The completed UCF is routed to the OS/3 development center for analysis and resolution.

When the UCF is created, it is assigned an authorization number. Refer to this number whenever you call to ask about that problem or to check on the current status of your UCF.

If you are requested to send additional (support) material to the support center, send it to:

> Unisys Corporation
> OS/3 Systems Development
> 2476 Swedesford Road
> Paoli, PA. USA 19301-0203
> Attention: UCF Coordinator

Sending Error Log Data

Use the following procedure to send error data to the Unisys support center.

1. Power on modem, if not already powered on.

2. Press the **ESC** and **C** keys to display the configuration frame.

3. Press the **E** and then the **XMIT** keys to display the configuration select frame.

4. Key in **SCP** and then press the **XMIT** key to enter the first part of the user ID.

5. Key in **J3280404** and press **XMIT** key to enter second part of the user ID.

6. Key in **U0** and press **XMIT** key to establish modem as remote facility.

7. Key in **Z1** and press **XMIT** key to set baud rate at 1200 bps (**Z0** for 300 bps).

8. Press the **N** and then **XMIT** keys to turn the remote console on.

9. Key in **M1** and press **XMIT** key to place console in master-master mode.

10. Press the **HS** and **TLK** switches on modem (MC indicator lights).

11. Call support center personnel (**1-800-328-0440**).

12. Enter 1 to complete the call at the prompt.

13. Enter your 3-digit prompt (system) code **050**.

14. Enter 1 for hardware or **2** for software at the prompt.

15. Support center personnel will guide you through the remote session.

16. Support center personnel will terminate the session.

17. After session is terminated, return the console to system mode and turn off the modem as follows:

    - Press the **ESC** and **C** keys to display the configuration frame.

    - Press **E** and then the **XMIT** key to display the configuration select frame.

    - Enter **M0** and then press the **XMIT** key to return to system mode.

    - Press **O** and then press the **XMIT** key to turn the modem off.

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