

z/OS
2.5

JES3 Commands



Note

Before using this information and the product it supports, read the information in [“Notices” on page 429](#).

This edition applies to Version 2 Release 5 of z/OS® (5650-ZOS) and to all subsequent releases and modifications until otherwise indicated in new editions.

Last updated: 2021-09-30

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About this document

This document supports z/OS (5650-ZOS). This document is intended for any JES3 complex that runs z/OS MVS.

This document provides some general information about JES3 and documents the commands used to operate JES3.

Who should use this document

This document is intended for any JES3 complex that runs on z/OS. It should be used by JES3 operations staff and system programmers, or by anyone who is responsible for controlling JES3 and the input, job scheduling, networking, and output functions that JES3 provides for z/OS.

Where to find more information

The following table lists documents that contain information related to the information provided in this document.

When this document references information in other documents, the shortened version of the document title is used. The following table shows the complete titles and order numbers of the documents that you might need while you are using this document.

Most licensed documents were declassified in OS/390® V2R4 and are now included on the z/OS Online Library Collection, SKT2T-6700. The remaining licensed documents appear in unencrypted BookManager® softcopy and PDF form on the z/OS Licensed Product Library, LK2T-2499.

Full Title	Order Number
<i>z/OS TSO/E Command Reference</i>	SA32-0975
<i>z/OS Security Server RACF Security Administrator's Guide</i>	SA23-2289
<i>Advanced communications function for VTAM version 2 programming</i>	SC27-0611
<i>DITTO/ESA User's Guide and Reference</i>	SH19-8221
<i>z/OS MVS Using the Functional Subsystem Interface</i>	SC28-1911
<i>MVS/BDT: Initialization and Network Definitions</i>	SC28-1314
<i>MVS/BDT: Operator's Guide</i>	SC28-1322
<i>MVS/BDT: Transaction and Command Reference</i>	SC23-0228
<i>VTAM Network Operating Procedures</i>	SC38-0273
<i>IBM 3290 Information Panel Description and Reference</i>	SC23-6155
<i>Operator's Library: OS/VS2 TCAM Level 10</i>	GC30-3037
<i>Operator's Library: OS/VS2 Remote Terminals (JES3)</i>	GC38-0228
<i>IBM 3270 Information Display System 3278 Display Station Operator's Guide</i>	GA27-2890
<i>IBM 3270 Information Display System 3279 Color Display Station Operator's Guide</i>	GA33-3057
<i>Operator's Library: System/370 Model 168 Operating Procedures</i>	GC38-0030
<i>Operator's Library: System/370 Model 158 Operating Procedures</i>	GC38-0025
<i>Operator's Library: System/370 Model 165 Operating Procedures</i>	GA22-6969

Full Title	Order Number
<i>Operator's Library: System/370 Model 155 Operating Procedures</i>	GA22-6966
<i>RSCS Networking Operator's Manual</i>	SH24-5005

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To help us better process your submission, include the following information:

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- The section title of the specific information to which your comment relates
- The text of your comment.

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- Contact your IBM service representative.
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Summary of changes

This information includes terminology, maintenance, and editorial changes. Technical changes or additions to the text and illustrations for the current edition are indicated by a vertical line to the left of the change.

Note: IBM z/OS policy for the integration of service information into the z/OS product documentation library is documented on the z/OS Internet Library under [IBM z/OS Product Documentation Update Policy \(www-01.ibm.com/servers/resourcelink/svc00100.nsf/pages/ibm-zos-doc-update-policy?OpenDocument\)](http://www-01.ibm.com/servers/resourcelink/svc00100.nsf/pages/ibm-zos-doc-update-policy?OpenDocument).

Summary of changes for z/OS JES3 Commands for Version 2 Release 5 (V2R5)

The following content is new, changed, or no longer included in V2R5.

New

The following content is new.

- None

Changed

The following content is changed.

- None

Deleted

The following content was deleted.

- None

Summary of changes for z/OS Version 2 Release 4 (V2R4)

This information contains no technical changes for this release.

Summary of changes for z/OS Version 2 Release 3 (V2R3)

The following changes are made for z/OS Version 2 Release 3 (V2R3).

New

- The Examples section of “[Displaying job classes *INQUIRY,C=class](#)” on page 218 and the Syntax and Parameters sections of “[Changing JES3 job class characteristics *MODIFY,C=class](#)” on page 277 has added information about GDGBIAS.
- With APAR OA48349, the SECURE= parameter is added to the *MODIFY,NETSERV= command. See “[Modifying a TCP/IP/NJE Network Server *MODIFY,NETSERV=](#)” on page 301 for more information.
- With APAR OA49166, the X parameter is updated. See “[Displaying the status of a specific job *INQUIRY,J](#)” on page 228 for more information.
- With APAR OA49166, the PRECHECK and VFYPATH parameters are added. See “[Displaying the status of nodes *INQUIRY,NJE](#)” on page 239 and “[Changing network and communications settings *MODIFY,NJE](#)” on page 306 for more information.

- TGM is added. See [“Using dump core *START,DC” on page 379](#) for more information.

Changed

- Modified the *MODIFY,U command. For details, see [“Changing job output *MODIFY,U” on page 334](#).

Chapter 1. Introduction

Multiple virtual storage (MVS™) uses the Job Entry Subsystem 3 (JES3) portion of MVS/System Product - JES3 to control the input, processing, and output of jobs. JES3 services the job processing requirements of one to 32 physically connected MVS processors called **mains**. Viewed as a whole, the one- to 32-main environment serviced by JES3 is called a **complex**.

JES3 has its own private address space in each of the mains in the complex. One main, the JES3 **global main**, is in control of the entire complex. There must be a global main; if there is only one main in the complex, that main is the global. In a complex with more than one main, the other mains in which JES3 resides are called **local mains**. There can be as many as 31 local mains. JES3 is designed so that if the global fails, any properly-configured local within the complex can assume the function of the global through a process called dynamic system interchange (DSI). [Figure 1 on page 1](#) illustrates the basic structure of a JES3 complex.

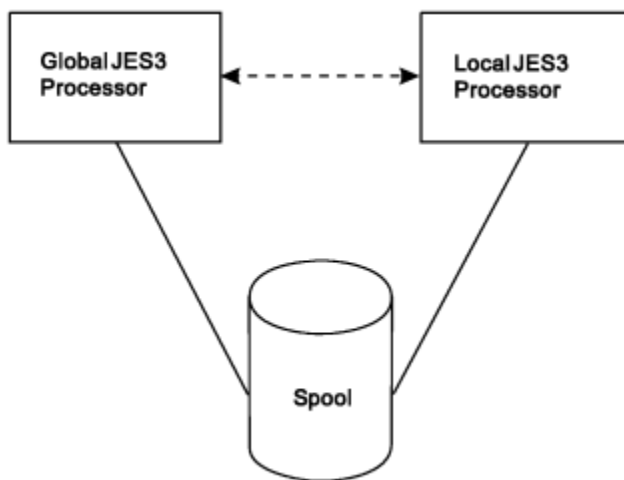


Figure 1. Basic structure of a JES3 complex

You control MVS and JES3 through the **operator's console**. You can use a display console, such as the IBM 32xx series as an operator's console.

You use **commands** to control the processors and system resources. This topic describes the commands you use to control the JES3 portion of the operating system. For a complete description of MVS commands, see [z/OS MVS System Commands](#).

JES3 displays **messages** to the operator console in response to either system activity or in response to an operator command such as an *INQUIRY or *MODIFY request.

The JES3 complex

To the operator and to jobs, the JES3 complex appears as a single system, even though it can comprise of several separate and independently-operated systems.

The installation can physically separate the operational functions (card input/output, printing, and tape setup) by locating operator consoles in different physical areas. For example, the card reader/punches and printers can be located in the job dispatching area, mountable input/output devices can be placed in an area that is convenient to the tape and disk library, and an operator console can be placed at the tape or disk librarian's desk to issue library volume requests. [Figure 2 on page 2](#) diagrams a typical JES3 complex with mains, unit-record and direct-access devices, and teleprocessing equipment.

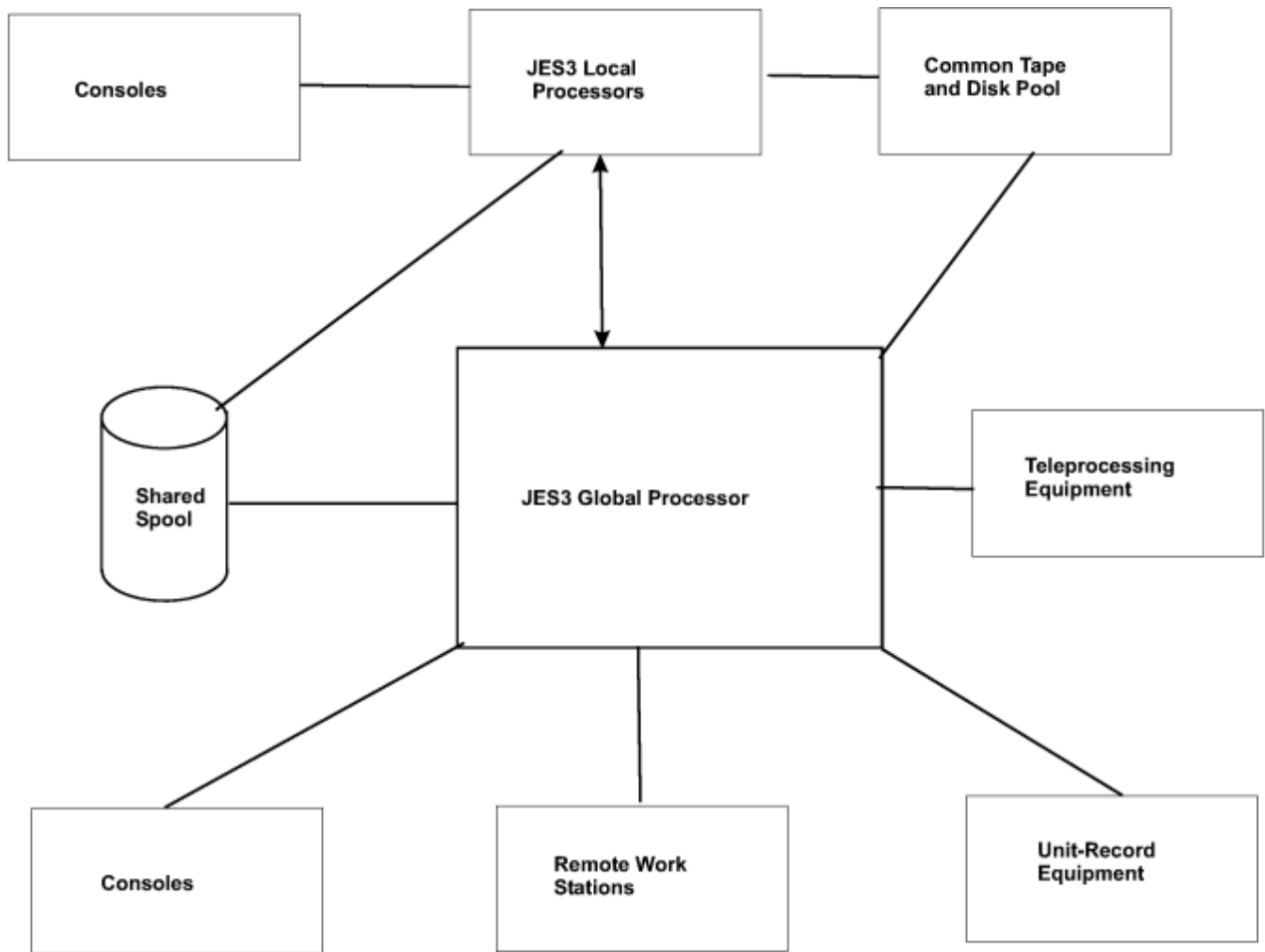


Figure 2. Typical JES3 complex

Job flow in a JES3 environment

Each job that JES3 manages passes through a number of phases. The global manages and controls all phases except execution. The job can run on the global or on a local running under the MVS Base Control Program. Figure 3 on page 3 illustrates the phases through which a job flows in a JES3 complex. Following the figure is a description of each phase.

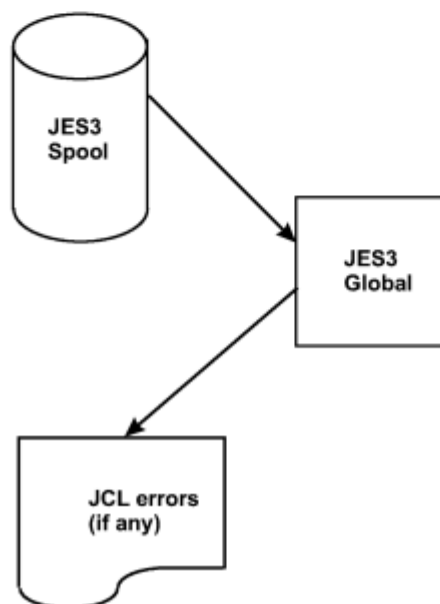
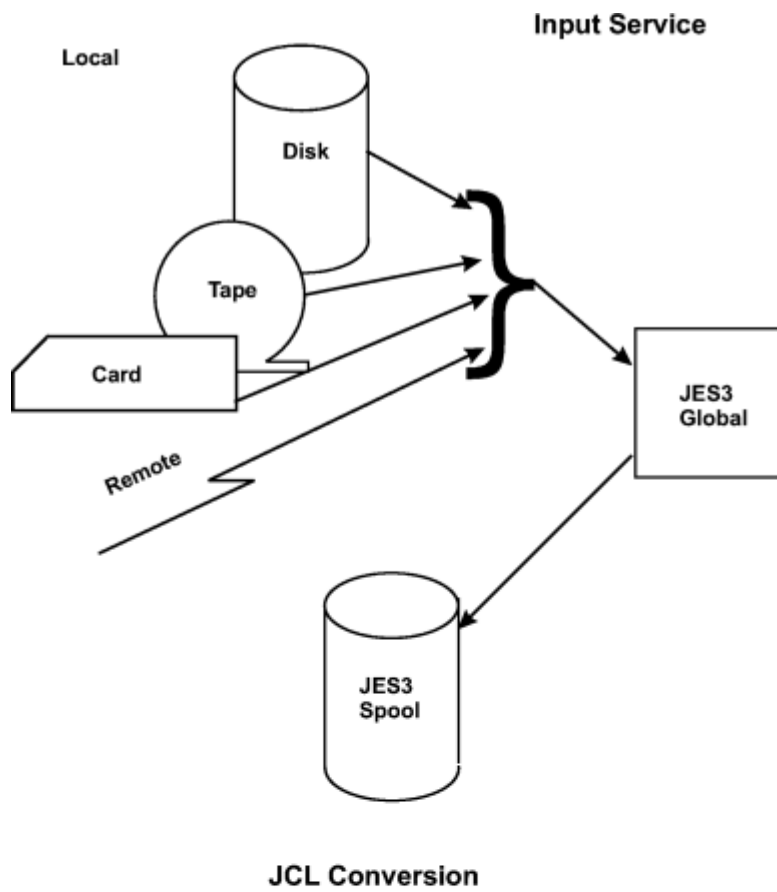


Figure 3. Job Flow (Part 1 of 2)

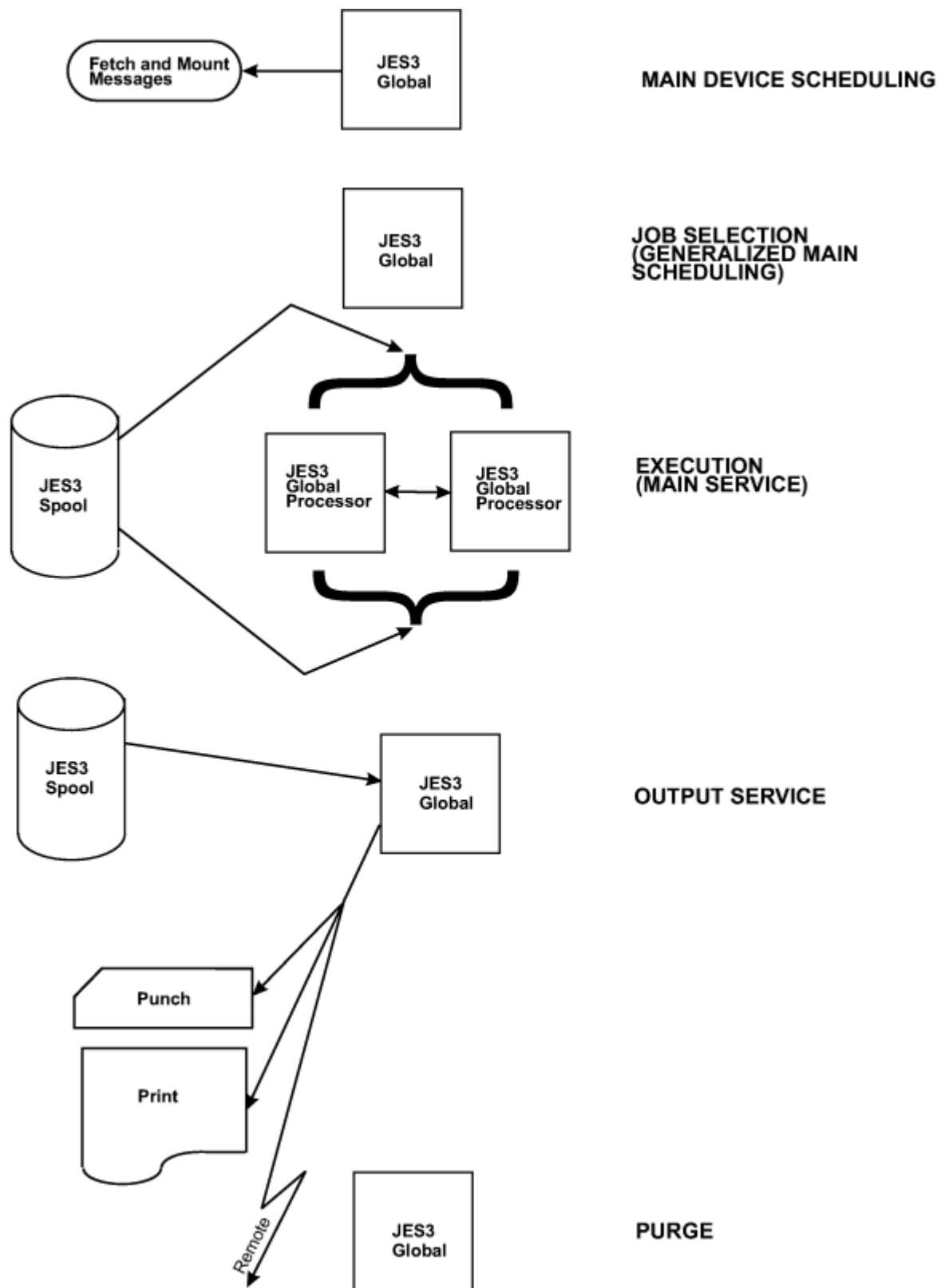


Figure 4. Job Flow (Part 2 of 2)

Input service

JES3 initially reads all jobs into the global and assigns, to each job, a unique JES3 job number from the available job number pool. Jobs can be submitted from a locally attached tape, disk, or card reader.

In addition, jobs can be submitted from remote job processing (RJP) workstations, time-sharing option (TSO/E) terminals, other systems in a job entry network, or by the internal reader.

START and MOUNT commands and TSO/E LOGONs cause jobs to be started from predefined procedures. Input service processes the JCL created for these jobs in the same manner as any other standard job.

Jobs initially placed on direct-access storage devices (DASD) and subsequently analyzed by JES3 input service are placed on the JES3 spool.

JCL conversion

JES3 chooses the address space where it converts the job's JCL. The selected address space then reads the job's JCL from spool and converts and interprets the JCL. During this processing, JES3 flushes any job with JCL errors and determines the job-referenced data sets that require volume mounting. JES3 passes the information about the required resources to the JES3 main device scheduler (MDS) if a job requires devices, volumes or data sets.

Main device scheduling

MDS ensures that resources (devices, volumes, and data sets) needed by the job are allocated before the job processes. MDS sends “fetch” messages to the tape and disk libraries and “mount” messages to the setup operators to mount the volumes needed.

Job selection

JES3 schedules the job for processing based on specifications determined by the installation.

Processing (main service)

Jobs can run on the global or a local. MVS controls the job during this phase. During processing, output generated by the job is typically written to the JES3 spool.

Output service

Once processing is complete, JES3 processes the job's output data from the JES3 spool. Output data sets are printed and punched by JES3 output service when an available device matches the data set's requirements, such as forms, carriage forms control buffer (FCB), and train. JES3 output service informs the operator of any setup requirements of the data sets. The devices involved can be either local or remote, as defined by the job.

Purge

After output processing is complete, the purge function releases all spool space associated with the completed job.

Remote job processing

Remote job processing (RJP) permits the use of geographically dispersed terminals for job input and output. If standard job routing is used, JES3 automatically replaces the conventional printing and punching with transmission to the appropriate output device. The output from remotely-submitted jobs can be returned to any terminal specified by the submitter or to the central location. RJP includes support of both binary synchronous communications (BSC) devices and certain systems network architecture (SNA) devices.

JES3 networking

JES3 networking permits a JES3 complex to become part of a job entry network that can include other eligible networking systems, such as JES2, VM/RSCS and VSE/POWER systems, as well as other JES3 complexes.

You can use JES3 networking to send, receive, process, and reroute jobs, commands, messages and job output (SYSOUT) using one of the three protocols:

1. Systems network architecture/network job entry (SNA/NJE)
2. Binary synchronous communications/network job entry (BSC/NJE)
3. Transmission Control Protocol/Internet Protocol/network job entry (TCP/IP/NJE).

About consoles

Consoles are devices that you use to enter commands and receive messages from JES3, MVS and application programs. Consoles fall into one of the following classes:

- Multiple console support (MCS) consoles
- Remote job processing (RJP) consoles

MCS consoles are devices that you can physically attach to global or local processors. These consoles allow you to control the sysplex. See [z/OS JES3 Diagnosis](#) for information about MCS consoles in a sysplex environment.

RJP consoles are devices that you attach to the JES3 global as part of a remote workstation using telecommunications lines. RJP permits you to submit jobs and receive output at workstations that can reside at some distance from your installation.

See [z/OS JES3 Initialization and Tuning Reference](#) for more information about defining RJP consoles.

Console configuration in a JES3 complex

Consoles have certain capabilities and limitations, depending on how you define them. Figure 5 on page 7 presents an example of a console configuration in a JES3 complex. The characteristics of JES3 RJP consoles are defined during JES3 initialization with the CONSOLE initialization statement. The characteristics of MCS consoles are defined during MVS initialization with the CONSOLE statement in the CONSOLxx member of SYS1.PARMLIB. These characteristics include:

- The console's authority level which determines what types of commands are allowed to be used at that console.
- Its message destination which indicates the categories of messages to be routed to that console.

(See Chapter 4, “Controlling consoles, commands, and message traffic,” on page 67, and “JES3 destination classes and MVS routing codes” on page 75 for commands you can use to change these characteristics.)

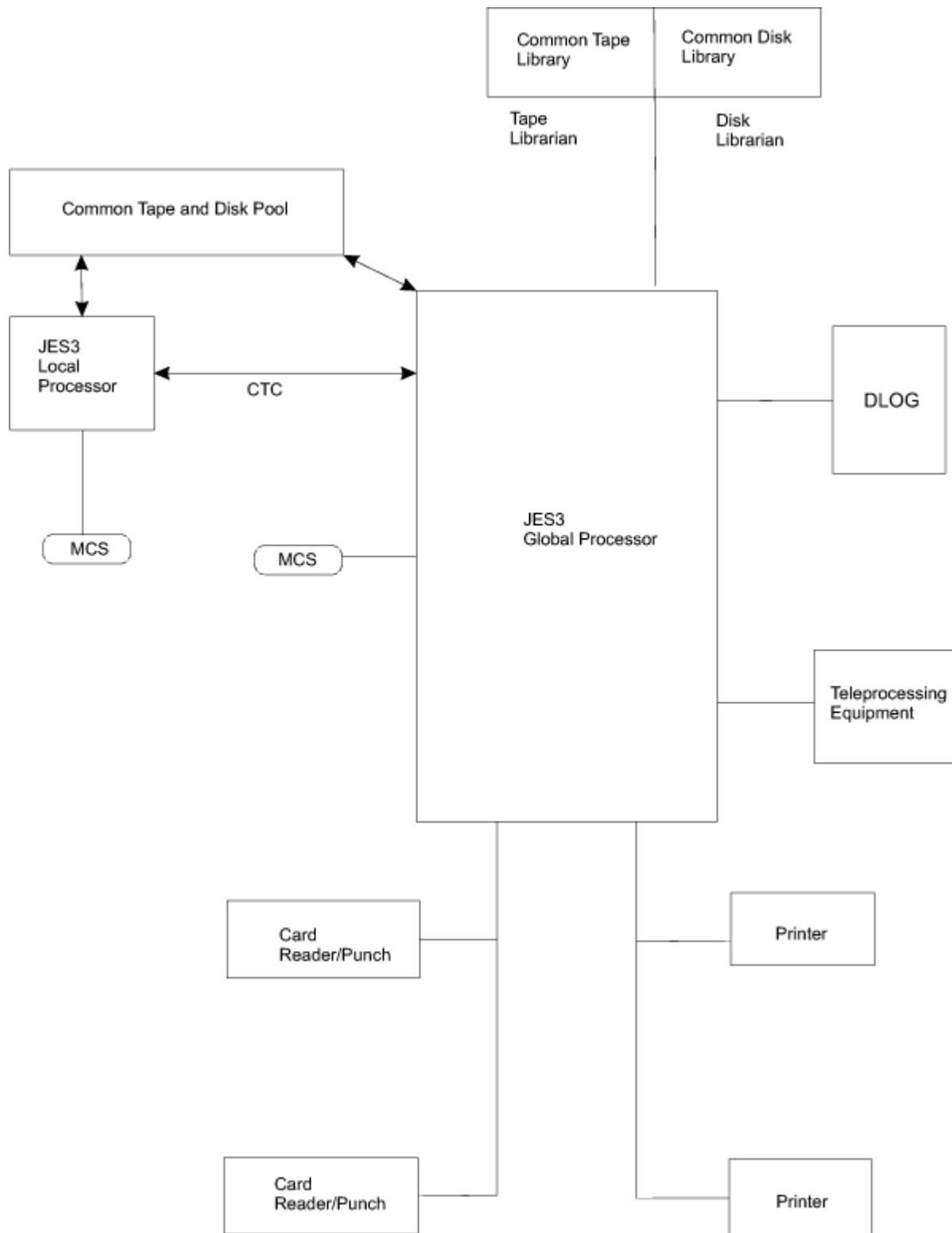


Figure 5. JES3 Installation with Function-Related Consoles

About commands

Commands are requests you make to the system. You can use commands to control devices, to change specifications previously made to the system, or to display information about the operator's console.

The following table list all JES3 commands and their functions.

Table 1. JES3 Commands

Name	Function	Description
*CALL,CR	Calling a Card Reader	Invokes the card reader support function. Can be done automatically on a programmable work station.
*CALL,DC	Calling DC OUT	Invokes the dump core DSP. Can also specify device to receive dump core output.
*CALL,DEADLINE	Recalling Deadline Scheduling	Reinstates the DEADLINE DSP after a *CANCEL,DEADLINE command is issued.
*CALL,DISPDJC	Displaying DJC Network (DISPDJC)	*CALL,DISPDJC Displaying DJC Network (DISPDJC) Displays the status of a dependent job control network on a printer.
*CALL,DISPLAY	Displaying Info About the JES3 Job Queue	Displays info about jobs in JES3 job queue. Obtains diagnostic info from associated JES3 control blocks.
*CALL,DJ	Calling the DJ Facility to Dump Jobs or Restore Jobs	*CALL,DJ,OUT= dumps jobs out to tape. *CALL,DJ,IN= restores jobs from tape.
*CALL,DR	Calling a Disk Reader	Initiates reading of jobs from a DASD.
*CALL,DSI	Dynamic System Interchange	Allows JES3 local main to assume the role of JES3 global during error on global or for complex reconfiguration.
*CALL,dspname	Specifying Account Information	Allows job accounting info to be included with output associated with a callable DSP.
*CALL,IC	Starting Iteration Count DSP	Invokes the iteration count DSP.
*CALL,JESNEWS	Calling JESNEWS	Invokes the JESNEWS DSP; must be done before creating or adding to a JESNEWS data set.
*CALL,JMF	Invoking JMF	Invokes JMF facility and can generate reports for several activities and data functions.
*CALL,MONITOR	Invoking the Monitor DSP	Invokes the monitor DSP to examine a resource or queue.
*CALL,NJE	Starting Communication on a BSC/NJE Line	Starts communication on a networking line that directly connects computer to remote node, can start additional lines as needed.
*CALL,NJECONS	Starting Networking Console Support	Starts networking console support.
*CALL,NJERDR	Starting a SNA/NJE Reader (NJERDR DSP)	Starts an NJE reader.
*CALL,NJEROUT	Rerouting Network Jobs To Another Destination	Reroutes a network job to a remote location or back to its original destination. Output can be rerouted to VM userid or RJP workstation.
*CALL,RJP	Activating BSC RJP	Activates BSC RJP. Returns message IAT7500 when operational.

<i>Table 1. JES3 Commands (continued)</i>		
Name	Function	Description
*CALL,RJPSNPS	Invoking the RJPSNPS Facility	Obtains information for lines that connect RJP work stations to the main.
*CALL SNARJP	Activating SNA RJP	Activates SNA RJP. Returns message IAT2801 when operational.
*CALL TCP	Starting a TCP/IP/NJE network server	Starts a Network Server address space (Netserv) for TCP/IP/NJE.
*CALL,TR	Calling a Tape Reader	Invokes a tape reading. Issues message specifying tape unit. *START will begin reading after device is ready.
*CALL,VARYL	VARYL Dynamic Support Program	Unassigns an IBM 3480 or 3490 tape drive from JES3 local domains.
*CALL,WTR	Calling a Hot Writer	Invokes a hot writer that will drive a selected output device or a device chosen by JES3.
*CANCEL,CR	Halting a Card Reader	Immediately halts card reading. Cards in hopper not processed.
*CANCEL,DC	Canceling DC	Stops the dump core (DC) DSP.
*CANCEL,DEADLINE	Stopping Deadline Scheduling	Stops the DEADLINE DSP. The DEADLINE DSP is called automatically when the next job with deadline scheduling is read in.
*CANCEL,devname	Canceling the Current Activity	Cancels the setting up of a device for a data set or the processing of a data set.
*CANCEL,DJ	Canceling a DJ DSP	Stops a dump job (DJ) DSP at any time. Must also cancel current DJ DSP (or invoke a new one) if you want to switch nodes.
*CANCEL,DR	Halting a Disk Reader	Halts disk reading immediately. If used on a hot reader with no included parameters, input halted but not deactivated.
*CANCEL,DSI	Canceling Dynamic System Interchange	Cancels JES3 ability for a local main to assume the role of JES3 global in a catastrophic error or for maintenance purposes.
*CANCEL,IC	Canceling IC DSP	Stops the iteration count DSP
*CANCEL,INTRDR	Canceling INTRDR	Stops the specified internal reader from processing jobs in the output service hold queue for that reader.
*CANCEL,JESNEWS	Canceling JESNEWS	Ends the JESNEWS DSP and performs no action with the current JESNEWS data set.
*CANCEL,JMF	Canceling JMF	Cancels the JES3 Monitoring Facility (JMF).
*CANCEL,Iname	Stopping Communication on a BSC/NJE Line	Stops all communication on a networking line as soon as current activity is complete.
*CANCEL,LOCATE	Canceling a Job in Locate Processing	When used with J= parameter, cancels a job that is in locate processing.

Table 1. JES3 Commands (continued)		
Name	Function	Description
*CANCEL,main	Stopping a Specific Job in Execution	Stops execution of an active job on a main. An SVC dump can also be requested.
*CANCEL,MONITOR	Canceling the Monitor DSP	Stops the monitor DSP.
*CANCEL,NJECONS	Stopping Networking Console Support	Stops networking console support.
*CANCEL,NJERDR	Stopping a SNA/NJE Reader (NJERDR DSP)	Stops a NJE reader. JES3 will not process an inbound SNA/NJE network stream unless at least one reader is active.
*CANCEL,NJEROUT	Stopping the NJEROUT DSP	Stops the reroute DSP.
*CANCEL,RJP	Stopping BSC RJP Activity	Stops a BSC RJP session or activity on any line. Can stop activity immediately or as a workstation sign-off.
*CANCEL,RJPSNPS	Canceling RJPSNPS Facility	Stops the RJPSNPS facility. The SNAP facility must be enabled to use the RJPSNPS facility.
*CANCEL,SETUP	Canceling a Job During Setup	Cancels a job currently being processed by main device scheduling (MDS).
*CANCEL,SNARJP	Stopping SNA RJP Activity	Halts the SNA RJP network, a SNA RJP workstation, or processing on a SNA RJP device.
*CANCEL,TCP	Stopping a TCP/IP/NJE socket	Stops the connection on a socket. All active transmission and reception activity is allowed to complete before this command takes effect.
*CANCEL,TR	Halting a Tape Reader	Halts tape reading immediately.
*CANCEL,VARYL	Canceling the VARYL Dynamic Support Program	Unassigns an IBM 3480 tape drive from JES3 local mains. *CANCEL ends the VARYL DSP.
*DUMP	Producing a Dump	Produces an abend dump intentionally.
*FAIL	Failsoft	Diagnoses errors. Determines whether abnormal termination should continue, or if processing can be resumed.
*FREE,con	Stopping RJP Console Messages	Stops output of all messages currently queued for a RJP console at time command is issued.
*INQUIRY,A	Displaying the Status of Active Jobs	Displays status of jobs active or in execution for a : DSP, main, queue, job class, job class group, service class. Gives names for job transmissions.
*INQUIRY,B	Displaying Job Backlog	Displays number of jobs backlogged for : each JES3 function DSP, job class, job class group, service class, terminal group, and main.

<i>Table 1. JES3 Commands (continued)</i>		
Name	Function	Description
*INQUIRY,C	Displaying Buffer Pools	Displays the current status of JSAM and console pool buffers. Includes statistics like current and maximum use counts for these pools.
*INQUIRY,C=class	Displaying Job Classes	Displays information about a job class, such as the group name, spool information, and class limits.
*INQUIRY,D	Displaying RJP Status and Device Status	Displays the status of BSC RJP workstations and lines, SNA RJP workstation devices, JES3 devices, output devices and characteristics.
*INQUIRY,DEST	Displaying Defined Destinations for Inbound NJE SYSOUT	Displays defined destinations for inbound NJE SYSOUT files.
*INQUIRY,F	Displaying Functional Subsystems	Displays attributes, status, information for all FSSs. Max counts and status for C/I service DSPs running in a C/I FSS.
*INQUIRY,G	Displaying GMS Components	Displays status of GMS components of JES3 and the name of the spool partition assigned for a main or all mains.
*INQUIRY,J	Displaying the Status of a Specific Job	Displays names of spool data sets from the job, spool data sets that are in hold, partitions, status, and extended job information.
*INQUIRY,JOBTRACK	Displaying the scope of ENF 70 events	Displays the signal scope of ENF 70 events.
*INQUIRY,L	Displaying Deadline Types	Displays the deadline types defined to the JES3.
*INQUIRY,M	Displaying MVS Routing Codes	Displays the routing information for all routing codes or for the specified route codes on a specified system.
*INQUIRY,MT	Using the Writer Output Multitasking Facility	Displays the status of writer multitasking. Creates the possibility for writer output processing to run in parallel with other JES3 functions on the global.
*INQUIRY,N	Displaying DJC Networks	Displays the status of all active DJC networks.
*INQUIRY,NETSERV	Displaying a TCP/IP/NJE network server	Displays information about a Netserv or all Netservs.
*INQUIRY,NJE	Displaying the Status of Nodes	Displays the status of the networking nodes and communication lines.
*INQUIRY,O	Displaying Information About Consoles	Displays the status of JES3 remote consoles, including name, authority, message depth, switch status, line length, classes received, routing codes.

<i>Table 1. JES3 Commands (continued)</i>		
Name	Function	Description
*INQUIRY,P	Displaying the Status of Jobs of a Specific Priority	Displays the status of jobs of a designated priority.
*INQUIRY,PROCLIB	Displaying the Status of a Procedure Library	Displays whether all procedure library concatenations are enabled or disabled, and the job number of the updating job for a set.
*INQUIRY,Q	Displaying Spool Status	Displays jobs waiting for a DSP, names and status of spool data sets, size and status of partitions, list of jobs, space, defective tracks.
*INQUIRY,S	Displaying the Status of Jobs, Volumes, and Data Sets	Displays the status of jobs currently in setup or the status of volumes and data sets controlled by MDS.
*INQUIRY,SOCKET	Displaying a TCP/IP/NJE socket	Displays information about a socket or all sockets.
*INQUIRY,T	Displaying BSC RJP Communications	Displays sign-on password required for a BSC RJP communications line and line-error statistics.
*INQUIRY,U	Displaying Job Output	Displays JES3 job output; proper "Q=" keyword dictates which output.
*INQUIRY,U,Q=BDT	Displaying SNA/NJE Job Output	Displays info about SNA/NJE network jobs (with appropriate parameters).
*INQUIRY,U,Q=HOLD	Displaying Output Service HOLD Queue	Displays a summary output in the HOLD queue. Command may have a length of 126 characters if permitted by input device.
*INQUIRY,U,Q=WTR	Displaying Output Service WTR Queue	Displays a summary of output in the WTR queue. Command may have a length of 126 characters if permitted by input device.
*INQUIRY,WTO	Displaying WTO Pace-Monitoring Parameters	Displays the WTO pace-monitoring parameters for a specified system.
*INQUIRY,X	Displaying DSP Information and Dump Suppression	Displays dump suppression info, max counts for C/I service DSPs running in global address space, status info, module info.
LOGOFF	Logging Off at a SNA RJP Workstation	Ends an active session between the workstation logical unit and JES3.
LOGON	Logging On at a SNA RJP Workstation	Establishes a connection between JES3 SNARJP and the workstation using parameters specified in the VTAM [®] LOGMODE mode table name.
*MESSAGE,dest	Sending Messages to Other Consoles	Sends message to one or more consoles on the system.
*MESSAGE,nodename	Sending Messages to a Remote Node	Sends a message to an operator at another node.

<i>Table 1. JES3 Commands (continued)</i>		
Name	Function	Description
*MODIFY,C=class	Changing the Spool Partition for a Job Class	Reassigns spool data, switches classes, changes these class limits : SDEPTH, TDEPTH, TLIMIT, MDEPTH, MLIMIT.
*MODIFY,CONFIG	Changing the JES3 Configuration	Makes dynamic configuration changes to JES3.
*MODIFY,DEST	Changing Defined Destinations for Inbound NJE SYSOUT	Adds or deletes defined destinations for NJE SYSOUT, or modifies the type of destination (USERID or DEVICE).
*MODIFY,E	JES3 Event Tracing	Records specific events that occur during JES3 processing. Always records trace ids 28 and 29.
*MODIFY,F	Changing Device Modes and Workload	Modifies FSS attributes, increases or decreases number of C/I service DSPs and JCL statements processed, modifies mode of 3800 Model 3 printer.
*MODIFY,G	Changing GMS Components	Alters the status of the GMS component.
*MODIFY,J	Changing a Job's Status	Holds, releases, runs, cancels jobs. Activates C/I debug processing. Can also change priority, job class, JESMSG LG logging status, service class.
*MODIFY,JOBTRACK	Changing the scope of ENF 70 events	Changing the signal scope of ENF 70 events.
*MODIFY,L	Changing Deadline Specifications	Alters the deadline scheduling specifications defined during system initialization.
*MODIFY,M	Changing MVS Message Routing	Changes the routing of MVS messages associated with a specific processor in JES3 installation. Can route messages to more than one console.
*MODIFY,MT	Using the Writer Output Multitasking Facility	Makes it possible for writer output processing to run in parallel with other JES3 functions on the global.
*MODIFY,N	Changing a DJC Network	Alters the DJC network status.
*MODIFY,NETSERV	Modifying a TCP/IP/NJE network server	Changes an existing Netserv definition.
*MODIFY,NJE	Changing Network and Communications Settings	Resets lines, dynamically adds changes, makes changes to network and communication settings.
*MODIFY,O	Changing Console Information	Activates/deactivates DLOG and the saving of messages, adds or deletes destination classes and routing codes, changes authority levels.
*MODIFY,Q	Holding, Releasing, or Changing Jobs or Spool Data Sets	Holds, releases, changes jobs or spool data sets.

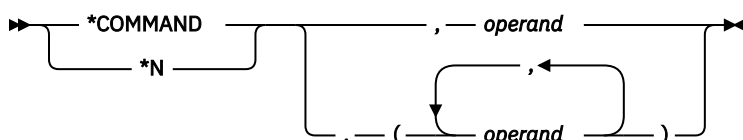
Table 1. JES3 Commands (continued)		
Name	Function	Description
*MODIFY,S	Changing device setup.	Changes the device setup.
*MODIFY,SOCKET	Modifying a TCP/IP/NJE socket	Changes an existing socket definition.
*MODIFY,T	Changing RJP.	Changes RJP.
*MODIFY,U	Changing Output Queue Information	Modifies requirements for work currently on the WTR, HOLD, or the BDT.
*MODIFY,U, Q=	Changing Job Output	Modifies job output in JES3 with proper Q= keyword.
*MODIFY,U Q=BDT	Changing SNA/NJE Job Output	Modifies SNA/NJE network jobs that are on the output service BDT queue.
*MODIFY,U Q=HOLD	Changing the HOLD Queue	Modifies requirements for work currently on the output service hold queue.
*MODIFY,U Q=WTR	Changing the WTR Queue	Modifies requirements for work currently on the output service writer queue.
*MODIFY,V	Placing Devices or Offline to JES3	Makes JES3 and JES3 managed devices available or unavailable for JES3 scheduling.
*MODIFY,W	Changing Device Scheduling	Changes the device scheduling.
*MODIFY,WTO	Changing WTO Pace-Monitoring Parameters	Changes the WTO pace-monitoring parameters for a specific processor in JES3 installation.
*MODIFY,X	Changing DSPs and Modules	Changes DSPs and Modules.
*RESTART,DC	Resetting Traps	Resets all traps. Also posts any wait-type trap that is still in a waiting status.
*RESTART,devname	Restarting Devices	Resumes, respecifies, reassigns, and specifies device-related activities
*RESTART,JESNEWS	Activating JESNEWS Data Set	Begins printing the data set created with the prior *CALL,JESNEWS and *START,JESNEWS commands.
*RESTART,main	Restarting a Job in Execution	Restarts a job that is already in execution.
*RESTART,NJEROUT	Restarting the NJEROUT DSP	Reroutes a job or a job's SYSOUT data to a location other than its original destination, or reroutes the output to a VM userid or RJP workstation.
*RESTART,RJP	Restart BSC RJP Automatically After Stopping	Ends a BSC RJP session or activity on any line and then starts it again. Can end activity immediately or as a workstation sign-off.
*RESTART,RJPSNPS	Suspending the RJPSNPS	Suspends the RJPSNPS facility temporarily.
*RESTART,SETUP	Restarting Allocation	Returns a job to the allocation stage after volume fetch.

Table 1. JES3 Commands (continued)		
Name	Function	Description
*RESTART,SNARJP	Restarting SNA RJP Automatically After Stopping	Ends a SNA RJP workstation and then starts it again. Can be used to end activity immediately or conditionally.
*RETURN	Stopping Local Processors	Ends JES3 with proper password, after allowing running jobs to complete normally.
*RETURN	Stopping the Global Processor	Ends JES3 when all system activity has completed.
*SEND,nodename	Sending Commands to a Remote Node	Sends selected commands to other node for processing.
*START,BDT	Sending MVS/BDT Commands	Sends MVS/BDT commands or transactions to your MVS/BDT subsystem.
*START,CR	Modifying Card Reader Parameters	Modifies the parameters specified by the last *CALL, *START, or *CANCEL.
*START,DC	Using Dump Core	Displays, specifies, alters, prints, activates/deactivates dump core related activities and information.
*START,DEADLINE	Reinitializing Deadline Specifications	Reinitializes the DEADLINE DSP. Unless reinitialized, deadline scheduling will consistently be delayed by time system quiesced or stopped.
*START,DJdevname	Starting or Resetting the DJ Facility	Activates DJ DSPs, using appropriate DJdevnum identifier.
*START,DR	Starting a Disk Reader	Restarts a hot disk reader when it has reached an EOF condition or alters or adds to the parameters specified by the last *CALL, *START, or *CANCEL.
*START,DSI	Starting Dynamic System Interchange	Starts the facility (DSI) that allows a JES3 local main to assume the role of the JES3 global.
*START,IC	Displaying IC	Displays accumulated iteration counts.
*START,JESNEWS	Creating a JESNEWS Data Set	Places one or more lines of data in the JESNEWS data set being created or changed as a result of *CALL,JESNEWS.
*START,JSS	Starting Job Scheduling	Starts job scheduling after JES3 issues message IAT3100, giving notification that initialization processing on the global is complete.
*START,lname	Controlling an Active BSC/NJE Line	Changes the type of communication activity that can take place on an active networking line, and controls log tracing activity.
*START,main	Processor Connect Recovery	Recovers processor connection.
*START,MONITOR	Modifying or Displaying the Monitoring Parameters	Modifies or displays the monitoring parameters.

Table 1. JES3 Commands (continued)		
Name	Function	Description
*START,NJEROUT	Starting the NJEROUT DSP	Reroute a job or a job's SYSOUT data to a different location. Output can be sent to a VM userid or RJP workstation.
*START,RJP	Starting a BSC RJP Line	Starts a BSC RJP line not started during BSC RJP initialization.
*START,RJPSNPS	Starting RJPSNPS	Resumes recording of the RJPSNPS facility. RJPLINE should be enabled.
*START,SETUP	Starting Manual Allocation	Allows a job to proceed to allocation processing if manual allocation was already specified.
*START,SNARJP	Using the *START,SNARJP Command	Allows JES3 to accept LOGONs from a specified workstation. Must be used when too many incorrect password attempts have been made or *CANCEL,SNARJP,T= has been issued.
*START,TCP	Starting a TCP/IP/NJE socket, or Starting all sockets to a node	Starts a socket under a Netserv, in order to begin communication with a remote node with TCP/IP protocol, or starts all sockets to a particular node in order to begin communication with that node using TCP/IP protocol.
*START,TR	Starting a Tape Reader	Restarts a hot tape reader when it has reached an EOF condition, or to change parameters from last *CALL, *START, or *CANCEL.
*START,VARYL	VARYL Dynamic Support Program	Unassigns an IBM 3480 or higher tape drive from JES3 local mains.
*START,devname	Starting a Writer	Begins writer activity.
*SWITCH,from	Switching Messages to Another Console	Switches console message from one RJP console to another or stops and starts console message traffic to a specific RJP console.
*TRACE	Controlling GTF for JES3	Invokes GTF to trace message routing in installation.
*VARY	Placing Devices Online or Offline to JES3	Makes JES3 and JES3-managed devices available or unavailable for JES3 scheduling.

Command syntax

You must follow certain rules known as **command syntax** when entering commands. The following diagram explains the different parts of commands and their syntax.



Note: The command can be up to 80 characters long. There are some commands that allow a command length of 126 characters. See [“Command length” on page 21](#) for more information about command length.

See [“How to read syntax diagrams” on page 147](#) for more information about reading JES3 command syntax.

JES3 prefixes

The first element of a command is a prefix that informs JES3 that a command is being entered. A prefix, also known as a synonym, can be defined with either a system scope or with a sysplex scope. A command entered with a sysplex-scope prefix is processed by JES3 on the global processor regardless of the system from which the command was entered. A command entered with a system-scoped prefix is processed by JES3 on the system from which the command was entered. The rules for the prefix are:

- The default JES3 system-scoped command prefix is the character 8.
- The default JES3 sysplex-scoped command prefix is the asterisk (*).
- Your installation may define between 1 and 6 JES3 system-scoped command prefixes by specifying the SYN= keyword on the CONSTD initialization statement.
- Your installation may define between 0 and 6 JES3 sysplex-scoped command prefixes by specifying the PLEXSYN= keyword on the CONSTD initialization statement.
- Each system- or sysplex-scoped command prefix may be between one and eight characters long.
- If your installation has defined additional command prefix characters, your system programmer should tell you what they are and when to use them.
- You must always use a prefix when entering JES3 commands from any console, except RJP workstations, where the prefix is optional.

The asterisk is used as the prefix in the syntax of all commands shown in this document. You can always use the asterisk for JES3 commands on any console.

In addition, JES3 uses an asterisk command prefix in all messages which include JES3 command text. The command prefix which was used at command entry is recorded in the hardcopy log command echo.

Routing JES3 commands to other systems in the sysplex

JES3 commands may be executed on systems other than the global processor, for example, starting JMF on a local processor, or performing a DSI. These commands can be entered in several ways:

- From a console with command association to the target processor, enter the JES3 command using a system-scoped command prefix, for example, 8X JMF.
- To use the ROUTE command to direct the JES3 command to the target processor, use a system-scoped command prefix, for example, ROUTE SY2,8X JMF.
- To use a command prefix that directs commands to the target processor, the sample program IEECMDPF may be used to define each system's name as a sysplex-scoped command prefix. The JES3 command is then issued using that system's command prefix for example, SY2*X JMF. In this case, the JES3 sysplex-scoped command prefix may be used, since prefix processing is only performed once per command.

See [z/OS MVS Planning: Operations](#) for more information on sysplex command routing.

Command

The command itself follows immediately after the identifier. It is the “verb” of your request; that is, it specifies the action to be taken. The rules for the command are:

- Do not leave any blank space or insert any character between the identifier and the command.
- You can enter the command in either uppercase or lowercase letters.

- You can use either the entire command word or, in most cases, substitute a 1-character form.

In this document, the commands are shown in uppercase letters. The 1-character forms appear directly below the command word.

Command operands

Most commands have operands that further define the command. By using these operands, you can make your command very broad or specific in its effect. You could, for example, change the specifications for all jobs at once, or for the jobs in a certain class, or for only one job. The major operand indicates the functional area, device, or job that the command is to affect.

Additional operands are called parameters. There are two types of parameters: keyword parameters and positional parameters. Keyword parameters have an = sign after which you must supply the name or value you want to assign to that parameter. Positional parameters take their meaning and often their order of importance from their position in the command.

The rules for operands are:

- You must use a comma or a single blank space to separate operands from the command and from each other. The comma is always shown in the syntax of commands in this document.
- You must use apostrophes as shown when they appear with an operand ('operand').
- You can enter the operand in either uppercase or lowercase letters. Keywords and parameters are shown in uppercase letters in this document.
- You must substitute the appropriate name or value for the variables shown in lowercase letters, except when defaults are used. (See [Table 2 on page 18](#) for a list of variables used in this document.)
- When an 8 character jobid (JOBxxxxx or Jxxxxxxx) appears in the message, use the numerical characters in the jobid (xxxxx for JOBxxxxx or xxxxxxx for Jxxxxxxx) for the value of the *jobno* variable in commands.
- Some parameters have *default* values; these are values that will be used if you do not specify a value for those parameters. Values that are shown underlined in this document are defaults supplied by IBM. Your installation may have defined defaults for other parameters; your system programmer should tell you about them.
- You can sometimes use more than one value for a parameter.

Variable data in commands

Table 2 on page 18 lists the abbreviations used in this document to represent variable data. The appearance of any of these abbreviations in a command indicates that you can replace the item with the appropriate value:

Table 2. Variable Data Abbreviations	
Abbreviation	Meaning
adr	address
alt	alternate
auth	authority
carr	carriage (FCB) name
class	class
code	code
con	console name
ddd	device number or address
ddn	ddname

Table 2. Variable Data Abbreviations (continued)

Abbreviation	Meaning
den	density
dest	destination
devgroup	device group
devname	device name
devtype	device type
djcnet	DJC network name
dsn	data set name or identifier
dspname	DSP name
extwriter	external writer name
flash-id	flash cartridge ID
form	form name
formdef	FORMDEF
fssname	functional subsystem name
func	function name
group	group name
group-id	group identifier
id	identifier
intrdr	internal reader
ipaddr	IP address
job	job name or job number
jobname	job name
jobno	job number
lab	label name
module	module name
msgdest	message destination
lname	line name
log	login name
lsender	logical sender
main	main name
mem	member name
mmm	number (other than nnn)
name	name
nnn	number
nodename	name of system in network
opt	option
pagedef	PAGEDEF

Table 2. Variable Data Abbreviations (continued)

Abbreviation	Meaning
parms	parameters
pattern	a specific pattern of characters
prty	priority
schen	scheduling environment
ser	serial number
svclass	service class name
spaddr	spool address
spart	spool partition name
sysname	system name
tab	table name
train	band or train (UCS) name
trc	table reference character
type	type
userid	user identification
val	value
vol	volume serial number
wsname	workstation name
xxx	nonspecific data
yyy	nonspecific data (other than xxx)

Command groups

These are the basic JES3 commands and their purposes:

- *INQUIRY commands are used to request information. No action will be taken except that the requested information will be displayed.
- *MODIFY commands are used to change specifications given in jobs or previous commands, or during initialization.
- *CALL, *START, *RESTART, *CANCEL, and *FAIL commands are used to control dynamic support programs (DSPs), such as utilities (calling a card reader, for example).
- *VARY commands and the *MODIFY,V command are used to control devices and other JES3 resources.
- *SWITCH and *FREE commands are used exclusively to control RJP consoles.
- *MESSAGE commands are used to communicate with other consoles and with remote nodes.
- *SEND commands are used to route commands to a remote node.
- *DUMP command is used to take a dump of the JES3 address space.
- *RETURN command is used to end JES3.
- *TRACE command is used to trace certain JES3 events.

Entering commands into the system

You can enter commands into the system in various ways:

- By typing the command on the console, following the syntax already described
- By using the program function keys (PFks) on your console, as described later in this section
- By inserting commands in an input stream (see “Entering commands through the input stream” on page 73 in Chapter 4, “Controlling consoles, commands, and message traffic,” on page 67)
- By automation packages supplied by IBM
- By automation packages supplied by your own installation.

Note: There are many factors that can control the order in which JES3 finishes processing commands. See “Automatic Message Processing” in *z/OS JES3 Initialization and Tuning Guide* for an explanation of these factors.

Predefined commands

Some frequently used commands can be “built in” for you by the system programmer. These predefined commands are assigned to the program function keys (PFks) on the console's keyboard. Some predefined commands are complete; that is, they are entered immediately when you press the program function keys. Others are skeletal commands with blank spaces appearing in them. You must fill the spaces with the appropriate operands. These commands are entered by pressing the ENTER key. See the description of PFkTAB statement in SYS1.PARMLIB.

See *z/OS MVS Initialization and Tuning Reference* for details.

Entering several commands at once

You can enter more than one command on a single line from any MCS or RJP console if your installation has defined a command delimiter. This procedure is called **stacking**. Command stacking allows you to enter a group of JES3 commands up to 126 characters in length, if each command in the stack adheres to its length restriction.

Command length

JES3 supports a maximum of 126 characters for the following commands: *I U, *F U, and *X JMF. All other JES3 commands are limited to a length of 80 characters. See *z/OS MVS System Commands* for information about specifying and using a command delimiter.

About messages

JES3 displays **messages** to the operator console in response to either system activity or in response to an operator command such as an *INQUIRY or *MODIFY request.

Messages are sent to the operator console (and also to the hardcopy medium) by both MVS and JES3, and by operators at other consoles.

Messages can be:

- Warnings about errors or dangerous conditions in the system
- Information about system activity or in response to your command or inquiry

Some messages ask you to respond:

- With a JES3 command
- With an MVS reply command (see “Replying to MVS messages” on page 77)
- By doing something away from the console (for example, mounting a tape or switching devices)

Messages issued by JES3 are documented in the *z/OS JES3 Messages* document.

The types of messages (MVS or JES3 or both) and the categories of messages received at each console are defined during initialization, depending on how each console is to function in the complex. Some of these characteristics can be changed by operator commands (see “JES3 destination classes and MVS routing codes” on page 75).

Message format

JES3 messages appearing on a display console have the following format:

```
hhmmsstp*IATnnnn text
```

The time stamp (hhmmsst) shows the time by hour, minute, second, and tenth of second that the message was issued.

The prefix character (p) is used to alert you to unusual system conditions. The message prefix characters and their values are described below.

- **Blank:** This is a normal output message.
- **Switch character:** This is used to flag messages initially routed to one RJP console but switched to another because of an operator command. The default switch character is a number sign (#).

An asterisk (*) appearing in the next position indicates an action message; operator action is required. See [z/OS JES3 Messages](#) for detailed operator responses to individual messages.

The message serial number (IATnnnn) consists of a component prefix, which is IAT for JES3, and the message number. See [z/OS JES3 Messages](#) for a list of all message prefixes, the issuing components, and the document in which non-JES3 messages are documented.

When an 8 character jobid (JOBxxxxx or Jxxxxxxx) appears in a message and you need to issue a command involving the job in question, use the numerical characters in the jobid (xxxxx for JOBxxxxx or xxxxxxx for Jxxxxxxx) when the command operand is *jobno*.

The JES3 hardcopy log (DLOG) records all communication in the complex, both commands and messages. The DLOG format includes the console destination class for messages, the name of the receiving or issuing console, a date stamp, a time stamp, a prefix symbol (blank for normal messages, * for action messages, + for JES3 input commands, and - for MVS input commands), and the message or command text. Messages recorded by DLOG include both write-to-operator (WTO) messages that appear on the operators' consoles, and write-to-log (WTL) messages that are sent to hardcopy log only. See [z/OS JES3 Messages](#) for more information about the format of messages. See "Messages Sent to Hard-Copy Log in JES3" in [z/OS MVS System Messages, Vol 1 \(ABA-AOM\)](#).

Chapter 2. Starting and restarting JES3

This topic describes the steps required to start and restart JES3. It provides general information about each type of start on a global main and then describes the operator activities for each start. It also describes starting a local main.

JES3 runs as a started task in the MVS environment. Therefore, MVS must be active before you can start JES3. Moreover, JES3 must be active on the global before you can start JES3 on the local mains.

Depending on how your MVS initial program load (IPL) procedures are set up, JES3 can be started automatically or you can start JES3 manually by entering an MVS START command from an operator's console. The manual method allows you to determine if the IPL and system configuration conditions are acceptable before starting JES3. If the JES3 subsystem definition in the IEFSSNxx parmlib member specifies the NOSTART subparameter, JES3 must be started manually. Otherwise JES3 will start automatically. See [z/OS JES3 Initialization and Tuning Reference](#) for more information about JES3 initialization.

Starting JES3 on the global processor

The types of starts and restarts for the global are:

- Cold start
- Warm start
- Warm start with analysis
- Warm start to replace a spool data set
- Warm start with analysis to replace a spool data set
- Hot start with refresh
- Hot start with refresh and analysis
- Hot start
- Hot start with analysis

Another method of starting JES3, dynamic system interchange (DSI), transfers the JES3 global function to a JES3 local main.

You must use a cold start when starting JES3 for the first time. For subsequent starts (restarts), you can use any one of the start types, depending on the circumstances at the time. Thus, the other types of starts are actually restarts. [“Restarting JES3 on the global main” on page 28](#) discusses restart processing and the different types of restarts.

JES3 initialization statements are read as part of cold start, warm start, and hot start with refresh processing. If JES3 detects any error in the initialization statements, it prints an appropriate diagnostic message on the console or in the JES3OUT data set. JES3 ends processing if it cannot recover from the error. In this case, you must notify the system programmer to ensure that the error is corrected before restarting JES3.

JES3 configuration and processing options are specified with the initialization statements. Because many options affect the overall performance of the system, initialization statements must be provided by your system programmer.

Cold start initialization

You use a cold start to start JES3 for the first time. A cold start is also required after a JES3 failure that cannot be corrected by a hot start or a warm start. Occasionally, a cold start must be done to support a specific release of JES3. This can be because of a major design change, modifications to the control block interface, support for new devices, or new features for existing devices. Because all jobs and output data

in the system are lost when you perform a cold start, make an effort to keep the number of cold starts done in your installation to a minimum.

See [Table 3 on page 59](#) for a summary of the characteristics of a cold start.

Effects of cold start

When performing a cold start, all jobs in the system and all output ready for printing or punching are lost; JES3 reinitializes the job and output queues. All jobs must be reentered to be processed.

All functional subsystems are lost when a cold start is performed.

See [Chapter 11, “Dump job facility,” on page 125](#) for aid in recovery.

JES3 procedure and initialization statements for cold start

The following is informational only. For more detailed information about JES3 initialization statements and the cataloged procedure, see [z/OS JES3 Initialization and Tuning Reference](#).

The DD statements in the JES3 cataloged procedure and the DYNALLOC statements in the initialization stream must define all spool data sets you want to include in the system. You do not have to use all the spool data sets you define.

Be sure that at least one checkpoint data set is available to JES3 for initialization. If possible, allocate a second or duplex checkpoint data set on another DASD volume to minimize the impact of any loss. (The operator activities that follow assume that you have allocated two checkpoint data sets.)

When starting JES3 for the first time, the initialization statements contain a set of FORMAT statements describing the spool data sets you are using.

During any subsequent cold starts, your system programmer can change the initialization statements as follows:

- Replace FORMAT statements with TRACK statements unless the BUFFER statement contains a change in the BUFSIZE parameter. This saves the time of reformatting all the spool data sets.
- Include additional FORMAT statements if you are using spool data sets that were not used before. (These FORMAT statements should be replaced by TRACK statements for subsequent cold starts or warm starts.)
- Include additional TRACK statements if you are using spool data sets that were not used before but were previously formatted with the same values as those specified for the existing spool data sets.
- Identify any defective tracks in the spool by using BADTRACK initialization statements. This can minimize later I/O errors because JES3 will not allocate space identified by BADTRACK statements. The following information is supplied by JES3 to identify defective tracks:
 - *Message IAT4035* - During spool data set formatting, JES3 issues message IAT4035 identifying defective tracks.
 - *Messages IAT8539 and IAT8547* - JES3 issues these messages in response to an *INQUIRY,Q,BT command, which lists defective tracks. Defective tracks defined during the previous initialization and those tracks that JES3 has detected dynamically are listed. BADTRACK statements for these tracks should be added to the initialization stream before the next restart.
 - *IOERR-OUTPUT* - During normal system processing, JES3 produces spinoff data sets for JOB0 with the title IOERR OUTPUT for every uncorrectable I/O error encountered on a spool data set. If an analysis of IOERR OUTPUT indicates that the error was due to a defective track, your system programmer creates BADTRACK statements from the information contained in the output.

BADTRACK statements are not necessary for a spool data set if the initialization stream includes a FORMAT statement for the data set. FORMAT statements cause JES3 to automatically exclude defective tracks from allocation when they are encountered during spool data set formatting.

Be sure that all spool data sets described in TRACK and FORMAT initialization statements are online during a cold start.

Status of local mains

You always follow a cold start on the global with an IPL of each local main in the complex. You can begin to IPL the local any time after you receive message IAT3100 from the JES3 global. After performing an IPL on a local main, initiate a JES3 local start on the main making sure that all spool data sets available on the global are also available on the local.

See [“Operator activities for global starts” on page 38](#) for a discussion of operator activities in a cold start.

Starting JES3 on each local

You can use the ROUTE command to start JES3 on all the local processors, once JES3 global initialization is complete. For example:

```
ROUTE *OTHER,S JES3
```

Starting JES3 on a local processor

Use a local start to restart JES3 on a local main after a normal shutdown on the local, after JES3 ends because of a failure in either the local JES3 address space or MVS, or after partitioning a multiprocessor. You must also start each local main after you perform a cold start or any type of warm start on the global or after you use a hot start to remove or reinstate a spool data set on the global processor. (See [“Removing and reinstating a spool data set” on page 94](#) for a description of these functions.) You can perform a local start any time the global is active.

You do not have to IPL the local main before you perform the local start unless one of the following is true:

- MVS was shut down on the local main.
- MVS was not previously started.
- MVS failed on the local main.
- A cold start or any type of warm start was performed on the global processor.

Local start processing uses the initialization stream placed on the spool data sets during global main initialization.

The effect of a local start on the functional subsystems located on that local main depends upon whether an IPL is performed. Without an IPL, functional subsystems remain active. With an IPL, JES3 restarts functional subsystems.

A hot start or local start without performing an IPL can fail if JES3 has not initialized completely. If you have not received confirmation that initialization processing is complete (IAT3100) before the time of the failure, then you must perform an IPL before attempting another hot start.

Operator activities for a local start

Before you begin, be sure that all spool and checkpoint data sets, and the JCT data set used on the global are also available to this local, and that they are the data sets for the correct global.

Also make sure that the DD statements for all data sets in the JES3 procedure are correct and are for the correct global. For the checkpoint data sets in particular, note the group name shown in IAT3040 when you start JES3. If the group name is incorrect, it means you have specified checkpoint data sets for the wrong global or possibly an old set of checkpoint data sets that you are no longer using but have not deleted.

If you are performing an IPL of the local main and the MSTRJCL contains the automatic START command, the command is displayed on your console immediately after the MVS master scheduler is initialized.

You can enter the MVS command:

```
➡ START — JES3 ➡
```

The first message from JES3 is:

```
IAT3040      STATUS OF JES3 PROCESSORS IN JESXCF GROUP group
            main(status) [,main(status)...]
```

A series of entries on the following lines of the message contains the name of each main followed by a code for that main's status as recorded in the CSR. The global main must have completed initialization for a local main to be able to connect; therefore, the entry (the status of the global main) should be:

```
main(UP)
```

If IN, blank, or DS appears in the status field for the global, confirm the status of the global before continuing with the local start.

The other entries indicate the status of local mains. The entry for the main being initialized will be shown in carets < >.

This entry should be:

```
main< >
```

This indicates that the main has either ended normally or has never been initialized.

This entry can be:

```
main<UP>
```

This indicates that the main ended abnormally after the last start; it is still recorded in the CSR as being active. If this message is accompanied by message IAT3024, you cannot continue with the local start. See [z/OS JES3 Messages](#) for further instructions.

```
main<IN>
```

This indicates that the previous start ended abnormally during initialization; this main is still recorded in the CSR as being in initialization. If this message is accompanied by message IAT3024, you cannot continue with the local start. See [z/OS JES3 Messages](#) for further instructions.

If your installation has defined a partitionable processor complex, the entry could be:

```
main< > [,main< >] [,main< >...]
```

Multiple entries having their status fields enclosed in carets indicate several mains are eligible for this processor. In this event, JES3 prompts you for a choice in the following messages.

The other entries for local processors can be:

```
main( )    main( ) ...
```

This indicates that the local main has either ended normally or has never been initialized. These mains are not eligible for processing at this time.

or:

```
main(UP)
```

This indicates that the local main is active (up).

or:

```
main(IN)
```

This indicates that the local main is in initialization.

Next, JES3 issues the following message:

```
nn IAT3011    SPECIFY JES3 START TYPE: (C, L, H, HA, HR, HAR, W, WA, WR,
              WAR, OR CANCEL)
```

To continue the local start, enter:

```
R nn,L
```

When you specify L, JES3 continues initializing the local main using the initialization information placed on the shared spool during global processor initialization.

To cancel the local start, enter:

```
R nn,CANCEL
```

JES3 issues message IAT4030 to summarize the number of spool data sets now available on the processor:

```
IAT4030      nnnn SPOOL DATA SETS IN USE
```

The number *nnnn* includes all changes you are making to the spool during this restart, including removing, reinstating and replacing a data set, and using additional data sets that were previously defined to the system, but not used before.

When JES3 completes local main initialization, it issues this message:

```
IAT3100      JES3 xxxxx SYSTEM LOCAL START ON yyyy.ddd AS main
```

where *xxxxx* is the release level of JES3, *yyyy.ddd* is the Julian date, and *main* is the JES3 name of the main.

Processor connection sequence

When the local main has completed initialization, it initiates communication with the global. If this local is online to the global, both mains automatically enter the connection sequence. When the connection sequence is complete, JES3 issues this message on the global main:

```
IAT2645      ***** main CONNECT COMPLETE *****
```

If the local main is offline to the global, enter the *[F,]V,main,ON command on the global to vary the local main online. The processors now enter the connection sequence.

If the automatic connection sequence fails, the JES3 global issues this message:

```
IAT2640      CONNECT REJECTED FOR main - error text
```

To resume the connection sequence, follow the operator response instructions for the error text received with message IAT2640 in [z/OS JES3 Messages](#).

If the automatic connection sequence does not take place (if the connection had completed, JES3 would have issued message IAT2645 which is discussed above) and JES3 does not issue any failure messages, try to determine the status of the local main. If JES3 initialization seems to be complete on the local main, use the *START command to restart the connection sequence.

```
➡ *START — , — main — , — CONNECT ➡
   |_____*S_____|
```

main

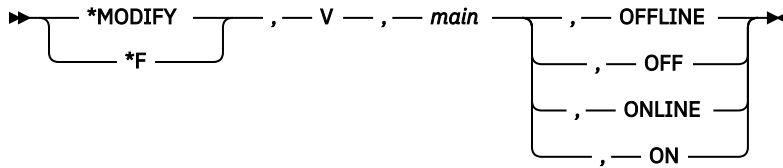
Specifies the name of the local main.

CONNECT

Establishes connection from the local to the global.

If the *S,main,CONNECT command does not establish the connection between processors, end JES3 on the local main. Give the resulting dump to the system programmer for analysis. Once the problem has been solved, restart with a local start.

When the connection is complete, the local main is eligible for jobs to be scheduled to it. From now on, the local main is treated as a JES3-managed device and can be varied online or offline by using the following command:



Restarting JES3 on the global main

To restart JES3 after an orderly shutdown or after JES3 ends abnormally, use hot start or warm start initialization. [Table 3 on page 59](#) summarizes the characteristics of global processor starts.

Before you restart JES3, be sure that all spool data sets that were available to the system before JES3 ended are still available (unless you are using the procedures to replace, remove, add, or delete a spool data set). The volumes containing the data sets do not have to be mounted at the same addresses. Also, be sure that any spool data sets you are using that were not used during the last start or restart are available to the system.

After initialization processing is complete, you can restart the local mains, and then proceed as follows. If:

- You entered the *F,Q,H command to put all jobs in hold status when stopping JES3, be sure to release the jobs by entering the *F,Q,R command.
- The system ended abnormally because of an equipment or system failure, return jobs that were running on a processor at the time of the failure to the appropriate programmer; when a job does not end correctly, the programmer might have to take corrective actions before the job can be restarted.
- You used JES3 commands to change system parameters before JES3 ended and you are restarting JES3 with a hot start, a hot start with refresh, or with a warm start that does not include the changes in the initialization stream, certain changes are lost.

“[Commands that remain in effect after a restart](#)” on [page 60](#) shows the command changes that remain in effect across a warm start and a hot start. To reinstate changes to parameters that did not remain in effect across the restart, enter the appropriate JES3 commands.

You can restart job scheduling by entering the *START,JSS command. All jobs that were waiting to run and completed jobs that were waiting for output processing when JES3 ends are unaffected by the restart; they continue processing as though no restart had occurred. If you did not IPL MVS before restarting JES3, all jobs processing when JES3 ended also continue processing. If you performed an IPL, JES3 examines jobs that were in processing for their MVS restart options. Jobs that cannot be restarted are processed according to their JES3 failure options (on the job's //*main JCL statement or the system default). If the system failed, resubmit any jobs being read into the system at the time of the failure.

If a functional subsystem was ended because of an IPL of the main, JES3 restarts the FSS automatically.

Warm start initialization

You can use warm start initialization to restart JES3:

- After an orderly shutdown, or after JES3 ends abnormally because of an equipment or system failure
- To restart JES3 if a hot start is unsuccessful
- To temporarily remove a spool data set from the system
- To reinstate a spool data set that was previously removed
- To add a new spool data set

- To permanently delete a spool data set

(See [“Removing and reinstating a spool data set”](#) on page 94 and [“Adding and deleting a spool data set”](#) on page 55 for a description of these functions.)

Like cold start processing, warm start processing also reads the initialization stream. Similarly, you must perform an MVS IPL on the global and local mains and restart JES3 on the local mains. After a warm start, however, most jobs that were in the system at the time JES3 ended resume processing.

If a warm start cannot restart JES3, use a warm start with analysis. During analysis processing, JES3 can correct problems in the JES3 spool that might prevent a warm start from being successful.

You **do not** need to perform a warm start to check for errors in a new or modified initialization stream. Use the initialization stream checker utility to scan the entire initialization stream for syntax errors, and to scan the DEVICE, SETNAME, RJPLINE, and HWSNAME statements for logic errors. See [z/OS JES3 Initialization and Tuning Guide](#) and [z/OS JES3 Initialization and Tuning Reference](#) for more detailed information.

See [Table 3](#) on page 59 for a summary of the characteristics of a warm start.

Effects of warm start

When you perform a warm start, the spool is not reformatted or reinitialized. JES3 examines jobs that were running on a main at the time of the warm start for the MVS restart options specified in their JCL; any jobs that are not eligible for restart are processed according to their JES3 failure options. All jobs not processing continue processing as though there were no restart.

All functional subsystems are lost when a warm start is performed.

JES3 procedure and initialization statements for warm start

The following is informational only. For more detailed information about JES3 initialization statements and the cataloged procedure, see [z/OS JES3 Initialization and Tuning Reference](#).

The JES3 cataloged procedure is essentially the same for a warm start as for a cold start.

To create a warm start initialization stream, your system programmer can make the following changes to the cold start initialization statements:

- The BUFFER statement cannot be changed from the last warm start or cold start. SPLIM is the only parameter that can be changed on this statement.
- All FORMAT statements are replaced by TRACK statements. The implicit or explicit STT (single track table) or STTL parameter cannot be changed.
- Additional FORMAT statements are included if you are using spool data sets that were not used before.
- Additional TRACK statements are included if you are using spool data sets that were not used before but the data sets were previously formatted with the same values as those specified for the existing spool data sets.
- TRACK and FORMAT statements are removed to permanently delete a spool data set.
- BADTRACK statements are included. (See [“Cold start initialization”](#) on page 23 for more information about BADTRACK statements.)
- The order of some statements, for example the MAINPROC statements, cannot be changed from the last warm start or cold start.

If you used JES3 commands to change initialization parameters before JES3 ended, most changes are lost when the initialization stream is reread, although job-related modifications remain in effect. Be sure your system programmer includes any non-job-related changes in the initialization stream that you want to remain in effect permanently. See [Table 3](#) on page 59 for a list of the changes that remain in effect after a warm start.

Status of local mains

You must follow a warm start of the global with an IPL of each local main in the complex. You can begin to IPL the local processors any time after you receive message IAT3100 from the JES3 global main. After performing an IPL on a local main, initiate a JES3 local start on the main, making sure that all spool data sets now available on the global are also available to the local.

See [“Operator activities for global starts” on page 38](#) for a discussion of operator activities in a warm start.

Warm start initialization with analysis

You should use warm start initialization with analysis to restart JES3:

- Whenever JES3 ends abnormally and you suspect problems with the JES3 spool
- If a normal warm start fails
- After a power failure
- To temporarily remove a spool data set from the system
- To reinstate a spool data set that was previously removed
- To add a spool data set
- To permanently delete a spool data set from the system.

(See [“Removing and reinstating a spool data set” on page 94](#) and [“Adding and deleting a spool data set” on page 55](#) for a description of these functions.)

In addition to restarting JES3 on the global, warm start processing with analysis also analyzes the JES3 job queue, cancels jobs that have control block errors, and initiates snap dumps of the incorrect control blocks.

Like cold start processing, warm start processing with analysis reads the initialization stream. Similarly, you must perform an MVS IPL on the global and local mains and restart JES3 on the local mains. After a warm start with analysis, however, most jobs that were in the system at the time JES3 ended resume processing.

If a warm start with analysis cannot restart JES3, notify your system programmer and then perform a cold start.

See [Table 3 on page 59](#) for a summary of the characteristics of a warm start with analysis.

Effects of warm start with analysis

The effects of warm start processing with analysis are the same as normal warm start processing except that the analysis function also cancels any jobs that have control block errors and provides you with snap dumps of the incorrect control blocks.

JES3 procedure and initialization statements for warm start with analysis

The JES3 cataloged procedure and initialization statements used for a warm start with analysis are the same as for a warm start without analysis except that the JES3 procedure includes a JES3SNAP DD statement for the snap dumps. See [“JES3 procedure and initialization statements for warm start” on page 29](#) and [z/OS JES3 Initialization and Tuning Reference](#) for more detailed information.

Status of local mains

The status of the local mains is the same for a warm start with analysis as it is for a warm start without analysis.

See [“Operator activities for global starts” on page 38](#) for a discussion of operator activities in a warm start with analysis.

Warm start initialization to replace a spool data set

You can use warm start initialization with the replace function to restart JES3 and replace one or more existing spool data sets, including one of the checkpoint data sets, with new spool data sets. By replacing existing spool data sets with larger spool data sets, you can increase spool capacity. Warm start initialization to replace a spool data set can be used after an orderly shutdown or after JES3 ends abnormally because of an equipment or a system failure.

During this warm start, you can also:

- Temporarily remove a spool data set from the system
- Reinststate a spool data set that was previously removed
- Add a spool data set
- Permanently delete a spool data set from the system

(See [“Removing and reinstating a spool data set”](#) on page 94 and [“Adding and deleting a spool data set”](#) on page 55 for a full description of these functions.)

Like cold start processing, warm start processing to replace a spool data set reads the initialization stream. Similarly, you must perform an MVS IPL on the global and local mains and restart JES3 on the local processors. After a warm start to replace a spool data set, however, most jobs that were in the system at the time JES3 ended resume processing.

If a warm start with the replace function cannot restart JES3, use warm start with both the replace and analysis functions. During analysis processing, JES3 can correct problems in the JES3 spool that might prevent a warm start without analysis from being successful.

See [Table 3 on page 59](#) for a summary of the characteristics of a warm start to replace a spool data set.

Effects of warm start to replace a spool data set

The effects of warm start processing with the replace function are the same as normal warm start processing except that the replace function also removes one or more spool data sets from the system, replaces them with other, possibly larger, data sets, and cancels each job in the system that has data on the replaced data sets. If the replaced data set contained single track table (STT) records, JES3 might have lost information such as the status of the devices.

JES3 procedure and initialization statements

The JES3 cataloged procedure and initialization statements used for a warm start to replace a spool data set are the same as for a normal warm start with the following exceptions. The DD statements in the JES3 procedure and the DYNALLOC statements in the initialization stream must reflect the change in spool data sets. In addition, the system catalog might contain changes reflecting the change in data sets. See [“JES3 procedure and initialization statements for warm start”](#) on page 29 and [z/OS JES3 Initialization and Tuning Reference](#) for more detailed information.

Status of local mains

The status of the local mains is the same for a warm start to replace a spool data set as it is for a normal warm start.

See [“Operator activities for global starts”](#) on page 38 for a discussion of operator activities in a warm start to replace a spool data set.

Warm start initialization with analysis to replace a spool data set

You can use warm start initialization with the analysis and the replace functions to restart JES3 and replace one or more existing spool data sets, including one of the checkpoint data sets, whenever JES3 ends abnormally and you suspect problems with the JES3 spool. If a warm start to replace a spool data set (without analysis) fails, perform a warm start with both the analysis and replace functions.

During this warm start, you can also temporarily remove a spool data set from the system, reinstate a spool data set that was previously removed, add a spool data set, or permanently delete a spool data set from the system.

See [“Removing and reinstating a spool data set” on page 94](#) and [“Adding and deleting a spool data set” on page 55](#) for a description of these functions.

In addition to restarting JES3, this warm start also does the following:

- Replaces one or more existing spool data sets (possibly, one of the checkpoint data sets) with new spool data sets
- Increases spool capacity if the new spool data sets are larger than the replaced spool data sets
- Analyzes the JES3 job queue and cancels any jobs that have control block errors
- Initiates snap dumps of the incorrect control blocks

Like cold start processing, warm start processing with analysis to replace a spool data set reads the initialization stream. Similarly, you must perform an MVS IPL on the global and local mains and restart JES3 on the local processors. After this warm start, however, most jobs that were in the system at the time JES3 ended resume processing.

If a warm start with both the analysis and the replace functions cannot restart JES3, use a cold start.

See [Table 3 on page 59](#) for a summary of the characteristics of a warm start with analysis to replace a spool data set.

Effects of warm start with analysis to replace a spool data set

The effects of warm start processing with analysis to replace a spool data set are the same as normal warm start processing with the following additions:

- One or more spool data sets are replaced by other, possibly larger, spool data sets.
- Any jobs in the system that have data on the replaced spool data sets are canceled.
- Any jobs that have control block errors are canceled.
- Snap dumps are produced of the incorrect control blocks.
- If the replaced data set contained STT records, JES3 might have to make changes to maintain the integrity of the system, such as cancel jobs or change the status of devices.

JES3 procedure and initialization statements

The JES3 cataloged procedure and initialization statements used for a warm start with analysis to replace a spool data set are the same as for a normal warm start with the following exceptions:

- The DD statements in the JES3 procedure and the DYNALOC statements in the initialization stream reflect the change in spool data sets.
- The JES3 procedure includes a JES3SNAP DD statement.

In addition, the system catalog might contain changes reflecting the change in spool data sets. See [“JES3 procedure and initialization statements for warm start” on page 29](#) and [z/OS JES3 Initialization and Tuning Reference](#) for more detailed information.

Status of local mains

The status of the local mains is the same for a warm start with analysis to replace a spool data set as it is for a normal warm start.

See [“Operator activities for global starts” on page 38](#) for a discussion of operator activities in a warm start with analysis to replace a spool data set.

Hot start initialization with refresh

You can use hot start with refresh initialization to restart JES3:

- After a normal shutdown if you want to change parameters in the initialization stream.
- After JES3 ends because of a failure on the global of either the JES3 address space or MVS.
- To restart JES3 if a hot start is unsuccessful.
- To temporarily remove a spool data set from the system (if the spool data set does not contain the checkpointed initialization stream).
- To reinstate a spool data set that was previously removed.
- To load a new copy of JES3 code if there have been recursive abends (the same module and displacement appear in message IAT3713 for each failure). You can also accomplish this with a hot start. To do this, you must bring the JES3 address space down. You have the following choices:
 - If the WANTDUMP option is set to ASK, or if the ASK setting is temporarily assumed because of the number of abends taken in a given time interval, you can reply T (terminate) to message IAT3714 that follows an IAT3713 message.
 - If the WANTDUMP option is set to YES or NO, and abends are not frequent enough for ASK to be temporarily assumed, you must end JES3 with the *RETURN command before doing a hot start for this purpose.
 - If there is no response to the *RETURN command, you can use the command FORCE JES3,ARM as a last resort.

Like cold and warm start processing, hot start with refresh processing also reads the initialization stream. However, only a subset of the initialization statements are processed during a hot start with refresh. The remaining initialization statements are checked for validity, but the information from the previous cold or warm start is used.

If JES3 initialization fails while performing a hot start with refresh, for example an error in the initialization stream, the initialization stream that was in effect during the last successful cold, warm, or hot start with refresh will remain in effect. You can then perform a hot start to get JES3 back up and running. You do not have to perform a cold, warm, or hot start with refresh. If the failed hot start with refresh was done during an IPL, a second IPL is needed.

If you used JES3 commands to change initialization parameters before JES3 ended, some of the modifications remain in effect across the hot start. See [“Commands that remain in effect after a restart” on page 60](#).

Unlike a cold or warm start, you do not have to perform an MVS IPL on the global or local mains, although it is required under certain circumstances:

- If you are starting JES3 after an MVS failure on the global, you must IPL MVS before you can perform the hot start.
- If you are removing or reinstating a spool data set, you must IPL JES3 on the local mains.

All local systems whose JES3 level is at least HJS6609 will be automatically restarted. If you change certain initialization parameters on local systems below HJS6609 during a hot start with refresh they do not take effect until you manually restart JES3 on those mains.

If you add, delete, or change XUNITs or SETNAMEs, you must restart all C/I FSS address spaces in your complex after the global and all locals have been restarted.

After a hot start with refresh, most jobs that were in the system when JES3 ended resume processing.

If a hot start with refresh cannot restart JES3, use a hot start with refresh and analysis. During analysis processing, JES3 can correct problems in the JES3 spool that might prevent a warm start from being successful.

You do not need to perform a hot start with refresh to check for errors in a new or modified initialization stream. Use the initialization stream checker utility to scan the entire initialization stream for syntax errors, and to scan the DEVICE, SETNAME, RJPLINE, and HWSNAME statements for logic errors. See [z/OS JES3 Initialization and Tuning Guide](#) and [z/OS JES3 Initialization and Tuning Reference](#) for more detailed information.

Effects of hot start with refresh

When you perform a hot start with refresh, the spool is not reformatted or reinitialized. When you do not perform an IPL on the global, all jobs continue as though there had been no restart. When you perform an IPL on the global, jobs not in processing before the IPL are not affected. For jobs that were processing on the global, however, JES3 examines them for the MVS restart options specified in their JCL. Any jobs that are not eligible for restart are processed according to their JES3 failure options. Jobs processing on the local mains continue processing.

You might have to restart some readers and writers and reposition job output that was in process at the time of the restart. JES3 resumes internal numbering of jobs with the next available number.

Functional subsystems remain active when a hot start with refresh is performed without an IPL and are restarted by JES3 when an IPL is necessary.

JES3 procedure and initialization statements for hot start with refresh

The following is informational only. For more detailed information about JES3 initialization statements and the cataloged procedure, see [z/OS JES3 Initialization and Tuning Reference](#).

The JES3 cataloged procedure is essentially the same for a hot start with refresh as for a cold or warm start.

Most of the initialization stream can be changed during a hot start with refresh. However, certain information such as the spool configuration or main processor configuration cannot be changed. See [z/OS JES3 Initialization and Tuning Reference](#) for more information about what can be changed during a hot start with refresh.

If you used JES3 commands to change initialization parameters before JES3 ended, most changes are lost when the initialization stream is reread, although job-related modifications remain in effect. Be sure your system programmer includes any non-job-related changes in the initialization stream that you want to remain in effect permanently. See [“Commands that remain in effect after a restart” on page 60](#) for a list of the changes that remain in effect after a hot start with refresh.

Status of local mains

Hot start with refresh processing does not require an MVS IPL or JES3 restart on the local mains unless you removed or reinstated a spool data set during the hot start with refresh, or unless you changed some initialization parameters that do not take effect on the local mains until the JES3 local address spaces are restarted. Otherwise, you can elect to perform both an IPL and a JES3 restart or only a JES3 restart on one or more local mains, but neither is required.

If you do not IPL the local mains, they continue normal processing during a hot start with refresh except for requests for service from the global processor; the requests must wait until the global is restarted.

On all locals whose JES3 level is at least HJS6609, JES3 is automatically restarted. However, C/I FSS address spaces must be manually restarted, regardless of the JES3 level, if any XUNITs or SETNAMEs were added, deleted, or changed.

See [“Operator activities for global starts” on page 38](#) for a discussion of operator activities in a hot start with refresh.

Hot start initialization with refresh and analysis

You can use hot start with refresh and analysis initialization to restart JES3 if either the JES3 address space or MVS fails on the global main, you suspect problems with the JES3 spool, and you want to change parameters in the initialization stream.

After a power failure, you should perform a hot start with analysis, hot start with refresh and analysis, or a warm start with analysis.

In addition to restarting JES3 on the global, hot start with refresh and analysis also analyzes the JES3 job queue and responds as follows for jobs that have control block errors:

- Cancels jobs that are not running on a processor
- Marks jobs that are running on a processor for deletion
- Initiates snap dumps of the incorrect control blocks

The JES3 procedure must include a JES3SNAP DD statement so that you can receive the snap dumps.

If a hot start with refresh and analysis cannot restart JES3 (provided that there are no initialization statement related errors), use a warm start or warm start with analysis.

Except for analyzing the JES3 job queue, hot start with refresh and analysis performs the same functions and has the same considerations as hot start with refresh. See [“Hot start initialization with refresh” on page 32](#) for more information.

Effects of hot start with refresh and analysis

When you perform a hot start with refresh and analysis, the spool is not reformatted or reinitialized.

Jobs with control block errors: For jobs that were processing before the restart, JES3 marks the jobs for deletion and you must cancel them when restart processing is complete. For jobs that were not processing, JES3 cancels the jobs.

Jobs without control block errors: When you do not perform an IPL on the global main, all jobs continue processing. When you perform an IPL on the global, JES3 examines jobs that were running on the global before the IPL for the MVS restart options specified in their JCL. Jobs that are not eligible for restart are processed according to their JES3 failure options. Jobs running on a local main continue processing, and jobs not processing remain queued.

You might have to restart some readers and writers and reposition job output that was in process at the time of the restart. JES3 resumes internal numbering of jobs with the next available number and provides snap dumps of all incorrect control blocks.

Functional subsystems remain active when a hot start with analysis is performed without an IPL and are restarted by JES3 when an IPL is necessary.

JES3 procedure and initialization statements for hot start with refresh and Analysis

The JES3 cataloged procedure and initialization statements used for a hot start with refresh and analysis are the same as for a hot start with refresh except that the JES3 procedure includes a JES3SNAP DD statement for the snap dumps. See [“JES3 procedure and initialization statements for hot start with refresh” on page 34](#) and [z/OS JES3 Initialization and Tuning Reference](#) for more detailed information.

Status of local mains

The status of local mains is the same for hot start with analysis and refresh as it is for hot start with refresh. See [“Status of local mains” on page 34](#) for more details.

Hot start initialization

You can use hot start initialization to restart JES3:

- After a normal shutdown.
- After JES3 ends because of a failure on the global of either the JES3 address space or MVS.
- To temporarily remove a spool data set from the system (if the spool data set does not contain the checkpointed initialization stream)
- To reinstate a spool data set that was previously removed

(See [“Removing and reinstating a spool data set” on page 94](#) for a description of these functions.)

- To load a new copy of JES3 code if there have been recursive abends (the same module and displacement appear in message IAT3713 for each failure). To do this, you must bring the JES3 address space down. You have the following choices:
 - If the WANTDUMP option is set to ASK, or if the ASK setting is temporarily assumed because of the number of abends taken in a given time interval, you can reply T (terminate) to message IAT3714 following an IAT3713 message.
 - If the WANTDUMP option is set to YES or NO, and abends are not frequent enough for ASK to be temporarily assumed, you must end JES3 with the *RETURN command before doing a hot start for this purpose.
 - If there is no response to the *RETURN command, you can use the command FORCE JES3,ARM as a last resort.

When you perform a hot start, you do not have to perform an MVS IPL on either the global or the local mains and you do not have to restart JES3 on the local mains, although they are required under certain circumstances. For example, if you are restarting JES3 after an MVS failure on the global, you must IPL MVS before you can perform the hot start. Or, if you are removing or reinstating the spool data set, you must restart JES3 on the local mains.

Hot start processing does not reread the initialization stream; initialization parameters remain as they were before JES3 ended. If you used JES3 commands to change initialization parameters before JES3 ended, most modifications remain in effect across the hot start. See [“Commands that remain in effect after a restart” on page 60](#) for a list of the changes using commands that remain in effect after a hot start. After a hot start, most jobs that were in the system at the time JES3 ended resume processing.

If a hot start cannot restart JES3, use a hot start with analysis. During analysis processing, JES3 can correct problems in the JES3 spool that might prevent a hot start without analysis from being successful.

A hot start or local start with or without performing an IPL can fail if JES3 has not initialized completely. If you have not received confirmation that initialization processing is complete (IAT3100) before the time of the failure, then you must perform an IPL before attempting another hot start.

See [Table 3 on page 59](#) for a summary of the characteristics of a hot start.

Effects of hot start

The spool is not reformatted or reinitialized during a hot start. When you do not perform an IPL on the global, all jobs continue as though there had been no restart. When you perform an IPL on the global, jobs not in processing before the IPL are not affected. For jobs that *were* processing on the global, however, JES3 examines them for the MVS restart options specified in their JCL. Any jobs that are not eligible for restart are processed according to their JES3 failure options. Jobs processing on the local mains continue processing.

You might have to restart some readers and writers and reposition job output that was in process at the time of the restart. JES3 resumes internal numbering of jobs with the next available number.

Functional subsystems remain active when a hot start is performed without an IPL and are restarted by JES3 when an IPL is necessary.

Status of local mains

Hot start processing does not require an MVS IPL or JES3 restart on the local mains unless you removed or reinstated a spool data set during the hot start, which requires that you perform a JES3 restart on each local main. Otherwise, you can elect to perform both an IPL and a JES3 restart or only a JES3 restart on one or more local mains, but neither is required.

If you do not IPL the local mains, they continue normal processing during a hot start except for requests for service from the global processor; the requests must wait until the global is restarted.

See [“Operator activities for global starts” on page 38](#) for a discussion of operator activities in a hot start.

Hot start initialization with analysis

You can use hot start with analysis to restart JES3 if either the JES3 address space or MVS fails on the global main and you suspect problems with the JES3 spool. If a normal hot start fails, use hot start with analysis.

After a power failure, you should perform a hot start with analysis, a warm start with analysis, or a hot start with refresh and analysis.

During a hot start with analysis, you can remove a spool data set from the system (if the data set does not contain the checkpointed initialization stream) or reinstate a spool data set that was previously removed. (See [“Removing and reinstating a spool data set”](#) on page 94 for a description of these functions).

In addition to restarting JES3 on the global processor, hot start initialization with analysis also does the following:

- Analyzes the JES3 job queue and responds as follows for jobs that have control block errors:
 - Cancels jobs that are not running on a processor
 - Marks jobs that are running on a processor for deletion
 - Initiates snap dumps of the incorrect control blocks

When you perform a hot start with analysis, you do not have to perform an MVS IPL on either the global or the local mains and you do not have to restart JES3 on the local mains, although they are required under certain circumstances. For example, if you are restarting JES3 after an MVS failure on the global, you must IPL MVS before you can perform the hot start. Or, if you are removing or reinstating a spool data set, you must restart JES3 on the local mains.

Hot start processing with analysis does not reread the initialization stream; initialization parameters remain as they were before JES3 ended. If you used JES3 commands to change initialization parameters before JES3 ended, most modifications remain in effect across the hot start. See [“Commands that remain in effect after a restart”](#) on page 60 for a list of the changes that remain in effect across a hot start. After a hot start, most jobs that were in the system at the time JES3 ended resume processing.

The JES3 procedure must include a JES3SNAP DD statement so that you can receive the snap dumps.

If a hot start with analysis cannot restart JES3, use a warm start or a warm start with analysis.

A hot start or local start without performing an IPL can fail if JES3 has not initialized completely. If you have not received confirmation that initialization processing is complete (IAT3100) before the time of failure, then you must perform an IPL before attempting another hot start.

See [Table 3](#) on page 59 for a summary of the characteristics of a hot start initialization with analysis.

Effects of hot start with analysis

The spool is not reformatted or reinitialized during a hot start with analysis.

Jobs with control block errors

For jobs that were processing before the restart, JES3 marks the jobs for deletion and you must cancel them when restart processing is complete. For jobs that were not processing, JES3 cancels the jobs.

Jobs without control block errors

When you do not perform an IPL on the global main, all jobs continue processing. When you perform an IPL on the global, JES3 examines jobs that were running on the global before the IPL for the MVS restart options specified in their JCL. Jobs that are not eligible for restart are processed according to their JES3 failure options. Jobs running on a local main continue processing, and jobs not processing remain queued.

You might have to restart some readers and writers and reposition job output that was in process at the time of the restart. JES3 resumes internal numbering of jobs with the next available number and provides snap dumps of all incorrect control blocks.

Status of FSS Address Spaces

Functional subsystems remain active when a hot start with analysis is performed without an IPL and are restarted by JES3 when an IPL is necessary.

Do not delete an active FSS during a hot start with analysis unless you re-IPL the processor on which the FSS is active. If you do this, the FSS will be left in an incorrect state and will not be usable until after the processor is IPLed. You should not delete an FSS during a hot start with analysis in any case unless all attempts to bring down the FSS normally have failed.

In order to bring down an FSS normally, issue one of the following commands before bringing JES3 down:

- *C,wtrname for a Writer FSS (for an FSS with multiple writers all writers in the FSS must be canceled).
- C fssname or *F,F,FSS=fssname,DSPC=(0,0) for a C/I FSS.

Status of local processors

Hot start processing with analysis does not require you to perform an MVS IPL or JES3 restart on the local processors unless you removed or reinstated a spool data set during the hot start, which requires that you perform a JES3 restart on each local processor. Otherwise, you can elect to perform both an IPL and a JES3 restart or only a JES3 restart on one or more local mains, but neither is required.

If you do not IPL the local mains, they continue normal processing during a hot start with analysis except for requests for service from the global; the requests must wait until the global is restarted.

See [“Operator activities for global starts” on page 38](#) for a discussion of operator activities in a hot start with analysis.

Operator activities for global starts

You must precede a JES3 start with an MVS IPL of the global main. If the IEFSSNxx parmlib member contains the NOSTART subparameter, JES3 must be started automatically. Enter the MVS command:

►► START — JES3 ◄◄

The first message from JES3 is:

```
IAT3040      STATUS OF JES3 PROCESSORS IN JESXCF GROUP group
              main(status) [,main(status)]
```

A series of entries on the following lines of the message contains the name of each main followed by a code for that main's status as recorded in the complex status record (CSR).

During a start for the system, this entry (the status of the global) is:

```
main< >
```

On subsequent starts, this entry could be:

```
main<IN>
```

This indicates that the previous start ended abnormally during initialization; this main is still recorded in the CSR as being in initialization.

or:

```
main<UP>
```

This main is recorded in the CSR as currently being active (up). Consult with the system programmer before continuing with a cold start.

or (for warm or hot starts only):


```
main<DS>
```

This indicates that the main started dynamic system interchange (DSI); the DSI did not complete normally and this main is recorded in the CSR as still being in DSI.

If your installation has defined a partitionable processor complex, the entry could be:

```
main< > [,main< >] [,main< >..]
```

Multiple entries having their status field enclosed in carets indicate that there is more than one main for this processor. If this occurs, JES3 prompts you for a choice through operator messages.

All other entries on the following line should be:

```
main( )    main( )    ...
```

These entries are for local mains. () indicates that the local main has either ended normally or has never been initialized. These mains are not eligible for selection at this time.

If IN, UP, or DS appears in the status field for the local mains, confirm the status of the local mains and take appropriate action as advised by the system programmer before continuing.

Next, JES3 issues the following message:

```
nn IAT3011 SPECIFY JES3 START TYPE:(C, L, H, HA, HR, HAR, W, WA, WR, WAR,  
OR CANCEL)
```

To continue the start, enter the appropriate letters:

- C - Cold Start
- L - Local Start
- H - Hot Start
- HA - Hot Start with Analysis
- HR - Hot Start with Refresh
- HAR - Hot Start with Refresh and Analysis
- W - Warm Start
- WA - Warm Start with Analysis
- WR - Warm Start to Replace a Spool Data Set
- WAR - Warm Start with Analysis to Replace a Spool Data Set

```
R nn,C
```

To cancel the start, enter:

```
R nn,CANCEL
```

Note: Because cold start processing involves reinitializing the spool and losing all jobs, JES3 issues the following message requiring you to confirm your request for a cold start before JES3 takes irreversible action:

```
nn IAT3033 CONFIRM JES3 COLD START REQUEST (U) OR CANCEL
```

To continue the cold start, enter:

```
R nn,U
```

To cancel the cold start, enter:

```
R nn,CANCEL
```

Any other reply restarts the sequence, beginning with message IAT3011.

If you are performing a hot start or hot with analysis, see [“Hot starts” on page 50](#) or [“Hot starts with analysis” on page 50](#).

Operator activities for cold and warm starts

If you continued a cold or warm start and there are any active local mains (according to their JESXCF status), JES3 issues the following messages as a reminder that cold or warm start processing requires an IPL on all processors in the complex.

```
IAT2061      SYSTEM locala IS ACTIVE IN JESXCF GROUP group
IAT2061      SYSTEM localb IS ACTIVE IN JESXCF GROUP group
...
IAT2064      RESET ALL SYSTEMS SHOWN OR REPLY CANCEL
```

and then perform a system reset. To cancel the start, enter R nn,CANCEL. Any other reply is an error and causes message IAT2064 to be reissued.

To disable a processor when JES3 is active on the processor, enter the *RETURN command to end JES3. Then enter the MVS HALT EOD command on the processor to ensure that important MVS data records and statistics that are kept in storage are not lost. Finally, perform a system reset. If JES3 is not active on the processor, start by entering the HALT EOD command and then perform a system reset. When you have disabled all the running processors, the cold or warm start will automatically continue and all IAT2061 messages and the IAT2064 will be deleted.

Then, JES3 requests that you specify the source of the JES3 initialization statements for this cold start:

```
nn IAT3012    SELECT JES3 INISH ORIGIN (N OR M=) AND
              OPTIONAL EXIT PARM (,P=) OR CANCEL
```

Once again you can choose to cancel this start by entering:

```
R nn,CANCEL
```

Otherwise, your reply must specify the source of the JES3 initialization statements. The replies you can use and their meanings are:

```
R nn,N
```

The JES3 cataloged procedure names the source of the initialization stream in its JES3IN DD statement.

or:

```
R nn,M=xx
```

The initialization statements for this start are in member JES3INxx of the partitioned data set named in the JES3IN DD statement.

If your installation has implemented the initialization installation exit (IATUX15), you might also need to add parameters for the exit routine to your reply. Continue the reply with P=yyyyyyyy (up to eight characters). For example:

```
R nn,M=01,P=TESTPROD
```

Operator activities for particular starts

The following sections discuss the operator activities that are specific to a particular start.

Continue with the operator activities for the particular start you are performing. They are located as follows:

- [“Cold starts” on page 41](#)

- [“Warm starts” on page 41](#)
- [“Warm starts with analysis” on page 42](#)
- [“Warm starts to replace a spool data set” on page 43](#)
- [“Warm starts to replace a spool data set with analysis” on page 45](#)
- [“Hot start with refresh” on page 47](#)

Cold starts

For each spool data set that is formatted, JES3 issues messages IAT4031 and IAT4032:

IAT4031	FORMATTING OF SPOOL DATA SET ddname IN PROGRESS
IAT4032	FORMATTING OF SPOOL DATA SET ddname COMPLETE, nnn ERRORS

JES3 then issues message IAT4030 to summarize the number of spool data sets available in the complex:

IAT4030	nnnn SPOOL DATA SETS IN USE
---------	-----------------------------

Cold start initialization processing is complete when JES3 issues this message:

IAT3100	JES3 xxxxx SYSTEM COLDSTART ON yyyy.ddd AS main
---------	---

where xxxxx is the release level of JES3, yyyy.ddd is the Julian date, and *main* is the JES3 name of the processor.

Warm starts

The next series of activities depends on whether you are also using this warm start to temporarily remove a spool data set from the system, to reinstate a spool data set that was previously removed, to add a spool data set, or to permanently delete a spool data set from the system. The messages and activities required for these functions are described separately in the sections entitled [“Removing and reinstating a spool data set” on page 94](#) and [“Adding and deleting a spool data set” on page 55](#).

Continuing with warm start processing, JES3 issues message IAT4030 to summarize the number of spool data sets now available on the global:

IAT4030	nnnn SPOOL DATA SETS IN USE
---------	-----------------------------

The number *nnnn* includes any changes you are making to the spool, including temporarily removing, reinstating, adding, or permanently deleting a spool data set.

JES3 validates the control blocks representing all work in the system. If JES3 finds a job with faulty control blocks, JES3 issues the following message:

IAT4174	CONFIRM DELETION OF JOB jobname (jobid) DUE TO reason-text (CONTINUE, SNAP(,ALL) OR TERMINATE)
---------	---

- If you want to cancel the specified job without writing the faulty control blocks to a JES3SNAP data set, respond CONTINUE. JES3 will issue message IAT4133 to inform you that the job was canceled.
- If you want to write faulty control blocks to a JES3SNAP data set, respond SNAP. JES3 will reissue message IAT4174, without the SNAP option, for the specified job.
- If you want to write out the faulty control blocks for the specified job and all the following jobs with errors, respond SNAP,ALL. To confirm the SNAP,ALL request, respond U to message IAT4141. JES3 will reissue message IAT4174, without the SNAP option, for each of the jobs.
- If you want to end initialization, respond TERMINATE. To confirm the TERMINATE request, respond U to message IAT4141. JES3 initialization will end with a DM011 abend.

Your system programmer should examine the dump of the job's control blocks before you resubmit the job. If JES3 marks the job for deletion, you must cancel the job when restart processing is complete. (The only JES3 commands you can use for the job are *INQUIRY and *MODIFY,J=jobno,C.)

Because JES3 cancels faulty jobs whether you request snap dumps or not, it is necessary to include the JES3SNAP DD statement in the JES3 procedure so that you do not lose the diagnostic information. If the DD statement is omitted, JES3 issues the following message and continues analyzing the jobs:

```
IAT4171      SNAP UNSUCCESSFUL - JES3 SNAP DATA SET NOT AVAILABLE
```

Warm start initialization processing is complete when JES3 issues this message:

```
IAT3100      JES3 xxxxx SYSTEM WARMSTART ON yyyy.ddd AS main
```

where *xxxxx* is the release level of JES3, *yyyy.ddd* is the Julian date and *main* is the JES3 name of the processor.

Warm starts with analysis

The next series of activities depends on whether you are also using this warm start to temporarily remove a spool data set from the system, to reinstate a spool data set that was previously removed, to add a spool data set, or to permanently delete a spool data set from the system. The messages and activities required for these functions are described separately in the sections “[Removing and reinstating a spool data set](#)” on page 94 and “[Adding and deleting a spool data set](#)” on page 55.

Continuing with warm start processing with analysis, JES3 issues message IAT4030 to summarize the number of spool data sets now available on the global:

```
IAT4030      nnnn SPOOL DATA SETS IN USE
```

The number *nnnn* includes any changes you are making to the spool, including temporarily removing, reinstating, adding, or permanently deleting a spool data set from the system.

After you respond to message IAT3146 with the job numbers or job names to cancel before analysis, JES3 issues the following message to indicate the loss of JES3 checkpointed data or the loss of one or more jobs which were in the JES3 job queue:

```
IAT3151 DATA LOST AND/OR JOB(S) DELETED DURING ANALYSIS PROCESSING.  
DO YOU WISH TO PROCEED? (CONTINUE OR CANCEL)
```

To confirm that you want to proceed with analysis, respond CONTINUE.

After you confirm cancellation of the jobs, JES3 validates the control blocks representing all work in the system. When JES3 finds a job with faulty control blocks, JES3 issues the following message:

```
IAT4174 CONFIRM DELETION OF JOB jobname (jobid) DUE TO reason-text  
(CONTINUE, SNAP(,ALL) OR TERMINATE)
```

- If you want to cancel the specified job without writing the faulty control blocks to a JES3SNAP data set, respond CONTINUE. JES3 will issue message IAT4133 to inform you that the job was canceled.
- If you want to write faulty control blocks to a JES3SNAP data set, respond SNAP. JES3 will reissue message IAT4174, without the SNAP option, for the specified job.
- If you want to write out the faulty control blocks for the specified job and all following jobs with errors, respond SNAP,ALL. To confirm the SNAP,ALL request, respond U to message IAT4141. JES3 will reissue message IAT4174, without the SNAP option, for each of the jobs.
- If you want to end initialization, respond TERMINATE. To confirm the TERMINATE request, respond U to message IAT4141. JES3 initialization will end with a DM011 abend.

Your system programmer should examine the dump of the job's control blocks before you resubmit the job. If JES3 marks the job for deletion, you must cancel the job when restart processing is complete. (The only JES3 commands you can use for the job are *INQUIRY and *MODIFY,J=jobno,C.)

Because JES3 cancels faulty jobs whether you request snap dumps or not, it is necessary to include the JES3SNAP DD statement in the JES3 procedure when you request a warm start with analysis to replace a spool data set so that you do not lose the diagnostic information. If the DD statement is omitted, JES3 issues the following message and continues the analysis with jobs potentially being canceled.

```
IAT4171      SNAP UNSUCCESSFUL - JES3 SNAP DATA SET NOT AVAILABLE
```

The entire warm start initialization process is complete when JES3 issues this message:

```
IAT3100      JES3 xxxxx SYSTEM WARMSTART ON yyyy.ddd AS main
```

where xxxxx is the release level of JES3, yyyy.ddd is the Julian date and *main* is the JES3 name of the processor.

Warm starts to replace a spool data set

The next series of activities depends on whether you are also using this warm start to temporarily remove a spool data set from the system, to reinstate a spool data set that was previously removed, to add a spool data set, or to permanently delete a spool data set from the system. The messages and activities required for these functions are described separately in the sections [“Removing and reinstating a spool data set”](#) on page 94 and [“Adding and deleting a spool data set”](#) on page 55.

Continuing with warm start processing, JES3 begins to replace the spool data set by issuing the following messages:

```
nn IAT4008      ENTER DDNAME(S) OF REPLACED PREFORMATTED
                  SPOOL DATA SET(S), END, OR CANCEL

nn IAT4009      ENTER DDNAME(S) OF REPLACED SPOOL DATA SET(S)
                  TO BE FORMATTED, END, OR CANCEL
```

If you are replacing an existing spool data set with a data set that was previously used as a spool data set and is already formatted, respond to message IAT4008 as follows:

```
R nn,ddn[,ddn]      (ddn is the ddname of the
                    preformatted spool data set)
```

If you are replacing an existing spool data set with a data set that must be formatted, respond to message IAT4009 as follows:

```
R nn,ddn[,ddn]      (ddn is the ddname of the new
                    spool data set)
```

Note: For either message, do not include the ddnames of any data sets you are reinstating as part of the spool during this restart.

JES3 issues message IAT4010 for each spool data set replaced:

```
IAT4010      SPOOL DATA SET ddname REPLACED [,TO BE FORMATTED]
```

If neither message IAT4008 nor IAT4009 applies to this restart, reply END to the message. If you do not want to continue this restart, reply CANCEL.

JES3 issues message IAT4013 for each unformatted data set you want to include in the spool. If you want to format the data set, reply U to this message:

```
IAT4013      CONFIRM FORMAT REQUEST FOR SPOOL DATA SET
                  ddname ON volser (U)
```

JES3 issues messages IAT4031 and IAT4032 as the formatting begins and completes.

```
IAT4031      FORMATTING OF SPOOL DATA SET ddname IN PROGRESS

IAT4032      FORMATTING OF SPOOL DATA SET ddname COMPLETE,
                  nnn ERRORS
```

JES3 then issues message IAT4030 to summarize the number of spool data sets now available on the global main:

```
IAT4030      nnnn SPOOL DATA SETS IN USE
```

The number *nnnn* includes any changes you are making to the spool, including replacing, removing, reinstating, adding, or permanently deleting a spool data set from the system.

JES3 validates the control blocks representing all work in the system. When JES3 finds a job with faulty control blocks, JES3 issues the following message:

```
IAT4174  CONFIRM DELETION OF JOB jobname (jobid) DUE TO reason-text
         (CONTINUE, SNAP(,ALL) OR TERMINATE)
```

- If you want to cancel the specified job without writing the faulty control blocks to a JES3SNAP data set, respond CONTINUE. JES3 will issue message IAT4133 to inform you that the job was canceled.
- If you want to write faulty control blocks to a JES3SNAP data set, respond SNAP. JES3 will reissue message IAT4174, without the SNAP option, for the specified job.
- If you want to write out the faulty control blocks for the specified job and all the following jobs with errors, respond SNAP,ALL. To confirm the SNAP,ALL request, respond U to message IAT4141. JES3 will reissue message IAT4174, without the SNAP option, for each of the jobs.
- If you want to end initialization, respond TERMINATE. To confirm the TERMINATE request, respond U to message IAT4141. JES3 initialization will end with a DM011 abend.

Your system programmer should examine the dump of the job's control blocks before you resubmit the job. Because JES3 cancels faulty jobs whether you request snap dumps or not, it is necessary to include the JES3SNAP DD statement in the JES3 procedure so that you do not lose the diagnostic information. If the DD statement is omitted, JES3 issues the following message and continues analyzing the jobs.

```
IAT4171      SNAP UNSUCCESSFUL - JES3 SNAP DATA SET NOT AVAILABLE
```

JES3 must also check the jobs in the system to see if any jobs have data in the data set you are replacing. If these jobs are not canceled, they will fail when normal operations resume. For each job that has data on the affected data set, JES3 automatically cancels the job and issues this message:

```
IAT4126      JOB jobname (jobid) HAS DATA ON {REPLACED|DELETED} SPOOL
         DATA SET ddn
```

Again, you can request the user resubmit the jobs when the restart is complete.

In addition, if the replaced data set contained JES3 data sets, control blocks, or checkpoint records, JES3 makes any adjustments that are necessary to continue processing, if possible. However, you might need to make further adjustments or corrections when initialization processing is complete. The following is a list of the types of files that can be missing and the actions you might have to take if the file is no longer available. Where message numbers are given, see [z/OS JES3 Messages](#) for details of the appropriate responses.

File	Action
Single track table (STT) track allocation table	IAT4106
Dynamic allocation checkpoint record	IAT4110
Volume unavailable table	IAT4111
Output services checkpoint records	IAT4112
JESNEWS data set	IAT4113
Deadline scheduling checkpoint records	IAT4114
Device fencing records	IAT4115

File	Action
MDS online/offline checkpoint records	IAT4116
GMS checkpoint records	IAT4119
FSS checkpoint records	IAT4120
BDT communication checkpoint record	IAT4122
TCP/IP checkpoint records	IAT4159
Control blocks for DSPs	Rerun the DSPs

Warm start initialization processing is complete when JES3 issues this message:

```
IAT3100      JES3 xxxxx SYSTEM WARMSTART ON yyyy.ddd AS main
```

where *xxxxx* is the release level of JES3, *yyyy.ddd* is the Julian date, and *main* is the JES3 name of the processor.

Warm starts to replace a spool data set with analysis

The next series of activities depends on whether you are also using this warm start to temporarily remove a spool data set from the system, to reinstate a spool data set that was previously removed, to add a spool data set, or to permanently delete a spool data set from the system. The messages and activities required for these functions are described in the sections [“Removing and reinstating a spool data set”](#) on page 94 and [“Adding and deleting a spool data set”](#) on page 55.

Continuing with warm start processing with the analysis and replace functions, JES3 now begins to replace the spool data set by issuing these messages:

```
nn IAT4008      ENTER DDNAME(S) OF REPLACED PREFORMATTED
                SPOOL DATA SET(S), END, OR CANCEL

nn IAT4009      ENTER DDNAME(S) OF REPLACED SPOOL DATA SET(S)
                TO BE FORMATTED, END, OR CANCEL
```

If you are replacing an existing spool data set with a data set that was previously used as a spool data set and is already formatted, respond to message IAT4008 as follows:

```
R nn,ddn[,ddn]      (ddn is the ddname of the
                    preformatted spool data set)
```

If you are replacing an existing spool data set with data set that must be formatted, respond to message IAT4009 as follows:

```
R nn,ddn[,ddn]      (ddn is the ddname of the new
                    spool data set)
```

Note: For either message, do not include the ddnames of any data sets you are reinstating as part of the spool during this restart.

JES3 issues message IAT4010 for each spool data set that is replaced.

```
IAT4010      SPOOL DATA SET ddname REPLACED [,TO BE FORMATTED]
```

If neither message applies to this restart, reply END to the message. If you do not want to continue this restart, reply CANCEL.

JES3 issues this message for each unformatted data set you want to include in the spool. If you want to format the data set, reply U to this message:

```
IAT4013      CONFIRM FORMAT REQUEST FOR SPOOL DATA SET
                ddname ON volser (U)
```

JES3 issues messages IAT4031 and IAT4032 as the formatting begins and completes.

IAT4031	FORMATTING OF SPOOL DATA SET ddname IN PROGRESS
IAT4032	FORMATTING OF SPOOL DATA SET ddname COMPLETE, nnn ERRORS

JES3 then issues message IAT4030 to summarize the number of spool data sets now available on the global main:

IAT4030	nnnn SPOOL DATA SETS IN USE
---------	-----------------------------

The number *nnnn* includes any changes you are making to the spool, including replacing, removing, reinstating, adding, or permanently deleting a spool data set.

Then, JES3 issues message IAT3146:

nn IAT3146	ENTER JOB NUMBER OR JOB NAME OF JOBS TO BE PURGED PRIOR TO ANALYSIS (JOB NUMBER, JOB NAME, OR END)
------------	---

This message allows you to cancel jobs before JES3 analyzes the job queue. If you do not want to cancel any jobs at this time, reply END. To cancel jobs, enter the job numbers or job names.

R nn,job [,job]

After you respond to message IAT3146 with the job numbers or job names to cancel before analysis, JES3 issues the following message to indicate the loss of JES3 checkpointed data or the loss of one or more jobs which were in the JES3 job queue:

IAT3151	DATA LOST AND/OR JOB(S) DELETED DURING ANALYSIS PROCESSING. DO YOU WISH TO PROCEED? (CONTINUE OR CANCEL)
---------	---

To confirm that you want to proceed with analysis, respond CONTINUE.

After you confirm cancellation of the jobs, JES3 validates the control blocks representing all work in the system. When JES3 finds a job with faulty control blocks, JES3 issues the following message:

IAT4174	CONFIRM DELETION OF JOB jobname (jobid) DUE TO reason-text (CONTINUE,SNAP(,ALL) OR TERMINATE)
---------	--

- If you want to cancel the specified job without writing the faulty control blocks to a JES3SNAP data set, respond CONTINUE. JES3 will issue message IAT4133 to inform you that the job was canceled.
- If you want to write faulty control blocks to a JES3SNAP data set, respond SNAP. JES3 will reissue message IAT4174, without the SNAP option, for the specified job.
- If you want to write out the faulty control blocks for the specified job and all following jobs, respond SNAP,ALL. To confirm the SNAP,ALL request, respond U to message IAT4141. JES3 will reissue message IAT4174, without the SNAP option, for each of the jobs.
- If you want to end initialization, respond TERMINATE. To confirm the TERMINATE request, respond U to message IAT4141. JES3 initialization will end with a DM011abend.

Your system programmer should examine the dump of the job's control blocks before you resubmit the job. Because JES3 cancels faulty jobs whether you request snap dumps or not, it is necessary to include the JES3SNAP DD statement in the JES3 procedure when you request a warm start with analysis to replace a spool data set so that you do not lose the diagnostic information. If the DD statement is omitted, JES3 issues this message and continues the analysis with jobs potentially being canceled.

IAT4171	SNAP UNSUCCESSFUL - JES3 SNAP DATA SET NOT AVAILABLE
---------	--

To finish the processing required to replace a spool data set, JES3 must now check the jobs in the system to see if any jobs have data in the data set you are replacing. If these jobs are not canceled, they will fail when the restart is complete and normal operations resume. For each job that has data on the affected data set, JES3 automatically cancels the job and issues this message:


```
IAT4126      JOB jobname (jobid) HAS DATA
              ON "REPLACED|DELETED" SPOOL DATA SET ddn
```

You can request the user resubmit the job when the restart is complete.

In addition, if the replaced data set contained JES3 data sets, control blocks, or checkpoint records, JES3 makes any adjustments that are necessary to continue processing, if possible. However, you might need to make further adjustments or corrections when initialization processing is complete. The following is a list of the types of files that can be missing and the action you might have to take when the restart is complete if the file is no longer available. Where message numbers are given, see [z/OS JES3 Messages](#) for details of the appropriate responses.

File	Action
Single track table (STT) track allocation table	IAT4106
Dynamic allocation checkpoint record	IAT4110
Volume unavailable table	IAT4111
Output services checkpoint records	IAT4112
JESNEWS data set	IAT4113
Deadline scheduling checkpoint records	IAT4114
Device fencing records	IAT4115
MDS online/offline checkpoint records	IAT4116
GMS checkpoint records	IAT4119
FSS checkpoint records	IAT4120
BDT communication checkpoint record	IAT4122
TCP/IP checkpoint records	IAT4159
Control blocks for DSPs	Rerun the DSPs

Warm start initialization processing is complete when JES3 issues this message:

```
IAT3100      JES3 xxxxx SYSTEM WARMSTART ON yyyy.ddd AS main
```

where xxxxx is the release level of JES3, yyyy.ddd is the Julian date and *main* is the JES3 name of the processor.

Hot start with refresh

JES3 requests that you specify the source of the JES3 initialization statements for this hot start with refresh:

```
nn IAT3012      SELECT JES3 INISH ORIGIN (N OR M=) AND
                  OPTIONAL EXIT PARM (,P=) OR CANCEL
```

You can cancel the hot start with refresh by entering:

```
R nn,CANCEL
```

Otherwise, your reply must specify the source of the JES3 initialization statements. The replies you can use and their meanings are:

```
R nn,N
```

The JES3 cataloged procedure names the source of the initialization stream in its JES3IN DD statement.

or:

```
R nn,M=xx
```

The initialization statements for this start are in member JES3INxx of the partitioned data set named in the JES3IN DD statement.

If your installation has implemented the initialization installation exit (IATUX15), you might also need to add parameters for the exit routine to your reply. Continue the reply with P=yyyyyyyy (up to eight characters). For example:

```
R nn,M=01,P=TESTPROD
```

When you respond HR to message IAT3011, JES3 begins hot start with refresh processing.

During a hot start with refresh, the JES3 global attempts to obtain exclusive access to the JES3 configuration. This is necessary in order to make sure that any JES3 local processors or C/I FSS's are not trying to access the information in the configuration while the JES3 global is changing it. If the JES3 global cannot get access to the configuration, the following messages are issued:

```
IAT3072 main WAITING FOR EXCLUSIVE USE OF THE CONFIGURATION
IAT3073 ISSUE 'CANCEL' TO CANCEL WAIT FOR main
```

To display who has access to the configuration, issue one of the following commands:

```
D GRS,RES=(SYSZIAT,*)
...OI...
D GRS,RES=(SYSZIAT,CONFIG.CHANGE*)
```

There are a few reasons why the configuration may not be available:

- A JES3 local processor is in the process of starting and waiting for the operator to respond to message IAT3011. This will prevent a global from performing a hot start with refresh since the local will have shared access to the configuration.

If a JES3 local processor has control of the configuration and there are no IAT3011 or other messages outstanding, the JES3 local processor may be held up for some reason. In this case, you can either reply 'CANCEL' to message IAT3073 and perform a hot start to get the JES3 global back up, or you can issue an MVS FORCE command to cancel the JES3 local address space.

- An FSS address space is in the process of starting and has requested services from the JES3 global. This prevents the JES3 global from performing a hot start with refresh since the FSS address space has shared access to the configuration while the JES3 global requires exclusive access.

In this case, you can either reply 'CANCEL' to message IAT3073 and perform a hot start to get the JES3 global back up, or you can issue an MVS CANCEL command to cancel the FSS address space.

If you are removing a spool data set from the system or reinstating a spool data set that was previously removed, message IAT4006 or IAT4041 appears on the console. See [“Removing and reinstating a spool data set”](#) on page 94 for a description of the operator activities for these functions.

JES3 validates the control blocks representing all work in the system. When JES3 finds a job with faulty control blocks, JES3 issues the following message:

```
IAT4174 CONFIRM DELETION OF JOB jobname (jobid) DUE TO
reason-text (CONTINUE, SNAP(,ALL) OR TERMINATE)
```

- If you want to cancel the specified job without writing the faulty control blocks to a JES3SNAP data set, respond CONTINUE. JES3 will issue message IAT4133 to inform you that the job was canceled.
- If you want to write faulty control blocks to a JES3SN data set, respond SNAP. JES3 will reissue message IAT4174, without the SNAP option, for the specified job.
- If you want to write out the faulty control blocks for the specified job and all the following jobs with errors, respond SNAP,ALL. To confirm the SNAP,ALL request, respond U to message IAT4141. JES3 will reissue message IAT4174, without the SNAP option, for each of the jobs.

- If you want to end initialization, respond TERMINATE.
- If you want to end initialization, respond TERMINATE. To confirm the TERMINATE request, respond U to message IAT4141. JES3 initialization will end with a DM011abend.

Your system programmer should examine the dump of the job's control blocks before you resubmit the job. Because JES3 cancels faulty jobs whether you request snap dumps or not, it is necessary to include the JES3SNAP DD statement in the JES3 procedure so that you do not lose the diagnostic information. If the DD statement is omitted, JES3 issues this message and continues analyzing the jobs:

```
IAT4171      SNAP UNSUCCESSFUL - JES3 SNAP DATA SET NOT AVAILABLE
```

Hot start initialization processing is complete when JES3 issues the following message:

```
IAT3100      JES3 xxxxx SYSTEM HOTSTART ON yyyy.ddd AS main
```

Where xxxxx is the release level of JES3, yyyy.ddd is the Julian date and main is the JES3 name of the main.

Hot start with refresh and analysis

The activities for hot start with refresh and analysis are the same as for hot start with refresh except that you have the opportunity to remove jobs from the job queue during analysis processing. See [“Hot start with refresh” on page 47](#) for more information on activities performed during a hot start with refresh.

The next series of activities depends on whether you are also using this hot start to temporarily remove a spool data set from the system or to reinstate a spool data set that was previously removed from the system. The messages and activities required for these functions are described separately in the section [“Removing and reinstating a spool data set” on page 94](#).

At this point, JES3 begins the job queue analysis processing by issuing the following message.

```
nn IAT3146      ENTER JOB NUMBER OR JOB NAME OF JOBS TO BE PURGED
                PRIOR TO ANALYSIS (JOB NUMBER, JOB NAME, OR END)
```

This message allows you to cancel jobs before JES3 analyzes the job queue. If you do not want to cancel any jobs at this time, reply END. To cancel jobs, enter the job numbers or job names.

```
R nn,job [,job]
```

After you respond to message IAT3146 with the job numbers or job names to cancel before analysis, JES3 issues the following message to indicate the loss of JES3 checkpointed data or the loss of one or more jobs which were in the JES3 job queue:

```
IAT3151 DATA LOST AND/OR JOB(S) DELETED DURING ANALYSIS PROCESSING.
DO YOU WISH TO PROCEED? (CONTINUE OR CANCEL)
```

To confirm that you want to proceed with analysis, respond CONTINUE.

After you confirm cancellation of the jobs, JES3 validates the control blocks representing all work in the system. When JES3 finds a job with faulty control blocks, JES3 issues the following message:

```
IAT4174 CONFIRM DELETION OF JOB jobname (jobid) DUE TO reason-text
        (CONTINUE,SNAP(,ALL) OR TERMINATE)
```

- If you want to cancel the specified job without writing the faulty control blocks to a JES3SNAP data set, respond CONTINUE. JES3 will issue message IAT4133 to inform you that the job was canceled.
- If you want to write faulty control blocks to a JES3SNAP data set, respond SNAP. JES3 will reissue message IAT4174, without the SNAP option, for the specified job.
- If you want to write out the faulty control blocks for the specified job and all following jobs, respond SNAP,ALL. To confirm the SNAP,ALL request, respond U to message IAT4141. JES3 will reissue message IAT4174, without the SNAP option, for each of the jobs.

- If you want to end initialization, respond TERMINATE. To confirm the TERMINATE request, respond U to message IAT4141. JES3 initialization will end with a DM011abend.

Your system programmer should examine the dump of the job's control blocks before you resubmit the job. If JES3 marks the job for deletion, you must cancel the job when restart processing is complete. (The only JES3 commands you can use for the job are *INQUIRY and *MODIFY,J=jobno,C.)

Because JES3 cancels faulty jobs whether you request snap dumps or not, it is necessary to include the JES3SNAP DD statement in the JES3 procedure when you request a warm start with analysis to replace a spool data set so that you do not lose the diagnostic information. If the DD statement is omitted, JES3 issues the following message and continues the analysis with jobs potentially being canceled.

```
IAT4171      SNAP UNSUCCESSFUL - JES3 SNAP DATA SET NOT AVAILABLE
```

The entire hot start with refresh and analysis is complete when JES3 issues this message:

```
IAT3100      JES3 xxxxx SYSTEM HOTSTART ON yyyy.ddd AS main
```

Hot starts

When you respond H to message IAT3011, JES3 begins hot start processing.

If you are removing a spool data set from the system or reinstating a spool data set that was previously removed, message IAT4006 or IAT4041 now appears on the console. See the section “[Removing and reinstating a spool data set](#)” on page 94 for a description of the operator activities for these functions.

JES3 validates the control blocks representing all work in the system. When JES3 finds a job with faulty control blocks, JES3 issues the following message:

```
IAT4174      CONFIRM DELETION OF JOB jobname (jobid) DUE TO reason-text
              (CONTINUE, SNAP(,ALL) OR TERMINATE)
```

- If you want to cancel the specified job without writing the faulty control blocks to a JES3SNAP data set, respond CONTINUE. JES3 will issue message IAT4133 to inform you that the job was canceled.
- If you want to write faulty control blocks to a JES3SNAP data set, respond SNAP. JES3 will reissue message IAT4174, without the SNAP option, for the specified job.
- If you want to write out the faulty control blocks for the specified job and all the following jobs with errors, respond SNAP,ALL. To confirm the SNAP,ALL request, respond U to message IAT4141. JES3 will reissue message IAT4174, without the SNAP option, for each of the jobs.
- If you want to end initialization, respond TERMINATE. To confirm the TERMINATE request, respond U to message IAT4141. JES3 initialization will end with a DM011abend.

Your system programmer should examine the dump of the job's control blocks before you resubmit the job. Because JES3 cancels faulty jobs whether you request snap dumps or not, it is necessary to include the JES3SNAP DD statement in the JES3 procedure so that you do not lose the diagnostic information. If the DD statement is omitted, JES3 issues this message and continues analyzing the jobs:

```
IAT4171      SNAP UNSUCCESSFUL - JES3 SNAP DATA SET NOT AVAILABLE
```

Hot start initialization processing is complete when JES3 issues the following message:

```
IAT3100      JES3 xxxxx SYSTEM HOTSTART ON yyyy.ddd AS main
```

where xxxxx is the release level of JES3, yyyy.ddd is the Julian date and main is the JES3 name of the main.

Hot starts with analysis

The next series of activities depends on whether you are also using this hot start to temporarily remove a spool data set from the system or to reinstate a spool data set that was previously removed from the

system. The messages and activities required for these functions are described separately in the section “Removing and reinstating a spool data set” on page 94.

At this point, JES3 begins the job queue analysis processing by issuing the following message.

```
nn IAT3146      ENTER JOB NUMBER OR JOB NAME OF JOBS TO BE PURGED
                PRIOR TO ANALYSIS (JOB NUMBER, JOB NAME, OR END)
```

This message allows you to cancel jobs before JES3 analyzes the job queue. If you do not want to cancel any jobs at this time, reply END. To cancel jobs, enter the job numbers or job names.

```
R nn,job [,job]
```

After you respond to message IAT3146 with the job numbers or job names to cancel before analysis, JES3 issues the following message to indicate the loss of JES3 checkpointed data or the loss of one or more jobs which were in the JES3 job queue:

```
IAT3151 DATA LOST AND/OR JOB(S) DELETED DURING ANALYSIS PROCESSING.
        DO YOU WISH TO PROCEED? (CONTINUE OR CANCEL)
```

To confirm that you want to proceed with analysis, respond CONTINUE.

After you confirm cancellation of the jobs, JES3 validates the control blocks representing all work in the system. When JES3 finds a job with faulty control blocks, JES3 issues the following message:

```
IAT4174 CONFIRM DELETION OF JOB jobname (jobid) DUE TO reason-text
        (CONTINUE,SNAP(,ALL) OR TERMINATE)
```

- If you want to cancel the specified job without writing the faulty control blocks to a JES3SNAP data set, respond CONTINUE. JES3 will issue message IAT4133 to inform you that the job was canceled.
- If you want to write faulty control blocks to a JES3SNAP data set, respond SNAP. JES3 will reissue message IAT4174, without the SNAP option, for the specified job.
- If you want to write out the faulty control blocks for the specified job and all following jobs, respond SNAP,ALL. To confirm the SNAP,ALL request, respond U to message IAT4141. JES3 will reissue message IAT4174, without the SNAP option, for each of the jobs.
- If you want to end initialization, respond TERMINATE. To confirm the TERMINATE request, respond U to message IAT4141. JES3 initialization will end with a DM011abend.

Your system programmer should examine the dump of the job's control blocks before you resubmit the job. If JES3 marks the job for deletion, you must cancel the job when restart processing is complete. (The only JES3 commands you can use for the job are *INQUIRY and *MODIFY,J=jobno,C.)

Because JES3 cancels faulty jobs whether you request snap dumps or not, it is necessary to include the JES3SNAP DD statement in the JES3 procedure when you request a warm start with analysis to replace a spool data set so that you do not lose the diagnostic information. If the DD statement is omitted, JES3 issues the following message and continues the analysis with jobs potentially being canceled.

```
IAT4171      SNAP UNSUCCESSFUL - JES3 SNAP DATA SET NOT AVAILABLE
```

The entire hot start initialization process is complete when JES3 issues this message:

```
IAT3100      JES3 xxxxx SYSTEM HOTSTART ON yyyy.ddd AS main
```

where xxxxx is the release level of JES3, yyyy.ddd is the Julian date, and main is the JES3 name of the main.

Operator activities to remove a spool data set

Before restarting JES3 on the global main, check with your system programmer to see if the device containing the spool data set being removed should be varied offline. If so, enter:

```
VARY devnum,OFFLINE
```

The first message JES3 issues when you are removing a spool data set is IAT4006. The message appears after you reply to one of the following:

```
IAT3012      (entered for warm starts that do not replace spool data sets
              and for hot starts with refresh)

IAT4008 or   (entered for warm starts that replace a spool data set)
IAT4009

IAT3011      (entered for hot starts)
```

The text of the message is:

```
nn IAT4006      OPEN FAILED FOR OLD SPOOL DATA SET ddname
                (CONTINUE OR CANCEL)
```

To continue this restart, enter:

```
R nn,CONTINUE
```

To cancel this restart, enter:

```
R nn,CANCEL
```

JES3 then issues message IAT4030 to summarize the number of spool data sets now available on the processor:

```
IAT4030      nnnn SPOOL DATA SETS IN USE
```

The number *nnnn* includes all changes you are making to the spool during this restart, including removing, reinstating, replacing, adding, or permanently deleting a spool data set from the system.

Now that the number and identity of spool data sets to be used are established, JES3 must account for the space on each data set. JES3 issues the following message if partition track allocation tables (partition TATs) used to allocate spool space before JES3 ended are available and valid:

```
nn IAT4056      SPOOL SPACE ALLOCATION MAPS RESTORED FROM
                CHECKPOINT (USE OR CREATE)
```

This message gives you the choice of using existing partition TATs for this restart or of having JES3 re-create the partition TATs. Check with your system programmer before replying to the message.

If no JES3 spool related failures have occurred since the previous JES3 warm start or if the current restart was preceded by an orderly shutdown of the global processor, enter:

```
R nn,USE
```

If JES3 has indicated severe spool errors such as a duplicate track condition since the previous warm start, enter:

```
R nn,CREATE
```

When you reply CREATE or when no valid partition TATs exist, JES3 cancels any jobs that have job or data set allocation tables on the removed spool data set. This is necessary to maintain the integrity of space allocation on the spool.

When JES3 creates new partition TATs, it reclaims any unused spool space that was flagged as in use before JES3 ended. This can be very useful if your installation is using a large portion of the available spool space.

When you reply USE, JES3 uses existing partition TATs and no jobs are canceled.

If you are not using the analysis function, JES3 might also have to cancel some jobs while accounting for space on the spool data sets.

Then, JES3 checks the jobs in the system to see if any jobs have data on the spool data set you are removing. If these jobs are not stopped in some way, they will fail when the system resumes normal operations. If a job has data on the data set, JES3 issues this message:

```
nn IAT4140      JOB jobname (jobid) HAS DATA ON AN UNAVAILABLE
                SPOOL DATA SET.  ENTER:  HOLD(,ALL) OR
                CANCEL(,ALL)
```

To have JES3 hold the job until the data set is available again (to put the job in spool hold status), enter:

```
R nn,HOLD
```

To cancel the job, enter:

```
R nn,CANCEL
```

If you know beforehand that you want to hold or cancel all jobs with spool data on this data set, you can have JES3 process all the jobs on the basis of a single response by entering:

```
R nn,HOLD,ALL
```

or:

```
R nn,CANCEL,ALL
```

Before accepting a CANCEL ALL request, JES3 requires you to confirm your response by replying to this message:

```
nn IAT4141      CONFIRM CANCEL ALL REQUEST (U)
```

To confirm the request, enter:

```
R nn,U
```

Any other reply restarts the sequence starting with message IAT4140.

For each job that you cancel, JES3 issues messages depending on whether the job has completed processing or is currently running on a processor.

For canceled jobs still running on a main processor, JES3 will issue the following messages:

```
IAT4137      ***WARNING*** A POTENTIAL DUPLICATE TRACK CONDITION
                EXISTS***WARNING***

IAT4138      JOB jobname (jobid) IS ACTIVE ON MAIN main - CANCEL JOB
                OR DISABLE MAIN

IAT4134      JOB jobname (jobid) HAS BEEN RETAINED (DELETE-ONLY)
                DUE TO reason-text
```

Although a job is canceled to JES3 after you respond to the IAT4140 message, you must also cancel the active job using the MVS CANCEL command in order to maintain the integrity of device allocation of JES3. If a job cannot be MVS canceled, then the main where the job is running must be disabled and initialized.

Message IAT4137 is issued as a warning; a duplicate track condition can be introduced to the system if the job indicated by message IAT4138 is not MVS canceled before the *START JSS command is entered.

For canceled jobs that have completed processing, JES3 will issue:

```
IAT4133      JOB jobname (jobid) HAS BEEN DELETED DUE TO reason-text
```

For each job you put into spool hold status, JES3 issues this message:

```
IAT4136      JOB jobname (jobid) PLACED IN SPOOL HOLD
```

If the replaced data set also contained JES3 data sets, control blocks, or checkpoint records, JES3 makes any adjustments that are necessary to continue restart processing, if possible. You might, however, need to make further adjustments or corrections when initialization processing is complete. The following is a list of the types of files that can be missing and the actions you might have to take. Where message numbers are given, see *z/OS JES3 Messages* for details of the appropriate responses.

File	Action
Single track table (STT) track allocation table	IAT4106
Dynamic allocation checkpoint record	IAT4110
Volume unavailable table	IAT4111
Output services checkpoint records	IAT4112
JESNEWS data set	IAT4113
Deadline scheduling checkpoint records	IAT4114
Device fencing records	IAT4115
MDS online/offline checkpoint records	IAT4116
GMS checkpoint records	IAT4119
FSS checkpoint records	IAT4120
BDT communication checkpoint record	IAT4122
TCP/IP checkpoint records	IAT4159
Control blocks for DSPs	Rerun the DSPs

JES3 will issue message IAT4143 to confirm that jobs listed by message IAT4138 have been canceled or had their processors disabled:

```
IAT4143      CONFIRM JOB OR FSS CANCEL AND MAIN DISABLE
              REQUEST(U)
```

If any jobs indicated by message IAT4138 were running on the global main and you were unable to cancel the jobs using MVS commands, you must initialize the global main. Restart JES3 with any type of warm start or hot start.

When you have successfully canceled the jobs using MVS commands or disabled the local mains, respond to message IAT4143:

```
R nn,U
```

When you are finished restarting the global, IPL the local mains if required. If you varied the affected data set offline to the global, do the same for each local main. Then, perform a local start on each processor.

Operator activities to reinstate a spool data set

Before entering the *MODIFY CONFIG command or restarting JES3 on the global main, check with your system programmer to see if the device containing the spool data set should be varied online. If so, enter the MVS command:

```
VARY devnum,ONLINE
```

The first message issued by JES3 when you are reinstating a spool data set is IAT4041. The message appears after you reply to one of the following:

IAT3012

(issued for warm starts that do not replace spool data sets and for hot starts with refresh)

IAT4008 or IAT4009

(issued for warm starts that replace a spool data set)

IAT3011

(issued for hot starts)

The text of the message is:

```
IAT4041      SPOOL DATA SET ddname NOW AVAILABLE, HELD JOBS  
             MAY BE RELEASED
```

JES3 then issues message IAT4030 to summarize the number of spool data sets now available on the processor:

```
IAT4030      nnnn SPOOL DATA SETS IN USE
```

The number *nnnn* includes all changes you are making to the spool during this restart, including removing, reinstating, replacing, adding, or permanently deleting a spool data set from the system.

Repairing a spool volume can require that it be moved to a new DASD. If so, JES3 issues this message:

```
IAT4025      SPOOL DATA SET ddname MOVED FROM dev TO dev  
             (CONTINUE OR CANCEL)
```

When restart processing is complete, you can release any jobs with data on the reinstated spool data set by entering the *MODIFY,Q,DD=ddn,RELEASE command.

When you finish restarting the global main, IPL the local mains, if required (for *MODIFY CONFIG or hot start with refresh, online local mains will be restarted automatically). If you varied the affected data set online to the global, do the same for each local main. Then, perform a local start on each main.

Adding and deleting a spool data set

When you restart JES3 on a global main with a warm start or hot start with refresh, you can add a spool data set. With a warm start, you can permanently delete a spool data set from the system.

By adding a spool data set, you can increase your spool capacity. You also can choose to use additional data sets that previously were defined to the system, but were not used before.

The ability to delete a spool data set is useful when you need to change your DASD configuration, or when I/O errors occur on the volume containing the spool data set and the error affects JES3 system functions. If the volume cannot be repaired, you will want to permanently delete the spool data set from the system. You can also delete a spool data set if the data set is no longer needed in the complex. Only jobs with data on the spool data set on the deleted volume are affected.

The operator activities required to add and delete a spool data set are discussed in the following sections. To get a complete picture of the operator's activities for a particular restart process, use this information in conjunction with the "Operator Activities" section for the type of restart you are performing:

- Hot start with refresh
- Warm start
- Warm start with analysis
- Warm start to replace a spool data set
- Warm start with analysis to replace a spool data set.

After you have deleted a spool data set, all jobs in the system that have spool data or allocation tables on the affected data set are canceled. In addition, if the affected data set contained data in single track table (STT) records, JES3 might have to make changes to maintain the integrity of the system, such as cancel jobs or change the status of devices.

The changes in the JES3 cataloged procedure required to add or delete a spool data set are described in *z/OS JES3 Initialization and Tuning Guide*. You do not need to change the initialization stream, unless you have used a DYNALLOC statement to allocate a data set.

Operator activities to add a spool data set

Before entering the *MODIFY CONFIG command or restarting JES3 on the global main, check with your system programmer to see if the device containing the spool data set should be varied online. If so, enter the MVS command:

```
VARY devnum,ONLINE
```

For each included data set that must be formatted, JES3 issues messages IAT4031 and IAT4032 as the formatting begins and completes.

```
IAT4031      FORMATTING OF SPOOL DATA SET ddname IN PROGRESS
IAT4032      FORMATTING OF SPOOL DATA SET ddname COMPLETE,
              nnn ERRORS
```

JES3 then issues message IAT4030 to summarize the number of spool data sets now available on the main:

```
IAT4030      nnnn SPOOL DATA SETS IN USE
```

The number *nnnn* includes all changes you are making to the spool during this restart, including removing, reinstating, replacing, adding, or permanently deleting a spool data set.

When you finish restarting the global main, IPL the local mains, if required (for *MODIFY CONFIG or hot start with refresh, online local mains will be restarted automatically). If you varied the affected data set online to the global, do the same for each local main. Then, perform a local start on each main.

Operator activities to delete a spool data set

Before restarting JES3 on the global, check with your system programmer to see if the device containing the spool data set that is being deleted should be varied offline. If so, enter:

```
VARY devnum,OFFLINE
```

The first message JES3 issues when you are deleting a spool data set is IAT4000. The message appears after you reply to one of the following:

```
IAT3012      (issued for warm starts that do not
              replace spool data sets)
IAT4008 or IAT4009 (issued for warm starts that replace a spool data set)
```

The text of the message is:

```
nn IAT4000    CONFIRM DELETION OF SPOOL DATA SET ddname
              (CONTINUE OR CANCEL)
```

To continue the deletion, enter:

```
R nn,CONTINUE
```

To cancel the deletion, enter:

```
R nn,CANCEL
```

JES3 then issues message IAT4030 to summarize the number of spool data sets now available on the processor:

```
IAT4030      nnnn SPOOL DATA SETS IN USE
```

The number *nnnn* includes all changes you are making to the spool during this restart, including removing, reinstating, replacing, adding, or permanently deleting a spool data set from the system.

Now that the number and identity of spool data sets to be used is established, JES3 must account for the space on each data set. JES3 issues the following message if partition track allocation tables (partition TATs) used to allocate spool space before JES3 ended are available and valid:

```
nn IAT4056      SPOOL SPACE ALLOCATION MAPS RESTORED FROM  
                CHECKPOINT (USE OR CREATE)
```

This message gives you the choice of using existing partition TATs for this restart or of having JES3 re-create partition TATs. Check with your system programmer before replying to the message.

If no JES3 spool related failures have occurred since the previous JES3 warm start or if the current restart was preceded by an orderly shutdown of the global processor, enter:

```
R nn,USE
```

If JES3 has indicated severe spool errors such as a duplicate track condition since the previous warm start, enter:

```
R nn,CREATE
```

When you reply CREATE, or when no valid partition TATs exist, JES3 cancels jobs with data set allocation tables on the removed spool data set. This is necessary to maintain the integrity of space allocation on the spool.

When JES3 creates new partition TATs, it reclaims any unused spool space that was flagged as in use before JES3 ended. This can be very useful if your installation is using a large portion of the available spool space.

When you reply USE, JES3 uses existing partition TATs and no jobs are canceled.

If you are not using the analysis function, JES3 might also have to cancel some jobs while accounting for space on the spool data sets.

Then, JES3 checks the jobs in the system to see if any jobs have data on the spool data set you are removing. If these jobs are not stopped, they will fail when the system resumes normal operations. If a job has data on the data set, JES3 issues the message:

```
nn IAT4140      JOB jobname (jobid) HAS DATA ON AN UNAVAILABLE  
                SPOOL DATA SET. ENTER: HOLD(,ALL) OR  
                CANCEL(,ALL)
```

To have JES3 hold the job until the data set is available again (to put the job in spool hold status), enter:

```
R nn,HOLD
```

To cancel the job, enter:

```
R nn,CANCEL
```

If you know beforehand that you want to hold or cancel all jobs with spool data on this data set, you can have JES3 process all the jobs on the basis of a single response by entering:

```
R nn,HOLD,ALL
```

or:

```
R nn,CANCEL,ALL
```

Before accepting a CANCEL,ALL request, you must confirm your response by replying to this message:

```
IAT4141      CONFIRM CANCEL ALL REQUEST (U)
```

To confirm the request, enter:

R nn,U

Any other reply restarts the sequence starting with message IAT4140.

For each job that you cancel, JES3 issues this message:

IAT4133 JOB jobname (jobid) HAS BEEN DELETED DUE TO reason-text

For each job you put into spool hold status, JES3 issues the message:

IAT4136 JOB jobname (jobid) PLACED IN SPOOL HOLD

If a replaced data set also contained JES3 data sets, control blocks, or checkpoint records, JES3 makes any adjustments that are necessary to continue restart processing, if possible. You might, however, need to make further adjustments or corrections when initialization processing is complete. The following is a list of the types of files that can be missing and the actions you might have to take. Where message numbers are given, see [z/OS JES3 Messages](#) for details of the appropriate responses.

File	Action
Single track table (STT) track allocation table	IAT4106
Dynamic allocation checkpoint record	IAT4110
Volume unavailable table	IAT4111
Output services checkpoint records	IAT4112
JESNEWS data set	IAT4113
Deadline scheduling checkpoint records	IAT4114
Device fencing records	IAT4115
MDS online/offline checkpoint records	IAT4116
GMS checkpoint records	IAT4119
FSS checkpoint records	IAT4120
BDT communication checkpoint record	IAT4122
TCP/IP checkpoint records	IAT4159
Control blocks for DSPs	Rerun the DSPs

When you are finished restarting the global, IPL the local mains if required.

Table 3 on page 59 summarizes the types of starts you can use to start the global main. This figure uses the following mnemonics to identify each type of start:

- Hot start (H)
- Hot start with analysis (HA)
- Hot start with refresh (HR)
- Hot start with refresh and analysis (HAR)
- Cold start (C)
- Warm start (W)
- Warm start with analysis (WA)
- Warm start to replace a spool data set (WR)
- Warm start with analysis to replace a spool data set (WAR)

<i>Table 3. Characteristics of Global Processor Starts</i>									
Characteristics	H	HA	HR	HAR	W	WA	WR	WAR	C
Retains Job Queue	Y	Y	Y	Y	Y	Y	Y	Y	N
Read Init. Stream	N	N	Y	Y	Y	Y	Y	Y	N
Spool Data Lost	N	N	N	N	N	N	N	N	Y
Replace Spool Data Set	N	N	N	N	N	N	N	N	Y
Reinstate Spool Data Set	Y	Y	Y	Y	Y	Y	Y	Y	N
Remove Spool Data Set	Y	Y	Y	Y	Y	Y	Y	Y	N
Add Spool Data Set	N,6	N,6	N,6	N,6	Y	Y	Y	Y	Y
IPL Global	O	O	O	O	R	R	R	R	R
IPL Locals	O	O	O	O	R	R	R	R	R
Job Disposition (see Notes)	1,2	1,2,5	1,2	1,2,5	4	4,5	4	4,5	3
<p>Note:</p> <ol style="list-style-type: none"> 1. If you do not perform an IPL on the global processor, jobs that were executing at the time of the hot start continue to execute. 2. If you perform an IPL on the global processor, JES3 restarts jobs that are eligible for restart and were executing at the time of the hot start. JES3 processes jobs that are not eligible for restart according to the job's failure options. 3. All jobs must be resubmitted. 4. JES3 restarts jobs that are eligible for restart. JES3 processes jobs that are not eligible for restart according to the job's failure option. 5. JES3 removes jobs that could cause a restart failure from the job queue and records control blocks that are associated with the job. 6. If you remove a DD for a spool you can do a hotstart. Also, you can reinstate a spool data set by adding the same DD. <p>KEY: Y=yes, N=no, O=optional, R=required</p>									

Starting job scheduling

You can start job scheduling after JES3 issues message IAT3100 notifying you that initialization processing is complete on the global:

```
IAT3100 JES3 xxxxx SYSTEM type START ON yyyy.ddd AS main
```

where xxxxx is the release level of JES3; *type* is COLD, WARM, or HOT; *yyyy.ddd* is the Julian date; and *main* is the JES3 name of the main.

Before starting job scheduling, you can use JES3 commands to cancel jobs, change the status of jobs, and change the status of devices. During a hot start with analysis, you can release jobs in spool hold status after reinstating a spool data set that contains data for the jobs, and you can vary devices online or offline. You can make adjustments for any system data that might have been lost during the restart. You can also make any changes to the system that were made before a hot start or a warm start but did not remain in effect after the restart. See [Table 3 on page 59](#) for a summary of the changes that remain in effect after a restart.

When you are satisfied that the system is ready to begin processing, enter a *START,JSS command to start job scheduling.



After you enter the *START,JSS command, ensure that the global is varied online to JES3. If it is not, enter the *[MODIFY,]V,main,ON command to vary the processor online, ensuring that the subsystem interface, the MVS system commands, and the system log are initialized. JES3 then issues the following message:

```
IAT2645      ***** main CONNECT COMPLETE *****
```

If you do not want the global to run jobs, you can now vary the main offline to JES3 scheduling with the *[MODIFY,]V,main,OFF command. At this point, you can resubmit any jobs that were canceled or whose processing was altered as a result of the restart.

Commands that remain in effect after a restart

Table 4. Commands that remain in effect after a restart					
Command and Major Operand	Operands	After Warm Start	After Hot Start	After Hot Start with Refresh	Comments
*MODIFY,C Job class	GROUP= SP= SDEPTH= TDEPTH= MDEPTH= TLIMIT= MLIMIT= SYSSYM=		X		
*MODIFY,CONFIG Initialization parms			X		
*MODIFY,E Event tracing	ON OFF START STOP EXCL LIMIT DUMP DISPLAY TRAP FIND		X X X X	X X X X	Changes are lost if you IPL the global processor.
*MODIFY,F Functional subsystem	FSS=fssname		X	X	For Hot Start with Refresh: <ul style="list-style-type: none"> • If FSS is inactive, changes will not remain in effect. • If FSS is active on local, changes will remain in effect. • If FSS is active on global and global is not IPLed, changes will remain in effect. • If the FSS was active on the global and the global was IPLed, the changes will not remain in effect.
*MODIFY,G Generalized main scheduling	,ON ,OFF ,INIT ,MODE G,ALLOC ,UNALLOC ,BAR ,JSPAN S,option C,ON } ,OFF } CHK SP		X X X X X X X X	X X	S,MODE is the only option preserved across Hot Start with Refresh.

Table 4. Commands that remain in effect after a restart (continued)

Command and Major Operand	Operands	After Warm Start	After Hot Start	After Hot Start with Refresh	Comments
*MODIFY,J Job status	H R C CP P LOG/NOLOG SRVCLASS= CIDEBUG RUN	X X X X X X X X	X X X X X X X X	X X X X X X X X	
*MODIFY,L Deadline scheduling	all				
*MODIFY,M MCS routing					
*MODIFY,MT	ON OFF				
*MODIFY,N DJC network	ID=[, J=1] { , I} { , D} { , H} { , R} { , C} { , E}	X X X X X X X	X X X X X X X	X X X X X X X	
*MODIFY,NETSERV JES3 Networking (TCP/IP)	all		X		Any attempt to change or delete an active Netserv during a hot start with refresh is ignored with a warning message.
*MODIFY,NJE JES3 networking	FORCE HOLD NOHOLD NETHOLD PATH ADD DEL TYPE=TCPIP JT OT JR OR SS TLS		X (TYPE=TCPIP only) X (TYPE=TCPIP only) X X X X X X X X		Modifying a node from TYPE=TCPIP to BSC or SNA is treated as a simultaneous deletion of the TCPIP node and addition of a BSC or SNA node with the same name. Therefore, the node is not remembered over a JES3 restart. Likewise, modifying a node from TYPE=BSC or SNA to TCPIP is treated as a simultaneous deletion of the BSC or SNA node and addition of a TCP/IP node with the same name. Therefore, the node is remembered as TYPE=TCPIP over a JES3 restart. Any attempt to change or delete an active TCP/IP node during a hot start with refresh is ignored with a warning message.
*MODIFY,O	DLOG A= DDEST= AROUT= DROUT= SAVEMSG=		X X X X X X X	X	All changes, except what is specified for DLOG are lost if you IPL the global processor.
*MODIFY,Q Job queues	P= { , H} { , R} SP= DRAIN USE HOLD STOP RELEASE CANCEL	X X X X X X X X X X	X X X X X X X X X X	X X X X X X X X X X	

Table 4. Commands that remain in effect after a restart (continued)

Command and Major Operand	Operands	After Warm Start	After Hot Start	After Hot Start with Refresh	Comments
*MODIFY,S *MODIFY,MDS Main device scheduler	{VU=} {T-} {VA=} {D-} M= U= J= AL= ALWIO= MR= THWSSEP DEFERCT	X X	X X	X X	
*MODIFY,SOCKET JES3 Networking (TCP/IP)	all		X		Any attempt to change or delete an active socket during a hot start with refresh is ignored with a warning message.
*MODIFY,T RJP	{,H ,R ,B= T=,JOB=R ,JOB=C ,P= ,H ,R ,P= ,A L=,M ,SNAP ,TRACE	X X X X X	X X X X X	X X X X X	
*MODIFY,U Output service	N= CONS= all others	X	X	X	
*MODIFY,V Vary	{dev } ,,ONLINE } {dev adr} ,,OFFLINE} {devX } {pname } {lname }		X X X X X	X X X X X	Changes are only maintained for JES3 managed devices.
*MODIFY,WTO			X	X	Changes are lost if you IPL the global or local processor.
*MODIFY,X Use counts					
*CALL	all		X	X	
*START			X		Sockets started by the *START,TCP,SOCKET= command must be started again if you IPL the global processor.
*RESTART	all				
*SWITCH			X		Changes are lost if you IPL the global processor.

Chapter 3. Dynamically modifying the JES3 configuration

The *MODIFY,CONFIG command can be used to add the following initialization statement definitions to JES3 without having to restart JES3:

- SNA RJP
 - RJPWS - SNA RJP workstation characteristics
 - CONSOLE - SNA RJP consoles
 - DEVICE - SNA RJP devices
- Non-channel attached FSS printers
 - FSSDEF - Functional Subsystem Definition
 - DEVICE - for non-channel attached FSS printers
- Network Job Entry
 - DESTDEF - destination definitions

The first thing that must be done is that a member must be created that contains the initialization statements to be added. See *z/OS JES3 Initialization and Tuning Guide* for more information about creating the member containing the initialization statements and the types of statements that can appear in the member.

The following shows a member NEWRJP which contains the initialization statements needed to add a new SNA RJP workstation and its console to the JES3 configuration.

```
Member NEWRJP:

RJPWS,
  N=TEST1,C=S,PR=3,PU=3
*
CONSOLE,
  TYPE=RJP,JNAME=TEST1,LEVEL=15,DEST=ALL,LL=80
```

To add the new SNA RJP definition to the JES3 configuration, you issue the *MODIFY,CONFIG command:

```
*MODIFY,CONFIG,ADD=NEWRJP
```

If your installation's IATUX15 gets control to examine the initialization statements, you may need to specify a parameter string to be passed to the user exit. The parameter string is installation dependent and can be from 1 to 8 characters:

```
*MODIFY,CONFIG,ADD=NEWRJP,P=xxxxxxxx
```

During *MODIFY,CONFIG processing, a log data set is created that contains the initialization statements and any messages that are generated. The log data set is spun off after *MODIFY,CONFIG processing is complete. The default is to always generate a log (LOG=YES). However, you can request that:

- A log be generated only if an error occurs (LOG=ERR)
- A log should not be generated. All error messages should be displayed on the console (LOG=NO).

After the *MODIFY,CONFIG command is issued, the statements from the initialization stream are read and syntax checked. If a severe error occurs, the following message is issued and *MODIFY,CONFIG processing ends:

```
IAT8344 CONFIGURATION MODIFICATION FAILED - SEVERE ERROR
        OCCURRED
```

If error or warning messages were generated as a result of syntax checking the statements, then one of the following messages is issued depending on the severity of the error:

```
IAT8348 WARNING LEVEL MESSAGE(S) ISSUED DURING INITIALIZATION  
STATEMENT PROCESSING
```

```
IAT8348 ERROR LEVEL MESSAGE(S) ISSUED DURING INITIALIZATION  
STATEMENT PROCESSING
```

Note: These messages will also appear in the *MODIFY,CONFIG log.

The following message is then issued to allow you to confirm the *MODIFY,CONFIG request. At this point, the initialization statements have been syntax checked, but the tables that represent the initialization statements have not been created.

If a log data set was requested:

```
IAT8337 CONFIRM "*F CONFIG" COMMAND (CONTINUE(U), CANCEL, OR LOG)
```

If a log data set was not requested:

```
IAT8337 CONFIRM "*F CONFIG" COMMAND (CONTINUE(U) OR CANCEL)
```

If message IAT8337 is issued with the "LOG" option, it gives you a chance to spin off the *MODIFY,CONFIG log so that you can look at the error messages that were issued before confirming the *MODIFY,CONFIG request. To request that a copy of the *MODIFY,CONFIG log be generated, issue:

```
R nn,LOG
```

A copy of the *MODIFY,CONFIG log will be generated and be made available for printing. Message IAT8337 is then issued without the LOG option:

```
IAT8337 CONFIRM "*F CONFIG" COMMAND (CONTINUE(U) OR CANCEL)
```

To cancel the *MODIFY,CONFIG request, issue:

```
R nn,CANCEL
```

To continue the *MODIFY,CONFIG request, issue:

```
R nn,CONTINUE
```

```
...OI...
```

```
R nn,U
```

*MODIFY,CONFIG processing then checks for additional errors based on dependencies between the different initialization statements, and creates the tables to represent the information that was added. If a severe error occurs during this stage, the following message is issued and *MODIFY,CONFIG processing ends:

```
IAT8344 CONFIGURATION MODIFICATION FAILED - SEVERE ERROR OCCURRED
```

If errors were detected during syntax checking and the operator did not specify "LOG" to message IAT8337, or additional error messages were detected after syntax checking completed, the following message is issued to remind you to examine the *MODIFY,CONFIG log for error messages:

```
IAT8069 MESSAGES WERE GENERATED - SEE LOG FOR DETAILS
```

The checkpointed initialization information is updated so that the changes made as a result of a *MODIFY,CONFIG command remain in effect when a hot start is performed. The *MODIFY,CONFIG log is then made available for printing (if a log was requested), and the following message is then issued to summarize what happened during *MODIFY,CONFIG processing:

```
IAT8350 CONFIGURATION MODIFICATION IS COMPLETE - NO ERRORS  
WARNING MESSAGES  
ERROR MESSAGES
```

If the JES3 global is hot started, the changes that were made through the *MODIFY,CONFIG command will remain in effect over the hot start. Another *MODIFY,CONFIG command will not be necessary to add the changes back. If you perform a hot start with refresh, a warm start, or a cold start, the changes will be lost.

Chapter 4. Controlling consoles, commands, and message traffic

This topic describes the commands that you use to control consoles and message traffic. Your system programmer defines a console's function and capabilities by coding initialization statements that are processed when you start JES3.

Your system programmer can supply you with a summary of the types and purposes of each console in your complex.

Once you complete JES3 initialization, you can inquire about the characteristics of your consoles and change many of them, using the commands in the following sections. Some sections contain equivalent MVS commands that you can use to perform similar functions for an MCS console.

Message traffic is described using the following topics:

- Destination classes - (how JES3 routes messages to consoles)
- Routing codes - (how MVS routes messages to consoles)
- Sending message to other consoles
- Replying to messages
- Switching messages to another console
- Ending the display of messages
- The MVS action message retention facility (AMRF)

Controlling consoles

You need to obtain the following information before modifying the console configuration:

- Console type
- Console name
- Device name or number
- JES message destinations assigned to the console you want to modify
- MVS routing codes assigned to the MCS consoles

Your system programmer can supply you with the name of the console. The JES3 message destinations are listed in [Table 9 on page 75](#).

Using MCS consoles to control your JES3 installation

You can use MCS consoles to control your entire JES3 installation. If your installation requires you to log on to an MCS console before you can enter commands, you will receive a message prompting you to do so. The CONSOLxx parmlib member specifies whether a logon is required or optional. See [z/OS MVS Initialization and Tuning Reference](#) for information about CONSOLxx.

JES3 may be operated from any console that is attached to any system in the sysplex. From any console, an operator can direct a command to any system and receive the response to that command. In addition, any console can be set up to receive messages from all systems, or a subset of the systems in the sysplex. Thus, there is no need to station operators at consoles attached to each processor in the sysplex.

Rules

- You must always use a JES3 command prefix when entering JES3 commands from any console, except RJP workstations, where the prefix is optional.

- An MCS console may receive messages from all or a subset of systems in the sysplex. See the discussion on VARY CN() in *z/OS MVS System Commands*. See *z/OS MVS Initialization and Tuning Reference* for information on the MSCOPE parameter in the CONSOLxx member of SYS1.PARMLIB.
- You can use an MCS console to direct commands to another system using the MVS ROUTE command, the CMDSYS definition for the console, or the sample program IEECMDPF. See *z/OS MVS System Commands* for additional information.
- All JES3 commands are rejected until JES3 has completed initialization.

Controlling commands

Using the commands described in the following sections, you can:

- Route commands to a specific main
- Enter commands through an input stream

Using JES3 to authorize commands

MVS, JES3, and RACF® allow the system programmer to control which commands operators can enter at consoles. MVS and JES3 perform independent authority checking. See “Authorizing commands when RACF is active” on page 71 for a summary of authority checking when RACF is active. Your installation can use RACF 1.9 (5740-XXH) or any functionally equivalent product to provide security for JES3.

When enabled, RACF performs authority checking for all JES3 commands. “Using RACF to control command authorization” on page 70 describes how RACF is used to provide command authority checking.

If RACF is not enabled, MVS or JES3 perform command authority checking depending on whether an MVS or a JES3 command was entered. JES3 groups its commands into command authority levels that range from 0 to 15. The system programmer can assign a JES3 authority level to a RJP console by specifying the LEVEL= keyword on the JES3 CONSOLE initialization statement for each console.

Using JES3 to authorize commands from RJP consoles

JES3 commands can be entered at RJP consoles. Which commands you can enter depend upon the authority levels assigned to the console by the system programmer. Table 5 on page 68 shows the authority levels for commands entered from RJP consoles (BSC and SNA).

Table 5. Authority Levels for RJP		
JES3 Authority Level	Allowable JES3 Commands	Restrictions
0-4	No remote console support exists.	
5-9	*START *RESTART *CANCEL *INQUIRY *MESSAGE	For BSC terminals, the *START, *RESTART, and *CANCEL must specify a remote terminal name that is part of the remote workstation. For SNA terminals, the *START, *RESTART, and *CANCEL must specify a logical device name that belongs to the SNA workstation. The only *INQUIRY commands allowed are *I,B, *I,D, *I,J, *I,O, *I,P, *I,Q, and *I,U. The T=wsname parameter is inserted into the command by JES3 if it is not specified.

Table 5. Authority Levels for RJP (continued)		
JES3 Authority Level	Allowable JES3 Commands	Restrictions
10-14	<p>All of the commands listed above plus:</p> <p>*CALL *VARY *MODIFY *FREE</p>	<p>The input (IN=) and output (OUT=) keywords specified on a *CALL command must be devices associated with the remote workstation. You can specify the long form (such as IN=REMOTRD1) or short form (IN=RD1). If you omit both keywords on a *CALL command for a function in which card input is expected, (that is *X,CR), the remote card reader is assumed.</p> <p>The restrictions discussed in the preceding category (authority levels 5-9) for the *START, *RESTART, and *CANCEL commands also apply for this authority level. The SNA remote console operator can enter *START, *RESTART, and CANCEL commands, but each must specify a logical device name that belongs to the SNA workstation. The *VARY,RECOVER and *MODIFY,V,RECOVER commands can be entered only with a JES3 authority level of 15. The only DSPs that can be invoked by the *CALL command are CR, and WTR. These DSPs can only be invoked from a BSC RJP workstation because the only utility supported by SNA RJP is the JESNEWS DSP. Card-reading DSPs cannot be called from remote nonprogrammable workstations, but they can be called to a remote reader by the local operators.</p> <p>Four *MODIFY commands are permitted: modify job (*F,J), modify output (*F,U), modify RJP (*F,T) and modify vary (*F,V). The modify job command allows the remote operator to modify jobs submitted from that terminal group. If you omit group or terminal name from the T= keyword, JES3 inserts those parameter values into the message.</p> <p>The *FREE command without a console name specified is called the non-directed form of the *FREE command. This form of the command may only be issued from an RJP console and it frees the message for the console from which it was issued.</p> <p>The directed form of the *FREE command is where a console name other than the issuing console is specified. The directed form of the *FREE command requires an authority level of 15.</p>
15	<p>All commands except:</p> <p>*SWITCH *DUMP *RETURN *TRACE</p>	JES3 does not provide any default parameters.

Using JES3 to authorize commands from NJE

JES3 allows commands to be entered from other nodes within the network. JES3 allows only *INQUIRY and *MODIFY commands to be entered through NJE.

The *INQUIRY commands allowed from NJE are:

- *INQUIRY,Q,N
- *INQUIRY,B
- *INQUIRY,J,E

The *MODIFY commands allowed from NJE are:

- *MODIFY,J,C
- *MODIFY,J,CP
- *MODIFY,J,CO
- *MODIFY,J,H
- *MODIFY,J,R

For more information about NJE, see [z/OS JES3 Initialization and Tuning Guide](#).

Using JES3 to authorize commands from MCS consoles

The MCS authority level that the system programmer defines on the AUTH parameter of the CONSOLE statement in the CONSOLxx member of the MVS SYS1.PARMLIB data set determines which MVS commands are allowed. The MCS authority level also determines which JES3 commands are allowable from MCS consoles as follows:

Table 6. JES3 Commands Allowed from MCS Consoles		
MCS Authority Level (Command Group)	Corresponding JES3 Authority Level	Allowable JES3 Commands
Informational	0	*INQUIRY *MESSAGE
System Control	5	All of the commands listed above plus: *CALL *CANCEL *RESTART *SEND *START
Console Control I/O Control	10	All of the commands listed above plus: *MODIFY (except *MODIFY,V,RECOVER) *SWITCH *TRACE *VARY (except *VARY,RECOVER)
Master	15	All of the commands listed above plus: *DUMP *FAIL *FREE,con *MODIFY,V,RECOVER *RETURN *VARY,RECOVER

Using RACF to control command authorization

If RACF is active, the RACF administrator defines operator command authority using RACF commands. The RACF administrator determines which operators or consoles should be permitted to issue specific commands.

RACF groups JES3 commands into command authority levels. The RACF administrator can permit or restrict operators or consoles from entering entire commands or specific command parameters by defining RACF security profiles. Every time a command is entered, RACF ensures that the person or console entering the command is authorized to do so. [Table 7 on page 71](#) lists the JES3 commands associated with each authority level:

Table 7. RACF Authority Levels for JES3 Commands	
Authority Level	Allowable JES3 Commands
READ	*INQUIRY *MESSAGE
UPDATE	All of the commands listed above plus: *CALL *CANCEL *MODIFY (except *MODIFY,V,RECOVER) *RESTART *SEND *START *SWITCH *TRACE *VARY (except *VARY,RECOVER)
CONTROL	All of the commands listed above plus: *DUMP *FAIL *FREE *MODIFY,V,RECOVER *RETURN *VARY,RECOVER

Authorizing commands when RACF is active

If you are using only MCS consoles and enable RACF command authority checking, RACF performs all command authorization. However, if you are also using remote consoles, whether JES3 or RACF performs command authority checking depends on the source from which the command was entered.

Table 8 on page 71 shows which facility performs command authority checking based on the source of the command. Command authority checking follows these conventions unless your system programmer uses installation exits to alter command authorization.

Note: See [z/OS JES3 Initialization and Tuning Guide](#) for RACF profile (entity) name syntax to be used with OPERCMDS.

Table 8. Default command authority checking when RACF OPERCMDS Class is Active		
Source of Command:	Command Type:	Default Authorization Performed By:
MCS consoles	JES3 commands	RACF
	MVS commands	RACF
RJP consoles	JES3 commands	RACF (see Note 1)
NJE	JES3 commands	RACF (see Note 2)
Internally generated commands	JES3 commands	RACF
	MVS commands (MGCR or SVC34)	RACF
Device readers	JES3 commands	RACF (see Note 3)

Table 8. Default command authority checking when RACF OPERCMDS Class is Active (continued)

Source of Command:	Command Type:	Default Authorization Performed By:
Automation consoles (MGCRC)	JES3 commands	RACF
	MVS commands	RACF

Note:

1. An RJP console must be defined to RACF if RACF is to perform command authority checking. If an RJP console is not defined to RACF, JES3 will perform command authorization.
2. A node must be defined to RACF if RACF is to perform command authority checking. If a node is not defined to RACF, JES3 will perform command authorization.
3. *Readers Called from MCS consoles:* Commands entered through device readers called from MCS consoles are assigned the authority of the MCS operator (if console LOGON is required) or the console identifier. The success or failure of these commands depends on the authority of the calling operator.

How to enable RACF command authorization

To enable RACF command authority checking, the RACF administrator must activate RACF security classes. The specific RACF security classes that must be enabled depend on the input source that you want to protect. See [z/OS JES3 Initialization and Tuning Guide](#) for information about how to enable RACF command authorization.

How to authorize the use of JES3 commands

Before the RACF administrator enables the appropriate RACF security class(es), the administrator must authorize the use of commands by operators or consoles. See [z/OS JES3 Initialization and Tuning Guide](#) for information about authorizing the use of JES3 commands.

Controlling the hardcopy log

The hardcopy log records command and message traffic for your systems. MVS and JES3 provide three forms of the hardcopy log:

OPERLOG

centrally records command and message traffic for systems in a sysplex in Message Data Block (MDB) format

JES3 DLOG

centrally records command and message traffic for systems in a JES3 complex in JES3 format. The JES3 DLOG is written to SYSLOG on the global processor.

SYSLOG

individually records command and message traffic for each system in MVS format

You must have at least one active hardcopy log on each of your systems.

OPERLOG is controlled on each processor using the VARY OPERLOG command.

When you use the disk log facility, the log is spun off at installation-defined intervals and processed by JES3 output service according to the DLOG output class. If DLOG is active, you can force the log to be spun off before the installation-defined threshold occurs by entering the MVS WRITELOG command on the global. For example, to spin off the DLOG and direct it to output class D, enter WRITELOG D.

The JES3 DLOG is controlled using the *MODIFY O,DLOG=ON|OFF command. SYSLOG on the global processor must be active when DLOG is active.

Migrating from JES3 DLOG to OPERLOG

The following example shows a staged migration of the hardcopy log from the JES3 DLOG to OPERLOG. The sysplex consists of three systems, JES3 global SY1, and JES3 locals SY2 and SY3. Initially, DLOG is active, as is SYSLOG on each of the processors.

1. `ROUTE SY2,VARY OPERLOG,HARDCPY`

Activates OPERLOG on local SY2. Message traffic for SY2 will be recorded in OPERLOG. DLOG continues to record message traffic for all systems.

2. `ROUTE SY3,VARY OPERLOG,HARDCPY`

Activates OPERLOG on local SY3. Message traffic for SY2 and SY3 will be recorded in OPERLOG. DLOG continues to record message traffic for all systems.

3. `ROUTE SY1,VARY OPERLOG,HARDCPY`

Activates OPERLOG on global SY1. Message traffic for all systems will be recorded in OPERLOG as well as DLOG.

4. `*MODIFY 0,DLOG=OFF`

Deactivates DLOG. Message traffic for all systems will be recorded in OPERLOG, and each system's message traffic will be recorded in its own SYSLOG.

5. `ROUTE SY1,VARY SYSLOG,HARDCPY,OFF`

Deactivates SYSLOG on SY1. Message traffic for all systems will be recorded in OPERLOG, and SY2 and SY3 traffic will be recorded in each system's SYSLOG.

6. `ROUTE SY2,VARY SYSLOG,HARDCPY,OFF`

Deactivates SYSLOG on SY2. Message traffic for all systems will be recorded in OPERLOG, and SY3 traffic will be recorded in that system's SYSLOG.

7. `ROUTE SY3,VARY SYSLOG,HARDCPY,OFF`

Deactivates SYSLOG on SY3. Message traffic for all systems will be recorded in OPERLOG only.

If staging the migration to OPERLOG is not required, the migration can be accomplished more quickly as follows:

1. `ROUTE *ALL,VARY OPERLOG,HARDCPY`

Activates OPERLOG on all systems. Message traffic for all systems will be recorded in OPERLOG as well as DLOG.

2. `*MODIFY 0,DLOG=OFF`

Deactivates DLOG. Message traffic for all systems will be recorded in OPERLOG, and each system's message traffic will be recorded in its own SYSLOG.

3. `ROUTE *ALL,VARY SYSLOG,HARDCPY,OFF`

Deactivates SYSLOG on all systems. Message traffic for all systems will be recorded in OPERLOG only.

Entering commands through the input stream

There are two main ways of entering commands through the input stream:

1. The JES3 JECL command statement.
2. The MVS COMMAND JCL statement.

JES3 JECL command statement

To enter JES3 commands through the input stream, enter `/*` in positions 1 through 3 immediately preceding the command. You can enter all JES3 commands except `*DUMP` and `*RETURN` using a JES3 input stream. If jobs are also being submitted, the commands must precede the first JOB control statement in the input stream.

You can enter commands through a card reader or from tape or disk. The system programmer might want to use the disk reader to enter often-used commands based on system requirements (such as a shift change). When you call the reader, note that:

- The commands read through the called reader are treated as if they were entered at the console from which you entered the *CALL command; however, no response is entered to indicate the precise time the command was effected
- JES3 does not unstack commands issued from a disk reader when the reader is invoked through a /** PROCESS control statement
- You can enter more than one command at one time.

You can cause a pause in processing on any reader by using a JES3 /**PAUSE control statement. This statement is recognized only if you place it before the first JOB statement in the input stream. Once the /**PAUSE statement is recognized, the reader issues a message and waits for your reply. (For example, if you enter *CALL and *START,dsp commands through the reader, you can use the /**PAUSE statement to stop the reader after the *CALL,dsp command is entered, thus allowing the called DSP to be readied before the *START command is processed. When the called DSP is ready, you can start the reader to have the next command processed.) The /**PAUSE statement is used primarily for system checkout and test; its use is suggested for remote users only.

MVS COMMAND JCL statement

Use the MVS COMMAND statement to specify MVS or JES3 commands that the system is to issue when the submitted JCL is converted.

COMMAND statements can appear anywhere in the input stream after the JOB statement. JES3 commands which require master command authority (for example, *DUMP, *RETURN) cannot be entered with the COMMAND statement. Control over which commands can be entered in an input stream is provided with the AUTH= and COMMAND= parameters on the CIPARM initialization statement. The response(s) to JES3 commands entered with the COMMAND JCL statement are always issued back to the operator's console.

See [z/OS JES3 Initialization and Tuning Guide](#) for more details on the syntax and rules of the COMMAND statement.

Sharing JES3 commands by specifying system symbols

JES3 allows two or more systems in a JES3 complex to share commands, while retaining unique values in those commands. By specifying system symbols, you can enter a single command that is processed uniquely across multiple JES3 systems. A single command can affect multiple, unique entities on different JES3 systems, allowing you to view a sysplex as a *single image* with one point of control.

System symbols represent unique values in shared commands. For each system, you can define values for system symbols. When shared commands are processed, each JES3 system replaces the system symbols with the defined values.

Before you use system symbols in JES3 commands, you must understand the types of system symbols, the elements that comprise them, and the general rules for using them. See [z/OS MVS Initialization and Tuning Reference](#) for details about planning to use system symbols.

This section describes:

- How to display the system symbols and associated substitution texts that are in effect for a system
- Rules and suggestions for using system symbols in JES3 commands.

Displaying static system symbols

You can enter the MVS DISPLAY SYMBOLS command to display the static system symbols and associated substitution texts that are in effect for a system, and to determine the system symbols you can specify in JES3 commands. See the description of DISPLAY SYMBOLS in [z/OS MVS System Commands](#).

Rules and suggestions for using system symbols

The general rules and suggestions for using system symbols (which are described in [z/OS MVS Initialization and Tuning Reference](#)) also apply to JES3 commands. The following are exceptions to those general rules and suggestions:

- **Use double ampersands when sending commands to remote nodes:**

If you route a command to another node in a network, use *double ampersand (&&)* notation to cause substitution to occur on the receiving node.

For example, to send a command to start Customer Information Control System (CICS®) on a processor at a node called NODE2, enter the following command from the remote node:

```
*T,NODE2,START CICS,PARM=&&sysname
```

When the command reaches the target node, JES3 substitutes the main processor name for the &sysname system symbol.

For more information about using double ampersand notation, see [z/OS MVS Initialization and Tuning Reference](#).

- **Restrictions for earlier releases of JES3:**

Do not send JES3 commands that contain system symbols to systems that are below the JES3 5.2.1 level. Those systems cannot substitute text for system symbols in JES3 commands.

You also can use system symbols in source JCL for demand select jobs. For more information, see the section on defining and managing C/I service in [z/OS JES3 Initialization and Tuning Guide](#).

Controlling message traffic

The operator's console displays information about your MVS/JES3 complex in the form of **messages**. Some messages provide information about the status of jobs and resources while others request operator action. You can receive either JES3 or MVS messages depending upon the configuration of your consoles.

JES3 destination classes and MVS routing codes

JES3 uses 95 destination classes to route messages to consoles. You can define which messages you want displayed on a JES3 RJP console by specifying one or more destination classes on the DEST= keyword of the JES3 CONSOLE initialization statement.

MVS uses 128 routing codes to route messages to MCS consoles. You can define which messages an MCS console displays by specifying routing codes on the ROUTCODE keyword of the CONSOLE statement in the CONSOLxx member of SYS1.PARMLIB. Each destination class corresponds to an MVS routing code. [Table 9 on page 75](#) shows the 95 JES3 destination classes and their corresponding MVS routing codes.

Table 9. Valid Destination Classes and Their Corresponding Routing Codes		
JES3 Destination Class	Equivalent MVS Routing Code/ Function	Destination Class Purpose
All	Broadcast	Messages of general interest. These messages are received by MCS consoles receiving broadcast messages and JES3 RJP consoles which include DEST=ALL in their definitions.
ERR	10	Equipment failure and JES3 failsoft and problem messages.
JES	42	General information about JES3.
LOG	41	General information about jobs.
MLG	Hardcopy	All input and output messages.

Table 9. Valid Destination Classes and Their Corresponding Routing Codes (continued)									
JES3 Destination Class	Equivalent MVS Routing Code/ Function	Destination Class Purpose							
SEC	9	All security messages.							
TAP	3	Messages about JES3-controlled tape requirements.							
TP	8	Messages about teleprocessing.							
UR	7	Messages about JES3-controlled unit-record equipment.							
DALL or D1-D22	43-64	Messages about a user-defined console configuration. The exact JES3 destination class-routing code mappings are:							
		D1=43	D4=46	D7=49	D10=52	D13=55	D16=58	D19=61	D22=64
		D2=44	D5=47	D8=50	D11=53	D14=56	D17=59	D20=62	
		D3=45	D6=48	D9=51	D12=54	D15=57	D18=60	D21=63	
MALL or M1-M32	65-96	Messages unique to a JES3 main. Use the MDEST parameter of the MAINPROC statement to define the destination class for messages about specific mains. The exact JES3 destination class-routing code mappings are:							
		M1=65	M5=69	M9= 73	M13=77	M17=81	M21=85	M25=89	M29=93
		M2=66	M6=70	M10=74	M14=78	M18=82	M22=86	M26=90	M30=94
		M3=67	M7=71	M11=75	M15=79	M19=83	M23=87	M27=91	M31=95
		M4=68	M8=72	M12=76	M16=80	M20=84	M24=88	M28=92	M32=96
SALL or S1-S32	97-128	Messages pertaining to JES3 device setup. Use the XUNIT or JUNIT keywords of the DEVICE statement to define the consoles to receive device related messages. The exact JES3 destination class-routing code mappings are:							
		S1=97	S5=101	S9= 105	S13=109	S17=113	S21=117	S25=121	S29=125
		S2=98	S6=102	S10=106	S14=110	S18=114	S22=118	S26=122	S30=126
		S3=99	S7=103	S11=107	S15=111	S19=115	S23=119	S27=123	S31=127
		S4=100	S8=104	S12=108	S15=112	S20=116	S24=120	S28=124	S32=128

No JES3 equivalent exists for MVS routing codes 1, 2, 4, 5, 6, and 11 to 40. The following destination classes are also valid for use on the RJP CONSOLE statement, but are not considered part of the 95 JES3 classes:

- **NONE:** No messages
- **OUTPUT:** All messages except MLG messages
- **TOTAL:** All messages.

You can control where non-JES3 messages are displayed by mapping MVS routing codes to JES3 destination classes using the JES3 MSGROUTE initialization statement. See [z/OS JES3 Initialization and Tuning Reference](#) for information about controlling message traffic.

Use the *INQUIRY,M command to display MVS routing codes and the consoles and destination classes to which they are mapped. You can dynamically change your installation's mappings using the *MODIFY,M command.

Use the *INQUIRY,O command to display which RJP consoles are receiving messages assigned to a particular destination class. You can dynamically change these assignments using the *MODIFY,O command. You can use D CONSOLES and VARY, CN commands for MCS consoles.

Using the MVS action message retention facilities

MVS retains action messages and WTOR messages that did not receive a response. These messages are called **outstanding operator action messages**. Use the DISPLAY R and CONTROL C commands to display or remove action messages from the MVS action message retention facility (AMRF).

Sending and receiving messages at a console

Your console can receive JES3 or MVS system messages, or both, depending on the definition of the console. The following sections describe how to:

- Reply to MVS system messages
- Switch or send messages from one console to another
- Suppress display of messages

Replying to MVS messages

Some MVS messages request that you respond with an MVS reply command. The format is:

```
R nnnn, 'text'
```

where R is the MVS reply command, nnnn is the identification number for the response, and 'text' is the response to the message.

JES3 allows short form reply but does not allow enhanced short form reply. Therefore "10,NONE" is valid but "10NONE" is not allowed. A delimiter is always required between the reply identification number and the response.

Switching messages to another console

You can switch output messages from one console to another for several reasons, such as to:

- Temporarily remove a console from the system for maintenance
- Direct a large number of messages (for example, the reply to an *INQUIRY,Q,N=ALL command) to a high-speed printer console.

Messages saved on JES3 spool for an RJP console are not affected by the *SWITCH or *FREE commands. These messages remain queued to the original console until they are read from spool.

Suppressing the display of messages

Your system programmer can use the message processing facility (MPF) to suppress the display of nonessential messages on operator's consoles. You can use the MVS DISPLAY and SET commands to control this facility. See [z/OS MVS System Commands](#) and your system programmer for more information about MPF. For additional information about MPFLSTxx see [z/OS MVS Initialization and Tuning Reference](#).

Chapter 5. Controlling JES3 services

This topic describes the services JES3 uses to control job flow, including:

- Functional Subsystems (FSS)
- Converter/Interpreter (C/I)
- Remote Job Processing (RJP)
- JES3 Networking (NJE)

Starting a functional subsystem

A **functional subsystem** (FSS) is a set of routines that performs work that can be offloaded from the JES3 global address space. An FSS runs in an FSS address space, which can be located on the global or a local. By off-loading some of the JES3 workload, virtual storage space might be freed in the JES3 global address space.

The events causing JES3 to start a functional subsystem differ for the particular type of FSS, either a writer FSS or a C/I FSS.

An **output writer FSS**, which supports specific printer devices, is started by JES3 in response to one of the following:

- A *CALL,WTR,OUT=device command is entered that specifies an output device controlled by an FSS (hot writer).
- An output device controlled by an FSS becomes available and there is eligible work (dynamic writer).

A **converter/interpreter FSS** is started automatically by JES3 in response to one of the following:

- JES3 is initiated on a main having a C/I FSS with automatic starting (START=YES) and that main is connected to the global. The START= keyword is located on the FSSDEF initialization statement.
- A *MODIFY,F,FSS=fssname,ST=Y command is entered for a C/I FSS, changing the start value from NO to YES. (DSP counts are greater than 0.)
- A *MODIFY,F,FSS=fssname,DSPC=(mmm,nnn) command is entered for a C/I FSS, changing a DSP count value from zero. (Start value must be YES.)
- A *MODIFY,F,FSS=fssname,SYS= command is entered for a C/I FSS, changing the main on which the FSS is assigned to another main which is active.

Controlling functional subsystems

The system programmer can initialize one or more FSSs at the same time the JES3 subsystem is initialized. The system programmer can assign a name and other attributes to each FSS and specify the type of support the functional subsystem will provide. JES3 has functional subsystems to support converter/interpreter service and specific printer devices.

See [“Controlling job input and converter/interpreter service” on page 80](#) and [Chapter 8, “Controlling output processing,” on page 105](#) for more information concerning specific types of FSSs.

Once an FSS is started, the operator or system programmer can monitor the status and display the attributes of the FSS using the *INQUIRY,F command. The operator or the system programmer can control the FSS and change the assigned attributes using the *MODIFY,F command.

Ending a functional subsystem

When you end JES3 on the global by entering the *RETURN command, you also end a functional subsystem if TERM=YES has been specified for that FSS. You can also selectively end an FSS by entering a *FAIL command that specifies a particular FSS.

The remaining events causing JES3 to end a functional subsystem differ for the particular type of FSS.

JES3 ends an **output writer FSS** in response to one of the following:

- A *START,dev,T or a *RESTART,dev,T is entered that specifies the last output device controlled by an FSS.
- A *FAIL,dev is entered that specifies the last output device controlled by an FSS.
- A *CANCEL,device or a *CANCEL,device,T command is entered that specifies the last output device controlled by an FSS and that device is idle.
- A previously initiated dynamic writer releases the last output device controlled by an FSS.

Note: An output writer FSS defined with TERM=YES will not terminate when you end JES3 on the global until after the processor on which the FSS was running has reconnected. To allow the FSS writer to terminate over a JES3 restart, IBM suggests that the operator not enter any *CANCEL, *FAIL, or *MODIFY,J=nnn,C commands against the FSS writer until that processor has completed the reconnection (that is, JES3 issues message IAT2645).

A **converter/interpreter FSS** is ended by JES3 in response to one of the following:

- A *MODIFY,F,FSS=fssname,DSPC=(mmm,nnn) command is entered for a C/I FSS, changing both DSP count values to zero.
- An MVS CANCEL command is entered that specifies a C/I FSS name.

Controlling job input and converter/interpreter service

Jobs can be submitted to the JES3 global from 9-track tapes, 7-track tapes with data conversion, 18-track tapes, 36-track tapes, card readers, or disk readers. Jobs can also be submitted remotely from RJP workstations, TSO/E terminals or from another JES3 complex or non-JES3 systems. In addition, JES3 can create and submit jobs internally. For example, a job stream created as output from one job can be submitted directly to JES3 using the internal reader facility. System tasks created as a result of START, MOUNT, and TSO/E LOGON commands cause internal jobs to be created (that is, JCL is actually created and submitted to JES3 input service).

Card reader input

The card reader (CR) function accepts input from the following locally attached devices: IBM 2501 Card Reader, IBM 2540 Card Reader Punch, IBM 3505 Card Reader, and IBM 3525 Card Punch with the read feature. A card reader accepts job input in conjunction with binary synchronous communications remote job processing (BSC RJP) from the IBM 2770 Data Communication System, IBM 2780 Data Transmission Terminal, IBM 3740 Data Entry System, IBM 3780 Data Communications Terminal, and programmable workstations. Card readers accept job input in conjunction with system network architecture remote job processing (SNA RJP) from the IBM 3770 Data Communications System and the IBM 3790 Communications System.

Disk reader input

The disk reader (DR) function accepts input from any type of direct-access storage device (DASD) supported by BPAM; for example, IBM 3390 Direct Access Storage devices. An EOF condition is generated when the specified member of the disk reader data set is completely read.

Tape reader input

The tape reader (TR) function accepts input from the IBM 2400 series and 3400 series magnetic tape drives. Input tapes can be blocked or unblocked and can be unlabeled or standard-labeled.

Internal reader input

The internal reader (INTRDR) function accepts JES3 output data as an input job stream. Any job can use the internal reader to pass a job stream to JES3.

The internal reader allows jobs submitted from MVS/TSO/E SUBMIT command and jobs created as system output (SYSOUT=(class,INTRDR)) to be submitted to JES3 input service for processing. JES3 dynamically starts internal readers as needed.

Input service

Input service is the JES3 function that reads and queues all jobs, except for jobs invoked by the *CALL command. It operates on a split-spooling concept; that is, job statements are read from an input device, blocked, and placed in an intermediate direct-access data set.

When physical input is complete, JES3 reads the statements from JES3 spool and processes them. If JES3 detects no errors, it enters the jobs into the JES3 job queue. A job on the job queue is made up of one or more job segments called **scheduler elements** that are scheduled independently by JES3. JES3 reads all jobs—regardless of type or origin—into the global and assigns them a unique JES3 job number from the available job number pool.

The two phases of input service are the **reader phase** and the **control-statement processing phase**. The reader phase reads jobs from an input device and places them on the spool in batches. JES3 assigns each batch job a JES3 job number and a JES3 job name. The job name consists of the first five characters of the name of the input reader device, plus the number of jobs in the batch. The control-statement processing phase analyzes the JES3 control statements, builds appropriate JES3 control blocks, and places the jobs on the JES3 job queue, assigning job numbers to each individual job in the batch.

Converter/interpreter service

Converter/interpreter (C/I) service is the JES3 function that converts JCL statements to internal text and then to control blocks. This JES3 service comprises the pre-scan processing routine, converter/interpreter dynamic support programs (C/I DSPs), the POSTSCAN DSPs, and the initiator support routines.

The C/I DSPs can run in the JES3 global address space or in functional subsystem (FSS) address spaces. The C/I driver determines where a job will have interpreter and pre-scan processing performed based on the type of job and the availability of C/I DSPs in the JES3 global or C/I FSS address space. Post-scan processing always takes place in the JES3 global address space.

C/I service interprets the job's JCL for the operating system that controls job processing. C/I service has three phases:

- **Converter/interpreter phase:** Converts the JCL into scheduler control blocks.
- **Pre-scan phase:** Creates job tables for use in the post-scan phase.
- **Post-scan phase:** Creates the job summary table for use by JES3 device setup processing.

During JES3 initialization, the system programmer specifies the number of copies of the C/I DSPs and POSTSCAN DSPs to be used by C/I service. The JES3 STANDARDS initialization statement and the FSSDEF initialization statement define the number of C/I DSPs and POSTSCAN DSPs that are to be used by (1) batch jobs and (2) started task jobs and TSO/E LOGON jobs. The number of copies of the C/I DSPs and POSTSCAN DSPs can be modified with the *MODIFY,X command.

Controlling remote job processing (RJP)

Both binary synchronous communications remote job processing (BSC RJP) and systems network architecture remote job processing (SNA RJP) allow a user at a remote location to use the capabilities of the central JES3 location. The unit record devices at the remote station are logically operated by JES3 as if they were local readers, printers, and punches. JES3 can concurrently operate all local unit-record devices, read jobs from several remote readers, and print and punch the results of processing at the remote site.

BSC RJP and SNA RJP differ as follows:

- Devices supported:
 - BSC RJP supports BSC devices only.
 - SNA RJP supports certain SNA devices, such as the IBM 3770 Data Communications System and the IBM 3790 Communications System, and other IBM SNA workstations having the same interface characteristics as those above.

Devices located at remote workstations, jobs submitted from, and output data sets destined for remote workstations can be controlled using the same commands as those for local devices and jobs.

JES3 commands can be entered at either BSC RJP or SNA RJP consoles. Which commands you can enter on a BSC RJP or SNA RJP console depend upon the authority levels assigned to the console by the system programmer. See [Table 5 on page 68](#) for a description of JES3 authority levels for remote consoles.

Signing on or off at a BSC RJP workstation

Before data transmission to a remote workstation can begin, the workstation operator must sign on to JES3. When BSC RJP is active and the line started, use the /*SIGNON card to sign on to JES3. For more information about the /*SIGNON card, see *Operator's library: OS/VS2 remote terminals (JES3)*.

The format for the /*SIGNON card is:

Columns

Description

1-8

/*SIGNON

9-15

Blanks. These columns must be blank spaces.

16-20

Workstation name: a five-character name for the remote workstation requesting sign-on. This name must have been defined on an RJPTERM initialization statement.

21

Blank. This column must contain a blank space.

22

A (or blank): A, for programmable workstations only, specifies automatic reader.

23

R (or blank): R, for nonprogrammable workstations only, specifies the output suspension feature; that is, if a print or punch data set is currently active, it can be suspended if the active device is not ready.

24

Blank. This column must contain a blank space.

25-32

Line password: a one- to eight-character password which must have been defined on the RJPLINE initialization statement.

33-34

Blank. These columns must contain blank spaces.

35-42

Workstation password: a one- to eight-character password which must have been defined to RACF if RACF password protection for RJP is active. If RACF password protection for RJP is not active, the password must have been defined on the RJPTERM initialization statement.

43

Blank. This column must contain a blank space.

44-51

New workstation password: You can use these columns to provide a new password if RACF password protection for RJP is active and you want to change the workstation password. The new password

should be 1 to 8 characters long. If RACF password protection for RJP is not active, use the *MODIFY,T command to change the workstation password.

The remote workstation can end the use of the BSC RJP line by submitting a /*SIGNOFF card. This causes any active functions to proceed to a normal completion and cancels the line.

A remote operator, using a BSC RJP dial-up line, must be sure to sign off before disconnecting to minimize possible data security problems.

Modifying BSC RJP line or BSC RJP workstation status

Certain initial BSC RJP specifications can be altered dynamically. You can determine the conditions that will prevail in the event an operator at a remote printer or punch makes the device “not ready.” You can also specify a new sign-on password for a line or workstation and whether a line will be started automatically when BSC RJP is activated.

Activating SNA RJP

Before the SNARJP DSP can be called, VTAM must be active and the required VTAM networks must be varied online. Your system programmer can provide information to do this. Except for locally-connected workstations, activating VTAM and varying the networks online cause either the IBM 3704 or IBM 3705 communications controller to be loaded with a network control program (NCP).

When VTAM is active, the communications controller loaded, and the networks varied online, VTAM establishes connections with the nodes in the network. At this time the SNARJP DSP can be called. Calling the SNARJP DSP causes JES3 to connect with VTAM. This connection process places JES3 in the role of an application program to VTAM. After this, VTAM controls communications between JES3 and the SNA RJP workstations. See *z/OS JES3 Initialization and Tuning Guide* for more information about SNA RJP.

Controlling JES3 networking

JES3 networking permits your JES3 complex – the **home node** – to be part of a job entry network that can include one or more additional systems or complexes – the **remote nodes**. Using JES3 networking, you can transmit jobs, job output (SYSOUT), commands, and messages to any node in the network for processing.

JES3 provides three networking protocols: binary synchronous communication/network job entry (BSC/NJE), systems network architecture/network job entry (SNA/NJE), and TCP/IP/network job entry (TCP/IP/NJE). This topic presents information about SNA/NJE, BSC/NJE, and TCP/IP/NJE in the following sequence:

- Controlling BSC/NJE
- Controlling SNA/NJE
- Controlling TCP/IP/NJE

SNA/NJE, BSC/NJE and TCP/IP/NJE can coexist in the same JES3 complex. You must, however, use the protocol that matches the one being used by the one or more nodes that are directly connected to your node to establish a networking session.

All the characteristics of a network, as seen from your perspective of installation (the home node), are defined during JES3 initialization. These characteristics include:

- The nodes in the network
- The path used to transmit data to each node in the network
- The consoles used to receive networking messages
- The protocol in use for each node (SNA/NJE, BSC/NJE, or TCP/IP/NJE)
- A routing table for inbound commands from the network
- The communication lines connecting your node with adjacent nodes (BSC/NJE only)

After JES3 completes initialization and before you can send or receive messages or commands from other nodes in the network, you must start networking console support.

To start BSC/NJE, you must start communication lines or channel-to-channel adapters (CTCs) that connect your node with adjacent nodes.

To start processing inbound SNA/NJE network jobs at the home node, you must start at least one NJE reader (NJERDR DSP).

To start TCP/IP/NJE, you must call the TCP DSP for a Netserv (this action starts the Netserv address space) and start at least one socket to the node that you want to communicate with. If the remote node is either JES2 or JES3, you must start a Netserv (NETSRV on JES2) on that node as well. You need to only start a socket in one direction; however, if the remote node is JES2, there must be a socket definition from the JES2 node to your home node, even if you are starting the socket from your node.

Once communication is established, you can use commands to control activity in the network. For all changes that affect other nodes, be sure to ask your system programmer for help in coordinating the changes with the operations staff at the other nodes. In some cases, you must coordinate the content and timing of the changes to avoid losing data that is being transmitted or to avoid system problems in one or more nodes in the network.

The results of all modifications described in this topic are lost if the node being modified is SNA or BSC and you restart JES3. Modifications to TCP/IP nodes are retained if you restart JES3.

The JES3 networking commands contain several keywords. You can enter the keywords as they appear or you can abbreviate the keywords as follows:

- LINE or L
- PATH or P
- JOB or J
- NAME or N
- JOBGROUP or JG
- ADD or A
- DEL or D

Some JES3 commands can be entered from other nodes within the network. For more information about the commands you can enter through NJE, see [“Using JES3 to authorize commands from NJE” on page 69](#).

The network your installation belongs to is composed of three nodes. Your installation, the home node, is node A. [Figure 6 on page 84](#) illustrates the configuration of your network.

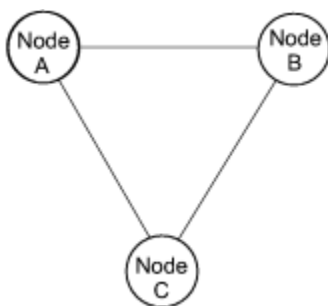


Figure 6. The Original Network

If you want to add node D to the network at node A, you must issue the following command:

```
*F,NJE,ADD=D
```

[Figure 7 on page 85](#) illustrates the new configuration of your network.

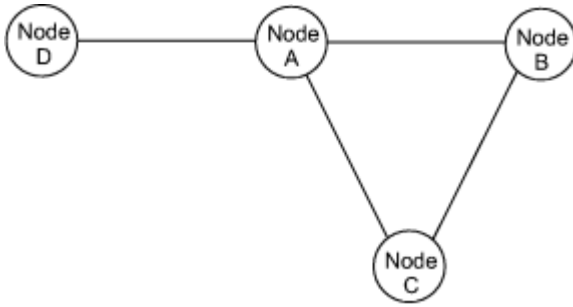


Figure 7. The Network with Node D Added

JES3 adds the specified node to your network as an indirectly-connected node.

```
IAT8460 NJERMT UPDATE COMPLETE. REQUEST HONORED.
```

The network your installation belongs to is composed of three nodes. Your installation, the home node, is node A. [Figure 8 on page 85](#) illustrates the configuration of your network.

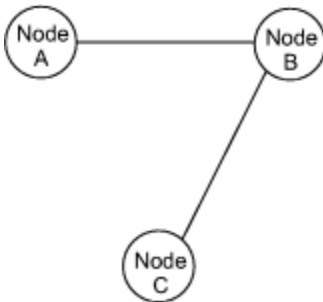


Figure 8. The Original Network

If you want to add node D to the network at node C, you must issue the following command at node A:

```
*F,NJE,ADD=D,PATH=B
```

If you do not indicate the path with the PATH= parameter, JES3 will add the node as a directly-connected node. [Figure 9 on page 85](#) illustrates the new configuration of your network.

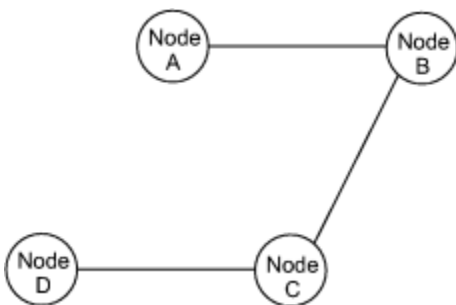


Figure 9. The Network with Node D Added

Note: The NAME and PATH operands are not positional; you can enter them as they appear or you can use N= and P= respectively. See [z/OS JES3 Initialization and Tuning Guide](#) for more information about establishing a network.

- JES3 deletes the specified node from your network.
- If you delete an active SNA node, work for that destination is placed in operator hold. JES3 will issue messages to indicate the node is no longer included in the network.
- You cannot delete an active TCP/IP node, or any TCP/IP node that has sockets defined, regardless of whether the node is active.

- You cannot delete a TCP/IP node that has sockets defined, regardless of whether the node is active.

IAT8460 NJERMT UPDATE COMPLETE. REQUEST HONORED.

The network your installation belongs to is composed of four nodes. Your installation, the home node, is node A. [Figure 10 on page 86](#) illustrates the configuration of your network.

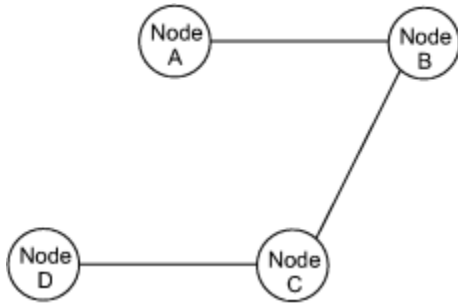


Figure 10. The Original Network

If you want to delete node D from the network, you must issue the following command:

```
*F,NJE,DEL=D
```

[Figure 11 on page 86](#) illustrates the new configuration of your network.

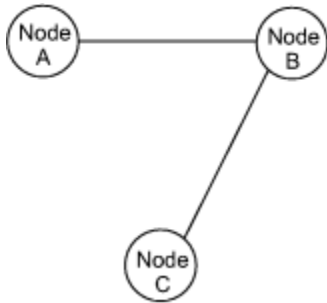


Figure 11. The Network with Node D Deleted

Rules

- If you specify a directly connected node in the NAME= parameter, code the same node name in the PATH= parameter.

Results

JES3 routes all future transmissions to the node specified in the NAME= parameter through the node specified in the PATH= parameter.

IAT8460 NJERMT UPDATE COMPLETE. REQUEST HONORED.

[Figure 12 on page 87](#) shows a job network consisting of five nodes. Each node is directly connected to its adjacent node with an active networking line. Nodes A and B are using JES3. The arrows show the paths currently being used to transmit data from node A to each node in the network.

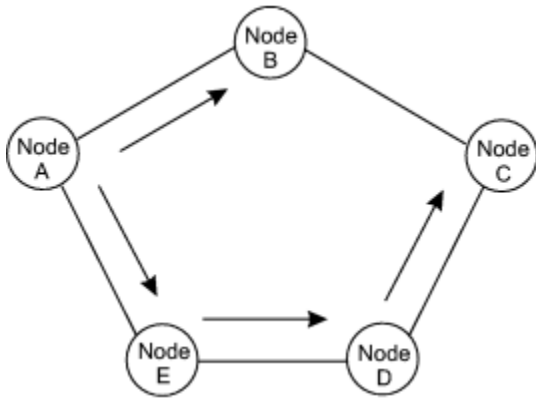


Figure 12. Transmission Paths for Node A

If the networking line connecting node A and node E fails, node A can no longer communicate with node E, D, and C. To reestablish communication, a new transmission path must be defined. [Figure 13 on page 87](#) shows the path agreed upon by the coordinators at all nodes in the network.

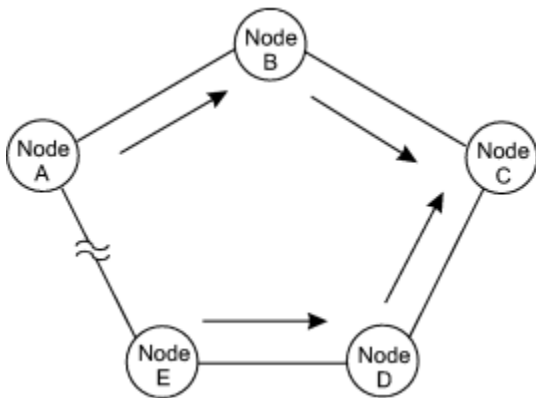


Figure 13. New Transmission Paths for Node A

To define the new path, node A must issue the following command:

```
*F,NJE,NAME=E,PATH=B
```

(Notice that you only have to define the first node in the path (B) and the furthest point on the path (E).) If node B does not currently route transmissions directly to node C, node B must issue the following command:

```
*F,NJE,NAME=E,PATH=C
```

To complete the path from node A to node E, nodes C must be able to route data to node D and node D must be able to route data to node E. If either node cannot route data as required, the node must make the appropriate change.

In addition, if nodes B, C, D, or E lose communication with other nodes in the network as a result of the line failure, the same procedure described above must be used to reestablish communication for each of the affected nodes. [Figure 14 on page 88](#) shows a job network consisting of three nodes connected by active networking lines. Nodes A and B are using JES3.

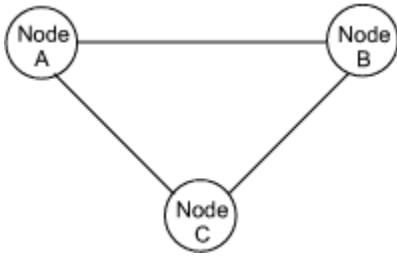


Figure 14. A Job Network

Figure 15 on page 88 shows the paths currently being used by node A and node B to transmit data to the other nodes.

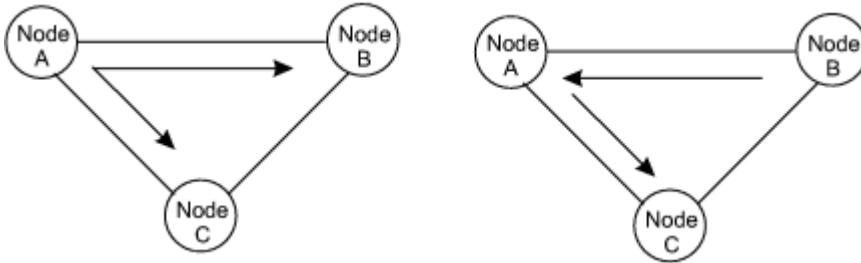


Figure 15. Transmission Paths Being Used by Nodes A and B

If the transmission line between nodes A and C fails, nodes A and B must define new paths to node C. Figure 16 on page 88 shows the new paths.

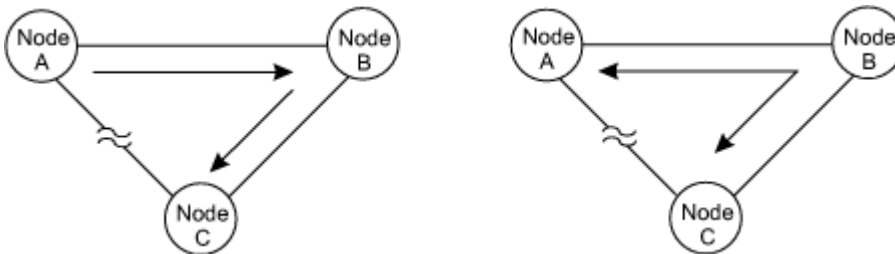


Figure 16. New Paths To Be Used by Node A and Node B

To define the new paths, node A must issue the following command:

```
*F,NJE,NAME=C,PATH=B
```

and node B must issue the following command:

```
*F,NJE,NAME=C,PATH=C
```

In addition, if the paths being used by node C are also affected by the line failure, the appropriate changes must be made.

All the changes must be coordinated so that none of the nodes attempts to transmit data before the paths are all redefined. Otherwise, transmissions can loop between nodes in the network. For instance, a transmission loop can occur if node A makes the required change and node B attempts to transmit data to node C before node B makes the necessary changes. As shown in Figure 17 on page 89, node B sends the data to node A using the path that was originally established to node C. But when the data reaches node A, node A sends the data back to node B using the new path to node C.

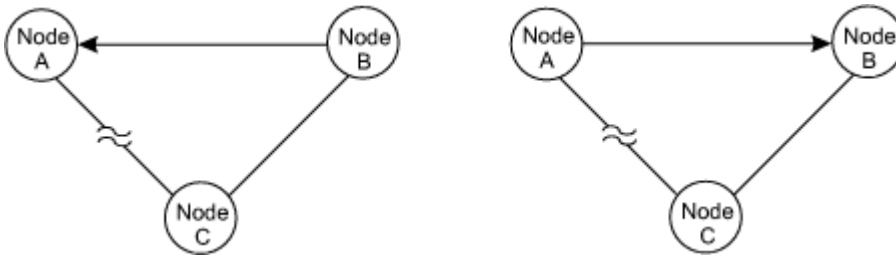


Figure 17. A Transmission Loop

Indicate that the networking protocol has changed from BSC/NJE to SNA/NJE between your node and NODE2:

```
*F,NJE,NAME=NODE2,TYPE=SNA
```

You can also change the protocol to TCP/IP/NJE by specifying TYPE=TCPIP.

Set the job password control option so that passwords sent to NODEB are verified locally:

```
*F,NJE,N=NODEB,PC=LOCALCHK
```

Set the job password control option so that passwords sent to NODEB are sent encrypted:

```
*F,NJE,N=NODEB,PWCNTL=SENDENC
```

In the following example, nodes A and B exist and B needs to send jobs to another node using the name Z. However, the jobs are actually to be sent to node A. In this case, Z is called an "alias" of A. In addition, external writer output received on node A when the alias of Z is used should be assigned SYSOUT class M by default.

(See the Initialization and Tuning Guide and the Initialization and Tuning Reference for more information on defining aliases.)

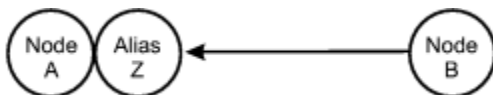


Figure 18. A Transmission Path Using an Alias

To accomplish this, the following command is issued on A:

```
*F,NJE,ADDAL=Z
```

and the following command is issued on B:

```
*F,NJE,ADD=Z,PATH=A
```

Controlling BSC/NJE

During JES3 initialization, the networking lines were defined for each remote node to which you are directly connected. However, you cannot transmit or receive network jobs, messages, or commands across a line until you start communication on the line.

When starting a line or at any time after a line is started, you can stop or start receiving network jobs across the line. You can transmit network jobs and you can transmit and receive messages and commands across the line. You can also start or stop the line tracing facility for the line at any time. When the line tracing facility is active, it records status and data information for each I/O operation on the line. When you stop the facility, JES3 prints the recorded information.

If necessary, you can also stop all communication on a line and you can display the status of each communication line in the network at any time.

Controlling SNA/NJE

The JES3 systems network architecture/network job entry (SNA/NJE) permits a JES3 installation to establish networking sessions with other SNA/NJE nodes. SNA/NJE requires version 2 of the MVS/Bulk Data Transfer (MVS/BDT) program product. You must start MVS/BDT to send and receive jobs streams, job output (SYSOUT streams), commands, and messages between nodes using the SNA/NJE protocol.

The SNA/NJE Enhancement permits a JES3 installation to:

- Receive job streams from another node in the network to be processed or be forwarded to another node for processing.
- Receive SYSOUT streams sent to your node, print or process the data, or forward it to another node.
- Send job streams to another node for processing.
- Send SYSOUT streams produced by a job at the home node to another node in the network.
- Reroute job or SYSOUT streams to another node in the network.
- Reroute work from a node using one of the three protocols (BSC, SNA, TCP/IP) to another node using one of the three protocols. All the three protocols can coexist in the same JES3 complex.

JES3 receives inbound jobs and SYSOUT streams, which are written on spool by MVS/BDT, through the NJE reader. The NJE reader prepares inbound streams for printing or further processing at the home node. You can inquire about, modify or reroute work while it resides on spool.

You must call at least one NJE reader to process inbound SNA/NJE work. MVS/BDT places inbound work on spool and passes control to JES3. You can call as many as 255 NJE readers to handle large volumes of networking jobs.

Network job streams vs. network SYSOUT streams

You can transmit two types of network jobs using SNA/NJE: network job streams and network SYSOUT streams.

Network job streams contain JCL and SYSIN data you want run at another node. JES3 users initiate JES3 networking jobs by including the `//*ROUTE XEQ JECL` statement to send MVS JCL or the `// XMIT` statement to send non-MVS JCL or MVS JCL to another node for processing.

Network SYSOUT streams contain non-executable data such as memos, reports, or any other type of job output you want to send to another node.

This document refers to both network job streams and network SYSOUT streams collectively as **network jobs**.

Controlling TCP/IP/NJE

The JES3 Transmission Control Protocol/Internet Protocol Network Job Entry (TCP/IP/NJE) permits a JES3 installation to establish networking sessions with other TCP/IP/NJE nodes. All TCP/IP/NJE communication is done through the JES Common Component NJE support (IAZNJTCP) running in a Network Server (Netserv) address space. You must start a Netserv by calling the TCP DSP; then start a socket to a remote node to send and receive jobs streams, job output (SYSOUT streams), commands, and messages between nodes using the TCP/IP/NJE protocol.

The TCP/IP/NJE function permits a JES3 installation to:

- Receive job streams from another node in the network to be processed or be forwarded to another node for processing.
- Receive SYSOUT streams sent to your node, print or process the data, or forward it to another node.
- Send job streams to another node for processing.
- Send SYSOUT streams produced by a job at the home node to another node in the network.
- Reroute job or SYSOUT streams to another node in the network.

- Reroute work from a node using one of the three protocols (BSC, SNA, TCP/IP) to another node using one of the three protocols. All the three protocols can coexist in the same JES3 complex.

JES3 receives inbound jobs and SYSOUT streams, which are written on spool by the Netserv, directly through the Input Service of JES3 global, which prepares inbound streams for printing or further processing at the home node. You can inquire about, modify, or reroute work while it resides on spool.

Dynamically defining TCP/IP/NJE

TCP/IP/NJE requires all of the following definitions:

- At least one node with TYPE=TCP.
- At least one Network Server (Netserv).
- At least one socket associated with the above Netserv and node.

If you have not made these definitions in the initialization stream, you can use modify commands to make the associations. For example, the following commands can be used to define a TCP/IP connection to NODE4 if the host name that NODE4 uses to listen to TCP/IP is NODE4.HOST.COM:

- *F,NJE,ADD=NODE4,TYPE=TCPIP
- *F,NETSERV,ADD=SERVER1
- *F,SOCKET=SOCKET1,NODE=NODE4
- *F,SOCKET=SOCKET1,NETSERV=SERVER1
- *F,SOCKET,ADD=SOCKET1,NODE=NODE4,NETSERV=SERVER1, HOSTNAME=NODE4.HOST.COM

It is the responsibility of the installation to provide security definitions for the added Netserv. For information about defining Netservs, refer to [z/OS JES3 Initialization and Tuning Guide](#).

After the definitions have been made, you can start a connection using the following commands:

- *X,TCP,NETSERV=SERVER1
- *S,TCP,SOCKET=SOCKET1

TCP/IP must be active and the host name defined on the socket must resolve to a valid TCP/IP address.

Network job streams vs. network SYSOUT streams

You can transmit two types of network jobs using SNA/NJE: network job streams and network SYSOUT streams.

Network job streams contain JCL and SYSIN data you want to run at another node. JES3 users initiate JES3 networking jobs by including the //*ROUTE XEQ JECL statement to send MVS JCL or the // XMIT statement to send non-MVS JCL or MVS JCL to another node for processing.

Network SYSOUT streams contain non-executable data such as memos, reports, or any other type of job output you want to send to another node.

This document refers to both network job streams and network SYSOUT streams collectively as **network jobs**.

Communicating with other nodes in a network

Along with sending and receiving network jobs and SYSOUT data, JES3 networking allows communication between your node and any remote node in the network using messages and selected commands. This communication is done by the console support function of JES3 networking.

Specifically, networking console support allows you to:

- Enter selected commands at any console in your node and have the command processed at a remote node. Any response is returned to the console where you entered the command.
- Send a message to a remote node from any console in your node.

In addition, networking console support can send and receive messages generated by JES3 networking processing and by jobs running at nodes other than where they were submitted.

After you start JES3 and before messages and commands can be sent and received at your node, you must start networking console support.

For a BSC/NJE network you must also start the networking lines that connect your node with adjacent nodes.

For a SNA/NJE network you must start MVS/BDT and establish SNA/NJE networking sessions with remote nodes.

For a TCP/IP/NJE network, you must start a Netserv and establish a socket connection with a remote node that also uses the TCP/IP protocol.

If messages and commands are sent to your node before you start networking console support, the commands and messages are lost.

Chapter 6. Controlling JES3 devices

This chapter describes JES3 devices, including:

- Spool
- Devices
- Volumes
- Data sets

Controlling JES3 spool partitions and spool data sets

Your installation defines and initializes JES3 spool partitions and spool data sets during JES3 initialization. Although some characteristics of the partitions and data sets are set at that time, you can monitor and control several aspects of how they are used in a running system.

Because proper handling of spool partitions and spool data sets is a crucial factor in the performance of any JES3 system, be very careful when modifying JES3. Be sure your system programmer has completely evaluated the impact of any update on the entire complex before making any modification.

The following characteristics of spool partitions and spool data sets are determined during JES3 initialization processing and cannot be changed unless you restart JES3 using updated JES3 initialization statements, JES3 procedure statements, or both:

- The maximum number of spool data sets
- The name and size of each spool data set
- The unit and volume that contain each spool data set
- The size and location of the single track table (STT) extents on the data sets
- The maximum number of spool partitions
- The name of each spool partition
- The partition to be used as the default partition
- The partition assigned to contain JES3 checkpoint information (initialization partition)
- The partition(s) assigned to contain data sets in specific SYSOUT classes

The next two sections describe the characteristics of spool partitions and spool data sets that you can monitor and modify after JES3 initialization.

Controlling JES3 spool partitions

You can use the `*MODIFY,Q` command to assign or reassign a spool overflow partition or to reassign a spool data set from one partition to another. You can reassign any spool data set to any spool partition if the default partition has a minimum of one data set assigned to it and the number of available track groups in the default partition does not fall below the minimal condition established by your installation. (The changes remain in effect if you restart JES3 using a hot start. They do not remain in effect if you use a warm start.) You can use the `*INQUIRY,Q` command to identify the spool data sets assigned to a particular partition and to determine if the partition is an overflow partition, the default partition, or the initialization partition. You can also display the size of a partition, the amount of space that is currently available, and the largest users of spool space.

The `*MODIFY,Q` command also allows you to reassign a job's spool data from one partition to another. You can do this for all jobs in a specific job class or for all jobs that run on a specific main. (These changes might or might not remain in effect after a JES3 restart. See the explanations of the individual commands for the effects of a JES3 restart). Once data is written to a spool data set, the data itself does not move. If you want to use a specific spool partition for the output data from a particular job, it is not necessary to modify JES3 system parameters; use the `//*MAIN` control statement in the job's JCL to override the

partition that JES3 would normally use to write the job's output data. (See [z/OS JES3 Initialization and Tuning Guide](#) for details of the `//*MAIN` control statement.)

Once data sets in a SYSOUT class are assigned to a partition, you cannot change the assignment without restarting JES3. Note that by using JES3 commands, initialization statements, and the `//*MAIN` control statement, you can assign data from any combination of jobs, classes of jobs, processors, and SYSOUT classes to a partition. You can use the `*INQUIRY` command to identify the spool partition assigned for a specific job, for all jobs in a specific job class, and for jobs that run on a specific main.

When you reassign data from one partition to another, keep in mind that the partition assignments for a particular job's spool data can overlap. While a job is running, JES3 uses the following priority scheme to choose the partitions it will use. For each portion of the job's data, JES3 uses the first partition in the list that is assigned for that part of the job's data.

- **For output data only:**

- JES3 uses the partition assigned to a SYSOUT class for a specific output data set.
- JES3 uses the partition assigned on the job's `//*MAIN` control statement.
- JES3 uses the partition assigned to the job's class, if not defined on the `//*MAIN` statement.
- JES3 uses the partition assigned to the main on which the job processes, if not defined on the `//*MAIN` statement and if the job's class has no partition assigned.

- **For input data and all remaining output data:**

- JES3 uses the default partition.

Note: It is possible for JES3 to write a job's data to several partitions. For example, JES3 can use one or more partitions for a job's output data sets that meet one of the first four criteria, a partition for the remaining output data sets, and a partition for the job's input data sets.

Controlling JES3 spool data sets

The `*MODIFY,Q` command allows you to control activity on a spool data set. You can stop JES3 from allocating additional space on a specific spool data set and then restart space allocation processing at a later time. This action does not affect the jobs that already have data on this data set; the jobs continue to run in the normal manner. If necessary, you can place a spool data set and all jobs with spool data on the data set in hold status and release both the data set and the jobs at a later point in time. Another parameter allows you to place the data set in hold status and cancel all jobs with spool data on the data set. You then can release the data set from hold status and resume allocating space on the data set. (All these changes remain in effect when you restart JES3, using a hot or warm start.)

The `*INQUIRY,Q` command allows you to display the status of any spool data set as well as the size of the data set and the amount of space currently available. Also, for a particular job, you can list the names of either all the spool data sets containing data for the job or only those data sets that are being held. If you need to know which jobs have space allocated on a particular spool data set and the amount of space allocated to each job, you can use the `DISPLAY DSP`. For a description of the `DISPLAY DSP`, refer to [z/OS JES3 Diagnosis Reference](#).

Deleting SYSOUT data sets from the hold queue

To provide additional spool space, an installation can delete unneeded SYSOUT data sets. Use the `CANCEL` parameter on the `*MODIFY,U` command to cancel SYSOUT data based on the writer-selection criteria entered in the parameter field. You can use this command with any output service queue. This command is not applicable to SYSOUT data sets on the output service hold queue that are already scheduled to be processed.

Removing and reinstating a spool data set

When you restart JES3 on a global processor with either a warm start or a hot start, you can remove a spool data set from the system or reinstate a spool data set that was previously removed from the system.

The ability to remove and reinstate a spool data set is useful when I/O errors occur on the volume containing the spool data set and the error affects JES3 system functions. If the volume is repairable, you can remove the volume for repairs and return it to the system when repairs are complete without jeopardizing all the jobs in the system; only jobs with data on the spool data set on the failed volume are affected.

The changes in the JES3 cataloged procedure required to remove or reinstate a spool data set are described in *z/OS JES3 Initialization and Tuning Guide*. You do not need to change the initialization stream, unless you have used a DYNALLOC statement to allocate a data set.

The operator activities required to remove and reinstate a spool data set are discussed in the following sections. To get a complete picture of the operator's activities for a particular restart process, see the "Operator Activities" section for the type of restart you are performing.

After you have removed a spool data set, all jobs in the system that have spool data or allocation tables on the affected data set are in hold status or canceled. In addition, if the affected data set contained data in single track table (STT) records, JES3 might have to make changes to maintain the integrity of the system, such as cancel jobs or change the status of devices. After you reinstate a spool data set, you can release all jobs that have data on the affected data set from spool hold status so they can continue processing.

Controlling devices, volumes, and data sets

The assignment of devices, volumes, and data sets that support job processing is accomplished through a process called system allocation. This process allocates resources in response to JCL DD statements. The following information is described:

- Main device scheduler setup
- Modifying setup specifications
- Placing devices online or offline to JES3

Main device scheduler (setup)

JES3 provides device management through setup, which is performed by the main device scheduler (MDS). MDS can partially or totally support the system allocation process and allocate resources in response to JES3 control statements in the job stream. JES3 setup consists of fetching, allocating, verifying, and deallocating JES3-managed I/O devices, volumes, and data sets.

The purpose of JES3 setup is to prevent delays by allocating required job resources (devices, volumes, and data sets) before jobs are scheduled for processing. JES3 setup allows controlled multisystem access to commonly accessible data sets in the loosely-coupled multiprocessing environment. JES3 setup also ensures that required storage management subsystem (SMS) resources are available before scheduling a job for processing.

During JES3 initialization, the system programmer decides whether to use JES3 setup or to let MVS (which controls the job processing) perform the entire allocation process as each step begins processing). If JES3 setup is used, the system programmer decides whether its use is to be partial (set up some jobs and some resources) or total (set up all jobs and all resources). You can encounter a particular job that overrides the installation's standard setup algorithms. This occurs when SETUP and FETCH subparameters appear on the `//*MAIN` statement in the job stream. These parameters do not affect SMS resource processing.

When JES3 setup is not used, the job is presented to the operating system based on such criteria as job class, priority, or workload mix. In this case, a job's resource requirements are not known until JES3 selects the job for processing, and a system initiator begins the step allocation process. At each job step, system allocation attempts to satisfy the requirements for the step along with the requirements for every other job step currently running on the same main. If the requirements cannot be met, system allocation gives you the option of canceling the job or allowing it to wait for resources. Thus, a system that does not use setup has some jobs in processing, while others wait for resources.

Jobs waiting in system allocation have exclusive use of critical resources, such as a system initiator, an address space, data sets, and possibly devices. Using resources longer than necessary makes it very

difficult to determine how many initiators should be started to keep the system fully used. This is because at any given time, an unknown number of initiators are waiting for resources.

JES3 setup helps the system make maximum use of devices and helps jobs to run in a minimum amount of time once they are passed to the system for processing. Jobs are not held in processing because of contention of devices or because of volume mounts. With JES3 setup, the required resources are already set up when the job is passed to the system for processing. JES3 setup occurs while a job is in the JES3 address space, and the only system resource used while the job is waiting is the queuing space.

JES3 setup determines the initial volumes required on each device before the job can be selected for processing (unless deferred volume mounting is specified in the JCL). JES3 interpreter service scans the JCL for required volumes and data sets. It then determines the volumes required; if necessary, it accesses a system catalog. If DFHSM is active and the required data set has been migrated by DFHSM, the required volumes are the volumes where the data set could reside if it were recalled. Once JES3 interpreter service has determined which volumes are required, the MDS volume fetch facility issues a disk or tape volume request message depending on the coding of the DAFETCH=, FETCH= and TAFETCH= parameters on the SETPARAM initialization statement and the FETCH= parameter on the `//*MAIN` statement.

If `ALLOCATE=AUTO` (parameter default) is specified on the SETPARAM initialization statement or if you enter the `*MODIFY,S,AL=A` command (automatic allocation), the job will proceed to the allocate queue. If you specify automatic allocation and SMS resources are required, the job will proceed to the system select queue. If `ALLOCATE=MANUAL` is specified on the SETPARAM initialization statement or if you enter the `*MODIFY,S,AL=M` command, the job is put into the WAITVOL queue, from which it is released by entering the `*START,S` command when the volumes are available (at which time the volume-request messages are issued).

You can use the `*INQUIRY,S` command to display jobs in the fetch queue, and the `*MODIFY,S` command to alter the `ALLOCATE` subparameter on the SETPARAM statement.

MDS also assigns volumes to devices with consideration for all jobs in the system. Therefore, the premounting of anticipated volumes on JES3-managed devices is not required and should not be done. MDS detects incorrectly mounted volumes during job verification processing and issues remount messages as required. The operator must not manually demount incorrectly mounted volumes without a request from JES3.

KEEP and RETAIN messages are issued to inform you of volume disposition during the deallocation phase. In the event that both MVS and JES3 issue KEEP or RETAIN messages regarding a specific volume, the JES3 messages take priority. MVS KEEP and RETAIN messages are job related; JES3 KEEP and RETAIN messages are system-wide, relating to any or all jobs.

In determining volume disposition for 3480 or 3490 tape devices, JES3 KEEP and RETAIN messages take priority over both the MVS KEEP and RETAIN messages and the display that appears on the 3480 or 3490 tape drive.

JES3 does not issue KEEP or RETAIN messages for scratch tape volumes; for these volumes, the MVS KEEP or RETAIN messages should be used to determine volume disposition.

Modifying setup specifications

Much of JES3 setup processing is designed to assist you in maintaining an awareness of device, volume, and data set disposition throughout the complex, thus enabling you to increase operating efficiency. The `*MODIFY` command is provided to allow dynamic control of JES3 setup processing in the constantly changing job and resources environment.

Placing devices online or offline to JES3

When varying a JES3-managed device online or offline to JES3, JES3 attempts to vary the device online or offline to MVS. JES3 varies a device offline only if the device is not allocated. If you want the MVS status to differ from the JES3 status, you then must enter the MVS VARY command to change the MVS online/offline status of the device (after JES3 initialization or a JES3 `*VARY`). You should not, however, vary an online JES3-managed device offline to MVS.

If you enter a *VARY,OFFLINE command for a device that is currently in use (except for a tape drive that is in use on another system), JES3 will mark the device pending offline to JES3 and will not vary the device offline to MVS until it is unallocated.

When varying a 3480 or 3490 tape device online or offline to JES3 as a JES3-managed device or a JES3 device, JES3 varies the device online or offline to MVS. JES3 also performs an ASSIGN (online) or UNASSIGN (offline). The device remains online and assigned to MVS only if it is online as a JES3 device or as a JES3-managed device. A device path must be online before the operator or JES3 can vary the corresponding device online to JES3 or MVS. See [*z/OS MVS System Commands*](#) for information about controlling paths.

Chapter 7. Controlling job scheduling, selection, and processing

Job scheduling, selection, and processing are divided into five areas:

- **Job queue control:** Allows direct control over each job that is read into JES3.
- **Deadline scheduling:** Provides an automatic method of controlling a job's priority to increase the probability that a job will be scheduled by a given deadline.
- **Dependent job control (DJC):** Allows organizing jobs that are dependent upon each other and must run in a specific order.
- **Job selection using generalized main scheduling (GMS):** Optimizes the use of resources by selecting jobs for processing mains.
- **Processing on main (main service):** Controls job processing between the global and local mains in the JES3 complex.

Job queue control

All jobs that are read into JES3 are placed in the JES3 job queue, which resides on a direct-access storage device (DASD). Once in the job queue, the job is subdivided into two or more processing segments called scheduler elements. A job submitted in the normal way has scheduler elements representing the converter/interpreter (C/I) for input processing, main service (MAIN) processing, output service (OUTSERV) for processing the job's output, and PURGE for purging a job from the system.

You can use the *INQUIRY,J and *INQUIRY,Q commands to check the progress and the status of jobs in the JES3 job queue. If the job is active on a main, additional information about its setup status is also provided. You can use the *INQUIRY,P command to display information for jobs of a designated priority.

You can use the *MODIFY,J and *MODIFY,Q commands to hold, release, cancel, or alter the priority of a specific job or an entire priority queue. You can use the *INQUIRY,A and *INQUIRY,B commands to display the status of active jobs in various subqueues and backlogged jobs.

Normally, your only action will be to monitor the job flow and ensure that no serious delays are occurring. However, you might need to modify the status of one or more jobs from time to time to ensure efficient job flow in the JES3 complex. The skillful use of the *INQUIRY and *MODIFY commands in conjunction with your control of readers, resources, and output can contribute a great deal to a smooth, efficient job flow.

Deadline scheduling

Deadline scheduling ensures that a job is submitted at a specified priority level, allowing JES3 to schedule it while making best use of the available system resources. If the job is not scheduled on time, the priority level of the job is increased to ensure that the job is processed before its specified deadline.

Deadline scheduling is specified for a job using the DEADLINE subparameter on the //*MAIN control statement in the job stream. With this parameter, the programmer specifies the actual time the job is due to be scheduled. When input service recognizes the DEADLINE parameter, it places the entry into a special deadline queue and internally calls the DEADLINE DSP to control the job. You can use the *INQUIRY,A,D=DEADLINE command to display the status of the job currently being processed by the DEADLINE DSP. You can use the *INQUIRY,A,D=DLINE command to display the status of all jobs on the deadline queue. Deadline specifications are determined during JES3 initialization on the DEADLINE statement.

Normally, deadline scheduling requires no operator action; however, operator commands are provided for you to handle special situations. You can use the *INQUIRY,L command to display the deadline specifications and the *MODIFY,L command to alter them. If you need to alter deadline specifications, then you must enter the *START,L command after the *MODIFY,L command.

Dependent job control (DJC)

Dependent job control (DJC) is a JES3 function that manages jobs that are dependent upon one another. For example, job A produces output on tape that job B requires as input, and job B produces output on tape that job C requires as input. DJC enables such jobs to be processed in a specific order, as determined by their job dependencies. Job dependencies can occur because of data dependencies, or can be defined to achieve better device utilization, or to manage production job streams.

In DJC, jobs are categorized as “predecessor” or “successor” jobs by their relationships to each other. A *predecessor* job is a job that must complete processing before another job can be scheduled; jobs that must wait for the completion of one or more predecessor jobs are called *successor* jobs.

Job dependencies of a complex nature are typical. As an example, DJC manages the scheduling of the complex DJC network illustrated in Figure 19 on page 100.

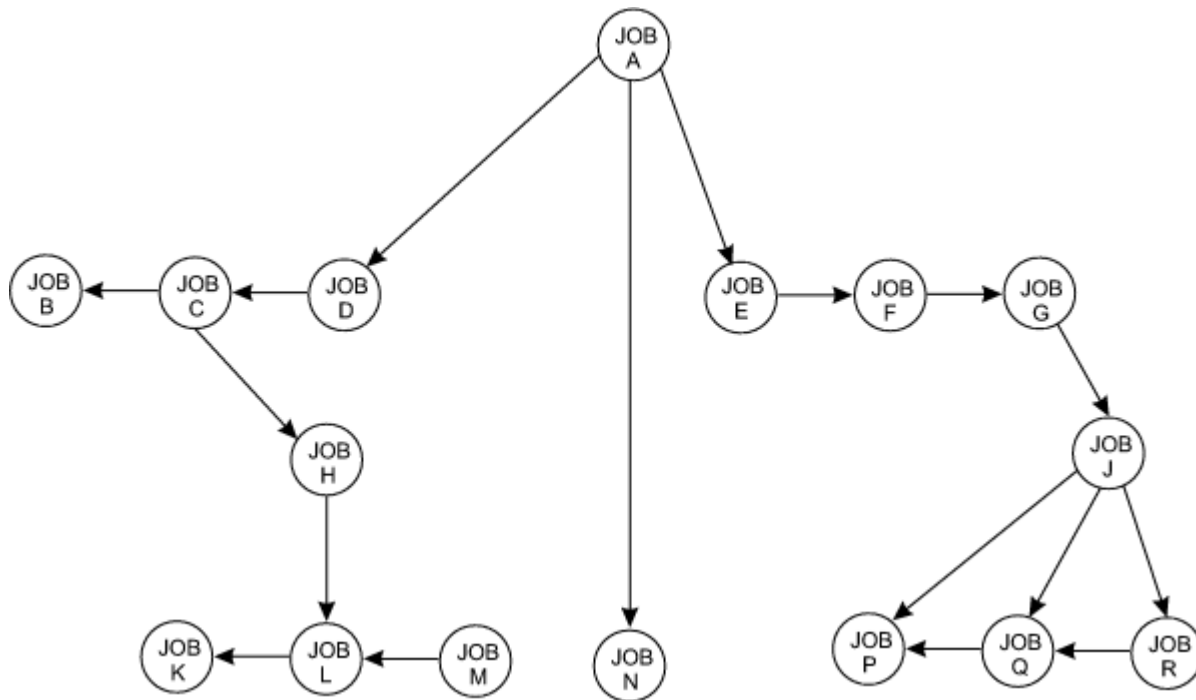


Figure 19. Complex DJC Network

The DJC network name is defined to JES3 on the `//*NET` control statement. Each DJC network in the JES3 job queue has a name that is similar to a job name for a single job in the job stream. (Nonstandard DJC jobs are defined with `//*PROCESS DJCPROC` or `DJC` statements.) The `NET` statement identifies the DJC network to which the job belongs and specifies the dependency that must be satisfied before the job can be scheduled.

The first job of a given DJC network entering the system causes the specified network to be defined to JES3. All subsequent jobs with the same DJC network identification become members of the DJC network. You can use the `*INQUIRY,N` command to display the status of the DJC networks currently in the job queue.

The first job of a particular DJC network uses the `DEVPOOL` parameter of the `//*NET` control statement to reserve devices for the DJC network. The devices are reserved when this job enters setup. It is important for the programmer or operator to reserve devices for a job network if, as is typically the case, the DJC jobs pass data sets from one to another; this means that they have similar setup requirements (the same volumes and devices are needed by many of the jobs). If devices are not reserved for a DJC network, the DJC jobs contend with other jobs for the available devices when they enter setup. Because DJC jobs are normally held before setup and they are only released for setup when their predecessors have completed, other jobs can take over the devices that the DJC network will soon need again. Volume

mounting operations and the time that successor jobs require to get through the system can both be reduced by reserving the commonly-required devices for the DJC network.

The NHOLD parameter on the `//*NET` statement specifies the number of predecessor jobs that must complete before the job is eligible for scheduling. If the NHOLD parameter is not specified, the job is eligible for immediate scheduling. If the NHOLD parameter is specified or if the job is in an operator-hold state, only the first phase of the interpreter function is scheduled; further scheduling is suspended until all the job's predecessors complete processing. You can use the `*INQUIRY,N,ID=` command to display the status of jobs in a DJC network.

When a DJC job completes, it reduces by one the NHOLD count of any successor jobs. However, specifying the release scheduling count (RELSCHCT parameter on the `//*NET` control statement) allows the job to be released before the NHOLD count has reached zero. In this case, the job is scheduled up to, but not including, main service, and then it is placed in DJC hold status in the job queue. When the NHOLD count reaches zero, JES3 releases the job for main scheduling. A job released by the RELSCHCT parameter has its devices set up early. When its predecessors have completed, it is ready for main (execution) scheduling.

The display dependent job control tables utility (DISPDJC) can be used to give a report on the status of a DJC network. (See *z/OS JES3 Diagnosis*.)

Normally, commands are not required to invoke DJC; however, the `*INQUIRY` and `*MODIFY` commands can display and alter DJC specifications.

See *z/OS MVS JCL Reference* for information on how to code DJC network statements.

Note: Jobs belonging to a dependent job control (DJC) network cannot be registered with automatic restart management.

Job selection using generalized main scheduling (GMS)

The generalized main scheduling (GMS) facility determines which job is to be processed when a system initiator asks JES3 for work or when a job is eligible for processing. After a job is set up, it becomes eligible for job scheduling by GMS. The job selection process and all the interdependent considerations for scheduling jobs in a loosely-coupled multiprocessing environment are completely handled by JES3, using the job selection established at JES3 initialization by the system programmer.

Controlling GMS job selection

Apart from the function of dynamically altering the priority of a job in the JES3 job queue (performed by deadline scheduling) and the function of holding and releasing jobs in the queue (based on DJC considerations), the following influence the process of selecting a job for execution by GMS:

1. Each main has its own unique set of scheduling algorithms defined by the MAINPROC, SELECT, CLASS, and GROUP initialization statements. The interaction between these statements defines one or more job-selection modes that apply to each main in the JES3 complex. Each job that enters the JES3 system, even by default, belongs to a job group that is associated with a job-selection mode. That job can only be selected for processing on mains that have that selection mode active and assigned to them.
2. Input service determines which mains can run the job by analyzing the SYSTEM parameter on the `//*MAIN` control statement and the job class.
3. JES3 setup selects mains based on the location of nonshared devices and permanently resident volumes and data sets.
4. Removable devices assigned to a job can also restrict the mains eligible to run it.
5. A job's scheduling environment can also restrict the mains eligible to run it.

Therefore, jobs in a JES3 complex are selected for processing on the basis of processor eligibility (an implied attribute), as well as the explicitly stated class and priority attributes for scheduling.

Note: Automatic restart management determines on which main a job should run when it is responsible for restarting a job.

Normally, GMS requires little or no intervention by the operator other than to change job-selection modes for a particular main. For example, a selection mode of SHIFT2 and SHIFT3 might be established for a particular main, and at shift change the *MODIFY,G,main,S,opt command can be used to change the selection mode for that main.

Other GMS parameters should be altered only as directed by the system programmer; however, a general description of each of the GMS statements is provided for your information. A complete description of these statements is contained in *z/OS JES3 Initialization and Tuning Reference*.

The CLASS Statement. The CLASS initialization statement defines the characteristics of the JES3 job classes. Up to 255 job classes can be defined. A CLASS statement defines each job class that appears on a JOB or //*MAIN statement. If a job specifies an undefined class, the job is flushed.

If a class is not specified on a JOB or //*MAIN statement, the default class is used. If a default is not supplied, the class name JS3BATCH is assigned. The class definition for JS3BATCH consists of CLASS statement defaults, which are defined in *z/OS JES3 Initialization and Tuning Reference*.

A class of jobs can be eligible to run on one or more mains in the JES3 complex. The *INQUIRY,G command can be used to display which job classes can be processed on a specific main. The *MODIFY,G command can be used to alter the status of any class defined.

The GROUP Statement. The GROUP initialization statement defines the resources (initiators and devices) available or dedicated to a group of JES3 classes. Resource specifications are repeated for each main on the GROUP initialization statement. Initiators associated with a group can either be JES3 managed or WLM managed.

When JES3 initiator management is used, JES3 is responsible for starting and stopping initiators based on the initiator options on the GROUP statement. When WLM initiator management is used, Workload Management is responsible for starting and stopping initiators based on the backlog of jobs, performance goals defined in the WLM policy, and available system capacity. When WLM initiator management is used, JES3 related initiator and workload balancing controls are ignored for that group. Devices can be assigned to the group to satisfy requests for mountable volumes (not MVS permanently resident) from jobs within the group.

The MAINPROC Statement. The MAINPROC initialization statement describes each main and specifies the name of the job-selection mode to be initially assigned to the main. The default selection mode is designated by JES3 as JS3BATCH.

The SELECT Statement. The SELECT initialization statement defines the job-selection parameters for each job-selection mode. The job-selection mode is assigned to a main by the SELECT parameter of the MAINPROC statement. After initialization, you can change the association of main with selection modes by using the *MODIFY,G command. The SBAR parameter on the SELECT initialization statement controls the number of jobs that are candidates for allocation by specifying a job priority that is a barrier to main device scheduling (MDS):

- JES3 attempts job allocation at or above the SBAR value even if the job(s) resources are unavailable.
- If their full allocation requirements cannot be satisfied, jobs with priorities greater than the barrier reserve available JES3-managed resources (devices, volumes, and data sets) to prevent lower priority jobs from obtaining them.
- If a resource is reserved, only jobs at or above the same priority as the job that reserved the resource can allocate it.
- If a volume or data set is reserved, other jobs with compatible references (such as a share reference to a direct-access volume) can use it.
- If SBAR=PRTY is specified, the priority of the first job that cannot be set up is the barrier value.

Attention: Setting a low SBAR value can degrade system performance.

The CHOICE parameter specifies a job-selection criterion (based on the job's I/O rate) used to control the order of job selection on a main. JES3 uses the specified scheduling choice to select the jobs most suitable for processing. CHOICE is ignored for jobs in WLM-managed groups.

The process of increasing a job's priority whenever an unsuccessful attempt is made to allocate the job's requirements is called **aging**. Although jobs flow through the priority queues in first-in-first-out (FIFO) order, only the job to be scheduled next within a priority queue is eligible for aging. Aging is controlled by the following parameters on the SELECT initialization statement:

- **MAGER:** Specifies the number of times a job must be eligible for aging (during GMS processing) before its job priority is actually increased. (For example, MAGER=10 means that a job must be passed over for job selection 10 times while it is at the top of its priority queue before it is put at the bottom of the next higher priority queue.) If MAGER=0, no aging is performed. MAGER is ignored for jobs in WLM-managed groups.
- **SAGER:** Specifies the number of times that a job must be eligible for aging during job setup processing (MDS) before its job priority is actually increased. If SAGER=0, no aging is performed.
- **MAGEL:** Limits the priority that can be reached (because of unsuccessful job-selection attempts). (For example, MAGEL=10 means that a job will not be aged if its priority is ten or greater.) MAGEL is ignored for jobs in WLM-managed groups.
- **SAGEL:** Limits the priority that can be reached (because of unsuccessful resource-allocation attempts).

The JES3-managed resource allocation (setup of devices, volumes, and data sets) for each job must be completed before the job is eligible for processing. The queuing process is controlled by the following parameters on the SELECT initialization statement:

- **SDEPTH:** Specifies the maximum number of jobs requiring operator mounts that can be set up at one time for each main. SDEPTH influences MDS allocation in two ways: (1) SDEPTH is used to limit the number of jobs set up for a main (this should be done carefully to avoid delaying job processing); and (2) SDEPTH causes MDS to set up more work for one main than another. MDS biases main selection for setup toward the main that is farthest below its SDEPTH. Initially, SDEPTH values can differ for each main; therefore, a setup bias initially exists toward mains with higher SDEPTHS. MDS prefers the higher SDEPTH processors for setup until all mains are at equal differences from their SDEPTH values. Biasing setup toward certain mains can be required because of device availability (if devices are not totally shared) or to keep a larger queue of jobs available for a faster-executing main.
- **INCR:** Specifies a number that is added to the priority of the job when it completes set up. This parameter expedites the processing of jobs once devices have been assigned to them. (For example, if a job has a priority of five when it is set up, and INCR=4 is specified, the job's priority is increased to nine after the devices have been allocated and set up.)
- **INCL:** Sets a limit to the priority assigned when the job is set up.

See the *INQUIRY,G command for information about how to display the above parameters for each job-selection mode currently in effect. If necessary, the *MODIFY,G command can be used to alter one or more of the above SELECT options (see the *MODIFY,G command for more information about modifying GMS components).

Controlling initiators

The GROUP initialization statement allows you to use the MODE parameter to specify whether JES3 or Workload Management (WLM) should manage initiators for the job class group. If MODE=JES is specified, JES3 controls initiator placement, allocation, and deallocation based on the initiator controls on the GROUP statement. If MODE=WLM is specified, WLM controls initiator placement, allocation, and deallocation based on the backlog of jobs, performance goals in the WLM policy, and available system capacity.

Demand or dynamic initiator allocation occurs when jobs are available for processing and when the group is enabled. Dynamic allocation is used to allocate all initiators when the first job of the group in the queue is eligible for main scheduling; demand allocation is used to allocate initiators as they are needed. Demand or dynamic deallocation occurs when no jobs are available for processing.

If you choose JES3 initiator management for a group, initiator allocation and deallocation options are specified on the GROUP statement and can be changed through the *MODIFY,G command. You can specify either ALLOC,MANUAL (manual allocation) or UNALLOC,MANUAL (manual deallocation) to indicate

that all processing resources are not to be allocated or released until you disable the job class with a *MODIFY command.

You can use the *INQUIRY,G command to display the current status of each group assigned to a main. If directed by the system programmer, you can use the *MODIFY,G command to alter the group parameters.

Processing on main (main service)

The main service (MAIN) support function controls job processing between the mains in the JES3 complex. In the complex the global and local processors communicate using the MVS cross-system coupling facility (XCF).

Global processor communication with other processors

Communication between the global and the local mains is connection-related. The IPL is performed by the local independent of the global. Once the IPL is completed, the local initiates main communication and connection. If a local has an IPL performed offline and then is varied online to the global, the connection to the global is established automatically. In the event that this automatic connection fails, use the *S,main,CONNECT command to establish a connection (see [“Starting JES3 on a local processor”](#) on page 25).

Monitoring job processing

JES3 monitors processing on all mains in terms of the number of lines printed and the number of cards punched. Programmers estimate the processing parameters in the /*MAIN control statements, and these estimates are compared with the actual counts as they are accumulated. When one of these estimates is exceeded, main service takes one of three actions based on the /*MAIN control statement or STANDARDS initialization statement parameters. These signal main service to cancel, cancel with dump, or issue a warning message. For example, if the LINES= parameter on the STANDARDS initialization statement specified WARNING, and job 129 exceeds the programmer's estimate of the number of lines on SY1, JES3 issues this message:

```
IAT1600 JOB jobname(jobid) LINES EXCEEDED BY nnn
```

The procedures for handling exceeded card, page, and byte estimates are identical to those for exceeded lines. Main service takes the actions specified on the STANDARDS initialization statement unless they are overridden by the /*MAIN control statement.

Controlling main service

Main service provides operator control over jobs processing on the mains. For a variety of reasons, you might have to flush jobs or end them after they have already begun processing. In some cases, you can restart jobs.

Chapter 8. Controlling output processing

Once a job has finished processing, JES3 output service handles the job's output. Each output data set is associated with a SYSOUT class. Your installation can group output data sets into as many as 36 different classes: A through Z and 0 through 9. Each class consists of all system messages and output data sets the system associates with that class name. This permits your installation to group output data with common characteristics. When a job's data sets are passed to output service, JES3 places each data set on the output queue defined by your installation for the data set's SYSOUT class.

There are various different output queues:

- The **output service writer queue** contains data sets that will be processed by JES3 output service writers.
- The **output service hold queue** contains data sets that will be processed by system routines other than JES3 output service writers. While JES3 output service writers are more efficient, other routines must be used when, for example, you want to send output to a DASD or magnetic tape device or to a TSO/E user.
- The **output service BDT queue** contains SNA/NJE job and SYSOUT streams.
- The **output service TCP/IP (TCP) queue** contains TCP/IP/NJE job and SYSOUT streams.

JES3 scans the data sets on the output service writer queue to match the data sets' output requirements against the characteristics of either an active JES3 output service writer that is waiting for work or with an output device. Output service writers are associated with specific JES3 print or punch devices. If a match is found with an active writer, JES3 passes the data set to the writer and the writer produces the output on an associated device. If a match is found with a device, JES3 dynamically activates a writer that can control the device and produce the output.

Output service writers generally are supported directly by JES3. Devices controlled by these writers must be attached to the JES3 global. Some output service writers, however, are supported by functional subsystems (FSS) which perform some JES3 functions (see [Chapter 5, "Controlling JES3 services,"](#) on [page 79](#)). Such a writer can control the AFP printers. If controlled by an FSS output service writer, the AFP printers can print data sets containing embedded controls to format data on a printed page. Although these devices remain JES3-managed, they can be attached either to the global or a local main, depending on which main the FSS is associated with. (If an output device has the same device address as *another* device on a *different* main, you must address that device using the JNAME defined during initialization.)

Writer output processing also can run in parallel with other JES3 functions on a tightly-coupled global by using the writer output multitasking facility. Once a writer has selected a data set queue, output processing can run at the same time as other JES3 functions.

This topic contains descriptions of the commands you can use to:

- Display and alter information on output queues
- Display and alter the contents of the writer, hold, and BDT queues
- Display the status and output characteristics of a device
- Call a hot writer
- Start, restart, and cancel a hot writer and a dynamic writer

Output queues

Normally, JES3 places output data produced by a job on one of the following: output queues when the job ends. (Spin-off data sets are placed on an output queue while the job is still in processing.)

- **Output service writer queue (Q=WTR):** This queue contains data sets waiting to be processed by JES3 output service writers, process SYSOUT (PSO), SYSOUT application program interface applications, and also data sets directed to users on other nodes in a BSC/NJE job entry network. These data sets

include data sets directed to JES3 printer or punch devices. The output service writers automatically process data sets on this queue based on writer-selection characteristics such as output device-related requirements, output class, and output priority. You can temporarily place data sets on this queue in operator hold status.

- **Output service hold queue (Q=HOLD):** This queue contains data sets waiting to be processed by system routines other than JES3 output service writers. These data sets include data sets directed to local TSO/E users, to devices other than JES3 print and punch devices, and to the JES3 internal reader.

Data sets on this queue must be processed by the function for which they are being held. The respective functions can then release the data set to an output service writer for processing, or cause the data set to be purged. If necessary, you can force the data set to be processed by JES3 (see [“Changing the HOLD queue”](#) on page 334 for more information).

- **Output service BDT queue (Q=BDT):** This queue contains network job and SYSOUT streams that are waiting to be transmitted to other nodes in a JES3 SNA/NJE network through the MVS Bulk Data Transfer (MVS/BDT) subsystem.
- **Output service TCP/IP queue (Q=TCP):** This queue contains network job and SYSOUT streams that are waiting to be transmitted to other nodes in a JES3 TCP/IP/NJE network through the JES Common NJE component (IAZNJTCP).

You can use the *INQUIRY,U and *MODIFY,U commands to display or alter information related to data sets on each queue.

Information about data sets on each queue is qualified in several ways. The three highest levels are: (1) the amount of work of a general type (PRT or PUN) that exists on the queue; (2) the amount of work of a general type for particular jobs; (3) the amount of work of a general type for a particular job on a data set-by-data set basis. If you consider work on the queue as being qualified in these three levels, information received in response to *INQUIRY,U commands can be very useful.

Output disposition for sysout data sets

Starting with z/OS V2R2, JES3 supports the use of output disposition for sysout data sets. JES3 continues to create sysout without an output disposition assigned. In other words, there is no default output disposition. JES3 provides various methods for assigning an output disposition to sysout data sets.

Specifying output disposition

You can specify the output disposition for a sysout class by coding the OUTDISP= parameter on the SYSOUT class initialization statement. This specifies the output disposition to be initially assigned to sysout created using the output class.

The OUTDISP= parameter on the SYSOUT class initialization statement has the format:

```
OUTDISP=[([normal disposition],[abnormal disposition])]
```

The *normal disposition* subparameter specifies the disposition for the output if the job completes normally. The *abnormal disposition* subparameter specifies the disposition for the output if the job does not complete successfully.

Note: The disposition for spin output is determined at the time that the output is spun and processed by JES3 Output Service; it does not change if a job fails later.

The OUTDISP= parameters allow you to specify the following dispositions:

HOLD

Hold the output. JES3 does not process the output until you either change the disposition to WRITE or KEEP, or release the output. When the output is released, the disposition changes to WRITE.

KEEP

Process the output and then keep a copy of it on spool. After processing, the disposition of this output becomes LEAVE.

LEAVE

JES3 does not process the output until you change the disposition to either WRITE or KEEP, or release the output. When the output is released, the disposition changes to KEEP.

PURGE

Purge the output immediately.

WRITE

Process the output then purge it.

For more information about the SYSOUT class initialization statement, see [z/OS JES3 Initialization and Tuning Reference](#).

Changing output disposition

For a particular sysout data set, a user might need to change the output disposition. The sysout data set may have no output disposition or one assigned based upon the sysout class used. The user can change the output disposition through one of the following:

- JCL statements
- TSO/E commands
- Operator commands

Changing output disposition through JCL: The user can change the output disposition used through JCL by coding an OUTDISP= parameter on an OUTPUT JCL statement associated with a sysout data set. For more information on the OUTPUT JCL statement and OUTDISP= parameter, see [z/OS MVS JCL Reference](#).

Changing output disposition through TSO/E: When a user views held output using the TSO/E OUTPUT command, the user can choose to release the data set. Releasing the output would change the disposition of the output from HOLD to WRITE or from LEAVE to KEEP. Output whose disposition, when the job executed, was HOLD or LEAVE and whose disposition has not been modified is eligible for TSO/E OUTPUT command processing. See [z/OS TSO/E Command Reference](#) for more information about releasing output when using the TSO/E OUTPUT command.

Changing output disposition through operator commands: The JES3 *MODIFY,U command can be used to modify the current output disposition of a sysout data set. The output disposition can be explicitly modified with the NOUTDISP= parameter, or may be modified when moving the sysout between output queues using the NQ= parameter. For more information on the *MODIFY,U command, see [“Changing job output *MODIFY,U” on page 334](#).

Transmitted sysout

When a node with z/OS V2R2 JES3 or later installed transmits to another node sysout which has an output disposition set, the disposition is indicated in the network header. If the receiving node has a level of z/OS V2R2 JES3 or later installed, the receiving node keeps the disposition set by the transmitting node. Otherwise, the receiving node will recognize the sysout as non-held if the disposition set by the transmitting node was WRITE. If the disposition set by the transmitting node was HOLD, KEEP, or LEAVE, then the receiving node will recognize the sysout as held.

When a node with z/OS V2R2 JES3 or later installed receives sysout from a node with a previous level of JES3 installed, the receiving node assigns an output disposition of HOLD to the sysout if the data was held. If the sysout was non-held, then the receiving node assigns an output disposition of WRITE to the output.

External writer sysout

Sysout for an external writer sysout can be created when:

- A SYSOUT class is used which has HOLD=EXTWTR specified.
- An external writer name is specified on the DD JCL statement.
- An external writer name is specified using the WRITER= parameter on an OUTPUT JCL statement.

- Transmitted sysout is received with an external writer name specified in the network header.

Sysout data sets waiting to be processed by an external writer are always held on the output service hold queue (Q=HOLD). The held sysout may have no output disposition set, or may have an output disposition of HOLD, KEEP, LEAVE, or WRITE.

Sysout data sets held for an external writer are made available for processing when no output disposition is set or the output disposition is WRITE or KEEP. Sysout with output disposition of HOLD or LEAVE are not made available for processing unless explicitly requested such as by applications using the SYSOUT Application Program Interface.

After processing a sysout data set, an external writer application can then request that JES3 release the sysout. For sysout with no output disposition set or with an output disposition of WRITE, a release request results in JES3 releasing the sysout for an output service writer. The sysout is moved to the output service writer queue (Q=WTR) for processing by an output service writer. A release request for sysout with an output disposition of KEEP results in the sysout remaining held for an external writer on Q=HOLD and the disposition of the sysout is updated to LEAVE. Sysout with an output disposition of HOLD or LEAVE that is processed and released by an application, remains held for an external writer on Q=HOLD with no change to the output disposition.

An external writer application can also request that JES3 delete the sysout after processing. Except for sysout with an output disposition of KEEP, a delete request causes the sysout to be purged. For sysout with an output disposition of KEEP, the delete request results in the sysout remaining held for an external writer on Q=HOLD and the disposition of the sysout is updated to LEAVE.

The *MODIFY,U command can also be used to change the output disposition of the sysout or modify the queue on which the sysout resides. For more information see [“Changing job output *MODIFY,U” on page 334](#).

JES3 output service writers

A JES3 output service writer is a JES3 routine (DSP) that processes data sets currently on the output service writer queue according to their output requirements. There are two types of JES3 writers:

- **Print writer:** The print writer processes any output data sets for which SYSOUT classes are defined (during JES3 initialization) as TYPE=PRINT and any additional data sets described by // *FORMAT PR or //OUTPUT job control statements. The print writer expects data to be in EBCDIC format, ready for printing with either MVS channel command forms control or the MVS-supported extended ASCII channel command code. Output to the printer is command-chained.

Note: A print writer may run under the control of a functional subsystem (FSS) application. The FSS application commands or user interfaces should be used to monitor and control the writer whenever possible. See the FSS application documentation, [z/OS MVS Using the Functional Subsystem Interface](#), for more information.

- **Punch writer:** The punch writer processes any output data sets for which SYSOUT classes are defined (during JES3 initialization) as TYPE=PUNCH and any additional data sets described by // *FORMAT PU job control statements. American National Standard and MVS channel command stacker selection characters are ignored if they are present in normal punch output. Processing is on a card-image basis.

Controlling output service writers

There are two types of writers in JES3: hot writers and dynamic writers.

- **Hot writer:** A hot writer is invoked using a *CALL command. The command can either be issued by you or by JES3, depending on how the DEVICE associated with the writer is defined to JES3. If the DEVICE specifies NO for the DYNAMIC keyword, the writer is controlled exclusively by you. If the DYNAMIC keyword specifies YES and a nonzero value for the timeout, the writer is eligible for an automatic *CALL by JES3. The writer notifies you when it is waiting for work and remains available for processing. The writer will wait for as long as the timeout period defined for the device. If no new work becomes available it will then terminate. You control the writer using the *CALL, *START, *RESTART and *CANCEL commands. You can use the *MODIFY,W command to restrict a device to be started as a hot writer or to

change the associated timeout value. If the device is defined with the DYNAMIC keyword set to YES and a timeout value of zero, the device is eligible for a dynamic writer.

- **Dynamic writer:** JES3 output service starts the writer and its associated devices, based on the availability of output devices and the current output data set requirements. After JES3 initialization, you must use the *START command the first time you use a device associated with a dynamic writer. After that, printing or punching begins automatically for properly prepared devices that are in the ready state. You can use the *START, *RESTART, and *CANCEL commands to control dynamic writers while they are active. The dynamic writer will stop immediately after no suitable output is available for processing by the writer.

You can use operator commands to display and change the characteristics of dynamic or hot writers, restart a data set or job, cancel a data set or job, or end the writer. In general, commands and keywords apply similarly to print or punch writers.

The characteristics of the JES3 device associated with a writer are defined during initialization. You can use the *INQUIRY,D command to display the status or characteristics of a device.

Note: An output service writer may run under the control of an FSS application. The FSS application commands or user interfaces should be used to monitor and control the writer whenever possible. See the FSS application documentation, *z/OS MVS Using the Functional Subsystem Interface*, for more information.

Releasing jobs held for security reasons

Output that cannot be selected by a writer because of insufficient access authority remains on the output service writer queue. There are two situations that can cause output to remain on the writer queue because of insufficient authority. Either the user does not have access authority to send output to that writer, or the writer has insufficient authority to process that output. The writer will not select output of this type until you take one of the following actions:

- If many jobs cannot print because the writer has an insufficient security classification for those jobs, ask your system programmer or RACF administrator to change the security classification of the writer. Once this is accomplished, cancel the writer with a *CANCEL command. If the writer is a hot writer, you must then use a *CALL command to reactivate the writer.
- If a few jobs cannot print because the user has insufficient access authority for the writer, ask your system programmer or RACF administrator to authorize the user to that writer. Once this is accomplished, use the *MODIFY,U,Q=WTR command to route the output to the original writer or redirect it to a different writer that has sufficient authority to process that work.

Selecting work for output service writers

JES3 uses the “best fit” approach to match SYSOUT data sets with an available device (writer). The following paragraphs describe the “best fit” approach.

First, JES3 compares the characteristics for the data sets to the characteristics of a writer based on the writer's selection criteria. If JES3 finds that more than one data set is eligible to be processed by a writer, then JES3 uses the following primary factors to determine the best fitting data set to a writer:

- Characteristics order of importance in the writer-selection list
- Job and data set priority

Once the best fitting data set is determined, the remainder of that job's data sets are processed applying the “best fit” approach within the boundary of the same job.

Secondly, if the operator does not specify one or more of the possible writer-selection criteria, JES3 does not take any action with regards to that characteristic (such as issue mount messages or load CHAR arrangements). JES3 does not verify that the output data characteristics match that of the writer, nor that a mount message is issued for changes in writer set up. This can result in a job that requires special forms printing on the wrong form if you omit forms as a selection criterion.

Thirdly, JES3 establishes the writer-selection criteria during JES3 initialization by the WS= parameters on the OUTSERV and DEVICE initialization statements. The writer-selection criteria can be modified using the writer DSP commands: *CALL, *RESTART, and *START with the WS= keyword. The values specified on the most recent command are placed at the front of the current selection list. Similarly, values specified on the DEVICE initialization statement are placed at the front of the selection list, derived from the OUTSERV statement.

An output service writer has characteristics that can be changed (changeable characteristics) or cannot be changed (non-changeable characteristics) during work selection processing. Some of the writer's characteristics can be toggled between changeable and non-changeable by using the hold option for that particular characteristic. Non-changeable characteristics listed in the writer-selection criteria require the data set to match the device characteristics; otherwise the data set is considered ineligible.

Changeable characteristics allow a writer to make adjustments to the writer-selection criteria list to accommodate data sets with different characteristics than are currently in use on the device. [Table 10 on page 110](#) illustrates the special considerations you should take when changeable characteristics are involved in writer selection processing. Note that priority always plays a role in work selection. Column “WS=” defines the writer-selection criteria considered in each example. Column “Behaviors” describes the result of the selection algorithm based on the first two columns. Included in this column will be the “perfect fit” case followed by the next “best fitting” cases, if applicable.

Table 10. Example of Writer Output Selection	
WS=	Behaviors
/P	The job with the highest job priority will be selected first.
P	The job containing the highest priority data set will be selected first.
/P,F	The job containing a data set matching the forms on the device is selected in order of job priority. Next, the job with the highest job priority is selected.
P,F	The job containing the highest priority data set that also matches forms on the device is selected first. Next, the job containing the highest priority data set is selected.
/P,FL,F	The job containing a data set matching the flash and forms on the device is selected in order of job priority. Next, the job containing a data set matching the flash on the device is selected in order of job priority. Next, the job with the highest priority is selected.

JESNEWS DSP

JES3 provides a special utility program that allows you to broadcast information to local, TSO/E, and RJP users.

You can use the JESNEWS DSP to create, to replace, or to delete three special output data sets that can be included as part of a normal output data set burst page.

The JESNEWS DSP works on three types of data sets: local, TSO/E and RJP. Use these data sets to send information to JES3 users. This utility, **dynamic support program (DSP)**, can be run at the same time as the other support functions of JES3, such as input service and the main device scheduler. You can start the DSP at an operator console by using the *CALL command.

Attention: If parameters or keywords are incorrectly specified on the *CALL command for the utility DSP, unpredictable results can occur.

You can end processing of the JESNEWS DSP by entering the following command:

```
*C, JESNEWS
```

You cannot use the JES3 utility DSP on the IBM AFP Printing Subsystem or with PSF printers.

If your installation uses RACF to protect JES3 spool, you must logon at the lowest security level in your installation in order to update JESNEWS. See *z/OS Security Server RACF Security Administrator's Guide* for a description of RACF security levels.

Other system routines that process output data sets

Output data sets placed on the output service writer or hold queue can be processed by applications written to exploit the SYSOUT application programming interface (SAPI). The selection of SYSOUT from the writer or hold queue will be in accordance with the use of the SAPI as defined in *z/OS MVS Using the Subsystem Interface*.

Output data sets placed on the output service hold queue are processed by the following system routines:

- **External writer:** An external writer is an MVS routine that handles output destined for devices not supported by JES3 output service, such as DASD or magnetic tape devices. For information about controlling external writers, see *z/OS MVS System Commands*.
- **Internal reader:** The internal reader is a JES3 routine that passes output data sets containing job streams to JES3 input service for processing. For information on controlling the internal reader, see “Controlling job input and converter/interpreter service” on page 80.
- **TSO/E OUTPUT command processor:** The TSO/E OUTPUT command processor is an MVS routine that handles output destined for a TSO/E user. For information about using the OUTPUT command, see *z/OS TSO/E Command Reference*.

Displaying output queue information

Enter the *INQUIRY,U command to display information for work currently on the output service writer queue (Q=WTR), the output service hold queue (Q=HOLD), or the output service MVS/BDT queue (Q=BDT). The following subsections describe the parameters you can include in the command. If you do not specify a particular queue, the display contains information for the writer queue.

For example, you can enter requests that are either general or specific. If you do not include the J= keyword, the response provides information about the entire selected queue. If you include the J= keyword, the response provides information about the specified job; or in the case of J=?, information about all the jobs in the selected queue that meet all other selection requirements in the command.

If you want information for a specific data set in the indicated job, include either the DD= keyword or the DSN= keyword on the *INQUIRY,U command. If you do not include the DD= or the DSN= keyword on the command, the response contains all data sets for the specified job. The data sets are identified by general type: print (PRT), punch (PUN), and any other qualifiers that you specify in the command.

Responses to this command are sent to the console entering the command unless you redirect the response to a different console. JES3 issues message IAT8131 in response to this command.

The following table summarizes the keyword parameters that you can specify on an *INQUIRY,U command.

Table 11. Valid Parameters You Can Use on *INQUIRY,U					
KEYWORD	DESCRIPTION	HOLD	WTR	BDT	TCP
AGE=	Length of Time on Queue	Yes	Yes	Yes	Yes
APPC=	APPC Work	Yes	Yes	Yes	Yes
BG=	BDT Group Identifier	No	No	Yes	No
BJ=	BDT Job Number Indicator	No	No	Yes	No
BS=	BDT Status Indicator	No	No	Yes	No
BT=	BDT Type Indicator	No	No	Yes	No
BY=	Number of Bytes	Yes	Yes	Yes	Yes

Table 11. Valid Parameters You Can Use on *INQUIRY,U (continued)

KEYWORD	DESCRIPTION	HOLD	WTR	BDT	TCP
C=	Carriage (FCB)	Yes	Yes	No	No
CH=	Character Table	Yes	Yes	No	No
CJ=	Client job	Yes	Yes	Yes	Yes
CJID=	Client job ID	Yes	Yes	Yes	Yes
CJNM=	Client job name	Yes	Yes	Yes	Yes
CL=	Class	Yes	Yes	No	No
CM=	Copy Modification	Yes	Yes	No	No
CONS=	Console To Receive	Yes	Yes	No	No
D=	Destination	Yes	Yes	Yes	Yes
DD=	Ddname	Yes	Yes	Yes	Yes
DG=	Device Group	Yes	Yes	No	No
DSID=	Data sets for 3540	Yes	No	No	No
DSN=	Data set name	Yes	Yes	Yes	Yes
F=	Forms	Yes	Yes	No	No
FD=	FORMDEF	Yes	Yes	No	No
FL=	Flash	Yes	Yes	No	No
GT=	Data set General Type	No	Yes	No	No
H=	Hold Status	Yes	Yes	Yes	Yes
ID=	Owning USERID	Yes	Yes	No	No
IP=	IP Address	Yes	Yes	No	No
J=	Job Name/Number	Yes	Yes	Yes	Yes
L=	Number of Lines	Yes	Yes	Yes	Yes
N=	Number to Process	Yes	Yes	Yes	Yes
OB=	Printer output bin id	Yes	Yes	No	No
OUTDISP=	Output disposition	Yes	Yes	No	No
P=	Priority	Yes	Yes	Yes	Yes
PD=	PAGEDEF	Yes	Yes	No	No
PG=	Number of Pages	Yes	Yes	Yes	Yes
PM=	Process Mode	Yes	Yes	No	No
Q=	Type of Queue	Yes	Yes	Yes	Yes
REQ=	DS Characteristics	Yes	Yes	Yes	Yes
S=	Sequence Identifier	Yes	Yes	No	No
SL=	Security Label	Yes	Yes	No	No
SS=	Burster-Trimmed-Stacker (BTS)	Yes	Yes	No	No
ST=	Specific Type	No	Yes	No	No

Table 11. Valid Parameters You Can Use on *INQUIRY,U (continued)

KEYWORD	DESCRIPTION	HOLD	WTR	BDT	TCP
T=	Terminal Name	Yes	Yes	No	No
TG=	TCP Group Identifier	No	No	No	Yes
TS=	TCP Status Indicator	No	No	No	Yes
TT=	TCP Network Stream	No	No	No	Yes
U=	UCS (Train)	Yes	Yes	No	No
W=	External Writer	Yes	No	No	No

Displaying selected output

Knowing the amount of work yet to be processed by output service allows you maximum flexibility when scheduling output for printing or punching or for processing by routines other than JES3 output writers. Use the *INQUIRY,U command to examine, at various levels of detail, the status or amount of work in the output service writer queue (Q=WTR), the output service hold queue (Q=HOLD), or the output service BDT queue (Q=BDT).

JES3 output data sets have a variety of unique characteristics. To display output information, you specify one or more of the output characteristics as criteria for what is to be displayed. Unless specifically stated, you can combine characteristics when using the *INQUIRY,U command. For example, to display information for all output in the WTR queue created by job TEST with an output class of T, enter:

```
*I,U,J=TEST,CL=T,N=ALL
```

Note: The FSS may provide a better way to display the amount of work being processed. These commands should be used whenever possible. See the FSS application documentation, [z/OS MVS Using the Subsystem Interface](#), for more information.

The *INQUIRY,U command will display work that may have been processed by the FSS but is being retained. The work will not be complete to JES3 until the FSS releases it.

Modifying APPC SYSOUT data sets

Advanced Program-to-Program Communication (APPC) allows interconnected systems to communicate and share processing programs. Application programs that use APPC services are called transaction programs. For more information about transaction programs, see [z/OS MVS Programming: Writing Transaction Programs for APPC/MVS](#). For more information about installing APPC at your installation, see [z/OS MVS Planning: APPC/MVS Management](#).

APPC programs can use certain JES3 functions, such as JES3 output service processing and data set integrity checking for SYSOUT data sets produced by APPC transaction programs. JES3 treats all SYSOUT produced by APPC transaction programs as spin-off data sets.

Use the APPC= parameter on the *MODIFY,U command to select data sets that have been produced by APPC transaction programs.

Canceling output

To provide additional spool space, you can cancel unnecessary SYSOUT data sets from the output service hold queue. To do this, use the *MODIFY,U command with the CANCEL parameter.

3211-Compatible printers and FOLD processing

A user can use the FOLD subparameter of the UCS= parameter on the DD JCL statement to translate characters from lower case to upper case during printing. JES3 does not, however, support the use of the

FOLD subparameter for 3211 compatible printers, including the 3211, 4245, and 4248 printers. If a user specifies FOLD on the UCS= parameter in a JES3 environment, JES3 ignores the specification and invokes the SETPRT service with a parameter list that specifies UNFOLD.

Displaying output writer device characteristics

Each JES3-managed output device with its associated forms, cards, carriage tapes (FCB), bands, or trains (UCS) are assigned unique JES3 names. For example, a specific printer can be named PR1, a form can be named 2PRT, and so on. Certain devices and their characteristics are established as installation standards during JES3 initialization.

Use the *INQUIRY,D command to display the status of an output device and its current output characteristics. For an AFP printer, the display includes the names of all jobs selected by the printer's output writer if the output for the job is not yet completely stacked. For an AFP printer operating in compatibility or FSS mode, the display includes the device mode, line or page count limits, and the names of all jobs on the printer not yet completely stacked.

Note: Some FSS applications may retain SYSOUT data sets. The display for these will contain all jobs sent to the FSS that have not yet been released. The job's output may or may not have been completely processed. See the FSS application documentation, *z/OS MVS Using the Functional Subsystem Interface*, to determine if there is a better way to monitor job status.

Calling a hot writer

When you call the hot writer, you can specify parameters that allow you to control the writer during its activity and to change parameters that are currently in effect. By specifying one or more appropriate parameters at the time you enter the *CALL,WTR command, you can:

- Suspend writer output until a specific device becomes available
- End the writer if the device is unavailable
- Control the forms, band or train, or carriage tape to be used
- Control AFP printer specifications
- Create header and burst records
- Specify the writer-selection characteristics to be used and their order
- Specify output classes for this writer
- Specify the maximum or minimum number of lines or pages allowed per data set for this writer
- Specify the number of seconds that should elapse or pages that should be written before a checkpoint is taken
- Specify the diagnostic mode
- Stop the writer between data sets

Certain parameters such as forms, train (or band), or carriage tape not specified when you enter the *CALL,WTR command either are assumed from default values established by the system programmer or are in effect from the last time the device was active.

You can use the *INQUIRY,D command to display the current status of an output device as discussed previously under [“Displaying output writer device characteristics” on page 114](#). Additional information about default values can be provided by the system programmer.

Do not attempt to use the *CALL,WTR command, if, once having used it, you decide to change additional parameters or if you are instructed to reenter the command because of an error. JES3 will attempt to allocate another device. Parameters can be changed at the time the writer is started with a *START,devname command.

Starting or restarting a writer

You must enter a `*START,devname` command to start the writer, after a hot writer has been called, a dynamic writer has been invoked the first time, or any writer in manual mode has been called. This is an opportunity for you to ensure that various writer characteristics have been properly assigned before actual printing or punching.

You can change writer characteristics using the various parameters of the `*START,devname` command without having to reenter the `*CALL,WTR` command. The characteristics that you can respecify are described in Chapter 11.

You can use the `*RESTART,devname` command to respecify writer characteristics when you must stop a writer that has been started and then restart it. When you use the `*RESTART,devname` command, JES3 interrupts the current writer activity and allows you to respecify output writer characteristics before JES3 continues to process work.

Canceling a writer

Unless a writer is ended (canceled), JES3 either continues to schedule the data sets that the writer is configured to process or waits for you to start it with a new configuration, using a `*START,devname` or `*RESTART,devname` command.

A dynamic writer automatically ends when there is no more output in the queue to process. If necessary, a dynamic writer can be removed from JES3 scheduling by varying it offline. Varying the device offline, however, will not interrupt current activity. To end the current activity on the dynamic writer and to prevent further scheduling of the writer, use the `*VARY` command and then use the `*CANCEL` command. Ending a writer also ends an output writer functional subsystem, if one is controlling the device. (The writer must be in an idle state; if it is not, only the current data set on the writer is canceled.)

Chapter 9. Stopping JES3 as part of a system shutdown

This topic describes the steps required to stop JES3 on a local main and a global main. To shut down a processor in an orderly manner, you must stop JES3 before stopping MVS.

Stopping local processors

About this task

Before you remove a local main for maintenance or other reasons, allow processing jobs to complete normally. Use the following steps:

1. Enter a *F, V,main,OFF command for the local main to prevent JES3 from scheduling any further jobs on the processor.
2. Enter the *RETURN command to end JES3 after all jobs on the local main have completed processing.
3. Enter the HALT EOD command on the local main to ensure that important statistics and data records in storage are not permanently lost.

Your installation may not want to wait for all jobs to complete normally. For example:

- Jobs will not end because of system problems (hardware and software)
- An IPL or JES3 restart is scheduled to take place at a predetermined time and jobs will not be able to complete. In this case, you must make the decision to delay the IPL or to cancel the jobs. (Your installation procedures should tell you whether to cancel jobs or delay an IPL.)

Note: Enter the HALT EOD command **only** if you are performing an IPL or SYSTEM RESET, **not** to restart JES3.

See *z/OS MVS System Commands* for information about stopping MVS.

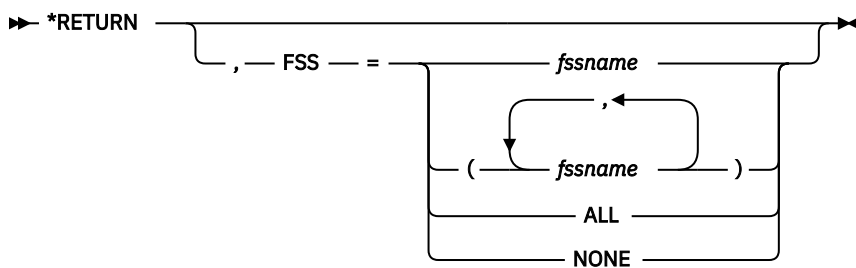
Stopping the global processor

Before stopping the global, you should stop the local mains as described in “Stopping Local Mains”.

You should stop all JES3 processing by entering the *F,Q,H command, which puts all jobs in hold status before stopping JES3. System initiators, printers, and punches do not begin any new work and become inactive after completing their current activity. Jobs in JES3 queues remain in their current position.

You should also queue the system log for printing by entering the WRITELOG command. This prevents log messages from being lost if you later restart JES3 with a hot start.

Once all system activity has completed, enter the *RETURN command to end JES3.



FSS=fssname or (fssname [,fssname...]) or ALL or NONE

Specifies that a specific functional subsystem (fssname), several functional subsystems (fssname [,fssname...]), all functional subsystems (ALL), or no functional subsystems (NONE) are to be ended also. (This command is valid only when entered from the global.)

If FSS= is not specified, the status of the functional subsystems depends upon the value defined in the TERM= parameter of the FSSDEF initialization statement. For additional information about TERM=, see “Functional subsystem considerations” on page 118 below.

After you enter the *RETURN command, enter the HALT EOD command to ensure that important statistics and data records in storage are not permanently lost. As a result of this command, the internal I/O device error counts are stored in the SYS1.LOGREC data set; the SMF buffers are emptied onto one of the SYS1.MANx data sets; and the system log, if still active, is closed and put on the print queue. When these actions are complete, the system issues message IEE334I, stating that the HALT EOD operation was successful. See *z/OS MVS System Commands* for further information about stopping MVS.

Functional subsystem considerations

Stopping the global processor using the *RETURN command can also end any functional subsystem (FSS). The status of the FSS on the processor on which JES3 returns depends upon the value defined in the TERM= parameter. This value is defined on the FSSDEF initialization statement or with the T= parameter on the *MODIFY,F command. If TERM=YES is specified, JES3 instructs the FSS to end when a *RETURN command is entered. If TERM=NO is specified, JES3 will not end the FSS when a *RETURN command is entered.

Network Server (Netserv) considerations

Because a Netserv processes TCP/IP/NJE job and data streams independently of JES3, stopping JES3 does not disrupt this processing. However, if a socket task that operates within a Netserv needs JES3 services for any of its processing, such as to create a job or to retrieve outbound data from spool, the task will wait for the JES3 address space to be restarted. A socket task in a Netserv running on a local might similarly have to wait for the JES3 global address space to be restarted. When JES3 is back up and operational, the socket task continues processing normally.

Chapter 10. Recovering from JES3 Problems

For problems in JES3 that require recovery, prepare recovery actions for the following:

- Restarting JES3 after a failure
- Recovering JES3 checkpoint data sets
- Using dynamic system interchange in recovery
- Recovering from BSC RJP problems
- Recovering from output writer functional subsystem failures
- Recovering a 3480 tape for a stand-alone dump

Restarting JES3 After a Failure

JES3 failsoft provides recovery to avoid JES3 restarts whenever possible. JES3 failsoft in the converter/interpreter (C/I) functional subsystem (FSS) address spaces provides the same type of recovery to avoid C/I FSS abnormal end whenever possible.

- For jobs, restart processing is determined by installation- and programmer-supplied restart parameters.
- For failing JES3 functions or dynamic support programs (DSP), recovery facilities of the operating system, JES3, and failsoft allow the function or DSP to recover, if possible, or be ended. If ended, the system writes a logrec data set error record and writes a dump, depending on the DUMP and WANTDUMP parameters on the OPTIONS initialization statement.

If a function critical to JES3 processing fails, JES3 or the C/I FSS address space ends abnormally.

The failsoft logout messages (IAT3713) are not saved across a JES3 restart. Part of JES3 initialization is to DOM this message. If AMRF is active and the installation would like to use the message for diagnostic purposes, it must be captured before the restart.

After the operating system or JES3 fails, JES3 has to be restarted. When restarting JES3, use the type of JES3 start that disrupts the system least. If the operating system failed, reIPL the system before restarting JES3.

Restarting the Global Processor

For a JES3 failure, including abnormal end of the JES3 address space, restart JES3 on the global processor as follows:

- **Hot start:** If the job queue is not involved in the problem.
- **Hot start with analysis:** If the job queue is probably in error.
- **Warm start:** If either type of hot start fails.
- **Warm start with analysis:**

- After a hardware failure causes JES3 to end abnormally.

If a permanently damaged spool data set or spool device caused the JES3 failure, reallocate the spool data set to the same or a different device. Then restart JES3 to replace the spool data set.

- To replace a spool data set, if the job queue is in error

- **ReIPL the system, then a cold start:** If the hot and warm starts fail.

See [z/OS JES3 Commands](#) for the sequence of commands for each type of restart.

If you cannot restart JES3 on the global processor, assign the functions of the global processor to a local processor. This local processor then becomes the global processor. Use dynamic system interchange to reassign the processors; see [“Using Dynamic System Interchange in Recovery” on page 121](#).

Restarting a Local Processor

Restart JES3 on a local processor, as follows:

- After the operating system fails on a local processor, reIPL the operating system, then do a local start of JES3.
- After JES3 fails on a local processor, do a local start of JES3.
- After doing a cold start or any type of warm start on the global processor, reIPL the operating system on all local processors, then do a local start of JES3 on all local processors.

After an IPL on a local processor, JES3 processes jobs that were previously running on the local processor according to their failure options.

Operator Recovery Action if JES3 Restart on Local Processor Fails

About this task

If JES3 cannot be restarted on a local processor, logically remove the processor from the complex.

1. Enter the JES3 command *S,main,FLUSH

Recovering JES3 Checkpoint Data Sets

The JES3 checkpoint data set or sets, which are allocated using the JES3 cataloged procedure, provide the information needed for a warm start or hot start of JES3 with minimum or no loss of system information.

JES3 writes job-related information to the JES3 checkpoint data set when the information changes in the system. The JES3 checkpoint data set contains the information required to initialize JES3 on either a global or local processor. During a warm or hot start, JES3 restores this information to the system.

Recovering from Permanent Errors on a Checkpoint Data Set

If a permanent I/O error occurs on one of the JES3 checkpoint data sets, recovery actions depend on whether the installation allocated one or both checkpoint data sets.

If the only checkpoint data set develops a permanent I/O error:

1. Perform a cold start.

If one of the two checkpoint data sets develops the error:

1. Enter a DISPLAY command for the data set that is not in error. In the display, look for messages indicating problems in the data set.
2. If the display shows problems, perform a cold start.
3. If the display shows no problems, perform a hot or warm start to replace the data set with the error.

In this start, JES3 copies the checkpoint records it finds on the old checkpoint data set onto the new checkpoint data set. When the hot or warm start is finished, JES3 has two complete checkpoint data sets once again.

Recovering when a Checkpoint Data Set is Out of Space

If either checkpoint data set runs out of space, replace the data set. Recalculate the amount of space the checkpoint data set needs. Then allocate a new checkpoint data set that is larger than the old one.

See [z/OS JES3 Initialization and Tuning Guide](#) to calculate checkpoint data set size.

Using Dynamic System Interchange in Recovery

Use dynamic system interchange (DSI) to reassign the JES3 global function to a JES3 local processor, which then becomes the new JES3 global processor. Use DSI when:

- The global processor is not active.
- The installation wants a local processor assigned as the global processor.

If the global processor is inactive, the operator can invoke DSI to keep the complex running. Once DSI is complete and the old global processor can be reinitialized, the operator can then initialize again the old global processor as a JES3 local processor without an intervening IPL.

If the global processor is active but the installation needs to assign another processor as the global processor, the operator can invoke DSI. DSI can be used to allow maintenance or to allow use of a different processor as the global.

The basic distinction in the two uses for DSI is the way the global processor is disabled. For more information about DSI, see [Chapter 12, “Dynamic system interchange \(DSI\),” on page 135](#).

Disabling the Old Global Processor

If the global processor is inactive, disable the global processor by performing a system reset. A system reset causes the operating system and JES3 to end. All jobs running on the global processor are ended; JES3 will reschedule them.

All FSS address spaces on the global are also lost. The operator must restart all FSS address spaces that were running before the system reset.

See [z/OS JES3 Messages](#) for instructions on how to restart FSS address spaces.

If the global processor is active, disable the global processor by:

1. Completing all reconfiguration tasks that require JES3, such as stopping RJP to disable communication lines.
2. Entering a *CALL,DSI command and a *START,DSI command on the console with master authority for the global processor.

If you use a *CALL,DSI command, any output writer FSSs active on the old global processor remain active when the new global connects to the old global. However, if the old global fails as a result of an IPL or system reset, all output writer FSSs active on the old global end abnormally.

After completing the DSI, reinitialize the old global as a local processor without doing a reIPL.

Starting a Local Processor as a Global Processor

Enter *CALL,DSI on the console with master authority for a local processor to make it the new global processor. All FSSs running on local processors at the time of the DSI, including the local that is to become the new global, continue processing during and after the DSI.

If a failure occurs during DSI, perform a warm start.

Writing Dynamic System Interchange Procedures

When writing DSI procedures, do the following:

- Tell the operator how to disable the old global processor. If it is not disabled, the job spool may be damaged so that a cold start would be required.
- Tell the operator to cancel DSPs if all of the following apply:
 - The DSPs were called from a console on the old global processor.
 - The DSPs issue input commands to that calling console.
 - The calling console is not valid on the new global processor.

- Tell the operator how to switch to the new global processor global devices that are defined by a JUNIT parameter on the DEVICE statement, if the devices are not already shared.
- Specify as not transferable JES3 functions that use devices that cannot be shared with all processors or that cannot be switched to the new global processor. If the old global processor and the new global processor are different processor models, they may not support the same set of devices.
- Tell the operator where messages will appear on the new global processor. For a DSI, JES3 rebuilds the MSGROUTE and CONSOLE routing tables. This means that, unless the procedures are symmetrical, messages from called DSPs may appear on different MCS consoles on the new global.
- Tell the operator how to connect each operative local processor to the new global processor before a subsequent DSI is performed. Note that, if the local processor is not connected to the new global processor before another DSI is attempted, the operator must reIPL the local processor before connecting it to the next new global processor.
- When System Network Architecture (SNA) Remote Job Processing (RJP) is active on the old global processor, tell the operator to perform the following Virtual Telecommunications Access Method (VTAM) operations before starting SNA RJP on the new global:
 1. Start VTAM.
 2. Vary the application definition, which contains the JES3 application, online to VTAM.
 3. Vary the required network online to VTAM.
 4. Enter a *CALL,SNARJP command.
- After DSI completes, tell the operator to determine the status of the writer output multitasking facility by entering the command *INQUIRY,MT. Then:
 - If the new global processor is a multiprocessor and the multitasking facility is off, turn it on by entering a *MODIFY,MT=ON command.
 - If the new global processor is a uniprocessor and the multitasking facility is on, turn it off by entering a *MODIFY,MT=OFF command.

When writing the procedures, consider the following:

- After a DSI, FSS address spaces continue operating on the same processor as before. FSS address spaces defined to operate on a specific processor depending on which processor is the global processor (that is, specifying paired system names on the SYSTEM parameter of the FSSDEF statement) change location, if necessary, the next time the FSS is restarted.
- Changes to the definition of an FSS address space caused by a *MODIFY command before the DSI remain in effect across the DSI.
- Jobs queued as a result of the SYSTEM=JGLOBAL or SYSTEM=JLOCAL parameters on //*MAIN statements before DSI are not requeued to the new global or local processor after the DSI. The jobs remain queued on the processor on which they were previously queued. If that processor becomes available, the jobs can run.

Recovering from BSC RJP Problems

The binary synchronous communication (BSC) remote job processing (RJP) facility tries to recover automatically from errors and suspended operations that would otherwise end BSC RJP processing and require restart of JES3.

If a failure occurs while the BSC RJP facility is processing, BSC RJP issues a message, then does the following to recover:

- Cancels the line, if the line had an error in a line I/O event, in a timer event, or in Remote Terminal Access Method (RTAM) processing.

If an error occurs during line canceling, the line is lost to the JES3 system; BSC RJP continues to service the rest of the lines.

- Varies the line offline, if the error occurred during line starting. The line cannot be restarted until the operator varies the line online again.

- Ignores the error, if it occurs while BSC RJP is processing a message.

Recovering from Output Writer FSS Failures

JES3 tracks each data set sent to an output writer functional subsystem (FSS) until the FSS notifies JES3 that it has printed the data set. If an FSS fails, JES3 reschedules all data sets that were printing at the time of the failure.

An output writer FSS can fail under any of the following conditions:

- The operator reIPLs the system.
- Operator commands cancel the FSS.
- The last active writer in the JES3 global address space fails. In this case, the output writer FSS associated with it also ends.

If an FSS fails, JES3 also fails all of the writers that are in the JES3 global address space and that sent work to the FSS.

In all of these cases, JES3 recovers the work the FSS was processing and reschedules it.

To restart the FSS, use operator commands to start a writer dynamic support program (DSP) for a page mode device. The writer DSP restarts the output writer FSS.

If you define more than one device to run under the control of an output writer FSS, and one of those devices fail, the FSS remains active and the remaining devices continue processing work. However, if the failed device is the last active device running under control of an output writer FSS, then JES3 cancels the FSS.

After a hot start, output writer FSSs continue running in their own address spaces unless:

- The FSSDEF initialization statement specified TERM=YES.
- The operator IPLs the processor on which the FSSs were operating.

If an output writer FSS runs out of work before the JES3 global address space restarts, the output writer FSS remains idle until the restart. After the hot start, JES3 restarts the writer DSPs, both hot writers and dynamic writers, associated with output writer FSSs that were active before the hot start. The writer DSPs reestablish contact with the output writer FSSs and work continues as before the hot start.

Recovering a 3480 Tape for a Stand-Alone Dump

To use an IBM 3480 Magnetic Tape Subsystem for a stand-alone dump, the operator has to recover a 3480 if the JES3 global processor failed.

JES3-managed 3480s are always assigned to more than one processor, that is, they are assigned so that they belong to one or more local processors and the global processor.

Operator Recovery Actions for a 3480

Do the following to recover a 3480 for dump output from a JES3 global processor:

1. Determine if a 3480 is assigned to a local processor by entering a `DISPLAY U,,,devnum` command, where *devnum* is the device number of the 3480. Enter this command from an MCS console attached to a local processor.
2. Enter VARYL commands to unassign a 3480 from each local processor. For example, to unassign a 3480 that is multi-system assigned at address 560, enter:

```
*X,VARYL
*S,VARYL,560,OFF
*C,VARYL
```

Do the following to recover a 3480 for dump output from a JES3 local processor:

1. Enter a `*VARY,devnum,OFFLINE` command, where *devnum* is the device number of the 3480. Enter this command from an MCS console attached to the JES3 global processor.

Chapter 11. Dump job facility

Using the dump job (DJ) facility, you can dump jobs from the JES3 job queue to tape and subsequently restore the jobs from tape back to the JES3 job queue.

You can use the DJ facility to:

- Archive. Some installations regularly dump jobs to tape to save them for a given period of time.
- Provide additional spool space. Jobs can be dumped to tape when the current workload is heavy and restored when the workload lessens.
- Perform preventive maintenance. Jobs not complete at a time when preventive maintenance is scheduled can be dumped and subsequently restored.
- Migrate. Installations can save and restore jobs when migrating from one level of JES3 to another.

As many as eight DJ DSPs can be invoked concurrently, permitting you to dump and restore jobs simultaneously.

There are three types of trace output that you can obtain from the dump job facility. See [z/OS JES3 Diagnosis](#) for examples of each.

Specifying the jobs to be dumped or restored

You can specify the range of jobs to be selected for dumping or restoring. Jobs can be in any nonactive stage of processing and, with the exception of DJC networks and jobs waiting to be transmitted across networking lines, do not need to be in hold status.

You can specify the following jobs for dumping or restoring:

- A specific DJC network
- All DJC networks
- A specific job that is not part of a DJC network
- All jobs that are not part of a DJC network
- All jobs, including those that are part of a DJC network
- All jobs at a specific priority level that are not part of a DJC network
- All jobs with a specific job class that are not part of a DJC network
- All jobs within a specific range of job numbers that are not part of a DJC network

Jobs for which deadline scheduling was specified will no longer be deadline-scheduled when they are restored.

Jobs that have been processed by the converter/interpreter but have not yet been processed by JES3 will be rescheduled through converter/interpreter service when they are restored.

Jobs that were in output service processing will be rescheduled for processing when they are restored if OUTPUT=ALL is specified on the *CALL,DJ,OUT command. Use the default OUTPUT=NC keyword to specify that only those SYSOUT data sets that had not been processed by output service be rescheduled.

Jobs that have an associated Job Symbol table (JSM) will not have the JSM saved/restored using the dump job (DJ) facility.

Conditions that prevent dumping

When dumping jobs, the DJ facility normally dumps all jobs that meet the criteria specified by the operator. However, the following conditions prevent DJ from dumping a selected job or net:

- The job is awaiting transmission across networking lines and is not in operator hold. Use the *MODIFY,NJE,NAME=*nodename*,HOLD command to change the status of all jobs at a node to hold.
- The DJC network is not in operator hold. Use the *MODIFY,N,ID=*djcnet*,H command to place the net in hold status.
- The job is in spool hold. Use the *MODIFY,Q,DD=*ddn*,RELEASE command to release the spool data set that contains data for the job.
- The job's spool control block that DJ dumps cannot be accessed on spool or the job has failed and is in the process of being restarted.
- The job is a PROCLIB update job, a demand select job, an operator-called DSP, or an input service job.
- The job is being processed by another DJ DSP or was already dumped.
- Translation was specified on the *CALL,DJ command to migrate back to another level of JES3, the job contains either dynamic output or line mode spanned data, and the job is not an NJE store-and-forward.
- The job's status on a scheduler element is one of the following:
 - The job is active on the MAIN scheduler element and is not at a logical point in the MAIN service processing where it can be dumped.
 - The job is active on the OUTSERV scheduler element. It is not on the writer queue or already has been scheduled by a writer.
 - The job is active on a scheduler element other than MAIN or OUTSERV. (See the preceding list items regarding the MAIN and OUTSERV scheduler elements.)
 - The job is between scheduler elements and the next scheduler element to be processed is PURGE.
 - The job contains a scheduler element for a DSP that is not defined in the JES3 release to which you are migrating.
 - The job contains a scheduler element zero that is not for the ISDRVR DSP, and the job is being translated.
 - If you specify OUTPUT=ALL, dump job will not dump APPC SYSOUT.
 - The job using dynamic output when the DJ DSP is called with OUTPUT=ALL specified on the *CALL command.
- Jobs that are waiting for restart by automatic restart management cannot be dumped.

Job disposition after dumping

Normally, the DJ facility purges a job from the JES3 job queue after it is dumped to tape. You can, however, request that jobs be retained in the queue, or left in operator hold status using the DISP= parameter on the *START,DJ command.

If DISP=PURGE is specified or omitted from the *START,DJ command, the jobs are purged from the JES3 job queue after being dumped to tape.

If DISP=HOLD is specified on the *START,DJ command, the jobs are retained and placed in operator hold.

If DISP=SAVE is specified on the *START,DJ command, the jobs are retained and not placed in operator hold.

No job will ever be dumped more than once by a DJ DSP, unless you enter a *START,DJ*devnum*,RESET command.

Dump job log

In addition to writing all messages to the calling console, the DJ facility logs in a separate data set all DJ START commands and all DJ job-related messages that indicate whether a job was successfully dumped or restored. If tracing is specified by the TRACE parameter on the *START command, all trace output is also recorded in the data set. You can print the DJ message log data set by specifying the SPIN=YES parameter on the *START,DJ command. If SPIN=YES is not specified on the START command, the DJ message log data set is printed when the DJ DSP is canceled.

See *z/OS JES3 Diagnosis* for information about the dump job trace.

Server versus nonserver mode

Dump job can be run in either server or nonserver mode. When dump job is run in server mode, a dump job server address space is started to allocate the tape device. All tape-related functions such as reading or writing to the tape are done from the dump job server address space. When dump job is run in nonserver mode, the tape device is allocated by JES3, and all tape-related functions such as reading or writing to the tape are done from the JES3 global address space. Dump job tapes created by nonserver mode can be restored in server mode and dump job tapes created by server mode can be restored in nonserver mode. Note, however, that a selective restore (*START,DJ, J=jobno,(OLD)) from a multiple volume dump tape may fail during end of volume processing if the dump was created before the server mode support was installed.

The following table compares running dump job in server and nonserver mode.

Table 12. Dump Job in Server and Nonserver Mode	
Server Mode	Nonserver Mode
All access to the tape data set is done in the dump job server address space.	All access to the tape data set is done in the JES3 global address space.
Supports standard label and unlabeled tapes.	Supports standard label and unlabeled tapes.
For standard label tapes, a unique data set name is generated and cataloged. As a result, the operator does not have to remember the list of volumes when restoring the jobs from tape.	No unique data set name is generated or cataloged. The operator must know which volumes need to be mounted when restoring jobs from tape.
Standard data management services (OPEN, CLOSE, EOVS) are used to process the tape data set.	Standard data management interfaces are not used to process the tape data set.
Tape devices in the IBM 3494 and IBM 3495 tape library data server can be used.	Tape devices in the IBM 3494 and IBM 3495 tape library data server cannot be used.
Supports 9-track tapes; does not support 7-track tapes.	Supports 7-track tapes and 9-track tapes.
<p>The device used by dump job does not have to be defined to JES3, but it can be defined to JES3 if you prefer. In addition, a generic device name (for example, 3490) or an esoteric device name (for example, TAPE) may be specified on the *CALL command.</p> <p>If you have tape DEVICE statements in your initialization stream for use only the dump job, you can remove these statements when you decide to run only the dump job in server mode. To remove tape DEVICE and SETNAME statements from the initialization stream you must perform a JES3 hot start with refresh.</p> <p>If you want JES3 to continue to manage tape devices for jobs in execution but no longer need them for dump job, you can remove the DTYPE, JNAME, and JUNIT parameters from the tape DEVICE statements and perform a hot start with refresh. If you change your mind and want to add them back, this can also be accomplished by performing a hot start with refresh.</p>	<p>The device used by dump job must be defined to JES3 through a DEVICE statement and must be defined as a shared device. That is, it must be defined as a JES3 global device through the DTYPE, JNAME, and JUNIT parameters and as an execution device through the XTYPE and XUNIT parameters.</p>

Table 12. Dump Job in Server and Nonserver Mode (continued)	
Server Mode	Nonserver Mode
<p>If the device is defined to JES3, it must be varied online as an execution device on the JES3 global. For example, if you want to use device 560 for dump job and SY1 is the global, you must issue the following command to vary the device online:</p> <pre>*V,560,ON,SY1</pre> <p>If the device is not defined to JES3, then the following MVS VARY command must be issued:</p> <pre>VARY 560,ONLINE</pre>	<p>The device must be varied online as a global device. For example, if you want to use device 560 for dump job, you must issue the following command to vary the device online:</p> <pre>*V,560,ON</pre>
<p>Dump job can be canceled by doing one of the following:</p> <ul style="list-style-type: none"> • Issue a *CANCEL,DJ command (if there is only one DJ DSP active). • Issue a *CANCEL,J=<i>jobno</i> command (if there are multiple DJ DSPs active). • Issue a *CANCEL,DJ<i>devnum</i> command (if there are multiple DJ DSPs active). <i>devnum</i> is the device number assigned to the DJ DSP. • Issue an MVS CANCEL command to cancel the server address. <p>You cannot cancel the dump job DSP by device number.</p>	<p>Dump job can be canceled by doing one of the following:</p> <ul style="list-style-type: none"> • Issue a *CANCEL,DJ command (if there is only one DJ DSP active). • Issue a *COMMAND,J=<i>jobno</i> command (if there are multiple DJ DSPs active). • Issue a *CANCEL,<i>devname</i> command. • Issue a *CANCEL,DJ<i>devnum</i> command (if there are multiple DJ DSPs active). <i>devnum</i> is the device number assigned to the DJ DSP.
<p>The OLD parameter is not supported on the *CALL command when restoring jobs from tapes. The tape will always be rewound before being processed.</p>	<p>The OLD parameter is supported on the *CALL command when restoring jobs from tapes. This allows you to bypass the initial rewind that normally precedes the restore process.</p>

Dumping jobs to tape in server mode

The following example shows how to dump jobs to tape when dump job is in server mode. The first thing that needs to be done is to *CALL the dump job DSP; then a standard labeled tape is created on device 560. Because device 560 is defined as a JES3 managed device, it must be varied online as an execution device to the global processor (SY1).

```
*V,560,ON,SY1
IAT8180 0560      VARIED ONLINE  TO JES3 ON SY1
*X,DJ,OUT=560,LABEL=SL,SERVER=YES
```

Instead of using a specific device, a generic or esoteric device name could have been specified on the *CALL command. In this case, the device name must be enclosed in parentheses:

```
*X,DJ,OUT=(3490),LABEL=SL,SERVER=YES
```

or

```
*X,DJ,OUT=(LDE10435),SERVER=YES
```

As a result of the *CALL command, a dump job server address space is started. The dump job server address space initializes and allocates the tape device. The tape device is allocated with deferred mounting so that there are not any IAT5210 messages showing that are requesting the operator to mount the tape, if this is a JES3 managed device. A mount message (IEC501A) is issued when a *START,DJ command is issued, and the tape data set is opened.

```
IAT6306 JOB (JOB00033) IS DJ      , CALLED BY 01
IAT6100 ( DEMSEL ) JOB IEESYSAS (JOB00034), PRTY=15, ID=*UNKNOWN
SY1 IEESYSAS IEF403I IEESYSAS - STARTED - TIME=16.11.04
IAT5110 JOB IEESYSAS (JOB00034) GET 255 T SCRTCH ,SL JES3.DJ.D1998091.T163039
```

The job name of the dump job server address space is **DJ** followed by the job number of the DJ DSP that started the server address space. To display information about the dump job server address space, issue one of the following commands:

```
D A,DJ* or D A,DJ000033
SY1      CNZ4106I 16.12.03 1998.049 ACTIVITY 351
  JOBS      M/S      TS USERS      SYSAS      INITS      ACTIVE/MAX VTAM      OAS
00000      00006      00001      00026      00003      00001/00300      00001
  DJ000033 DJ000033 IEFPROC  NSW  *      A=0024      PER=NO      SMC=000
      PGN=N/A      DMN=N/A      AFF=NONE
      CT=000.093S      ET=058.661S
      WUID=JOB00034 USERID=+++++++
      WKL=SYSTEM      SCL=SYSTEM      P=1
      RGP=N/A      SRVR=NO      QSC=NO
      ADDR SPACE ASTE=034BC900

*I J=34
IAT8674 JOB IEESYSAS (JOB00034) P=15 CL=A      R=(512K,512K),
MAIN(EXECUTING-SY1)
```

After the dump job server address space has successfully initialized, dump job issues the messages below to show that it is ready to begin dumping jobs to tape. Message IAT7272 contains the name of the tape data set that contains the jobs that are dumped to tape. This data set name must be specified on the *CALL,DJ command when you restore the jobs from tape.

```
IAT7272 DJ0560 (JOB00033): OUTDSN=JES3.DJ.D1998091.T163039
IAT7213 DJ0560 (JOB00033): UP AND RUNNING; OUTPUT ON UNIT 0560, DEVICE MVS 0560
*IAT7228 ISSUE START OR CANCEL FOR DJ (JOB00033) (0560)
```

The data set name that is generated is different for standard label tapes versus unlabeled tapes. For standard label tapes, the data set name has the following format, where *jesn* is the JES3 subsystem name.

```
jesn.DJ.Dyyyyddd.Thhmmss
```

For unlabeled tapes, the data set name is not unique and has the following format, where *jesn* is the JES3 subsystem name.

```
jesn.DJOUT
```

To dump jobs to tape, issue the *START,DJ command and specify which jobs you want dumped. In the example that follows, jobs in priority 4 are dumped to tape:

```
*S,DJ,P=4
```

As a result of the *START command, dump job dumps the requested jobs to tape:

```
*IEC501A M 0560,TAPVOL,SL,,IEESYSAS,DJ000034
```

Tape now mounted

```

IAT7229 DJ0560 (JOB00033): SUCCESSFULLY DUMPED JOB JOB51      (JOB33436)
IAT7450 JOB JOB51      (JOB33436) PURGED
IAT7229 DJ0560 (JOB00033): SUCCESSFULLY DUMPED JOB JOB33      (JOB33435)
IAT7450 JOB JOB33      (JOB33435) PURGED
IAT7229 DJ0560 (JOB00033): SUCCESSFULLY DUMPED JOB JOB24      (JOB33434)
IAT7450 JOB JOB24      (JOB33434) PURGED
.
.
IAT7229 DJ0560 (JOB00033): SUCCESSFULLY DUMPED JOB JOB24      (JOB33434)
IAT7450 JOB JOB25      (JOB33433) PURGED
IAT7230 DJ0560 (JOB00033): DUMP PROCESSING COMPLETE FOR PRIORITY LEVEL 04
IAT7253 DJ0560 (JOB00033): 0000038 JOBS SUCCESSFULLY DUMPED TO TAPE
IAT7220 DJ0560 (JOB00033): FUNCTION COMPLETE ON UNIT 0560
*IAT7228 ISSUE START OR CANCEL FOR DJ (JOB00033) (0560)

```

You can now issue additional *START,DJ commands to dump other jobs to tape. When you are finished dumping jobs to tape, you can cancel the DJ DSP. As a result, the dump job server address space closes the tape data set and end.

```

*C,DJ

IEF234E R 0560,TAPVOL,PVT,IEESYSAS,DJ000034
IEF471E FOLLOWING VOLUMES NO LONGER NEEDED BY IEESYSAS
        TAPVOL.
IEF404I IEESYSAS - ENDED - TIME=16.37.00
IAT7200 DJ0560 (JOB00033): DUMP JOB DSP TERMINATING
IAT7450 JOB DJ      (JOB00033) PURGED

```

The following shows the dump job log that was created:

```

*X,DJ,SERVER=YES,OUT=560
> OUT DSN=JES3.DJ.D1998091.T163039 - TAPVOL
*S,DJ,P=4
IAT7226 DJ0560 (JOB00033): JOB JOB999 (JOB32766) CANNOT BE DUMPED - IS ACTIVE
IAT7229 DJ0560 (JOB00033): SUCCESSFULLY DUMPED JOB JOB21      (JOB33414)
IAT7229 DJ0560 (JOB00033): SUCCESSFULLY DUMPED JOB JOB12      (JOB33413)
IAT7229 DJ0560 (JOB00033): SUCCESSFULLY DUMPED JOB JOB30      (JOB33418)
IAT7229 DJ0560 (JOB00033): SUCCESSFULLY DUMPED JOB JOB3      (JOB33420)
IAT7229 DJ0560 (JOB00033): SUCCESSFULLY DUMPED JOB JOB6       (JOB33438)
.
.
IAT7229 DJ0560 (JOB00033): SUCCESSFULLY DUMPED JOB JOB24      (JOB33434)
IAT7230 DJ0560 (JOB00033): DUMP PROCESSING COMPLETE FOR PRIORITY LEVEL 04
IAT7230 DJ0560 (JOB00033): DUMP PROCESSING COMPLETE FOR JOBS REQUEST
IAT7253 DJ0560 (JOB00033): 0000038 JOBS SUCCESSFULLY DUMPED TO TAPE
IAT7220 DJ0560 (JOB00033): FUNCTION COMPLETE ON UNIT 0560

*S,DJ,P=1
IAT7230 DJ0560 (JOB00033): DUMP PROCESSING COMPLETE FOR PRIORITY LEVEL 01
IAT7253 DJ0560 (JOB00033): NO JOBS SUCCESSFULLY DUMPED TO TAPE
IAT7220 DJ0560 (JOB00033): FUNCTION COMPLETE ON UNIT 0560
*C,DJ
IAT7200 DJ0560 (JOB00033): DUMP JOB DSP TERMINATING

```

Restoring jobs from tape in server mode

The following is an example of restoring jobs from tape when dump job is in server mode. The first thing that needs to be done is to *CALL the dump job DSP. For standard label, server mode requests, the DSN= parameter must specify the name of the data set that was created when the jobs were dumped to tape:

```

*X,DJ,IN=560,SERVER=YES,DSN=JES3.DJ.D1998091.T163039

```

If a unlabeled tape was created when the jobs were dumped to tape, the VOL= parameter must be specified in addition to the DSN= parameter. This is necessary because unlabeled tapes are always created and cataloged with the data set name *jesn.DJOUT*. If you create multiple unlabeled tapes, JES3

needs to know the volsers to determine which instance of *jesn.DJOUT* you want to restore. This is not a problem for standard labeled tapes because the data set name that is generated and cataloged is unique.

```
*X,DJ,IN=560,SERVER=YES,DSN=JES3.DJOUT,VOL=(TAPVOL,TAPVL2,TAPVL3)
```

As a result of the *CALL command, a dump job server address space is started. The dump job server address space initializes and allocates the tape device.

```
IAT6306 JOB (JOB33530) IS DJ          , CALLED BY 01
IAT6100 ( DEMSEL ) JOB IEESYSAS (JOB33531), PRTY=15, ID=*UNKNOWN
IEF403I IEESYSAS - STARTED - TIME=16.51.54
IAT5110 JOB IEESYSAS (JOB33531) USES      T TAPVOL ,SL JES3.DJ.D1998091.T163039
```

After the dump job server address space has successfully initialized, dump job issues the following messages to show that it is ready to begin restoring jobs from tape.

```
IAT7213 DJ0560 (JOB33530): UP AND RUNNING; INPUT ON UNIT 0560, DEVICE MVS 0560
*IAT7228 ISSUE START OR CANCEL FOR DJ (JOB33530) (0560)
```

To restore dump jobs from tape, issue the *START,DJ command and specify which jobs you want dumped. In the following example, you can restore jobs in priority 4:

```
*S,DJ,P=4
```

As a result of the *START command, dump job restores the requested jobs from the tape (message IAT7255 is displayed on two lines because of space limitations):

```
*IEC501A M 0560,TAPVOL,SL,,IEESYSAS,DJ033530
```

(tape now mounted)

```
IAT7255 DJ0560 (JOB33530): JOB JOB21      (JOB33414) ENTERED INTO PRIORITY 04
AS JOB (JOB33414)
IAT7255 DJ0560 (JOB33530): JOB JOB12      (JOB33413) ENTERED INTO PRIORITY 04
AS JOB (JOB33413)
IAT7255 DJ0560 (JOB33530): JOB JOB30      (JOB33418) ENTERED INTO PRIORITY 04
AS JOB (JOB33418)
IAT7255 DJ0560 (JOB33530): JOB JOB3       (JOB33420) ENTERED INTO PRIORITY 04
AS JOB (JOB33420)
IAT7255 DJ0560 (JOB33530): JOB JOB6       (JOB33438) ENTERED INTO PRIORITY 04
AS JOB (JOB33438)
.
.
.
IAT7255 DJ0560 (JOB33530): JOB LABL560    (JOB33525) ENTERED INTO PRIORITY 04
AS JOB (JOB33525)
IAT7245 DJ0560 (JOB33530): END-OF-TAPE WHILE READING PRIORITY LEVEL 04
IAT7281 DJ0560 (JOB33530): RESTORE PROCESSING COMPLETED FOR PRIORITY LEVEL 04
IAT7386 DJ0560 (JOB33530): 0000038 JOBS SUCCESSFULLY RESTORED FROM TAPE
IAT7220 DJ0560 (JOB33530): FUNCTION COMPLETE ON UNIT 0560
*IAT7228 ISSUE START OR CANCEL FOR DJ (JOB33530) (0560)
```

You can now issue additional *START,DJ commands to restore other jobs from tape. When you are finished restoring jobs from tape, you can cancel the DJ DSP. As a result, the dump job server address space will close the tape data set and end.

```
*C,DJ

IEF234E R 0560,TAPVOL,PVT,IEESYSAS,DJ033530
IAT5410 KEEP      T TAPVOL ON 0560,SY1
IEF471E FOLLOWING VOLUMES NO LONGER NEEDED BY IEESYSAS
TAPVOL.
IEF404I IEESYSAS - ENDED - TIME=17.08.34
IAT7200 DJ0560 (JOB33530): DUMP JOB DSP TERMINATING
IAT7450 JOB DJ          (JOB33530) PURGED
```

The following shows the dump job log that was created (message IAT7255 is displayed on two lines because of space limitations):

```

*X,DJ,IN=560,SERVER=YES,DSN=JES3.DJ.D1998091.T163039
> OUT DSN=JES3.DJ.D1998091.T163039 - TAPVOL
*S,DJ,P=4
IAT7255 DJ0560 (JOB33530): JOB JOB21 (JOB33414) ENTERED INTO PRIORITY 04
AS JOB (JOB33518)
IAT7255 DJ0560 (JOB33530): JOB JOB12 (JOB33413) ENTERED INTO PRIORITY 04
AS JOB (JOB33521)
IAT7255 DJ0560 (JOB33530): JOB JOB30 (JOB33418) ENTERED INTO PRIORITY 04
AS JOB (JOB33523)
IAT7255 DJ0560 (JOB33530): JOB JOB3 (JOB33420) ENTERED INTO PRIORITY 04
AS JOB (JOB33414)
IAT7255 DJ0560 (JOB33530): JOB JOB6 (JOB33438) ENTERED INTO PRIORITY 04
AS JOB (JOB33413)
.
.
.
IAT7255 DJ0560 (JOB33530): JOB LABL560 (JOB33525) ENTERED INTO PRIORITY 04
IAT7264 DJ0560 (JOB33530): END-OF-TAPE WHILE READING PRIORITY LEVEL 04
IAT7281 DJ0560 (JOB33530): RESTORE PROCESSING COMPLETED FOR PRIORITY LEVEL 04
IAT7386 DJ0560 (JOB33530): 0000038 JOBS SUCCESSFULLY RESTORED FROM TAPE
IAT7220 DJ0560 (JOB33530): FUNCTION COMPLETE ON UNIT 0560
*C,DJ IAT7200 DJ0560 (JOB33530): DUMP JOB DSP TERMINATING

```

Dumping jobs to tape in nonserver mode

The following is an example of dumping jobs to tape when dump job is in nonserver mode. The first thing that needs to be done is to *CALL the dump job DSP. In the following example, a standard labeled tape is being created on device 560. Device 560 must be varied online as a JES3 global device.

```

*V,560,ON

IAT5510 0560 VARIED ONLINE ON GLOBAL
*X,DJ,OUT=560,LABEL=SL,SERVER=NO

```

As a result of the *CALL command, the dump job DSP allocates the tape device and issues the messages below. Unlike server mode, a data set is not created and cataloged in nonserver mode.

```

IAT6306 JOB (JOB33568) IS DJ , CALLED BY 01
IAT7213 DJ0560 (JOB33568): UP AND RUNNING; OUTPUT ON UNIT 0560, DEVICE T560
*IAT7214 DJ0560 (JOB33568): MOUNT TAPE ON UNIT 0560 FOR DJ OUTPUT

```

To dump jobs to tape, issue the *START,DJ command and specify which jobs you want dumped. In this example, jobs in priority 2 will be dumped to tape:

```

*S,DJ,P=2

```

When the *START,DJ command is issued, dump job may issue message IAT7218 to ask you to mount a tape.

```

IAT7218 DJ0560 (JOB33568): READY UNIT 0560, OR ISSUE '*START' OR '*CANCEL'

```

After the tape has been mounted, jobs will be dumped to tape.

```

IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB JOB21 (JOB33414)
IAT7450 JOB JOB21 (JOB33414) PURGED
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB JOB12 (JOB33413)
IAT7450 JOB JOB12 (JOB33413) PURGED
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB JOB21 (JOB33532)
IAT7450 JOB JOB21 (JOB33532) PURGED
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB JOB12 (JOB33533)
IAT7450 JOB JOB12 (JOB33533) PURGED
.
.
.
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB LABL560 (JOB33525)
IAT7450 JOB LABL560 (JOB33525) PURGED
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB LABL560 (JOB33566)
IAT7230 DJ0560 (JOB33568): DUMP PROCESSING COMPLETE FOR PRIORITY LEVEL 02
IAT7450 JOB LABL560 (JOB33566) PURGED
IAT7253 DJ0560 (JOB33568): 0000070 JOBS SUCCESSFULLY DUMPED TO TAPE

```

```
IAT7220 DJ0560 (JOB33568): FUNCTION COMPLETE ON UNIT 0560
*IAT7228 ISSUE START OR CANCEL FOR DJ (JOB33568) (0560)
```

You can now issue additional *START,DJ commands to dump other jobs to tape. When you are finished dumping jobs to tape, you can cancel the DJ DSP.

```
*C,DJ
```

```
IAT7200 DJ0560 (JOB33568): DUMP JOB DSP TERMINATING
IAT7450 JOB DJ (JOB33568) PURGED
```

The following shows the dump job log that was created:

```
*X,DJ,OUT=560,SERVER=NO
*S,DJ,P=2
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB JOB21 (JOB33414)
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB JOB12 (JOB33413)
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB JOB21 (JOB33532)
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB JOB12 (JOB33533)
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB JOB30 (JOB33418)
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB JOB30 (JOB33534)
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB JOB3 (JOB33420)
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB JOB3 (JOB33535)
.
.
IAT7229 DJ0560 (JOB33568): SUCCESSFULLY DUMPED JOB LABL560 (JOB33566)
IAT7230 DJ0560 (JOB33568): DUMP PROCESSING COMPLETE FOR PRIORITY LEVEL 02
IAT7253 DJ0560 (JOB33568): 0000070 JOBS SUCCESSFULLY DUMPED TO TAPE
IAT7220 DJ0560 (JOB33568): FUNCTION COMPLETE ON UNIT 0560
*C,DJ
IAT7200 DJ0560 (JOB33568): DUMP JOB DSP TERMINATING
```

Restoring jobs from tape in nonserver mode

The following is an example of restoring jobs from tape when dump job is in nonserver mode. The first thing that needs to be done is to *CALL the Dump Job DSP.

```
*X,DJ,IN=560,SERVER=NO
```

As a result of the *CALL command, the dump job DSP allocates the tape device and issues the messages below. Unlike server mode, the operator must remember the volumes that need to be used and the order that they need to be mounted.

```
IAT6306 JOB (JOB33568) IS DJ , CALLED BY 01
IAT7213 DJ0560 (JOB33568): UP AND RUNNING; OUTPUT ON UNIT 0560, DEVICE T560
*IAT7214 DJ0560 (JOB33568): MOUNT TAPE ON UNIT 0560 FOR DJ OUTPUT
```

To restore dump jobs from tape, issue the *START,DJ command and specify which jobs you want dumped. In the following example, you can restore jobs in priority 2:

```
*S,DJ,P=2
```

As a result of the *START command, dump job restores the requested jobs from the tape (message IAT7255 is displayed on two lines because of space limitations):

```
IAT7255 DJ0560 (JOB33575): JOB JOB21 (JOB33414) ENTERED INTO PRIORITY 02
AS JOB (JOB33414)
IAT7255 DJ0560 (JOB33575): JOB JOB12 (JOB33413) ENTERED INTO PRIORITY 02
AS JOB (JOB33413)
IAT7255 DJ0560 (JOB33575): JOB JOB21 (JOB33532) ENTERED INTO PRIORITY 02
AS JOB (JOB33532)
IAT7255 DJ0560 (JOB33575): JOB JOB12 (JOB33533) ENTERED INTO PRIORITY 02
AS JOB (JOB33533)
.
.
IAT7255 DJ0560 (JOB33575): JOB LABL560 (JOB33566) ENTERED INTO PRIORITY 02
AS JOB (JOB33566)
IAT7245 DJ0560 (JOB33575): END-OF-TAPE WHILE READING PRIORITY LEVEL 02
IAT7281 DJ0560 (JOB33575): RESTORE PROCESSING COMPLETED FOR PRIORITY LEVEL 02
```

```
IAT7386 DJ0560 (JOB33575): 0000070 JOBS SUCCESSFULLY RESTORED FROM TAPE
IAT7220 DJ0560 (JOB33575): FUNCTION COMPLETE ON UNIT 0560
*IAT7228 ISSUE START OR CANCEL FOR DJ (JOB33575) (0560)
```

You can now issue additional *START,DJ commands to restore other jobs from tape. When you are finished restoring jobs from tape, you can cancel the DJ DSP.

```
*C,DJ
IAT7200 DJ0560 (JOB33575): DUMP JOB DSP TERMINATING
IAT7450 JOB DJ (JOB33575) PURGED
```

The following shows the dump job log that was created (message IAT7255 is displayed on two lines because of space limitations):

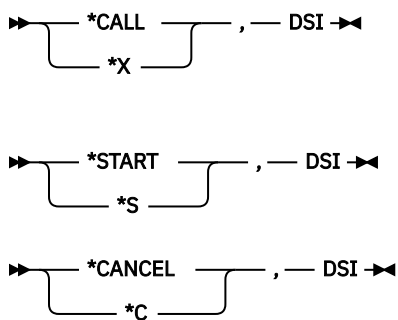
```
*X,DJ,IN=560
*S,DJ,P=2
IAT7255 DJ0560 (JOB33575): JOB JOB21 (JOB33414) ENTERED INTO PRIORITY 02
AS JOB (JOB33414)
IAT7255 DJ0560 (JOB33575): JOB JOB12 (JOB33413) ENTERED INTO PRIORITY 02
AS JOB (JOB33413)
IAT7255 DJ0560 (JOB33575): JOB JOB21 (JOB33532) ENTERED INTO PRIORITY 02
AS JOB (JOB33532)
IAT7255 DJ0560 (JOB33575): JOB JOB12 (JOB33533) ENTERED INTO PRIORITY 02
AS JOB (JOB33533)
IAT7255 DJ0560 (JOB33575): JOB JOB30 (JOB33418) ENTERED INTO PRIORITY 02
AS JOB (JOB33418)
.
.
.
IAT7255 DJ0560 (JOB33575): JOB LABL560 (JOB33566) ENTERED INTO PRIORITY 02
AS JOB (JOB33566)
IAT7245 DJ0560 (JOB33575): END-OF-TAPE WHILE READING PRIORITY LEVEL 02
IAT7281 DJ0560 (JOB33575): RESTORE PROCESSING COMPLETED FOR PRIORITY LEVEL 02
IAT7386 DJ0560 (JOB33575): 0000070 JOBS SUCCESSFULLY RESTORED FROM TAPE
IAT7220 DJ0560 (JOB33575): FUNCTION COMPLETE ON UNIT 0560
*C,DJ
IAT7200 DJ0560 (JOB33575): DUMP JOB DSP TERMINATING
```


Chapter 12. Dynamic system interchange (DSI)

Dynamic system interchange (DSI) is the backup facility to be used if a permanent machine or program failure occurs on the global or if system reconfiguration is necessary for preventive maintenance. If you cannot perform an IPL on the global or restart the JES3 global address space if an IPL is not required within a reasonable period of time, DSI allows JES3 to continue operation by switching the global function to a local main in the same JES3 complex. If a failure occurs during DSI, try a hot start. A failure during connect processing could be the cause of the failure. If the failure recurs, a warm start is required.

The DSI procedure consists of a sequence of commands (entered on either the old or the new global) and messages described below. (See [z/OS JES3 Messages](#) for detailed descriptions of and responses to messages.)

The commands used during the DSI procedure are:



It is important to ensure that the old global's JES3 address space is no longer functioning when the new global is being initialized during the DSI process. This includes the JES3DLOG address space that might have been executing on the global z/OS system as well. By following the step-by-step procedures for DSI in [Table 13 on page 136](#), this will be accomplished. Not all messages received are shown. Only the key messages are shown along with comments as to why they are important.

Unless the console where you entered these commands receives messages that are issued with a routing code of 10 or its equivalent destination class, you might not receive messages related to DSI. To determine whether a console is receiving route code 10, use the MVS command D CONSOLES. If a console is not receiving routing code 10, the routing code can be added through the use of the MVS command VARY CN() with the AROUT parameter. See [z/OS MVS System Commands](#) for more information about the D CONSOLES and VARY CN() commands.

Your system programmer should have a DSI procedure tailored to your installation and update it to reflect any changes in the complex's configuration. The chart below outlines the basic sequence of the DSI procedure; but an installation should have its own DSI procedure before attempting a DSI.

There are three scenarios that are possible during a DSI procedure. If the global processor has lost communication in the sysplex, then XCF signaling messages (for example, IXC402D, "LAST OPERATIVE AT hh:mm:ss. REPLY DOWN AFTER SYSTEM RESET OR INTERVAL=SSSSS TO SET A REPROMPT TIME") might be issued on one of the JES3 locals. Before entering the DSI procedure, consider correcting the situation that led to the XCF messages, if possible, so that a DSI need not be done.

If a DSI is required, start the DSI procedure by calling the DSI DSP on the new global. During this procedure, message IAT0910 will eventually appear indicating the old global (both the JES3 address space **and** the JES3DLOG address space) must no longer be active. By following the appropriate procedures, you will ensure that this is accomplished.

[Table 13 on page 136](#) identifies which commands and messages are applicable to the these three scenarios:

- **Scenario 1:** The old global's processor has completely failed; both JES3 and MVS are no longer active.

All commands are issued from the new global as operator interaction with the old global is not possible in this case.

XCF status monitoring messages might or might not be present on the new global, and your procedure will vary depending on any outstanding messages to which you need to reply. [Table 13 on page 136](#) indicates some of these messages.

- **Scenario 2:** Both JES3 and MVS on the old global are still active, available, and continue to perform work. However, you might want to perform a DSI to a new global for other installation-specific reasons. For example, you might just want to test your local DSI procedures.

In this case, commands for the DSI process will be issued on both the old and the new global to ensure that **all** JES3 components (both the JES3 global address space and the DLOG facility of JES3) are ended normally on the old global before the DSI to the new global is attempted. To ensure proper termination of JES3 on the old global, the correct JES3 commands (as shown) must be used.

- **Scenario 3:** The JES3 address space on the old global has failed and is now inactive, but MVS is still active.

Note that DLOG (the optional recorder of all communication in the complex, both commands and messages) must be made inactive on the old global before the new global initializing during the DSI process. DLOG consists of a separate system address space (JES3DLOG) on the JES3 global processor. It is initialized either by the *MODIFY,O,DLOG=ON operator command or through a JES3 initialization stream statement setting (DLOG=ON on the CONSTD statement). If DLOG is still executing on a different MVS system when the new global initializes, incorrect processing will occur. Therefore, this scenario requires the operator to cancel the JES3DLOG address space.

Table 13. DSI Processes		
Console/Processor	Command/Message	Action/Response
All Scenarios:		
Inform the local processor that it is about to become the new global.		
new	8X,DSI	<p>Notifies JES3 that a DSI is going to be done.</p> <p>This command can be issued when a DSI procedure is to be invoked. It can be issued after the IXC402D message above appears or it can be invoked without other messages preceding this command to have the operator initiate the DSI procedure.</p> <p>Important: The correct command prefix character that is system-scoped (remains on the new global system and is not automatically transported to the old global) must be used. In many installations, "8" is the character that is used. If the global processor is still active, use of the syntax-wide scoped prefix character, typically "*", would incorrectly route the command to the global, regardless of where issued in the complex. See your installation's JES3 initialization stream or system programmer for the correct system-scoped prefix for your installation.</p>
new	IAT0915	DSI - REVIEW LOCAL DSI PROCEDURE FOR main. Review your installation's guidelines for DSI.
new	8S,DSI or 8C,DSI	Use the 8S command to continue with DSI, or the 8C command to end DSI.

Table 13. DSI Processes (continued)		
Console/Processor	Command/Message	Action/Response
new	IAT0910	<p>DSI - DISABLE OLD GLOBAL.</p> <p>Note: If the global is already disabled, message IAT0910 will not be issued.</p> <p>You can now enter *C,DSI to end the DSI or follow one of the below steps to disable the old global. If you proceed with disabling the old global, JES3 will automatically detect when you have done so and proceed to the next step. You need not issue the *S,DSI command at this point.</p> <p>Attention: It is extremely important that you end both JES3 and the JES3DLOG address space on the old global. JES3 spool integrity can be destroyed or JES3 initialization will fail for the new global, or both. These procedures ensure that JES3 and JES3 DLOG will terminate.</p>
Proceed to one of the following steps to disable the old global for the specific scenario for which you are performing a DSI.		
To Disable a Failed Global - Scenario 1 (JES3 inactive, MVS inactive):		
old	RESET	Perform a system reset (optional) on the old global.
new	IXC402D	<p>LAST OPERATIVE AT hh:mm:ss. REPLY DOWN AFTER SYSTEM RESET OR INTERVAL=SSSS TO SET A REPROMPT TIME.</p> <p>XCF messages might or might not be outstanding on the new global. If they are:</p> <p>Reply: R nn,DOWN (or reply to IXC409D below).</p>
new	IXC409D	<p>SIGNAL PATHS BETWEEN new AND old ARE LOST. REPLY RETRY OR SYSNAME=SYSNAME OF THE SYSTEM TO BE REMOVED.</p> <p>Reply: R nn,SYSNAME=old where old is the name of the old global or reply to IXC402D above if it is outstanding; either one will continue the process if both messages are outstanding.</p>
new	IXC417D	<p>CONFIRM REQUEST TO REMOVE old FROM THE SYSPLEX. REPLY SYSNAME=old TO REMOVE old OR C TO CANCEL.</p> <p>Reply: R nn,SYSNAME=old where old is the name of the old global. (The message occurs if the operator responded to IXC409D above.)</p>
new	IXC102A	<p>XCF IS WAITING FOR SYSTEM old DEACTIVATION. REPLY DOWN WHEN MVS ON old IS DOWN.</p> <p>Reply: R nn,DOWN (The message might not occur if you responded to message IXC402D rather than to message IXC409D.)</p>

Table 13. DSI Processes (continued)		
Console/Processor	Command/Message	Action/Response
new	IXC105I	SYSPLEX PARTITIONING HAS COMPLETED FOR old. This is an informational message indicating the old global has been removed from the sysplex by XCF.
Proceed to "After the Old Global has been Disabled."		
To Disable an Active Global - Scenario 2 (JES3 active, MVS active):		
		Note: Do not use *RETURN to disable an active old global. The *X DSI sequence should be used to ensure that the JES3DLOG address space, if active, is disabled on the old global before initializing the new global.
old	*X,DSI	Notifies the old global that it is about to be disabled.
old	IAT0920	DSI - CHECK GLOBAL DSI PROCEDURE FOR main Review your installation's guidelines before disabling the old global. Note: If this message does not appear, the old global is not active. Follow the procedure for a failed global, beginning with RESET.
old	*S,DSI or *C,DSI	IAT0905 DSI - STARTED FOR old.
Proceed to "After the Old Global Has Been Disabled."		
To Disable an Active Global - Scenario 3 (JES3 inactive, MVS active):		
old	FORCE JES3DLOG, ARM	IAT7123 DLOG ADDRESS SPACE FAILED IEE301I JES3DLOG FORCE ARM COMMAND ACCEPTED The JES3DLOG address space is canceled on the old global. This is performed so that when JES3 is brought up on the new global and attempts to initialize the JES3 complex-wide JES3DLOG address space, if needed, the existing JES3DLOG will have been terminated.
old	IAT0921	DSI - WARNING: SYSTEM ssssssss HAS nnnnn ACTIVE NETSERV(S) This message is issued if there is a processor in the complex that is running a JES3 release below z/OS V1R8 and there is at least one Netserv running somewhere in the JES3 complex. You can ignore this message if the intended new global is running z/OS V1R8 JES3 or higher. If the new global is down level, you must bring all active Netservs in the complex down before you enter the *S,DSI command to disable the old global.
Proceed to "After the Old Global Has Been Disabled."		

Table 13. DSI Processes (continued)		
Console/Processor	Command/Message	Action/Response
After the Old Global Has Been Disabled - All Scenarios Rejoin Here (all three scenarios above join this common procedure to start the new global at this point):		
new	IAT7124	DLOG IS NOW INACTIVE The JES3DLOG address space is no longer active. You can now safely continue the DSI on the new global.
new	IAT0900	DSI - SWITCH GLOBAL DEVICES Switch all JES3 devices, all RJP or networking communications lines, and any other equipment that must be on the global to the new global. (Check your installation's procedures; switching can involve a 3814 or similar switching device.) Note: These devices have to be varied on-line to MVS on the new global; use the MVS command V ([ddd] [,ddd]...),ONLINE.
new	8S,DSI or 8C,DSI	Use the 8S command to continue with DSI or the 8C command to end DSI. Note: This is the last opportunity to cancel DSI.
new	IAT0905	DSI - STARTED From this point on, proceed as for a regular hot start.
new	*S,main,FLUSH	If you do not expect to re-IPL and start JES3 on the old global processor immediately after a DSI, you must issue the *S,main,FLUSH command. This is to: <ul style="list-style-type: none"> • ensure that jobs registered with automatic restart manager on the old global processor are restarted on either the new global processor or on another active local processor. • tell the new global, all work in an on-main state, on the specified main, is to be removed from that state. This will allow JES3 to apply the failure option to all batch jobs and also allow the restarting of FSSs on the new global or another active local processor if the FSS is defined to execute there.

Remote job processing considerations

When SNA/RJP is active on the global that has been disabled, some VTAM operations must be performed before starting SNA RJP on the new global. These operations vary according to the VTAM level installed and your configuration. The system programmer should define a procedure for the operator. The following items should be considered when writing the procedure:

- For ACF/VTAM when the new global does not have VTAM already started.
 1. Start VTAM.
 2. Vary the application definition (which contains the JES3 application) on-line to VTAM.
 3. Vary the required network on-line to VTAM.
 4. Issue the *CALL,SNARJP command.

- In ACF/VTAM, when workstations in different domains can log on to SNA RJP and when VTAM is active on the new global in a domain.
 1. Vary the cross-domain resources definition (which defines JES3 as a cross-domain resource in the domain with the old global) off-line in all domains.
 2. Vary the application definition (in the domain with the new global) defining SNA RJP on-line to VTAM.
 3. Vary new cross-domain resource definition on-line in all domains defining SNA RJP as being in the domain with the new global.
 4. Issue the *CALL,SNARJP command.

Functional subsystem considerations

After performing a DSI, the status of a functional subsystem (FSS) can be affected. All functional subsystems operating on local mains, including the local that becomes the new global, remain active. The status of a functional subsystem operating on the old global depends upon the way JES3 was ended.

If you disable the global using a *CALL DSI command, then any output writer FSSs and C/I FSSs that were active on the old global remain active when the new global attempts to connect to the old global.

If you disable the global with a system reset and the old global is not restarted as a JES3 local, the response to a *INQUIRY,Q,N=ALL command will show the FSS(s) still executing on the old global. Issuing the *START,main,FLUSH command will remove the FSS(s) from the executing state allowing the FSS(s) to be restarted on a main specified in the SYSTEM= parameter of the FSSDEF initialization statement.

Job Entry Network Considerations

If your complex is part of a job entry network and channel-to-channel adapters are being used to connect your node to adjacent nodes, you must restart the lines with the *CALL,NJE command to resume networking communication with the adjacent nodes after a DSI is performed.

If your complex is part of a TCP/IP job entry network, you must typically not restart z/OS Unix System Services, z/OS Communication Server TCP/IP, or ACF/VTAM on the new global after a DSI is performed if those components run normally. A Netserv that was active on the old global will continue to be active on the old global after JES3 on that processor is restarted as a local. However, if the old global is now down, and you resume networking communication with the adjacent nodes, you need to change the Netserv to run on the new global or another local (that was not involved in the DSI) and restart the Netserv. You might also need to modify and restart sockets on adjacent nodes to reflect changes in the IP address of the Netserv if, as a result of moving the Netserv, the IP address changes and causes host names on the socket definitions for the adjacent nodes not to resolve to the correct IP address.

Writer output multitasking facility considerations

After a DSI, the writer output multitasking facility is enabled (ON) or disabled (OFF) on the new global according to the parameters specified in the initialization stream of the old global. To display the status of this facility, use the *INQUIRY,MT command.

The writer output multitasking facility should be enabled only if the global is tightly-coupled. If the DSI transfers the global function to a uniprocessor or to a multiprocessor that has been configured as a uniprocessor, the facility should be disabled. Use the *MODIFY,MT= command to enable (ON) or disable (OFF) the writer output multitasking facility.

Status of jobs after a dynamic system interchange

The status of JES3 jobs after a DSI is identical to their status after a JES3 hot start. Jobs processing on nonfailing MVS processors remain in processing. If any of the active jobs require JES3 services during DSI, their processing is suspended until DSI completes. Jobs with time dependencies in effect during suspended services can require restarting after the DSI is complete. You can use the *INQUIRY,J= command to determine job status after DSI is complete.

Once DSI is complete, the old global can be reinitialized as a local main without an intervening IPL using the *START command.

Networking considerations for recovering CTC/BSC communication lines

If you use channel-to-channel (CTC) adapters or binary synchronous communication (BSC) lines to connect your JES3 complex to other nodes in your network, and your networking line fails, perform the following steps to recover the failing line:

1. Ensure the input/output supervisor (IOS) path is still active. If the path is inactive, IOS issues message IOS002A. Enter an MVS VARY command to reclaim an IOS path.
2. Activate the networking line by entering the *CALL,NJE command.

Chapter 13. JES3 Monitoring

Automatic monitoring of JES3 functions

JES3 provides automatic monitoring of JES3 functions on the global and local processors and also in the CI FSS address spaces. Two types of monitors are used:

JES3 loop and wait monitor

The JES3 loop and wait monitor ensures the two main JES3 tasks, the Nuc and the Aux task, are not suspended or in an infinite loop. When that happens, no other JES3 function (called FCTs) can be dispatched besides the currently active one. JES3 periodically examines the status of those two functions and informs the operator, through WTOR IAT6410, about the condition.

The operator can take action based on that information by either failing the currently active FCT or by taking the whole JES3 global, local, or CI FSS down. The operator can also request that monitoring be temporarily suspended by providing a one-time interval in response to the WTOR.

The loop and wait monitor is activated automatically on the global, local, and all CI FSS address spaces. Two parameters can be modified by an operator command:

- The interval at which JES3 checks what the active FCT is.
- The threshold for how long an FCT can be continuously active before the operator is notified.

Those parameters can be modified by a MODIFY (F) JES3 command.

Operator messages will be issued periodically even during the times a WTOR is outstanding, for example, during Hot/Warmstart with analysis. You can temporarily suspend the monitoring by responding with an interval value to the IAT6410 WTOR.

JES3 monitor DSP

The monitor DSP runs as an FCT under the JES3 Nuc task. It monitors unavailable JES3 resource. A JES3 resource is anything that can use an FCT or a job that can become unavailable. The monitor DSP allows you to monitor the following JES3 resources:

- Generalized subtasks
- AENQ resources
- JQEs
- Job numbers
- File directory entries
- JSAM buffers
- Spool space

The monitor DSP also monitors resources that a job is waiting for (data set allocation requests and tape mounts).

Typically the monitoring focuses on 'unusual' AWAITS (the JES3 equivalent of an MVS WAIT). Each of the areas has a threshold and interval associated with them. Whenever an AWAIT is detected, lasting more than the threshold specifies, the operator is informed.

A complement to both monitors is an exception analysis function. This function is invoked by an operator command while JES3 is running or offline during dump analysis. The function provides a summary report of 'unusual' conditions as defined by JES3. This function will be enhanced and fine-tuned over time as more and more checks are implemented.

The same function can be invoked by DC and IPCS.

Chapter 14. MODIFY (F) JES3 Commands

JES3 will accept the following MVS MODIFY commands:

MODIFY JES3, CHK

The command allows the operator to check the 'health' of the JES3 address space. A summary report is issued to the console listing any unusual conditions found.

The command runs asynchronously to the JES3 address space code. Therefore, it is possible that JES3 is changing the data while the command is executing.

This can lead to an occasional program check or a loop while the command is executing. When a loop is detected, message "IAT6417 Command 'CHK ' exceeded 1 minute. Reply 'CANCEL' to stop" is issued and a response is required. In either case, enter the command again. If the error happens persistently, you can report the problem to IBM.

MODIFY JES3, INT=*n*

This command allows changing of the Monitoring interval for the Wait and Loop monitor. *n* specifies the interval in seconds. The default value is 10 seconds. The maximum value is 59940 (999 minutes).

The interval specification controls how frequently JES3 will check what the currently dispatched FCT is.

MODIFY JES3, THRS=*n*

This command allows changing of the Monitoring threshold for the Wait and Loop Monitor. *n* specifies the threshold in seconds. The default value is 30 seconds. The maximum value is 300 seconds.

The threshold determines when messages IAT6397, IAT6398, IAT6415 and IAT6410 are issued for an FCT that has been continuously active for the specified number of seconds.

Chapter 15. JES3 Command Reference Section

This chapter describes the set of JES3 commands and their syntax. The commands are presented in alphabetical order.

How to read syntax diagrams

This section describes how to read syntax diagrams. It defines syntax diagram symbols, items that may be contained within the diagrams (keywords, variables, delimiters, operators, fragment references, operands) and provides syntax examples that contain these items.





Syntax diagrams pictorially display the order and parts (options and arguments) that comprise a command statement. They are read from left to right and from top to bottom, following the main path of the horizontal line.

For users accessing the Information Center using a screen reader, syntax diagrams are provided in dotted decimal format.

Symbols

The following symbols may be displayed in syntax diagrams:

Symbol	Definition
--------	------------

- | | |
|---|--|
|  | Indicates the beginning of the syntax diagram. |
|  | Indicates that the syntax diagram is continued to the next line. |
|  | Indicates that the syntax is continued from the previous line. |
|  | Indicates the end of the syntax diagram. |

Syntax items

Syntax diagrams contain many different items. Syntax items include:

- Keywords - a command name or any other literal information.
- Variables - variables are italicized, appear in lowercase, and represent the name of values you can supply.
- Delimiters - delimiters indicate the start or end of keywords, variables, or operators. For example, a left parenthesis is a delimiter.
- Operators - operators include add (+), subtract (-), multiply (*), divide (/), equal (=), and other mathematical operations that may need to be performed.
- Fragment references - a part of a syntax diagram, separated from the diagram to show greater detail.
- Separators - a separator separates keywords, variables or operators. For example, a comma (,) is a separator.

Note: If a syntax diagram shows a character that is not alphanumeric (for example, parentheses, periods, commas, equal signs, a blank space), enter the character as part of the syntax.

Keywords, variables, and operators may be displayed as required, optional, or default. Fragments, separators, and delimiters may be displayed as required or optional.

Item type
Definition

Required

Required items are displayed on the main path of the horizontal line.

Optional

Optional items are displayed below the main path of the horizontal line.

Default

Default items are displayed above the main path of the horizontal line.

Syntax examples

The following table provides syntax examples.

Table 14. Syntax examples

Item	Syntax example
Required item. Required items appear on the main path of the horizontal line. You must specify these items.	➤ KEYWORD — required_item ➤
Required choice. A required choice (two or more items) appears in a vertical stack on the main path of the horizontal line. You must choose one of the items in the stack.	➤ KEYWORD { required_choice1 required_choice2 } ➤
Optional item. Optional items appear below the main path of the horizontal line.	➤ KEYWORD { optional_item } ➤
Optional choice. An optional choice (two or more items) appears in a vertical stack below the main path of the horizontal line. You may choose one of the items in the stack.	➤ KEYWORD { optional_choice1 optional_choice2 } ➤
Default. Default items appear above the main path of the horizontal line. The remaining items (required or optional) appear on (required) or below (optional) the main path of the horizontal line. The following example displays a default with optional items.	➤ KEYWORD { default_choice1 optional_choice2 optional_choice3 } ➤
Variable. Variables appear in lowercase italics. They represent names or values.	➤ KEYWORD — <i>variable</i> ➤

Table 14. Syntax examples (continued)

Item	Syntax example
<p>Repeatable item.</p> <p>An arrow returning to the left above the main path of the horizontal line indicates an item that can be repeated.</p> <p>A character within the arrow means you must separate repeated items with that character.</p> <p>An arrow returning to the left above a group of repeatable items indicates that one of the items can be selected, or a single item can be repeated.</p>	
<p>Fragment.</p> <p>The fragment symbol indicates that a labelled group is described below the main syntax diagram. Syntax is occasionally broken into fragments if the inclusion of the fragment would overly complicate the main syntax diagram.</p>	

How to read syntax conventions

This section describes how to read syntax conventions. It defines syntax notations and provides syntax examples that contain these items.

Table 15. Syntax conventions

Notation	Meaning	Example	
		Syntax example	Sample entry
Apostrophes	Apostrophes indicate a parameter string and must be entered as shown.	SEND 'message',NOW	SEND 'listings ready',NOW
Comma	Commas must be entered as shown.	DISPLAY C,K	DISPLAY C,K
Ellipsis ...	Ellipsis indicates that the preceding item or group of items can be repeated one or more times. Do not enter the ellipsis.	VARY (devspec[,devspec]...),ONLINE	VARY (282,283,287),ONLINE
Parentheses and special characters	Parentheses and special characters must be entered as shown.	DUMP COMM=(text)	DUMP COMM=(PAYROLL)

Table 15. Syntax conventions (continued)

Notation	Meaning	Example	
		Syntax example	Sample entry
Underline	Underline indicates a default option. If you select an underlined alternative, you do not have to specify it when you enter the command.	K M[,AMRF={Y N}] ,REF	K M
Lowercase parameter	Lowercase indicates a variable term. Substitute your own value for the item.	MOUNT devnum	MOUNT A30 or mount a30
Uppercase parameter	Uppercase indicates the item must be entered using the characters shown. Enter the item in either upper or lowercase.	DISPLAY SMF	DISPLAY SMF or display smf
Single brackets	Single brackets represent single or group-related items that are optional. Enter one or none of these items.	DISPLAY SLIP[=xxxx]	DISPLAY SLIP=W292
Stacked brackets	Stacked brackets represent group-related items that are optional. Enter one or none of these items.	[TERMINAL] [NOTERMINAL]	NOTERMINAL
Single braces	Single braces represent group-related items that are alternatives. You must enter one of the items. You cannot enter more than one.	{COMCHECK COMK}	COMK
Stacked braces	Stacked braces represent group related items that are alternatives. You must enter one of the items. You cannot enter more than one.	MN {DSNAME} {SPACE} {STATUS}	MN SPACE

Table 15. Syntax conventions (continued)			
Notation	Meaning	Example	
		Syntax example	Sample entry
Or-bar ()	An or-bar indicates a mutually exclusive choice. When used with brackets, enter one or none of the items. When used with braces, you must enter one of the items.	ACTIVATE RECOVER=SOURCE TARGET	ACTIVATE RECOVER=SOURCE
Stacked items with or-bars () and brackets	Stacked items with or-bars indicates a mutually-exclusive choice. Enter one or none of these items.	CD RESET [,SDUMP ,SYSABEND ,SYSUDUMP ,SYSMDUMP ,ALL]	CD RESET,SYSUDUMP

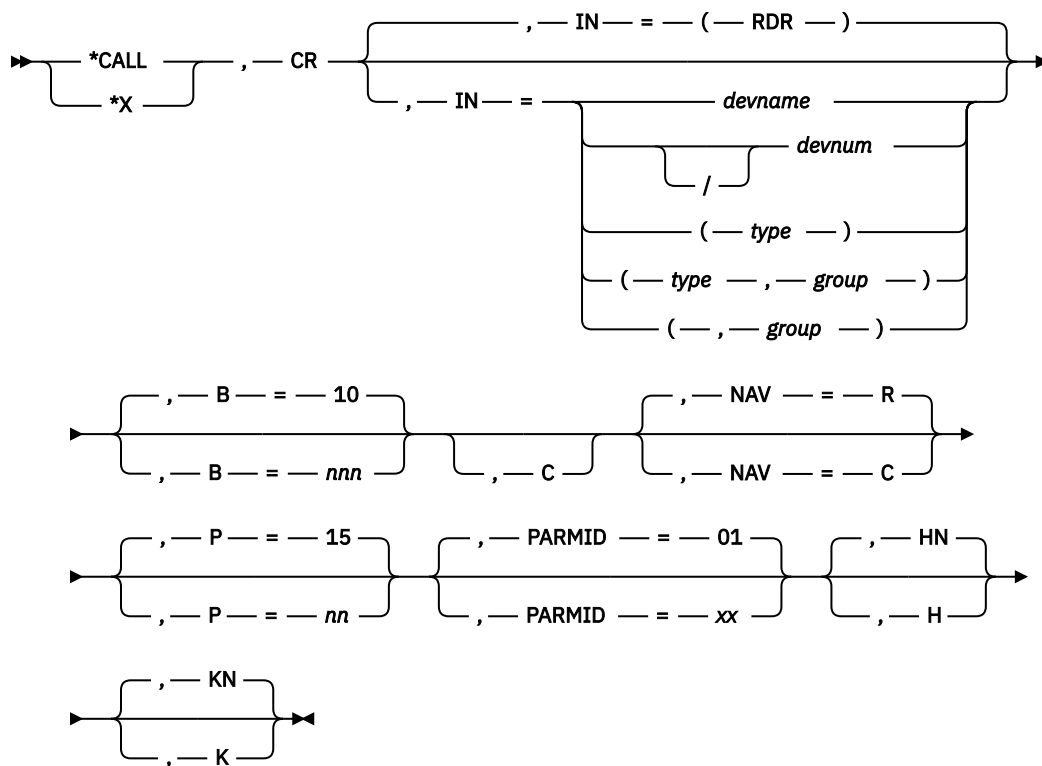
Calling a card reader *CALL,CR

Function

Use the *CALL,CR command to invoke the card reader support function. If the K parameter is specified on the *CALL or *START command, the reader remains active at end-of-file (EOF), and reading resumes each time the reader is made ready. This is referred to as a **hot reader**.

During initialization, a remote reader on a programmable work station can be an **automatic reader**. This means that when the reader is made ready, a call for CR is issued. CR may not be called for a reader on a remote nonprogrammable workstation. In this case, RJP issues the call when the remote reader is ready to send cards.

Syntax



Parameters

IN=

Specifies the source from which the job input is to be read. If omitted, (RDR) is assumed.

devname or devnum or /devnum

Specifies the device (by name or by 3-digit or 4-digit hexadecimal number) from which the input jobs are to be read. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd dddd /ddd /dddd
```

where ddd and dddd represent the device numbers.

type

Specifies the type of reader. This keyword can be omitted or specified as IN=(RDR). RDR2501, RDR2540, RDR3505, and xxx3525 are type entries when a specific type of card reader is to be used. In the case of the 3525, any three alphabetic characters can precede the numerals. The type and group entries must always be enclosed in parentheses.

group

Specifies the specific group of devices to which the card reader has been assigned and typically refers to its physical location. (For example, FLOOR1 and FLOOR2 might be group names used.) If the type parameter is omitted, you must use the comma before the group entry. The type and group entries must always be enclosed in parentheses.

B=10 or nnn

Specifies the size of the job batches created by this reader; that is, the number of jobs to be read from the reader and placed on the spool device. The default is 10. Valid values are 1 through 255.

C

Specifies that the card image is to be enabled. This parameter must be specified if the cards to be read are in column binary format (or data mode 2).

H or HN

Specifies whether the JES3 control-card processor job is to be put in the hold state (H) or allowed to process the jobs after the batch has been created (HN).

Note: To release a job held by the H parameter, issue an *F,J=jobno,R command.

K or KN

Specifies whether the designated reader is to be kept active (K) when an EOF condition occurs or is to be allowed to purge (KN).

Note: The K parameter is ignored if input is from a BSC RJP device. The BSC RJP reader is automatically started by making it ready. This parameter is only valid for an SNA RJP device.

NAV=R or C

Specifies the action to be taken if the designated input device is in use or otherwise unavailable. R specifies that JES3 hold the reader job (CR) until the device becomes available and then reschedule it for action. C specifies that the *CALL command is to be ignored and the reader function canceled if no device is currently available.

P=nn

Specifies the scheduling priority (00-15) of the control-card processor job (without affecting the priorities of the individual jobs being read in). The default is 15. Valid values are 00 through 15.

PARMID=01 or xx

Specifies the set of converter/interpreter (C/I) options to be used by all jobs that are read in through this reader.

Examples

Call card reader 00C with five jobs to each control-card processor job. Keep the card reader active at the EOF.

```
*CALL,CR,IN=00C,B=5,K
```

Call reader RD1 with default batching, use the C/I option set 05, and keep the card reader active at the EOF.

```
*X,CR,IN=RD1,K,PARMID=05
```

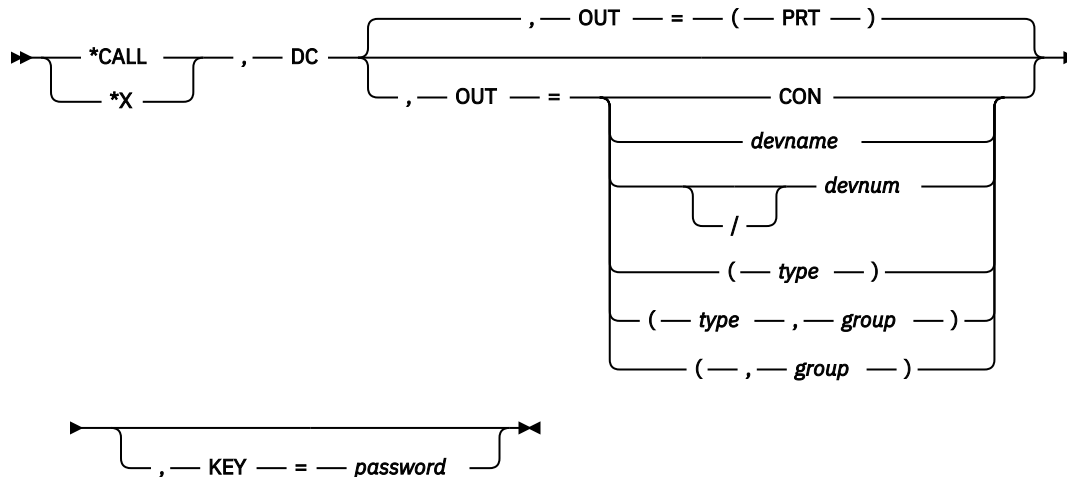
Calling Dump Core *CALL,DC

Function

Use *CALL,DC,OUT to invoke the dump core (DC) DSP. Also you can specify the device that will receive the dump core output.

Syntax

*CALL,DC



Parameters

OUT=

Specifies the device that will receive output when either the OPTION= or PTRAP parameter is specified on the *S,DC command. If OUT= is not specified, the first available local printer is selected. You can select the destination for the dump core output by specifying:

devnum or /devnum

Specifies a 3-digit or 4-digit hexadecimal device number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd dddd /ddd /dddd
```

where ddd and dddd represent the device numbers.

devname

Specifies the name of the device as defined by the JNAME keyword of a DEVICE initialization statement.

type

Specifies the type of printer. If you specify PRT, JES3 uses any available printer. Otherwise, specify PRT1403, PRT3211, PRT3203, PRT3800, or PRT3820.

group

Is the name assigned to a group of devices (typically in physical proximity), as defined by the DGROUP keyword on the DEVICE initialization statement.

CON

Specifies that output is to be directed to the calling console. Output from all other dump core requests is directed to the calling console only.

KEY=password

Specifies the password that permits the setting of traps, and the use of the storage-altering capabilities of DC. To use any trap, storage-displaying, or storage-altering capability of the DC DSP, you must specify a password when calling DC.

Examples

Dump Core Command:

```
*CALL,DC,OUT=CON,KEY=SYSTEM
```

This command will display the output from dump core on the console where the commands are issued.

System Response:

```
IAT6306 JOB09992 IS DC, CALLED BY CN 01
```

Recalling deadline scheduling *CALL, DEADLINE

Function

Use the *CALL,DEADLINE command to reinstate the DEADLINE DSP after a *CANCEL,DEADLINE command is issued.

Syntax

Displaying DJC network (DISPDJC) *CALL,DISPDJC

Function

Use DISPDJC to display the status of a dependent job control network on a printer.

Syntax

► — *CALL — , — DISPDJC — ►
 *χ

The diagram illustrates the structure of the `OUT` and `NET` fields in the command line. The `OUT` field is a list of device names, and the `NET` field is a list of network names.

OUT Field Structure:

- The `OUT` field is a list of device names, separated by commas.
- Each device name is in the form `devname`.
- Each `devname` is further broken down into:
 - `devnum`: The device number.
 - `/`: A slash separator.
 - `type`: The device type.
 - `group`: The device group.

NET Field Structure:

- The `NET` field is a list of network names, separated by commas.
- Each network name is in the form `netname`.

Parameters

OUT=

Specifies the printer to be used. You can select the printer by specifying one of the following:

devname

Specifies the name of the device.

devnum or /devnum

Specifies a 3-digit or 4-digit hexadecimal device number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

ddd dddd /ddd /dddd

***CALL,DISPLAY**

where ddd and dddd represent the device numbers.

type

Specifies the type of device. Only a printer may be specified. If type is omitted, PRT is assumed.

group

Specifies the group of devices to which the printer belongs. Group names are defined by the DGROUP keyword on the DEVICE initialization statement; typical group names might be FLOOR1 or LOCAL. When a group name is specified, the first available printer in the group is selected.

If you omit the OUT= parameter, the system selects the first available printer.

NET=djnet or ALL

Specifies the name of the DJC network to be displayed. If ALL is coded, all networks in the system are displayed.

Displaying information about the JES3 job queue *CALL,DISPLAY

Function

Use the *CALL,DISPLAY command to display detailed information about a single job or all jobs in the JES3 job queue. The *CALL,DISPLAY command obtains the diagnostic information from the JES3 control blocks associated with the jobs in the job queue.

Syntax

J=jobname or jobno or jj*

DD=ddn

DD=ddn,LIST

OUT=devname or devnum or /devnum or type or group

The device number (devnum or /devnum) can be a 3-digit or 4-digit hexadecimal device number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

***CALL,DJ**

```
ddd dddd /ddd  
/dddd
```

where ddd and dddd represent the device numbers.

P=prty

Displays jobs of the specified priority.



Attention: This command generates many messages for each job specified, so be careful when you issue this command with the jobname parameter. If many jobs match the jobname, you might run into severe performance issues, including possible WTO Buffer shortages and storage problems. This command might force other functions to wait for its completion.

Examples

Display information about all jobs in the JES3 job queue that have names beginning with TAPE.

```
*X,DISPLAY,J=TAPE*  
IAT7762 - 14 JOB32810 TAPE1 SE=(CI-COMPLETE,MAIN-ACTIVE,  
IAT7762 - OUTSERV-NOSTAT,PURGE-NOSTAT),JCTMAINS=(SY1,SY2,SY3,  
IAT7762 - SY4,SY5,SY6,SY7,SYLOCAL8),SRVCLASS=WHFOVER,  
IAT7762 - .  
IAT7762 - .  
IAT7762 - .  
IAT7762 - 14 JOB32811 TAPE2 SE=(CI-COMPLETE,MAIN-ACTIVE,  
IAT7762 - OUTSERV-NOSTAT,PURGE-NOSTAT),JCTMAINS=(SY1,SY2,SY3,  
IAT7762 - SY4,SY5,SY6,SY7,SYLOCAL8),SRVCLASS=FAST,SCHENV=IMSPROD,  
IAT7762 - .  
IAT7762 - .  
IAT7762 - .  
IAT7762 - CRDEST=200,RQJSTAT=(SY1,SCHEDULING ENVIRONMENT NOT AVAILABLE,  
IAT7762 - SY2,MAIN OFFLINE/NOT CONNECTED)
```

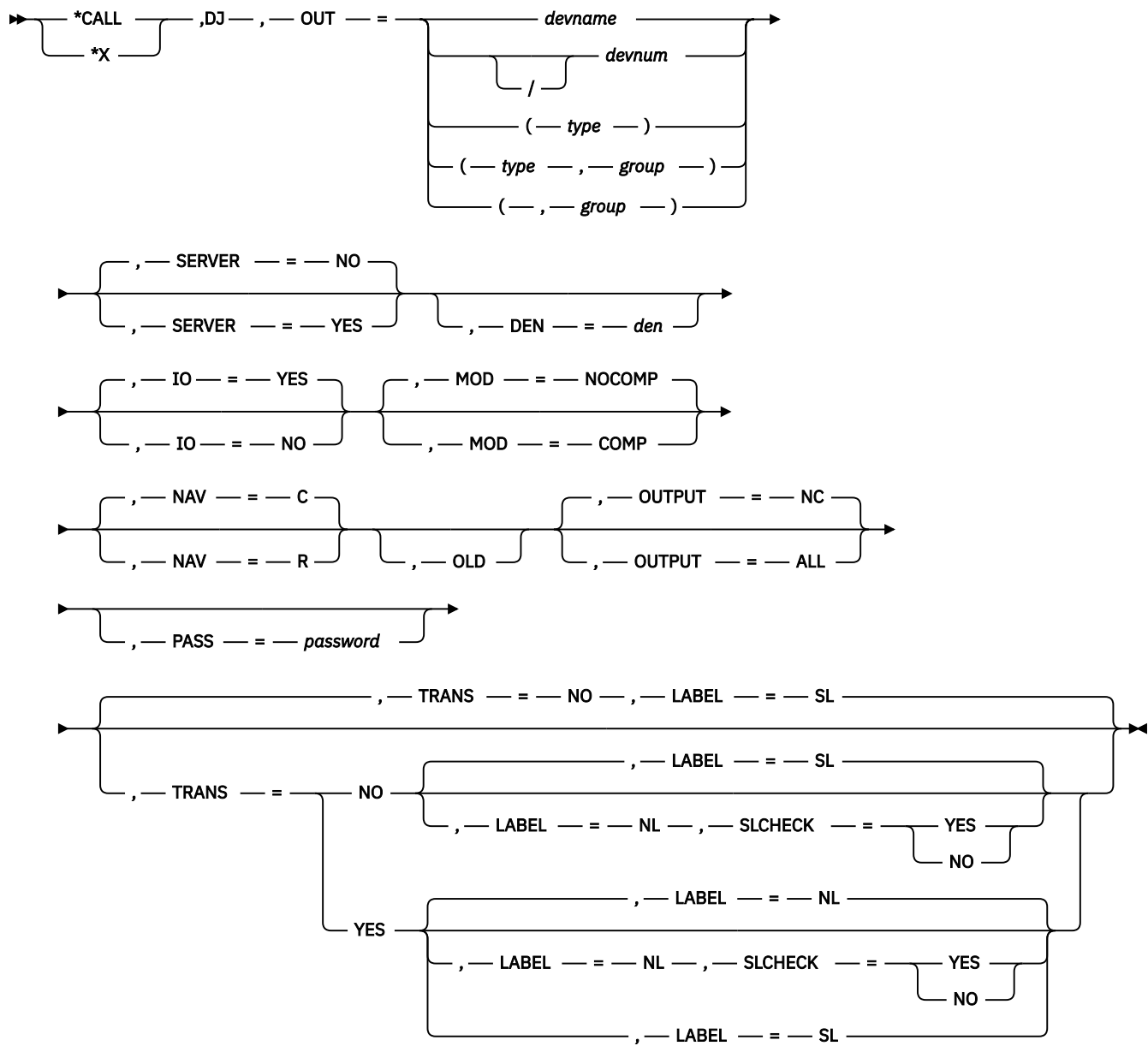
Calling the DJ facility to dump jobs or restore jobs *CALL,DJ

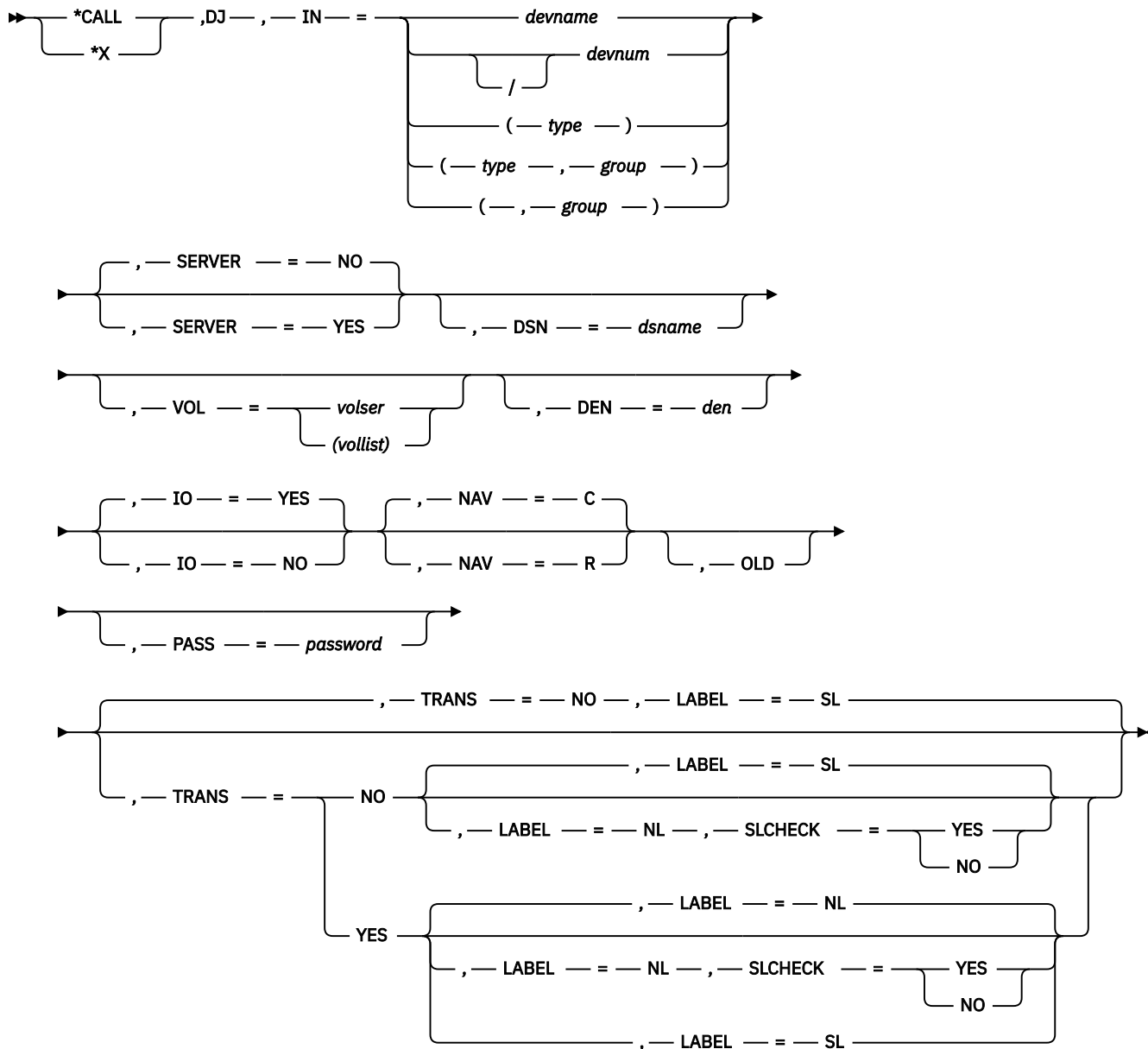
Function

To invoke a DJ DSP to dump jobs out to tape use the *CALL,DJ,OUT= command. To invoke a DJ DSP to restore jobs from tape use the *CALL,DJ,IN= command.

Syntax

Out Mode



In Mode**Parameters****OUT= or IN=**

Specifies that the job(s) is to be dumped out to tape (OUT=) or restored from tape to the job queue (IN=). Specify the output device as follows:

devnum or /devnum

Specifies a 3-digit or 4-digit hexadecimal device number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd dddd /ddd /dddd
```

where ddd and dddd represent the device numbers.

devname

For SERVER=NO requests, specifies the device name as defined by the JNAME keyword of a DEVICE initialization statement for a JES3 support unit request. This is not applicable for SERVER=YES requests.

type

For a SERVER=NO request, specifies the type of device as defined by the DTYPE keyword of a DEVICE initialization statement for a JES3 support unit request. For a SERVER=YES request, specifies the generic device type (for example, 3480 or 3490) or esoteric device type (for example, TAPE) as defined to MVS through HCD.

Note:

1. This is a required keyword on a *CALL,DJ OUT= request.
2. For SERVER=NO requests, the type parameter can be omitted for the IN= keyword; JES3 assumes a TA9 tape unit.

,group

For a SERVER=NO request, specifies the name assigned to a group of devices as defined by the DGROUP keyword of a DEVICE initialization statement for a JES3 support unit request. This is not applicable for a SERVER=YES request.

SERVER=YES or NO

Specifies whether (YES) or not (NO) a DJ server address space will be started to process the request.

DSN=dsname

For server mode (SERVER=YES) input requests, specifies the data set name that contains the jobs to be restored.

For standard label tapes, the data set name is the one that was created when the jobs were dumped to tape. It has the following format: *jesn.DJ.yyyyddd.Thhmmss*, where *jesn* is the JES3 subsystem name.

For unlabeled tapes, the data set name is *jesn.DJOUT*, where *jesn* is the JES3 subsystem name. When an unlabeled tape is specified, the VOL= parameter must also be specified.

DSN= is ignored for server mode (SERVER=YES) output requests.

DSN= is not allowed for nonserver mode (SERVER=NO) requests.

DSN= is not allowed for nonserver mode (SERVER=NO) input or output requests.

VOL=volser or (vollist)

Specifies the volume serial numbers for server mode (SERVER=YES) input requests. This parameter is required when restoring jobs from an unlabeled tape (LABEL=NL). VOL= should also be used if you want to restore jobs from a specific input volume that is not the first volume in a multi-volume data set.

VOL= is ignored for server mode (SERVER=YES) output requests.

VOL= is not allowed for nonserver mode (SERVER=NO) requests.

DEN=den

Specifies the tape density, where **den** may be one of the following:

7-track	9-track	Meaning
2		200 bpi
5		500 bpi
8	8	800 bpi (default for 7-track)
	16	1600 bpi (default for 9-track)
	62	6250 bpi

***CALL,DJ**

For a TA0 tape device, ignore the DEN= parameter. The TA0 is an 18-track tape device with a density of 32000 bpi.

Seven-track tape density is not allowed for SERVER=YES requests. If you specify DEN=8 with SERVER=YES, JES3 always treats it as a 9-track 800 bpi request.

IO=

Specifies whether tape I/O is to be performed.

YES

Tape I/O is performed. DJ dumps jobs from the JES3 job queue to tape. (Jobs that are dumped are recorded on the message log data set.)

NO

Tape I/O is not performed. DJ makes a pass at jobs on the JES3 job queue without actually dumping them to tape. Specifying IO=NO causes disposition to default to SAVE, regardless of what is specified on the *START,DJ command. (Jobs that would have been dumped are recorded on the message log data set).

MOD= COMP or NOCOMP

COMP specifies data compaction for write-to-tape operations to devices that support compaction. NOCOMP specifies that data will not be compacted. Compaction refers to the 3480 improved data recording capability utilizing an IBM proprietary algorithm.

NAV=

Specifies the action DJ is to take if the required tape unit is not available when requested:

R

Reschedule DJ when the tape unit becomes available.

C

Cancel DJ.

JES3 always sets the NAV value to NAV=C for SERVER=YES requests.

OLD

Specifies that DJ is not to rewind the tape. The tape is assumed to be correctly positioned. The OLD parameter is not allowed for SERVER=YES requests.

OUTPUT=NC or ALL

Specifies how the output service reschedules and processes SYSOUT data sets when jobs are restored from tape.

NC

Specifies that when jobs are restored, output service will process only incomplete SYSOUT data sets, those that had not been processed before being dumped to tape. If the operator omits the OUTPUT parameter on a *CALL,DJ,OUT command, JES3 only reprocesses jobs that had not completed processing before being dumped.

ALL

Specifies that when jobs are restored, output service will reschedule and process all SYSOUT data sets for each job.

Note: If you specify OUTPUT=ALL, dump job will not dump APPC SYSOUT.

PASS=password

Specifies the password to run DJ, if required.

TRANS=

Specifies whether translation is to be performed.

Specify TRANS=YES on this parameter **only** if you are migrating forward or backward between JES3 releases where a cold start is required by migration. TRANS=YES should always be specified when DJ is called on the higher level release.

Note: This parameter applies only to translation from, or fallback to, JES3 releases that are no longer in service.

Specify TRANS=NO (the default) if jobs are to be dumped exactly as they exist on the job queue under the current release level of JES3.

YES

Translates the format of a job's control blocks back to the format of an old release of JES3, but not lower than JES3 SP 1.3.4.

When migrating to a higher release of JES3, specify the IN= parameter with the TRANS=YES parameter when calling DJ on the higher level release.

When falling back to an older release of JES3, specify the OUT= parameter with the TRANS=YES parameter when calling DJ on the higher level release.

NO

Translation is not performed. NO is the default.

When migrating to a higher release of JES3, specify the OUT= parameter with the TRANS=NO parameter.

When falling back to an older release of JES3, specify the IN= parameter with the TRANS=NO parameter.

LABEL=

Specifies whether the output tapes are to be created with or without operating system standard labels.

SL

Indicates that standard labeled tapes are to be produced. Using the SL keyword parameter requires that a standard labeled tape be mounted when the JES3 DJ facility asks for a tape to be mounted. This is the default when TRANS=NO is specified or allowed to default.

NL

Indicates that unlabeled tapes are to be produced. This is the default when TRANS=YES is specified.

SLCHECK=

Specifies whether DJ is to verify that the tape mounted is unlabeled when LABEL=NL is specified or allowed to default. This parameter is ignored when LABEL=SL is specified or allowed to default.

YES

Indicates that an unlabeled tape must be mounted when DJ asks for a tape to be mounted.

NO

Indicates that dump job will accept either a labeled or an unlabeled tape. If a labeled tape is mounted, DJ will write over the label.

Note: When LABEL=NL and SLCHECK=NO are specified for server mode (SERVER=YES) output (OUT=) requests, the tape data set will be allocated with the bypass label processing (BLP) option.

Rules

- If you have specified IO=NO on an *CALL command and *START DJ to make a pass at dumping jobs, but you now want to invoke DJ with IO=YES to actually dump jobs, you must first enter an *START,DJddd,RESET command before attempting to dump the jobs.
- Before using the TRANS= parameter, consult your system programmer to make sure your installation has done the required setup to use the DJ translation capability.
- Once a DJ DSP has allocated a tape unit, the DSP issues a message indicating it is up and running and ready to be started. This message identifies the particular DJ DSP as DJddd-jobname (ddd is the tape unit and jobname is the job name of the DJ DSP.) All subsequent messages are prefixed with this identifier to indicate the DJ DSP that issued the message.

Examples

For SERVER=NO requests:

*CALL,DJ

- Invoke a DJ DSP in output mode on tape unit 358, to be rescheduled if that device is currently busy.

```
*CALL,DJ,OUT=358,NAV=R
```

- Invoke a DJ DSP in output mode on tape unit 45A; do not actually dump any jobs to tape.

```
*X,DJ,OUT=45A,I0=NO
```

- Invoke a DJ DSP in output mode on tape unit 261.

```
*X,DJ,OUT=261
```

- Invoke a DJ DSP in input mode on tape unit 431; specify a density of 6250 bpi.

```
*CALL,DJ,IN=431,DEN=62
```

- Invoke a DJ DSP in input mode on tape unit 356.

```
*X,DJ,IN=356
```

- Invoke a DJ DSP in input mode on tape unit 27E; begin restoring jobs from where the tape is currently positioned.

```
*X,DJ,OUT=27E,OLD
```

For SERVER=YES requests:

- Invoke a DJ DSP in output mode on tape unit 358.

```
*CALL,DJ,OUT=358,SERVER=YES
```

- Invoke a DJ DSP in output mode on tape unit 45A; do not actually dump any jobs to tape.

```
*X,DJ,OUT=45A,I0=NO,SERVER=YES
```

- Invoke a DJ DSP in output mode on tape unit 261.

```
*X,DJ,OUT=261,SERVER=YES
```

- Invoke a DJ DSP in input mode on tape unit 358; specify a density of 6250 bpi and the cataloged DJ dump data set name JES3.DJ.D1997343.T085225.

```
*CALL,DJ,IN=358,DEN=62,DSN=JES3.DJ.D1997343.T085225,SERVER=YES
```

- Invoke a DJ DSP in input mode on tape unit 356. The DJ dump was created on a JES3 support unit.

```
*X,DJ,IN=356,DSN=JES3.DJOUT,VOL=DJ00LD,SERVER=YES
```

- Invoke a DJ DSP in output mode on a tape library device. You want the resulting output tape to be an SL tape.

```
*X,DJ,OUT=5A0,LABEL=SL,SERVER=YES
IAT6306 JOB (JOB00019) IS DJ          , CALLED BY 01 IAT6100 ( DEMSEL ) JOB
IEESYSAS (JOB00020), PRTY=15, ID=*UNKNOWN SY1 IEESYSAS IEF403I IEESYSAS
- STARTED - TIME=16.11.04 IAT5110 JOB IEESYSAS (JOB00020) GET 255 T SCRATCH
, SL JES3.DJ.D1998049.T16
IAT7272 DJ05A0 (JOB00019): OUTDSN=JES3.DJ.D1998049.T161102
IAT7213 DJ05A0 (JOB00019): UP AND RUNNING; OUTPUT ON UNIT 05A0, DEVICE
MVS 05A0 *IAT7228 ISSUE START OR CANCEL FOR DJ (JOB00019) (05A0)
```

- Invoke a DJ DSP in output mode on a tape library device. You want the resulting output tape to be an NL tape, and if the scratch tape that is mounted is an SL tape, you want to overwrite the labels. This example also shows the typical console messages that are issued for the entire DJ request.

```
*X,DJ,OUT=(LDE10435),LABEL=NL,SLCHECK=NO,SERVER=YES IAT6306 JOB (JOB06817)
IS DJ          , CALLED BY 01 IAT6100 ( DEMSEL ) JOB IEESYSAS (JOB06818), PRTY=15,
ID=*UNK NOWN SY1 IEESYSAS IEF403I IEESYSAS - STARTED - TIME=14.07.48 IAT5110
JOB IEESYSAS (JOB06818) GET 255 T SCRATCH ,BL JES3.DJOUT IAT7272 DJ0880
```

```
(JOB06817): OUTDSN=JES3.DJOUT IAT7213 DJ0B80 (JOB06817): UP AND RUNNING;
OUTPUT ON UNIT 0B80, DEVICE MVS 0B80 *IAT7228 ISSUE START OR CANCEL FOR DJ
(JOB06817) (0B80)
```

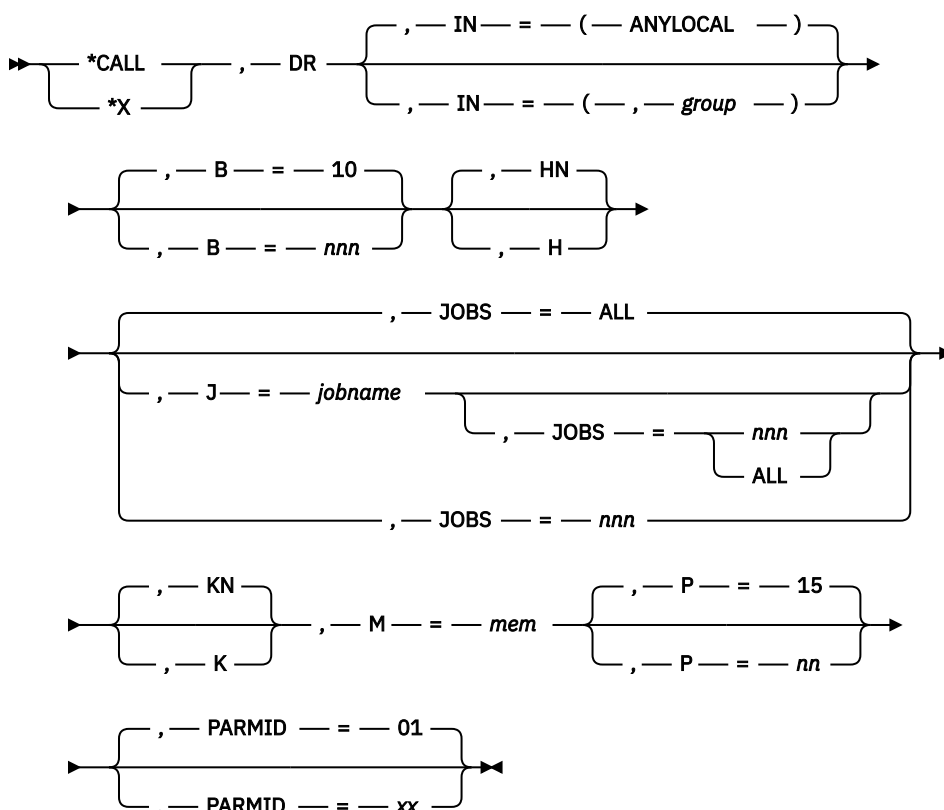
Calling a disk reader *CALL,DR

Function

Use the *CALL,DR command to initiate reading of jobs from a direct-access storage device (DASD).

If the K parameter is specified on the *CALL, *START, or *CANCEL command, the disk reader remains active when an EOF condition is reached, and reading resumes each time an *START command is entered.

Syntax



Parameters

IN=(ANYLOCAL) or (,group)

Specifies the device group to which output should be routed. If omitted, the associated output is routed to printers or punches in the device group ANYLOCAL; this is not desirable if the *CALL,DR command was entered at an RJP console.

B=10 or nnn

Specifies the size of the job batches created by this reader, that is, the number of jobs that are read from the disk and placed on the spool device. The default is 10. Valid values are 1 through 255.

H or HN

Specifies whether the JES3 control-card processor is to be put in the hold state (H) or allowed to process the jobs after the batch has been created (HN). The default is HN.

***CALL,DSI**

J=jobname

Specifies the name of the job with which input is to begin. When this parameter is specified, the JOBS= default is changed from ALL to 1.

JOBS=nnn or ALL

Specifies the number of jobs to be read from the input device and placed onto spool devices. ALL permits reading until a physical EOF is reached. When you specify J=jobname (see preceding), the ALL default for JOBS= is changed to 1. The maximum value allowed is 254.

K or KN

Specifies whether the designated reader is to be kept active (K) when an EOF condition occurs or is to be allowed to purge (KN). Reading is resumed when you enter an *START command. The default is KN.

M =mem

Specifies the member of the disk reader data set that is to be read.

P=15 or nn

Specifies the scheduling priority of the control-card processor job (without affecting the priorities of the individual jobs being read in). Valid values are 00 through 15. The default is 15.

PARMID=01 or xx

Specifies the set of C/I options to be used for all jobs read in through this reader. The value must be the same as the PARMID associated with a CIPARM statement. The default is 01.

Examples

Call a disk reader, read in member ACCT2, and put the control-card processor job in hold.

```
*X,DR,M=ACCT2,H
```

Call a disk reader, read in member MONEND, and route the job's output to group VPRES.

```
*X,DR,M=MONEND,IN=(,VPRES)
```

Dynamic system interchange *CALL,DSI

Function

DSI is the JES3 facility that allows a properly configured JES3 local main to assume the role of the JES3 global in the event of a catastrophic error on the current global or if complex reconfiguration is required to prepare for scheduled preventive maintenance. The installation should provide comprehensive procedures for device switching and operator action during DSI. These should be carefully reviewed before and during DSI. Operator messages are provided to guide the operator through DSI; the operator responds with the *S,DSI command.

Syntax

```
» *CALL _____ , — DSI »  
  *X _____
```

Parameters

***CALL,DSI**

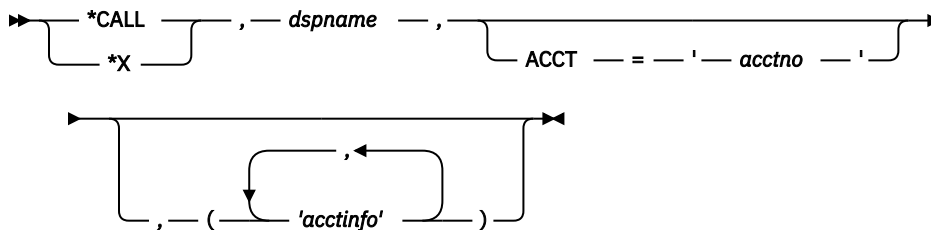
Enter this command on the local main that you want to make the global.

Specifying accounting information *CALL,dspname

Function

JES3 provides an accounting routine that allows job accounting information to be included with output associated with a callable DSP. If you do not specify the ACCT parameter, default accounting information is used based on the ACCOUNT initialization statement (see [z/OS JES3 Initialization and Tuning Reference](#)).

Syntax



Parameters

dspname

Specifies a JES3 callable dynamic support program.

ACCT='acctno'

Specifies an account number (up to 42 characters). This parameter can be omitted (the comma must be entered) if the account number is not used or is part of the account information field.

'acctinfo'

Specifies accounting information (up to 42 characters) to be included with the called DSP's output.

If the above parameters contain only alphanumeric characters, the apostrophes can be omitted. If an apostrophe is used as part of the information, then it must be specified as two consecutive apostrophes.

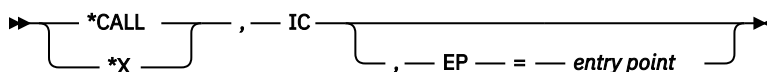
You can retrieve and display the account information to a callable DSP during output processing. See [z/OS JES3 Messages](#), installation exit 20, for output display considerations.

Starting iteration count DSP *CALL,IC

Function

Use `*CALL,IC` to invoke the iteration count DSP.

Syntax



Parameters

EP=entry point

Allows you to select a single permitted entry point. The entry points JES3 allows you to select are between the entry points TVTEPS and TVTEPE in the transfer vector table (IATYTVT). If you omit the EP= keyword parameter, JES3 monitors all permitted entry points.

If you specify an incorrect entry point, the DSP ends.

Results

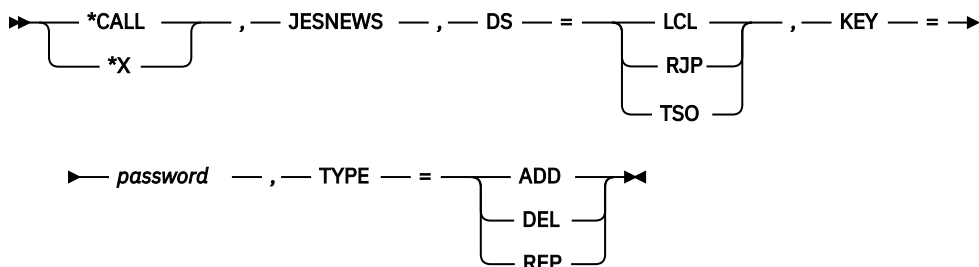
JES3 issues message IAT6306.

Calling JESNEWS *CALL,JESNEWS

Function

Use the *CALL,JESNEWS command to invoke the JESNEWS DSP; you must do this before creating or adding to a JESNEWS data set. For more information about the JESNEWS DSP, see [“JESNEWS DSP”](#) on page 110.

Syntax



Parameters

DS=LCL or RJP or TSO

Specifies that you want the contents of the JESNEWS data set printed on the burst page of all jobs that are sent to the local printer (LCL), printed on a remote workstation (RJP), or TSO/E users (TSO/E).

KEY=password

Specifies the installation defined password required to add, replace, or delete the JESNEWS data set.

TYPE=ADD or REP or DEL

Specifies the function to be performed on the JESNEWS data set. ADD indicates that a new data set is to be created or that information is to be added if the specified data set already exists. REP specifies that the current data set is to be replaced (see [“Creating a JESNEWS data set *START,JESNEWS”](#) on page 395). DEL specifies that JESNEWS data sets issued to the designated destination are to be deleted.

Invoking JMF *CALL,JMF

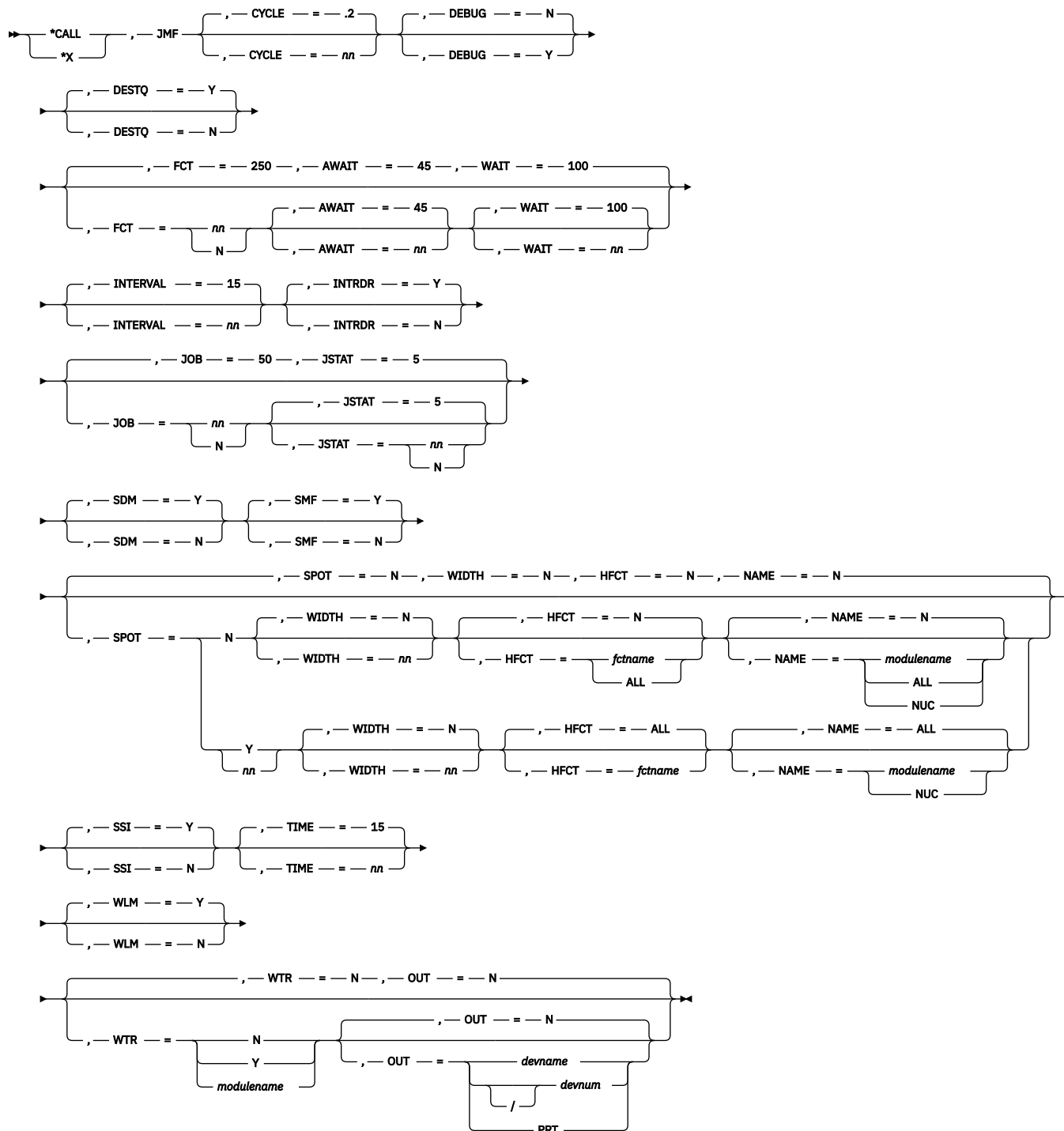
Function

Enter the *CALL,JMF command from a console associated with the required processor, or use the ROUTE command to direct the *CALL,JMF command to the appropriate processor.

*CALL JMF invokes the JMF facility and, if requested, generates reports for the following:

- JES3 CPU activity
- Activities on the FCT chain
- JES3 spool data management
- Device scheduling activity
- Job throughput
- Information related to Workload Management

Syntax



Parameters

CYCLE=nn | 2

Specifies the number of seconds (.01 through 300) before JMF takes a sample for the JMF report.

Note: The number selected for this parameter can degrade installation performance. See [z/OS JES3 Diagnosis](#) for more information concerning JMF.

DEBUG=Y|N

Specifies whether (Y) or not (N) JMF generates a dump when it completes. This parameter does not apply to the local.

DESTQ=Y|N

Specifies whether (Y) or not (N) JMF generates a destination queue report.

FCT=nn|N

Specifies whether (N) JMF generates a report for the specified number (1 through 4096) of function control table (FCT) entries on the chain. JMF selects the specified number of FCTs from the top of the chain.

Default: 250

AWAIT=45|nn

Specifies the number of times (0 through 99999999) the FCT must wait for processing to complete.

The maximum value of this parameter can be limited by the amount of storage available in your installation's JES3 address space. If you specify zero, JMF does not generate the AWAIT report. This subparameter is used with the FCT parameter.

WAIT=100|nn

Specifies the number of unique AWAITS (0 through 99999999) that will be collected for this FCT. Each AWAIT represents an event that the FCT must wait for processing to complete.

The maximum value of this parameter can be limited by the amount of storage available in your installation's JES3 address space. This subparameter is used with the FCT parameter.

INTERVAL=15|nn

Specifies the number of minutes (0.1 through 60) that will expire before JMF generates the next report.

INTRDR=Y|N

Specifies whether (Y) or not (N) JMF generates a report for the JES3 Internal reader. This parameter does not apply to the local.

JOB=nn|N

Specifies whether JMF should monitor the processing for a job. If you specify a numeric value or omit this parameter, JMF generates a report. JMF monitors the first nn jobs in the resqueue. If the parameter is omitted, the default is to monitor the first 50 jobs in the resqueue. If N is specified, JMF will not generate a report. This parameter does not apply on the local.

Default: 50

JSTAT=nn|N

Specifies whether JMF should generate a MDS and GMS Scheduling Analysis report for each job. If JOB=nn, and you do not specify this subparameter, JMF lists a maximum of five reasons why MDS bypassed scheduling for each job that it monitors. If you specify a numeric value, JMF lists to the specified value. JMF will not generate the report if JSTAT=N, JSTAT=0 or JOB=N is specified. This parameter does not apply on the local.

SDM=Y|N

Specifies whether (Y) or not (N) JMF generates a spool data management (SDM) report. If you do not specify this parameter, JMF generates an SDM report. JMF generates an SDM report when JMF reaches the time specified on the INTERVAL= parameter. If SDM=N, JMF does not produce a report.

SMF=Y|N

Specifies whether (Y) or not (N) JMF generates the report in SMF records. If you do not specify this parameter, JMF uses SMF records to format the output.

SPOT=N|Y|nn

Specifies whether JMF should provide a hot spot report that identifies the percentage of CPU time spent in each JES3 CSECT or JES3 module. If SPOT=Y, JMF generates a maximum number of 200 hot spot entries. If SPOT=nn, JMF generates a maximum of nn hot spot entries. If this parameter is omitted or SPOT=N or zero, no report is generated. This parameter is used with the FCT parameter.

WIDTH=

Specifies the number of bytes within a CSECT that JMF should monitor. If WIDTH=N and SPOT=Y, JMF generates a report for the entire CSECT. The minimum value for this parameter is one.

HFCT=

Specifies the number of FCTs JMF should monitor for hot spot analysis. If you specify HFCT=ALL, JMF should monitor the entire FCT chain. If you are interested in a single FCT, specify its name on this parameter.

NAME=

Specifies the CSECTS and JES3 modules JMF should monitor. If you request hot spot analysis and this option is omitted or ALL is specified, JMF generates a report for all JES3 CSECTS and modules. JMF can monitor a single area or related areas.

If you want JMF to monitor activity in a particular area, specify:

- NAME=NUC for the JES3 nucleus.
- NAME=modulename (the eight character identifier) for a specific CSECT or module.

To monitor the CPU activity in module IATGRJS, specify
NAME=IATGRJS.

- NAME=modulename (a unique identifier) for a related group of modules and CSECTS.

To monitor the CPU activity in JES3 setup, specify
NAME=IATMD.

SSI=Y|N

Allows JMF to monitor the number of subsystem interface requests and responses. If you specify N, JMF does not produce a report.

TIME=15|nn

Specifies the number of minutes from 6 seconds to 7 days (0.1 through 10080) that JMF can run before ending.

WLM=Y | N

Specifies whether (Y) or not (N) to report Workload Management (WLM) information (such as the backlog of jobs in each service class). WLM=Y is not valid on a local processor. **Y** is the default on the global, and **N** is the default on the local.

WTR=Y|modulename|N

Specifies that JES3 formats a hardcopy report (Y); that the installation specify its own module to format a hardcopy report (modulename); that no hardcopy report is generated (N). This parameter does not apply to the local.

OUT=PR|N|devname|devnum|/devnum

Specifies the printer for the formatted output. If OUT=N is specified, the hardcopy report will be sent to the default printer. This parameter does not apply to the local.

OUT=devnum or OUT=/devnum specifies a 3-digit or 4-digit hexadecimal device number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd dddd /ddd /dddd
```

where ddd and dddd represent the device numbers.

Examples

The following description provides an example of invoking JMF on a local. In the example, SY1 is the global and SY2 is the local where the system programmer wants JMF to run. To invoke JMF on the local, the system programmer issued the following command on the local:

```
*X,JMF,SMF=Y
```

*CALL,JU

In response to the command, JES3 displays the following message on the console where the command was issued:

```
IAT9601
JMF INTERVAL STARTING ON SY2
```

To determine the status of JMF on all the mains in the complex, this command was entered:

```
*I,A,D=JMF
```

In response, JES3 issues:

```
IAT8524  JOB JMF  (JOB09992)  ACTIVE ON
SY1  00000.36 MIN IAT8524  JOB JMF  (00000000)  ACTIVE ON SY2  00000.73
MIN
```

Message IAT8524 contains a job number of 00000000 for the job number of JMF on all the locals. See [z/OS JES3 Diagnosis](#) for a description of the trace entries.

Calling JESJCLIN Utility *CALL,JU

Function

Use the *CALL,JU command to invoke the JESJCLIN utility for a specific job number or for all jobs.

Syntax

```
➔ *CALL — , — JU — , — J — = — jobno — ➔
    *X —                ALL —
```

Parameters

J=jobno | ALL

Specifies the job(s) to be checked, and if necessary, converts their JESJCLIN data sets.

jobno

Specifies the job number of a job to be checked, and if necessary, converts its JESJCLIN data set.

ALL

Specifies for all jobs on the job queue to be checked, and if necessary, converts their JESJCLIN data sets.

Examples

1. The following command checks and converts the JESJCLIN data set for job 17.

```
*x,ju,j=17
IAT6306 JOB (JOB00020) IS JU, CALLED BY C3E0SY1
IAT7991 JESJCLIN CONVERSION SUCCESSFUL FOR JOB 0A33040H (JOB00017)
IAT7450 JOB JU (JOB00020) PURGED
```

2. The following command checks and converts the JESJCLIN data set for job 19.

```
*x,ju,j=19
IAT6306 JOB (JOB00022) IS JU, CALLED BY C3E0SY1
IAT7990 JESJCLIN CONVERSION NOT COMPLETED FOR JOB00019 - CONVERSION NOT REQUIRED
IAT7450 JOB JU (JOB00022) PURGED
```

3. The following command checks and converts the JESJCLIN data set for all jobs.

```
*x,ju,j=all
IAT6306 JOB (JOB00021) IS JU, CALLED BY C3E0SY1
IAT7992 00000001 JOBS CONVERTED, 00000000 JOBS IN ERROR, 00000019 JOBS CHECKED
IAT7450 JOB JU (JOB00021) PURGED)
```

Invoking the monitor DSP *CALL,MONITOR

Function

JES3 examines monitoring parameters to see if any resources or queues are being monitored. The monitoring parameters are specified either on the MNTRDEF macro or the *START,MONITOR command. (For more information on the MNTRDEF macro, see *z/OS JES3 Customization*.) If a non-zero value is specified for the interval, a resource or queue is to be monitored. The monitor DSP sets a timer. At the end of each interval, the monitor examines the resource or queue and reports exceptions.

The *CALL,MONITOR command is issued automatically by JES3 on every global restart if the MONITOR DSP is not already active. Therefore you will not need to issue this command unless you have previously issued the *CANCEL,MONITOR command.

Syntax

► *CALL —, — MONITOR ◄

*X

Parameters

The monitor DSP receives control and issues the following message to indicate the monitor is active:

```
*X,MONITOR IAT6306 JOB (JOB33580) IS MONITOR , CALLED BY 01 IAT6394 MONITOR
FUNCTION ACTIVE
```

Rules

1. The MONITOR DSP is shipped with all resources and queues being monitored except for ALLOCQ and VERIFYQ.

If you want to monitor either or both of these, or change parameters of existing queues and resources, either:
 - Modify the interval value on the INTERV keyword using the *START,MONITOR,ID= command. See [“Modifying or displaying the monitoring parameters *START,MONITOR” on page 399](#).
 - Update the INTERVAL parameter on the MNTRDEF macro.
2. Only one copy of the monitor DSP can be active at a time.
3. If a warm or hot start is performed while the monitor DSP is active, the monitor DSP is automatically reactivated after the operator enters the *S,JSS command. However, any changes made to the monitoring parameters since the monitor DSP was originally called are lost.

Starting communication on a BSC/NJE line *CALL,NJE

Function

Use the ***CALL,NJE** command to start communication on a networking line that directly connects your complex to a remote node.

*CALL,NJE

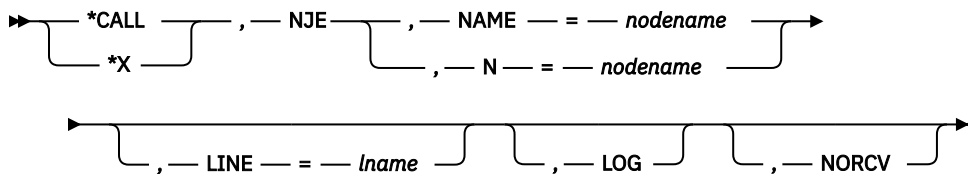
You must use this command after JES3 initialization to start communication on a line that directly connects your node to a remote node before you can transmit to or receive data from that node or from indirectly connected nodes whose path is through that node.

If more than one line connects your node with a remote node, you can also use this command to start the additional lines as they are needed.

If you include the NORCV parameter, you can limit the type of communication that can take place across the line. This parameter allows you to send network jobs across the line but you will not receive any network jobs. You can start line tracing activity for the line by including the LOG parameter.

Use the *X,NJE command to specify I/O operations across the BSC NJE line and *only* for BSC/NJE networking.

Syntax



Parameters

NAME | N=nodename

Specifies the name of a directly connected remote node. JES3 starts communication between your node and the specified remote node.

LINE=lname

Specifies the name of a communication line (binary synchronous communication (BSC) line or channel-to-channel (CTC) adapter that directly connects your node to the specified remote node. JES3 starts communication along this line.

LOG

Starts the line tracing facility for the specified line.

NORCV

Prevents network jobs from being received from the specified node through the specified line; data can only be transmitted to the specified node. No restrictions are placed on messages and commands; you can transmit and receive messages and commands on the line.

Rules

- The LINE=lname parameter is required if a line was not identified for the specified node on the NJERMT initialization statement or if you want to override the line identified for the specified node. The parameter is also required if you want to start a second or third line to a node.
- The line specified in the L=lname parameter must be the same as the name in the JNAME= parameter of a DEVICE initialization statement that defines a line connecting your node with the specified remote node.

Results

- JES3 initializes the specified or installation-defined line and starts sign-on processing with the specified remote node. When sign-on processing is complete, you can communicate with the remote node on this line; the line is active.
- If you specified NORCV, your node will not receive network jobs from the remote node through the active line although you can transmit network jobs to the remote node and both nodes can transmit and receive messages and commands through the line.

- If you specified LOG, JES3 will record status and data information in a log data set for each I/O operation on the active line.

```
IAT9118  LINE lname CONNECTED  IAT9119  NODE nodename SIGNED ON
```

Examples

Start all activity, including line tracing, on the default line to node CHI.

```
*CALL,NJE,N=CHI,LOG
```

Start all communication, except network job reception, on line CTC8 to node CHI. Also, start collecting trace data on the line.

```
*X,NJE,N=CHI,L=CTC8,NORCV,LOG
```

Start all data activity on line ANB32 to node DCA. Do not collect trace data.

```
*X,NJE,NAME=DCA,LINE=ANB32
```

Starting networking console support *CALL,NJECONS

Function

Use the *CALL,NJECONS command to start networking console support.

After JES3 initialization and before you can send or receive commands or messages from nodes in your network, you must use this command to start networking console support.

Syntax

```
➤ *CALL _____ , — NJECONS ➤
  |
  |_____ *X _____
```

Results

JES3 starts networking console support. You can now send and receive messages and commands to or from any other node in the network.

```
IAT7131  NJECONS NOW ACTIVE
```

Starting a SNA/NJE reader (NJRDR DSP) *CALL,NJRDR

Function

Use the *CALL,NJRDR command to start a NJE reader. The NJE reader prepares inbound job or SYSOUT streams for printing or further processing by JES3. You must start at least one NJE reader to receive SNA/NJE job and SYSOUT streams.

Syntax

```
➤ *CALL _____ , — NJRDR ➤
  |
  |_____ *X _____
```

Rules

- You can have as many as 255 NJE readers active at a time. JES3 assigns a job number to each active NJE reader.
- JES3 issues the following message:

```
*X NJERDR
IAT6306 JOB (JOB33581) IS NJERDR , CALLED BY 01 IAT9225 NJERDR IS
ACTIVE
```

Rerouting network jobs to another destination *CALL,NJEROUT

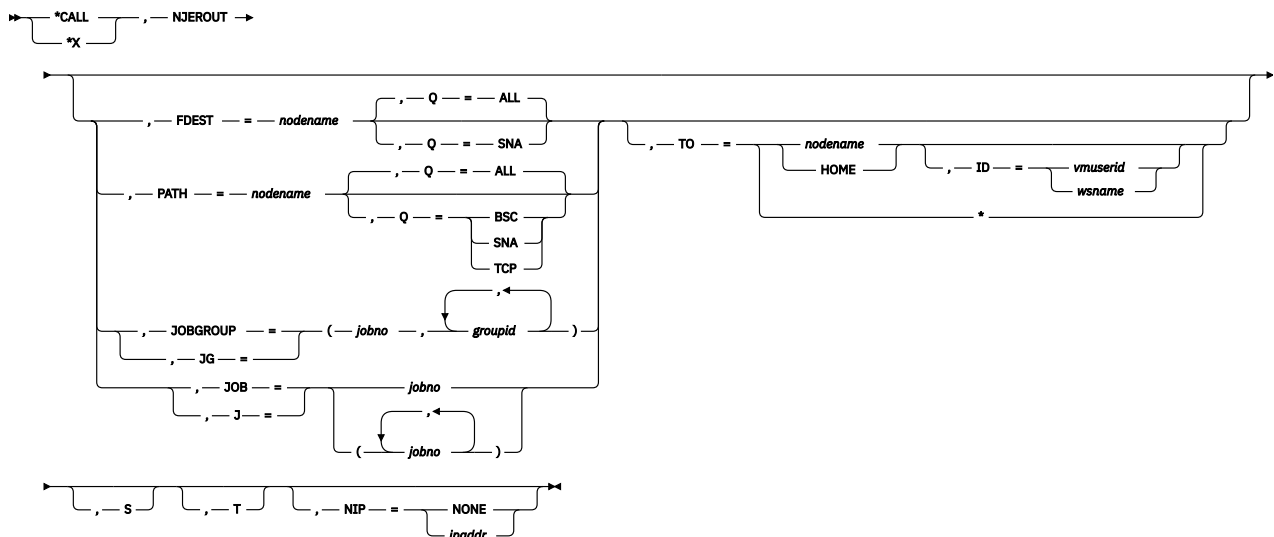
Function

Use the NJE reroute DSP (NJEROUT) to reroute a network job to a remote location or back to its original destination. You can also reroute the output to a different VM userid or RJP workstation. The NJEROUT DSP is valid for rerouting work to both BSC/NJE, SNA/NJE, and TCP/IP/NJE nodes.

The NJEROUT DSP allows you to reroute:

- A job that was sent to your node from a remote node
- A job that was submitted locally
- SYSOUT streams that are being routed through your node
- SYSOUT streams (from JES3 jobs run at your node) that were originally destined for a remote node

Syntax



Parameters

NJEROUT

Issuing the *CALL,NJEROUT command enables the DSP. You are required to issue the *START,NJEROUT command to begin the reroute process if you omit parameters on the *CALL,NJEROUT command.

JOB =(jobno[,jobno...])

Specifies the BSC/NJE job(s) that you want to reroute. Use the JOB parameter only when the job you are rerouting was originally destined for transmission on a BSC/NJE line. You may use J= as an abbreviation for the JOB= keyword parameter.

JOBGROUP | JG=(jobno,groupid,groupid,...)

Specifies the SNA/NJE or TCP/IP/NJE job and the group(s) of work (JES3 jobs or SYSOUT streams) within the selected job you want to reroute. You can specify more than one JOBGROUP parameter on a valid *CALL,NJEROUT command. Use the JOBGROUP parameter only when the job you are rerouting was originally destined for transmission to a SNA/NJE or TCP/IP/NJE node. You can use JG= as an abbreviation for the JOBGROUP= keyword parameter. Use the *I,U,Q=BDT command to display the group-id(s) associated with a SNA network job. Use the *I,U,Q=TCP command to display the group-id(s) associated with a TCP/IP network job.

FDEST=nodename

Specifies that all SNA/NJE network jobs that have the final destination that you supply (nodename) be rerouted to the location you supply on the TO= keyword. The final destination of a SNA/NJE network job is originally defined as a network node in a job's JCL. You can determine the final destination of one or more SNA/NJE network jobs by issuing an *I,U,Q=BDT command.

PATH=nodename

Specifies that network jobs (either SNA/NJE, BSC/NJE, or TCP/IP/NJE) that are scheduled for processing through the path that you supply (nodename), be rerouted to the final destination that you supply on the TO= keyword. Use the *I,A,D=NJESND command to determine the valid paths for BSC/NJE work and the *I,NJE,NAME= command to determine the valid paths for SNA/NJE or TCP/IP/NJE work.

Q=ALL or SNA or BSC or TCP

Specifies the networking queue that you want searched when using the FDEST= or PATH= keywords. If you omit the Q= keyword, all network queues are searched. Otherwise:

Q=ALL

Specifies that the SNA/NJE, BSC/NJE, and TCP/IP/NJE queues are searched. If you specify Q=ALL with the FDEST keyword, only the SNA/NJE work queue is searched.

Q=SNA

Specifies that only the SNA/NJE work queue is searched.

Q=BSC

Specifies that only the BSC/NJE work queue is searched. Q=BSC is not valid for use with the FDEST= keyword parameter because the FDEST= keyword only reroutes SNA/NJE network jobs.

Q=TCP

Specifies that only the TCP/IP/NJE work queue is searched. Q=TCP is not valid for use with the FDEST= keyword because the FDEST= keyword only reroutes SNA/NJE network jobs.

TO=nodename or HOME, ID=vmuserid or wsname, or *

Specifies the name of the new destination node and, optionally, the VM userid or the name of the RJP workstation that is to receive the job or output data. You can specify HOME instead of using the home node name when rerouting jobs to your own system. Use the asterisk to send the network streams to their original destination with the appropriate networking protocol.

S

Specifies that JES3 display summation message IAT9202 to the issuing console in response to a reroute command. If you omit this parameter, JES3 issues individual messages for each job that you are rerouting.

T

Ends the DSP after completing the current request. This parameter cancels the DSP after a single transaction. A *RESTART,NJEROUT command overrides the terminate (T) parameter on a previous *CALL or *START,NJEROUT command.

NIP=NONE or ipaddr

Modifies or deletes an IP address. Specify *ipaddr* if an IP address needs to be added or changed. The IP variable (*ipaddr*) is case sensitive and must be enclosed in quotation marks. Specify IP=NONE if an IP address is to be deleted.

Controlling NJE transmission

When a job is NJESND(A), a *R command will end transmission and put the job in specialized rescheduling. The job will be transmitted unless it is in operator hold. (jobs in specialized rescheduling are considered active and scheduled). A *C command will end transmission and put the job in hold. A *F,j=xy,R command will release the job. The following table shows the use of the *R command and the *C command to control transmission.

Command	Result
*R J=jobno	NJESND specialized rescheduling
*C J=jobno	HOLD= (OP) NJESND

Rules

- You can call as many as 255 NJEROUT DSPs to reroute network jobs.
- The network job must be waiting on your node for transmission to another node at the time you issue the command.
- You can reroute SNA/NJE jobs only when they are queued for transmission before MVS/BDT selects the work for processing.
- To reroute data that is *currently* being transmitted on a BSC/NJE line, vary the logical sender offline, reroute the network job, and then vary the logical sender online (BSC/NJE only).
- To obtain the JES3-assigned job number of the network job use the *I,J=jobname command specifying the name of the job to be rerouted.
- To reroute a network job to your node (home node), you can code TO=HOME or TO=LOCAL instead of using the home node name.
- If you specify the JOB= or JOBGROUP= keyword parameter, you must also specify the TO= keyword parameter.
- JES3 will reject an *NJEROUT command if you specify both the JOB= and JOBGROUP= keyword parameters on the same *NJEROUT command.
- The ID= keyword parameter is a VM user ID for rerouting job streams to a remote node. Do not use it for rerouting job streams to the home node; it is an RJP workstation for SYSOUT streams.

Note: Canceling line immediate (*C,linex,I) puts the job in specialized rescheduling. You can reroute the job at this time.

Results

- JES3 enables the reroute DSP that reroutes the job stream or SYSOUT stream to the specified node and, if requested, the VM user or RJP workstation.
- The NJEROUT DSP remains active unless you specify the T= parameter or until you issue a *CANCEL,NJEROUT command

Examples

Job WIP5 was sent to your node and is waiting for transmission to SNA/NJE node ATL. WIP5 has job number 12 and has group-ids of BDT00000, BDT00001, and BDT00002. Reroute the networking job to BSC/NJE node POK:

```
*CALL ,NJEROUT ,JG=(12,BDT00000,BDT00001,BDT00002) ,TO=POK
```

Job CORN was sent to your node and is waiting for transmission to TCP/IP/NJE node CLE. CORN has job number 901 and has group-ids of TCP00000, TCP00001, and TCP00002. Reroute the networking job to TCP/IP/NJE node RCH:

```
*CALL,NJEROUT,JG=(901,TCP00000,TCP00001,TCP00002),TO=RCH
```

Output data for job ABC was received from another node and is waiting for transmission to BSC/NJE node STL. Reroute the data to workstation 44444 at node SFO. The output data is contained in job 9999:

```
*CALL,NJEROUT,J=9999,TO=SFO,ID=44444
```

Job ABC was received from BSC/NJE node ATL and has finished executing. Reroute the output data to print on this node rather than on node ATL. The number of the job being used to transmit the output data is 7777:

```
*X,NJEROUT,J=7777,TO=HOME
```

The communication protocol between your node and a remote node (LA1) has changed from BSC/NJE to SNA/NJE. Migrate all jobs that are destined for node LA1 to the SNA/NJE format and request a summary message to avoid flooding your console with messages:

```
*X,NJEROUT,PATH=LA1,TO=*,S
```

Reroute all SNA/NJE network jobs that were queued for node HQ to node DIST. The reroute DSP should terminate after fulfilling your request:

```
*X,NJEROUT,FDEST=HQ,TO=DIST,T
```

Activating BSC RJP *CALL,RJP

Function

Use the *CALL,RJP command to activate BSC RJP. When BSC RJP is operational, you will receive message IAT7500. BSC RJP immediately starts any lines for which automatic start was specified during initialization.

Syntax

```
➤ *CALL _____ , — RJP ➤
  *X _____
```

Invoking the RJPSNPS facility *CALL,RJPSNPS

Function

Use *X,RJPSNPS to obtain information for lines that connect RJP work stations to the main.

Syntax

```
➤ *CALL _____ , — RJPSNPS _____ ➤
  *X _____ , — CLASS — = — class _____
```

Parameters

CLASS

Directs the data set to a SYSOUT class other than that specified by the DBGCLASS parameter on the STANDARDS initialization statement.

Rules

The RJP workstations in your installation must be active. To use this function the RJPLINE must have the SNAP facility enabled. Use *F T,L=lname,SNAPON to enable the SNAP facility.

Activating SNA RJP *CALL SNARJP

Function

Use the *CALL,SNARJP command to activate SNA RJP. When SNA RJP is operational, you will receive message IAT2801.

If AUTO=(Y,luname) is coded on the RJPWS initialization statement for a workstation, the indicated logical units (LUs) at that workstation are automatically logged on when SNA RJP becomes active.

Syntax

```

➤ ┌ *CALL ───┐ ─── SNARJP ➤
    │         │
    └ *X ───┘
  
```

Starting a TCP/IP/NJE Network Server *CALL,TCP

Function

Use the *CALL,TCP command to start a Network Server address space (Netserv) for TCP/IP/NJE.

You must use the *CALL,TCP command to start a Netserv before you can start communication to a node through any sockets that are defined under that Netserv. Following any restart of JES3, other than a cold start, if the Netserv was not canceled before the restart, it is automatically called again.

Syntax

```

➤ ┌ *CALL ───┐ ─── ,TCP ─── ,NETSERV= ─── ntsvname ➤
    │         │
    └ *X ───┘
  
```

Parameters

NETSERV=ntsvname

Specifies the name of the Netserv to be started. The Netserv is defined by the NETSERV initialization statement or the *MODIFY,NETSERV,ADD= command.

Rules

- If the Netserv does not have the SYSTEM= parameter specified, the default is that the Netserv runs on the current global. If a DSI is done and the Netserv is active, it will continue to run on the old global. If the Netserv is subsequently brought down and brought back up, it will run on the new global.

Results

- JES3 initializes the Netserv address space. The job name for the Netserv, as shown on the response to an *I,A command, is IEESYSAS and the step name is the Netserv name.

Example

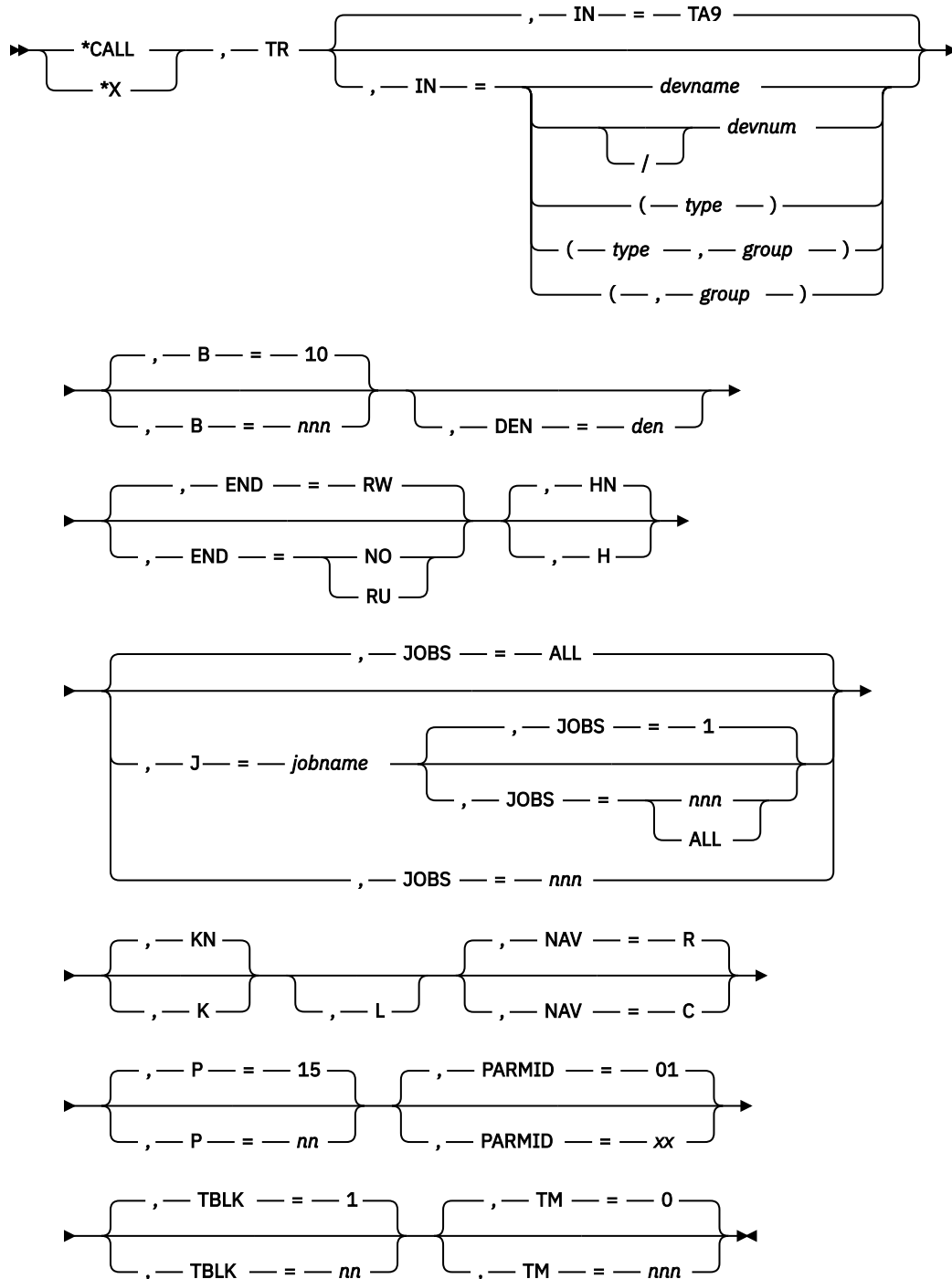
```
*x tcp netserve=jes3s4
IAT6306 JOB (JOB00064) IS TCP      , CALLED BY C3E0SY1
IAT6100 ( DEMSEL ) JOB IEESYSAS (JOB00065), PRTY=15, ID=IBMUSER
IAT9301 TCP START SUCCESSFUL FOR SERVER JES3S4
*SY1 IEESYSAS *IAZ0537I JES3S4 NJETCP SERVER WAITING FOR WORK
```

Calling a tape reader *CALL,TR

Function

Use the *CALL,TR command to invoke tape reading. A pause follows this command, allowing you to mount tapes on an allocated device. A message is issued specifying which tape unit to use. When the proper tape is mounted and the device is ready, you must use an *START command to begin reading. If the K parameter is specified on the *CALL or *START command, the tape reader remains active when an EOF condition is reached and reading resumes each time an *START command is entered.

Syntax



Parameters

IN =devname or devnum or ([type] [,group])

Specifies the source from which the job input is to be read. TA9 is assumed.

devname or devnum or /devnum

Specifies the device, by name or by 3-digit or 4-digit hexadecimal number, from which the input jobs are to be read. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd dddd /ddd /dddd
```

where ddd and dddd represent the device numbers.

type

Specifies the type entry: TA7 for any 7-track tape drive, TA9 for any 9-track tape drive. TA9 (or 7) 2400 and TA9 (or 7) 3400 are valid entries when jobs are to be entered through a tape drive. If the group entry is omitted, the comma preceding it can also be omitted. The type and group entries must always be enclosed in parentheses.

group

Specifies the specific group of devices to which the tape drive has been assigned, and typically refers to its physical location (for example, FLOOR1 or LOCAL). If the type entry is omitted, you must use a comma before the group entry. The type and group entries must be enclosed in parentheses.

B=10 or nnn

Specifies the size of the job batches created by this reader, that is, the number of jobs to be read from the tape and placed on the spool device. The default is 10. Valid values are 1 through 255.

DEN=den

Specifies the density at which the tape was written: 2 (200 bpi), 5 (556 bpi), 8 (800 bpi), 16 (1600 bpi), or 62 (6250 bpi). JES3 accepts tapes written in either density from a dual-density 9-track drive; no DEN= specification need be made. If the IN= parameter specifies a 7-track tape drive, the density default is 8. If this default is satisfactory, no DEN= parameter need be specified.

END=RW or RU or NO

Specifies the action to be taken by the tape unit when it reaches the EOF: RW (rewind), RU (rewind and unload), or NO (no tape repositioning). JES3 does not support multiple-reel input. The default is RW.

H or HN

Specifies whether the JES3 control-card processor is to be put in hold state (H) or allowed to process the jobs after the batch has been created (HN). The default is HN.

J=jobname

Specifies the name of the job with which input is to begin.

JOBS=nnn or ALL

Specifies the number of jobs to be read from the input device and placed onto spool devices. ALL permits reading until a physical EOF is reached. When you specify J=jobname in addition to this parameter, the default for JOBS= is 1. Valid values are 1 through 254. The default is ALL.

K or KN

Specifies whether the designated reader is to be kept active (K) when an EOF condition occurs or is to be allowed to purge (KN). Reading is resumed when you enter an *START command. The default is KN.

L

Specifies that the tape is labeled.

NAV=R or C

Specifies the action to be taken if the designated input device is in use or otherwise unavailable. R specifies that JES3 is to reschedule the tape reader (TR) when the device becomes available. C specifies that the tape reader is to be canceled if the device is not currently available. The default is R.

P=15 or nn

Specifies the scheduling priority of the control-card processor job (without affecting the job priorities of the individual jobs being read in). Valid values are 00 through 15. The default is 15.

PARMID=01 or xx

Specifies the set of C/I options to be used for all jobs read in through this reader. The value must be the same as the PARMID associated with a CIPARM statement. The default is 01.

TBLK=1 or nn

Specifies the blocking factor of the card images on the tape to be read. Valid values are 1 through 40. The default is 1.

TM=0 or nnn

Specifies the number of files the tape is to be spaced forward before reading begins. For unlabeled tapes, this is the number of tape marks bypassed; for labeled tapes, this is the number of logical files, each including its header and trailer labels. Valid values are 00 through 127. The default is 0.

Examples

Call a tape reader from device 181, 20 card images per tape block. After the jobs have been read, rewind and unload the tape. Schedule control-card processor jobs at priority 10, and skip all jobs on tape until JOB7 is found. When JOB7 is found, read it in along with the next 13 jobs.

```
*X,TR,IN=181,TBLK=20,END=RU,P=10,J=JOB7,JOBS=14
```

Call a tape reader from among the TA7-type tape drives on FLOOR1. There are to be 10 card images per tape block. The tape density is 556 bpi.

```
*X,TR,IN=(TA7,FLOOR1),TBLK=10,DEN=5
```

VARYL dynamic support program *CALL,VARYL

Function

The VARYL dynamic support program (DSP) unassigns an IBM 3480 or 3490 tape drive from JES3 local mains. You must invoke the VARYL DSP from each local main to which the IBM 3480 or 3490 is assigned before using the device for a stand-alone dump.

Syntax

```
➡ — *CALL — , — VARYL — ➡
    |
    | *X
    |
```

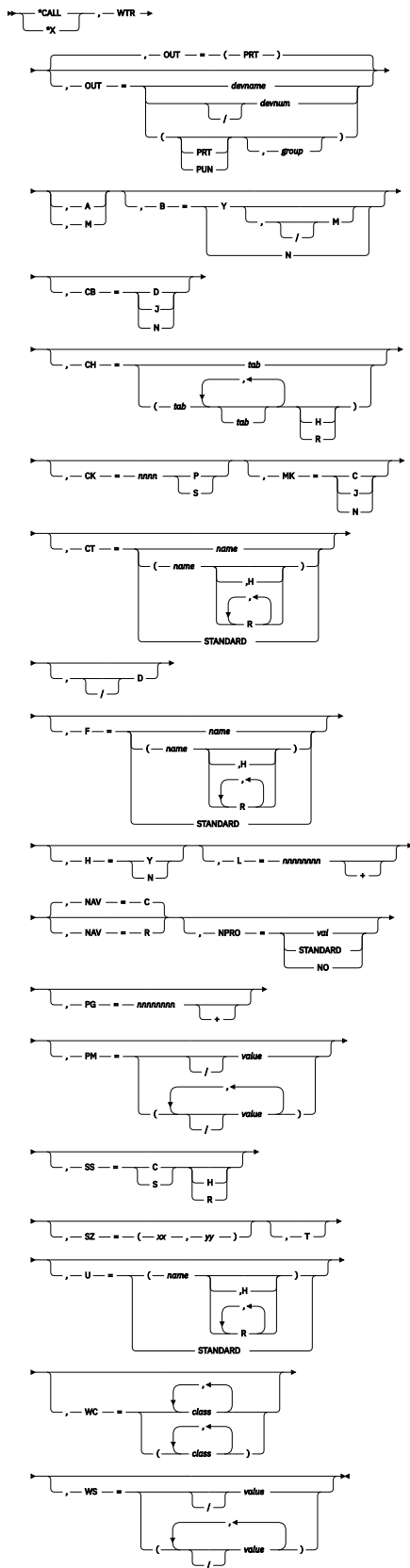
Calling a hot writer *CALL,WTR

Function

Use the *CALL,WTR command to invoke a hot writer that will drive a selected output device or a device chosen by JES3. The first call for a hot writer does not start output processing. (To start writer activity, see [“Starting or restarting a writer”](#) on page 115.) The *CALL command invokes a unique writer program for the device and allows you to establish required writer characteristics.

At the time you start a hot or dynamic writer, you can change writer characteristics without having to reissue the *CALL,WTR command. If you must stop a hot or dynamic writer after it has started, you can also change writer characteristics before restarting it without having to reissue the *CALL,WTR command (see [“Starting or restarting a writer”](#) on page 115).

Syntax



Parameters

OUT=devname or devnum or /devnum or (PRT or PUN,group)

Specifies the device (devname or 3-digit or 4-digit hexadecimal number) to which output is to be sent. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd dddd /ddd /dddd
```

where ddd and dddd represent the device numbers.

If this parameter is omitted, (PRT) is assumed, and JES3 allocates the first available output device initialized as a PRT type. Specify the type of device to receive the output as PRT for any printer or PUN for any punch. You can specify the group subparameter to limit the device chosen by JES3 to a device in a particular physical location in your installation. Always specify the JNAME of a device when identifying JES3 devices. The JNAME of a device is defined on the DEVICE initialization statement.

A or M

Specifies the action to be taken at the beginning of each output data set. Manual mode (M) allows you to stop the writer at the beginning of each data set. An *START,devname command is then required for the writer to continue (see “Starting or restarting a writer” on page 115). Automatic mode (A) allows continuous output processing if work is selected for the writer. Output continues to be processed by this writer if work is available.

When manual mode is used on a buffered device, such as a 3800 printer, there is typically a delay between the time the *START command is issued and the time the data set appears on the paper. These delays can significantly increase the overall time required to process jobs. Consult your system programmer before using this option.

You can specify either manual or automatic mode for printers running in FSS mode. Automatic mode is the default, whether operating in FSS mode or non-FSS mode.

B=N | Y,/M

Specifies that the burst record option is to be suspended (N) or that a burst record (job trailer) is to be placed behind each job (Y). M specifies that the edges of the burst page, or blank pages following a job's output, are to be marked for ease of separation. This keyword can be specified for page-oriented printers only. /M specifies that form-marking is to be turned off. This keyword is only used with Y.

CB

Specifies whether clear printer processing is to be performed after each data set (D), at the end of each job (J), only when required by the 3800 writer (N).

CH

Specifies the reassigned character arrangement tables. No more than four table names can be specified. H specifies that this character arrangement table is to be used until you change it. R specifies JES3 may request a different table.

CK=nnnn P or S

Specifies the number of pages (P) that will be written or the number of seconds (S) that elapse before a checkpoint is taken. The parameter is valid only for a printer running in FSS mode.

Use the CK=keyword on *START, devname or *RESTART,devname command to specify the number of pages that JES3 writes or the number of seconds that elapse before a checkpoint is taken. You can issue this command while the writer is active. The current activity continues and the new checkpoint interval takes effect when the writer selects it next work.

CT or F=name or (name,H or R) - STANDARD

Specifies reassignment of carriage tape (CT) or forms (F) currently assigned to the output device. This assignment can be made in such a way as to allow, or not allow, JES3 to request that new assignments be made when output is in the queue with different writer-selection requirements: H specifies that only the designated form or carriage tape (FCB) is to be used on this device until you change the status; R specifies that JES3 can request that different forms or carriage tapes be used on this device.

H=Y or N

Specifies that the job header record is to precede the job and the data set header record is to be placed in front of each output data set (Y) or that the header record option is to be suspended (N).

L=nnnnnnnn+

Specifies the maximum number of lines (nnnnnnnn) a unit of work can have to be selected for output processing on this writer: only units of work at or below this maximum count are selected. Specifying (nnnnnnnn+) indicates the minimum number of lines a unit of work can have: only units of work at or above this minimum count are selected for this writer.

MK=C or J or N

Specifies when copy marking is to be done. C indicates that copy marking is to be performed after each data set is printed. J indicates that copy marking is to be performed only at the end of each job. N indicates that copy marking is not to be done. This parameter is valid only for a printer running in FSS mode.

NPRO=

Specifies the non-process-run-out interval. STANDARD specifies the initialization-defined value.

NAV=R or C

Specifies that writer output be suspended until the specified device is available (R) or that the writer program being called be ended if the device is unavailable (C). C is the default value.

PG=nnnnnnnn+

Specifies the maximum number of pages (nnnnnnnn) a unit of work can have to be selected for output processing on this writer: only units of work at or below this maximum count are selected. Specifying (nnnnnnnn+) indicates the minimum number of pages a unit of work can have: only units of work at or above this minimum count are selected for this writer.

PM=/value1,/value2...) or /value

Use the PM= keyword parameter to add or delete process mode values for a writer. The values specified on the DEVICE initialization statement remain in effect in addition to the new values you specify on this command. Use the slash (/) to delete a process mode value from the current list of process modes. A writer can select only the data sets which match the process mode value specified in a user's // OUTPUT JCL statement. You can specify up to eight process modes per writer and 255 process modes complex-wide. Use the slash to delete an existing process mode from a writer.

Some devices are capable of operating in both FSS or compatibility mode such as the IBM 3800-3 printer. The PM= parameter affects only the process mode associated with the device mode, which is active at the time you enter this command.

Use the *I,D,D= command to display the process modes currently in effect for a device.

SS=

Specifies the stacker option. C specifies continuous fanfold. S specifies printed output is to be burst into separate sheets. H specifies that only the designated stacker option is to be used on this device until you change the status. R specifies that JES3 may request that a different stacker option be used on this device.

SZ=(xx,yy)

Specifies the number of pages (xx) in a SNA RJP chain and the number of lines (yy) per page. If yy is zero, then a page is defined as skip to channel 1 for printers or skip to a new card for punches. xx must be specified and cannot be zero. This parameter overrides the CHNSIZE parameter on the DEVICE initialization statement.

T

Specifies that the writer should terminate after the current request.

U=name or (name,H or R) - STANDARD

Specifies reassignment of band or train (U) currently assigned to the output device. This assignment can be made in such a way as to allow, or not allow, JES3 to request that new assignments be made when output is in the queue with different writer-selection requirements: H specifies that only the band or train (UCS) is to be used on this device until you change the status; R specifies that JES3 may request that different trains to be used on this device.

WC=class or (class,class....)

Specifies reassignment of the output classes (A through Z, 0 through 9) that this writer can process. Note that regardless of the classes specified, they may be ignored if so specified by the WS= parameter. The WC= parameter allows a maximum of 36 SYSOUT classes.

WS=(VALUE,/VAL....)

Specifies one or more writer-selection characteristics that JES3 uses when selecting output for this device. */value* specifies that the characteristic prefixed with a slash (/) is not to be used as writer-selection criterion. To specify characteristics, enter the corresponding letter:

P - data set output priority
 D - destination
 T - specific device type
 F - forms required
 C - carriage tape (FCB) required
 U - UCS or characters required
 CL - output class
 L - line and page limits
 FL - flash-id (forms overlay)
 CM - copy modification module
 SS - stacker option
 PM - data set process mode

If you selected more than one characteristic, JES3 determines the importance of the characteristic by the order in which you specified them. The ones you do not select remain in the order established at initialization, or in earlier updates, and follow those that you enter in order of importance.

When Priority is Specified:

If you specify priority (P), JES3 selects the job with the highest priority that meets other selection criteria. Otherwise, JES3 selects the first job on the output service queue that meets the selection criteria.

Once a job is selected, the units of work for that job are always selected based on priority.

When Characteristics are Omitted:

For any omitted characteristics, JES3 uses the device characteristic, regardless of the data set specification. The following examples illustrate how device characteristics are used:

1. If the writer selection criteria does not include 'F' (forms), the device specifies forms='RED', and the output data set calls for forms='BLUE', JES3 prints the data set using the 'RED' forms.
2. If the writer selection criteria does not include 'U' (UCS/CHARS), the device specifies CHARS=GT20, and the data set specifies CHARS=GT15, JES3 prints the output using CHARS=GT20.

Note: Specifying the not (/) indication has the same result as omitting a writer-selection characteristic: JES3 uses the device characteristic for the selection criteria you remove. Following are examples of specifying a */value*:

(1)
 *CALL ,WTR,OUT=PR1,WS=(F,C,U,/P)

This command calls a writer for the printer named PR1 and reassigns selection based on forms, carriage tape, and UCS, regardless of output priority. All other characteristics remaining in their existing order.

(2) *CALL ,WTR,OUT=PR1,WS=(F,C,/D)

The /D negates destination checking, so a job may print at an incorrect destination.

D

Specifies that the diagnostic mode is to be set. This causes message IAT7006 to be issued for each data set that is selected for processing. In addition, message IAT7060 is issued when the *CALL, *START, *RESTART, and *CANCEL commands are processed. The diagnostic mode remains active until it is reset. See *z/OS JES3 Diagnosis* for a description of the data displayed during diagnostic mode.

/D

Specifies that the diagnostic mode is to be reset (turned off). The /D parameter may be specified on any *CALL, *START, *RESTART, or *CANCEL writer command.

Rule

While limits are a selection criterion, a unit of work is selected when both line *and* page parameters have been satisfied, except when both criteria have been defined as minimums. In the latter case, only one of the two criteria need to be met for data set selection on the writer.

Results

Specifying line (L=) or page limit (PG=) criteria overrides the LINELIM= or PAGELIM= values on the DEVICE initialization statement.

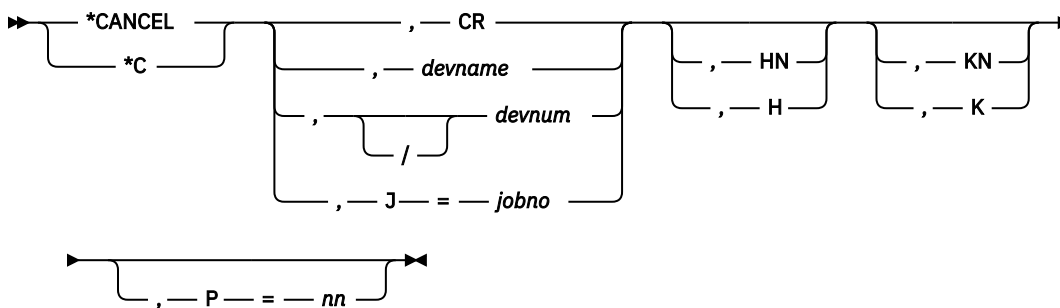
JES3 issues message IAT7060.

Halting a card reader ***CANCEL,CR**

Function

Use the *CANCEL,CR command to immediately halt card reading. Cards still in the hopper are not processed. If this command is used to halt a hot reader, the input is halted but the reader is not deactivated unless the KN parameter is included; therefore the *CANCEL command can also be used to change the parameters specified on the *CALL or *START command.

If an optional parameter is not specified, the value for that parameter defaults to the value specified on the *CALL command or on the most recent *START or *CANCEL command that modified that parameter.

Syntax**Parameters****CR or devname or devnum or /devnum, or J=jobno**

Specifies the reader device to be halted. CR is valid when there is only one card reader. If more than one card reader is currently active, use devname, devnum, /devnum, or jobno to ensure that the proper reader is halted. The device number can be a 3-digit or 4-digit hexadecimal number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

***CANCEL,DC**

```
ddd  
dddd  
/ddd  
/dddd
```

where ddd and dddd represent the device numbers.

H or HN

Specifies that the control-card processor created by the *CANCEL command be placed in hold (H) or allowed to process those jobs already completely entered (HN).

K or KN

Specifies that the hot reader remain allocated (K) or be canceled (KN).

P=nn

Specifies the scheduling priority of the JES3 control-card processor job being canceled. Valid values are 00 through 15.

Example

Halt the card reader.

```
*C,CR,H
```

Canceling DC *CANCEL,DC

Function

Use *CANCEL,DC to stop the dump core (DC) DSP.

Syntax

```
➤ ┌── *CANCEL ───┐  
    │              │  
    └── *C ───┘   , — DC ➤
```

Results

```
*C,DC
```

```
IAT7925 DC ACTIVE TRAPS RESET  
IAT7450 JOB DC (JOB33402) PURGED
```

Rules

You cannot stop the DC DSP if there are any active waiting traps. You should issue a *START,DC,ACTIVE command to display all the active waiting traps that are currently set. If you don't have any active waiting traps, you can issue the *CANCEL,DC command. If you still have active waiting traps, you should issue a *S,DC,TRAPGO command to reset the active waiting traps.

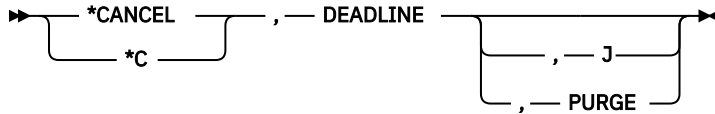
Stopping deadline scheduling *CANCEL,DEADLINE

Function

Use the *CANCEL,DEADLINE command to stop the DEADLINE DSP.

If the PURGE and J parameters are omitted, deadline scheduling stops only if there are no deadline jobs in the system. The DEADLINE DSP is called automatically when the next job with deadline scheduling is read into the system.

Syntax



Parameters

J

Specifies that deadline scheduling be stopped, but that the deadline queue be maintained. Deadline scheduling can be resumed by issuing an *CALL,DEADLINE command.

PURGE

Specifies that deadline scheduling be stopped for all jobs. In this case, deadline scheduling can be resumed by issuing an *CALL,DEADLINE command.

Example

Stop all deadline scheduling.

```
*C,DEADLINE,PURGE
```

```
IAT7420 *CANCEL DEADLINE COMMAND ACCEPTED
IAT7450 JOB DEADLINE (JOB33582) PURGED
```

Canceling the current activity *CANCEL,devname

Function

Use this command to cancel the current activity which can be the setting up of a device for a data set or the processing of a data set.

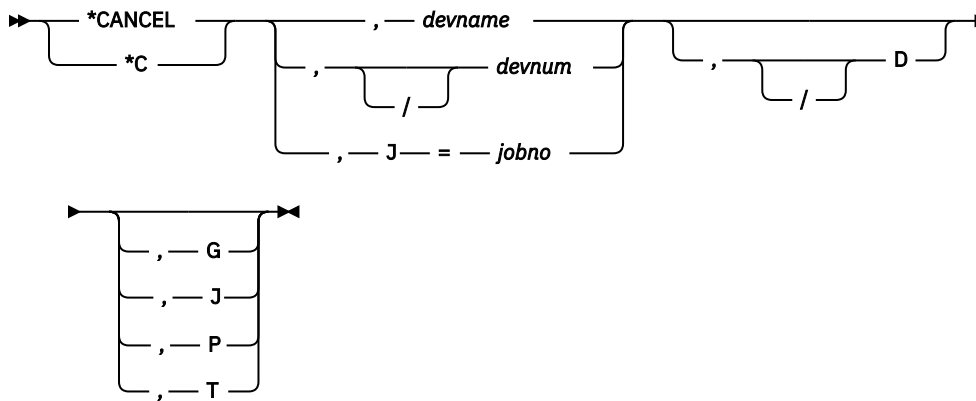
For a 3800 printer, the current job is the job whose output is visible at the transfer station. The display includes the number of pages remaining in the printer's buffer for all data sets that had been sent to the printer at the time you entered the command. This count can include data sets from more than one job. If the copy of the data set that is visible at the transfer station fills the entire buffer and more records remain to be sent to the printer, the display includes a second count: the approximate number of records remaining to be sent. For a 3800 printer running in FSS mode, the approximate number of pages and records remaining for the data set visible at the transfer station are displayed.

Pressing the Cancel key on a 3800 printer has the same effect as entering the *CANCEL,devname command.

Use the *CANCEL command to cancel WTR and reset the output service diagnostic mode.

Syntax

*CANCEL,devname



Parameters

devname or devnum or /devnum or J=jobno

Specifies the output device or the job number to be stopped. Always use the JNAME of a device when selecting devices that are not directly connected to a channel. The device number can be a 3-digit or 4-digit hexadecimal number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd
dddd
/ddd
/dddd
```

where ddd and dddd represent the device numbers.

D

Specifies that the diagnostic mode is to be set. This causes message IAT7006 to be issued for each data set that is selected for processing. In addition, message IAT7060 is issued when the *CALL, *START, *RESTART, and *CANCEL commands are processed. The diagnostic mode remains active until it is reset.

Use the D parameter on the *CANCEL,devname command to stop the current activity immediately and set the diagnostic mode. See [z/OS JES3 Diagnosis](#) for a description of the data displayed during diagnostic mode.

/D

Specifies that the diagnostic mode is to be reset (turned off). The /D parameter can be specified on any *CALL, *START, *RESTART, or *CANCEL writer command.

G

Specifies that only the output destined for this device for the current job be canceled immediately.

J

Specifies that all the output of the appropriate type (that is, PRT or PUN) for the current job be canceled immediately.

P

Specifies that the approximate number of pages or records remaining to be written for the current copy of the data set be displayed.

Use the P parameter on the *CANCEL,devname command to stop the current writer activity and determine the current page or record position of a data set being processed by a writer.

T

Specifies that the writer stop automatically once the current activity is canceled.

Result

JES3 issues message IAT7060.

Canceling a DJ DSP *CANCEL,DJ

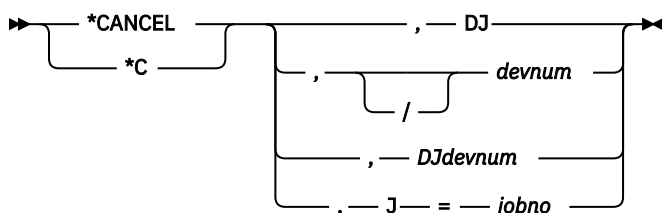
Function

You can stop a dump job (DJ) DSP at any time by entering a *CANCEL,DJ command. JES3 requests that a DJ DSP be canceled at the successful completion of an *START command. You also must cancel your current DJ DSP (or invoke a new DJ DSP) if you want to switch modes.

If dump job is running in server mode, the DJ DSP does not accept *CANCEL commands while the dump job server address space is initializing and allocating the tape device. If you attempt to cancel DJ at this point, JES3 issues message IAT7130 (*C DJ REJECTED, DJ NOT In USE).

If dump job is running in server mode, a *CANCEL DJ command will automatically cause the dump job server address space to end or be canceled.

Syntax



Parameters

DJ

This form of cancel can only be used if only one DJ DSP is active. If there are multiple DJ DSPs active, you must use one of the other forms of *CANCEL.

devnum

Specifies the device number of the DJ DSP to be canceled. The device number can be a 3-digit or a 4-digit hexadecimal number and may be preceded by a slash (/). If dump job is running in server mode (SERVER=YES), you cannot cancel it by device number; you must use one of the other forms of *CANCEL.

DJdevnum

This is another way to cancel a DJ DSP by device number. The device number can be a 3-digit or a 4-digit hexadecimal number and must not be preceded by a slash (/). Unlike *CANCEL,devnum, this form of *CANCEL is allowed when dump job is running in server mode.

J=jobno

Specifies the job number of the DJ DSP to be canceled.

Rule

Use care when canceling a DJ DSP while dumping or restoring a DJC network. Because DJ processing stops immediately, the network can only be partially dumped or restored.

Halting a disk reader *CANCEL,DR

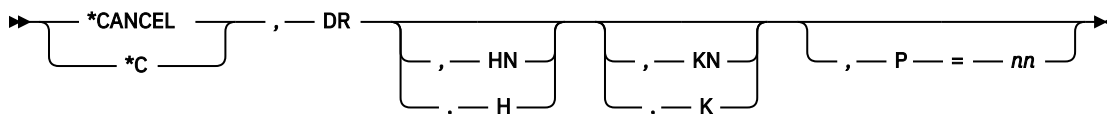
Function

Use the *CANCEL,DR command to halt disk reading immediately. If this command is used to halt a hot reader, the input is halted but is not deactivated unless the KN parameter is included; thus, the *CANCEL command can also be used to change the parameters specified in an *START or *CALL command.

*CANCEL,DSI

If an optional parameter is not specified, the value for that parameter defaults to the value specified on the *CALL command or on the most recent *START or *CANCEL command that modified that parameter.

Syntax



Parameters

H or HN

Specifies that the control-card processor created with the *CANCEL command be placed on hold (H) or allowed to process those jobs already completely entered (HN).

K or KN

Specifies that the hot reader is to remain allocated (K) or completely halted (KN).

P=nn

Specifies the scheduling priority of the JES3 control-card processor job (without affecting the priorities of the individual jobs being read in). Valid values are 00 through 15.

Example

Cancel disk reading immediately, and spool the remaining control-card processor job at priority 10.

```
*C,DR,P=10
```

Canceling dynamic system interchange *CANCEL,DSI

Function

DSI is the JES3 facility that allows a properly configured JES3 local main to assume the role of the JES3 global in the event of a catastrophic error on the current global or if complex reconfiguration is required to prepare for scheduled preventive maintenance. The installation should provide comprehensive procedures for device switching and operator action during DSI. These should be carefully reviewed before and during DSI. Operator messages are provided to guide the operator through DSI; the operator responds with the *S,DSI command.

For more information about DSI, see [Chapter 12, "Dynamic system interchange \(DSI\)," on page 135](#) or see [z/OS JES3 Diagnosis](#).

Syntax



Canceling IC DSP *CANCEL,IC

Function

Use *CANCEL,IC to stop the iteration count DSP.

Syntax

```

  ┌─── *CANCEL ───┐
  │                 │
  └─── *C ─────────┘ , — IC ─▶

```

Results

The iteration counter statistics are displayed and the iteration counter DSP is canceled:

```

*C,IC
IAT7945 16.03.52 ---> 16.04.28, ET 00.00.36, APR 02 1998
IAT7947 (TVT.EPNAME      COUNT ) (TVT.EPNAME      COUNT )
IAT7946 (37C.ABLOCK      _____1) (380.ACLOSE _____1)
IAT7946 (390.ADELETE     _____19) (394.NQ/DQ/TS _____16)
IAT7946 (398.AFDADD      _____5) (39C.AFDDELET _____5)
IAT7946 (3A0.AFDFOUND    _____22) (3A4.AGETBUF  _____31)
IAT7946 (3B0.ALOAD       _____7) (3B4.ALOCATE  _____2)
IAT7946 (3BC.AOPEN       _____1) (3C0.AOPEND   _____1)
.
.
IAT7953 (TVTWAITS-IATYTVT - _____209)
IAT7953 (SVTUCNT -IATYSVT - _____4)
IAT7953 (SVTJCNT -IATYSVT - _____49)
IAT7953 (JQXWRITE-IATYJQX - _____5)
IAT7948 TOTAL COUNT FOR SAMPLE ( _____705)
IAT7450 JOB IC (JOB33595) PURGED

```

Canceling INTRDR *CANCEL,INTRDR

Function

Use the *CANCEL,INTRDR command to stop the specified internal reader from processing the jobs in the output service hold queue that are destined for that reader.

Syntax

```

  ┌─── *CANCEL ───┐
  │                 │
  └─── *C ─────────┘ , — altname ─▶
  ┌─── *C ─────────┘ , — INTRDR ─▶

```

Parameters

altname

Specifies the JES3-assigned job number for the internal reader that is to be canceled.

INTRDR

Specifies that the only active internal reader is to be stopped. INTRDR is valid when there is only one internal reader function active.

Canceling JESNEWS *CANCEL,JESNEWS

Function

Use of the *CANCEL JESNEWS command ends the JESNEWS DSP and performs no action with the current JESNEWS data set.

Syntax

*CANCEL,JMF

```
➤➤ *CANCEL _____ , — JESNEWS ➤➤  
    |  
    | _____  
    | *C
```

Canceling JMF *CANCEL,JMF

Function

Use the *CANCEL JMF command to cancel the JES3 Monitoring Facility (JMF).

Syntax

```
➤➤ *CANCEL _____ , — JMF ➤➤  
    |  
    | _____  
    | *C
```

Examples

For example, if SMF=Y was specified, JES3 responds by issuing:

```
IAT9611      8 SMF TYPE 84 RECORDS WERE SUCCESSFULLY GENERATED  
IAT9602      JMF ENDED ON SY2
```

If a hardcopy report was produced, JES3 responds by issuing:

```
IAT9612      4 JMF HARDCOPY REPORT(S) WERE SUCCESSFULLY GENERATED  
IAT9602      JMF ENDED ON SY2
```

Note: Both SMF records and a hardcopy report can be produced. In this case, messages IAT9611, IAT9612 and IAT9602 are all issued.

Stopping communication on a BSC/NJE line *CANCEL,lname

Function

Use the *CANCEL,lname command to stop all communication on a networking line as soon as the current activity is complete. If you use the I parameter, communication stops immediately.

You can use this command to stop activity on a line if you want to remove the line from the network or if you want to limit activity in your system. You can also use this command to stop a transmission that is tying up a line. Use the *CANCEL,lname command *only* for BSC/NJE communication.



CAUTION:

If you want to stop communication on a line for an extended period of time and you expect other nodes to continue transmitting data across the line, notify the operator at the adjacent node before stopping communication. The operator can then take action to avoid possible system problems because of a backlog of jobs at the remote node.

Syntax

```
➤➤ *CANCEL _____ , — lname _____  
    |                                     |  
    | _____                         |  
    | *C                               |  
                                     |  
                                     | _____  
                                     | , — I
```

Parameters

lname

Specifies the name of a networking line. JES3 stops communication on this line.

I

Immediately stops communication on the specified line.

Results

- JES3 does not allow any new activity on the specified line.
- If you do not enter the I parameter, JES3 allows current activity on the specified line to complete and then sends a sign-off record to the remote node connected by this line.
- If you enter the I parameter:
 - JES3 immediately stops all activity on the specified line without sending a sign-off record to the remote node connected by this line. To the remote node, it appears as if the line has stopped abnormally.
 - JES3 reschedules any data transmission that was active on the specified line when you issued the command. If there is another active line to the remote node, the data is transmitted on that line. In addition, JES3 releases any spool space occupied by a data stream that has been partially received; the data is held at the sending node.

```
IAT9112  CANCEL ACCEPTED FOR LINE lname
IAT9113  LINE lname TERMINATING
IAT9111  CANCEL IMMEDIATE ACCEPTED FOR LINE lname
IAT9113  LINE lname TERMINATING
```

Example

Stop all communication on line CTC8.

```
*CANCEL,CTC8
```

Immediately stop all communication on line ANB32.

```
*C,ANB32,I
```

Canceling a job in locate processing *CANCEL,LOCATE

Function

Use the *CANCEL,LOCATE command with the J= parameter to cancel a job that is in locate processing.

Syntax

```
➤ *CANCEL _____ , — LOCATE — , — J — = — jobno ➤
    |
    |_____ *C _____
```

Parameters

J=jobno

Specifies that the job be canceled in locate processing.

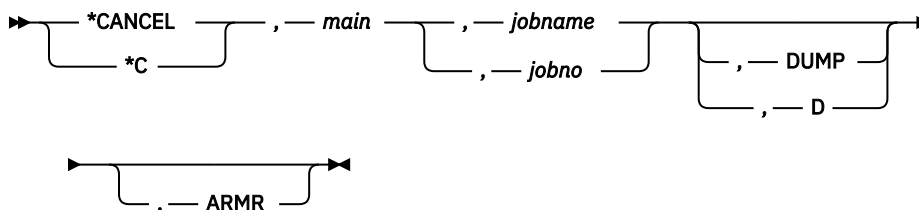
Note: The *MODIFY,J=nnnn,C or *MODIFY,J=nnnn,CP is the preferred way of canceling a job in locate.

Stopping a specific job in execution *CANCEL,main

Function

Use the *CANCEL command to stop execution of a job that is currently active on a main. An SVC dump can also be requested. The *CANCEL command cannot be used to cancel a job that is part of a DJC network; for such jobs, use the *MODIFY,N command.

Syntax



Parameters

main

Specifies the main name, as defined during JES3 initialization, to which the specified job is assigned.

jobname or jobno

Specifies the name of the job to be canceled (jobname) or the number of the job to be canceled (jobno).

DUMP or D

Specifies that an SVC dump is provided when the job is canceled. (A DD statement for the dump data set must be present in the JCL for the job.)

ARMR

Requests that automatic restart management automatically restart each specified job after it is canceled if that job is registered with automatic restart management. The ARMR keyword is ignored if the job is not executing or it is not registered with automatic restart management.

Note: The *MODIFY,J= command is the preferred way to cancel jobs that are in execution. The DUMP and ARMR options can also be specified on the *MODIFY,J= command.

Canceling the monitor DSP *CANCEL,MONITOR

Function

Use the following command to stop the monitor DSP.

Syntax



Results

JES3 issues the following message:

```
IAT6394 MONITOR FUNCTION ENDED
```


JES3 cleans up any data areas obtained before ending. You can now call a new copy of the monitor DSP. Any changes you made to the monitoring parameters with the *START,MONITOR,ID= command come back into effect when the monitor is reactivated.

If you cancel MONITOR and restart the JES3 global without issuing a new *CALL,MONITOR command, JES3 will issue a *CALL,MONITOR command automatically.

Example

For an example of the monitor DSP in use, see [z/OS JES3 Diagnosis](#).

Stopping a TCP/IP/NJE Netserv communication to a NODE *CANCEL,netserv

Function

Use the *CANCEL,netserv,NODE=TCP command to stop communication by the specified *netserv* on all sockets. All active transmission and reception activity is allowed to complete before this command takes effect.

You should use the *CANCEL,TCP,NODE= command so that you don't need to determine the Netserv FCTs, which are used to communicate with the target node.

Syntax

```
➤ *CANCEL — ,netserv — ,NODE= — nodename — ,I— ➤
```

Parameters

netserv

Specifies the target FCT.

NODE=nodename

Specifies the name of the node to be canceled. All sockets used for communication with the node will be canceled.

I

Specifies that the node is canceled immediately regardless of the state of any active transmission or reception.

Rules

- The specified node must be active.
- All active sockets, including server sockets, are canceled.

Results

- The node that communicates with this node over the socket being canceled is notified that this node is signing off from the session.
- If another node issued a *C,TCP,SOCKET=, or equivalent command, the corresponding socket on this node is marked inactive. If the socket is a server socket, it is automatically deleted as soon as it becomes inactive.
- If the "I" parameter is not specified, the socket is canceled as soon as any transmission or reception currently active on the socket completes.

*CANCEL,ntsvname

- If the "I" parameter is specified, the socket is canceled immediately regardless of the state of any active transmission or reception.

Stopping TCP/IP/NJE Network Server *CANCEL,ntsvname

Function

Use the *CANCEL,ntsvname to cancel a Network Server (Netserv).

Note: You can also use the MVS CANCEL command (C ntsvname) to cancel a Netserv, but the JES3 cancel command is preferred. You should use the MVS command only when you cannot use the JES3 command.

Syntax

➡ `*CANCEL` `ntsvname` ➡
 `*C`

Parameters

ntsvname

Specifies the name of the Netserv to be canceled.

Rules

- The Netserv must be defined and active.

Results

- Both the TCP DSP and the Netserv address space are canceled.
- Any sockets that were active on this Netserv are marked inactive. Server sockets, which are named @nnnnnnn, are automatically deleted when they become inactive.
- Any sockets that were active on Netservs running on remote nodes, which were connected to this node, are also marked inactive. Server sockets on the remote node are also automatically deleted when they become inactive.
- Any nodes connected by sockets to this Netserv are signed off and marked inactive.

Example

Issue the following command on NODE1:

```
*c jes3s1
```

The following response is received on NODE1:

```
SY1 IEESYSAS IAZ0536I JES3S1 NJETCP SERVER RECEIVED A PURGE REQUEST
SY1 IEESYSAS IAZ0543I JES3S1 S3 TCP/IP connection with IP Addr: alps4238.pok.ibm.com Port: 175 ended
due to subtask goaway post
SY1 IEESYSAS IAZ0543I JES3S1 S4 TCP/IP connection with IP Addr: alps4197.pok.ibm.com Port: 175 ended
due to subtask goaway post
SY1 IEESYSAS IAT9305 NODE NODE3 SIGNED OFF NETSERV JES3S1 SOCKET S3
SY1 IEESYSAS IAT9305 NODE NODE4 SIGNED OFF NETSERV JES3S1 SOCKET S4
SY1 IEESYSAS IEF404I IEESYSAS - ENDED - TIME=10.51.38
IAT9302 TCP DSP FOR SERVER JES3S1 HAS ENDED DUE TO ADDRESS SPACE END
IAT7450 JOB TCP (JOB00738) PURGED
IAT7450 JOB IEESYSAS (JOB00739) PURGED
```

The following response is received on NODE3:

```

SY1 IEESYSAS IAT9305 NODE NODE1 SIGNED OFF NETSERV JES3S3 SOCKET @00000001
SY1 IEESYSAS IAZ0544I JES3S3 NJE connection with IP Addr: alps4066.pok.ibm.com Port: 1029 ended
on receiving a Signoff record from the remote node
SY1 IEESYSAS *IAZ0537I JES3S3 NJETCP SERVER WAITING FOR WORK

```

The following response is received on NODE4:

```

SY1 IEESYSAS IAT9305 NODE NODE1 SIGNED OFF NETSERV JES3S4 SOCKET @00000001
SY1 IEESYSAS IAZ0544I JES3S4 NJE connection with IP Addr: alps4066.pok.ibm.com Port: 1029 ended
on receiving a Signoff record from the remote node
SY1 IEESYSAS *IAZ0537I JES3S4 NJETCP SERVER WAITING FOR WORK

```

Stopping networking console support *CANCEL,NJECONS

Function

Use the *CANCEL,NJECONS command to stop networking console support.

Syntax

```

➤ *CANCEL , — NJECONS ➤
  *C

```

Results

- JES3 stops networking console support. You can no longer send or receive messages or commands to or from other nodes in the network.
- If jobs are transmitted to or from your node after you stop networking console support, TSO/E notify messages issued to your node on behalf of these jobs are lost.

```
IAT7132 NJECONS HAS TERMINATED
```

Stopping a SNA/NJE reader (NJERDR DSP) *CANCEL,NJERDR

Function

Use the *CANCEL,NJERDR command to stop a NJE reader. JES3 will not process any inbound SNA/NJE network streams unless one or more NJE readers are active.

Syntax

```

➤ *CANCEL , — NJERDR ➤
  *C , — J = — jobno

```

Parameters

NJERDR

Cancels the NJE reader. You must specify the job number of the DSP if more than one NJE reader is active.

J =jobno

Identifies the specific NJE reader to be canceled. Use the *I,J=NJERDR command to determine the job number if more than one NJE reader exists.

*CANCEL,NJEROUT

Result

JES3 stops the NJE reader DSP.



Attention: Jobs transmitted to your node collect on JES3 spool if you cancel all NJE readers.

Examples

Cancel a NJE reader:

```
*C,NJERDR
```

Cancel a NJE reader that has a job number of 28:

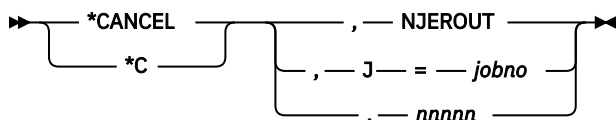
```
*C,J=28
```

Stopping the NJEROUT DSP *CANCEL,NJEROUT

Function

Use the *CANCEL,NJEROUT command to stop the reroute DSP.

Syntax



Parameters

NJEROUT

Specifies that JES3 cancel the NJEROUT DSP after the current job is complete.

J=jobno

Identifies a specific NJEROUT to be canceled if you have more than one DSP active. Use the *I,J=NJEROUT command to determine the DSP's job number if more than one NJEROUT DSP is active.

RRTnnnnn

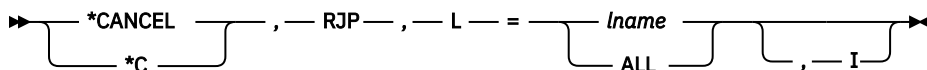
Cancels the reroute DSP by its JES3-assigned job number.

Stopping BSC RJP activity *CANCEL,RJP

Function

Use the *CANCEL,RJP command to stop a BSC RJP session or activity on any line. The command can be used to stop activity immediately or as though a normal workstation sign-off occurred.

Syntax



Parameters

L =lname or ALL

Specifies the name of the line to be stopped (as defined in the RJPLINE initialization statement). ALL specifies the termination of all lines and the RJP DSP.

I

Specifies immediate cancellation of all current activity on one or all lines. When ALL is specified with the I parameter, the RJP DSP stops after the activity stops on all lines.

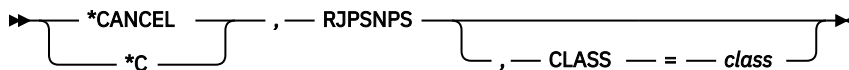
If the I parameter is not specified, the lines will be canceled after all currently active functions using the lines have completed normally. To restart the lines, use the *START,RJP command.

Canceling RJPSNPS facility *CANCEL,RJPSNPS

Function

Use *C,RJPSNPS to stop the RJPSNPS facility. The diagnostic information gathered by the RJPSNPS facility is sent to the destination specified by the DBGCLASS parameter on the STANDARDS statement during end processing. The SNAP facility must be enabled to use the RJPSNPS facility. Use *F T,L=lname,SNAPON to enable the SNAP facility.

Syntax



Parameters

CLASS

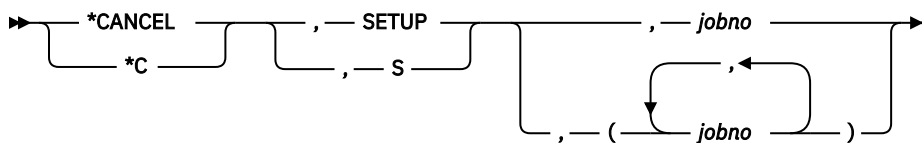
Directs the data set to a SYSOUT class other than the destination specified during initialization.

Canceling a job during setup *CANCEL,SETUP

Function

Use the *CANCEL,S command to cancel a job currently being processed by main device scheduling (MDS).

Syntax



Parameters

SETUP or S

Specifies that the job currently being processed by MDS is to be canceled with a corresponding printout. (Jobs that are part of a DJC network cannot be canceled in this manner.)

jobno

Specifies the job number of the job to be canceled.

Note: *MODIFY,J= is the preferred way to cancel a job in setup. However, *MODIFY,J= cannot be used for jobs that are internally created by JES3 to satisfy device fence allocation requests and *MODIFY,S,M= commands.

Stopping SNA RJP activity *CANCEL,SNARJP

Function

Use the *CANCEL command to halt the SNA RJP network, a SNA RJP workstation, or processing on a SNA RJP device.

Syntax

```

➔ *CANCEL — , — SNARJP — , — T — = — wsname — , — I — ➔
    *C — ALL —

```

Parameters

T =wsname or ALL

Specifies the 5-character workstation name as defined in the N= parameter of the RJPWS initialization statement or all workstations.

I

Specifies immediate checkpoint and cancellation of all current activity at one or all workstations.

Rules

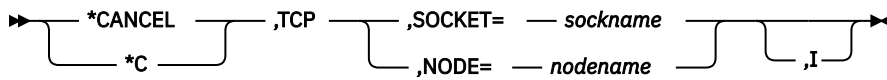
- If the I parameter is not specified, the workstation will be canceled after all current workstation activity has stopped.
- If the I parameter is specified, all communication sessions between JES3 and the specified workstation will be immediately stopped and all DSPs currently using any of the workstation devices will be failed. Any job that was in the process of being read from the workstation at the time of termination may be lost and have to be re-submitted when the workstation is later restarted. All output that was in progress will be restarted at the last checkpoint when the workstation is later restarted.
- When the I parameter is used to stop a workstation immediately, it can take up to two minutes for workstation termination to complete depending on the state of the workstation at the time of the cancel. After a *CANCEL command is used to stop a workstation, wait for JES3 to issue either message IAT2807 or IAT2813 and then restart the workstation by issuing a *START command to allow the workstation to log on again.
- Use the *CANCEL,SNARJP,T=xxx,I command with caution; the results could be unpredictable depending on the status of the workstation. The entire SNARJP application could be shut down by VTAM for reasons of data integrity as seen in the VTAM environment. It is suggested that this command not be used to shut down a workstation while a signon is in progress and that a simple *C,SNARJP,T=xxx command be issued without the immediate (I) option.

Stopping a TCP/IP/NJE NODE or Socket *CANCEL,TCP

Function

Use the *CANCEL,TCP command to stop the connection to a node or on a socket. All active transmission and reception activity is allowed to complete before this command takes effect.

Syntax



Parameters

SOCKET=sockname

Specifies the name of the socket to be canceled.

NODE=nodename

Specifies the name of the node to be canceled. All sockets used for communication with the node will be canceled.

I

Specifies that the socket is canceled immediately regardless of the state of any active transmission or reception.

Rules

- The specified node or socket must be active.
- The specified socket can be a server socket that was created when another node requested this node to sign on.
- If NODE is specified, all active sockets, including server sockets, are canceled.

Results

- The node that communicates with this node over the socket being canceled is notified that this node is signing off from the session.
- If another node issued a *C,TCP,SOCKET=, or equivalent command, the corresponding socket on this node is marked inactive. If the socket is a server socket, it is automatically deleted as soon as it becomes inactive.
- If the "I" parameter is not specified, the socket is canceled as soon as any transmission or reception currently active on the socket completes.
- If the "I" parameter is specified, the socket is canceled immediately regardless of the state of any active transmission or reception.

Example

Assume that a connection is active from NODE1 to NODE3. The following command is issued on NODE1:

```
*c tcp socket=s3
```

The following response is received on NODE1:

```
SY1 IEESYSAS IAZ0543I JES3S1 S3 TCP/IP connection with IP Addr: alps4238.pok.ibm.com Port: 175
ended due to stop connection request
SY1 IEESYSAS IAT9305 NODE NODE3 SIGNED OFF NETSERV JES3S1 SOCKET S3
SY1 IEESYSAS *IAZ1201I JES3S1 NJETCP SERVER WAITING FOR WORK
```

The following response is received on NODE3:

```
SY1 IEESYSAS IAT9305 NODE NODE1 SIGNED OFF NETSERV JES3S3 SOCKET @0000001
SY1 IEESYSAS IAZ0544I JES3S3 NJE connection with IP Addr: alps4066.pok.ibm.com
Port: 1029 ended on receiving a Signoff record from the remote node
SY1 IEESYSAS *IAZ1201I JES3S3 NJETCP SERVER WAITING FOR WORK
```

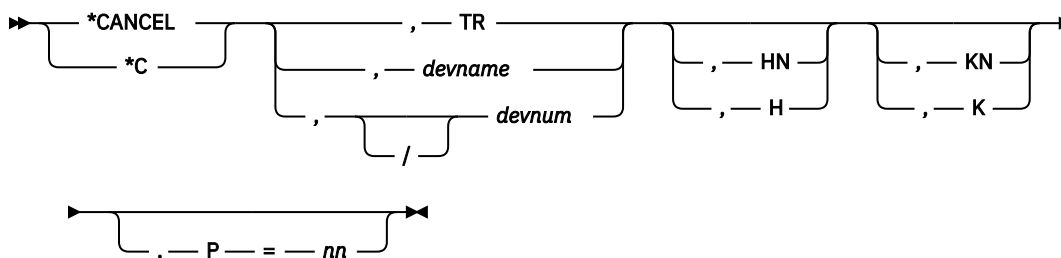
Halting a tape reader ***CANCEL,TR**

Function

Use the *CANCEL,TR command to halt reading immediately. If this is used to halt a hot reader, the input is halted but the reader is not deactivated unless the KN parameter is included; thus, the *CANCEL command can also be used to change the parameters specified on the *START or *CALL command.

If an optional parameter is not specified, the value for that parameter defaults to the value specified on the *CALL command or on the most recent *START or *CANCEL command that modified that parameter.

Syntax



Parameters

TR or devname or devnum or /devnum

Specifies the reader to be halted. If more than one reader of the same type is currently active, use devname or devnum or /devnum to ensure that the proper reader is affected. The device number can be a 3-digit or 4-digit hexadecimal number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```

ddd
dddd
/ddd
/dddd
  
```

where ddd and dddd represent the device numbers.

Note: If more than one tape reader DSP is running, use devnum, /devnum or devname to stop a specific DSP.

H or HN

Specifies that the control-card processor created with the *CANCEL command be placed in hold (H) or allowed to process those jobs already completely entered (HN).

K or KN

Specifies that the hot reader remain allocated (K) or be completely halted (KN).

P=nn

Specifies the scheduling priority of the JES3 control-card processor job without affecting the priorities of the individual jobs being read in. Valid values are 00 through 15.

Example

Cancel the tape reader immediately, and spool the remaining control-card processor job at priority 12.

```
*C,TR,P=12
```


Canceling the VARYL dynamic support program ***CANCEL,VARYL**

Function

The VARYL dynamic support program (DSP) unassigns an IBM 3480 tape drive from JES3 local mains. You must invoke the VARYL DSP from each local main to which the IBM 3480 is assigned before using the device for a stand-alone dump.

The *CANCEL command ends the VARYL dynamic support program (DSP).

Syntax

```

➤ *CANCEL — VARYL ➤
  |
  +— *C —

```

Producing a dump ***DUMP**

Function

Use the *DUMP to produce such an abend dump intentionally. The *DUMP command is not allowed from the input stream.

Syntax

```

➤ *DUMP — 'title' ➤

```

Parameters

'title'

Specifies a title, up to 63 characters, that may be entered and subsequently printed as a prefix heading to the JES3 dump. Apostrophes are required.

Failsoft ***FAIL**

Function

The JES3 failsoft processing diagnoses errors. It determines whether abnormal termination should continue or whether processing can be resumed.

At the time of a JES3 failure a message is received that identifies the failure by a unique number. Detailed failure information is also displayed in the hardcopy log. No operator intervention is required unless WANTDUMP=ASK is coded on the OPTIONS initialization statement (or WANTDUMP=YES is coded but WANTDUMP=ASK is assumed because the number of dumps in the specified interval has exceeded the specified limit).

You can use the *FAIL command to immediately terminate the DSP and to enter failsoft recovery. Failsoft recovery returns the resources held by the DSP. Use this command when the *CANCEL command fails to end the DSP.



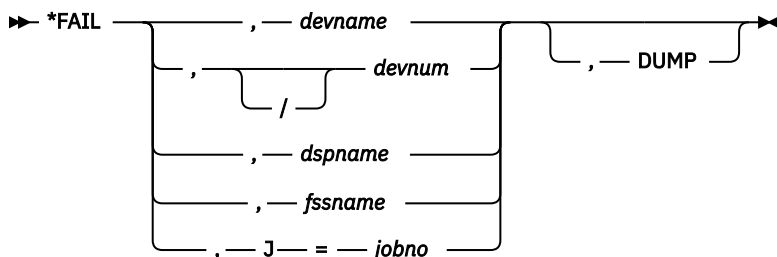
CAUTION:

Use this command with care; it can cause a critical JES3 DSP to end with abend code DM133. Other DSPs may fail during the recovery process if you issue a *FAIL command. If issuing multiple commands for the same device or DSP, wait for JES3 to display the results of a previous *FAIL command before issuing another *FAIL command. Issuing multiple *FAIL commands for the same

*FAIL

device or DSP without waiting for each previous *FAIL to complete can interrupt recovery or cleanup processing at a critical point. This can lead to loss of function and abends other than the expected DM133 in the DSP being failed.

Syntax



Parameters

devname or devnum or /devnum

Specifies the device name or device number (by 3-digit or 4-digit hexadecimal number) associated with the DSP to be ended. If the device you are failing is the last device running under a functional subsystem (FSS), the FSS will also fail. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd
dddd
/ddd
/dddd
```

where ddd and dddd represent the device numbers.

dspname

Specifies the name of the DSP or the FSS to be ended. Any DSP name defined by the IATYDSD macro instruction is valid. (IATYDSD is used in the generation of the IATGRPT module; this module is part of the JES3 nucleus and contains the JES3 DSP dictionary.)

fssname

Specifies the name of the FSS to be ended. All devices running under the FSS are varied offline. Use the *devname* parameter to fail a specific device running under the FSS.

J=jobno

Specifies the JES3 job number of the DSP.

DUMP

Specifies that the JES3 abend dump is to be taken. When an active TCP DSP is being failed, the associated NETSERV address space is also dumped. The system continues to process normally.

Example

The writer for device 0002 (JNAME=PRT002) is not responding to commands. Issue a *FAIL command to end it:

```
*FAIL,PRT002
IAT3713 FAILURE LOGOUT
IAT3713 *****
IAT3713 *****
IAT3713 DATE = 1998092 TIME = 1608372 JES3 OS260
IAT3713 JES3 FAILURE NUMBER = 0002 FAILED DM133
IAT3729 FAILURE EXPLANATION:
IAT3731 OPERATOR ISSUED AN *FAIL DSPNAME COMMAND.
IAT3713 ACTIVE FCT = WTR DEVICE = PRT002 FCT FAIL NO = 0001
IAT3713 JOB IEESYSAS (JOB33518)
IAT3713 MODULE = IATOSPS MOD BASE = 0519C000 DISP = 00065C
IAT3713 APAR NUMBER = PTF NUMBER = OS260
IAT3713 CALLING SEQUENCE (HIGHEST LEVEL MODULE LISTED LAST)
```

```

IAT3713 MODULE = IATOSPR          MOD BASE = 0519902C  DISP = 00044A
IAT3713 APAR NUMBER =             PTF NUMBER = 0S260
IAT3713 MODULE = IATOSWD          MOD BASE = 05191000  DISP = 00038E
IAT3713 APAR NUMBER =             PTF NUMBER = 0S260
IAT3713 MODULE = IATOSWC          MOD BASE = 0518E000  DISP = 000876
IAT3713 APAR NUMBER =             PTF NUMBER = 0S260
IAT3713 PSW AT TIME OF FAILURE 071C1000 80013AE4  ILC 2  INTC  000D
IAT3713 THE FAILING INSTRUCTION IS 0A0D
IAT3713 REGISTERS AT TIME OF FAILURE
IAT3713 REGS 0- 3 05194618 00000085 050ABCD0 10000004
IAT3713 REGS 4- 7 0000004C 00000000 00000000 050ABC98
IAT3713 REGS 8-11 05194A9C 0519D000 0519C000 050937D8
IAT3713 REGS 12-15 04F01000 05194000 00013AE0 04F26148
IAT3713 *****
IAT3713 *****
IAT3702 WTR (PRT002 ) FAILED DM133 - JES3 FAILURE NO. 0002
IAT3708 WTR (PRT002 ) IS BEING REINSTATED

```

Stopping RJP console messages *FREE,con

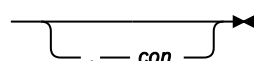
Function

Use the *FREE command to stop output of all messages currently queued for a RJP console at the time the command is issued. All messages queued for the RJP console after the command is issued are displayed normally. If you omit the con parameter, the command applies to the RJP console from which you issue the command.

The *FREE command stops all output messages queued in storage for the workstation. Messages saved on the JES3 spool are not deleted.

Attention: Use this command with caution because it purges not only the messages issued by a single function (for example, the reply to an *INQUIRY,Q request), but all messages waiting to be displayed or printed (for example, sign-on, mount, and device error messages).

Syntax

➔ *FREE 

Equivalent MVS command

Control Q

Sends the messages that are currently queued to this MCS console to the log. See [z/OS MVS System Commands](#) for more information about the Control Q command.

Parameter

con

Specifies the name of the console for which messages need to be freed.

Rules

- You can only issue *FREE (without a console name) from an RJP console. This is called a non-directed *FREE command.
- You must have an authority level of 10 or greater to issue a non-directed *FREE from an RJP console.
- If *FREE is issued from an MCS console, an RJP console name must also be specified. Directing a command to a specific console is called a **directed *FREE** command.
- You must have MCS master authority or JES3 authority level 15 to issue directed *FREE commands.

Examples

Purge all messages currently queued to the issuing console:

```
*FREE
```

Purge all messages currently queued to the JES3 RJP console (RTM01) from another console in the sysplex:

```
*FREE,RTM01
```

Displaying the status of active jobs *INQUIRY,A

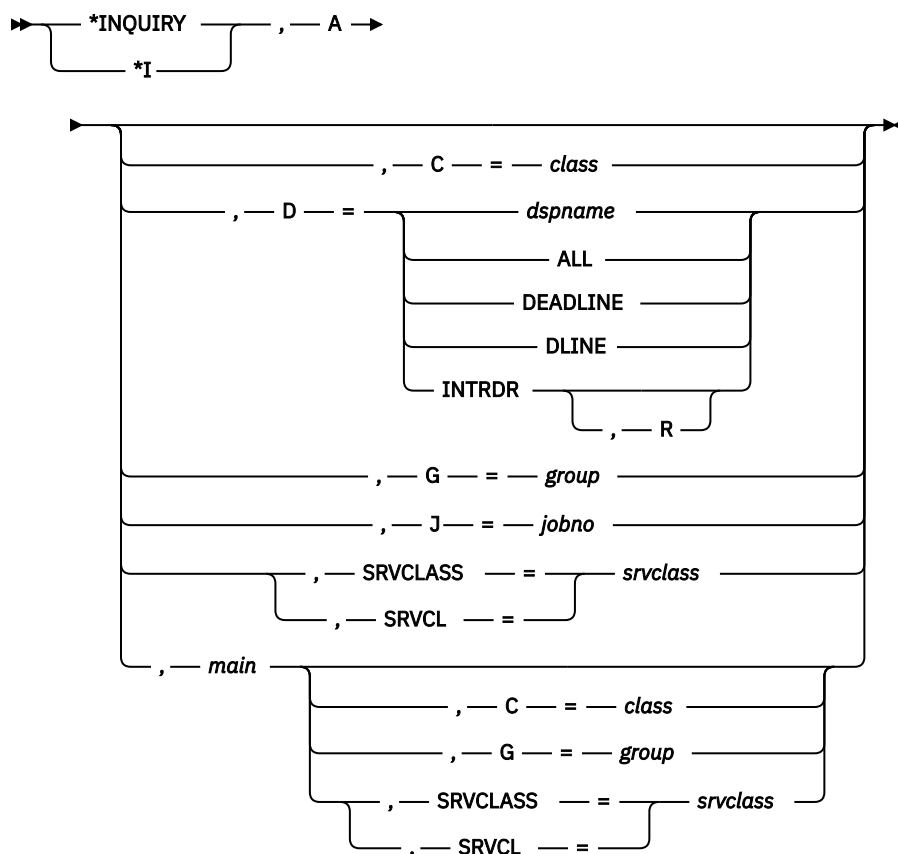
Function

Use the *INQUIRY,A command to display the:

- Status of jobs active on a particular DSP
- Names of jobs waiting to be transmitted to other nodes through BSC/NJE, and the transmission paths for the jobs
- Status of JES3 jobs active on each main
- Status of jobs in execution for the specified job class.
- Status of jobs in execution for the specified job class group.
- Status of jobs in execution for the specified service class.
- Status of active jobs in the deadline queue
- Names of jobs that are currently being transmitted to other nodes
- Names of the logical senders handling the transmissions

Note: This display does not include the names of jobs that were put in action as a result of using the *F,NJE,NAME=,HOLD command. Use the *I,Q,H command to display these jobs. Use the *I,A,D=NJESND command *only* for BSC/NJE communication.

Syntax



Parameters

D=dspname or ALL

Displays the status of jobs being processed by the designated DSP (dspname) or the status of all jobs being processed by all active DSPs (ALL).

For a 3800 writer DSP, the display contains job information for the output that is visible at the transfer station.

For an FSS writer DSP, the display contains job information for the output sent to the FSS. This may be a job that has completed processing on the output device but is being retained by the FSS. See the FSS application documentation, [z/OS MVS Using the Functional Subsystem Interface](#), to determine if there is a better way to monitor job status.

D=DLINE

Displays the status of active jobs in the deadline queue.

D=DEADLINE

Displays the status of the job currently being processed by the DEADLINE DSP.

D=INTRDR

Displays the jobs that are being processed by internal reader DSPs.

D=INTRDR,R

Resets the high water mark value to the current number of internal reader jobs either active or waiting to be processed.

main

Displays the status of all active JES3 jobs on the designated main.

C=class

Displays jobs in execution that have the specified job class.

*INQUIRY,A

G=group

Displays jobs in execution that have the specified job class group.

J=jobno

Displays the status of the designated active job.

SRVCLASS=srvclass or SRVCL=srvclass

Displays jobs in execution that have the specified service class. Jobs in JES-managed groups and WLM-managed groups are displayed.

Examples

Display all jobs active on C/I service DSPs.

```
*I,A,D=CI
```

- JES3 displays the following message for each job active in CI. If a job is being processed by a C/I FSS address space, the C/I FSS name is displayed.

```
IAT8522 JOB JOB200 (JOB33518) ACTIVE ON CI 0000.59 MIN
IAT8522 JOB JOB11 (JOB33604) ACTIVE ON CIFSS1 0000.12 MIN
IAT8522 JOB JOB2 (JOB33606) ACTIVE ON CIFSS1 0000.09 MIN
```

Display the names of all jobs waiting to be transmitted and all jobs currently being transmitted to other nodes in the network.

```
*I,A,D=NJESND
```

- JES3 displays the following message for each job waiting to be transmitted:

```
IAT8522 JOB jobno jobname ACTIVE ON NJESND
TIME NAVAIL SCHED FOR nodename
```

- JES3 displays the following message for each job currently being transmitted:

```
IAT8522 JOB jobno jobname ACTIVE ON NJESND
lsender time
```

Display the status of all jobs active on SY2.

```
*I,A,SY2
```

- JES3 displays the following messages:

```
IAT8524 JOB RACF (JOB32766) ON SY2 004502.93 MIN
IAT8524 JOB SYSLOG (JOB32765) ON SY2 004502.93 MIN
IAT8524 JOB JES3CI (JOB33379) CIFSS2 ON SY2 004364.71 MIN
IAT8524 JOB GTFJES3 (JOB33401) GTF ON SY2 004218.21 MIN
IAT8524 JOB JOB23 (JOB33727) STEP1 ON SY2 000001.03 MIN
IAT8524 JOB JOB11 (JOB33718) STEP1 ON SY2 000000.50 MIN
IAT8524 JOB JOB26 (JOB33734) STEP1 ON SY2 000000.01 MIN
IAT8593 INQUIRY ON ACTIVE JOBS COMPLETE, 7 JOBS DISPLAYED
```

Display the status of jobs in class A that are active on SY1.

```
*I,A,SY1,C=A
```

- JES3 displays the following messages:

```
IAT8524 JOB RACF (JOB32766) ON SY1 004504.63 MIN
IAT8524 JOB SYSLOG (JOB32765) ON SY1 004504.63 MIN
IAT8524 JOB JES3CI (JOB33379) CIFSS1 ON SY1 004366.41 MIN
IAT8524 JOB GTFJES3 (JOB33401) GTF ON SY1 004219.91 MIN
IAT8524 JOB JOB12 (JOB33827) STEP1 ON SY1 000001.30 MIN
IAT8524 JOB JOB30 (JOB33834) ON SY1 000000.40 MIN
IAT8524 JOB JOB33 (JOB33846) ON SY1 000000.09 MIN
IAT8593 INQUIRY ON ACTIVE JOBS COMPLETE, 7 JOBS DISPLAYED
```

Display the status of all jobs in group A that are active on any system.

```
*I,A,G=A
```

- JES3 displays the following messages:

```
IAT8524 JOB JOB40      (JOB33953) STEP1    ON SY1      000000.01 MIN
IAT8524 JOB JOB13      (JOB33946) STEP1    ON SY1      000000.01 MIN
IAT8524 JOB JOB31      (JOB33947)         ON SY1      000000.00 MIN
IAT8524 JOB JOB30      (JOB33943)         ON SY1      000000.03 MIN
IAT8524 JOB JOB12      (JOB33942) STEP1    ON SY1      000000.01 MIN
IAT8593 INQUIRY ON ACTIVE JOBS COMPLETE,    5 JOBS DISPLAYED
```

Display the status of the active job 12891.

```
*I,A,J=12891
```

- JES3 displays the following messages:

```
IAT8524 JOB ASMLKED (JOB12891) GTF      ON SY1      000068.85 MIN
IAT8593 INQUIRY ON ACTIVE JOBS COMPLETE,    1 JOB  DISPLAYED
```

Display the status of all jobs in service class PRODBAT that are active on any system.

```
*I,A,SRVCLASS=PRODBAT
```

- JES3 displays the following messages:

```
IAT8524 JOB PAYROLL   (JOB34285) STEP1    ON SY1      000099.85 MIN
IAT8524 JOB DASD1     (JOB34593) STEP20   ON SY1      000008.93 MIN
IAT8524 JOB BACKUP    (JOB34597) STEP2    ON SY1      000018.01 MIN
IAT8524 JOB DEFrag    (JOB36026) STEP1    ON SY2      000099.85 MIN
IAT8524 JOB COMPILEA  (JOB39778) STEP3    ON SY2      000008.93 MIN
IAT8524 JOB BEAST     (JOB00667) STEP667  ON SY6      000018.01 MIN
IAT8593 INQUIRY ON ACTIVE JOBS COMPLETE,    6 JOBS DISPLAYED
```

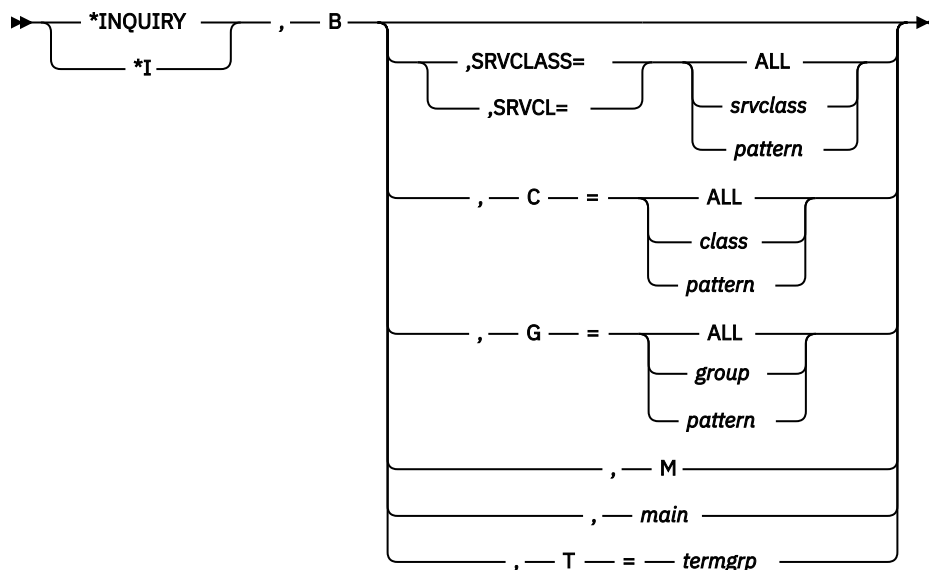
Displaying job backlog ***INQUIRY,B**

Function

Use the ***INQUIRY,B** command to display:

- The number of jobs backlogged for each JES3 function (DSP).
- The number of jobs backlogged for a job class.
- The number of jobs backlogged for a job class group.
- The number of jobs backlogged for a service class.
- The number of jobs backlogged for a terminal group.
- The number of jobs backlogged for a main or all mains.

Syntax



Parameters

SRVCLASS= or SRVCL=

Displays the number of backlogged jobs, by service class. Only jobs that have been scheduled for main service or are waiting to be scheduled for main service are included. The following information is displayed for each service class that is requested:

- Whether the jobs in the service class belong to JES-managed groups or WLM-managed groups. Separate lines are displayed for groups that are JES managed and for groups that are WLM managed.
- The number of jobs in execution.
- The number of jobs scheduled for main service, but not executing.
- The number of jobs that are waiting to be scheduled for main service.

ALL

Displays the number of backlogged jobs for all service classes.

srvclass

Displays the number of backlogged jobs in the specified service class.

pattern

Displays the number of backlogged jobs in each service class that matches the specified pattern (not to exceed eight characters). You can specify an asterisk (*) in the pattern to represent zero or more characters, or you can specify a question mark (?) to represent a single character. See "Examples" section below for use of these characters.

C=

Displays the number of jobs backlogged, by job class. Only jobs that have been scheduled for main service or are waiting to be scheduled for main service are included. The following information is displayed for each job class that is requested:

- Whether the jobs in the job class belong to JES-managed groups or WLM-managed groups. Separate lines are displayed for groups that are JES managed and for groups that are WLM managed.
- The number of jobs in execution.
- The number of jobs scheduled for main service, but not executing.
- The number of jobs that are waiting to be scheduled for main service.

ALL

Displays the number of backlogged jobs in all job classes.

class

Displays the number of backlogged jobs in a specific job class.

pattern

Displays the number of jobs in each job class that matches the specified pattern (not to exceed eight characters). You can specify an asterisk (*) in the pattern to represent zero or more characters, or you can specify a question mark (?) to represent a single character. See "Examples" section below for use of these characters.

G=

Displays the number of jobs backlogged, by job class group. Only jobs that have been scheduled for main service or are waiting to be scheduled for main service are included. The following information is displayed for each job class group that is requested:

- Whether the jobs in the job class group belong to JES-managed groups or WLM-managed groups. Separate lines are displayed for groups that are JES managed and for groups that are WLM managed.
- The number of jobs in execution.
- The number of jobs scheduled for main service, but not executing.
- The number of jobs that are waiting to be scheduled for main service.

ALL

Displays the number of backlogged jobs in all job class groups.

class

Displays the number of backlogged jobs in a specific job class group.

pattern

Displays the number of jobs in each job class group that matches the specified pattern (not to exceed eight characters). You can specify an asterisk (*) in the pattern to represent zero or more characters, or you can specify a question mark (?) to represent a single character. See "Examples" section below for use of these characters.

M

Displays the number of jobs on the JES3 job queue that have not yet been processed.

main

Displays the number of jobs scheduled for the designated main.

T=termgrp

Displays the number of jobs for the designated terminal group.

Examples

Display the backlog of jobs by JES3 function (DSP).

```
*I,B
IAT8688 FUNCTION    ACTIVE    WAITING
IAT8688 MAIN        00000007  00000007
IAT8688 CI          00000001  00000010
IAT8688 INTRDR      00000002  00000002
IAT8619 INQUIRY ON  BACKLOG  COMPLETE
```

Display the backlog of jobs for all service classes.

```
*I,B,SRVCLASS=ALL
IAT8621 SRVCLASS    MODE     EXECUTING    SCHEDULED    NOT SCHED
IAT8621 DISCRETN    WLM      00000001    00000002    00000000
IAT8621 LONG        JES      00000000    00000008    00000000
IAT8621 LONG        WLM      00000001    00000006    00000010
IAT8621 MEDIUM      WLM      00000000    00000000    00000001
IAT8621 PROD        WLM      00000000    00000000    00000001
IAT8621 SHORT       WLM      00000001    00000001    00000000
IAT8621 TESTA       JES      00000010    00000002    00000000
IAT8621 TESTA       WLM      00000002    00000002    00000000
IAT8621 TESTB       WLM      00000052    00000050    00000000
IAT8621 INQUIRY ON  BACKLOG  COMPLETE
```

*INQUIRY,C

Display the backlog of jobs for service class TESTA.

```
*I,B,SRVCLASS=TESTA
IAT8621 SRVCLASS  MODE  EXECUTING  SCHEDULED  NOT SCHED
IAT8621 TESTA    JES    00000010  00000002  00000000
IAT8621 TESTA    WLM    00000002  00000002  00000000
IAT8621 INQUIRY  ON  BACKLOG  COMPLETE
```

Display the backlog of jobs for all service classes that start with TESTA.

```
*I,B,SRVCLASS=TESTA*
IAT8621 SRVCLASS  MODE  EXECUTING  SCHEDULED  NOT SCHED
IAT8621 TESTA    JES    00000010  00000002  00000000
IAT8621 TESTA    WLM    00000002  00000002  00000000
IAT8621 TESTAB   WLM    00000052  00000050  00000000
IAT8621 INQUIRY  ON  BACKLOG  COMPLETE
```

Display the backlog of jobs for all service classes that start with the letter T, followed by any two characters, followed by the letters T and A, followed by zero or more characters.

```
*I,B,SRVCLASS=T??TA*
IAT8621 SRVCLASS  MODE  EXECUTING  SCHEDULED  NOT SCHED
IAT8621 TESTA    JES    00000010  00000002  00000000
IAT8621 TESTA    WLM    00000002  00000002  00000000
IAT8621 TESTAB   WLM    00000052  00000050  00000000
IAT8621 INQUIRY  ON  BACKLOG  COMPLETE
```

Display the backlog of jobs for all job classes.

```
*I,B,C=ALL
IAT8623 CLASS    MODE  FUNCTION  EXECUTING  SCHEDULED  NOT SCHED
IAT8623 A        JES    MAIN      00000002  00000005  00000000
IAT8623 A        JES    CI        N/A       00000002  00000020
IAT8623 B        WLM    MAIN      00000012  00000005  00000000
IAT8623 C        JES    MAIN      00000020  00000033  00000000
IAT8619 INQUIRY  ON  BACKLOG  COMPLETE
```

Display the backlog of jobs for job class A.

```
*I,B,C=A
IAT8623 CLASS    MODE  FUNCTION  EXECUTING  SCHEDULED  NOT SCHED
IAT8623 A        JES    MAIN      00000002  00000005  00000000
IAT8623 A        JES    CI        N/A       00000002  00000020
IAT8619 INQUIRY  ON  BACKLOG  COMPLETE
```

Display the backlog of jobs for all job class groups.

```
*I,B,G=ALL
IAT8627 GROUP    MODE  FUNCTION  EXECUTING  SCHEDULED  NOT SCHED
IAT8627 APPLBAT  JES    MAIN      00000020  00000033  00000000
IAT8627 PRODBAT  WLM    MAIN      00000010  00000005  00000000
IAT8627 PRODBAT  WLM    CI        N/A       00000002  00000020
IAT8627 TESTBAT  JES    MAIN      00000012  00000005  00000000
IAT8619 INQUIRY  ON  BACKLOG  COMPLETE
```

Display the backlog of jobs for job class group PRODBAT.

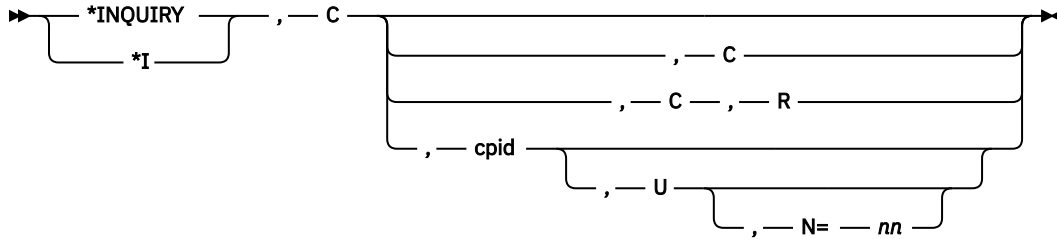
```
*I,B,G=PRODBAT
IAT8627 GROUP    MODE  FUNCTION  EXECUTING  SCHEDULED  NOT SCHED
IAT8627 PRODBAT  JES    MAIN      00000002  00000005  00000000
IAT8627 PRODBAT  JES    CI        N/A       00000002  00000020
IAT8619 INQUIRY  ON  BACKLOG  COMPLETE
```

Displaying buffer pools *INQUIRY,C

Function

Use the *INQUIRY,C command to display the current status of the JSAM and console buffer pools or other cell pools. The display includes statistics such as current and maximum use counts for these pools.

Syntax



Parameters

(none)

Displays the JSAM buffer pool statistics.

C

Displays the current status of the console buffer pool.

cpid

Displays the current status of the specified cell pool. Currently, the following cell pools are supported:

- JET
- OST
- SEE
- DOT

The following items are displayed for each type of buffer pool except as noted:

- The number of buffers or cells in use.
- The maximum number of buffers or cells used.
- The number of secondary extents in use.
- The maximum number of secondary extents used.
- The number of reserved buffers in use (consoles only).
- The maximum number of reserved buffers used (consoles only).

R

Resets the console buffer counters to the number currently in use. The following counter is reset:

- The maximum number of console buffers used.
- The maximum number of secondary extents used.
- The maximum number of reserved buffers used.

N=ALL or nnn or 10

Specifies the number of jobs for which the pool usage is to displayed. If ALL is specified, only a maximum of 100 jobs is displayed. If this parameter is omitted, the default is 10 jobs.

U

Displays a list of the largest pool users for the specified pool.

Examples

Display the current status of the JSAM buffer pool:

```

*I,C
IAT8506 JSAM BUFFER USAGE
IAT8725 TOTAL NUMBER OF JSAM BUFFERS ..... 00500
IAT8508 CURRENT NUMBER IN USE ..... 00016
IAT8510 MAXIMUM NUMBER USED ..... 00087
IAT8722 PRIMARY EXTENT SIZE ..... 00500
IAT8723 SECONDARY EXTENT SIZE ..... 00250
  
```

*INQUIRY,C=class

```
IAT8724 SECONDARY EXTENTS ALLOWED ..... 0004
IAT8501 CURRENT SECONDARY EXTENTS IN USE ..... 0000
IAT8512 NUMBER OF AWAITS FOR AVAILABLE BUFFER .... 0000
```

Display the current status of the console buffer pools:

```
*I,C,C
IAT8514 CONSOLE BUFFER POOL USAGE
IAT8514 CONSOLE TEXT BUFFERS
IAT8508 CURRENT NUMBER IN USE ..... 00001
IAT8510 MAXIMUM NUMBER USED ..... 00002
IAT8501 CURRENT SECONDARY EXTENTS IN USE ..... 0000
IAT8503 MAXIMUM SECONDARY EXTENTS USED ..... 0000
IAT8720 CURRENT NUMBER OF RESERVED CELLS IN USE .. 0000
IAT8721 MAXIMUM NUMBER OF RESERVED CELLS USED .... 0000
IAT8514 IATCNW0 WORK CELL USAGE
IAT8508 CURRENT NUMBER IN USE ..... 00000
IAT8510 MAXIMUM NUMBER USED ..... 00001
IAT8501 CURRENT SECONDARY EXTENTS IN USE ..... 0000
```

Display the current status of the JES3 console buffer pools and then reset the console buffer counters to the number currently in use:

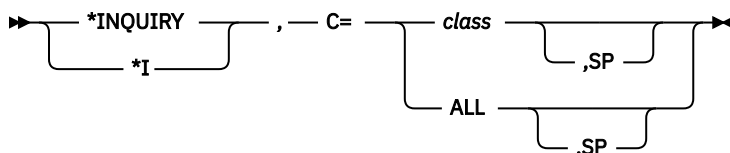
```
*I,C,C,R
IAT8514 CONSOLE BUFFER POOL USAGE
IAT8514 CONSOLE TEXT BUFFERS
IAT8508 CURRENT NUMBER IN USE ..... 00001
IAT8510 MAXIMUM NUMBER USED ..... 00002
IAT8501 CURRENT SECONDARY EXTENTS IN USE ..... 0000
IAT8503 MAXIMUM SECONDARY EXTENTS USED ..... 0000
IAT8720 CURRENT NUMBER OF RESERVED CELLS IN USE .. 0000
IAT8721 MAXIMUM NUMBER OF RESERVED CELLS USED .... 0000
IAT8514 IATCNW0 WORK CELL USAGE
IAT8508 CURRENT NUMBER IN USE ..... 00000
IAT8510 MAXIMUM NUMBER USED ..... 00001
IAT8501 CURRENT SECONDARY EXTENTS IN USE ..... 0000
IAT8515 CONSOLE BUFFER COUNTERS HAVE BEEN RESET
```

Displaying job classes *INQUIRY,C=class

Function

Use the *INQUIRY,C=*class* command to display information about a job class, such as the group name, spool partition, and class limits.

Syntax



Parameters

C=class

Displays the following information for the job class specified:

- Job class group, spool partition, default class indicator.
- The systems where the class is defined.
- The systems where the class is enabled.
- Setup depth (SDEPTH).
- Class limits (TDEPTH, MDEPTH, TLIMIT, MLIMIT).

- Whether batch jobs are allowed to use system symbols in JCL (SYSSYM).

ALL

Displays the following information for all job classes:

- Job class group.
- Spool partition.
- Default class indicator.
- The systems where the class is defined to run.
- The systems where the class is enabled to run.
- Setup depth (SDEPTH).
- Class limits (TDEPTH, MDEPTH, TLIMIT, MLIMIT).
- Whether batch jobs are allowed to use system symbols in JCL (SYSSYM).

SP

Displays the name of the spool partition assigned for the specified job class.

Examples

Display information for job class A:

```
*I,C=A
IAT8609 CLASS INQUIRY INFORMATION
        INFORMATION FOR CLASS A

        GROUP=JES3TEST (WLM), SPART=NONE, DEFAULT=YES
        DEFINED ON SY1, SY2, SY3, SY4, SY5, SY6, SY7, SYLOCAL8
        ENABLED ON SY1, SY2, SY3, SY4, SY5
LIMIT   SYSTEM/CLASS      MAXIMUM      CURRENT
SDEPTH   ---                100         10
TDEPTH   ---                100         20
TLIMIT    B                  10          1
TLIMIT    C                  10          2
TLIMIT    D                  10          3
MDEPTH   SY1                100         50
MDEPTH   SY2                 50          0
MDEPTH   SY3                100         10
MDEPTH   SY4                 50         11
MDEPTH   SY5                100         20
MLIMIT    SY1/B              10          3
MLIMIT    SY2/B              20          4
MLIMIT    SY2/C              10          5
JESMSG=LOG, SPIN=NO, SYSSYM=ALLOW, GDGBIAS=JOB
```

Note: If the class is disabled on all systems, the text DISABLED ON ALL SYSTEMS appears in the line that says ENABLED ON.....

Display the name of the spool partition assigned to contain spool data for all jobs in job class A:

```
*I,C=A,SP
IAT8942 NO PARTITION DEFINED FOR CLASS A
```

Display the name of the spool partition assigned to contain spool data for all jobs in class E:

```
*I,C=E,SP
IAT8941 SPOOL PARTITION FOR JOB CLASS E      IS PART5
```

Displaying RJP status and device status *INQUIRY,D

Function

Use the *INQUIRY,D command to display the status of:

- BSC RJP workstations
- BSC RJP lines
- SNA RJP workstation devices
- All JES3 and JES3-managed devices
- An output device and its current output characteristics

Syntax



Parameters

D=devnum or /devnum or devname

Specifies the number (by 3-digit or 4-digit hexadecimal number) or name of one or more output devices. If omitted, the number specified in the N parameter or the first ten JES3-managed devices attached to the global are displayed. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd
dddd
/ddd
/dddd
```

where ddd and dddd represent the device numbers.

D=devnum or /devnum or devname,SHORT or S

Displays status information for the specified devices on the global processor.

D=devnum or /devnum,main

D=devnum or /devnum,(main),N=1

Indicates the device defined to JES3 by the specified device number and main name. If you include more than one main name, the parameters can see more than one device; each device is defined by device number, devnum, and a main name.

JES3 displays status information for each device on each main using the device number.

D=devnum or /devnum,(main),N=nnn or ALL

Specifies a series of JES3-defined devices being used by main. The series starts with the device defined by the device number, devnum or /devnum, and either continues for nnn device numbers or ends with the last device number defined for the main (ALL). JES3 displays devices in the order they appear in the SETUNIT or SUPUNIT table when you use this parameter. If you include more than one main name, these parameters specify a series of devices for each main.

JES3 displays status information for each device in each series.

For remote devices with N= specified, JES3 displays devices for the corresponding remote workstation only.

JES3 issues message IAT8562 for each JES3 device identified by the command and IAT8572 for each JES3-managed or SMS-managed device defined to JES3 and identified by the command.

D=devnum or /devnum,(main),SHORT or S

Displays status information for the specified devices on the selected main.

D=(devnum or /devnum-devnum or /devnum),main

Specifies a range of devices on a selected main.

D=(devnum or /devnum-devnum or /devnum),main,SHORT or S

Displays status information for the specified devices on the selected main.

D={devX|/devX},main,main....

Displays information about all devices attached to the specified control unit on a selected main(s).

D=main or (main,main...)

JES3 will indicate if the main specified is the global or local processor.

L=lname or ALL

Displays the status of the names of the BSC RJP communications lines. If ALL is specified, the status of all BSC RJP lines and SNA RJP workstations is displayed.

main or (main,main)

Displays the status of JES3-managed devices on the main(s).

{N=nnn|ALL|10 (the default)}

Specifies the number of JES3-managed devices to be displayed.

- If both D= and N= are omitted, then the first ten devices are displayed.

- If D= is omitted and N= specifies a number, then nnn or all global and execution devices (whichever is smaller) are displayed. Global devices are displayed first, followed by execution devices, unless the number of global devices is greater than or equal to the value specified by N=, in which case only global devices are displayed. If N=ALL is specified, then all JES3 global and execution devices are displayed.
- If D= is specified and N= is omitted, then only the requested device is displayed.
- If D= specifies the device name of a device that does not exist, no devices are displayed regardless of what N= specifies.
- If D= specifies the device number of a device that does not exist, and N= specifies a value greater than one, JES3 displays devices starting with the first entry in the SETUNIT or SUPUNIT table (depending upon the presence of a processor name) that contains a device number greater than the one specified.
- If D= specifies an RJP console, reader, punch, or printer, and N=nnn is specified, then either nnn or all devices in the workstation (whichever is smaller), starting with the requested device, are displayed. If N=ALL is specified, then all devices in the workstation, starting with the requested device, are displayed.
- If D= specifies a non-RJP device attached to the global, and N=nnn is specified, then nnn or all global devices (whichever is smaller), starting with the requested device, are displayed. If N=ALL is specified, then all global devices, starting with the requested device, are displayed.
- If D= specifies an execution device and N=nnn is specified, then nnn or all execution devices (whichever is smaller), starting with the requested device, are displayed. If N=ALL is specified, then all execution devices, starting with the requested device, are displayed.
- Specifying N=ALL or a large number for a non-RJP inquiry can flood your console(s) with messages and adversely affect system performance.

SHORT or S

Displays the status of a device on a specified main only.

T=wsname or ALL

Specifies the 5-character workstation name.

T=ALL,ONLINE or ,TRACEON

Displays the status of all BSC RJP and SNA RJP workstations. If ONLINE is specified, the status of all BSC RJP and SNA RJP workstations that are signed on is displayed. If TRACEON is specified, the status of all SNA RJP workstations for which the trace facility was requested is displayed.

Note: This command does not display the setup characteristics of a remote SNA RJP printer.

V=vol

Displays the disposition of the device with the designated volume serial number.

V=vol,SHORT or S

Displays status information for the specified volumes on the selected main.

Rules

- You can use only one set of parentheses on the D= keyword parameter.
- You can specify multiple device addresses or multiple mains but not both on the D= keyword parameter. For example:

*I,D,D=(3D4,367),SY1	is a valid entry
*I,D,D=234,(SY1,SY2)	is a valid entry
*I,D,D=(3D4,367),(SY1,SY2)	is not a valid entry

- Do not enter the parentheses when specifying a single device address or main on the D= keyword parameter.
- You can substitute the device address value with a device's JNAME on the D= keyword parameter.

- You can specify multiple volume serial numbers or multiple mains, but not both on the V= keyword parameter.
- For non-RJP devices, JES3 searches the SUPUNIT or SETUNIT table when you select the N= keyword parameter. JES3 displays devices in the order that they appear on the DEVICE initialization statements in the JES3 initialization deck unless you specify ADDRSORT=YES on the SETPARAM initialization statement. If you specify ADDRSORT=YES, the tables are sorted numerically.
- For RJP devices, JES3 displays devices in the order that they appear within the workstation.
- You can receive duplicate output if you specify multiple mains on a D= keyword parameter *and* the specified device is defined on both mains with the same device address.
- Even though you can display the status of an SMS-managed device if it is defined in the JES3 initialization stream, it is still managed by SMS and not JES3.
- If both D= and a main name are specified, and the main specified is the global, then the SUPUNIT table is searched if the device is not found in the SETUNIT table. In this case, ddd may represent a device address (JUNIT) or a JNAME.
- The *INQUIRY,D(N=nnn) command without D= specified does not display remote devices. Remote devices can be displayed only by specifying D=jname. The *INQUIRY,D,D= command can be used to display remote devices even if the remote workstation is inactive.
- If you have a device name ending with an 'X' (dddX), and a group of devices beginning with the same hexadecimal characters as the device name (for example, a device name 'FAAX' and a group of device numbers 'FAA0, FAA1, ... FAAF'), to request status of the devices attached to the control unit, you need to specify the range of devices (*I D D=devnum-devnum) instead of the control unit (*I D D=devX). This prevents JES3 from confusing the device numbers (in control unit format) with the device name.

Results

This command causes one of the following messages to be issued:

```
IAT8618 wsname SNA RJP NOT SIGNED ON,
{TRACE ON|TRACE OFF}

IAT8622 wsname,lname ,RDS HELD ,  TRACE ON|TRACE OFF
```

Examples

Display the numbers of all devices in the complex defined to JES3 with each of five device numbers starting with the number 482:

```
*I,D,D=482,N=5
```

Display the status of each occurrence in the complex of the device defined on mains SY1 and SY2 by the device number 482:

```
*I,D,D=482,(SY1,SY2)
```

Displaying defined destinations for inbound NJE SYSOUT

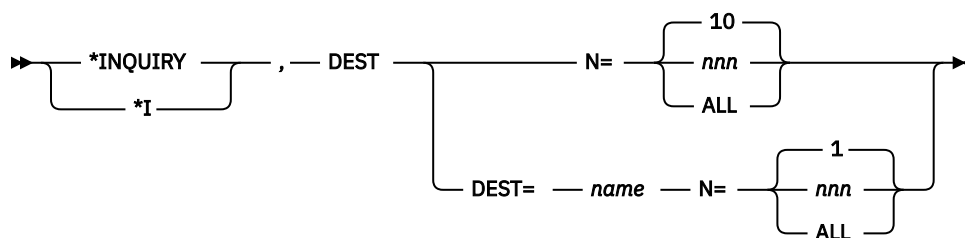
*INQUIRY,DEST

Function

Use the *INQUIRY,DEST command to display defined destinations for inbound NJE SYSOUT files.

Syntax

*INQUIRY,F



Parameters

DEST=name

Specifies the name of the destination to be displayed.

N=nnn or ALL

Specifies the number of destinations to be displayed. If `DEST=` is specified then `N=1` is the default; if `DEST=` is not specified `N= 10` is the default and destinations are displayed starting with the first one.

Examples

```
*INQUIRY,DEST,N=3
IAT8636 DEST=FRED TYPE=USERID
IAT8636 DEST=SUE TYPE=DEVICE
IAT8636 DEST=PRINT* TYPE=DEVICE
IAT8566 3 DESTINATIONS FOUND
```

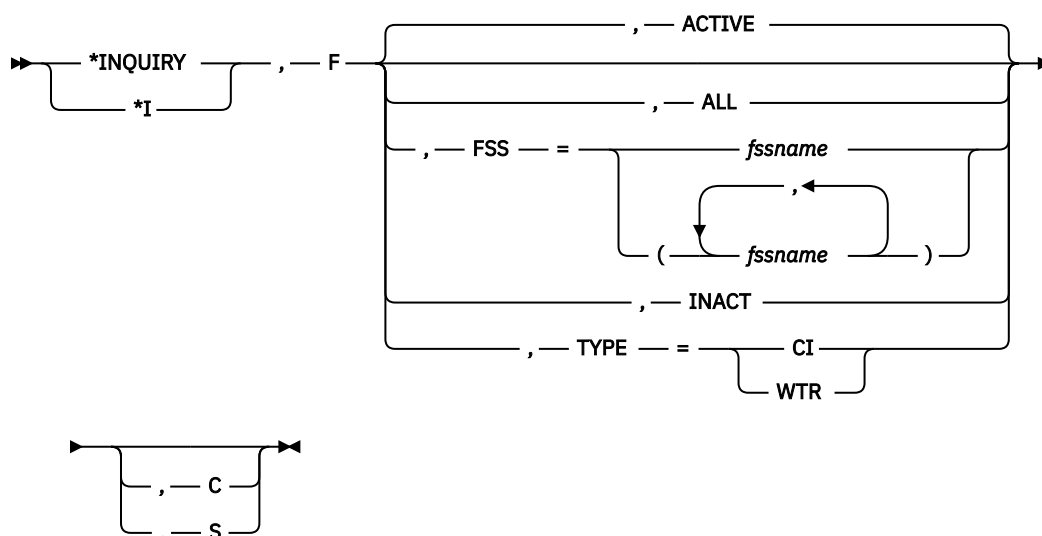
Displaying functional subsystems *INQUIRY,F

Function

Use the `*INQUIRY,F` command to display:

- The attributes and current status of the FSS
- Information for all FSSs of a particular type (WTR, C/I), whether active or inactive
- Maximum counts and status information for C/I service DSPs running in a C/I FSS.

Syntax



Parameters

ACTIVE

Displays information for all active FSSs.

ALL

Displays information for all FSSs, active and inactive.

FSS=fssname

Displays information for a specific FSS.

INACT

Displays information for all inactive FSSs.

TYPE =WTR or CI

Displays information for all output writer FSSs or for all C/I FSSs.

C

Displays a short version of messages IAT8701 and IAT8702.

S

Displays system information for the specified FSSs.

Examples

Display information for all the active FSSs:

```
*I,F
```

IAT8701	FSSNAME	TYP	SYSTEM	PROCNAME	JOBID	STAT	T	S	MD	RC
IAT8701							DSP/DEV			MAXASST
IAT8702	CIFSS1	C/I	SY1	JES3CI	JOB33379	ACTV	N	Y		
IAT8702							020,001			00000000
IAT8702	VPRT047	WTR	SY1	PRTSIM02	JOB34153	FSSC	N	JES		42
IAT8702						ACTV	VPRT047			

Display information for all C/I FSSs:

```
*INQUIRY,F,TYPE=CI
```

IAT8701	FSSNAME	TYP	SYSTEM	PROCNAME	JOBID	STAT	T	S	MD	RC
IAT8701							DSP/DEV			MAXASST
IAT8702	CIFSS1	C/I	SY1	JES3CI	JOB33379	ACTV	N	Y		
IAT8702							020,001			00000000
IAT8702	CIFSS2	C/I	SY1	JES3CI	NONE	INAC	N	N		
IAT8702							005,000			00000000

Display information for all the inactive FSSs:

```
*I,F,INACT
```

IAT8701	FSSNAME	TYP	SYSTEM	PROCNAME	JOBID	STAT	T	S	MD	RC
IAT8701							DSP/DEV			MAXASST
IAT8702	CIFSS2	C/I	SY1	JES3CI	NONE	INAC	N	N		
IAT8702							005,000			00000000
IAT8702	PRT804	WTR	SY1	PRT804	NONE	INAC	N	JES		42
IAT8702						INAC	PRT804			

Display information for the FSS, WTSUBSYS:

```
*I,F,FSS=WTSUBSYS
```

IAT8701	FSSNAME	TYP	SYSTEM	PROCNAME	JOBID	STAT	T	S	MD	RC
IAT8701							DSP/DEV			MAXASST
IAT8702	WTSUBSYS	WTR	SY1	PRTSIM02	JOB34153	FSSC	N	JES		42
IAT8702						ACTV	PRT80F			

Display system information for all FSSs:

```
*I,F,ALL,S
```

IAT8704	FSSNAME	GLOBAL	ASSIGNED	FSS	MAIN	PENDING	MAIN

*INQUIRY,G

IAT8705	CIFSS1	SY1	SY1	NONE
IAT8705		SY2	SY1	NONE
IAT8705		SY3	SY1	NONE
IAT8705		SY4	SY1	NONE
IAT8705		SY5	SY1	NONE
.				
.				
.				

Display the short version of messages IAT8701 and IAT8702 for the inactive FSSs:

*I,F,INACT,C

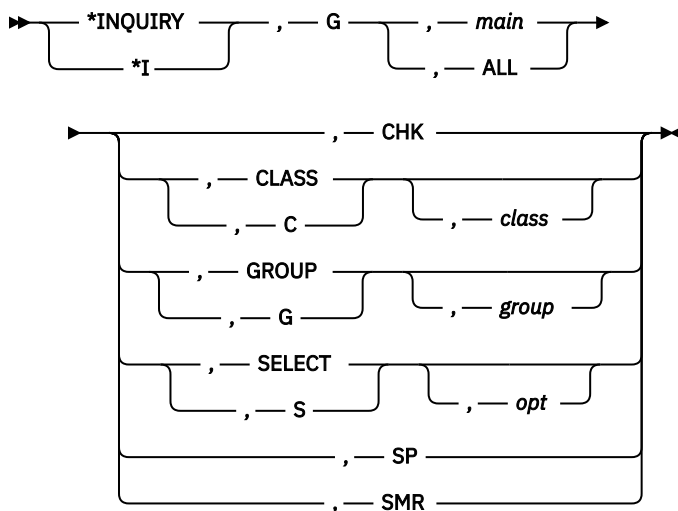
IAT8701	FSSNAME	TYP	SYSTEM	PROCNAME	JOBID	STAT	T	S	MD	RC
IAT8702	CIFSS2	C/I	SY1	JES3CI	NONE	INAC	N	N		
IAT8702	CIFSS3	C/I	SY1	JES3CI	NONE	INAC	Y	N		
IAT8702	CIFSS4	C/I	SY2	JES3CI	NONE	INAC	Y	N		
IAT8702	CIFSS5	C/I	SY2	JES3CI	NONE	INAC	Y	N		
IAT8702	CIFSS6	C/I	SY6	JES3CI	NONE	INAC	N	N		
IAT8702	CIFSS7	C/I	SY7	JES3CI	NONE	INAC	Y	N		
IAT8702	CIFSS8	C/I	SY3	JES3CI	NONE	INAC	Y	N		
IAT8702	MF1	WTR	SY1	PRTSIM02	NONE	INAC	N		JES	42
IAT8702	PRT804	WTR	SY1	PRT804	NONE	INAC	N		JES	42

Displaying GMS components *INQUIRY,G

Function

Use the *INQUIRY,G command to obtain the status of GMS components of JES3 and to display the name of the spool partition assigned for a specific main or all mains. A main's spool partition contains the spool data for each job that runs on that main unless other partitions were specifically assigned for the job's job class, SYSOUT data, or in the job's //*MAIN control statement.

Syntax



Parameters

main

Displays information for the specified main processor.

ALL

Displays information for every main processor in the complex.

CHK

Displays the current GMS checkpoint records in dump format.

C or CLASS

Displays status of the classes.

class

Displays the class status. If this parameter is omitted, the status of all of the classes is displayed.

G or GROUP

Displays the execution resource status of the groups and whether a group is managed by JES or managed by WLM.

group

Displays the group status. If this parameter is omitted, the status of all of the groups is displayed.

S or SELECT

Displays the current SELECT mode options.

opt

Specifies the option to be displayed. Valid options from the SELECT initialization statement are:

- CHOICE
- INCL
- INCR
- LSTOR
- MAGEL
- MAGER
- MAXI
- MODE
- SAGEL
- SAGER
- SBAR
- SDEPTH

If a select mode option is not specified, all select mode options are displayed.

SMR

Displays the SELECT mode records in dump format.

SP

Displays the name of the spool partition assigned for the specified main or all mains.

Examples

Display the name of the spool partition assigned for main SY2.

```
*I,G,SY2,SP
IAT8943 SPOOL PARTITION FOR SY2      IS PART2
```

Display the status of the group JES3TEST on SY1.

```
*I,G,SY1,G,JES3TEST
IAT8932 GROUP - JES3TEST - STATUS=ON  MODE=JES DI=0009 AI=0009 UI=0000
      ALLOC=DEM UNAL=MAN BAR=NO JSPAN=ALL - SY1
IAT8599 INQUIRY ON GMS COMPLETE
```

Display the status of the group JES3TEST on SY1.

```
*I,G,SY1,G,WLMTEST
IAT8932 GROUP - WLMTEST - STATUS=ON  MODE=WLM - SY1
IAT8599 INQUIRY ON GMS COMPLETE
```

Note: Initiator-related options are only displayed for JES3-managed groups.

Display the status of the group JES3TEST on all systems.

```
*I,G,ALL,G,JES3TEST
```

```
IAT8932 GROUP - JES3TEST - STATUS=ON  MODE=WLM - SY1
IAT8932 GROUP - JES3TEST - STATUS=ON  MODE=WLM - SY2
IAT8932 GROUP - JES3TEST - STATUS=ON  MODE=WLM - SY3
IAT8932 GROUP - JES3TEST - STATUS=ON  MODE=WLM - SY4
IAT8932 GROUP - JES3TEST - STATUS=ON  MODE=WLM - SY5
```

Display the status of class A on all systems.

```
*I,G,ALL,C,A
```

```
IAT8934 CLASS - A          - STATUS=ON  - GRP=JES3TEST - SY2
IAT8934 CLASS - A          - STATUS=ON  - GRP=JES3TEST - SY1
IAT8934 CLASS - A          - STATUS=ON  - GRP=JES3TEST - SY3
IAT8934 CLASS - A          - STATUS=ON  - GRP=JES3TEST - SY4
IAT8934 CLASS - A          - STATUS=ON  - GRP=JES3TEST - SY5
IAT8934 CLASS - A          - STATUS=ON  - GRP=JES3TEST - SY6
IAT8934 CLASS - A          - STATUS=ON  - GRP=JES3TEST - SY7
IAT8934 CLASS - A          - STATUS=ON  - GRP=JES3TEST - SYLOCAL8
IAT8599 INQUIRY ON GMS COMPLETE
```

Display the select mode information in effect for SY1.

```
*I,G,SY1,SELECT
```

```
IAT8930 SELECT - SBAR      - NONE      - SY1
IAT8930 SELECT - MAGER     - 00000001 - SY1
IAT8930 SELECT - SAGER     - 00000000 - SY1
IAT8930 SELECT - MAGEL     - 00000014 - SY1
IAT8930 SELECT - SAGEL     - 00000014 - SY1
IAT8930 SELECT - SDEPTH    - 00000255 - SY1
IAT8930 SELECT - INCR      - 00000001 - SY1
IAT8930 SELECT - INCL      - 00000014 - SY1
IAT8930 SELECT - CHOICE     - FIRSTFIT  - SY1
IAT8930 SELECT - LSTOR=24000 ALLOC=000000000 AVAIL=24000 - SY1
IAT8930 SELECT - MODE       - Z         - SY1
IAT8930 SELECT - MAXI       - ALL        - SY1
IAT8599 INQUIRY ON GMS COMPLETE
```

Display the select mode SDEPTH value in effect for SY1.

```
*I,G,SY1,SELECT,SDEPTH
```

```
IAT8930 SELECT - SDEPTH    - 00000255 - SY1
IAT8599 INQUIRY ON GMS COMPLETE
```

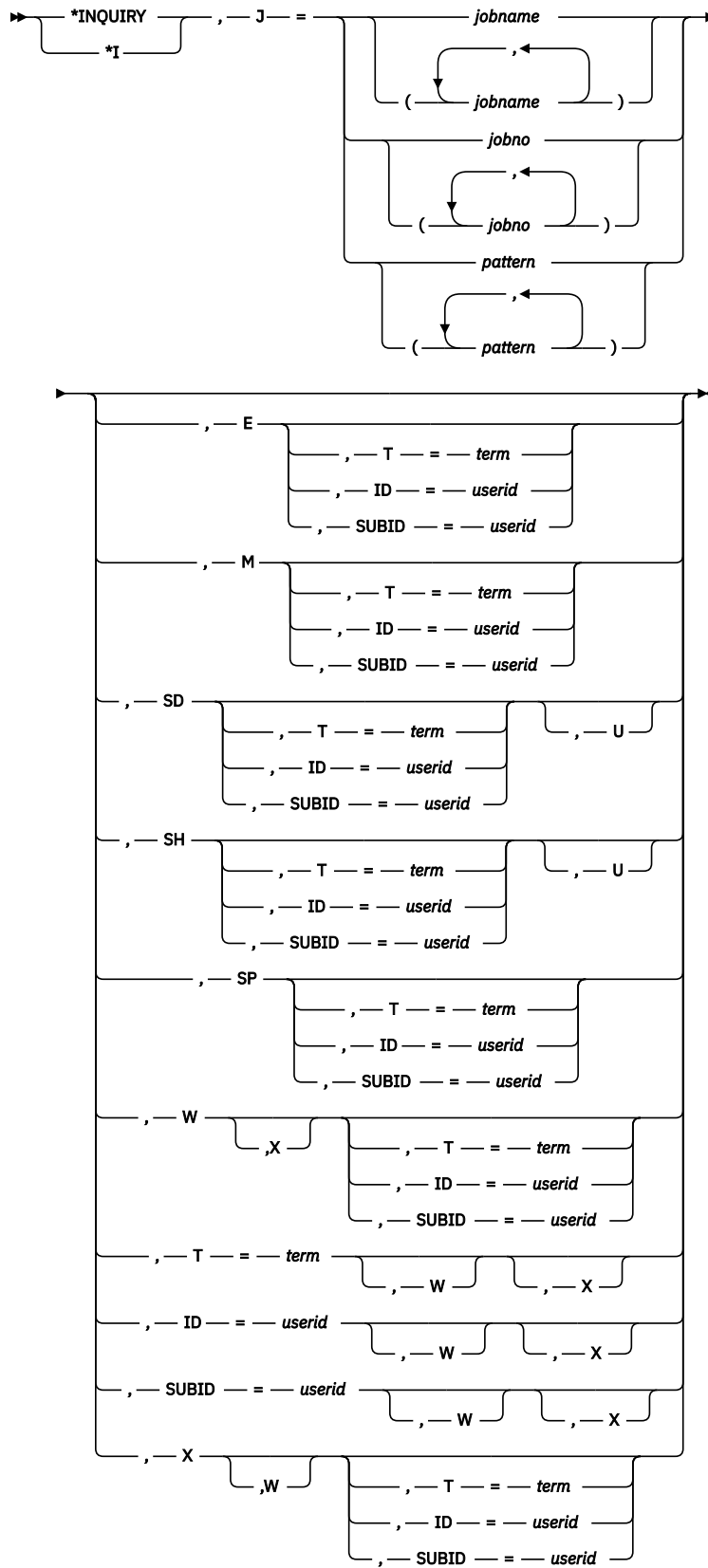
Displaying the status of a specific job *INQUIRY,J

Function

Use the *INQUIRY,J command to display:

- The names of all the spool data sets that contain the job's spool data.
- Only the names of the spool data sets that are in spool hold status.
- The name of the spool partition that is assigned for a particular job.
- The status of a particular job, including why the job is waiting to be scheduled for a particular function and how long it has been waiting.
- Extended information for a job, such as the scheduling environment, service class, and job class group.

Syntax



Parameters

J=jobname or jobno

Specifies the job name or job number of the jobs to be processed by the command.

JES3 displays the jobs based on the other parameters that are specified in the command.

pattern

Specifies the job name that matches the specified pattern (not to exceed eight characters). You can specify an asterisk (*) in the pattern to represent zero or more characters, or you can specify a question mark (?) to represent a single character.

E

Displays the estimated number of lines, pages, or records to be printed and the number of cards to be punched for the job. If the job has completed processing on a local main, the display contains the actual counts.

M

Displays a list of the mains on which the specified jobs are eligible to run.

SD

Displays the ddnames of all the spool data sets that contain spool data for the specified job(s).

SH

Displays the ddnames of the spool data sets in spool hold status that contain spool data for the specified job(s).

SP

Displays the name of the spool partition assigned for the specified job by the job's JCL (on the //*MAIN control statement). If none were assigned in the JCL, display the name of the partition assigned, if any, for all jobs in the same class as the specified job.

For network jobs, it displays the spool partition specified on the NJERMT statement that corresponds to the origin node of the job.

U

Displays the number of logical track groups allocated from the spool data sets that contain spool data for the specified job(s).

W

Displays the reason that a job is waiting to be scheduled, and the amount of time the job is waiting.

T=term

Displays the status of jobs from the designated terminal group.

ID=userid

Specifies the userid that belongs to the owner.

SUBID=userid

Specifies the user that belongs to the job submitter.

If specified, the user ID is obtained from the //*MAIN JCL statement. If it is not specified on the //*MAIN JCL statement, the user ID of the job owner (ID=userid) is used by default.

X

Displays extended information for a job such as its scheduling environment, service class, and dubious status (NJE job only).

DUBIOUS=YES

If present, indicates if the job is considered dubious, based on the path based verification processing. A job is considered dubious if the job:

- Was marked dubious by another node in the network.
- Arrived from NJE but claims to be from the home node.
- Claims to originate from an unknown NJE node.
- Arrived by way of store and forward but arrived by way of an adjacent node that does not match the path for the originating node.

- Specified to run on the adjacent node from which it just arrived.
- Claims to originate from an adjacent node but arrived from some other node.
- Has inconsistent source node information (NJE header and SAF token origin nodes do not match).

Rule

You can specify a maximum of 21 job names, numbers, or job name groups each time you issue the command.

Examples

List the ddnames of all spool data sets that contain data for all jobs with names beginning with the character string DISB:

```
*I,J=DISB*,SD
```

```
IAT8674 JOB DISB98 (JOB34150) P=04 CL=E OUTSERV(PENDING WTR)
IAT8677 JOB DISB98 (JOB34150) DD=SP00L1, SP00L3
IAT8674 JOB DISB93 (JOB34130) P=02 CL=A OUTSERV(PENDING WTR)
IAT8677 JOB DISB93 (JOB34130) DD=SP00L1, SP00L2, SP00L4
```

When spool data set SPOOL3 was released from spool hold status, a message was issued stating that job number 4321 is still in spool hold status. Display the name(s) of the other spool data set(s) containing data for job 4321 that are still being held:

```
*I,J=4321,SH
```

```
IAT8674 JOB JOB9 (JOB04321) P=02 CL=A OUTSERV(PENDING WTR)
IAT8675 JOB JOB9 (JOB04321) 001 EXTENTS HELD- SP00L2
```

Display the name of the partition assigned to job DISB2:

```
*I,J=DISB2,SP
```

```
IAT8674 JOB DISB2 (JOB04321) P=02 CL=A OUTSERV(PENDING WTR)
IAT8681 JOB DISB2 (JOB34148) SP=PART5
```

Display the status of job INVENTA:

```
*I,J=INVENTA
```

```
IAT8674 JOB INVENTA (JOB34191) P=03 CL=B CI
```

List the mains on which job 5290 is eligible to run:

```
*I,J=5290,M
```

```
IAT8674 JOB JOB52 (JOB05290) P=03 CL=B MAIN(GMS SELECT)
IAT8683 JOB JOB52 (JOB05290) ELIGIBLE ON SY2, SY1, SY3, SY4, SY5
IAT8683 JOB JOB52 (JOB05290) SY6, SY7, SYLOCAL8
```

Display why job 1122 is not being scheduled and how long it has been waiting:

```
*I,J=1122,W
```

```
IAT8674 JOB JOB123 (JOB01122) P=02 CL=Z MAIN(ALLOCATE)
IAT8685 SY1 - SCHEDULING ENVIRONMENT NOT AVAILABLE
IAT8685 SY2 - REQUIRED RESOURCES NOT AVAILABLE
IAT8685 SY3 - MAIN OFFLINE/NOT CONNECTED
IAT8685 SY4 - GROUP/CLASS DISABLED
IAT8685 SY5 - GROUP/CLASS DISABLED
IAT8685 SY6 - MAIN OFFLINE/NOT CONNECTED
IAT8685 SY7 - MAIN OFFLINE/NOT CONNECTED
IAT8685 SYLOCAL8 - MAIN OFFLINE/NOT CONNECTED
IAT8687 JOB WAITING/ACTIVE 00001 HOURS 29 MINUTES 05 SECONDS
```

Display estimates of the number of lines, pages, or records to be printed for JOB52:

```
*I,J=JOB52,E
```

IAT8686 JOB JOB52 (JOB34191) ESTIMATES
IAT8686 0100000 LINES, 00001000 PAGES, 0001500000 BYTES, 20000 CARDS

Display extended information for JOB123, such as its scheduling environment:

```
*I,J=JOB123,X
IAT8674 JOB JOB123 (JOB32787) P=02 CL=Z MAIN(ALLOCATE)
IAT8564 SCHENV=IMS PRIME, SRVCLASS=SLOWWWW, GROUP= GRPA(WLM), RUN COMMAND
```

Display extended information for JOB123, such as its scheduling environment, and display why the job is not being scheduled:

```
*I,J=JOB123,X,W
IAT8674 JOB JOB123 (JOB32787) P=02 CL=Z MAIN(ALLOCATE)
IAT8564 SCHENV=IMS_PRIME, SRVCLASS=SLOWWWW, GROUP= GRPA(WLM), RUN COMMAND
IAT8685 SY2 - MAIN OFFLINE/NOT CONNECTED
IAT8685 SY1 - NO INITIATORS STARTED in SRVCLASS ??
IAT8687 JOB WAITING/ACTIVE 00000 HOURS 07 MINUTES 40 SECONDS
```

List the ddnames of all spool data sets that contain data for job 14, along with the number of logical track groups allocated for the job:

```
*I, J=14, SD, U
IAT8674 JOB SJOBS (JOB00040) P=15 CL=W OUTSERV(PENDING WTR)
IAT8750 JOB SJOBS (JOB00040) DD=SP00L2 1 TRKGPS
IAT8750 JOB ISJOBS (JOB00040) DD=SP00L3 3 TRKGPS
IAT8750 INQUIRY ON JOB STATUS COMPLETE, 1 JOB DISPLAYED
```

Displaying the scope of ENF 70 events *INQUIRY,JOBTRACK

Function

Use the ***INQUIRY,JOBTACK** command to display the current settings of the **JOBTACK** parameter from the **OPTIONS** statement. The command displays the scope of ENF 70 events.

Syntax



Parameters

JOBTRACK

Displays the signal scope for ENF 70 events, as defined by the JOBTRACK parameter on the OPTIONS statement.

Results

The command displays one of the following JOBTRACK values, as defined on the OPTIONS statement:

SYSPLEX

ENF 70 events are signaled to listeners across all systems in the SYSPLEX.

JGLOBAL

ENF 70 events are signaled only to listeners on the JES3 Global.

OFF

Signaling of ENF 70 events is currently disabled.

Parameters

main

Specifies the name of the main for which you want JES3 routing information displayed.

code or (code[,code]...)

Displays JES3 routing information for the MVS routing code(s) (1 through 128) that you specify.

Rule

If you omit parameters on the *I,M,main command, JES3 displays information for all MVS routing codes.

Example

Display JES3 routing information for all MVS messages issued on main SY2 with the MVS routing codes 1 through 4:

```
*I,M,SY2,1-4
```

IAT8692	RC= 1	CONS=(NONE)	CLASS=ALL	(BROADCAST)
IAT8692	RC= 2	CONS=(NONE)	CLASS=JES	(42)
IAT8692	RC= 3	CONS=(NONE)	CLASS=TAP	(3)
IAT8692	RC= 4	CONS=(NONE)	CLASS=S4	(100)

Displaying main processors *INQUIRY,MAIN=main

Function

Use the *INQUIRY,MAIN=main command to display information about a main processor, the global processor, or all main processors.

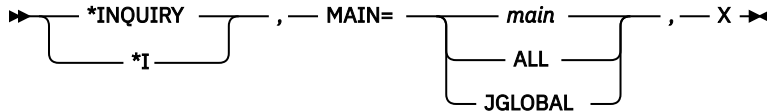
There are two forms of the command, short and extended. The short command displays the following information:

- FMID, provided the processor is attached to JESXCF.
- Status, consisting of the following:
 - Whether the processor is on line or off line.
 - Whether the processor is connected, not connected, or flushed.
 - The status of JES3 and JESXCF on the processor.
 - Whether the processor is global or local.

The extended command displays the short information plus the following extended information:

- JES3 Product level
- JES3 Service level
- Message prefix identifier
- Message destination
- Select mode
- Spool partition
- Primary and secondary track group allocation
- Message limit and interval
- Number of pages fixed at initialization time
- Number of pages in CSA and JES3AUX
- Number of pages used for open SYSOUT data sets

Syntax



Parameters

MAIN=main

Specifies the name of the main processor for which information is to be displayed.

ALL

The information is displayed for all main processors.

JGLOBAL

The information is displayed for the global processor.

X

If X is specified, short and extended information are displayed. If X is not specified, only short information is displayed.

Example

In the examples below assume that the JES3 complex contains three processors named SY1, SY2, and SY3 and that SY1 is the global.

Display short information for main processor SY1:

```

*I,MAIN=SY1
IAT8643 MAIN INQUIRY INFORMATION
INFORMATION FOR MAINPROC SY1
  FMID=HJS7707, STATUS=(ONLINE,CONNECTED,ATTACHED,GLOBAL)

```

Display short information for all main processors:

```

*I,MAIN=ALL
IAT8643 MAIN INQUIRY INFORMATION
INFORMATION FOR MAINPROC SY1
  FMID=HJS7707, STATUS=(ONLINE,CONNECTED,ATTACHED,GLOBAL)
INFORMATION FOR MAINPROC SY2
  FMID=HJS7707, STATUS=(ONLINE,NOT-CONNECTED,NOT-ATTACHED,LOCAL)
INFORMATION FOR MAINPROC SY3
  STATUS=(OFFLINE,NOT-CONNECTED,DOWN,LOCAL)

```

Display extended information for SY3:

```

*I,MAIN=SY3,X
IAT8643 MAIN INQUIRY INFORMATION
INFORMATION FOR MAINPROC SY3
  STATUS=(ONLINE,NOT-CONNECTED,DOWN,LOCAL), PLEVEL=00, SLEVEL=00
  ID='SY3=', MDEST=M1, SELECT=Z, SPART=PARTX, TRKGRPS=(1,2),
  JESMSGMT=(00012345,00010), FIXPAGE=00005, PRTPAGE=(00030,00030),
  USRPAGE=00004

```

Display short information for the global:

```

*I,MAIN=JGLOBAL
IAT8643 MAIN INQUIRY INFORMATION
INFORMATION FOR MAINPROC SY1
  FMID=HJS7707, STATUS=(ONLINE,CONNECTED,ATTACHED,GLOBAL)

```

Display extended information for the global:

```

*I,MAIN=JGLOBAL,X
IAT8643 MAIN INQUIRY INFORMATION
INFORMATION FOR MAINPROC SY1

```

*INQUIRY,MT

```
FMID=HJS7707, STATUS=(ONLINE,CONNECTED,ATTACHED,GLOBAL), PLEVEL=15,  
SLEVEL=00, ID='SY1 R=', MDEST=M1, SELECT=Z, SPART=NONE,  
TRKGRPS=(1,2), JESMSGMT=(00000000,00010), FIXPAGE=00005,  
PRTPAGE=(00030,00030), USRPAGE=00004
```

Display extended information for all mains:

```
*I,MAIN=ALL,X  
IAT8643 MAIN INQUIRY INFORMATION  
INFORMATION FOR MAINPROC SY1  
FMID=HJS7707, STATUS=(ONLINE,CONNECTED,ATTACHED,GLOBAL), PLEVEL=15,  
SLEVEL=00, ID='SY1 R=', MDEST=M1, SELECT=Z, SPART=NONE,  
TRKGRPS=(1,2), JESMSGMT=(00000000,00010), FIXPAGE=00005,  
PRTPAGE=(00030,00030), USRPAGE=00004  
INFORMATION FOR MAINPROC SY2  
STATUS=(ONLINE,NOT-CONNECTED,NOT-ATTACHED,LOCAL), ID='SY2 R=',  
MDEST=M1, SELECT=Z, SPART=NONE, TRKGRPS=(1,2),  
JESMSGMT=(00000000,00010), FIXPAGE=00005, PRTPAGE=(00030,00030),  
USRPAGE=00004  
INFORMATION FOR MAINPROC SY3  
STATUS=(ONLINE,NOT-CONNECTED,DOWN,LOCAL), ID='SY3=', MDEST=M1,  
SELECT=Z, SPART=PARTX, TRKGRPS=(1,2), JESMSGMT=(00012345,00010),  
FIXPAGE=00005, PRTPAGE=(00030,00030), USRPAGE=00004
```

Using the writer output multitasking facility *INQUIRY,MT

Function

The writer output multitasking facility makes it possible for writer output processing to run in parallel with other JES3 functions on the global. Use the *INQUIRY,MT command to display the status of writer multitasking.

Syntax

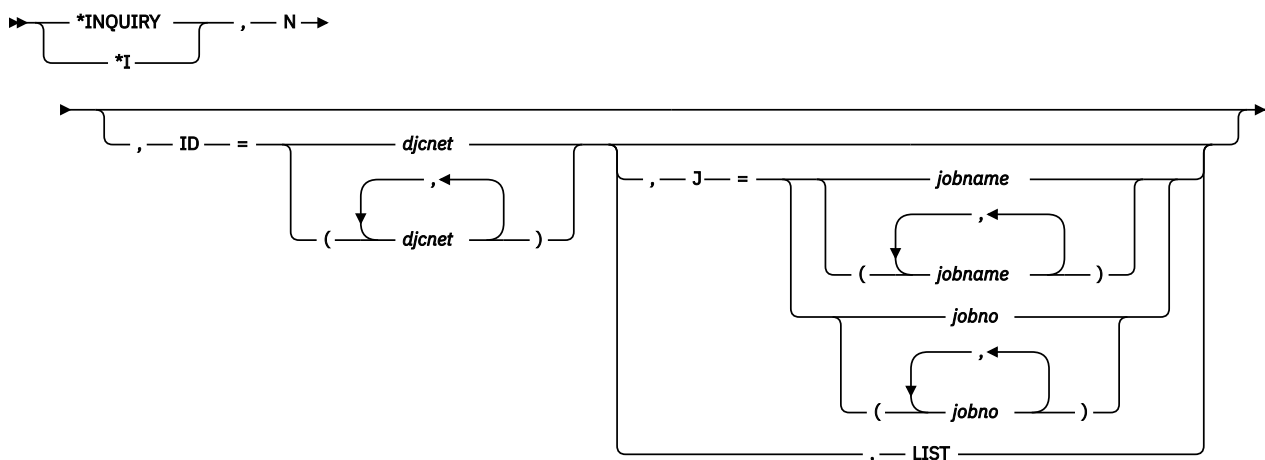
►► *INQUIRY — MT ►►
 *I

Displaying DJC networks *INQUIRY,N

Function

Use the *INQUIRY,N command to list or display the status of all active DJC networks. If none of the optional parameters is specified, this command provides statistics for each defined DJC network in the JES3 system. The statistics include network ID, total number of jobs in the DJC network, the number of completed jobs in the DJC network (including jobs which have abended) and the number of jobs which have abended and are eligible for re-submission. The display also indicates whether there are missing successor jobs or sub-networks.

Syntax



Parameters

ID =(djcnct[,djcnct]...)

Specifies that the status of the designated DJC networks is to be displayed; if omitted, the status of all DJC networks is displayed.

J =jobname or jobno

Specifies that status of the designated job in the designated DJC network is to be displayed. The status information provided includes:

- DJC network identification.
- Job name and job number.
- Hold/release count for the job; that is, the number of predecessor jobs still pending for the specified job.
- Successor job count; that is, the number of successor jobs awaiting the completion of the specified job.
- Release-schedule count for the job; that is, the count of the number of predecessor jobs remaining before DJC releases a job to main service processing. Main device scheduling occurs, but the job is not released for processing until all predecessor jobs are complete.
- Status of the job indicated as follows:
 - Completed (C)
 - Abnormally completed (AC)
 - In network hold (H)
 - Failed at converter/interpreter (F)
 - In DJC operator hold (OH)
 - Null job no longer an active or participating member of the DJC network (N)
 - Job eligible for scheduling and might be active (E)

LIST

Specifies that status of each job in each of the specified DJC networks is to be displayed.

Examples

Display status for DJC networks PAYROLL1 and ACCT1:

```
*I,N,ID=(PAYROLL1,ACCT1)
```

Display status for job OVERTIME in DJC network PAYROLL1:

```
*I,N,ID=PAYROLL1,J=OVERTIME
```

Displaying a TCP/IP/NJE Network Server *INQUIRY,NETSERV=

Function

Use the *INQUIRY,NETSERV= command to display information about a Netserv or all Netservs.

Syntax



Parameters

NETSERV=ntsvname

Specifies the name of the Netserv to be displayed.

Results

- Information for the requested Netserv, or all Netservs, is displayed.

Example

After the *S,TCP,SOCKET=S4 command in the example for that command is entered, the following command is issued on NODE1 with the shown response.

```
*i NETSERV=JES3S1
```

```

IAT8707 NETSERV INQUIRY RESPONSE
INFORMATION FOR NETSERV JES3S1
SYSTEM=SY1, HOST=, PORT=      0, STACK=, JTRACE=NO, VTRACE=NO,
ITRACE=NO, TLS=NO, ACTIVE=YES
SOCKETS DEFINED IN THIS NETSERV
SOCKET  ACTIVE  NODE    SERVER
S3       NO     NODE3    NO
S4       YES     NODE4    NO
S6       NO     NODE6    NO
WSC      NO     WSC      NO
END OF NETSERV INQUIRY RESPONSE
  
```

In the same network, the following command is issued on NODE4 with the shown response.

```
*i netserv=jes3s4
```

```

IAT8707 NETSERV INQUIRY RESPONSE
INFORMATION FOR NETSERV JES3S4
SYSTEM=SY1, HOST=, PORT=      0, STACK=, JTRACE=NO, VTRACE=NO,
ITRACE=NO, TLS=NO, ACTIVE=YES
SOCKETS DEFINED IN THIS NETSERV
SOCKET  ACTIVE  NODE    SERVER
S1       NO     NODE1    NO
S3       NO     NODE3    NO
S5       NO     NODE5    NO
S6       NO     NODE6    NO
@00000001 YES   NODE1    YES
END OF NETSERV INQUIRY RESPONSE
  
```


Displaying the status of nodes ***INQUIRY,NJE**

Function

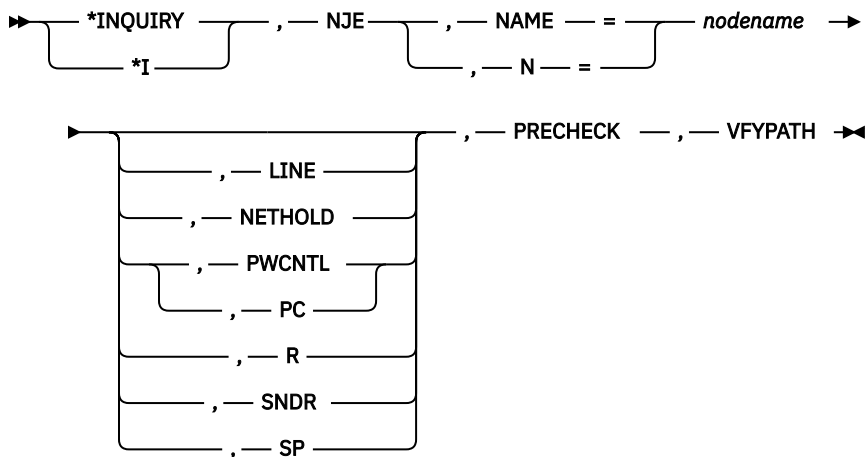
Use the ***INQUIRY,NJE** command to display the status of the networking nodes and communication lines.

Use the **PWCNTL** keyword on the ***INQUIRY,NJE** command to display the job password control option for first job card passwords your node sends to a remote node. Your node can use one of the following options to verify passwords:

- Send jobs with passwords encrypted (**SENDENC**).
- Send jobs with passwords in clear text (**SENDCLR**).
- Send jobs after passwords are verified at the local node (**LOCALCHK**). In this case, passwords are not sent to the remote node.

See [z/OS JES3 Initialization and Tuning Guide](#) and [z/OS JES3 Initialization and Tuning Reference](#) for more information about **PWCNTL**.

Syntax



Parameters

NAME or N =nodename

The name of a remote node or an alias.

LINE

Displays the names of all lines that are defined to the node named on the **NAME=** keyword.

NETHOLD

Displays the option for processing inbound NJE SYSOUT data in NETDATA format.

PRECHECK

Displays the option for whether an NJE job that is marked dubious undergoes revalidation before execution on the home node.

PWCNTL or PC

Displays the job password control option for passwords that are sent to the designated node for processing.

R

Displays the number of retries (1 through 300) JES3 will attempt before ending the BSC NJE line.

SNDR

Displays the status of logical senders that are defined to the node named on the **NAME=** keyword.

SP

Display the name of the spool partition assigned for the specified node.

VFYPATH

Displays the option for whether path verification is performed for NJE jobs claiming to originate on the named node.

Rules

- You can specify LINE or SNDR, but not both.
- The LINE and SNDR parameters are valid *only* for BSC/NJE.
- The NETHOLD parameter is only valid for the home node.

Results

- If you specify only the NJE operand, JES3 issues one of the following messages for each active networking line in your installation. Each message contains the name of the remote node that is directly connected to your node through the indicated line.

```
IAT8651 - lname-nodename RESTARTING
IAT8652 - lname-nodename I/O ACTIVE
IAT8653 - lname-nodename ACTIVE
IAT8654 - lname-nodename STARTING
IAT8656 - lname-nodename CANCEL REQUESTED
IAT8657 - lname-nodename LINE TERMINATING
```

- JES3 issues one of the following messages if you specify a node name in the command.
 - If you specify *I,NJE,NAME=nodename, JES3 issues this message:

```
IAT8659  NODE nodename {HOLD/NOHOLD} PATH pathname
{DEFINED LINE linename | SNA PROTOCOL | blank}
```

If nodename is the name of the home node, JES3 issues this message:

```
IAT8659  HOME nodename PRTDEF p PRTTSO t PRTXWTR x PUNDEF n
```

If nodename is an alias, JES3 issues this message:

```
IAT8659  ALIAS nodename PRTDEF p PRTTSO t PRTXWTR x PUNDEF n
```

Note: In the above examples p is the value for the PRTDEF value, t for PRTTSO, x for PRTXWTR, and n for PUNDEF on the NJERMT initialization statement or the most recent *F NJE command.

- If you include the LINE parameter, JES3 issues this message:

```
IAT8660  NODE nodename ACTIVE LINES (linename RCV/NORCV
[linename RCV/NORCV]...)
```

- If you include the SNDR parameter, JES3 issues this message:

```
IAT8661  NODE nodename NJESENDR (sendername[sendername]...)
```

- If you include the SP parameter, JES3 issues this message:

```
IAT8648  NODE nodename , SPART=spart
```

- If you include the PWCNTL keyword, JES3 issues the following message:

```
IAT8664  NODE nodename PASSWORDS WILL BE  {SENT ENCRYPTED  }
                                              {SENT IN CLEAR TEXT}
                                              {VERIFIED LOCALLY }
```

- If you specify *I,NJE,NAME=nodename and the node is defined with TYPE=TCPIP, JES3 issues the following message:

```
INFORMATION FOR NODE nodename
TYPE=TCPIP, JOBTRANS=jt, JOBRECV=jr, OUTTRANS=ot, OUTRECV=or,
SECSIGNON=<YES/NO>, TLS=<YES/NO>, ACTIVE=<YES/NO>
PWCNTL=<SENDENC/SENDCLR/LOCALCHK>
SOCKETS DEFINED FOR THIS NODE
SOCKET ACTIVE SERVER NETSERV SYSTEM
s1      YES/NO YES/NO YES/NO  sysname
END OF NODE INQUIRY RESPONSE
```

Example

Display the job password control option for passwords sent to NODEB:

```
*I,NJE,N=NODEB,PWCNTL
```

Display the spool partition to which the inbound NJE stream from NODE1 will be written.

```
*I,NJE,N=NODE1,SP
```

Display the node information for NODE3, which is defined with TYPE=TCPIP.

```
IAT8711 NODE INQUIRY RESPONSE
INFORMATION FOR NODE NODE3
TYPE=TCPIP, JOBTRANS=1, JOBRECV=1, OUTTRANS=1, OUTRECV=1,
SECSIGNON=NO, TLS=NO, ACTIVE=NO, PWCNTL=SENDCLR
SOCKETS DEFINED FOR THIS NODE
SOCKET ACTIVE SERVER NETSERV SYSTEM
S3      NO      NO      JES3S1  SY1
END OF NODE INQUIRY RESPONSE
```

Displaying information about consoles *INQUIRY,O

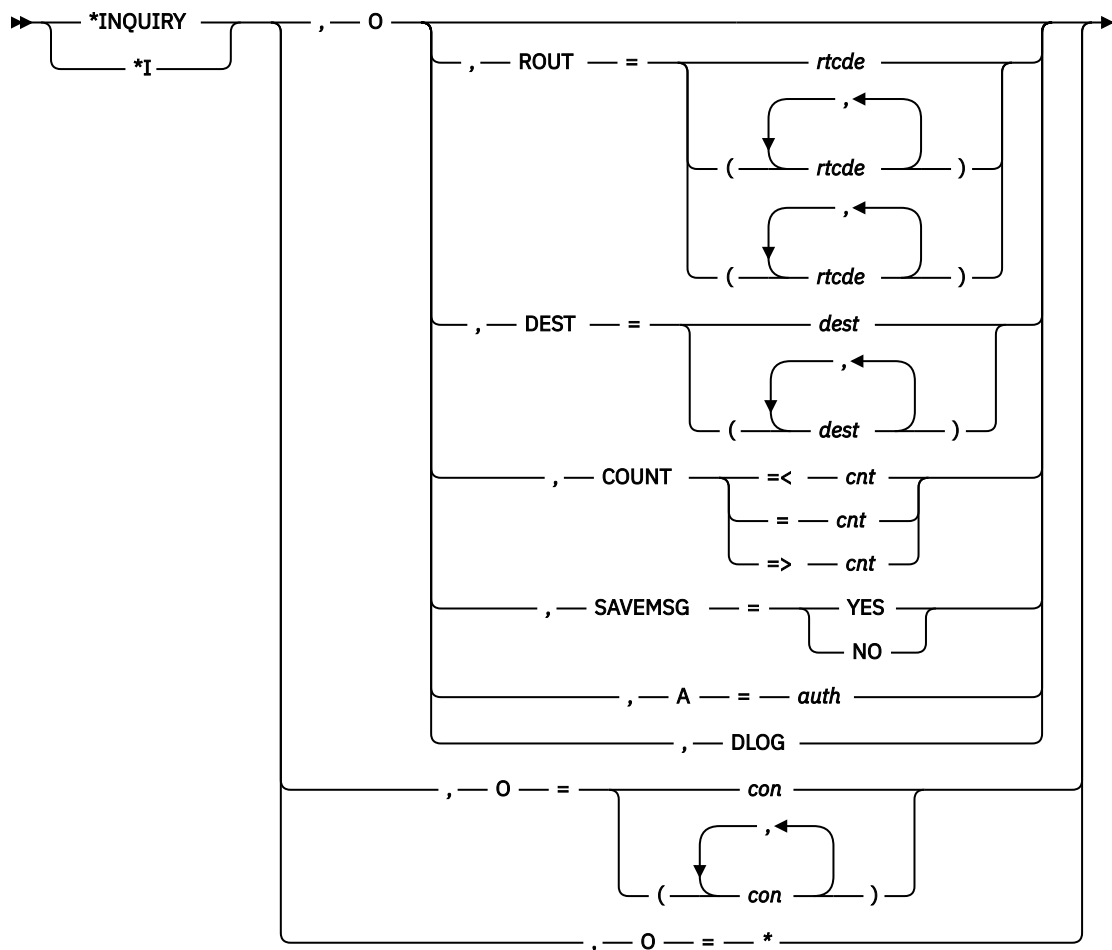
Function

The *INQUIRY,O command displays the status of JES3 remote consoles. JES3 displays the following information when you issue an *INQUIRY,O command:

- RJP console name (JNAME)
- Default authority level
- Current message depth
- Switch status
- Message saving indicator
- Line length
- JES3 destination classes received by this console
- Routing codes received by this console
- DLOG status
- A list of consoles switched to this console.

If you do not specify any of the optional parameters, JES3 displays the status of all remote consoles.

Syntax



Parameters

ROUT

Limits the display to only RJP consoles which are receiving any of the specified routing codes.

DEST

Limits the display to only RJP consoles which are receiving any of the specified JES3 destination classes.

COUNT

Limits the display to only RJP consoles which have less than or equal to, greater than or equal to, or an equal number of messages queued in storage for display when compared to the specified *cnt* value. Use the ***INQUIRY, D T=** command to display the number of messages saved on the JES3 spool for a workstation when that workstation is signed off.

SAVMSG

Limits the display to only RJP consoles for which JES3 is saving messages while the workstation is signed off (**SAVMSG=YES**) or those for which JES3 is not saving messages (**SAVMSG=NO**).

A

Limits the display to only those RJP consoles with the specified authority.

DLOG

Displays the status of the JES3 DLOG function.

=*

Displays the name and status of the JES3 remote console from which you entered the command.

=con or (con[,con]...)

Displays the status for the JES3 remote console whose name you supply. If you do not specify any console names, JES3 displays the status of all JES3 remote consoles in your installation.

Examples

Display the status of the RJP console named RTM01:

```
*I,0=RTM01
```

Display the status of all RJP consoles:

```
*I,0
```

Display the status of all RJP consoles with a message backlog greater than or equal to 100:

```
*I,0,COUNT=>100
```

Display all RJP consoles with the specified routing codes.

```
*I,0,ROUT=(7,12-14,42)
```

The following is sample output produced by the *I,O command.

```
*I,0=*
IAT8589 CONSOLE DISPLAY
NAME      COUNT      SWITCH      LL      AUTH      SAVMSG
C77AA      000000054      0080      04      NO
  ROUTE CODE=(1,8,10-15,45,88,90,95)
  DEST CLASS=(TP,ERR,D2,D23,D25,D30)
  SWITCHED CONSOLE=(T0055)
```

***INQUIRY,OPTIONS**

Function

Use the *INQUIRY,OPTIONS command to display the information specified or defaulted to on the OPTIONS initialization statement.

Syntax

```
►► *INQUIRY —, — OPTIONS ◄◄
   *I
```

Example

The following is the response to a *I OPTIONS command for a JES3 initialization deck omitting an OPTIONS statement.

```
*i options
IAT8646 OPTIONS INQUIRY RESPONSE
  DUMP=PRDMP, DUMPLINS=024576, DUPJOBNM=NO, DUPLOGON=YES
  WANTDUMP=YES, LIMIT=03, INTERVAL=10, INTRDR=000020,
  JOBN0=(000001, 009999, 032767), MT=OFF, SE=10,
  XCFGRPNM=NONE, JOBTRACK=SYSPLEX
OPTIONS INQUIRY RESPONSE COMPLETE
```

*INQUIRY,OUTSERV

Function

Use the *INQUIRY,OUTSERV command to display the information specified or defaulted to on the OUTSERV initialization statement.

Syntax

```

  >> *INQUIRY — , — OUTSERV —>>
      |
      | *I
      |

```

Example

The following is the response to a *I OUTSERV command for a JES3 inish deck omitting an OUTSERV statement. This implies all defaults are used for the OUTSERV statement.

```

*i outserv
IAT8642 OUTSERV INQUIRY RESPONSE
  CARRIAGE=6, CB=N, CDSTOCK=5081, CHARS=GS10,
  FLASH ID=NONE, FLASH COUNT=N/A, MODIFY=NONE, MODRC=N/A,
  NPRO=0090, OUTLIM=16777215, OUTSVFCT=01, SNAGROUP=NO,
  STACKER=C, TRAIN=PN, FORMS=1PRT, THRESHOLD=-1,
  WC=NONE,
  WS=(D,T,F,C,U,FL,CM,SS,PM)
OUTSERV INQUIRY RESPONSE COMPLETE

```

Displaying the status of jobs of a specific priority *INQUIRY,P

Function

Use the *INQUIRY,P command to list or display the status of jobs of a designated priority.

Syntax

```

  >> *INQUIRY — , — P — = — prty —>>
      |
      | *I
      |
      | , — P — = — ( — prty — ) —
      |
      |
      | , — N — = — 10 —
      |
      | , — N — = — nnn —
      |
      | ALL —
      |
      | , — T — = — term —
      |
      | , — W —
      |

```

Parameters

prty

Specifies the priority number (00 through 15) of the jobs for which status is to be displayed.

N=nnn or ALL or 10

Specifies the number of spool space users to be displayed. The maximum number that can be displayed is 100. If omitted, the ten largest users are displayed.

If you specify ALL or a number greater than 100, only the maximum of 100 users are displayed. See messages IAT8587, IAT8583, and IAT8527 in *z/OS JES3 Messages* for more information on how users and summaries are displayed.

T=term

Displays only the status of those jobs submitted from the designated terminal.

W

Displays the reason a job is waiting to be scheduled, and the amount of time the job is waiting.

Example

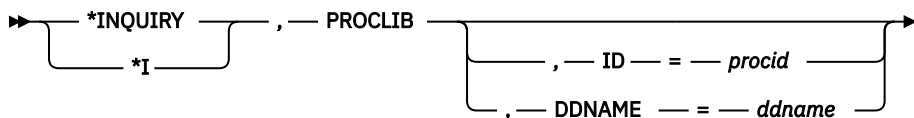
Display the status of three jobs that have a priority of 5:

```
*I,P=05,N=03
```

Displaying the status of a procedure library ***INQUIRY,PROCLIB**

Function

To determine why a job is delayed in C/I service, you can display the status of a procedure library. The ***INQUIRY,PROCLIB** command displays whether all procedure library concatenations are enabled or disabled, and the job number of the job that is updating a particular data set.

Syntax**Parameters****ID=procid**

Specifies the procedure library id (procid). Use the two digit suffix of the procedure library when entering a value for the ID= keyword. This value is appended to IATPLB to form the ddname for the procedure library whose status is requested.

DDNAME=ddname

Specifies the ddname of the procedure library whose status is requested.

Note: If no parameters are specified, the status of all procedure libraries will be displayed.

Example

Display the status of individual data sets for procedure library IATPLB08:

```
*I,PROCLIB,ID=08
```

Display the status of individual data sets for procedure library IATPLBST:

```
*I,PROCLIB,ID=ST
IAT8952 PROCLIB IATPLBST IS ENABLED
IAT8954 IATPLBST, DSN=SYS1.PROCLIB NOT BEING UPDATED
```

Display the status of individual data sets for procedure library PROCRJ:

```
*I,PROCLIB,DDNAME=PROCRJ
IAT8952 PROCLIB PROCRJ IS ENABLED
```

```
IAT8954 PROCRJ, DSN=SYS1.PROCLIB NOT BEING UPDATED  
IAT8954 PROCRJ, DSN=SYS2.TEST.JCL NOT BEING UPDATED
```

Displaying spool status ***INQUIRY,Q**

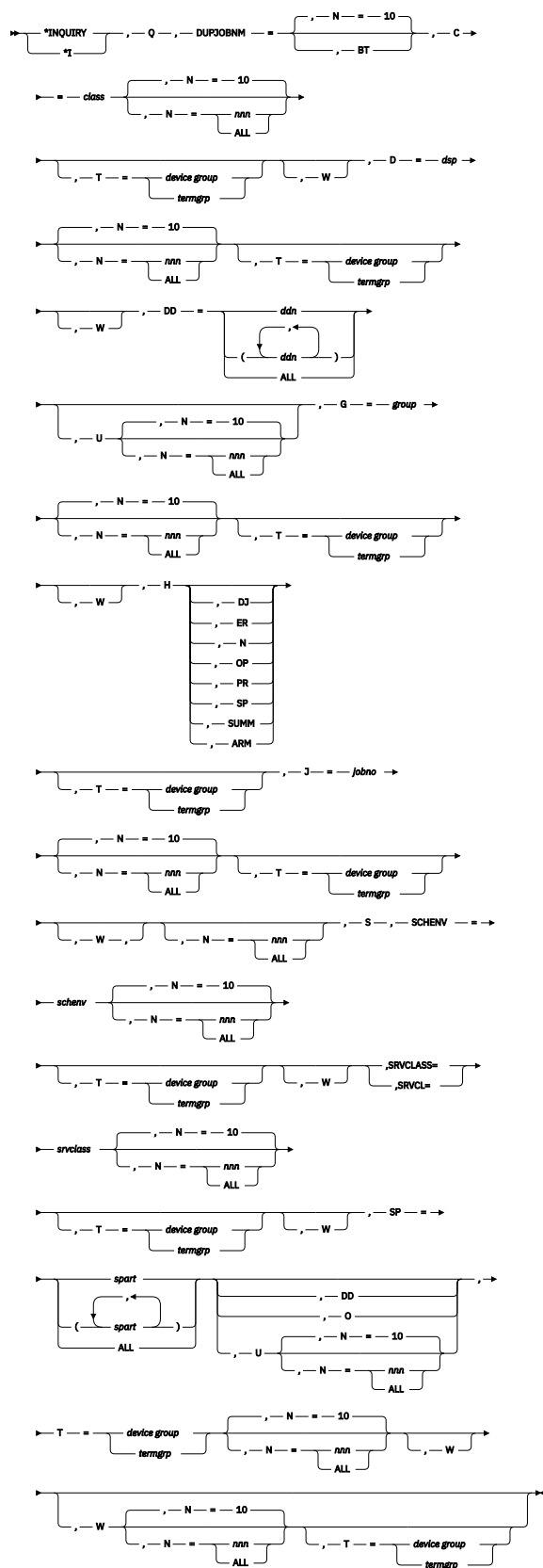
Function

Use the ***INQUIRY,Q** command to display:

- A list of jobs waiting for a DSP
- The names of the spool data sets assigned to a spool partition and whether the partition is defined as the default partition, the initialization partition, or an overflow partition
- The size of the partition and the amount of space currently available
- The status of a partition, and users of the largest spool space
- The status of a spool data set and the name of the spool partition that the data set belongs to
- All the defective tracks currently known to JES3
- The amount of space available on all the JES3 spool data sets in the complex
- A list of jobs of a particular category in the JES3 job queue.
- The amount of space remaining in the JES3 job queue.
- The status of the spool integrity function.
- A list of jobs that use the specified scheduling environment that are either waiting to be scheduled or have been scheduled for main service. Information about why the job is waiting can also be displayed.
- A list of jobs with the specified service class that are either waiting to be scheduled for main service or have been scheduled for main service. Information about why the job is waiting can also be displayed.
- To determine whether multiple batch jobs with the same name may be scheduled for the MAIN SE at the same time.

You might want to use this command to help determine if a performance problem is the result of JES3 using a high percentage of the available spool space in one or more spool partitions.

Syntax



Parameters

DUPJOBNM

DUPJOBNM displays whether multiple batch jobs with the same name may be scheduled for the MAIN SE at the same time. This is displayed in message IAT8638.

BT

Displays a list of the defective tracks, including defective tracks that were defined during initialization, those that JES3 detected dynamically, and those added with *MODIFY Q.

C=class

Displays the status of jobs in the designated job class. The job class can be determined by the //JOB statements, the //*MAIN statement, or, if no class is specified, by the JES3 CLASS initialization statement.

D=dsp

Displays a list of jobs waiting to be scheduled for a DSP.

DD=ddn or ALL

Specifies the DD name of a spool data set or all spool data sets. JES3 displays the following information for the specified spool data set or for each spool data set defined in the complex:

- The name of the spool partition to which the data set is assigned
- The status of the data set
- The total number of track groups in the data set
- The number of track groups available
- The percentage of the total number of track groups available
- The values that define the marginal and minimal spool space conditions

U

Displays a list of the largest spool space users for the specified spool data set. A maximum of eight spool data set names can be specified when you use the **U** parameter.

For an *INQUIRY,Q,DD=ddn,U command, spool data set totals will be displayed by message IAT8752 for each data set specified.

G=group

Displays the status of jobs in the designated job-class group. (GROUP statements define job group names. If a job class is not assigned to a specific group, it is assigned to the default group as determined by the JES3 GROUP initialization statement.)

H

Displays the status of jobs held with:

- Operator hold
- DJC operator hold
- Error hold
- Spool hold
- Priority hold
- DJC net hold
- Automatic restart management hold

H,OP

Displays the status of all jobs in operator hold, with the total summary count.

H,DJ

Displays the status of all dependent job control (DJC) jobs in hold, with the total summary count.

H,N

Displays the status of all dependent job control-net (DJC) jobs in hold, with the total summary count.

H,ER

Displays the status of jobs in operator hold status because of an error in the job, with the total summary count.

H,SP

Displays the status of all spool jobs in hold, with the total summary count.

H,PR

Displays the status of all jobs and their priorities, with the total summary count for each hold type.

H,SUMM

Displays the summary of jobs for each hold type.

H,ARM

Displays the status of all jobs in hold that are waiting for restart by automatic restart management, with the total summary count.

J=jobno

Specifies the job in the JES3 job queue at which to start the queue display.

N=ALL or nnn or 10

Specifies the number of spool space users to be displayed. The maximum value that you can specify is 100. If omitted, the ten largest users are displayed.

If you specify ALL, all of the jobs in your system will be displayed.

S

Displays the following information for the JES3 spool data sets:

- The total number of track groups
- The number of track groups available
- The percentage of the total number of track groups available
- The number of unavailable and drained data sets

SCHENV=schenv

Displays jobs with the specified scheduling environment that are either waiting to be, or have been, scheduled for main service.

SRVCLASS=srvclass or SRVCL=srvclass

Displays jobs with the specified service class that are either waiting to be scheduled for main service or have been scheduled for main service.

SP=spart or ALL

Specifies the name of the spool partition or all spool partitions. If no optional parameters are included, JES3 displays the following information for each specified spool partition:

- The total number of track groups in the partition
- The number of track groups available
- The percentage of the total number of track groups available
- The values that define the marginal and minimal spool space conditions
- Default, overflow, and initialization information

DD

Displays the status of the spool data set(s) associated with the specified spool partitions.

O

Displays the name of the spool partition, if any, into which spool data will overflow if this spool partition becomes full.

U

Displays a list of the largest spool space users for the specified spool partition. A maximum of eight spool partition names can be specified when you use the U parameter.

For an *INQUIRY,Q,SP=spart,U command, spool partition totals will be displayed by message IAT8583 for each partition specified.

T=devgroup or termgrp

Displays the status of jobs submitted from the designated device group or terminal group. (A device is assigned to a device group in the DEVICE initialization statement; a BSC RJP terminal is assigned to a terminal group in the RJPTERM initialization statement; a SNA RJP workstation is assigned to a workstation group in the G= parameter of the RJPWS initialization statement.)

N=ALL or nnn or 10

Specifies the number of jobs for which status information is to be displayed. If ALL is specified, the status of all jobs in the job queue are displayed. If this parameter is omitted, the default is 10 jobs.

W

Displays the reason a job is waiting to be scheduled and the amount of time the job is waiting.

Rules

- JES3 issues message IAT8513 for each data set you specify in the command or, if you specify DD=ALL, for each spool data set defined in the complex:

```
IAT8513  ddname  spart  nnnnnn  GRPS  mmmmm  LEFT, (ppp%)  [DRAINED]
                                                [UNAVAIL]
                                                [HELD   ]
```

- You can specify a maximum of 20 spool partition names each time you issue the command, except when you specify the U parameter.
- JES3 issues messages for each partition you specify in the command or, if you specify SP=ALL, for each partition defined in the complex.
- If you do not include optional parameters, JES3 issues the following message:

```
IAT8509  spart: nnnnnn GRPS  mmmmm  LEFT (ppp%);
          MIN xx%, MARG zz%  DEF, INIT, OVFL, OVIN
```

- If you include the O parameter, JES3 issues one of these messages:

```
IAT8533  spart1 WILL OVERFLOW INTO spart2
IAT8537  spart HAS NO OVERFLOW PARTITION DEFINED
```

- If you include the U parameter with SP=, JES3 issues one of the following message sequences:

```
IAT8531  NO JOBS FOUND IN SPOOL PARTITION ddn
OR
IAT8583  spart  TOTAL IN USE                nnnnnn TRKGPS
IAT8583  spart  TOTAL IN USE BY JES3         nnnnnn TRKGPS
IAT8583  spart  TOTAL IN USE BY JOBS         nnnnnn TRKGPS
IAT8587  spart  USERS FOUND= xxxxx JES3 jjjjj JOBS; uuu DISPLAYED
IAT8527  spart: JOB jobname (jobid)         gg,ggg TRKGPS,ppp%
```

Note: The following “jobs” may be displayed for an *INQUIRY,Q,SP=spart,U command if they are among the “n” largest users:

```
Common single track table usage
IAT8527  spart:  JOB JES3STT  (JOB000000)

Initialization track usage
IAT8527  spart:  JOB JES3INIT (JOB000000)

JES3 Job 0 track usage
IAT8527  spart:  JOB JES3    (JOB000000)

RJP track usage
IAT8527  spart:  JOB JES3RJP (JOB000000)

RJP Console track usage
IAT8527  spart:  JOB rjpname (JOB000000)

RJP Console track usage
```

```
IAT8527 spart: JOB rjpname (JOB000000)
      where rjpname is the name of an RJP console.
```

- If you include the U parameter with DD=, JES3 issues one of the following two message sequences:

```
IAT8751 NO JOBS FOUND IN SPOOL DATA SET ddn
```

OR

```
IAT8752 ddn TOTAL IN USE nnnnnn TRKGPS
IAT8752 ddn TOTAL IN USE BY JES3 nnnnnn TRKGPS
IAT8752 ddn TOTAL IN USE BY JOBS nnnnnn TRKGPS
IAT8753 ddn USERS FOUND= xxxxx JES3 jjjjjj JOBS; uuu DISPLAYED
IAT8754 ddn : JOB jobname (jobid) gg,ggg TRKGPS, ppp%
```

Note: The following jobs are displayed for an *INQUIRY,Q,DD=ddn,U command if they are among the “n” largest users:

```
Common single track table usage
  IAT8754 ddn : JOB JES3STT (JOB000000)

Initialization track usage
  IAT8754 ddn : JOB JES3INIT (JOB000000)

JES3 Job 0 track usage
  IAT8754 ddn : JOB JES3 (JOB000000)

RJP track usage
  IAT8754 ddn : JOB JES3RJP (JOB000000)

RJP Console track usage
  IAT8754 ddn : JOB rjpname (JOB000000)
      where rjpname is the name of an RJP console.
```

Examples

Display jobs active in C/I service, but waiting to be scheduled for a C/I DSP:

```
*I,Q,D=CI
```

Display jobs active in C/I service, but waiting to be scheduled for a POSTSCAN DSP:

```
*I,Q,D=POSTSCAN
```

List the status of partitions PARTA and PARTB:

```
*I,Q,SP=(PARTA,PARTB)
```

Determine the overflow partition for partition PARTC:

```
*I,Q,SP=PARTC,0
```

Determine which spool partition is the default partition and how much spool space is available in each partition:

```
*I,Q,SP=ALL
```

(In the display, the default partition is indicated DEF following the partition name.)

List the twelve largest spool space users for partition PARTD:

```
*I,Q,SP=PARTD,U,N=12
```

(The display lists users in descending order of size.)

Display the status of the spool data sets associated with partition PARTE:

```
*I,Q,SP=PARTE,DD
```

*INQUIRY,Q

Display the status of spool data sets SPOOL1 and SPOOL2 and the names of the partitions that the data sets are assigned to:

```
*I,Q,DD=(SPOOL1,SPOOL2)
```

Display the amount of space currently available in each spool data set in the complex:

```
*I,Q,DD=ALL
```

List the twelve largest spool space users for spool data set SPOOL1:

```
*I,Q,DD=SPOOL1,U,N=12
```

(The display lists users in descending order of size.)

List all defective tracks known to JES3:

```
*I,Q,BT
```

Display the amount of available space on all the spool data sets:

```
*I,Q,S
```

Display information for all jobs in hold status:

```
*I,Q,H
```

Display all jobs submitted from terminal group, MCR, that are in hold status:

```
*I Q H T=MCR
```

Display a summary of all jobs in hold status:

```
*I Q H SUMM
```

Display all jobs submitted from terminal group, B921, with an OPHOLD summary:

```
*I Q H OP T=B921
```

Display all job priorities with a priority hold summary:

```
*I Q H PR
```

Display the status of all jobs in the job queue, the reason why the jobs are waiting to be scheduled, and the amount of time the jobs are waiting.

```
*I,Q,W,N=ALL
```

```
IAT8674 JOB JOB123      (JOB32787) P=02 CL=Z      MAIN(ALLOCATE)
IAT8685 SY1             - SCHEDULING ENVIRONMENT NOT AVAILABLE
IAT8685 SY2             - REQUIRED RESOURCES NOT AVAILABLE
IAT8685 SY3             - MAIN OFFLINE/NOT CONNECTED
IAT8685 SY4             - GROUP/CLASS DISABLED
IAT8685 SY5             - GROUP/CLASS DISABLED
IAT8685 SY6             - MAIN OFFLINE/NOT CONNECTED
IAT8685 SY7             - MAIN OFFLINE/NOT CONNECTED
IAT8685 SYLOCAL8        - MAIN OFFLINE/NOT CONNECTED
IAT8687 JOB WAITING/ACTIVE 00001 HOURS   29 MINUTES   05 SECONDS
.
.
.
```

Display the first ten jobs with the specified scheduling environment that are either waiting to be scheduled for main service or have been scheduled for main service.

```
*I,Q,SCHENV=PAYROLL
```

```
IAT8674 JOB JOB123      (JOB32787) P=02 CL=Z      MAIN(ALLOCATE)
```

```

IAT8674 JOB JOBABC      (JOB32790) P=02 CL=Z      MAIN(ALLOCATE)
IAT8674 JOB JOBDEF      (JOB32791) P=02 CL=Z      MAIN(ALLOCATE)
IAT8674 JOB JOBGHI      (JOB32800) P=02 CL=Z      MAIN(ALLOCATE)
IAT8674 JOB JOBJKL      (JOB32987) P=02 CL=Z      MAIN(ALLOCATE)
IAT8674 JOB JOBMNO      (JOB33101) P=02 CL=Z      MAIN(ALLOCATE)

```

Display the first ten jobs with the service class PAIDLOT\$ that are either waiting to be scheduled for main service or have been scheduled for main service.

```
*I,Q,SRVCLASS=PAIDLOT$
```

```

IAT8674 JOB JOB123      (JOB32787) P=02 CL=Z      MAIN(ALLOCATE)
IAT8674 JOB JOBABC      (JOB32790) P=02 CL=Z      MAIN(ALLOCATE)
IAT8674 JOB JOBDEF      (JOB32791) P=02 CL=Z      MAIN(ALLOCATE)
IAT8674 JOB JOBGHI      (JOB32800) P=02 CL=Z      MAIN(ALLOCATE)
IAT8674 JOB JOBJKL      (JOB32987) P=02 CL=Z      MAIN(ALLOCATE)
IAT8674 JOB JOBMNO      (JOB33101) P=02 CL=Z      MAIN(ALLOCATE)

```

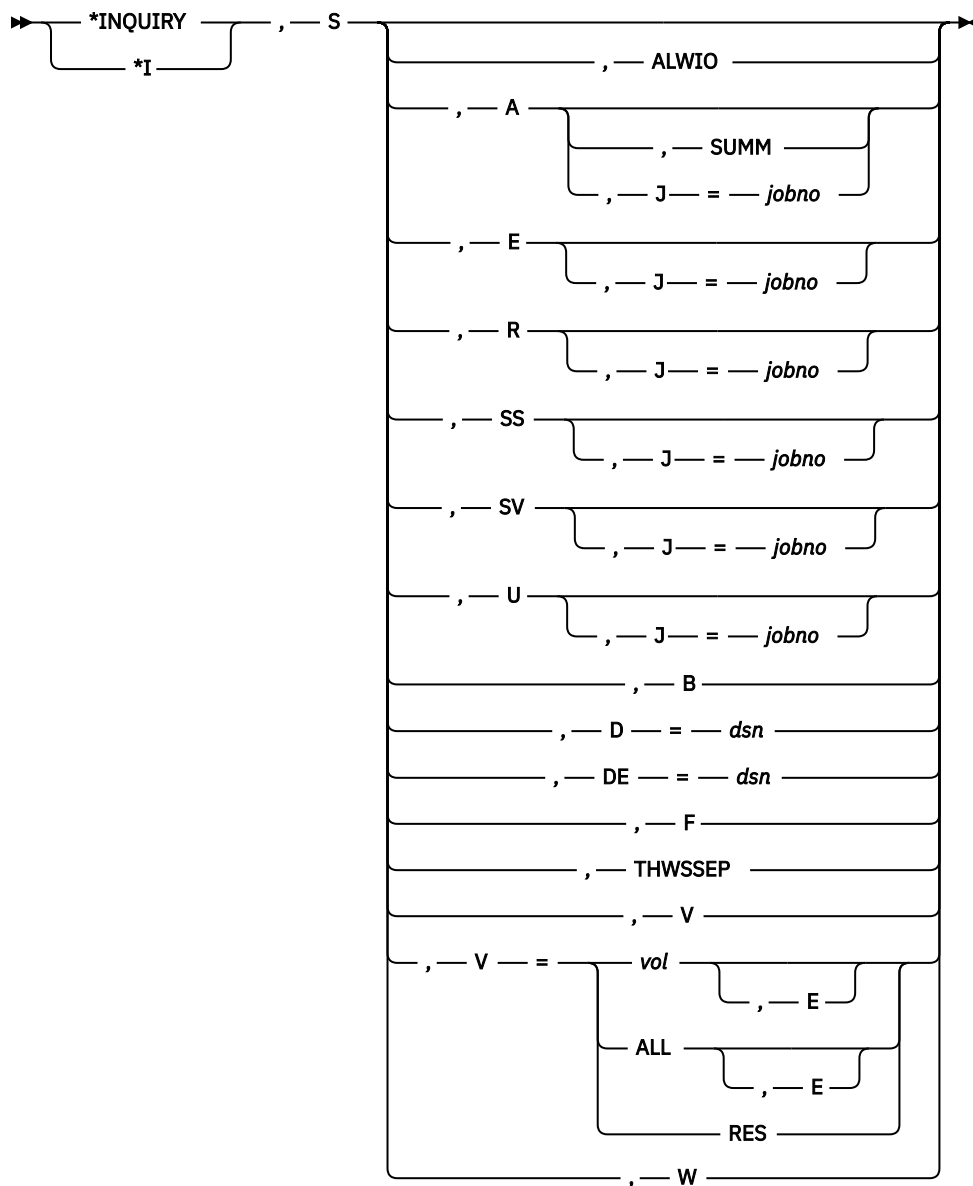
Displaying the status of jobs, volumes, and data sets ***INQUIRY,S**

Function

Use the *INQUIRY,S command to display the status of jobs currently in setup or the status of volumes and data sets controlled by MDS. If none of the optional parameters is specified, the status of all mains in the complex and a summary of the MDS queues are displayed.

Syntax

*INQUIRY,S



Parameters

ALWIO

Displays the current, allowed (ALWIO), and maximum (MAXIO) number of asynchronous I/O requests that can be processed simultaneously. These numbers are specified in the ALWIO and MAXIO parameters of the SETPARAM initialization statement.

A

Displays jobs currently in the MDS allocate queue (competing for resources such as devices, volumes, and data sets).

E

Displays jobs currently in the MDS error queue.

R

Displays jobs currently in the MDS restart queue.

SS

Displays jobs currently on the MDS system select queue.

SUMM

Displays a summary of jobs in MDS allocation, including the resources that are required and the number of jobs that require each resource.

SV

Displays jobs currently on the MDS system verify queue.

U

Displays all unavailable volumes and jobs waiting because of unavailable volumes.

J=jobno

Specifies the job number of the job in the allocate, unavailable, error, restart, system select, or system verify queue and requests specific information about the job.

B

Displays jobs currently having their resources deallocated.

D=dsn

Specifies that the fully qualified data set name, separated by blanks, commas or periods, have its status and the status of any associated volumes listed. You can enter a maximum of 8 data set name qualifiers.

DE=dsn

Specifies that the fully qualified data set name, separated by blanks, commas or periods, have its status and the status of any associated volumes listed. Any jobs referencing the specified data set are also listed. You can enter a maximum of 8 data set name qualifiers.

F

Displays jobs currently in the MDS fetch queue.

THWSSEP

Displays the current value of the high watermark option. This option indicates whether JES3 should separate scratch and specific requests or scratch requests of different media types during tape high watermark setup processing.

V

Displays jobs waiting to be verified by setup. (The current number of volume mounts yet to be performed is also displayed.)

V=volser[,E]

Displays the status of the designated volume and associated data sets. If you specify E, the status of all job references to the volume is also listed.

V=ALL[,E]

Displays the number of currently managed volumes. If you specify E, all volume serials are also listed.

V=RES

Displays all volumes specified on the SETRES initialization statement.

W

Displays jobs currently in the MDS WAITVOL queue (waiting for the *S,SETUP command).

Examples

Display a list of the number of jobs in each setup queue:

```
*I,S
```

Note: The *I,S command can also be used to display information for main processors, but only if SETUP is active in the complex. IBM suggests using the *I,MAIN= command for this purpose instead of *I,S as it does not depend on SETUP and displays more comprehensive information relevant to main processors.

Display a list of all jobs currently in the allocate queue:

```
*INQUIRY,S,A
```

Display status of job 12345.

*INQUIRY,S

```
*INQUIRY,S,A,J=12345
IAT5642 MDS ALLOCATION NOT YET ATTEMPTED FOR ... ON SY1 SCHENV NAVAIL
IAT5642 MDS ALLOCATION NOT YET ATTEMPTED FOR ... ON SY2 GRP/CLS NAVAIL
IAT5642 MDS ALLOCATION NOT YET ATTEMPTED FOR ... ON SY3 SCHENV NAVAIL
IAT5642 MDS ALLOCATION NOT YET ATTEMPTED FOR ... ON SY4 SMS RES. NAVAIL
```

Display a summary of jobs in MDS allocation.

```
*I,S,A,SUMM
```

In this example, there are three jobs waiting for 3490 devices and there is one job waiting for specific device F0B1.

```
*I,S,A,SUMM
```

```
IAT5030 00003 REQUESTS NEED DEVICE 3490
IAT5033 JOB TAPE1 (JOB32810),14 - NEEDS 00004 DEVICES
IAT5033 JOB TAPE2 (JOB32804),02 - NEEDS 00001 DEVICE
IAT5033 JOB TAPE3 (JOB32804),02 - NEEDS 00002 DEVICES
IAT5033
IAT5030 00001 REQUESTS NEED SPECIFIC DEVICE F0B1
IAT5031 00001 REQUESTS HAVE EXCLUSIVE USE OF THE RESOURCE
IAT5033 JOB DEMAND (JOB32812),03 - NEEDS DEVICE F0B1
IAT5033
```

In this example, there are two jobs waiting for exclusive use of a tape volume, and there is one job waiting for the device associated with a DASD volume to be varied online.

```
*I,S,A,SUMM
```

```
IAT5030 00002 REQUESTS NEED VOLUME TAPVL1
IAT5031 JOB GOTTAPE (JOB27842) HAS EXCLUSIVE USE OF THE RESOURCE
IAT5032 RESOURCE HAS BEEN RESERVED EXCLUSIVE BY A JOB IN PRIORITY
IAT5033 JOB WANTTAP1 (JOB34000),14 - NEEDS EXCLUSIVE USE OF VOLUME
IAT5033 JOB WANTTAP2 (JOB34009),06 - NEEDS EXCLUSIVE USE OF VOLUME
IAT5033
IAT5030 00001 REQUESTS NEED THE DEVICE FOR VOLUME VSAM01
IAT5033 JOB DASDVOL1 (JOB35000),12 - NEEDS SHARED USE OF VOLUME
IAT5033
```

In the following example, there is one job waiting for shared use of a non-SMS data set and one job waiting for exclusive use of an SMS managed data set:

```
*I,S,A,SUMM
```

```
IAT5030 00001 REQUESTS NEED DATA SET RIEDY.LINKLPA ON VOLUME D75902
IAT5031 JOB LINKNUC (JOB27881) HAS EXCLUSIVE USE OF THE RESOURCE
IAT5032 RESOURCE HAS BEEN RESERVED EXCLUSIVE BY A JOB IN PRIORITY 12
IAT5033 JOB LISTMEM (JOB34011),12 - NEEDS SHARED USE OF DATA SET
IAT5033
IAT5030 00001 REQUESTS NEED SMS DATA SET D75JES3.COMMON.DECKS
IAT5031 00002 REQUESTS HAVE SHARED USE OF THE RESOURCE
IAT5033 JOB INITCHEK (JOB35123),11 - NEEDS EXCLUSIVE USE OF DATA SET
IAT5033
```

In the following example, there is one job waiting for a device fence to become available, two jobs waiting for a job class to become available on SY2, one job waiting for a scheduling environment to become available on SY1, and two jobs waiting for a scheduling environment to become available on SY2. Note that the device fence condition does not have a system name associated with it since it is not associated with a particular system.

```
*I,S,A,SUMM
```

```
IAT5030 00001 REQUESTS - DEVICE FENCE PENDING
IAT5033 JOB DJCFENCE (JOB12012), 02
IAT5033
IAT5030 00002 REQUESTS - CLASS OR GROUP DISABLED ON SY2
IAT5033 JOB CLASSZ1 (JOB12012), 02
IAT5033 JOB CLASSZ2 (JOB12013), 02
IAT5033
IAT5030 00001 REQUESTS - SCHEDULING ENVIRONMENT UNAVAILABLE ON SY1
IAT5033 JOB IMSDB1 (JOB11936), 02 - IMS_PRIME_TIME
```

```

IAT5033
IAT5030 00002 REQUESTS - SCHEDULING ENVIRONMENT UNAVAILABLE ON SY2
IAT5033      JOB IMSDB1   (JOB11936), 02 - IMS_PRIME_TIME
IAT5033      JOB VECTOR   (JOB11950), 02 - VECTOR_FACILITY
IAT5033

```

***INQUIRY,SC**

Function

Use the *INQUIRY,SC command to display the information specified on the SYSOUT initialization statement. If class attributes are not defined but are, effectively, defaulted to through the OUTSERV statement, the default values will be provided in the command response.

Syntax

```

➤ *INQUIRY , SC= class
  *I          ALL

```

Parameters

class

Specifies the SYSOUT class for which you want the associated attributes to be returned.

ALL

All SYSOUT classes.

Example

The following example is the response to a *I SC=1 command for a JES3 inish deck defining no attributes for a SYSOUT class.

```

*i sc=1
IAT8645 SYSOUT INQUIRY RESPONSE
RESPONSE FOR SYSOUT CLASS 1
  CARRIAGE=6, TYPE=(PRINT), CHNSIZE=DS,
  CHARS=GS10, FLASH ID=NONE, FLASH COUNT=N/A,
  DEST=N/A, FORMS=1PRT, SPART=P$RT1, STACKER=C,
  TRAIN=PN, THRESHOLD=-1, HOLD=N/A,
  TRKGRPS=(001,002), TRUNC=YES, INT=N/A COMPACT=N/A,
  CONTROL=N/A, MODIFY=NONE, MODRC=N/A, OVFL=ON,
  PRTY=15, COPIES=1
SYSOUT INQUIRY RESPONSE COMPLETE

```

Displaying a TCP/IP/NJE Socket *INQUIRY,SOCKET=

Function

Use the *INQUIRY,SOCKET= command to display information about a socket or all sockets.

Syntax

```

➤ *INQUIRY ,SOCKET= sockname
  *I          ALL

```

*INQUIRY,STD

Parameters

SOCKET=sockname

Specifies the name of the socket to be displayed.

Results

- Information for the requested socket, or all sockets, is displayed.

Example

After the *S,TCP,SOCKET=S4 command in the example for that command is entered, the following command is issued on NODE1 with the shown response.

```
*i socket=s4
```

```
IAT8709 SOCKET INQUIRY RESPONSE
INFORMATION FOR SOCKET S4
  NETSERV=JES3S1, HOST=ALPS4146.POK.IBM.COM, PORT=  0,
  NODE=NODE4, JTRACE=NO, VTRACE=NO, ITRACE=NO, TLS=NO,
  ACTIVE=YES, SERVER=NO
END OF SOCKET INQUIRY RESPONSE
```

In the same network the following command is issued on NODE4 with the shown response.

```
*i socket=@0000001
```

```
IAT8709 SOCKET INQUIRY RESPONSE
INFORMATION FOR SOCKET @0000001
  NETSERV=JES3S4, HOST=, PORT=  0, NODE=NODE1, JTRACE=NO
  VTRACE=NO, ITRACE=NO, TLS=NO, ACTIVE=YES, SERVER=YES
END OF SOCKET INQUIRY RESPONSE
```

The assigned IP address and port are not displayed in the JES3 inquiry response message IAT8709. These values can be displayed by using the MVS command D TCPIP,,NETSTAT,ALLCONN.

*INQUIRY,STD

Function

Use the *INQUIRY,STD command to display the information specified or defaulted to on the STANDARDS initialization statement. Any changes to the STANDARDS initialization statement definition through a *F command is also reflected in this command response.

Syntax

```
➤➤ *INQUIRY ,— STD ➤➤
   |
   | *I
   |
```

Example

The following example is the response to a *I STD command for a JES3 inish deck omitting a STANDARDS statement.

```
*i std
IAT8647 STANDARDS INQUIRY RESPONSE
CARDS=(00200,WARNING,050), LINES=(001000,WARNING,050),
BYTES=(001500000,WARNING,050), PAGES=(00000500,WARNING,050),
CICNT=(002,001), CIBATCH=ANY, CIDEMAND=ANY, ALTJCL=ACCEPT,
PSTCNT=(00024,00007), DBGCLASS=A, FAILURE=RESTART,
MAXJOBST=000000000, MAXASST=000000000, JESMSG=NOTSO,
```

```

PRTY=00, SETUP=JOB, SYSLINES=(0010000,020),
THWSSEP=IGNORE, INTPMID=01, STCPMID=01, TSOPMID=01,
INTPROC=ST, STCPROC=ST, TSOPROC=ST
STANDARDS INQUIRY RESPONSE COMPLETE

```

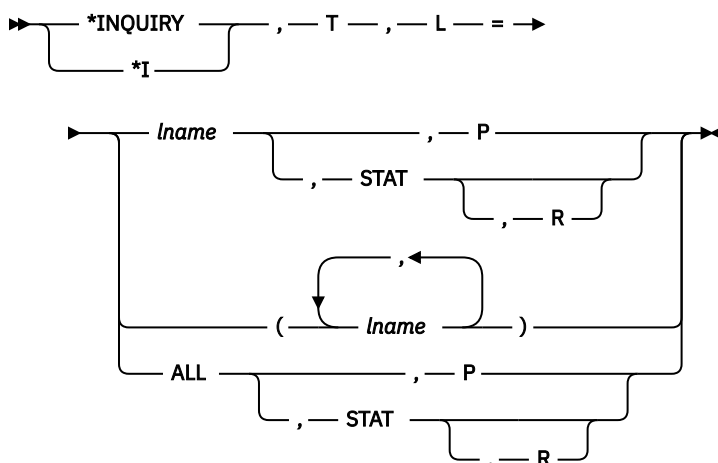
Displaying BSC RJP communications *INQUIRY,T

Function

Use the *INQUIRY,T command to display:

- The sign-on password required for a BSC RJP communications line
- Line-error statistics

Syntax



Parameters

L=Lname or ALL

Displays the BSC RJP communications lines affected. If ALL is specified, all BSC RJP communication lines are displayed.

P

Displays the password.

STAT

Displays cumulative error statistics for the designated line.

R

Specifies that the error counters for the specified line are to be reset to zero.

Displaying job output *INQUIRY,U

You use the *INQUIRY,U command to display job output in a JES3 system. The job output can be at various places within the system and your selection of the proper "Q=" keyword value on the *INQUIRY,U command dictates what output you want.

The choices are generally the following:

*INQUIRY,U,Q=TCP

To display TCP/IP job output

*INQUIRY,U,Q=BDT

To display SNA/NJE job output

***INQUIRY,U**

***INQUIRY,U,Q=HOLD**

To display job output on the HOLD queue

***INQUIRY,U,Q=WTR**

To display job output on the WTR service queue

***INQUIRY,U**

To display job output on the WTR service queue

Note:

Some FSS applications retain SYSOUT data sets after they have been printed. The output of the *INQUIRY,U command will include these data sets. See the FSS application documentation in [z/OS MVS Using the Functional Subsystem Interface](#), for information on determining whether output has been printed.

Displaying TCP/IP/NJE and SNA/NJE job output *INQUIRY,U

Function - *INQUIRY,U,Q=TCP

Use the *INQUIRY,U,Q=TCP command with the appropriate parameters to display information about TCP/IP/NJE network jobs. TCP/IP/NJE network jobs might be either network job streams or network SYSOUT streams. This command may have a length of 126 characters if the command is issued from an input device that permits that command length. See [“Controlling TCP/IP/NJE” on page 90](#) for a complete description of TCP/IP/NJE.

Function - *INQUIRY,U,Q=BDT

Use the *INQUIRY,U,Q=BDT command with the appropriate parameters to display information about SNA/NJE network jobs. SNA/NJE network jobs may be either network job streams or network SYSOUT streams. This command may have a length of 126 characters if the command is issued from an input device that permits that command length. See [“Controlling SNA/NJE” on page 90](#) for a complete description of SNA/NJE.

Displaying output service HOLD queue

Function - *INQUIRY,U,Q=HOLD

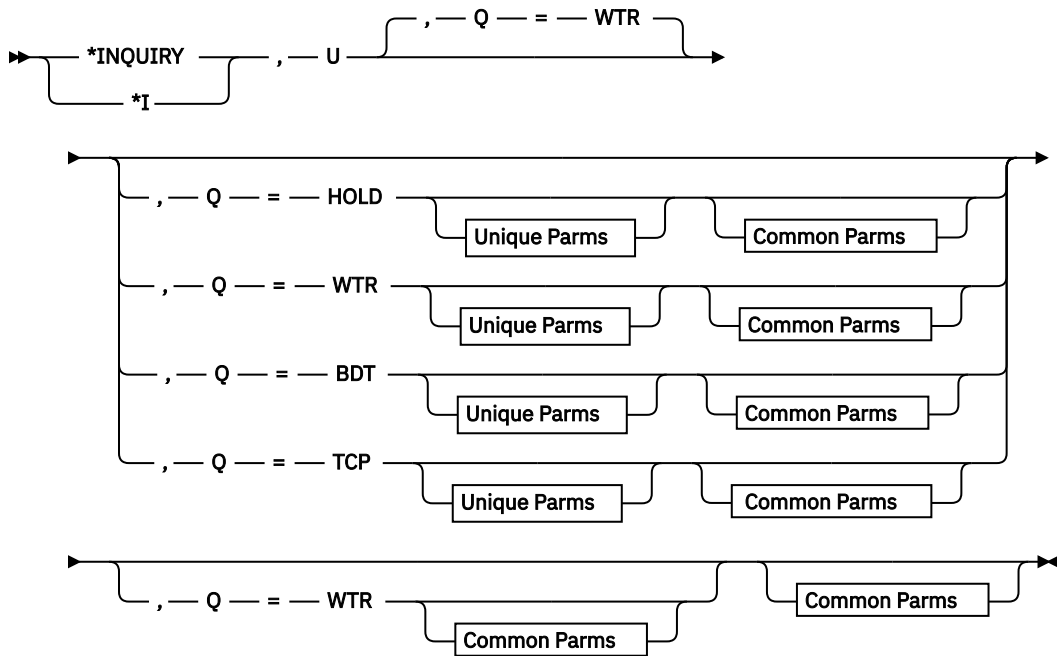
Use the *INQUIRY,U,Q=HOLD command to display a summary of output in the HOLD queue. This command may have a length of 126 characters if the command is issued from an input device that permits that command length.

Displaying output service WTR queue

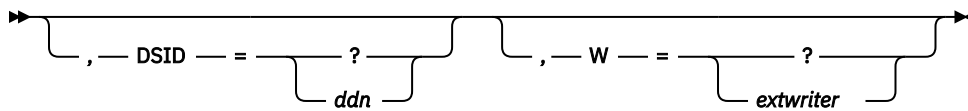
Function - *INQUIRY,U,Q=WTR

Use the *INQUIRY,U,Q=WTR command to display a summary of output in the WTR queue. This command may have a length of 126 characters if the command is issued from an input device that permits that command length.

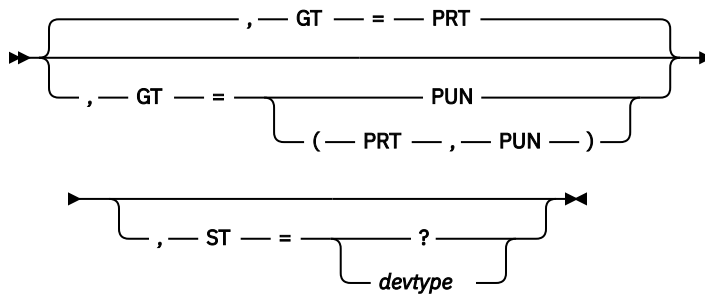
Syntax



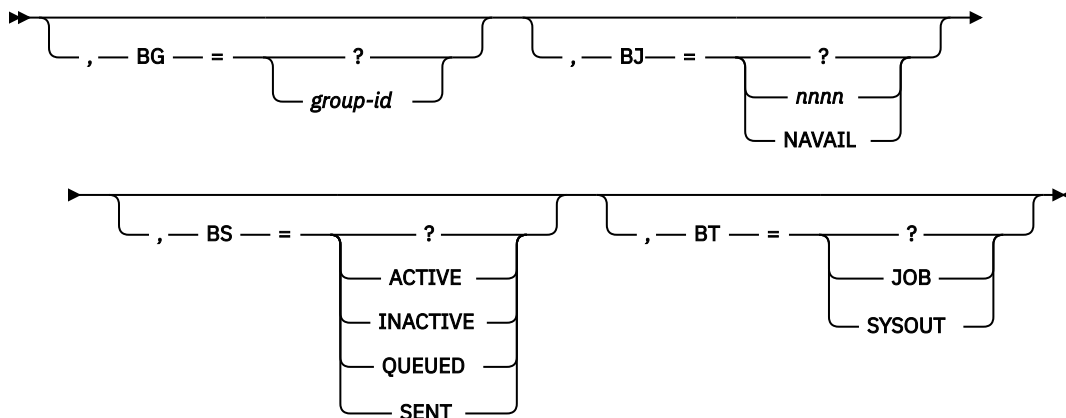
Q=HOLD Unique Parameters



Q=WTR Unique Parameters

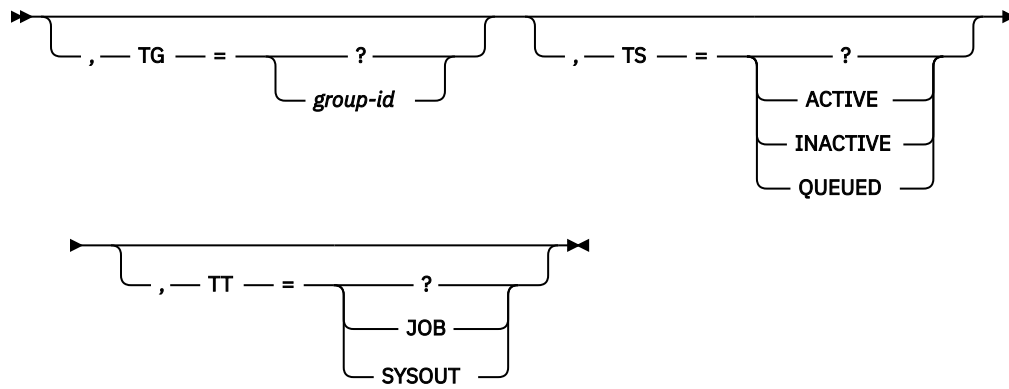


Q=BDT Unique Parameters

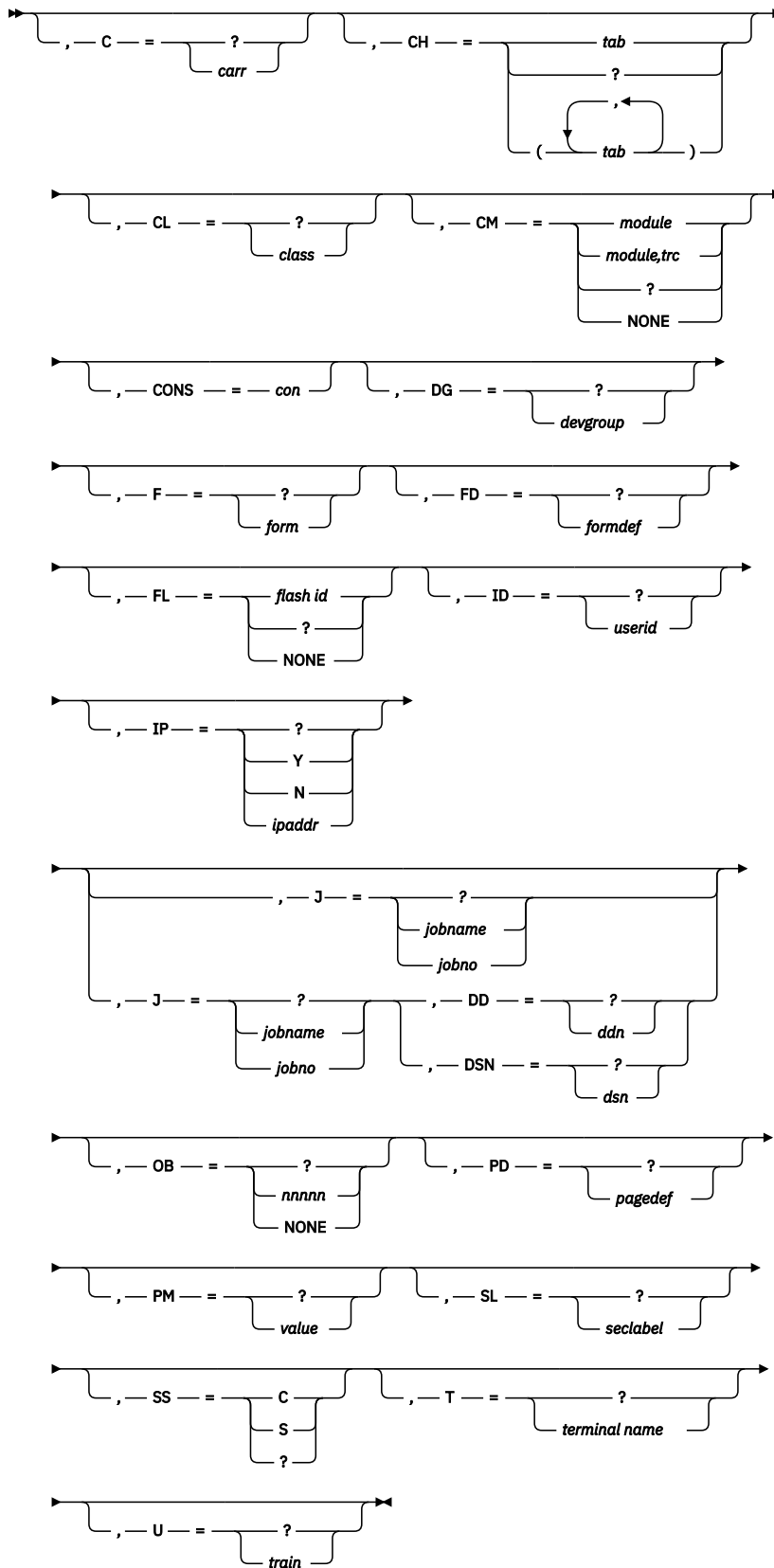


Q=TCP Unique Parameters

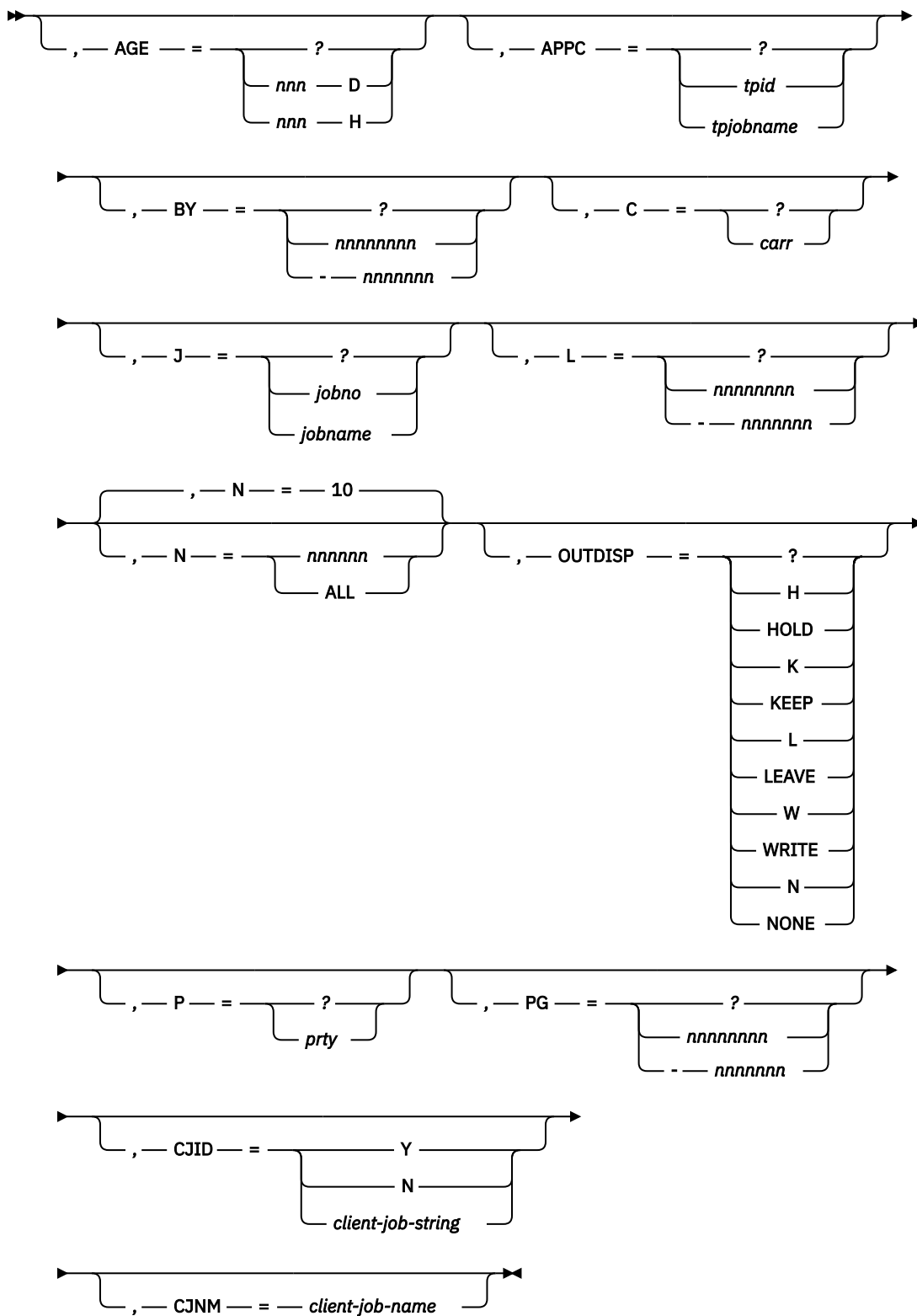
***INQUIRY,U**



Q=HOLD & Q=WTR Common Parameters



*INQUIRY, U Common Parameters



Parameters

Q=TCP

Displays information about TCP/IP jobs.

Q=BDT

Displays information about SNA/NJE jobs on the output service BDT queue.

Q= HOLD

Specifies the output service HOLD queue is to be searched.

Q=WTR

Displays information for data sets on the output service writer queue (WTR).

AGE=nnnnD|nnnnH|?

Displays the age of all (?) data sets or displays information about job or SYSOUT streams that have been on the output queue for at least the specified minimum number (1 through 9999) of days (D) or hours (H).

APPC= Y|N|tpname|?|tpid

Displays SYSOUT from APPC transaction programs (TPs) only (Y). Displays non-APPC TPs generated from SYSOUT only (N). Displays SYSOUT from a specific TP only (tpname). Displays TP, job name, and TP identifier (tpid) if applicable (?). Displays SYSOUT from a tpname (tpid). If APPC= is not specified, all work is displayed and SYSOUT from APPC TPs is indicated by the string **APPC**.

BG=group-id or ?

Displays the groupid of all (?) data sets or SYSOUT streams in the output queue, or displays information about job or SYSOUT streams that have the specified group-id. The group-id is an 8-byte alphanumeric value that is unique for each network job stream or network SYSOUT stream within a JES3 job. The group identifier is displayed in the form: BDTxxxxx. xxxxx represents a value from 0 to 32767.

BJ=NAVAIL or nnnn or ?

Displays all (?) BDT work and corresponding job numbers or displays all BDT work that does not have a BDT job number assigned to it (NAVAIL) or displays the BDT work of the specified BDT job number (nnnn).

BS=?, ACTIVE, INACTIVE, QUEUED, or SENT

Displays the status of all (?) network job streams or SYSOUT streams in the output queue, or displays information about job or SYSOUT streams with the specified status.

ACTIVE

Displays the work that MVS/BDT is currently processing.

INACTIVE

Displays the work that has been built by output service.

QUEUED

Displays the work that MVS/BDT has added to its job queue.

SENT

Displays the work that is waiting for processing by MVS/BDT.

BT=JOB or SYSOUT or ?

Displays all (?) SNA/NJE job or SYSOUT streams in the output queue or displays information about all job streams in the output queue (JOB), or displays information about all SYSOUT streams in the output queue (SYSOUT).

BY=nnnnnnnn or ? or -nnnnnnnn

Specifies to select for display data sets having a specified number of bytes.

nnnnnnnn (1 to 8 characters)

Data sets with at least the specified number of bytes.

(?)

All data sets regardless of size.

-nnnnnnnn (up to 7 characters in length)

Data sets with no more than the specified number of bytes. For example, BY=-4096 selects data sets for display whose size in bytes does not exceed 4096.

C=carr or ?

Displays the carriage (FCB) requirements of all work in the hold queue (?) or the information for data sets that require the specified carriage (FCB) name (carr).

CH=tab or (tab[,tab...]) or ?

Displays the image or table requirements for all 3800 data sets in the queue (?) or information for data sets requiring the designated character arrangement table (tab) or tables. Up to four table names may be displayed. Parentheses are required as shown.

CJ=Y or N or ? or client-job-string

Displays SYSOUT with spinoff job names only (Y). Displays SYSOUT without spinoff job names only (N). Displays spinoff job name and spinoff job id if applicable (?). Displays SYSOUT whose spinoff job name or spinoff job id matches client-job-string only (client-job-string). If none of CJ=, CJID=, and CJNM= is specified, all work is displayed and SYSOUT with spinoff job names is indicated by the string **CJ**.

CJID=Y or N or client-job-id

Displays SYSOUT with spinoff job ids only (Y). Displays SYSOUT without spinoff job ids only (N). Displays SYSOUT from a specific spinoff job id only (client-job-id).

CJNM=client-job-name

Displays SYSOUT with a specific spinoff job name only.

CL=class or ?

Displays information for data sets in all output classes (?) or the designated output class (class).

CM= module or (module, trc) or NONE or ?

Displays copy modification module requirements for all of output data sets (?), in the queue, information for data sets requiring the designated copy modification module (module), or information for data sets requiring the designated copy modification module and table reference character (trc). NONE specifies that data sets without copy modification requirements are to be displayed.

CONS=con

Specifies the console to which the response to this command is to be sent. If omitted, the response is sent to the console on which you entered the command. You must specify the console's name on the CONS parameter.

D=node|node.remote|?

SNA/NJE

For Q=BDT, the node must be a SNA/NJE defined node. The remote part of the specification is a secondary destination that can only be specified with DD=ddname or DSN=dataset name.

TCP/IP

For Q=TCP, the node must be a TCP/IP defined node. The remote part of the specification is a secondary destination which can only be specified with DD=ddname or DSN=dataset name.

WTR/HOLD

For Q=HOLD or Q=WTR the destination node can be a JES3 managed device, a PSF managed device, or an application name. The remote part of the specification is a secondary destination which should be a user ID and can only be specified when DD=ddname or DSN=data set name.

D=dest or ?

Displays the destination of all (?) network job or SYSOUT streams in the output queue, or displays information about job or SYSOUT streams for the specified destination (node or node.remote).

Displays all the destinations of the specified data set (?), or displays information about the data sets of the specified destination (node or node.remote).

DD=ddn|?

Displays a summary of output for the designated ddname (ddn). Specify ddn using procstepname.jobstepname.ddname. You must include a period as a qualifier for names that you omit, or displays a summary of output for all data sets of a given job (?). The output summary will display both the three-qualifier ddname and the five-qualifier data set identifier (dsn) of a data set. The job must be specified (J=) if the keyword DD is used. The DD= and DSN= keywords are mutually exclusive; that is, you cannot include both the DD= and the DSN= keywords on the same command.

Displays a summary of output for the designated ddname (ddn). Specify ddn using **procstepname.jobstepname.ddname** (for example, ..JESYSMSG). Include a period for names that you omit.

Displays a summary of output for all data sets of a given job (?).

DG=devgroup or ?

Displays the status of all data sets created by jobs submitted from the designated device group or destined for an output device in the designated group. Device group names are assigned to devices during initialization.

Note: The DG= parameter cannot be issued from a remote workstation or from NJE.

DSID =ddn or jobno or ?

Displays the information for all 3540 output data sets (?) or a single designated data set (ddn).

DSN=dsn|?

Displays a summary of output for the designated data set (dsn) or displays a summary of output for all data sets of a job (?). You must specify the job (J=) keyword. The DD= and DSN= keywords are mutually exclusive; that is, you cannot include both the DD= and the DSN= keywords on the same command.

When specified, DSN can be either a fully qualified data set name or only the data set number.

- When specifying the fully qualified data set name, use **DSN=userid.jobname.jobid.datasetnumber.dsname**. You must include all five qualifiers.
- When specifying only the data set number, use **DSN=...datasetnumber**. Even though the first three qualifiers and the fifth qualifier are left out, the initial separator periods are still required. The final trailing separator period is not required.

F=form or ?

Displays the forms required for all work in the queue (?) or information for data sets requiring the specified form name (form).

FD=formdef or ?

Displays information for data sets requiring the specified FORMDEF (*formdef*) or the FORMDEF required for all work in the queue (?).

FL=flash-id or NONE or ?

Displays flash (forms overlay) requirements for all data sets (?), information for output requiring the designated flash name (flash-id), or information for data sets with no flash requirements (NONE).

GT=PRT or PUN

Specifies the general type of output whose writer-selection characteristics are to be modified: print data sets (PRT), or punch data sets (PUN).

H=S|SYS or O|OPER or U|USER or Y|N|?

(S|SYS,O|OPER,U|USER)

(S|SYS,O|OPER)

(S|SYS,U|USER)

(O|OPER,U|USER)

Displays the data sets placed in the hold state by the system, the operator, or the user. You can specify one or more of these hold types (S|SYS, O|OPER, U|USER) in any order.

If you specify more than one operand for H=S|SYS and O|OPER and U|USER, you must use parentheses. Parentheses are optional if you specify only one operand.

You cannot specify S|SYS, O|OPER or U|USER with Y, N or ?.

When asking for hold information about the system (S|SYS), operator (O|OPER), or user (U|USER), you must specify the DD= parameter with a designated ddname or ?, or you must specify DSN= with a designated data set name or ?.

Y, N or ? are mutually exclusive; that is you can only specify one of these operands.

ID=userid

Displays output information for all users (?) or a designated user (userid).

IP=Y or N or ipaddr or ?

Displays one of the following:

- the IP address required for all work in the queue (?)
- information for data sets that have an IP address (Y)
- information for data sets that do not have an IP address (N)
- information for data sets that have the specified IP address (*ipaddr*).

The IP variable (*ipaddr*) is case sensitive and must be enclosed in single quotation marks. If the address itself contains imbedded quotation marks, each one must be represented by two single quotation marks.

J=jobno or jobname or ?

Displays the output information for the specified JES3 job (jobno or jobname) or for all jobs (?).

Specifies the job for which 3800 data set information is to be displayed. If omitted, the display includes all jobs that have output destined for the 3800 printer.

L=nnnnnnnn or ? or -nnnnnnnn

Specifies to select for display data sets having a specified number of lines.

nnnnnnnn (1 to 8 characters)

Data sets with at least the specified number of lines.

(?)

All data sets regardless of line count

-nnnnnnnn (up to 7 characters in length)

Data sets with no more than the specified number of lines. For example, L=-1000 selects data sets for display whose line count does not exceed 1000.

N=10 or nnnnnn or ALL

Specifies the number of detail lines (0 through 999999) to be displayed on the console or that all lines of the response to the INQUIRY command are to be displayed. If you omit the N= keyword, a maximum of ten lines is displayed.

OB=nnn or NONE or ?

Displays the ID of the printer output bin for all data sets (?), information for all data sets with the designated printer output bin ID (00001 through 66535), or information for data sets with no printer output bin ID (NONE) be displayed.

OUTDISP=? or H|HOLD or K|KEEP or L|LEAVE or W|WRITE or N|NONE

Displays the output disposition of all data sets in the output queue (?) or displays information about data sets with the specified output disposition.

P=prty or ?

Displays the priorities of all (?) network job or SYSOUT streams in the output queue, or displays information about job or SYSOUT streams having the specified priority.

PD=pagedef or ?

Displays information for data sets requiring the specified PAGEDEF (*pagedef*) or the PAGEDEF required for all work in the queue (?).

PG=nnnnnnnn or ? or -nnnnnnnn

Specifies to select for display data sets having a specified number of pages.

nnnnnnnn (1 to 8 characters)

Data sets with at least the specified number of pages.

(?)

All data sets regardless of page count.

-nnnnnnnn (up to 7 characters in length)

Data sets with no more than the specified number of pages. For example, PG=-500 selects data sets for display whose page count does not exceed 500.

PM=value or ?

Display data sets for the process mode specified on this parameter or displays the process mode values for all data sets.

REQ=ALL

Displays summary information for each job in the specified queue.

,S

Specifies the total number of JES3 jobs. The total number of JES3 jobs or BDT jobs is summarized with messages IAT8119 and IAT8141. Any IAT8131 messages are written to the hardcopy log. If you omit S, all messages are written to both the hardcopy log and the console.

Specifies that only summary message (IAT8119) can be displayed on the console. Any IAT8131 messages are written to the SYSLOG.

S=nnn

Specifies the sequence number of the data set to be displayed. Use this keyword only when several data sets have identical ddnames. S=1 is the default. This keyword can only be used when using the DD= keyword.

SL=seclabel or ?

Specifying a security label (seclabel) displays a summary of output with the designated security label. Specifying a question mark (?) displays a summary of output with the security label of the userid who requested the APPC to run. If you are dealing with APPC SYSOUT, SL=? displays a summary of output with the security label of the userid who requested the APPC transaction program to run. If DD= or DSN= is specified, the output information displayed will be by data set rather than by job. For additional information about security labels, see *z/OS JES3 Initialization and Tuning Guide* or *z/OS Security Server RACF Security Administrator's Guide*.

SS=C or S or ?

Displays stacker requirements for all output data sets (?), information for data sets requiring the continuous form stacker option (C), or information for data sets requiring the burster-trimmer-stacker option be displayed (S).

ST=? or devtype

Specifies that all specific JES3 device requirements be displayed (?) or output for the designated JES3 device type be displayed (devtype).

T=term or ?

Specifies that JES3 display the status of all data sets created by jobs submitted from the designated RJP terminal or from all (?) RJP terminals.

TG=group-id or ?

Displays the group id of all data sets or SYSOUT streams in the output queue, or displays information about job or SYSOUT streams that have the specified group-id. The group-id is an 8-byte alphanumeric value that is unique for each network job stream or network SYSOUT stream within a JES3 job. The group identifier is displayed in the form: TCPxxxxx. xxxxx represents a value from 0 to 32767.

TS=?, ACTIVE, INACTIVE or QUEUED

Displays the status of all TCP/IP job streams or SYSOUT streams in the output queue, or displays information about job or SYSOUT streams with the specified status.

ACTIVE

Displays the work that a Netserv is currently processing.

INACTIVE

Displays the work that has been built by output service.

QUEUED

Displays the work that has been queued to a Netserv for processing.

TT=JOB or SYSOUT or ?

Displays all TCP/IP job or SYSOUT streams in the output queue, displays information about all job streams in the output queue (JOB), or displays information about all SYSOUT streams in the output queue (SYSOUT).

*INQUIRY,U

BY=nnnnnnnn or ? or -nnnnnnnn

Specifies to select for display data sets having a specified number of bytes.

nnnnnnnn (1 to 8 characters)

Data sets with at least the specified number of bytes.

(?)

All data sets regardless of size.

-nnnnnnnn (up to 7 characters in length)

Data sets with no more than the specified number of bytes. For example, BY=-4096 selects data sets for display whose size in bytes does not exceed 4096.

U=train or ?

Displays the train (UCS) name for all data sets in the queue (?) or information for data sets having the specified train name (train).

W=extwriter or ?

Specifies information for all external writer data sets (?) or the designated external writer data sets (extwriter).

Rules

- You cannot code AGE= and BS= together in the same command.
- If you specify REQ=ALL with Q=TCP or Q=BDT, JES3 displays the status of all the network job streams (TS=?) or SYSOUT (BS=?) streams.
- The use of IP=?, IP=*ipaddr*, FD=, and PD= will cause extra I/O to be performed and could affect performance. When possible, use the J= keyword to limit the search to one job or the N= keyword to limit the number of jobs processed.
- If you specify more than one operand for H=S|SYS and O|OPER and U|USER, you must use parentheses. Parentheses are optional if you specify only one operand. If you use H=Y or N or ? only one operand is allowed.

Examples

Display information for a specified data set with the data set identifier
SUPERU.INTEREST.JOB00071.D000000B.? created by the job INTEREST on the hold queue:

```
*I U Q=HOLD,J=INTEREST,DSN=SUPERU.INTEREST.JOB00071.D000000B.?,SL=?
```

Display all jobs destined for NODE5:

```
*INQUIRY,U,Q=WTR,J=?,D=NODE5
```

Display which data sets are destined for userid WS001 at node NODE5. The operator specifies both the job and data sets name:

```
*INQUIRY,U,Q=WTR,J=MYJOB,D=NODE5.WS001,DD=?
```

Display information for output on the WTR queue created by job PAYROLL that has a five-qualifier data set identifier of SUPERU.PAYROLL.JOB00070.D000000A.?:

```
*I U Q=WTR,J=PAYROLL,DSN=SUPERU.PAYROLL.JOB00070.D000000A.?
```

Display information for all output on the WTR queue created by job PAYROLL:

```
*I U Q=WTR,J=PAYROLL,DD=?
```

Display information for all output on the writer queue that does not contain an IP address.


```
*I,U,J=?,D=?,ID=?,D=?,IP=N
```

Display information for all output on the writer queue that has an IP address of KOLA@myhouse. The IP variable is case sensitive and must be enclosed in quotation marks.

```
*I,U,J=?,DD=?,IP='KOLA@myhouse'
```

Display all SYSOUT streams destined for TCP/IP connected node NODE2:

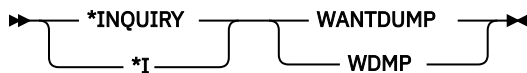
```
*INQUIRY,U,Q=TCP,J=?,D=NODE2,TT=SYSOUT
```

***INQUIRY,WANTDUMP**

Function

Use the *INQUIRY,WANTDUMP command to display the current setting of the WANTDUMP parameter from the OPTIONS statement.

Syntax

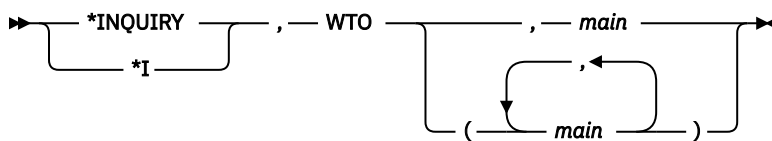


Displaying WTO pace-monitoring parameters *INQUIRY,WTO

Function

Use the *INQUIRY,WTO command to display the WTO pace-monitoring parameters for a specified system. The original values were specified in the JESMSGMT parameter on the MAINPROC statement in the JES3 initialization stream; these might have been modified by the *MODIFY,WTO command.

Syntax



Parameters

main

Identifies the main whose parameters you want to display.

Note: Because of the clock resolution used (1.0486 seconds), the displayed value may be off by as much as one second from what you specified in the initialization stream or on the last *MODIFY,WTO command.

Displaying DSP information and dump suppression *INQUIRY,X

Function

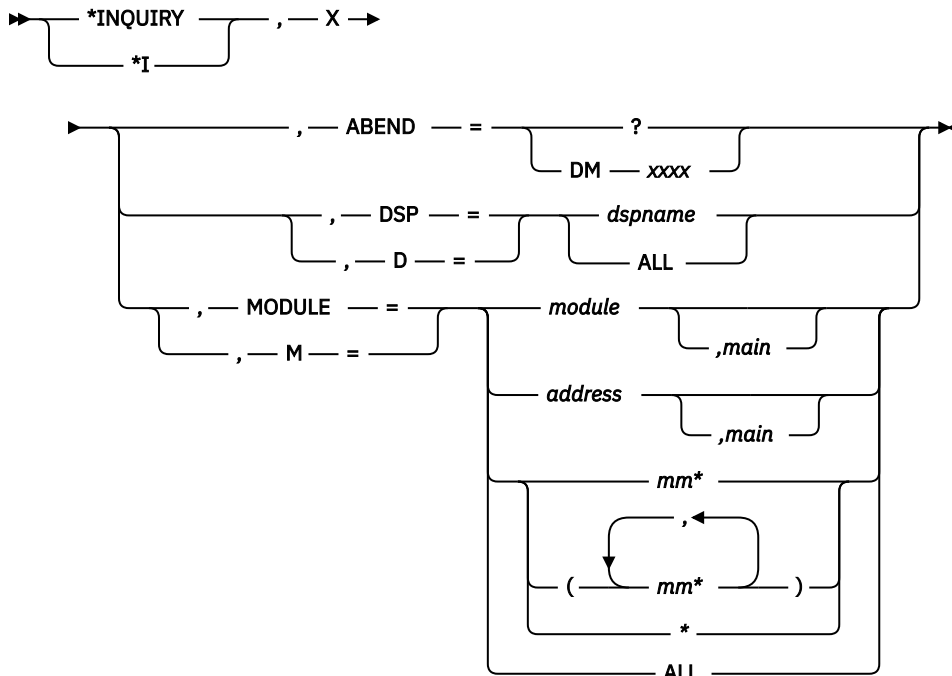
Use the *INQUIRY,X command to display:

- Dump suppression information about a specific JES3 failsoft code or all codes with suppressed dumps

*INQUIRY,X

- Maximum counts and status information for C/I service DSPs running *in the JES3 global address space*
- The status of the C/I, DISABLE or INTRDR DSP
- Information about one or more modules

Syntax



Parameters

ABEND=?

Displays a list of all JES3 failsoft codes which have dump suppression active.

ABEND=DMxxxx

Displays the dump suppression status and count of suppressed dumps for a specific JES3 failsoft code, and displays the number of dumps that have been suppressed for the JES3 failsoft code.

DSP or D=dspname or ALL

Displays the use count of a specific JES3 dynamic support program (DSP) or for all DSPs (ALL).

MODULE or M=module or ALL

Displays information about one or more modules such as the number of times a module has been loaded, the compile date and time, and the current APAR number.

If ALL is specified, all modules are displayed.

If module is specified, the specific module is displayed.

If mm* is specified, all modules whose names begin with the character string that precedes the "*" are displayed. For example, M=IATMD* would display all modules that begin with the character string IATMD.

The *I,X,M=modname command can be used to display information about modules that have been loaded using the ALOAD or LOAD macros, modules which are loaded in the link page area (LPA) or CSA, and modules (CSECTs) which are part of the IATNUC load module.

If a generic module name or ALL is specified, only modules that are loaded using the ALOAD macro are displayed.

main

Displays information about the specified module on the specified system (M=*module,main*).

MODULE or M=address

Specifies the address within a module. When address is specified, the information for the module that contains that address is displayed, along with the offset of address from the start of the module.

The *I,X,M=*address* command can be used to display information about modules that have been loaded using the ALOAD or LOAD macros, modules that are loaded in the link page area (LPA) or CSA, and modules (CSECTs) that are part of the IATNUC load module.

main

Displays information about the module containing the address specified on the system specified (M=*address,main*).

Note: If the system name specified is a local processor, it must be connected to the global or the command will be rejected.

Examples

Display status information for C/I DSPs in the global address space:

```
*I,X,D=CI
```

Display maximum counts for POSTSCAN DSPs in the global address space:

```
*I,X,D=POSTSCAN
```

Display the dump suppression status for JES3 failsoft code DM656:

```
*I,X,ABEND=DM656
```

Display the list of JES3 failsoft codes which have dump suppression active:

```
*I,X,ABEND=?
```

Display information for module IATIIFS:

```
*I,X,M=IATIIFS
```

Display information for module IATDMNC, which is the IATNUC load module:

```
*I,X,M=IATDMNC
IAT8476 IATDMNC - EP=04F219C0 LOADMOD=IATNUC REL=HJS6604 DATE=03/14/97
IAT8476 TIME=15:30 APAR=NONE PTF=OS240 SIZE=00004680 AMODE=31 RMODE=ANY
```

Display information for all MDS modules:

```
*I,X,M=IATMD*
```

Display information for the module that contains the address 4B010000:

```
*I,X,M=4B010000
```

Display information for module IATWLSRV on SY2.

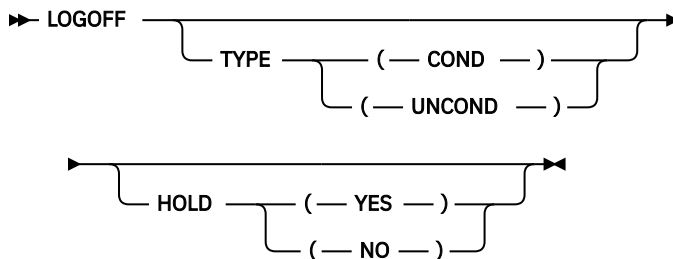
```
*I,X,M=IATWLSRV,SY2
```

Logging off at a SNA RJP workstation LOGOFF

Function

The workstation operator can use the LOGOFF command to end an active session between the workstation logical unit (LU) and JES3. The LOGOFF command for unformatted system services users (such as the IBM 3770 Data Communications System) is as follows:

Syntax



Parameters

TYPE (COND) or (UNCOND)

Specifies either conditional (COND) or unconditional (UNCOND) termination. For unconditional termination, JES3 checkpoints all active functions and disconnects the LU. For conditional termination, JES3 allows the currently active function to complete and then disconnects the LU.

HOLD (YES) or (NO)

YES specifies that the workstation-to-VTAM connection is retained. NO causes the workstation to disconnect from VTAM.

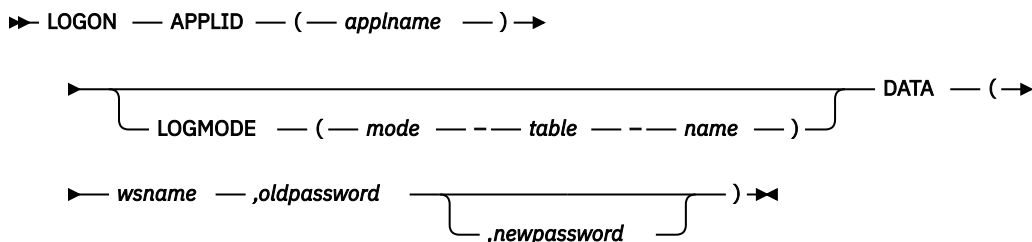
The LOGOFF command for formatted system services users (such as the IBM 3790 Communications System) is workstation dependent and described in the appropriate document for that workstation.

Logging on at a SNA RJP workstation LOGON

Function

Use the LOGON command to establish a session between JES3 SNARJP and the workstation using the parameters specified in the VTAM LOGMODE mode table name.

Syntax



Parameters

APPLID (applname)

Specifies the name of the application program as specified on the JES3 COMMDEFN initialization statement.

LOGMODE (mode-table-name)

Specifies the mode table to be passed to JES3 in response to a JES3 INQUIRE request of VTAM. The mode table is part of the VTAM system definition. See *z/OS JES3 Initialization and Tuning Guide* and *VTAM Programming* for additional information about the mode table.

DATA (wsname,oldpassword[,newpassword])

Specifies the workstation and its password information. The wsname parameter specifies the name of the workstation as defined on the JES3 RJPWS initialization statement. The oldpassword parameter specifies the one to eight character password for this workstation. Use the newpassword parameter to change the workstation password when RACF password protection for RJP is active. If RACF password protection for RJP is not active, use the *MODIFY,T command to change the workstation password.

Rules

If AUTO=(Y,luname,mode name) is not coded on the RJPWS initialization statement, logical unit luname is not automatically logged on when SNA RJP is activated. In this case, the SNA RJP workstation operator must issue the LOGON command to establish a session between the workstation and JES3.

For workstations using unformatted system services, such as the IBM 3770 Data Communication System, the syntax of the LOGON command is as follows:

If the workstation is using formatted system services, such as the IBM 3790 Communications System, the format for the LOGON command is workstation dependent. However, the user data field must be as follows:

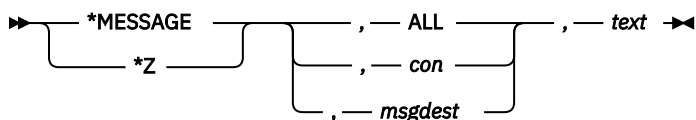
```
wsname,oldpassword[,newpassword]
```

Sending messages to other consoles *MESSAGE,dest

Function

Use the *MESSAGE command to send a message to one or more consoles on the system. You can direct messages to a specific console or to a group of consoles designated by a common MCS routing code or JES3 destination class.

Syntax



Equivalent MVS command

SEND 'message',CN=console

Sends a message to the specified MCS console. The console variable must be the console name. See *z/OS MVS System Commands* for more information about the SEND 'message',CN=console id command.

Result

- JES3 sends the specified message text to the designated remote node. When the message appears on the receiving console, it identifies the sending node. If the text is longer than the maximum allowable length for the receiving console, the excess characters are truncated.

Examples

Send a message to the operator at remote workstation STA3 on node BOS:

```
*MESSAGE,BOS.STA3, Your output is printed
```

Send a message to VM userid ESH on node MIA:

```
*Z,MIA.ESH, We're routing four jobs to your system
```

Send a message to the operator on node DCA:

```
*Z,DCA, Jobs have been routed to your system
```

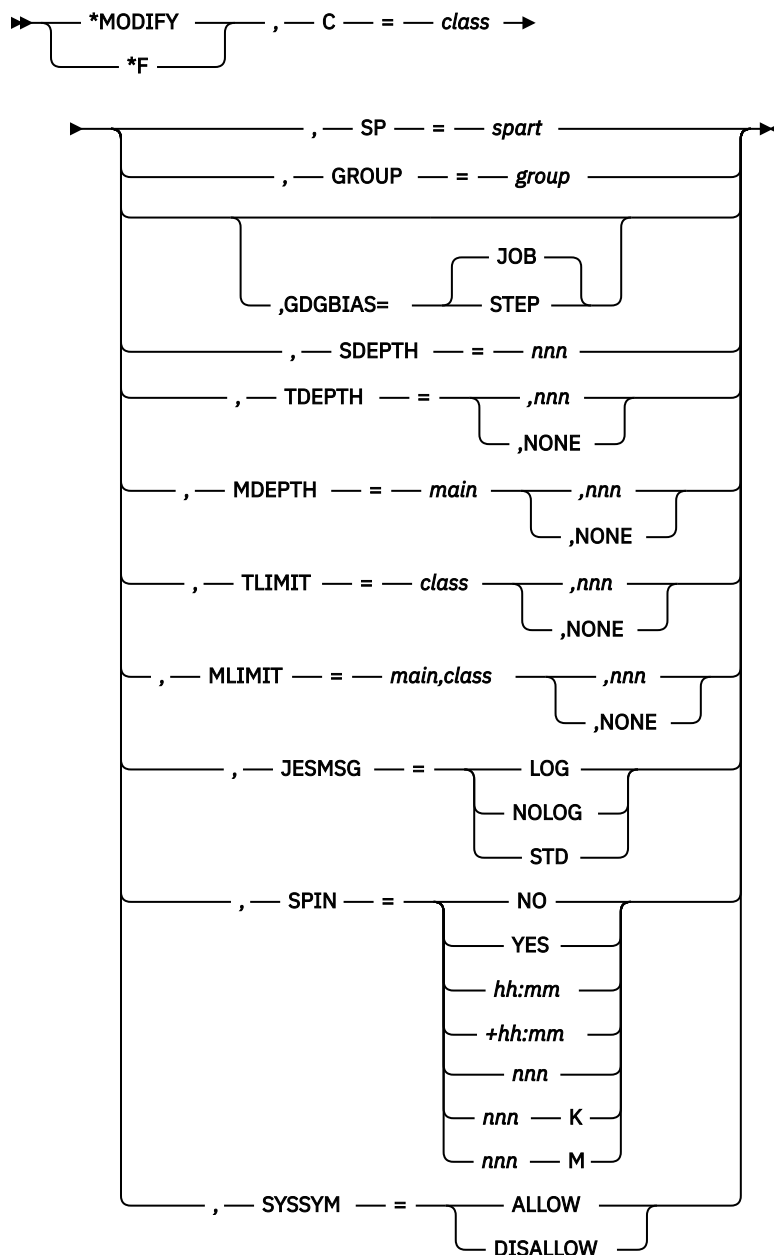
Changing JES3 job class characteristics *MODIFY,C=class

Function

Use the *MODIFY,C=class command to:

- Reassign spool data for all jobs in a specific job class from one spool partition to another.
- Control the spinning of JESlog data sets.
- Control writing to the JESMSG LG data set.
- Control whether batch jobs are allowed to use system symbols in JCL.
- Switch a class from one group to another.
- Change the following class limits:
 - SDEPTH
 - TDEPTH
 - TLIMIT
 - MDEPTH
 - MLIMIT

Syntax



Parameters

C=class

Specifies the name of a job class to be modified. JES3 reassigns spool data for all jobs in this job class to the specified spool partition.

SP=spart

Specifies the name of the spool partition. JES3 writes spool data for all jobs in the specified job class to this partition.

GROUP=group

Specifies the name of a job class group.

GDGBIAS=

Specifies how relative references to a generation data set in a DD JCL statement are resolved. If the job's JOB JCL statement includes the GDGBIAS= keyword, the job CLASS specification for GDGBIAS is ignored.

JOB

Relative references to a generation data set are resolved on a job basis. The system establishes the relationship between the relative generation number and the absolute generation number when the generation data set is first referenced in the job. This relationship is consistent throughout the job.

STEP

Relative references to a generation data set are resolved on a job step basis. The system establishes the relationship between the relative generation number and the absolute generation number when the generation data set is first referenced in each job step. Each job step that references the generation data set establishes a new relationship.

SDEPTH=nnn

Specifies the number of jobs requiring mountable devices. You can specify from 0 to 255 jobs.

TDEPTH=nnn or NONE

Specifies the number of jobs in this class that can execute in the total JES3 complex at one time. You can specify from 0 to 255 jobs.

If you specify NONE, you are indicating that you no longer want TDEPTH to be used for job scheduling. For example, TDEPTH=NONE indicates that TDEPTH is not to be used for determining whether a job should be selected for execution. Specifying TDEPTH=0 is not the same as specifying TDEPTH=NONE. TDEPTH=0 will stop jobs from being scheduled.

MDEPTH=main,nnn or MDEPTH=NONE

Specifies the number of jobs in this class that can execute on a given processor at one time. You can specify from 0 to 255 jobs.

If you specify NONE, you are indicating that you no longer want MDEPTH to be used for job scheduling. For example, MDEPTH=main,NONE indicates that MDEPTH is not to be used for determining whether a job should be selected for execution. Specifying MDEPTH=main,0 is not the same as specifying MDEPTH=main,NONE. MDEPTH=main,0 stops jobs from being scheduled on that system.

Note: Do not enclose *main,nnn* in parentheses.

TLIMIT=class,nnn or TLIMIT=NONE

Specifies the number of jobs of other job classes that can execute in the total JES3 complex and still let jobs in this class execute. You can specify from 0 to 255 jobs.

If you specify NONE, you are indicating that you no longer want TLIMIT to be used for job scheduling. For example, TLIMIT=class,NONE indicates that TLIMIT is not to be used for determining whether a job should be selected for execution. Specifying TLIMIT=class,0 is not the same as specifying TLIMIT=class,NONE. TLIMIT=class,0 stops jobs from being scheduled on that system.

Note: Do not enclose *class,nnn* in parentheses.

MLIMIT=main,class,nnn or MLIMIT=main,class,NONE

Specifies the number of jobs of other job classes that can execute on a given processor and still let jobs in this class execute. You can specify from 0 to 255 jobs.

If you specify NONE, you are indicating that you no longer want MLIMIT to be used for job scheduling. For example, MLIMIT=main,class,NONE indicates that MLIMIT is not to be used for determining whether a job should be selected for execution. Specifying MLIMIT=main,class,0 is not the same as specifying MLIMIT=main,class,NONE. MLIMIT=main,class,0 stops jobs from being scheduled on that system.

Note: Do not enclose *main,class,nnn* in parentheses.

JESMSG=**LOG**

Specifies that all WTOs and WTORs are logged in the JESMSGLOG spool data set.

NOLOG

Specifies that all WTOs and WTORs are not logged in the JESMSG LG spool data set.

STD

Specifies that the JESMSG= keyword on the STANDARDS initialization statement determines whether JES3 suppresses WTOs and WTORs.

SPIN=

YES

Specifies that JESlog data sets are eligible to be spun.

NO

Specifies that JESlog data sets are not eligible to be spun.

hh:mm

Specifies that the JESlog data sets are spun every day at the time indicated by hh:mm. The range of hh is 00 through 23. The range of mm is 00 through 59.

+hh:mm

Specifies the time interval between the spinning of JESlog data sets. The range of hh is 00 through 99. The range of mm is 00 through 59 unless hh has a value of 00 in which case mm has a range of 10 through 59.

nnn

Specifies that the JESlog data sets are spun each time either of the data sets has nnn lines that are written to it since the last spin operation or from the start of job selection. The range of nnn is 500 through 999.

nnnK

Same as SPIN=nnn except that nnn represents thousands of lines. The range of nnn is 1 through 999.

nnnM

Same as SPIN=nnn except that nnn represents millions of lines. The range of nnn is 1 through 999.

SYSSYM=ALLOW or DISALLOW

Specifies whether batch jobs of this class are allowed to use system symbols in JCL.

ALLOW

If you specify ALLOW, batch JCL is allowed to use system symbols. System symbols in batch JCL are replaced with values from a system where the job is eligible to execute. This system is derived from the set of systems defined for this class, the system affinity of the job, and the scheduling environment of the job (at the time of conversion). It is possible for symbols and their values to come from a system that differs from the system where the batch job executes, which can occur when there are several systems on which the job is eligible to execute.

DISALLOW

If you specify DISALLOW, batch JCL is not allowed to use system symbols. System symbols are not replaced with values when the JCL is processed.

Results

- When the *MODIFY,C=*class* command is used to change the spool partition:
 - JES3 assigns the specified job class to the specified spool partition unless the partition is a dummy partition. If the partition is a dummy partition, JES3 allows the data to overflow.
 - JES3 writes spool data for each new job in the job class to the new spool partition unless other partitions were specifically assigned for the job's SYSOUT data or in the job's //*MAIN control statement.
 - The command does not affect spool data for jobs in the specified class that already have processed before you entered the command.
- Only the *MODIFY,C=*class*,GROUP=*group* command remains in effect over a JES3 hot start. The change is lost if a cold, warm, or hot start with refresh is performed.

Example

Change the spool partition that is assigned to contain spool data for all jobs in job class D from partition PARTB to PARTC:

```
*F, C=D, SP=PARTC
```

Changing the JES3 configuration *MODIFY,CONFIG

Function

You use this command to make configuration changes dynamically to JES3. The command is equivalent to adding the following initialization statements to the initialization stream:

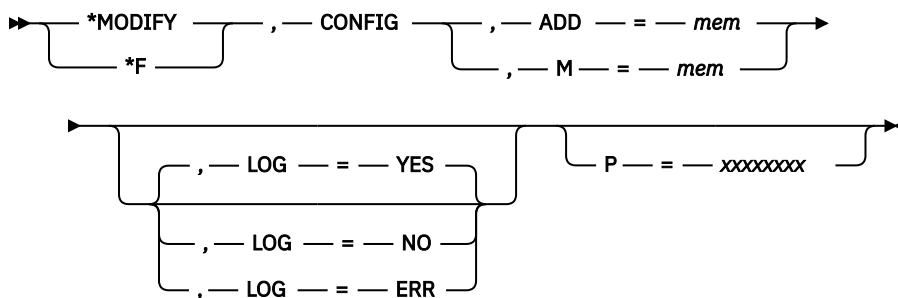
- SNA RJP
 - RJPWS - SNA RJP Workstation Characteristics
 - CONSOLE - SNA RJP Consoles
 - DEVICE - SNA RJP Devices
- Non-channel Attached FSS Printers
 - FSSDEF - Functional Subsystem Definition
 - DEVICE - I/O Device Definition

See [z/OS JES3 Initialization and Tuning Reference](#), DEVICE statement summary table, "Restart or Command Modification" for restrictions on adding FSS managed devices.

- Network Job Entry
 - DESTDEF - Destination Definitions

Note: If the JES3IN DD data set is concatenated and you use the *MODIFY,CONFIG command, then only the members in the first data set of the concatenation are available to be specified with the ADD= keyword of the *MODIFY,CONFIG command.

Syntax



Parameters

ADD=mem|M=mem

Specifies the member name to be read from the data set allocated to the JES3IN DD statement in the JES3 cataloged start procedure. This member contains the initialization statements that are used to add the new definition to JES3.

LOG=YES or LOG=NO or LOG=ERR

Specifies whether you want a log data set generated. The log data set contains the initialization statements and any error messages that are generated. The log data set is then spun off for printing at the end of *MODIFY,CONFIG processing.

***MODIFY,DEST**

YES

Create the log data set.

ERR

Create the log data set only if an error occurs.

NO

Do not create the log data set. All error messages will be displayed on the issuing console.

YES is the default.

P=xxxxxxxx

xxxxxxxx is a parameter string which will be passed to IATUX15 as the statements are processed. This is similar to the P= parameter that can be specified in response to message IAT3012.

Results

The requested information is added to the configuration.

Example

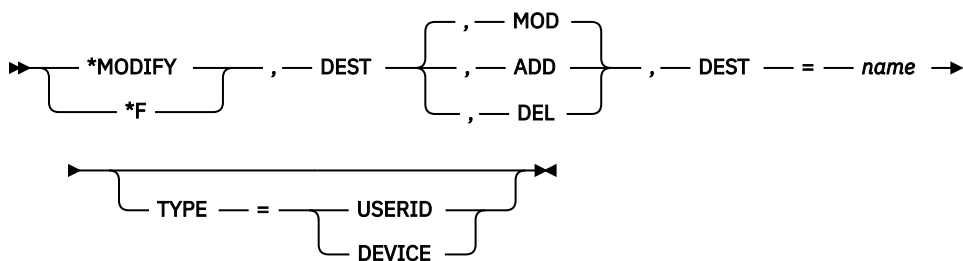
```
*F,CONFIG,ADD=RJP,P=NEW
```

Changing defined destinations for inbound NJE SYSOUT ***MODIFY,DEST**

Function

You use this command to add or delete defined destinations for NJE SYSOUT, or to modify the type of destination (USERID or DEVICE).

Syntax



Parameters

DEST=name

Specifies the name of the destination to be added, modified, or deleted.

,MOD

Specifies that the destination already exists in the table and is to be modified.

MODIFY,DEST,MOD is the default.

,ADD

Specifies that the destination is to be added to the table.

,DEL

Specifies that the destination is to be deleted from the table.

,TYPE=USERID or DEVICE

Specifies whether the destination is a user ID or a device.

Results

Modifies, adds, or deletes a specified destination.

Example

```
*F,DEST,MOD,DEST=PRINT*,TYPE=DEVICE
```

JES3 event tracing *MODIFY,E

Function

Use JES3 TRACING to record specific events that occur during JES3 processing. The specific events are described in [z/OS JES3 Diagnosis](#). The trace facility always records trace ids 28 and 29.

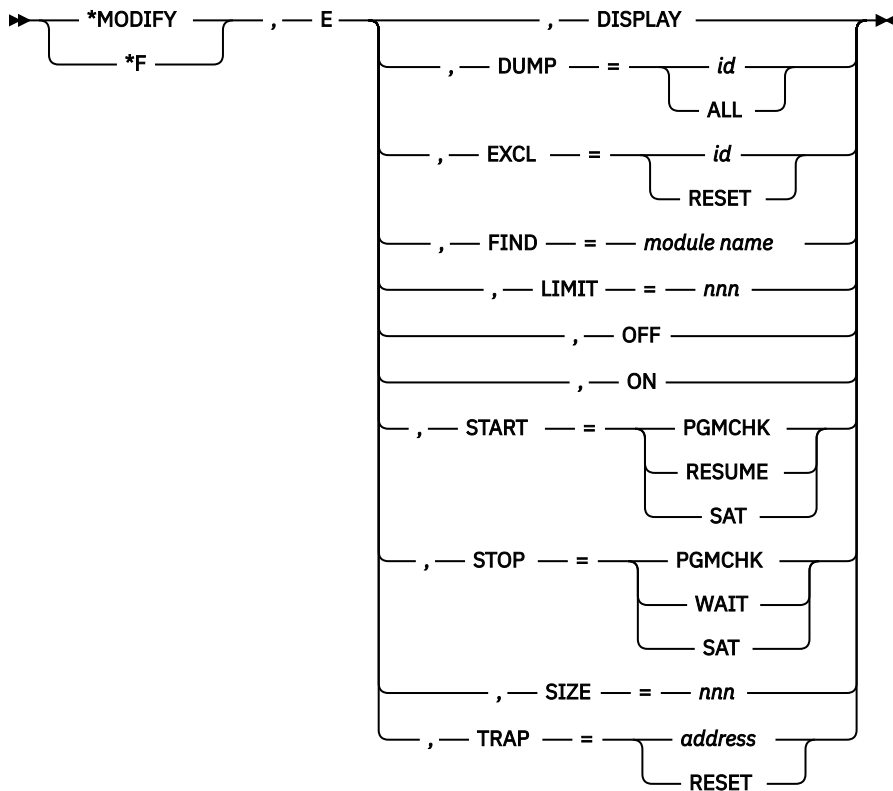
An entry will be made in the JES3 event recording trace table unless the JES3 event trace facility has been altered by the *MODIFY,E command.

Note: IATNUC path tracing is always on and cannot be turned off. Only event tracing can be turned off.

Use the *MODIFY,E command to enable, disable, or alter the JES3 event trace facility. This command should only be used as directed by the system programmer.

Except for trace IDs 28 and 29, the *MODIFY,E command is valid for all trace IDs. These trace IDs are always kept active to maintain a record of control flow within JES3.

Syntax



Parameters

DISPLAY

Specifies that the trace control data area is to be dumped to the console.

DUMP=id or ALL

Specifies that the designated trace ID entries or all IDs (ALL) are to be dumped to the console. Tracing is suspended for the duration of this dump parameter processing (subject to any limit imposed by LIMIT=). You cannot specify trace ids of 28 or 29.

EXCL=id or RESET

Specifies that the exclusive trace identification designated is to be entered into a queue of exclusive trace IDs. The trace routine only traces the IDs found in this queue. (Each command entered places one ID in the queue; up to ten IDs can be requested.) If RESET is specified, the exclusive trace ID queue is reset. The trace routine resumes tracing on all IDs. You cannot specify trace ids of 28 or 29.

FIND=module name

Locates the entry point of the named module, except for modules in JES3 nucleus or the link pack area (LPA). To locate JES3 nucleus modules or LPA modules, use the *START,DC,FIND=module command.

LIMIT=nn

Limits the number of entries (01 through 99) to be dumped to the operator console. If 00 is specified, a limit of 255 is imposed.

OFF

Specifies that the trace facility is to be disabled.

ON

Specifies that the trace facility is to be enabled.

START=PGMCHK or RESUME

Specifies that the trace facility is to reset the STOP=WAIT condition and force a program interrupt (PGMCHK), or that the trace facility is to post and return control to the calling function (RESUME).

START=SAT

Starts the spool allocation trace.

Note: Trace IDs 120 and 121 are generated with this keyword

STOP=PGMCHK or WAIT

Specifies that any time an ID in the exclusive-ID queue is traced, a X'0C6' program check is to occur in the trace routine, causing an abend of the calling function (PGMCHK) or stopping the calling function (WAIT). If WAIT is specified, other JES3 functions are allowed to continue and the stopped function enters an AWAIT state.

STOP=SAT

Stops the spool allocation trace.

SIZE=nnn

Specifies the trace table size for the trace table indicated on the START= keyword. The default value is 10 MB. If the trace table is allocated in a data space (for example, the SAT trace table), the maximum size allowed is 2,048 MB. If you specify 0, the the service allocates 956 KB unless it is overridden by your installation exit IEFUSI.

TRAP=address or RESET

Specifies that a dynamic trace call be inserted at the address specified. This must be an address within a module in the JES3 address space. The trace call has a fixed ID of one. This command overlays four contiguous bytes at the address specified. The contents of registers 0, 1, 2, 14 and 15 are destroyed.

If RESET is specified, the active trap is reset, and the overlaid instructions are restored if the module is still in virtual storage.

Changing device modes and workload *MODIFY,F

Function

Several attributes assigned to a functional subsystem (FSS) can be modified, allowing an installation to balance its workload and prevent bottlenecks. For example, if your current workload is heavy, you can have JES3 initiate a converter/interpreter (C/I) FSS by modifying the start value for that FSS from NO to YES.

Use the *MODIFY,F command to change the attributes of the specified FSS.

Use the *MODIFY,F command to increase or decrease the number of C/I service DSPs and JCL statements that can be processed simultaneously in a C/I FSS. Within one command only one parameter can be used for the specified C/I FSS.

Use the *MODIFY,F command to modify the mode associated with an AFP printer. The modify command is valid only when the device is inactive and offline.

The two writer process modes are:

- **AFP compatibility mode**

While running in AFP compatibility mode, JES3 drives the printer directly in the same way that an AFP model 1 is driven. Only line mode data (without embedded format controls) is printed. JES3 ignores JCL format control statements.

- **FSS mode**

While running in FSS mode, an output writer FSS drives the printer. Data that has embedded format controls, as well as line mode data, is printed.

Syntax



Parameters

D=devnum or /devnum or devname

Specifies the output device for which the mode is being modified. The device number can be a 3-digit or 4-digit hexadecimal number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd
dddd
/ddd
/dddd
```

where ddd and dddd represent the device numbers.

M=FSS

Specifies that the device is in FSS mode and is supported by an output writer FSS.

M=COMP

Specifies the device operate in AFP compatibility mode. Devices operating in AFP compatibility mode do not recognize advanced function presentation data stream (AFPDS) format controls.

FSS=(fssname [,fssname]....)

Specifies the name of the FSS being modified.

P=pname

Specifies the name of a procedure library member that contains JCL information for initiating the FSS.

DSPC= nnn or (,mmm) or (nnn,mmm)

Specifies the maximum number of C/I DSPs that can run simultaneously in a CI FSS; nnn specifies the maximum number of batch jobs that can be processed simultaneously and mmm specifies the maximum number of started task and TSO LOGON jobs that can be processed simultaneously. If both counts are specified as zero, the C/I FSS will end.

MD=msgdest

Specifies the JES3 destination class or the MVS routing code to be used to route FSS-related messages. The value takes effect the next time the FSS is started. MLG and ALL are incorrect destination classes for this keyword. IBM reserves certain routing codes for it's use and if specified these codes are ignored.

ST= Y or N

Specifies whether the converter/interpreter FSS is to be started automatically when the local main is connected to the global. If this value is changed from N to Y, JES3 attempts to start the FSS.

SYS=sysname

Specifies the main on which the FSS is to run.

(sysname1,sysname2)

Specifies that FSS will run on sysname2 when sysname1 is the global.

(sysname1,NONE)

Specifies that FSS will not run when sysname1 is the global.

T= Y or N

Specifies whether JES3 is to end the FSS when the global is ended as a result of a *RETURN command.

MAST= xxxxxxxx

Specifies the maximum number of JCL statements (0 to 99999999) that can be processed simultaneously in the converter/interpreter FSS. If zero is specified, no JCL statement limit is imposed.

Results

Some devices are capable of operating in both FSS or compatibility mode, such as the IBM 3800-3 printer. If you switch device modes, JES3 can alter the process mode definition.

JES3 maintains two process mode lists: one that contains a definition for the primary device mode and one that contains a definition for the alternate device mode. Your system programmer provides an initial

value for the primary device mode on the DEVICE initialization statement and JES3 assigns a default process mode value for the alternate device mode. JES3 uses the process mode list associated with the active device mode to determine the process mode definition.

Examples

Change to IATPLB08 the name of the procedure library member that contains JCL information for initiating FSS, WTSUBSYS:

```
*MODIFY,F,FSS=WTSUBSYS,P=IATPLB08
```

Change the number of C/I DSPs to run simultaneously in FSS CISUBSYS to 10 for batch jobs and 15 for TSO LOGON jobs:

```
*F,F,FSS=CISUBSYS,DSPC=(10,15)
```

Have JES3 initiate the C/I FSS CISUBSYS. (Start value is currently NO and DSP counts are greater than 0):

```
*F,F,FSS=CISUBSYS,ST=Y
```

Specify that FSS WTSUBSYS can run on SY1:

```
*F,F,FSS=WTSUBSYS,SYS=SY1
```

You do not want FSS WTSUBSYS to end if an *RETURN command is entered:

```
*F,F,FSS=WTSUBSYS,T=N
```

Set at 5000 the maximum number of JCL statements that can be processed in C/I FSS CISUBSYS:

```
*F,F,FSS=CISUBSYS,MAST=5000
```

Change the destination class of FSS WTSUBSYS messages to ERR:

```
*F,F,FSS=WTSUBSYS,MD=ERR
```

Modify the maximum allowable number of C/I DSPs in the C/I FSS, CISUBSYS, to 3 for batch jobs and 5 for started task and TSO LOGON jobs:

```
*F,F,FSS=CISUBSYS,DSPC=(3,5)
```

Modify the C/I FSS, CISUBSYS, so that it is not to be started automatically when the main connects:

```
*F,F,FSS=CISUBSYS,ST=N
```

Specify that the C/I FSS, CISUBSYS, should run on SY2:

```
*F,F,FSS=CISUBSYS,SYS=SY2
```

Use the following JES3 command to switch modes:

If you specify MODE=FSS and PM=PAGE on the DEVICE initialization statement, FSS is the primary device mode and PAGE is the process mode in effect.

However, if you enter:

```
*MODIFY,F,D=ddd,M=COMP
```

JES3 makes the alternate process mode list active and uses LINE as the process mode definition. FSS becomes the alternate device mode and PAGE becomes the alternate process mode definition.

***MODIFY,G**

Note: You can only update the process mode definition for the device mode that is currently active. If you alter the primary process mode definition, JES3 maintains the updated definition until a JES3 global main restart.

Changing GMS components *MODIFY,G

Function

Use the *MODIFY,G command to alter the status of the GMS component of JES3. GMS parameters should only be changed as directed by the system programmer.

Use the SP parameter on the *MODIFY,G command to reassign spool data for all jobs that run on a specific main or all mains from one spool partition to another.

Syntax

main or ALL

CHK

C or CLASS

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class

Specifies the name of the class to be modified.

ON or OFF

Specifies that the class named is to be enabled (ON) or disabled (OFF) for scheduling on the named main.

G or GROUP

Specifies that a GROUP initialization statement parameter is to be modified.

group

Specifies the name of the group to be modified.

ON or OFF

Specifies that the group named is to be enabled (ON) or disabled (OFF) for scheduling on the named main.

INIT,nnn

Specifies the number of dedicated initiators (nnn) to be assigned to the specified JES-managed group.

The INIT option can only be modified when the group is in JES mode.

ALLOC,opt

Specifies that the group initiator allocation option is to be modified. The allocation option determines when the execution resources are to be allocated to the JES-managed group. Four options are available: DEMAND, DYNAMIC, IPL, or MANUAL.

The ALLOC option can only be modified when the group is in JES mode.

DEMAND

Indicates that initiators are to be allocated to satisfy the requirements of selectable jobs in this group. The maximum number of initiators allowed is determined by the dedicated initiator count on the GROUP initialization statement.

DYNAMIC

Indicates that all execution resources are to be allocated when the first job of this group is eligible for scheduling on a main.

IPL

Indicates that the execution resources are to be allocated whenever IPL occurs on the main associated with this group. If subsequent reallocation is necessary, it must be done manually.

MANUAL

Specifies that the execution resources are to be allocated whenever the operator enters an *MODIFY command to turn the group on.

UNALLOC,opt

Specifies that the deallocation option is to be modified. The deallocation option determines when the execution resources are to be released from the JES-managed group. Three options are available: DEMAND, DYNAMIC, or MANUAL.

The UNALLOC option can only be modified when the group is in JES mode.

DEMAND

Indicates that the initiators are to be deallocated when the number of selectable jobs for this group is less than the number of inactive initiators for this group.

DYNAMIC

Indicates that all execution resources are to be released when no selectable jobs exist for this group.

MANUAL

Indicates that no execution resources are to be released until the operator disables the job class group with an *MODIFY command. MANUAL is the deallocation option for the default group JS3BATCH.

BAR,nn

Specifies that the JES-managed group scheduling barrier be changed to the number specified by nn.

The BAR option can only be modified when the group is in JES mode.

JSPAN,nnn

Specifies that the JES-managed group job span be changed to the number specified by nnn.

The JSPAN option can only be modified when the group is in JES mode.

MODE,JES | WLM

Specifies whether the group named is to be managed by JES (MODE,JES) or managed by WLM (MODE,WLM).

S or SELECT

Specifies that a SELECT initialization statement parameter is to be modified.

opt,val

Specifies the option to be modified and its new value. The following valid keywords override their counterparts on the SELECT initialization statement: CHOICE, INCL, INCR, MAGEL, MAGER, SAGEL, SAGER, SBAR, SDEPTH, and MODE (name specified in the NAME parameter). MAXI (maximum initiator count) is also a valid option to modify. The MAXI option is valid only if the maximum initiator value has been set because of a *START INIT command failure.

The maximum initiator count value should not exceed the current setting of the MAXUSER parameter (in the SYS1.PARMLIB member IEASYSXX), less the number of started tasks and TSO/E logons allowed.

Note: All is not a valid MAXI value. The MAXI value must be numeric.

SP

Assigns the specified main to the selected spool partition

spart

Specifies the name of a spool partition.

Results

- JES3 assigns the specified main(s) to the selected spool partition unless the partition is a dummy partition, in which case JES3 allows the data to overflow.
- JES3 writes spool data for each new job that runs on the specified main to the new partition unless other partitions were specifically assigned for the job's job class, SYSOUT data, or on the job's //*MAIN control statement.
- The command does not affect spool data for jobs that are running at the time you enter the command.
- The change does not remain in effect after you warm start JES3.

Examples

Allocate three initiators for group BATCH on SY1:

```
*F,G,SY1,G,BATCH,INIT,3
```

Deallocate all initiators for group BATCH on SY1:

```
*F,G,SY1,G,BATCH,INIT,0
IAT8456 GMS MODIFY COMPLETE NO ERRORS - SY1
```

Change mode from JES management to WLM management for group GRPA:

```
*F,G,ALL,G,GRPA,MODE,WLM
IAT8103 MODE CHANGED TO WLM FOR GROUP GRPA
```

Change the spool partition assigned to contain spool data for all jobs that execute on main SY3 from partition PARTB to PARTD:

```
*F,G,SY3,SP,PARTD
```

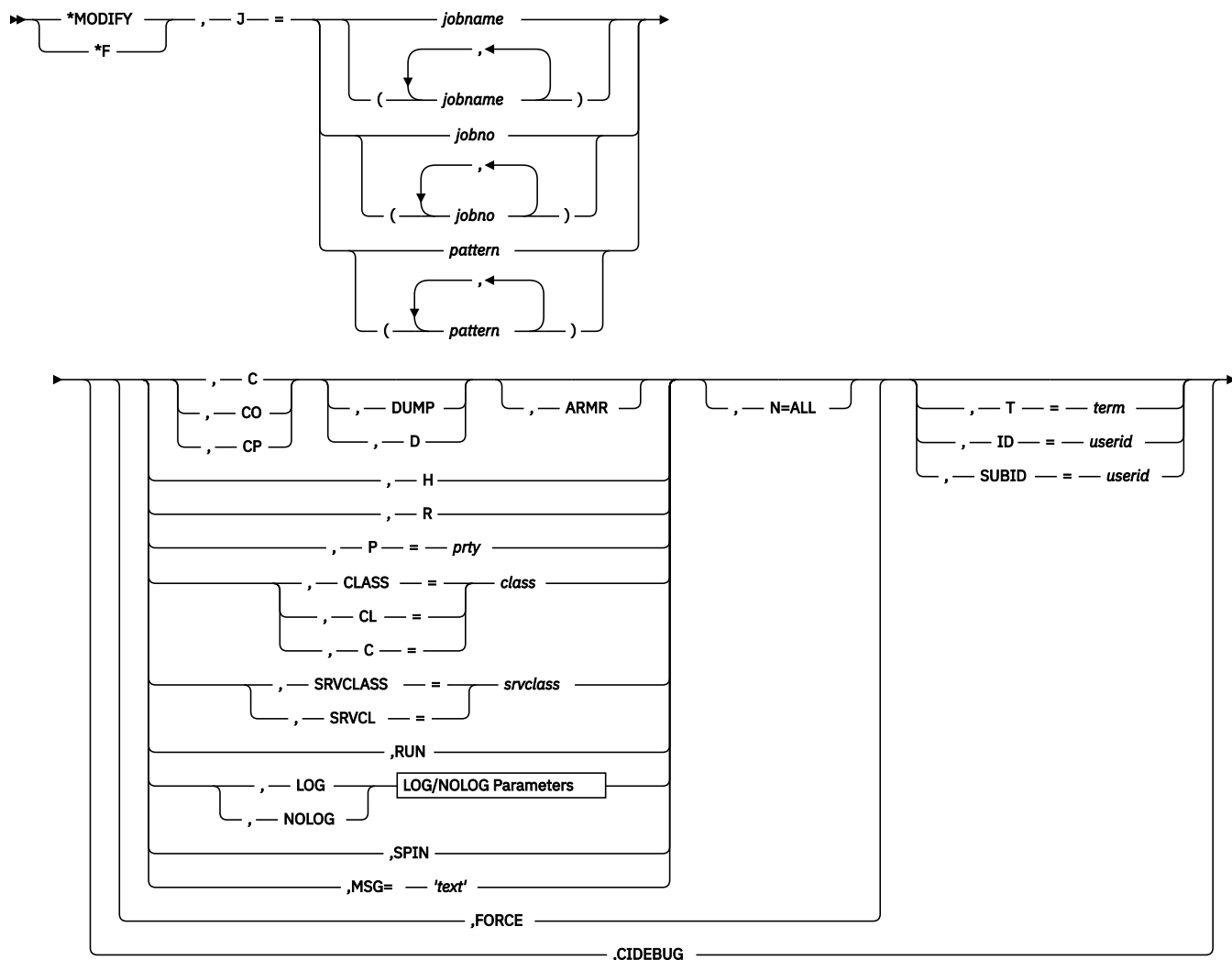
Changing a job's status *MODIFY,J

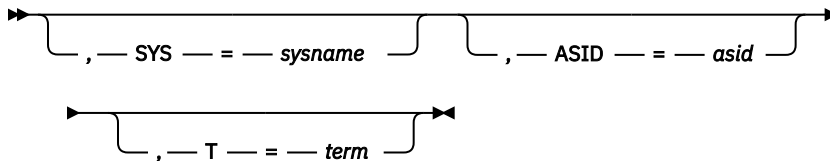
Function

Use the *MODIFY,J command to:

- Hold a job.
- Release a job.
- Run a job.
- Cancel a job.
- Change a job's priority.
- Change a job's job class.
- Change a job's JESMSGLOG logging status.
- Change a job's service class.
- Add a message to the job's JESMSGLOG data set.
- Spin off the JESlog (JESMSGLOG and JESYSMSG) data sets.
- Activate the C/I debug processing for a job.

Syntax



LOG/NOLOG Parameters**Parameters****J=jobname or jobno**

Specifies the job name or job number of the jobs to be processed by the command.

JES3 modifies the jobs based on the other parameters specified in the command.

pattern

Specifies the job name that matches the specified pattern (not to exceed eight characters). You can specify an asterisk (*) in the pattern to represent zero or more characters, or you can specify a question mark (?) to represent a single character.

A single asterisk (indicating all jobs to be processed) can be specified at the start of the parameter only if the ID= or SUBID= parameter is also specified.

C

Specifies that the job or jobs be canceled.

If a job is in a hold priority, the job will not be purged from the system until the job or the priority is released.

CO

Specifies that the job or jobs be canceled and that all data sets (including those on the output service hold queue) ready for output at the time the command is issued be processed.

CP

Specifies that the job or jobs be canceled and that any print data sets ready for output at the time the command is issued be printed. Data sets on the output service hold queue (such as TSO/E and external writer data sets) are not considered print data sets.

H

Specifies that the job or jobs be held from further scheduling (place the job or jobs in operator hold status).

R

Specifies that the job or jobs be released for further scheduling (remove the job or jobs from operator hold status).

If a job is in both operator and spool hold status, you must also release the job from spool hold status, using the *F,Q,DD=,RELEASE command, before the job will resume processing. Consult your system programmer before using this command.

P=prty

Specifies the priority level (from 0 to 15) to be assigned to the job.

C=class or CL=class or CLASS=class

Specifies the new class that you want to assign to a job.

DUMP or D

Requests that a dump be taken if the specified jobs are executing; that is, the DUMP parameter will be added to the MVS CANCEL command to cancel the job.

ARMR

Requests that automatic restart management automatically restart each specified job after it is canceled, if that job is registered with automatic restart management. The ARMR keyword is ignored if the job is not executing or it is not registered with automatic restart management.

LOG

Requests that logging of messages (WTOs and WTORs issued from the job's address space) in JESMSGLOG be enabled for the specified job.

Note: Jobs with the JESLOG=SUPPRESS keyword in the job's JOB JCL statement cannot turn on JESMSGLOG logging through the *F J=xx,LOG command.

NOLOG

Requests that logging be disabled for the specified job.

SPIN

Requests that the JESlog data sets be spun off for the specified job.

Note:

1. There may be a delay between spinning off the JESMSGLOG and JESYSMSG data sets.
2. The SPIN keyword is applicable only to jobs that are executing.
3. The spinoff of the first JESMSGLOG data set will not contain updates made to the JESMSGLOG data set before job execution. These messages will not be made available for processing until the job completes execution.

MSG='text'

Specifies text to be added from the operator console to the job's JESMSGLOG data set.

Note:

1. The message text cannot exceed 67 characters and may be less based on the length of the job name/number specified.
2. The message text must be delimited within single quotation marks.
3. When updating the JESMSGLOG data set and the job is in Output Service, the update will occur. However, if the JESMSGLOG data set was printed before the issuance of this command, the message text will not appear in the printed SYSOUT.
4. The JESMSGLOG data set is updated even if JESMSGLOG suppression is in effect.
5. The message will appear in the data set only when the current buffer is full and is written to spool. This may take some time depending on how many messages are being written for the job.

N=ALL

Specifies that the job modification applies to all jobs found matching the specified selection parameters (for example, *F,J=jobname,ID=userid or *F,J=jobname,C).

This parameter can only be specified with the jobname specification.

N=ALL is required whenever the job selection finds more than one job (non-unique case) and you want to modify all of them. For example, an operator issues the command *F,J=xyz,C to cancel job xyz. The system issues the message IAT8689 to say the command is rejected because 3 jobs were found matching the selection criteria.



CAUTION: This parameter should be used with caution especially when canceling jobs.

FORCE

Specifies the job that should be forced if it is in execution. JES3 will issue a CALLRTM TYPE=MEMTERM command to terminate the job. Use this parameter only when everything else failed and the job couldn't be canceled using conventional means.

MEMTERM causes the job to be re-queued for main and held. You can cancel a job by using other options (C/CO/CP). However, if you try to release the job into execution, the job will be canceled as soon as it starts. This is normal behavior for jobs terminated by End of Memory.

When the job is not in execution, the result of the FORCE parameter is the same as that of the C parameter, that is, the job is canceled.

SYS=sysname

Specifies the system name in which the job is running.

ASID=asid

Specifies the ASID in which the job is running. The ASID could have been displayed in the following action message:

```
IEA653I JOBNAME= jobname ASID= asid HAS REACHED nn% OF THE WTO BUFFER LIMIT
```

SRVCLASS=srcvclass or SRVCL=srcvclass

Specifies the new service class that you want to assign to the job. In order to change the service class, the job must have completed C/I processing and must not have completed main service. If the job is currently in execution, WLM is notified that the service class has been changed. You can change the service class even if the job class group associated with the job is managed by JES. However, if the job class group is managed by JES, it will only affect the level of service the job gets when it is executed. It will not affect the internal queuing of the job within JES3.

Note: If the job's priority is changed through a `*MODIFY,J=jobname,P= prty` command or the job's class is changed through a `*MODIFY,J=jobname, CLASS=class` command, the job is reclassified (that is, a new service class will be derived) unless the job's service class was set through an MVS RESET command or a JES3 `*MODIFY,F,J=jobname,SRVCLASS= srcvclass` command, or the request did not occur within the time frame that is valid for job reclassification.

RUN

Specifies that a job waiting to be selected for execution be run now. This command is allowed only for jobs that are in WLM-managed groups and are waiting to be selected for execution. The following scheduling criteria, which normally prevent a job from being selected for execution, are ignored:

- TDEPTH, MDEPTH, TLIMIT, or MLIMIT exceeded
- Operator or priority hold

The following scheduling criteria are not ignored:

- Class or group unavailable
- Scheduling environment unavailable
- Spool space not available
- System offline or not connected
- Job is in DJC hold.

If the RUN command is accepted, a special WLM-managed initiator is started to run the job. A `*MODIFY,J=jobno,H` command can be used to undo a RUN command.

CIDEBUG

Specifies that the C/I debug facility is to be activated for the job when the job is scheduled for C/I processing. If the job has already completed C/I processing, the job must be restarted through C/I in order for C/I debug output to be produced. For example, if the job is in setup, a `*RESTART,SETUP,jobno,CI` command can be issued to restart the job through C/I. For more information about the C/I debug facility, see [z/OS JES3 Diagnosis](#).

T=term

Specifies the name of the remote terminal. If this parameter is specified and the `P=prty` parameter is also specified, the job being modified must have completed main service processing.

ID=userid

Specifies the userid that belongs to the job owner.

SUBID=userid

Specifies the userid that belongs to the job submitter.

If specified, the userid is obtained from the `//*MAIN JCL` statement. If it is not specified on the `//*MAIN JCL` statement, the userid of the job owner (`ID=userid`) is used by default.

Rules

You cannot use this command to cancel jobs in a DJC network (see “[Dependent job control \(DJC\)](#)” on [page 100](#)), or to cancel jobs currently in dynamic allocation. You cannot use this command to release jobs that are in spool hold status (use the *F,Q,DD=ddn,RELEASE command).

The SYS or ASID parameters are required only if a job name is given that is not unique in the system. Either of the parameters is acceptable by itself if it uniquely identifies the job.

For *F J=*jobname* LOG|NOLOG if ASID= or SYS= is specified in the command, only the jobs which are executing are considered. If ASID= and SYS= are not specified in the command, all the jobs with the *jobname* are considered.

For *F J=*jobno* LOG|NOLOG if ASID= or SYS= is specified in the command, the job with the job number must be in execution.

Examples

Release job 17 from operator hold status:

```
*MODIFY,J=17,R
```

Alter the priority of job 17 to 10:

```
*F,J=17,P=10
```

Change the job class of job 17 to class A:

```
*F,J=17,C=A
```

Cancel all jobs beginning with the character string INVENTB and owned by user USERA:

```
*F J=INVENTB*,C,N=ALL,ID=USERA
```

Change the priority of all jobs submitted by user USERB:

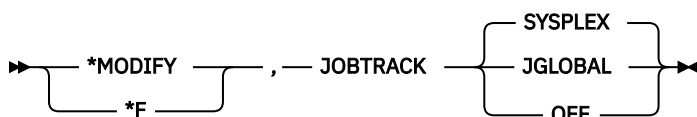
```
*F J=*,P=2,N=ALL,SUBID=USERB
```

Changing the scope of ENF 70 events *MODIFY,JOBTRACK

Function

Use the *MODIFY,JOBTRACK command to change the current settings of the JOBTRACK parameter from the OPTIONS statement. The command controls the scope of ENF 70 events.

Syntax



Parameters

JOBTRACK=

Specifies the signal scope for ENF 70 events:

SYSPLEX

Specifies that ENF 70 events are signaled to listeners across all systems in the SYSPLEX. This is the default.

JGLOBAL

Specifies that ENF 70 events are signaled only to listeners on the JES3 Global.

OFF

Disables signaling of ENF 70 events.

Results

The command sets the JOBTRACK parameter on the OPTIONS statement to the specified value.

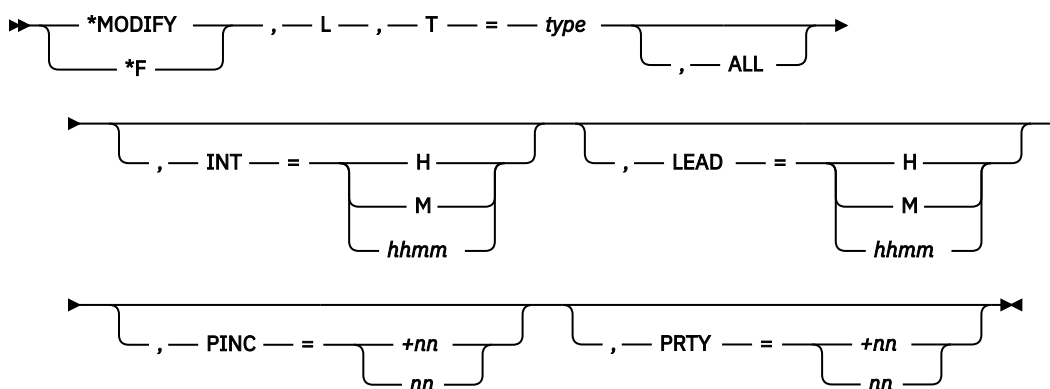
Examples

```
*F, JOBTRACK=SYSPLEX
IAT8101 JOBTRACK SET TO SYSPLEX
```

Changing deadline specifications ***MODIFY,L**

Function

Use the *MODIFY,L command to alter the deadline scheduling specifications defined during system initialization.

Syntax**Parameters****T=type**

Specifies the deadline type (1-character identifier) to be modified. The type is defined during JES3 initialization.

ALL

Specifies that changes made by the operator to the designated deadline type are to be applied to all jobs of this type, including those jobs already in the JES3 job queue. (If this parameter is omitted, changes made affect only those jobs of this type not yet in the system.)

INT =nnH or nnnnM or hhmm

Specifies the interval at which the priority is to change after the initial lead time elapses. The time can be specified in hours (nnH), in minutes (nnnnM), or in hours and minutes (hhmm); the maximum values are 24H for nnH, 1440M for nnnnM, and 2400 for hhmm.

LEAD =nnH or nnnnM or hhmm

Specifies the amount of lead time before the deadline time and date that the PRTY value is invoked. The time can be specified in hours (nnH), in minutes (nnnnM), or in hours and minutes (hhmm); the maximum values are 24H for nnH, 1440M for nnnnM, and 2400 for hhmm.

*MODIFY,M

PINC =+nn or nn

Specifies additional changes in priority after the initial lead time elapses. The priority can be increased by a specified value (+nn) or be changed to a specified value (nn). The additional increases in job priority take place at intervals specified by the INT parameter.

PRTY =+nn or nn

Specifies that the priority of the deadline type is increased by a specified value (+nn) when the lead time elapses, or that the priority is changed to a specified value (nn) when the lead time elapses.

Example

For deadline type A, change the priority to 12 when the lead time of 4 hours has elapsed and increase the priority by 2 every 30 minutes:

```
*F,L,T=A,PRTY=12,LEAD=4H,PINC=+2,INT=30M
```

Changing MVS message routing *MODIFY,M

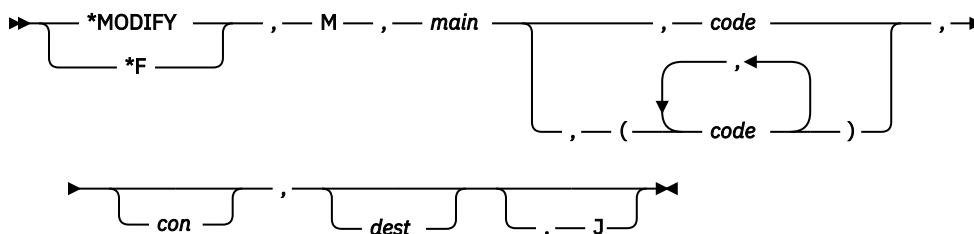
Function

Use the *MODIFY,M command to change the routing of MVS messages associated with a specific processor in your JES3 installation. This command can change the message routing to more than one console. The *MODIFY,M command changes the MVS message routing table that is created from the MSGROUTE initialization statement.

Note:

1. All parameters on the *MODIFY,M command are positional. You must include a comma if you omit an optional parameter.
2. Use of this command affects the JES3 Destination class in the JES3DLOG if the added destination class meets one of the following conditions:
 - a. Results in the message having a higher routing code when the new routing code is greater than the current routing code, and the new code is less than or equal to 16.
 - b. Results in the message having a lower routing code when the new routing code is less than the current routing code and the current routing code is greater than or equal to 17.

Syntax



Parameters

These keywords are positional and must be specified in order. If a keyword is not being used, you must still specify the comma.

main

Identifies the main that contains the message routing table that you want to modify.

code or (code[,code]...)

Identifies the MVS routing code(s) (1 to 128). If you specify multiple routing codes, you must enclose them in parentheses.

con

Specifies the name of the console that is to receive messages associated with the MCS routing code you specify on the code parameter.

dest

Specifies the console destination class to which messages of the designated MVS routing code are to be mapped. (See [Table 9 on page 75](#) for the names of the console destination classes.)

J

Specifies that the routing specified on the MSGROUTE statement should replace the message's original routing information.

Examples

Map all messages that are assigned MVS routing code 8 to JES3 destination class TP, and have the messages displayed only on the global JES3/MCS console (messages originate from main SY2):

```
*MODIFY,M,SY2,8,,TP,J
```

Send MVS messages with routing code 14 that originate on main SY1 only to the console receiving the hardcopy destination.

```
*F,M,SY1,14,,,J
```

Using the writer output multitasking facility *MODIFY,MT

Function

The writer output multitasking facility makes it possible for writer output processing to run in parallel with other JES3 functions on the global. To enable or disable this facility, use the *MODIFY,MT command.

Syntax

```

  >> *MODIFY _____ , — MT — = — ON — >>
      |_____
      |_____ *F _____
      |_____ OFF _____

```

Parameters**MT=ON or OFF**

Specifies that the writer output multitasking facility is to be enabled (ON) or disabled (OFF).

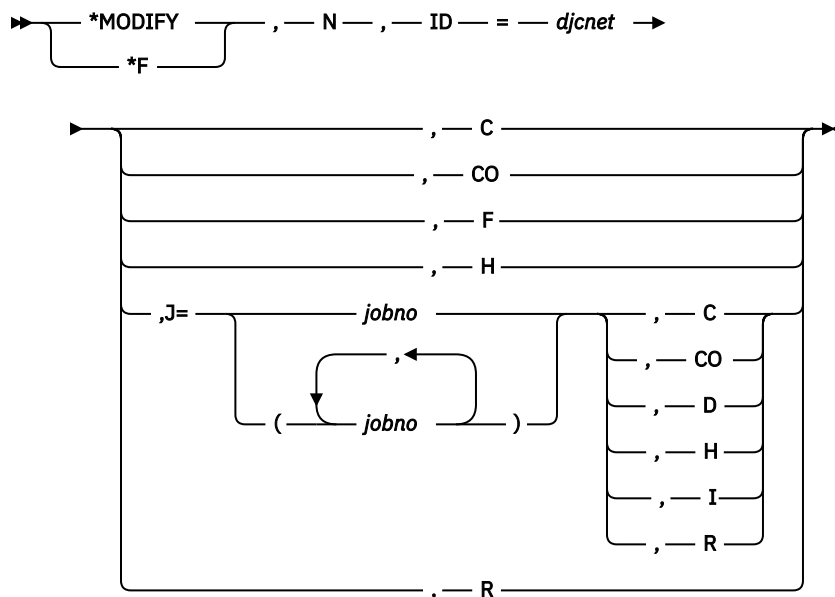
This facility should be enabled only when the JES3 global is a multiprocessor.

Changing a DJC network *MODIFY,N

Function

Use the *MODIFY,N command to alter the DJC network status.

Syntax



Parameters

ID =djcnct

Specifies the DJC network to be altered.

C

Specifies that the entire DJC network be canceled from the system, regardless of the status of successor jobs, sub-networks, or the pending count.

CO

Specifies that the DJC network is to be canceled and all data sets, including any data sets on the output service hold queue, which are ready for output processing, are to be processed.

F

Specifies that the entire DJC network be flushed.

H

Specifies that the entire DJC network be placed in hold status. Scheduling of all jobs within the net is suspended.

R

Specifies that the DJC network be released from hold status.

J=jobno or J=(jobno[,jobno]...)

Specifies the job in the DJC network that is to be altered. If this parameter is omitted, all jobs in the DJC network are affected.

C

Specifies that the designated job is to be canceled. Any output data sets ready for printing are printed. JES3 does not print data sets that are waiting on the output service hold queue.

CO

Specifies that the designated job(s) is to be canceled and all data sets, including any data sets on the output service hold queue, which are ready for output processing, are to be processed.

When you cancel the last job in a DJC network, the DJC network is purged from the system unless there are missing successor jobs, missing sub-networks, or unless abended jobs must be resubmitted (the pending count is greater than zero).

D

Specifies that the number of predecessor jobs that must complete before the indicated job is released for scheduling (NHOLD) is to be decreased by one. This parameter will not change the value of NHOLD if NHOLD is currently zero or if the job has already completed.

H

Specifies that the designated job is to be placed in DJC operator hold status. Scheduling of the job is suspended. Normally completed jobs cannot be held.

I

Specifies that the number of predecessor jobs that must complete before the indicated job is released for scheduling (NHOLD) is to be increased by one. This parameter will not change the value of NHOLD if NHOLD is currently zero or if the job has already completed. Use the H parameter to hold a job that has an NHOLD count of zero.

R

Specifies that the designated job is to be released from DJC operator hold status for further scheduling.

Examples

Place DJC network CNTL1 in operator hold status:

```
*MODIFY,N,ID=CNTL1,H
```

Flush DJC network PURC30 from the system:

```
*F,N,ID=PURC30,F
```

Cancel job 1017 from DJC network COST10:

```
*F,N,ID=COST10,J=1017,C
```

Place job 626 in DJC network TEST in operator hold status:

```
*F,N,ID=TEST,J=626,H
```

Increase by 1 the NHOLD count of job 529 in DJC network INVEN:

```
*F,N,ID=INVEN,J=529,I
```

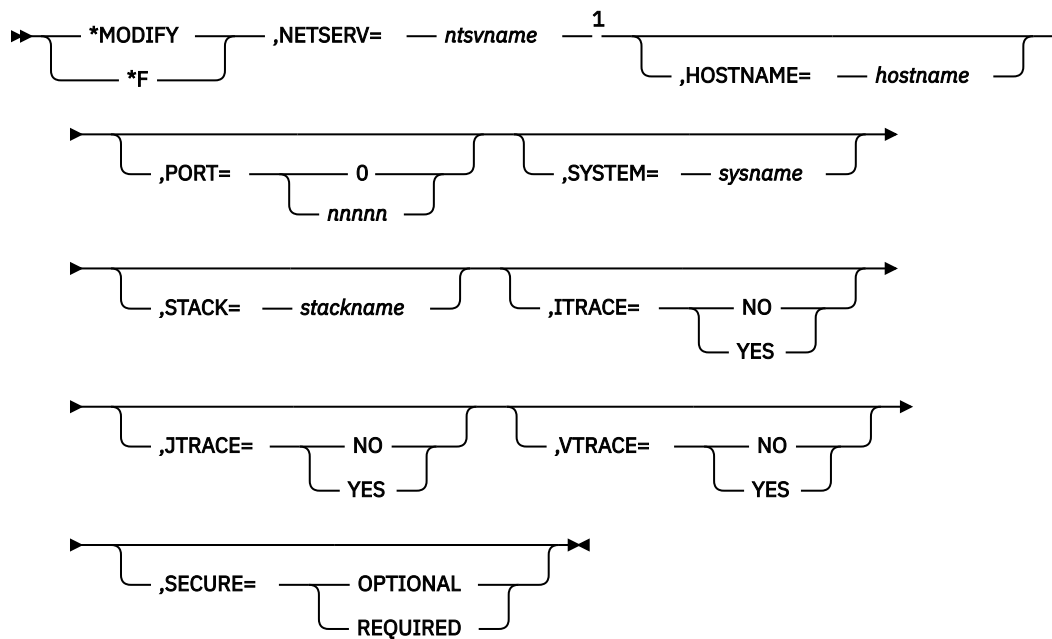
Modifying a TCP/IP/NJE Network Server ***MODIFY,NETSERV=**

Function

Use the *MODIFY,NETSERV=ntsvname command to modify an existing Netserv definition.

Syntax

*MODIFY,NETSERV



Notes:

¹ More than one parameter can be specified at a time and in any order.

Parameters

NETSERV=ntsvname

Specifies a 1-8 character name that uniquely identifies this socket. The name must contain only A-Z, @, \$, #, or 0-9 and cannot start with a digit.

HOSTNAME=hostname

Specifies the IP host name or IP address that the Netserv uses to listen over TCP/IP for incoming data. Multiple Netservs can listen over the default, but only one Netserv can listen over a specific host name and port combination if a host name is specified.

The host name can consist of up to 60 characters and must be a legal TCP/IP IP address or host name defined to the TCP/IP resolver. The host name can be in IPV4 or IPV6 format.

HOSTNAME=* can be specified to remove any existing HOSTNAME assignment.

PORT=0|nnnnn

Specifies a port number that the Netserv uses, in combination with the host name, to listen over TCP/IP for incoming data. The port must be a number from 0 to 65,535. A port of 0 indicates that when the Netserv starts, a standard service name of VMNET is used instead of a numeric port. The service of VMNET corresponds to port 175. Although there is a corresponding port for the service NJENET-SSL, it is suggested that you use the TLS=YES parameter on the NJERMT statement or the *MODIFY,NJE command instead. If you are defining multiple NETSERVs that use differing security settings, then the NETSERV intending to use TLS=YES should explicitly code a PORT value.

SYSTEM=sysname

Specifies the name of the system that the Netserv runs on.

SYSTEM=* can be specified to remove any existing SYSTEM assignment. If this is done, the Netserv will start on the current global the next time it is started. If a DSI is done while a Netserv is active, it continues to run on the system where it is currently defined. If the Netserv is subsequently brought down and back up, it runs on the new global.

STACK=stackname

Specifies the name of the stack that TCP/IP uses to get its definitions when the Common INET (CINET) configuration is being used.

STACK=* can be specified to remove any existing STACK assignment.

When only an INET configuration is being used, any specification of a stack name is ignored.

ITRACE=NO|YES

Indicates whether internal tracing in the Netserv address space is to be active. Internal tracing shows TCP/IP data records that are sent and received between IAZNJTCP and TCP/IP.

JTRACE=NO|YES

Indicates whether JES tracing is to be active. JES tracing occurs during JES-specific exit points in the Netserv during which data records, headers, and trailers are transmitted and received.

VTRACE=NO|YES

Indicates whether verbose tracing is to be active. Verbose tracing involves various diagnostic messages being written to the console and job log from the Netserv address space.

SECURE=OPTIONAL|REQUIRED

Indicates whether the Netserv address space should accept only connection requests with a secure protocol in use such as TLS/SSL. When SECURE=REQUIRED is specified, the Netserv address space rejects all connection requests that do not specify a secure protocol is to be used for the connection. When SECURE=OPTIONAL is specified, the default, the Netserv address space allows connections with or without a secure protocol in use.

Rules

- HOSTNAME= can be abbreviated to HOST=.
- Active Netservs cannot be modified, except for ITRACE, JTRACE, and VTRACE.

The following information applies to all *MODIFY,NETSERV command variants. The state of a Netserv after a JES3 start depends on the type of start that was requested:

Cold start

The initialization statements are read and used as the source of the Netserv state. The starting state is checkpointed.

Warm start

The initialization statements are read and used as the source of the Netserv state. The starting state is checkpointed, replacing checkpointed information from previous starts.

Hot start

The checkpointed information is the source for all Netservs. Because checkpoint includes the state and modifications from previous JES3 starts, that state is preserved across the hot start.

Hot start with refresh

The initialization statements are read and used as the source for inactive Netservs. Checkpointed information is used for active Netservs. The checkpoint includes state and modifications from previous JES3 starts, and that state is preserved across the start.

These rules dictate the outcome of each specific JES3 start situation. For example, if an initialization statement is changed and the system is hot started, the change is not applied because a hot start does not read the initialization statements and preserves the checkpointed state. To apply such a change, the NETSERV statements must be read, which requires a cold, warm, or hot start with refresh. Choosing hot start with refresh also means that the changed Netserv must be inactive across the restart. Likewise, if an inactive Netserv is modified by command and it remains inactive, the change is lost across a hot start with refresh because this restart preserves changes only for active Netservs.

Results

- The Netserv is modified and the changes take effect immediately.

Example

```
*F,NETSERV=JES3S1,JTRACE=YES
*f,NETSERV=JES3S1,SYSTEM=SY1
```


STACK=stackname

Specifies the name of the stack that TCP/IP uses to get its definitions. If the STACK= is omitted, or specified as STACK=*, TCP/IP uses its default stack. When only an INET configuration is being used, any specification of a stack name is ignored.

ITRACE=NO|YES

Indicates whether internal tracing in the Netserv address space is to be active. Internal tracing shows TCP/IP data records that are sent and received between IAZNJTCP and TCP/IP.

JTRACE=NO|YES

Indicates whether JES tracing is to be active. JES tracing occurs during JES specific exit points in the Netserv during which data records, headers, and trailers are transmitted and received.

VTRACE=NO|YES

Indicates whether verbose tracing is to be active. Verbose tracing involves various diagnostic messages being written to the console and job log from the Netserv address space.

Rules

- The Netserv to be added must be a valid name for an address space.
- It is the responsibility of the installation to provide security definitions for the added Netserv. See [z/OS JES3 Initialization and Tuning Guide](#) for information about defining Netservs.
- For more information, see the Rules description in “[Modifying a TCP/IP/NJE Network Server *MODIFY,NETSERV=](#)” on page 301.

Results

- The Netserv is added.

Example

```
*F,NETSERV,ADD=NEWNTSV
```

Deleting a TCP/IP/NJE Network Server

***MODIFY,NETSERV,DELETE=**

Function

Use the *MODIFY,NETSERV,DELETE= command to dynamically delete a TCP/IP/NJE Network Server.

Syntax

```
➤ *MODIFY — ,NETSERV — ,DELETE= — ntsvname ➤
  *F
```

Parameters**DELETE=ntsvname**

Specifies the name of the Netserv to be deleted.

Rules

- DELETE= can be abbreviated to DEL=.
- Active Netservs cannot be deleted.

***MODIFY,NJE**

- For more information see the Rules description in [“Modifying a TCP/IP/NJE Network Server *MODIFY,NETSERV=”](#) on page 301.

Results

- The Netserv is deleted.

Example

```
*F,NETSERV,DEL=OLDNTSV
```

Changing network and communications settings *MODIFY,NJE

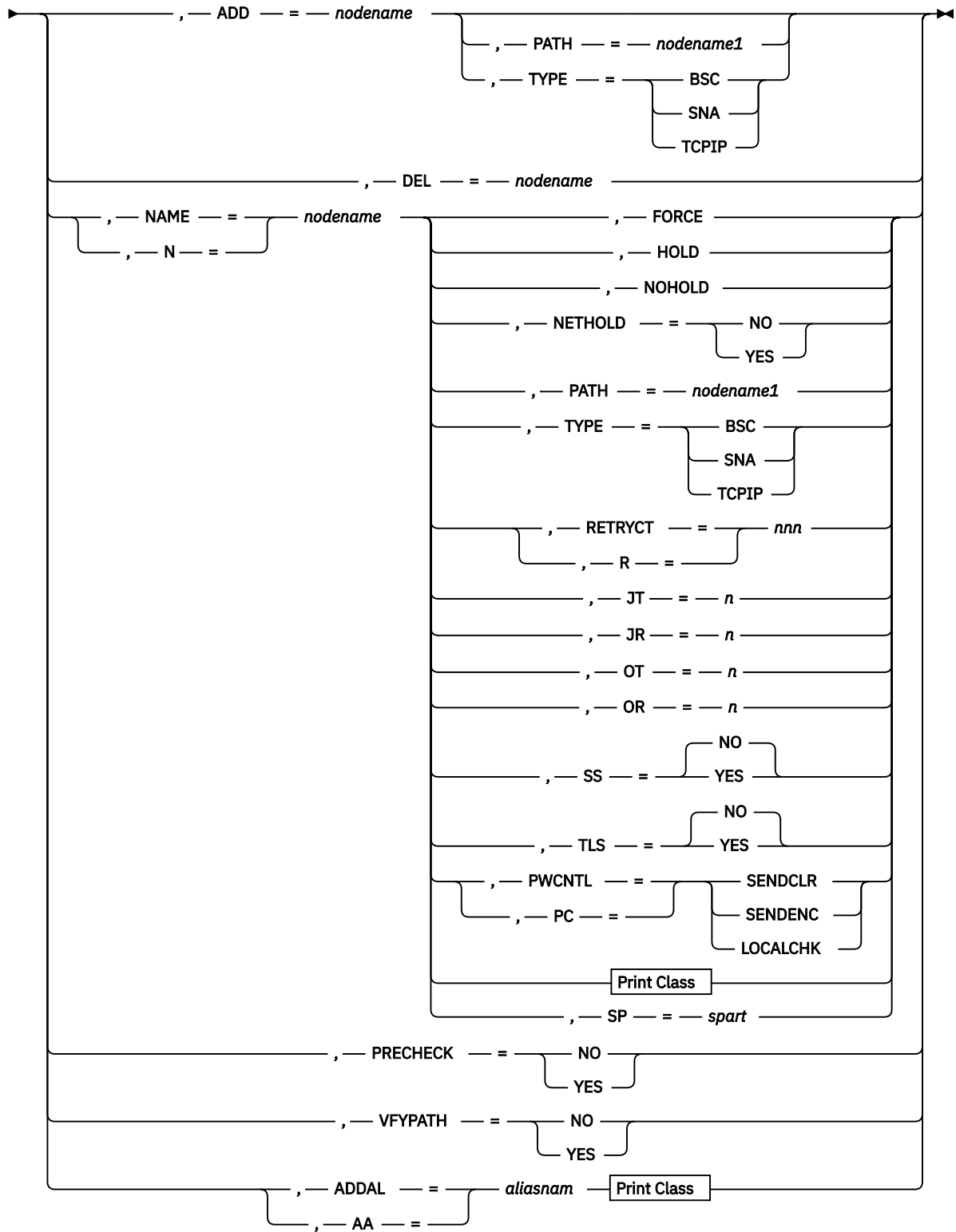
Function

Use the *MODIFY,NJE command to:

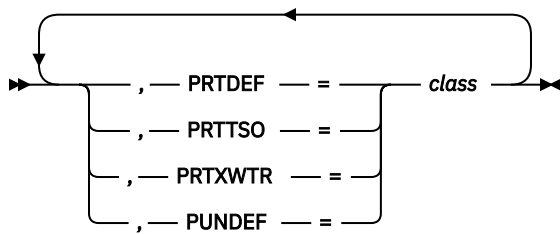
- Reset the lines connecting your node to a specific remote node when your node has abnormally ended communication on the line.
- Place jobs that are scheduled for transmission to a specific remote node in operator hold status.
- Release a remote node from hold status.
- Dynamically add a directly-connected node to your network at your home node.
- Dynamically add an indirectly-connected node to your network.
- Dynamically add an alias of your home node to your network.
- Dynamically delete a node or alias from your network.
- Change the way jobs are routed between your node and any remote node in your network.
- Change the type of networking protocol you are using between your node and a remote node.
- Change the job password control option for first job card passwords sent to a remote node.
- Change the default print, TSO, external writer, or punch classes of an alias or the home node.
- Change the option for processing inbound SYSOUT data in NETDATA format on the home node.

Syntax

►► *MODIFY , — NJE →
 *F



Print Class



Parameters

ADD=nodename

Specifies the name of the new node you want to add to the network.

PATH=nodename1

When the **PATH=nodename1** parameter is used with the **ADD=nodename** parameter, it specifies the path value *nodename1* for the indirectly connected node that you are adding. When it is used with the **NAME=nodename** parameter, it changes the node to an indirectly connected path node with a path value of *nodename1*.

TYPE=BSC or SNA or TCPIP

Indicates the BSC/NJE, the SNA/NJE, or the TCP/IP/NJE networking protocol that you want between your node and the node you specify on the **NAME=** parameter.

Note: Any jobs scheduled using the previous protocol need to be rerouted. You can use NJEROUT DSP to reroute the jobs by specifying the **PATH** and **TO** parameters for the modified node.

DEL=nodename

Specifies the name of the node or alias you want to delete from the network.

NAME=nodename

Specifies the name of a node to modify. JES3 changes the communication protocol being used to transmit data to this node based on what you select in the **TYPE=** keyword.

FORCE

Resets the lines connecting your node with the specified remote node. You can use this parameter only for BSC/NJE networks.

HOLD

Places jobs scheduled for transmission to the node in operator hold status at this node. Use the **HOLD** parameter *only* for directly connected nodes.

NOHOLD

Restarts networking activity between your node and the specified node. Use the **NOHOLD** parameter *only* for directly connected nodes.

NETHOLD=NO or YES

Specifies the option for processing inbound SYSOUT data in NETDATA format. **NETHOLD=NO** indicates that the output is placed on the writer queue for processing by JES3 writers if the destination is defined as a device or remote workstation. **NETHOLD=YES** indicates that the SYSOUT is always placed on the hold queue for processing by TSO RECEIVE.

PATH=nodename1

Specifies the name of the remote node to which JES3 will send all future transmissions destined for the node specified in the **NAME=** parameter.

JT=

Specifies the number of job transmitters defined for the node. This keyword is valid only for nodes that have a type of TCPIP.

JR=

Specifies the number of job receivers defined for the node. This keyword is valid only for nodes that have a type of TCPIP.

OT=

Specifies the number of output transmitters defined for the node. This keyword is valid only for nodes that have a type of TCPIP.

OR=

Specifies the number of output receivers defined for the node. This keyword is valid only for nodes that have a type of TCPIP.

SS=NO or YES

Specifies that a secure signon protocol is used that uses an encryption key stored in the security product. This keyword is valid only for nodes that have a type of TCPIP.

TLS=NO or YES

Indicates whether the Transport Layer Secure facility is to be used by all sockets that are used by this node. This keyword is valid only for nodes that have a type of TCPIP.

TYPE=BSC or SNA or TCPIP

Indicates one of the BSC/NJE, the SNA/NJE and the TCP/IP/NJE networking protocols that you want between your node and the node you selected on the NAME= keyword.

PWCNTL= or PC=

Specifies that the job password control option for passwords sent to the designated node for processing is to be set to one of the following: send jobs with passwords encrypted (SENDENC), send jobs with passwords in clear text (SENDCLR), or send jobs after passwords are verified at the local node (LOCALCHK).

R= or RETRYCT=

Specifies the number of retries (from 1 to 300) to attempt before ending the BSC NJE line.

ADDAL=aliasnam or AA=aliasnam

Specifies the name of a new alias of the home node to be added.

PRECHECK=YES or NO

Specifies the option for whether an NJE job undergoes revalidation before execution on the home node. PRECHECK=YES specifies that an NJE job marked dubious undergoes additional validation on the home node. PRECHECK=NO specifies that JES3 is not to perform path verification process for certain inbound NJE jobs.

PRTDEF=class

Specifies the default print class for output being received under the home node or alias. The default is A.

PRTTSO=class

Specifies the default TSO class for output being received under the home node or alias. The default is the PRTDEF value specified (or assigned by default).

PRTXWTR=class

Specifies the default external writer class for output being received under the home node or alias. The default is the PRTDEF value specified (or assigned by default).

PUNDEF=class

Specifies the default punch class for output being received under the home node or alias. The default is B.

SP=

Specifies the name of the spool partition. JES3 writes spool data for all jobs from that node to this partition.

VFYPATH=YES or NO

Displays the option for whether path verification processing is performed for NJE jobs claiming to originate on the named node. VFYPATH=YES specifies that JES3 is to perform path verification processing for inbound NJE jobs. NJE jobs might be marked dubious as a result. VFYPATH=NO specifies that JES3 does not perform path verification processing for inbound NJE jobs.

Rules

- You cannot dynamically add your installation (the home node) to the network.

- Be careful when using the *MODIFY,NJE command to change the type of protocol from SNA or TCP/IP to BSC. In particular, a device with DTYPE of NJELINE must be available for this BSC node to use. If such a device does not exist, it must be added with a hot start with refresh before you can use the modified BSC node.
- You cannot dynamically delete your installation (the home node) from the network.
- You cannot delete an active adjacent BSC node from your installation. An active node is a node currently transmitting or receiving data.
- You should not delete an active SNA node from your installation.
- You cannot delete an active adjacent TCP/IP node from your installation. An active TCP/IP node is a node that has signed on to another node with at least one socket.
- A TCP/IP node cannot be modified to another protocol if it has socket definitions referencing it, regardless of whether the node is active.
- Use the NETHOLD= parameter only for the home node.
- Use the R and FORCE parameters only for BSC/NJE networking.
- Use the FORCE parameter only when all other attempts to clear or restart the line have failed.
- If you are using multiple concurrent lines between this node and the specified node, you must end those connections before using the FORCE or DEL parameter.
- You can use the PRTDEF, PRTTSO, PRTXWTR, or PUNDEF parameter only when adding a new alias, modifying an existing alias, or modifying the home node.
- The path specified on the PATH parameter must not be the home node or an alias.
- Spool partition can be added or modified to a node with modify command.
- Spool partition cannot be deleted from a node with modify command.
- Spool partition cannot be added to an alias or home node.
- A node cannot be defined with more than one protocol at a time.
- You can modify a node that uses BSC protocol to use SNA or TCP/IP protocol.
- When you modify the protocol for a node, any parameters that depend on the old protocol are cleared out and defaults are used if the protocol for the node is modified back. Therefore, you might need more than one modify command to restore the protocol-dependent settings to the ones that you need.
- You can modify a node between using SNA protocols and using TCP/IP protocols with little impact to your complex, if both BDT and TCP/IP are capable of understanding how to connect the node.
- Additions, deletions, and modifications to TYPE=TCPIP nodes are remembered over a JES3 hot start. Additions, deletions, and modifications to BSC and SNA nodes are not remembered over a JES3 hot start.
- Modifying a node from TYPE=TCPIP to BSC or SNA is treated as a simultaneous deletion of the TCP/IP node and addition of a BSC or SNA node with the same name. Therefore, the node is not remembered over a JES3 restart. Likewise, modifying a node from TYPE=BSC or SNA to TCPIP is treated as a simultaneous deletion of the BSC or SNA node and addition of a TCP/IP node with the same name. Therefore, the node is remembered as TYPE=TCPIP over a JES3 restart.

During a hot start with refresh, all nodes will be defined according to their parameters in the initialization stream except that active nodes will retain the definitions that they have at the time JES3 is brought down. If you modify node types, you can ensure that the nodes you are working remain defined and retain their protocol across a restart if you define all nodes in the initialization stream and perform a hot start with refresh.

- The value specified for the JT, JR, OT, or OR keyword must not be less than 1 or greater than 7.
- The JT, JR, OT, and OR keywords must not be specified in such a way that the sum of the values for JT and OT, or the sum of the values for JR and OR would become greater than 8. For example, if the JT value for the node being modified is currently 4 and OT is being modified, the value of OT cannot be greater than 4.

Examples

Reset the BSC/NJE lines to node BOS:

```
*F,NJE,N=BOS,FORCE
```

- JES3 allows any current transmissions to the specified node to complete.
- JES3 then places the specified node in hold status. However, you can still receive network jobs from the node and both nodes can still transmit and receive messages and commands.
- Any new jobs that are routed to the specified node after the command is entered are placed in operator hold status.
- Any jobs that are routed to the specified node that were in specialized rescheduling at the time the command was entered will remain in specialized rescheduling; they will be placed in operator hold status when they have been rescheduled.

The *I,Q,H command does not display these jobs if they remain in specialized rescheduling.

```
IAT8460 NJERMT UPDATE COMPLETE. REQUEST HONORED.
```

Hold all jobs scheduled for transmission to the remote node CHI:

```
*F,NJE,NAME=CHI,HOLD
```

```
IAT8460 NJERMT UPDATE COMPLETE. REQUEST HONORED.
```

Issue the *F,NJE command to release node CHI from hold status:

```
*F,NJE,NAME=CHI,NOHOLD
```

JES3 releases the specified node from hold status but *does not release any jobs that are routed* to the node that were placed in operator hold status before you entered this command. Follow the steps below to release all jobs that are routed to CHI that are in operator hold status:

1. Issue the *I,Q,H command to determine which networking jobs are in hold status:

```
*I,Q,H
```

2. Issue the *F,J=R command including the job number for each job in hold status to release the jobs from operator hold status:

```
*F,J=(1234,2345),R
```

The resulting display (IAT8674) indicates that jobs 1234 and 2345 were either being prepared for transmission or were waiting for transmission (dspname = NJESND) when they were put in operator hold status.

```
IAT8460 NJERMT UPDATE COMPLETE. REQUEST HONORED.
```

Issue the *F,NJE command to assign spool partition PART1 to NODE1.

```
*F,NJE,NAME=NODE1,SP=PART1
```

JES3 modifies the spool partition for NODE1 to PART1.

```
IAT8460 NJERMT UPDATE COMPLETE. REQUEST HONORED.
```

Changing console information ***MODIFY,O**

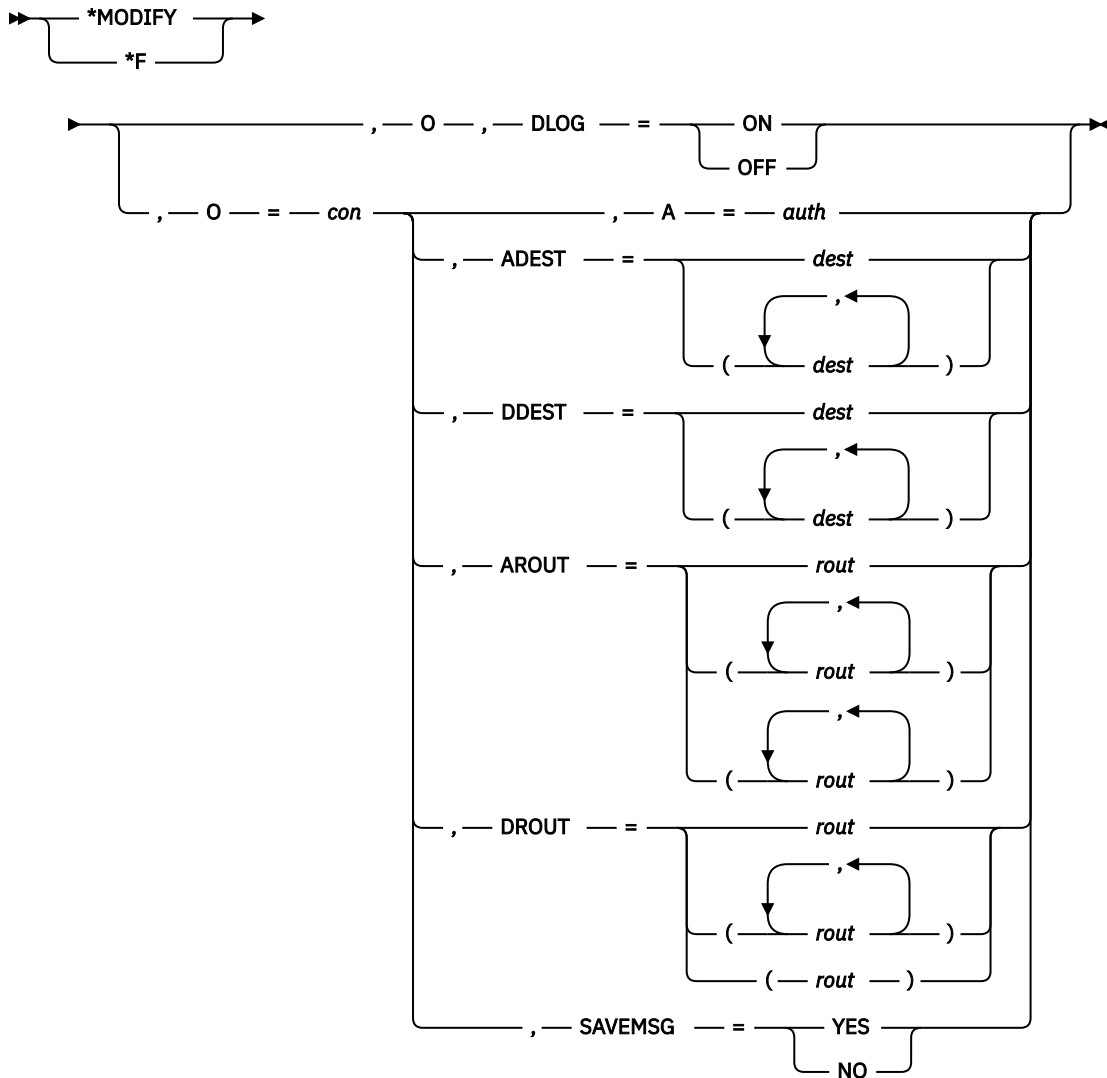
Function

Use the *MODIFY,O command to:

- Activate or deactivate DLOG
- Add or delete JES3 destination class(es) or routing code(s) for a particular remote console.
- Change the JES3 authority level for a remote console.
- Activate or deactivate the saving of messages for a remote console when the workstation is not signed on.

If RACF command checking is not enabled, you can alter a console's authority level after initialization by issuing a *MODIFY,O command. If RACF command checking is enabled and you issue the *MODIFY,O command to change a console's authority level, the JES3 authority level of the console will be altered, but command authorization will not be affected if you are using RACF for command authorization. See [z/OS JES3 Initialization and Tuning Guide](#) for more information about assigning authority levels when using RACF. Use the *INQUIRY,O command to display a console's current authority level. You can use JES3 installation exit IATUX18 to redefine authority levels in specific cases. See [z/OS JES3 Customization](#) for information about IATUX18.

Syntax



Parameters

DLOG= ON / OFF

Specifies whether the JES3 DLOG should be activated or deactivated.

ON

Specifies that you want JES3 to write a system log for the sysplex to a spool data set for subsequent processing by output service. The log is written in JES3 format from the global processor.

OFF

Specifies that JES3 is not to maintain the system log for the sysplex. In this case, the hardcopy log will be written to OPERLOG or SYSLOG as specified in the CONSOLxx HARDCOPY statement for each system.

A=auth

Specifies the level of authority (0 through 15) for the selected JES3 RJP console. After you set a console's authority level below ten, you cannot change that console's authority from that console. You can change it by entering the `*MODIFY,O` command at another console whose authority level is ten or above.

ADEST=dest

Specifies the JES3 destination class that you want to add to the designated RJP console.

DDEST=dest

Specifies the JES3 destination class that you want to delete from the designated RJP console. JES3 no longer displays messages that are associated with that destination class.

AROUT=rout

Specifies the routing code that you want to add to the specified console.

DROUT=rout

Specifies the routing code that you want to delete from the specified console.

SAVEMSG = YES / NO

Indicates whether JES3 should save messages destined for the specified RJP console when it is not signed on. For SAVEMSG=YES, messages for the specified remote console will be saved on spool and sent to the remote console once it signs on. For SAVEMSG=NO, messages for the specified console will not be saved while the console is not signed on.

Examples

Change the authority level of console RMT01 from 15 to 4:

```
*F,0=RMT01,A=4
```

Restrict console RMT01 from being able to bring down JES3:

```
*F,0=RMT01,A=11
```

Direct error messages to console RMT02, by adding the error destination class (ERR) to any classes already assigned to console RMT02:

```
*F,0=RMT02,ADEST=ERR
```

Direct messages with routing code 7 and 9 to console RMT02, by adding the routing codes to list of routing codes being received:

```
*F,0=RMT02,AROUT=(7,9)
```

Stop the display of messages that pertain to RJP teleprocessing equipment on console RMT03.

```
*F,0=RMT03,DDEST=TP
```

Holding, releasing, or changing jobs or spool data sets *MODIFY,Q

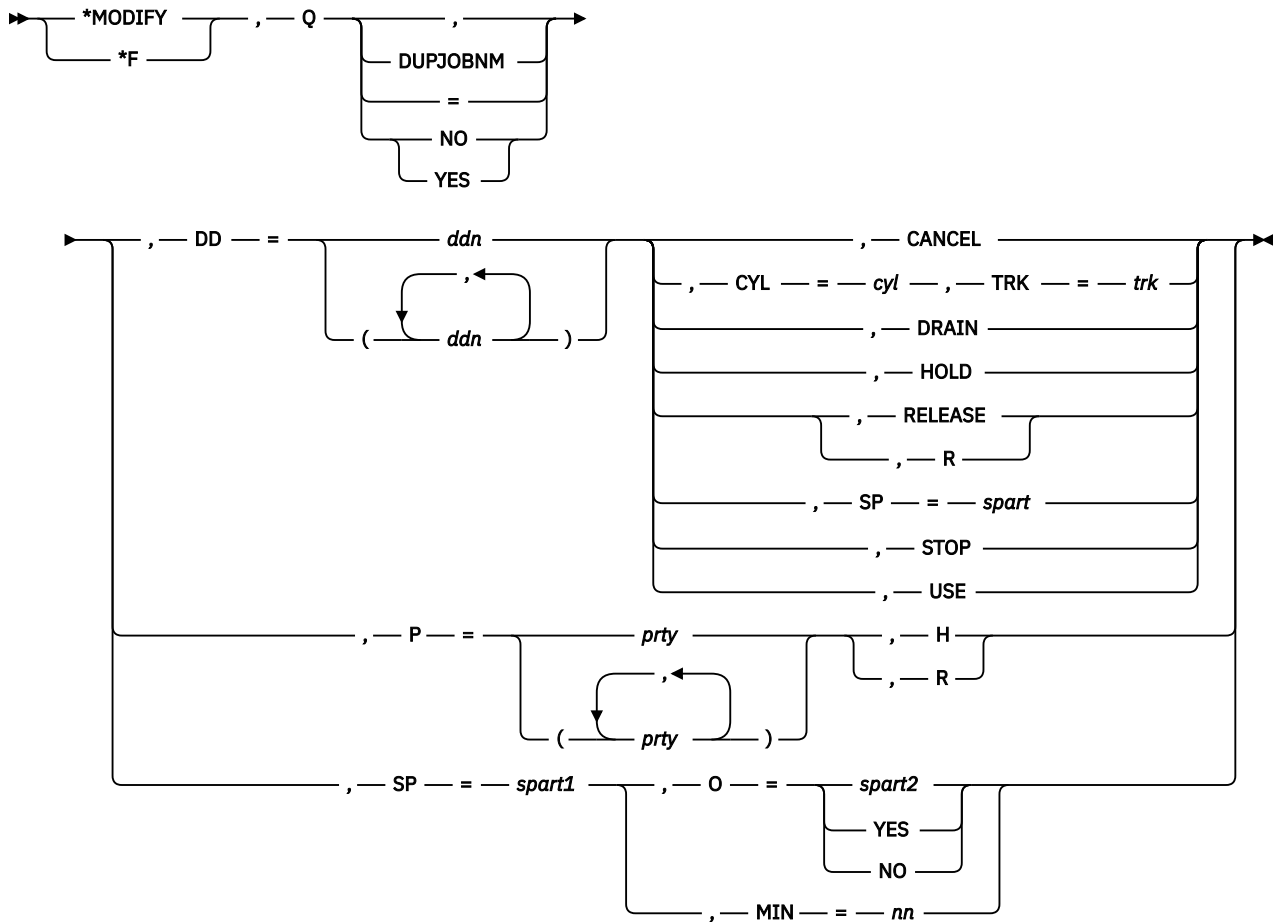
Function

Use the *MODIFY,Q command to:

- Reassign a spool data set from one partition to another.
- Assign or reassign the spool partition into which spool allocation is to overflow if the initial partition becomes full.
- Prevent JES3 from allocating additional space on a spool data set or to allow JES3 to resume allocating space on a spool data set. Table 16 on page 317 summarizes this command. See *z/OS JES3 Initialization and Tuning Guide* for a description of a procedure you can use to handle intermittent I/O errors on a spool data set.
- Hold or release a specific spool data set and to hold, release, or cancel all jobs that have data on the data set
- Add a BADTRACK element for a defective track on a spool data set.
- Hold or release all the jobs in the JES3 job queue.

- Hold or release jobs of a designated priority.
- Turn spool data integrity on or off.
- Allow or disallow multiple batch jobs of the same name to be scheduled for the MAIN SE at the same time.

Syntax



Parameters

DUPJOBNM={NO|YES}

Specifies whether multiple batch jobs of the same name may be scheduled for the MAIN SE at the same time.

NO

A batch job will not be scheduled for the MAIN SE if another batch job with the same name has already been scheduled for MAIN.

YES

A batch job may be scheduled for the MAIN SE even if another batch job with the same name has already been scheduled for MAIN.

DD =ddn

Specifies the ddname of the spool data set. JES3 assigns this spool data set to the specified partition if you also specify SP=spart. JES3JCT is not a valid ddname for this parameter.

CANCEL

Holds the specified spool data set (places the data set in spool hold status) and cancels all jobs that have data on the data set.

CYL=cyl

Specifies a one- to seven-digit hexadecimal value identifying the cylinder that contains the defective track.

TRK=trk

Specifies a one- to four-digit hexadecimal value identifying the defective track. When specified with more than one digit, only the low digit can be nonzero.

DRAIN

Stops allocating space on the specified spool data set.

HOLD

Holds the specified spool data set and holds further scheduling for all jobs that have data on the data set (places the data set and the jobs in spool hold status).

RELEASE or R

Releases the specified spool data set and all jobs that have data on the spool data set for further scheduling (releases the data set and the jobs from spool hold status).

SP=spart

Specifies the name of a spool partition. JES3 assigns the specified spool data set to this partition.

STOP

Holds the specified spool data set and holds further scheduling for all jobs that have data on the data set if the jobs are not currently active on a main (places the data set and the jobs in spool hold status). This parameter cancels all jobs with data in the data set if the jobs are currently active on a main.

USE

Resumes allocating space on the specified spool data set.

P=prty

Specifies the priority level (0 through 15) of the jobs to be held or released in the JES3 job queue.

H

Specifies that the jobs are to be held from further scheduling (place the jobs in priority hold status).

R

Specifies that the jobs are to be released for further scheduling (release the jobs from priority hold status).

SP=spart1

Specifies the name of a spool partition to which an overflow partition is being assigned.

O=spart2

Specifies the name of the spool partition into which spool data is to overflow if spart1 becomes full.

O=YES

Indicates that spool data is to overflow into the default spool partition.

O=NO

Indicates that spool data is not to overflow into any other spool partitions.

MIN=nn

Allows the minimal spool threshold to be changed. The primary intent of the parameter is that it be used only in emergency situations when a spool shortage exists in a partition. Lowering the threshold or specifying zero for the default partition could prevent JES3 from initializing during the next JES3 restart requiring a coldstart to recover.

nn is a value between 0 and 99. It represents a percentage of the total partition spool space that is left free to perform JES3 system functions. See *z/OS JES3 Initialization and Tuning Guide* for an explanation of the SPLIM parameter on the SPART initialization statement.

Table 16. *F,Q,DD= Command Summary

	Result		
Parameter	On Jobs With Data on Specified Spool Data Set	Spool Space Allocation on Specified Spool Data Set	
	Job Scheduling	Jobs on Main	
DRAIN	None	None	Suspended
USE	None	None	Resumed
HOLD	Spool hold	Continue	Suspended
STOP	Spool hold	Canceled	Suspended
RELEASE or R	Released from spool hold	Continue	Resumed
CANCEL	Canceled	Canceled	Suspended

Rules

- Changing DUPJOBNM to 'NO' has no effect on batch jobs with the same name that have already been scheduled for MAIN.
- Do not specify the ddnames of all the spool data sets assigned to the default partition; at least one spool data set must be assigned to the default partition at all times.
- Make sure that all ddnames and partition names are valid; the command does not run if errors are detected.
 - JES3 issues message IAT8090:

```
IAT8090  SPOOL DATA SET ddname MOVED TO PARTITION spart
```

- JES3 can now write data assigned to the specified partition to the specified spool data set(s).
- Data written to the specified spool data set(s) before the command is issued remain unchanged.
- The changes to ddnames and partition names remain in effect after you restart JES3 using a hot start; they are reset based on the initialization stream specifications after you use a warm start, hot start with refresh or *MODIFY CONFIG command with spool initialization statements.
- If no overflow partition is assigned, spool data automatically overflows into the default partition. The default partition does not overflow.
- If you modify the overflow partition, JES3 issues message IAT8097.

```
IAT8097  spart1 WILL NOW OVERFLOW INTO PARTITION spart2
```

- If a circular overflow condition would result, JES3 issues message IAT8098.

```
IAT8098  OVERFLOW MODIFY FOR spart1 REJECTED,
          CIRCULAR OVERFLOW WOULD RESULT
```

- You can specify a maximum of 20 spool data sets each time you issue the command.
- Enter the USE parameter for a spool data set that was previously stopped using the DRAIN parameter.
- For the DRAIN parameter:
 - JES3 issues message IAT8091:

```
IAT8091  ALLOCATION FROM SPOOL DATA SET ddname
          SUSPENDED
```

- JES3 stops allocating space on the specified spool data set(s). If there are jobs in the system that currently have data on the data set(s), JES3 continues normal processing for these jobs and releases the space as each job completes.
- For the USE parameter:
 - JES3 issues message IAT8091:

```
IAT8091 ALLOCATION FROM SPOOL DATA SET ddname RESUMED
```

- JES3 resumes allocating space on the specified spool data set(s).
- All changes remain in effect after you restart JES3 using a hot start or a warm start.
- For the HOLD parameter:
 - JES3 issues the following messages:

```
IAT8091 ALLOCATION FROM SPOOL DATA SET ddname
SUSPENDED
```

This message is issued for each job affected by the command.

```
IAT8083 JOB QUEUE FOR SPECIFIED EXTENTS HELD
```

- JES3 puts the specified spool data set(s) in spool hold status and does not allocate additional space on the data set(s).
- JES3 does not schedule any additional processing for jobs that have data on the specified spool data set(s). Processing that is in progress at the time you submit the command is allowed to complete.
- For the STOP parameter:
 - JES3 issues the following messages:

```
IAT8091 ALLOCATION FROM SPOOL DATA SET ddname
SUSPENDED
```

This message is issued for each job put into spool hold status as a result of this command.

```
IAT8083 JOB QUEUE FOR SPECIFIED EXTENTS STOPPED
```

- JES3 puts the specified spool data set(s) into spool hold status and does not allocate additional space on the data set(s).
- JES3 puts each job that has data on the specified spool data set(s) and is not active on a main into spool hold status and does not schedule any additional activity for the job. If JES3 is currently performing any activity on behalf of the job, the activity terminates.
- For each job with data on the specified spool data set(s) that is currently active on a main, JES3 requests that MVS cancel the job. If MVS cannot cancel the job, message IEE841I is issued. To cancel the job, you must enter the MVS FORCE command.
- For the RELEASE parameter:
 - JES3 issues the following messages:

```
IAT8091 ALLOCATION FROM SPOOL DATA SET ddname RESUMED
```

This message is issued once for each job affected by the command.

```
IAT8083 JOB QUEUE FOR SPECIFIED EXTENTS RELEASED
```

- JES3 releases each of the specified spool data set(s) from spool hold status and resumes allocating space on the data set(s).
- For each job that has data on the specified data set(s), JES3 releases the job from spool hold status if the job does not also have data on other spool data sets that are being held. If other data sets are being held, JES3 again issues message IAT8091.

(All the job's spool data sets must be released before the job can be released from spool hold status.)

- JES3 takes the following action on jobs that it releases from spool hold status:
 - If you originally used the HOLD parameter to put the jobs in spool hold status, each job resumes processing at the point where it left off.
 - If you originally used the STOP parameter to put the jobs into spool hold status, JES3 responds as follows:
 - Reschedules each job to the last JES3 function scheduled for the job before it was put into hold status.
 - Restarts each batch job that was active on a main at the time the job was put into spool hold status. The job is restarted according to the failure option coded on the `//*MAIN` control statement in the job's JCL (CANCEL, HOLD, RESTART, PRINT).

JES3 does not restart TSO/E users or started tasks.

- For the CANCEL parameter:
 - JES3 issues the following messages:

```
IAT8091  ALLOCATION FROM SPOOL DATA SET ddname
        SUSPENDED
```

This message is issued for each job affected by the command.

```
IAT8083  JOB QUEUE FOR SPECIFIED EXTENTS CANCELED
```

- JES3 puts the specified spool data set(s) in spool hold status and does not allocate any additional space on the data set(s).
- JES3 cancels each job that has data on the specified spool data set(s). It also cancels any output from the job that is ready to be printed.

Jobs and data sets that have track allocation tables (TATs) on the specified data set(s) can also have spool space allocated on other, active spool data sets. When JES3 cancels these jobs, it does not release the spool space on the other spool data sets. As a result, this space is not usable until you restart JES3 using a warm start with analysis or a hot start with analysis.

- All changes remain in effect after you restart JES3.

Examples

Reassign spool data sets with the ddnames SPOOL3 and SPOOL4 to spool partition PARTB:

```
*F,Q,DD=(SPOOL3,SPOOL4),SP=PARTB
```

Allow spool data to overflow from partition PARTA into PARTB:

```
*F,Q,SP=PARTA,O=PARTB
```

Allow spool data to overflow from partition PARTB into the default partition:

```
*F,Q,SP=PARTB,O=YES
```

Stop allocating space on spool data sets SPOOLD and SPOOLE:

```
*F,Q,DD=(SPOOLD,SPOOLE),DRAIN
```

Resume allocating space on spool data set SPOOLE:

```
*F,Q,DD=SPOOLE,USE
```

Hold JES3 from allocating additional space on spool data set SPOOL1:

***MODIFY,S**

```
*F,Q,DD=SPOOL1,HOLD
```

Spool data set SPOOL2 is temporarily damaged. Stop JES3 from allocating additional space on SPOOL2 and stop all processing for jobs with data on the data set:

```
*F,Q,DD=SPOOL2,STOP
```

Spool data sets SPOOL1 and SPOOL2 are ready to be used again. Release the data sets and the jobs with data on the data sets from spool hold status:

```
*F,Q,DD=(SPOOL1,SPOOL2),RELEASE
```

Spool data set SPOOL3 is permanently damaged. Cancel all jobs with data on the data set so they can be resubmitted:

```
*F,Q,DD=SPOOL3,CANCEL
```

JES3 adds a BADTRACK element for the specified track. The following message will be issued:

```
IAT1145 ENTRY ADDED TO BADTRACK TABLE: DDNAME=ddn,CYL=cyl,TRK=trk
```

If a BADTRACK element already existed for the track specified on the command, message IAT1145 will not be issued. You can use the BADTRACK inquiry command (*INQUIRY,BT) to get a list of the BADTRACK elements. If the command is rejected, message IAT8055 will be issued with a reason text that describes the error.

Add a BADTRACK element for spool data set named 'SPOOL1' for track ten on cylinder 100 (values are in decimal):

```
*F,Q,DD=SPOOL1,CYL=0064,TRK=000A
```

Place the entire JES3 job queue in hold status:

```
*F,Q,H
```

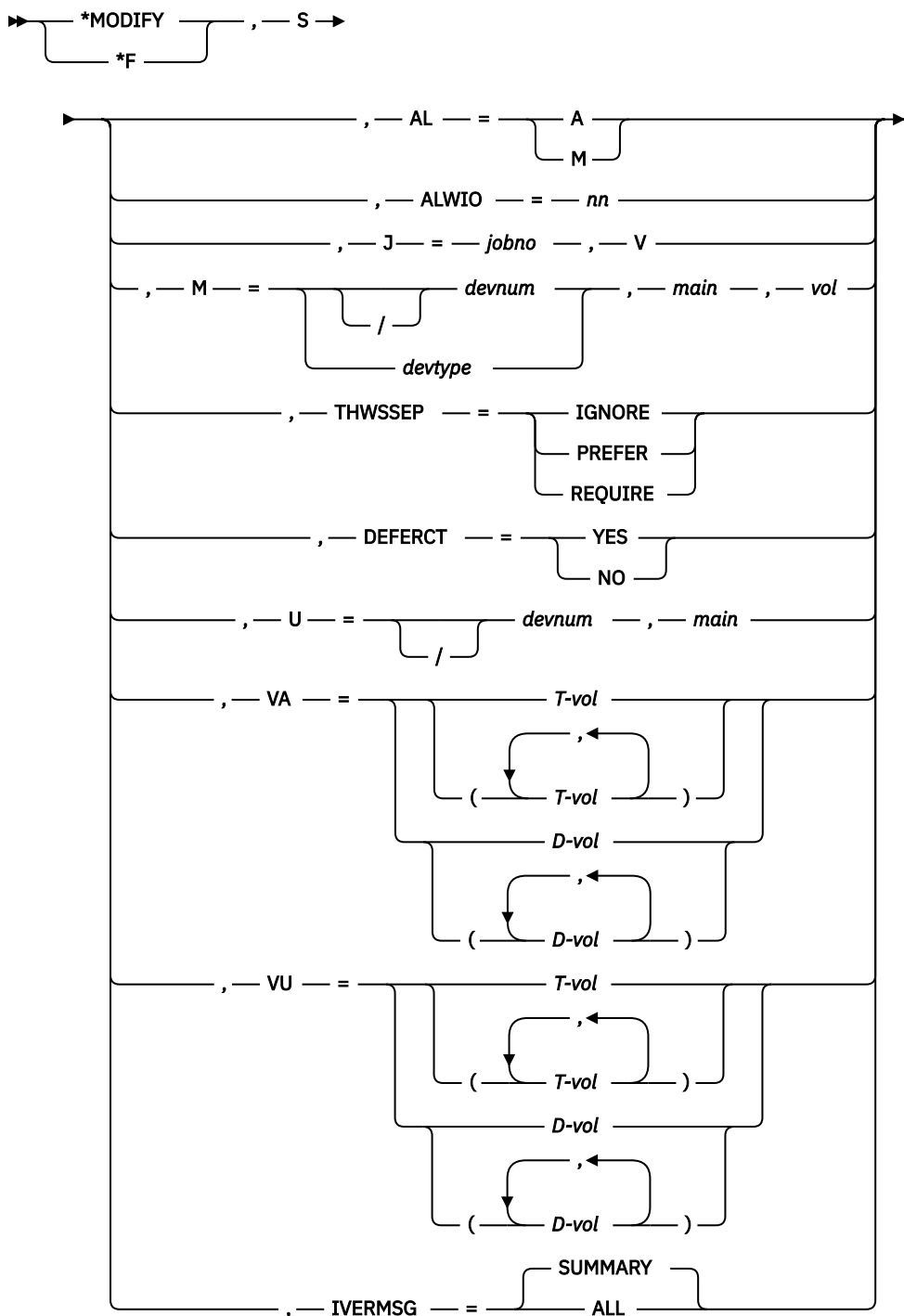
Changing device setup *MODIFY,S

Function

Use the *MODIFY,S command to:

- Make a volume unavailable for JES3 setup processing
- Make a volume available for JES3 setup processing
- Keep a real direct access volume mounted on a designated device. This command is also valid for devices containing SMS-managed volumes
- Unload a volume mounted on a designated device
- Specify automatic or manual allocation of JES3-managed devices Using this command overrides the specification established by the ALLOCATE parameter on the SETPARAM initialization statement.
- Specify whether to include jobs that require only deferred mounts in the setup depth counts (SDEPTH).
- Determine if volumes required and presumed mounted for a designated job have been mounted. Use this command if all of the volumes have been mounted, but the expected responses, through JES3 volume verification, have not been recognized.
- Change the current number of asynchronous I/O requests that can be processed simultaneously.
- Specify, with the THWSSEP= parameter, whether you want scratch and specific tape requests and scratch requests of different media types separated during high watermark processing.
- Specify, with the IVERMSG= parameter, whether all initial verify response messages are written to the hardcopy message log (MLOG).

Syntax



Parameters

AL=A or M

Specifies whether allocation is automatic or manual.

AL=A

Specifies that setup is to automatically attempt allocation of resources for all eligible jobs. Jobs that require SMS-managed resources are sent through the system select phase to determine which mains have access to the required SMS-managed resources. Jobs that do not require SMS-managed resources proceed to the allocation phase of MDS processing.

AL=M

Specifies that setup is to place all jobs into the WAITVOL queue following volume fetch. Jobs remain in the WAITVOL queue until an operator issues a *START,S command to indicate that the required resources are available.

ALWIO=nn

Specifies that the number of asynchronous I/O requests that can be processed simultaneously be set to nn. This value overrides the value specified in the ALWIO parameter of the SETPARAM initialization statement. The minimum for this parameter is one. The maximum is the value specified in the MAXIO parameter of the SETPARAM initialization statement. Specifies automatic (A) or manual (M) allocation of devices.

DEFERCT=YES|NO

Specifies whether to include jobs that require only deferred mounts in the setup depth counts (SDEPTH). This commands allows you to override the DEFERCT parameter on the SETPARAM initialization statement.

J=jobno

Specifies the job whose volumes are to be verified.

V

Specifies verification for the designated job.

M=devnum or /devnum or devtype

Specifies the device on which the volume is to be kept. This parameter is not valid for tape volumes. The device number can be a 3-digit or 4-digit hexadecimal number. A slash (/) preceding the device number is required for 4-digit device numbers. The M= parameter treats 4-digits without a slash as a device type. Device numbers can be specified by any of the following formats:

```
ddd
/ddd
/dddd
```

main

Specifies the main to which the designated device is attached.

vol

Specifies the volume serial which is to be kept mounted on the designated device. If JES3 does not find the volume on the device, it issues a MOUNT message requesting it.

THWSSEP=IGNORE

Specifies that JES3 not separate scratch and specific tape requests and not separate scratch tape requests of different media types during high watermark processing. Both scratch and specific tape requests and scratch requests of different media types will be allocated on the same tape drive.

THWSSEP=PREFER

Specifies that JES3 attempt to allocate scratch and specific tape requests on separate tape drives or attempt to allocate scratch tape requests of different media types on separate tape drives without allocating additional devices. If JES3 cannot separate the requests, scratch and specific tape requests and scratch requests of different media types will be allocated on the same tape drive.

THWSSEP=REQUIRE

Specifies that JES3 should not allocate scratch and specific tape requests on the same tape drive and not allocate scratch tape requests of different media types on the same tape drive, even if JES3 must allocate additional tape drives to satisfy the request.

U=devnum or /devnum

Specifies the direct or serial access device (devnum or /devnum) on which the volume to be unloaded is located. The device number can be a 3-digit or 4-digit hexadecimal number. Device numbers must be specified in one of the following formats:

```
ddd
dddd
/ddd
/dddd
```

where ddd and dddd represent the device numbers.

main

Specifies the main to which the designated device is attached.

VA=T-vol or D-vol

Specifies the tape (T) and disk (D) volumes that are to be made available.

VU=T-vol or D-vol

Specifies the tape (T) and disk (D) volumes that are to be made unavailable. The designated volumes remain unavailable until a *MODIFY,S,VA= command is issued.

Note: Using the *MODIFY,S command to make SMS-managed volumes unavailable has no effect on job scheduling except for those requests for any SMS user catalogs that reside on the volume in question.

To prevent JES3 from scheduling jobs for an SMS-managed volume, use the V SMS,VOLUME(vvvvvv),QUIESCE or V SMS,VOLUME (vvvvvv),QUIESCE,NEW commands. For more information about these commands, refer to [z/OS MVS System Commands](#).

IVERMSG=SUMMARY|ALL

Specifies whether all initial verify response messages (IAT5918 messages received during main connect) are written to the hardcopy message log (MLOG). SUMMARY specifies that a summary message (IAT5919) will be written for every 100 initial verify response messages and at the end of initial verify processing. ALL specifies that all initial verify response messages are written. The default is SUMMARY.

The change applies to all systems connecting after the command is processed and remains in effect until the next JES3 restart or until the setting for IVERMSG is changed.

If you want the command to take effect for only a specific JES3 system, you can vary all the remaining systems offline to JES3 before entering the *START,JSS or *START,main,CONNECT commands. If you want the command to take effect for all systems after a JES3 restart, enter the command before entering the *START,JSS command.

Results

- A job that has not been allocated by setup and that requests use of an unavailable volume is placed in the setup volume unavailable queue.
- A job that allocated a volume before the volume being made unavailable is allowed to complete normally.
- A dynamic allocation request for an unavailable volume is rejected.
- A catalog setup request for an unavailable volume causes the job to be canceled by the converter/interpreter DSP.
- All jobs that are currently on the setup volume unavailable queue are transferred to the setup allocation queue.

To allow a single job to allocate unavailable volumes, use the *RESTART,S command (see [“Restarting allocation *RESTART,SETUP”](#) on page 373).

JES3 issues this message:

```
IAT5726 THWSSEP=IGNORE | PREFER | REQUIRE
```

Examples

Tape volumes R67891 and R67892 are to be made unavailable:

```
*F,S,VU=(T-R67891,T-R67892)
```

Tape volumes R67891 and R67892 are to be made available:

```
*F,S,VA=(T-R67891,T-R67892)
```

*MODIFY,SOCKET

Keep volume A55521 mounted on a 3330 disk on main SY2:

```
*F,S,M=3390,SY2,A55521
```

Unload the volume mounted on device number 292 on SY2:

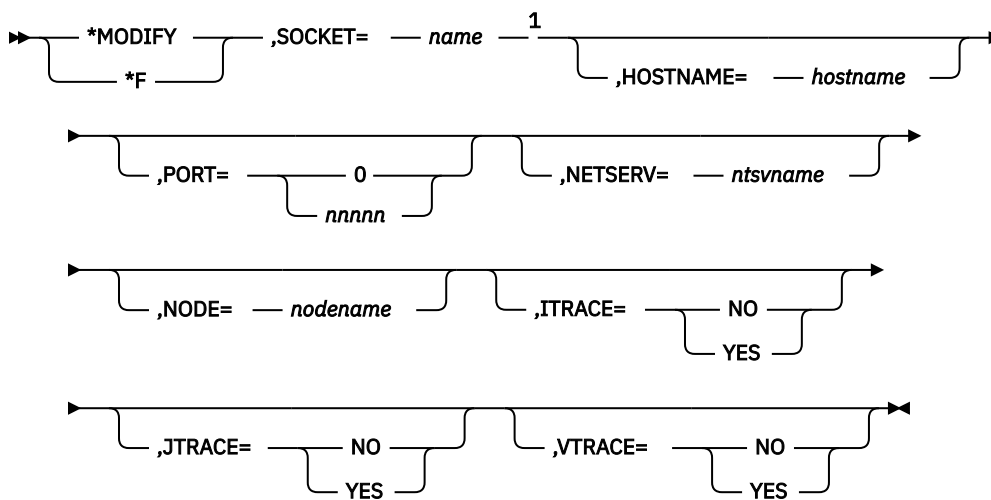
```
*F,S,U=292,SY2
```

Modifying a TCP/IP/NJE Socket *MODIFY,SOCKET=

Function

Use the *MODIFY,SOCKET=sockname command to modify an existing socket definition.

Syntax



Notes:

¹ More than one parameter can be specified at a time and in any order.

Parameters

SOCKET=name

Specifies a 1-8 character name that uniquely identifies this socket. The name must contain only A-Z, @, \$, #, or 0-9 and cannot start with a digit.

HOSTNAME=hostname

Specifies the IP host name or IP address that this socket uses to communicate with TCP/IP.

The host name can consist of up to 60 characters and must be a legal TCP/IP IP address or host name that is defined to the TCP/IP resolver. The host name can be in IPV4 or IPV6 format.

HOSTNAME=* can be specified to remove any existing HOSTNAME assignment.

PORT=0|nnnnn

Specifies a port number that the socket uses, in combination with the host name, to communicate with TCP/IP. The port must be a number from 0 to 65,535. A port of 0 indicates that when the socket starts, a standard service name of VMNET is used. The service name of VMNET corresponds to port 175. Although there is a corresponding port for the service NJENET-SSL, it is suggested that you use the TLS=YES parameter on the NJERMT statement or *MODIFY,NJE command instead. If you are defining multiple NETSERVs that use differing security settings, then the associated SOCKET intending to use TLS=YES should explicitly code a PORT value.

NETSERV=ntsvname

Specifies the name of the Netserv on which the socket is activated. This parameter does not need to be specified at initialization time, but if omitted, it must be modified later. Otherwise, the socket cannot be started.

NETSERV=* can be specified to remove any existing NETSERV assignment.

NODE=nodename

Specifies the name of the node that uses this socket. This parameter does not need to be specified at initialization time, but if omitted, it must be modified later. Otherwise, the socket cannot be started.

NODE=* can be specified to remove any existing NODE assignment.

ITRACE=NO|YES

Indicates whether internal tracing in the Netserv address space is to be active.

JTRACE=NO|YES

Indicates whether JES tracing is to be active. JES tracing occurs during JES specific exit points in the Netserv during which data records, headers, and trailers are transmitted and received.

VTRACE=NO|YES

Indicates whether verbose tracing is to be active. Verbose tracing involves various diagnostic messages being written to the console and job log from the Netserv address space.

Rules

- HOSTNAME= can be abbreviated to HOST=.
- Active sockets cannot be modified, except for ITRACE, JTRACE, and VTRACE.

Results

- The socket is modified and the change takes effect immediately.

Examples

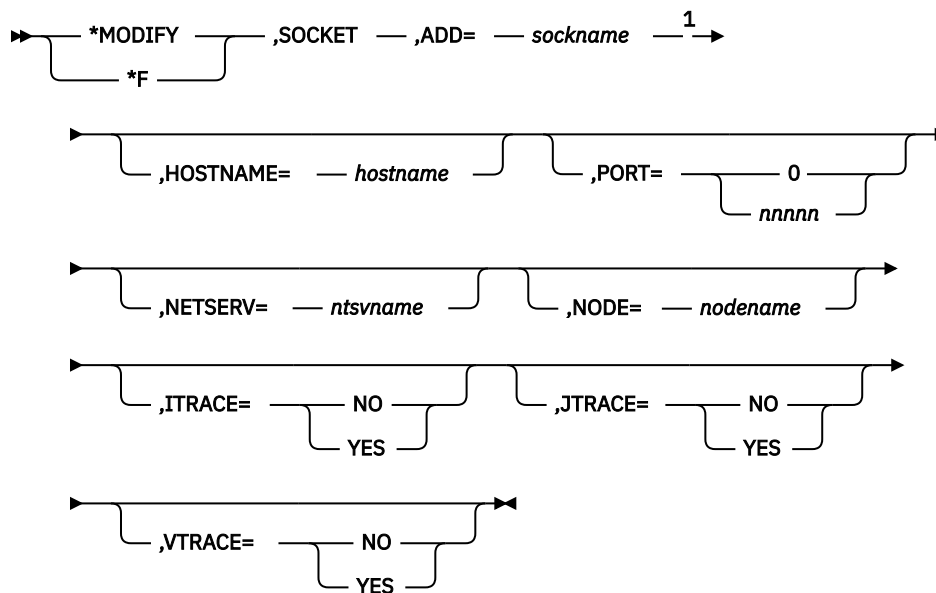
```
*F, SOCKET=SKBOSTON, NODE=BOSTON
*F, SOCKET=SKBOSTON, HOST=MYCORP.COM
*F, SOCKET=SKBOSTON, JTRACE=YES
```

Adding a TCP/IP/NJE Socket *MODIFY,SOCKET,ADD=

Function

Use the *MODIFY,SOCKET,ADD= command to dynamically add a new TCP/IP/NJE Network Server.

Syntax



Notes:

¹ More than one parameter can be specified at a time and in any order.

Parameters

ADD=sockname

Specifies the name of the socket to be added.

HOSTNAME=hostname

Specifies the IP host name or IP address that this socket uses to communicate with TCP/IP.

The host name can consist of up to 60 characters and must be a legal TCP/IP IP address or host name that is defined to the TCP/IP resolver. The host name can be in IPV4 or IPV6 format. This parameter does not need to be specified at initialization time, but if the HOSTNAME= parameter is omitted, or specified as HOSTNAME=*, it must be modified later. Otherwise, the socket cannot be started.

PORT=0|nnnnn

Specifies a port number that the socket uses, in combination with the host name, to communicate with TCP/IP. The port must be a number from 0 to 65,535. A port of 0 indicates that when the socket starts, a standard service name of VMNET is used. The service name of VMNET corresponds to port 175. Although there is a corresponding port for the service NJENET-SSL, it is suggested that you use the TLS=YES parameter on the NJERMT statement or *MODIFY,NJE command instead. If you are defining multiple NETSERVs that use differing security settings, then the associated SOCKET intending to use TLS=YES should explicitly code a PORT value.

NETSERV=ntsvname

Specifies the name of the Netserv on which the socket is activated. This parameter does not need to be specified at initialization time, but if the NETSERV= parameter is omitted, or specified as NETSERV=*, it must be modified later. Otherwise, the socket cannot be started.

NODE=nodename

Specifies the name of the node that uses this socket. This parameter does not need to be specified at initialization time, but if the NODE= parameter is omitted, or specified as NODE=*, it must be modified later. Otherwise, the socket cannot be started.

ITRACE=NO|YES

Indicates whether internal tracing in the Netserv address space is to be active.

JTRACE=NO|YES

Indicates whether JES tracing is to be active. JES tracing occurs during JES specific exit points in the Netserv during which data records, headers, and trailers are transmitted and received.

VTRACE=NO|YES

Indicates whether verbose tracing is to be active. Verbose tracing involves various diagnostic messages being written to the console and job log from the Netserv address space.

Rules

- You are not restricted from using a name consisting of @ and seven digits; however, those names are generated names for server sockets and it is suggested that you do not this to avoid confusing client sockets with server sockets.

Results

- The socket is added.

Example

```
*F,SOCKET,ADD=NEWSOCK
```

```
*F,SOCKET,ADD=XYXCORP,HOSTNAME=XYZCORP.COM,NODE=XYZNODE,NETSERV=MYSERV
```

Deleting a TCP/IP/NJE Socket ***MODIFY,SOCKET,DELETE=**

Function

Use the *MODIFY,SOCKET,DELETE= command to dynamically delete a TCP/IP/NJE socket.

Syntax

```
► *MODIFY — ,SOCKET — ,DELETE= — sockname ➤
  |
  └─ *F ──
```

Parameters**DELETE=sockname**

Specifies the name of the socket to be deleted.

Rules

- DELETE= can be abbreviated to DEL=.
- Active sockets cannot be deleted.

Results

- The socket is deleted.

Example

```
*F,NETSERV,DEL=OLDSOCK
```

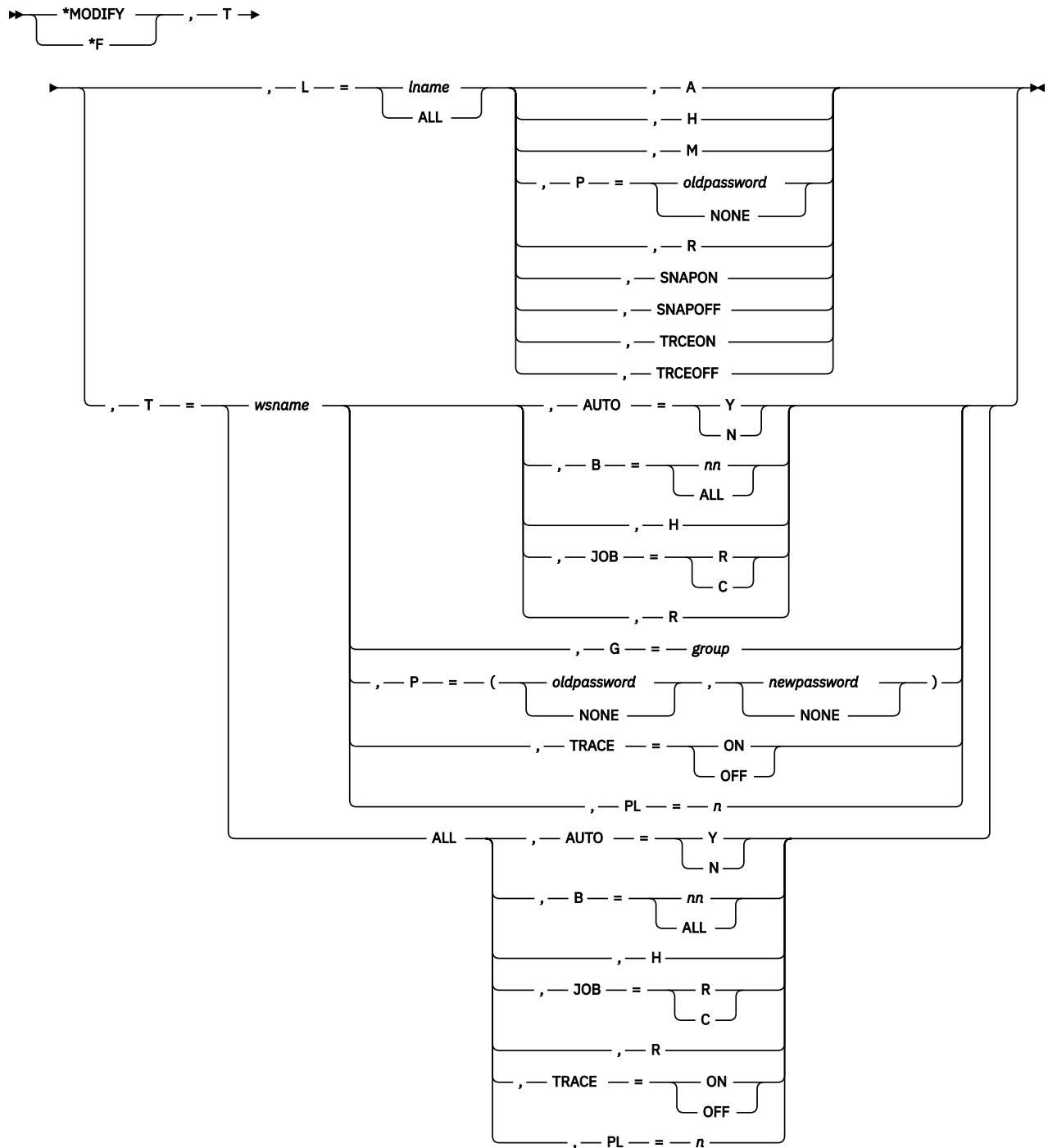
Changing RJP *MODIFY,T

Function

Use the *MODIFY,T command to:

- Specify the action to be taken if a remote printer or punch becomes “not ready”.
- Assign a password to a line or to specify that no password is required.
- Hold or release jobs that are being submitted from BSC RJP workstations.
- Hold or release jobs on the JES3 job queue that are being submitted from a SNA RJP workstation.
- Specify whether a line will be started automatically when BSC RJP is reinitialized after it has been stopped.
- Control the RJPSNPS facility.
- Disable or enable an automatic reader at a SNA RJP workstation.
- Disable or enable SNA RJP tracing.
- Change the number of times an incorrect password is allowed to be enter on a SNA RJP workstation before logons are inhibited.
- Change the group name on a SNA or BSC RJP workstation.

Syntax



Parameters

L=*lname* or ALL

Specifies the BSC RJP communications line for which status is to be displayed (as defined on the RJPLINE initialization statement). If ALL is specified, all BSC RJP lines are displayed.

A

Specifies that the designated line is restarted automatically if an *CANCEL,RJP command is followed by an *CALL,RJP command.

H

Specifies that all input from subsequently called readers at the designated workstation or on the designated line is to be held from further scheduling. Jobs already in the JES3 job queue at the time the command is issued are not affected.

M

Specifies that a line must be started manually by the *START,RJP command after BSC RJP is activated or reactivated.

P=password or NONE

Specifies the existing one to eight character password or no password. If NONE is specified, no password is required. This password assignment remains in effect until JES3 is either cold started or warm started.

R

Specifies that the error counters for the specified line are to be reset to zero.

SNAPON

Enables the SNAP facility.

SNAPOFF

Disables the SNAP facility.

TRCEON

Enables the display of BSC RJP event trace to the hardcopy log

TRCEOFF

Disables the display of BSC RJP event trace to the hardcopy log

TRACE=ON or OFF

Specifies that SNA RJP tracing is to be enabled (ON) or disabled (OFF).

T=wsname or ALL

Specifies the name of the BSC or SNA RJP workstation (as defined in the RJPTERM initialization statement) that is affected. If ALL is specified, all workstations of the type associated with the parameter being modified are affected.

AUTO=Y or N

Specifies that the automatic reader is to be enabled (Y) or disabled (N).

B=nn or ALL

Specifies that nn batches (1 to 99) or all batch jobs that are currently in hold status be released.

H

Specifies that all input from subsequently called readers at the designated workstation is held from further scheduling. Jobs already in the JES3 job queue at the time the command is issued are not affected.

JOB=R or C

Specifies the action to be taken after a remote printer or punch on a nonprogrammable workstation is made "not ready." R specifies that the data set is rescheduled after the remote device is made "not ready." C specifies that the conditions established by the R parameter are to be cleared. The job remains active if the device is made "not ready" while the C parameter is in effect.

R

Specifies that subsequent jobs read from the designated workstation are not to be placed in hold status. This does not release jobs currently held.

P=old password or NONE and new password or NONE

Old password specifies the existing one to eight character password required by the workstation or NONE. Old password must be specified when assigning a new workstation password. New password or NONE specifies the new one to eight character password to be required for the next workstation sign-on. If NONE is specified, no password is required. This assignment remains in effect until JES3 is either cold started or warm started.

PL=n

Specifies the number of times an incorrect password will be allowed on a SNA RJP workstation before logons to that workstation are rejected. If 0 is specified, the workstation will not reject logons no matter how many incorrect passwords are attempted.

G=group

Specifies the name of the group name to be associated with the workstation. This parameter is not valid with T=ALL, and the group cannot be one of the special names LOCAL or ANYLOCAL.

Rules

- Use the *INQUIRY,T command to display the sign-on password required for a BSC RJP communications line. JES3 does not allow you to display BSC RJP workstation passwords.
- Use the RJP hardcopy log trace facility to generate a continuous indication of the internal program flow within RJP. The trace is useful to determine which paths were processed within RJP.
- Data is printed in the hardcopy log and is written to the JES3 trace table each time an important event occurs.
- Use the *INQUIRY,T command to display line-error statistics. The accumulated error counts can be reset to zero if required.
- If RACF password protection for RJP is not active, use the *MODIFY,T command to assign a password to a SNA RJP workstation or to specify that no password is required. If RACF password protection for RJP is active, use the LOGON APPLID command to change the password. JES3 does not allow you to display the SNA RJP workstation password.
- If RACF password protection for RJP is not active, use the *MODIFY,T command to assign a password to a workstation or to specify that no password is required. JES3 does not allow you to display the BSC RJP workstation password. If RACF password protection for RJP is active, a workstation password is required, the workstation password must have been defined to RACF, and you must use the /*SIGNON card to assign a new workstation password. See *z/OS JES3 Initialization and Tuning Guide* for more information about defining the workstation password to RACF.

Changing output queue information *MODIFY,U

Function

Use the *MODIFY,U command to modify requirements for work currently on the output service writer queue (WTR), the output service hold queue (HOLD) or the output service BDT queue (BDT).

You can issue multiple *MODIFY,U commands at one time. The default number that can be issued is ten.

Note:

1. If you enter more than the allowable number of commands, they will be rejected and must be reentered.
2. Use caution when issuing multiple *MODIFY,U commands. The processing order is unpredictable and they cannot be processed in the order entered. When the results depend on the order of processing, enter a single *MODIFY,U command at a time and verify it has been processed before entering subsequent commands.

The following table summarizes the allowable keyword parameters that you can specify on an *MODIFY,U command:

Table 17. Valid processing parameters you can use on a *MODIFY,U for selection					
KEYWORD	DESCRIPTION	HOLD	WTR	BDT	TCP
AGE=	Time on Queue	Yes	Yes	Yes	Yes
APPC=	APPC Work	Yes	Yes	Yes	Yes

*Table 17. Valid processing parameters you can use on a *MODIFY,U for selection (continued)*

KEYWORD	DESCRIPTION	HOLD	WTR	BDT	TCP
BG=	BDT Group Identifier	No	No	Yes	No
BT=	BDT Network Stream	No	No	Yes	No
BY=	Number of Bytes	Yes	Yes	Yes	Yes
CJ=	Client Job	Yes	Yes	Yes	Yes
CJID=	Client Job Id	Yes	Yes	Yes	Yes
CJNM=	Client Job Name	Yes	Yes	Yes	Yes
CONS=	Console To Receive	Yes	Yes	No	No
DD=	Ddname	Yes	Yes	No	No
DG=	Device Group	Yes	Yes	No	No
DSN=	Data set identifier	Yes	Yes	No	No
GT=	Data set Gen Type	No	Yes	No	No
ID=	Owning USERID	Yes	Yes	No	No
J=	Job Name/Number	Yes	Yes	Yes	Yes
L=	Number of Lines	Yes	Yes	Yes	Yes
N=	Number to Process	Yes	Yes	Yes	Yes
PG=	Number of Pages	Yes	Yes	Yes	Yes
S=	Sequence Identifier	Yes	Yes	No	No
SL=	Security Label	Yes	Yes	No	No
T=	Terminal name	Yes	Yes	No	No
TG=	TCP Group Identifier	No	No	No	Yes
TT=	TCP Network Stream	No	No	No	Yes

*Table 18. Valid processing parameters you can use on a *MODIFY,U for selection or modification*

KEYWORD	DESCRIPTION	HOLD	WTR	BDT	TCP
C=	Carriage (FCB)	Yes	Yes	No	No
NC=	New Carriage (FCB)	Yes	Yes	No	No
CANCEL or C	Cancel	Yes	Yes	Yes	Yes
CH=	Character Table	Yes	Yes	No	No
NCH=	Change Character Table	Yes	Yes	No	No
CL=	Class	Yes	Yes	No	No
NCL=	Change Class	Yes	Yes	No	No
CM=	Copy Modification	Yes	Yes	No	No
NCM=	Change Modification	Yes	Yes	No	No
CP=	Copy Counts	Yes	Yes	No	No
NCP=	Change Copy Counts	Yes	Yes	No	No

Table 18. Valid processing parameters you can use on a *MODIFY,U for selection or modification
(continued)

KEYWORD	DESCRIPTION	HOLD	WTR	BDT	TCP
D=	Destination	Yes	Yes	Yes	Yes
ND=	New Destination	Yes	Yes	No	No
DSID=	Data sets for 3540	Yes	No	No	No
NDSID=	Change for 3540	Yes	No	No	No
F=	Forms	Yes	Yes	No	No
FD=	FORMDEF	Yes	Yes	No	No
NF=	Change Forms	Yes	Yes	No	No
FL=	Flash	Yes	Yes	No	No
NFD=	Change FORMDEF	Yes	Yes	No	No
NFL=	Change Flash	Yes	Yes	No	No
H=	Hold Status	Yes	Yes	Yes	Yes
NH=	Change Hold	Yes	Yes	Yes	Yes
IP=	IP address	Yes	Yes	No	No
NIP=	Change IP address	Yes	Yes	No	No
NPD=	Change PAGEDEF	Yes	Yes	No	No
PD=	PAGEDEF	Yes	Yes	No	No
OB=	Printer output bin id	Yes	Yes	No	No
NOB=	Change printer output bin id	Yes	Yes	No	No
OUTDISP=	Output disposition	Yes	Yes	No	No
NOUTDISP=	Change output disposition	Yes	Yes	No	No
P=	Priority	Yes	Yes	Yes	Yes
NP=	Change Priority	Yes	Yes	No	No
PM=	Process Mode	Yes	Yes	No	No
NPM=	Change Process Mode	Yes	Yes	No	No
Q=	Type of Queue	Yes	Yes	Yes	Yes
NQ=	New Queue	Yes	Yes	No	No
SS=	Burster-Trimmed-Stacker (BTS)	Yes	Yes	No	No
NSS=	Change BTS	Yes	Yes	No	No
ST=	Specific Type	No	Yes	No	No
NST=	Change Specific Type	No	Yes	No	No
U=	UCS (Train)	Yes	Yes	No	No
NU=	Change UCS	Yes	Yes	No	No
W=	External Writer	Yes	No	No	No
NW=	Change External Writer	Yes	No	No	No

Changing job output ***MODIFY,U**

You use the ***MODIFY,U** command to modify job output in a JES3 system. The job output can be at various places within the system and your selection of the proper "Q=" keyword value on the ***MODIFY,U** command dictates what output you want to modify.

The choices are generally the following:

***MODIFY,U,Q=BDT**

To modify SNA/NJE job output

***MODIFY,U,Q=HOLD**

To modify job output on the HOLD queue

***MODIFY,U,Q=WTR**

To modify job output on the WTR service queue

***MODIFY,U,Q=TCP**

To modify TCP/IP/NJE output.

***MODIFY,U**

To modify ALL output

Changing TCP/IP/NJE and SNA/NJE job output

Function - *MODIFY,U Q=TCP

Use the ***MODIFY,U Q=TCP** command to modify TCP/IP/NJE network jobs that are on the output service TCP queue. TCP/IP/NJE network jobs can be either network job streams or network SYSOUT streams. This command might have a length of 126 characters if the command is issued from an input device that permits that command length.

Function - *MODIFY,U Q=BDT

Use the ***MODIFY,U Q=BDT** command to modify SNA/NJE network jobs that are on the output service BDT queue. SNA/NJE network jobs can be either network job streams or network SYSOUT streams. This command might have a length of 126 characters if the command is issued from an input device that permits that command length. See [“Controlling SNA/NJE” on page 90](#) for a complete description of SNA/NJE.

Changing the HOLD queue

Function - *MODIFY,U Q=HOLD

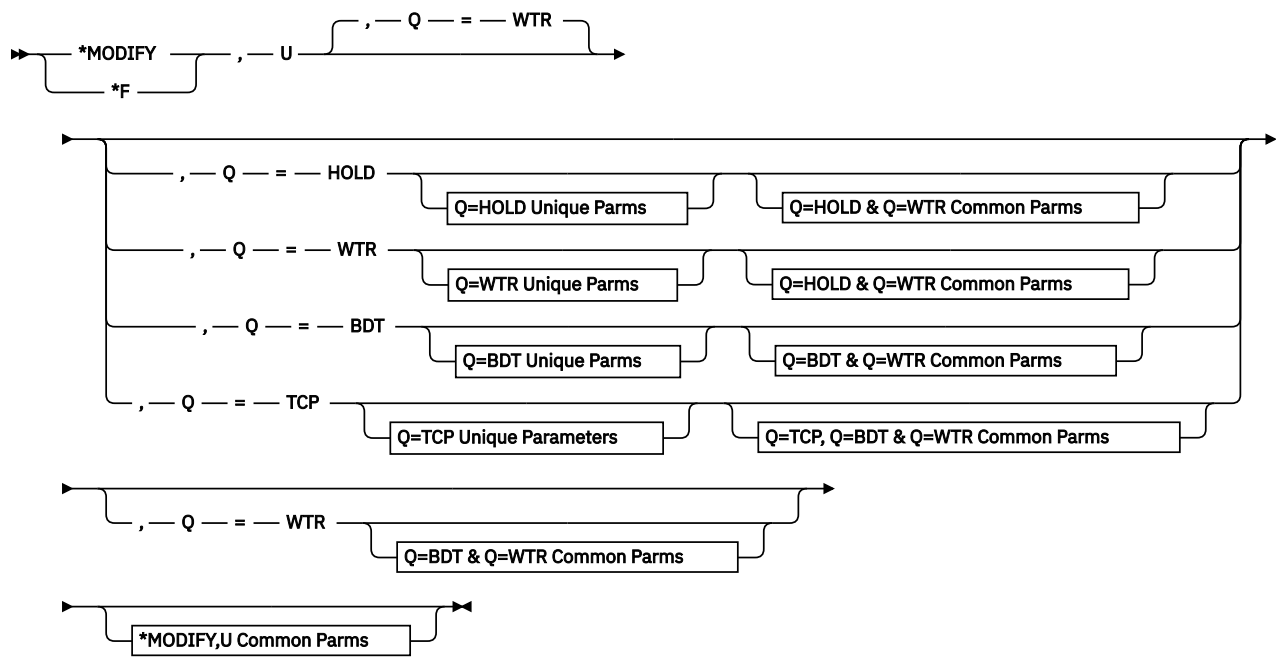
Use the ***MODIFY,U Q=HOLD** command to modify requirements for work currently on the output service hold queue. This command might have a length of 126 characters if the command is issued from an input device that permits that command length. You can issue multiple ***MODIFY,U** commands at a time. The default number is ten. You can change this number by issuing the ***MODIFY,X** command for the appropriate DSP.

Changing the WTR queue

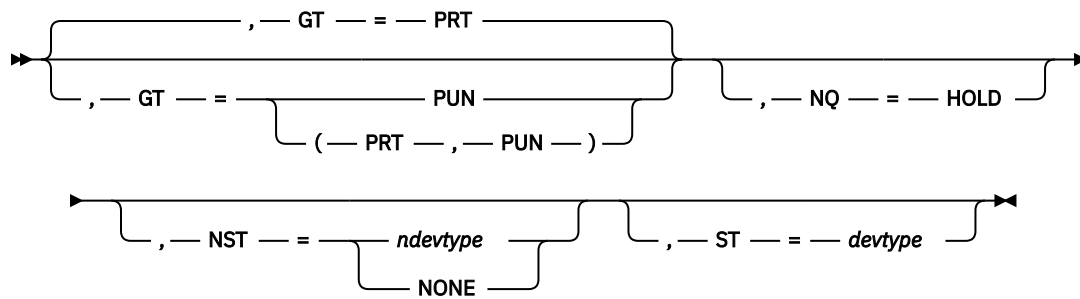
Function - *MODIFY,U Q=WTR

Use the ***MODIFY,U Q=WTR** command to modify requirements for work currently on the output service writer queue. This command might have a length of 126 characters if the command is issued from an input device that permits that command length. You can issue multiple ***MODIFY,U** commands at a time. The default number is ten and can be changed by using the **N=xx** parameter.

Syntax

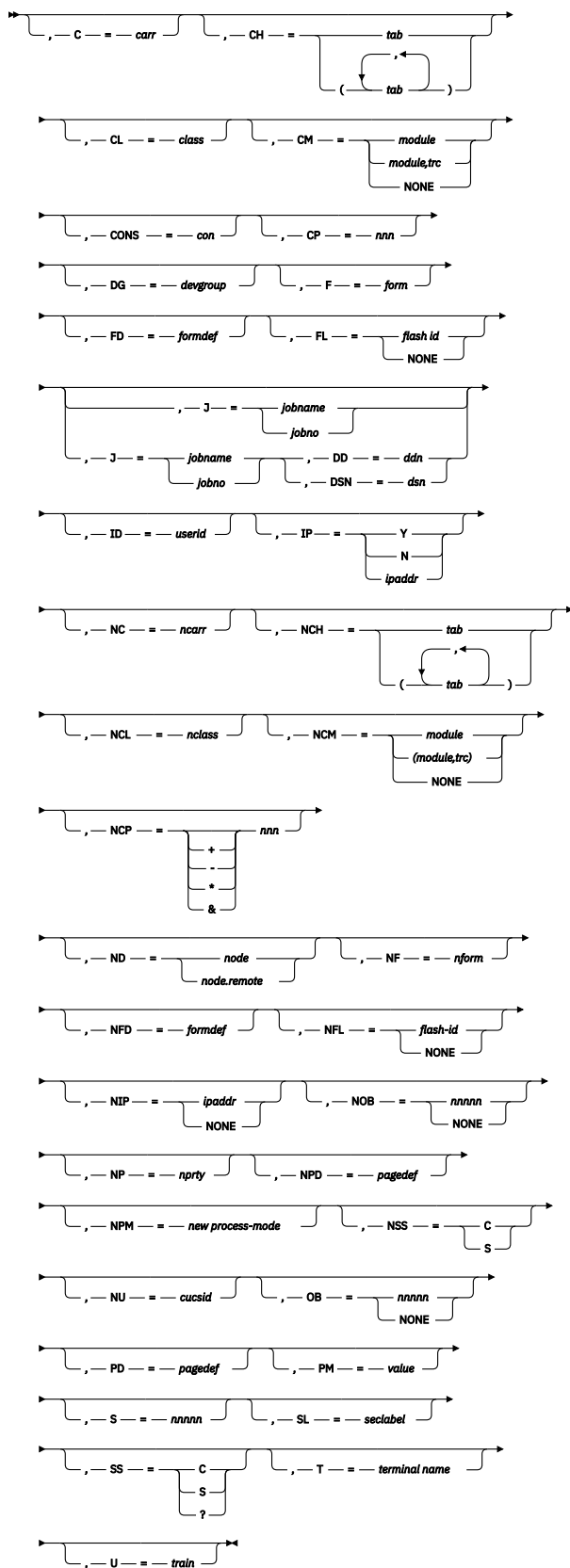


Q=WTR Unique Parameters

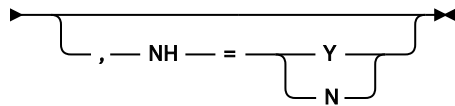
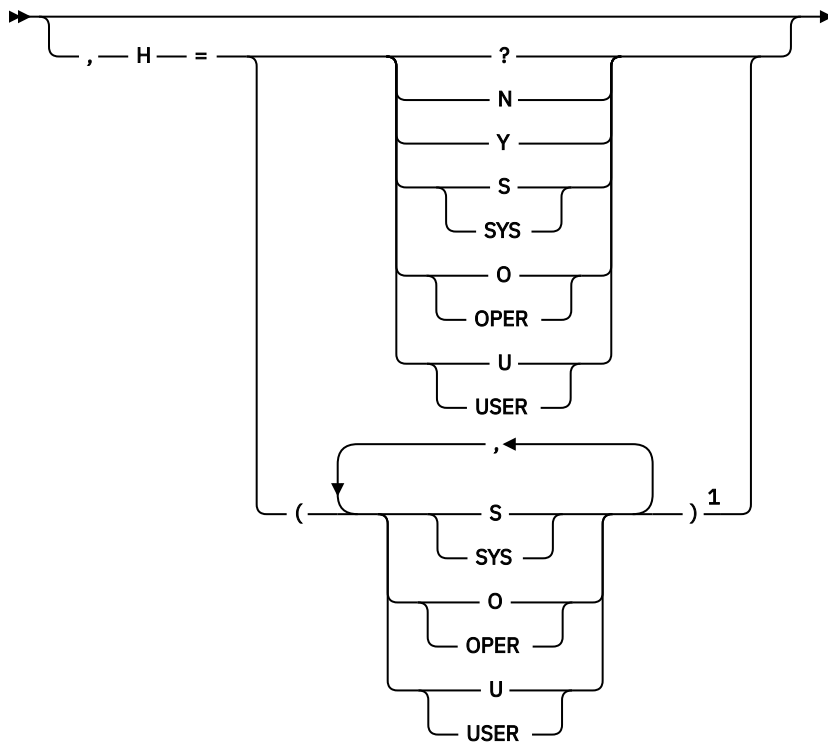


Q=HOLD & Q=WTR Common Parameters

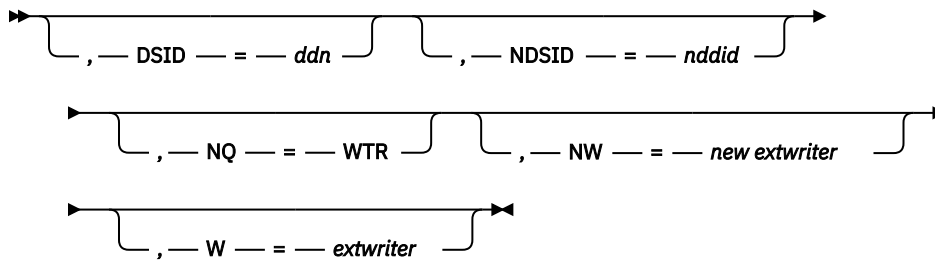
*MODIFY,U



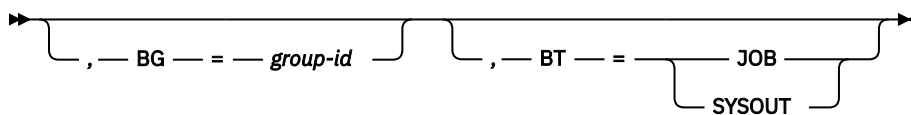
Q=BDT & Q=WTR Common Parameters



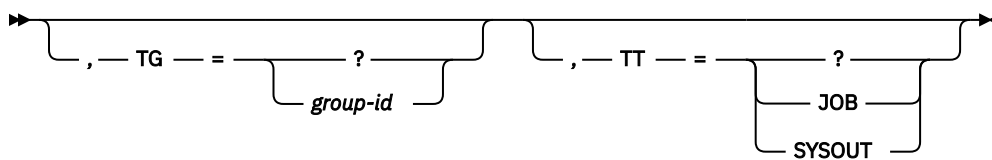
Q=HOLD Unique Parameters



Q=BDT Unique Parameters

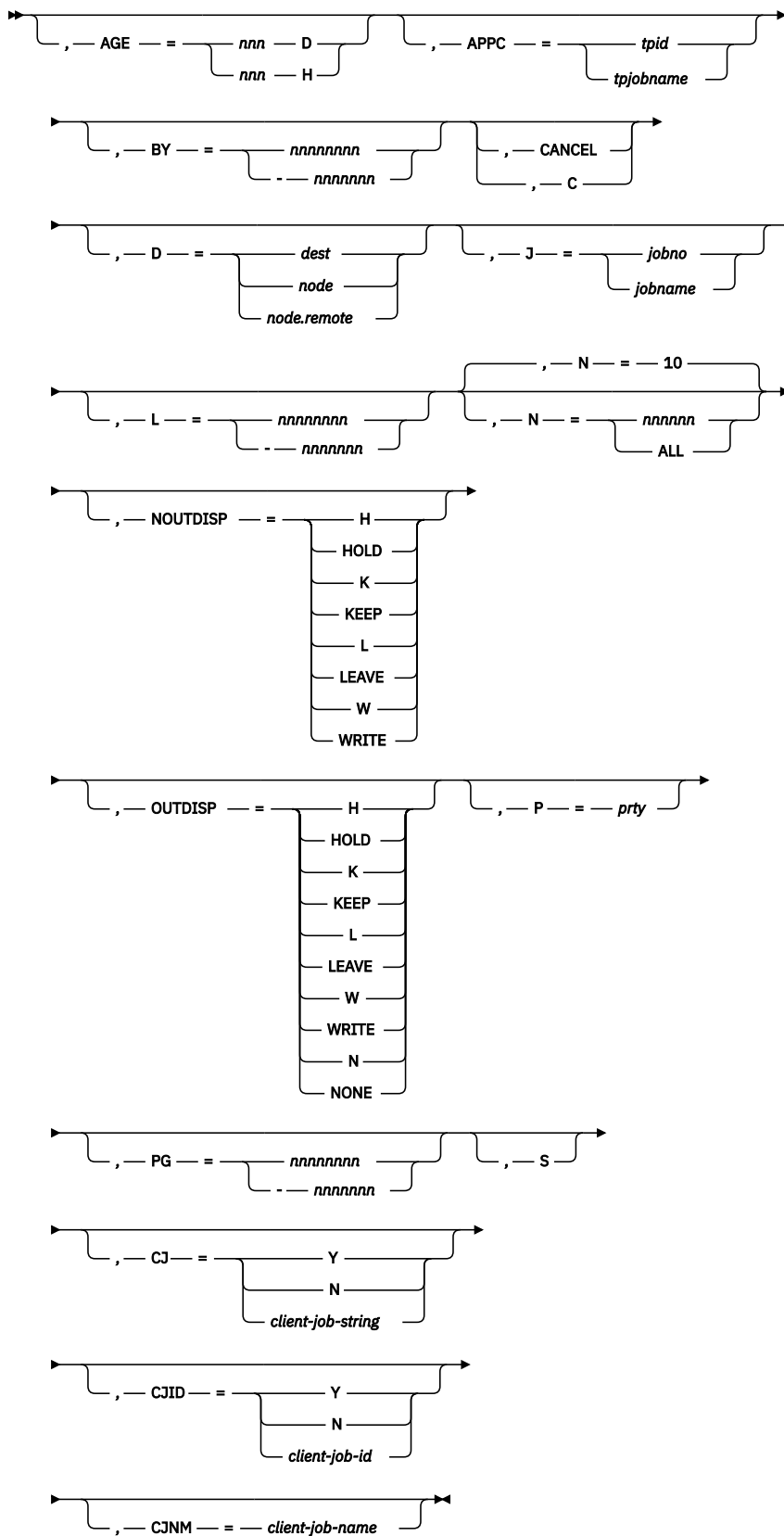


Q=TCP Unique Parameters



*MODIFY,U Common Parameters

*MODIFY,U



Notes:

¹ Do not repeat a specific parameter within these parentheses. For example, you can code all three parameters separated by commas (S,O,U) or any combination of two of the parameters separated by a comma (S,O) or (S,U), or (O,U).

Parameters

Q=TCP

Specifies that writer-selection characteristics are to be modified for data sets on the output service TCP queue.

Q=BDT

Specifies that writer-selection characteristics are to be modified for data sets on the output service BDT queue (BDT).

Q=HOLD

Specifies that writer-selection characteristics are to be modified for data sets on the output service hold queue (HOLD).

Q=WTR

Specifies that writer-selection characteristics are to be modified for data sets on the output service writer queue (WTR).

AGE=nnnn(D or H)

Selects the network stream or SYSOUT stream by the minimum number of days (D) or hours (H) that it has been on the specified queue.

APPC=Y|N|tpid

Selects SYSOUT from APPC transaction programs (TPs) only (Y). Selects non-APPC TPs generated for SYSOUT only (N). Selects SYSOUT from a specific TP identifier (tpid). If APPC= is not specified, all work is selected and SYSOUT from APPC TPs is indicated by the string **APPC**.

BG=group-id

Selects the network job or SYSOUT streams by its group identifier.

BT=JOB or SYSOUT

Selects the network job or SYSOUT stream you want to modify.

BY=nnnnnnnn or -nnnnnnnn

Specifies to select for modification data sets having a specified number of bytes.

nnnnnnnn (1 to 8 characters)

Data sets with at least the specified number of bytes.

-nnnnnnnn (up to 7 characters in length)

Data sets with no more than the specified number of bytes. For example, BY=-4096 selects data sets whose size in bytes does not exceed 4096.

CANCEL or C

Specifies that the output that matches the selection criteria is to be canceled. You can substitute the character (C) as an abbreviation for the CANCEL parameter.

Note: When canceling work intended for the NJERDR, you must include the W=NJERDR keyword on the *F U,Q=HOLD,C command.

C=carr

Specifies to modify SYSOUT data sets having the designated carriage tape (FCB).

CH=(tab[,tab...])

Specifies to modify the SYSOUT data sets having the specified arrangement tables. SYSOUT data sets can contain up to four image name requirements. Parentheses must be entered as shown.

CJ=Y or N or client-job-string

Specifies to modify SYSOUT with spinoff job names only (Y). Selects SYSOUT without spinoff job names only (N). Selects SYSOUT whose spinoff job name or spinoff job id matches client-job-string only (client-job-string).

CJID=Y or N or client-job-id

Specifies to modify SYSOUT with spinoff job ids only (Y). Selects SYSOUT without spinoff job ids only (N). Selects SYSOUT with a specific spinoff job id only (client-job-id).

CJNM=client-job-name

Specifies to modify SYSOUT with a specific spinoff job name only.

CL=class

Specifies to modify data sets in the indicated output class (A to Z; 0 to 9).

CM=module or (module,trc)

Specifies to modify output requiring the designated copy modification module are to be modified; trc specifies the table reference character (0, 1, 2, or 3) used to select one of the character arrangement tables. Parentheses are not required if only the module name is specified.

CONS=con

Specifies the name of the console to which the response to this command is to be sent. If omitted, the response is sent to the console on which you entered the command.

CP=nnn

Specifies that the characteristics of output with the designated copy count are to be modified.

D=dest

Specifies that SYSOUT for the designated destination is to be modified.

DD=ddn

Specifies the ddname of the output data set whose writer-selection characteristics you want to modify. Specify ddn using procstepname.jobstepname.ddname. You must include a period for names that you omit (for example, ..JESYSMSG). The job must be specified (J=) if the DD= parameter is used. The DD= and DSN= keywords are mutually exclusive; that is, you cannot include both the DD= and DSN= keywords in the same command.

DSN= dsn

Displays a summary of output for the designated data set (dsn) or displays a summary of output for all data sets of a job (?). You must specify the job (J=) keyword. The DD= and DSN= keywords are mutually exclusive; that is, you cannot include both the DD= and the DSN= keywords on the same command.

When specified, DSN can be either a fully qualified data set name or only the data set number.

- When specifying the fully qualified data set name, use **DSN=userid.jobname.jobid.datasetnumber.dsname**. You must include all five qualifiers.
- When specifying only the data set number, use **DSN=...datasetnumber**. Even though the first three qualifiers and the fifth qualifier are left out, the initial separator periods are still required. The final trailing separator period is not required.

DG=devgroup

Specifies that writer-selection characteristics are to be modified for data sets created by jobs submitted from the designated device group or destined for an output device in the designated group. Device group names are assigned during JES3 initialization.

Note: The DG= parameter cannot be issued from a remote workstation or from NJE.

DSID=ddid

Specifies that the output characteristics for data sets destined for the 3540 diskette device identifier are to be modified.

F=form

Specifies that writer-selection characteristics for output that requires the designated form name are to be modified.

FD=formdef

Specifies that writer-selection characteristics of output requiring the designated *formdef* are to be modified.

FL=flash-id

Specifies that writer-selection characteristics of output requiring the designated flash (forms overlay) name are to be modified.

H=S|SYS and O|OPER and U|USER or Y or N

Specifies the data sets placed in the hold state by the system (S|SYS), operator (O|OPER), or user (U|USER). S|SYS, O|OPER and U|USER are mutually independent, so you can specify one or more of these hold types in any order. You cannot specify S|SYS, O|OPER or U|USER with Y or N.

Y selects jobs or SYSOUT data sets that are being held and N selects jobs or SYSOUT data sets that are not being held. Y or N are mutually exclusive; that is, you can only specify one of these operands. You cannot specify Y or N with S|SYS, O|OPER or U|USER.

GT=PRT or PUN

Specifies the general type of output whose writer-selection characteristics are to be modified: print data sets (PRT), or punch data sets (PUN).

ID=userid

Specifies that writer-selection characteristics are to be modified for data sets on the output service queue.

IP=Y or N or ipaddr

Specifies the inclusion of data sets with (Y) or without (N) an IP address. Specifies selection of a data set using a specific IP address (*ipaddr*). The IP variable is case-sensitive and must be enclosed in quotation marks.

J=jobname or jobno

Specifies the network job whose writer-selection characteristics are to be modified. If omitted, the output from all jobs is affected.

L=nnnnnnnn or -nnnnnnnn

Specifies to select for modification data sets having a specified number of lines.

nnnnnnnn (1 to 8 characters)

Data sets with at least the specified number of lines.

-nnnnnnnn (up to 7 characters in length)

Data sets with no more than the specified number of lines. For example, L=-1000 selects data sets whose line count does not exceed 1000.

N=nnn or ALL

Specifies the number of jobs (1 to 999999) or all jobs (ALL) that are to be affected by the command. If N= is not specified, ten jobs are assumed.

NC=carr

Specifies that the selected data set be assigned the new carriage tape(FCB).

NCH=(tab[,tab...])

Specifies that defined output is to be reassigned the designated new character arrangement table requirement. Output data sets can contain up to four image name requirements. Parentheses must be entered as shown.

NCL=class

Specifies that the defined output is to be assigned a new output class.

NCM=module or (module,trc) or NONE

Specifies that the defined output is to be reassigned a new copy modification module; trc specifies the table reference character (0, 1, 2, or 3) used to select one of the character arrangement tables. NONE specifies that the defined output is reassigned with no copy modification module.

NCP=+ or - or * or & or nnn

Specifies that existing copy count is to be added (+), subtracted (-), multiplied (*), or divided (&) by a factor of nnn. If omitted, the copy count is set to the amount designated by nnn. The valid range is 1-255. Setting NCP=0 is accepted by JES3 but this clears out the COPIES= setting. It does not set the value to COPIES=0.

For data sets routed to an AFP: if copy grouping is in effect for the data set, an increase or a decrease in the copy count affects only the last copy group or groups.

ND=node or node.remote

Specifies that the defined output is to be scheduled to a new destination. Designate a specific destination by node and secondary destination (device or remote workstation).

If you specify "ND=nodename" on the *MODIFY command for jobs on the writer queue, the secondary destination, if specified, is unchanged.

If you specify "ND=nodename.", the system uses hexadecimal zeros for the secondary destination.

If you specify “ND=nodename” for jobs on the hold queue and the DD statement for the job or its equivalent also specifies an external writer, the system uses the name of the external writer as the secondary destination. If the OUTPUT statement specifies the external writer, the system uses hexadecimal zeros for the secondary destination.

NDSID=ddid

Specifies the new data set diskette device identifier. Use this parameter to modify the output characteristics for the data set destined for the new data set diskette device identifier.

NF=form

Specifies that the defined output is to be put on the new forms.

NFD=formdef

Specifies that the selected output is to be assigned a new FORMDEF. *formdef* is a 1-to-6 alphanumeric or special character (\$, #, @) variable that specifies a library member containing FORMDEF information.

NFL=flash-id or NONE

Specifies that the defined output is to be reassigned a new flash (forms overlay) requirement or with no flash (forms overlay) requirement.

NH=Y or N

Places SYSOUT in operator hold (Y), or releases held output (N).

Note: Some spinoff data sets might print out of order when released from hold status because of their reuse of JDS entries.

NIP=ipaddr or NONE

Modifies an IP address. If an IP address is to be changed or added, specify *ipaddr*. The IP address (*ipaddr*) is case-sensitive must be enclosed in quotation marks. If an IP address is to be deleted, specify IP=NONE.

NOB=nnnnn or NONE

Specifies that the defined output is to be sent to the designated printer output bin (ID 00001 through 65535). NONE specifies that the defined output is reassigned with no printer output bin ID.

NP=prty or +nnn or -nnn

Specifies that the defined output is to be reassigned a new output scheduling priority. You can also specify a plus (+) to select priorities to be added to the current list or a minus (-) to select priorities to be deleted from the current list.

Note that even if you increase the priority, it does not exceed 255, and if you decrease the priority, but never becomes negative (0 is lowest value).

NPD=pagedef

Specifies that the selected output is to be assigned a new PAGEDEF. *pagedef* is a 1-to-6 alphanumeric or special character (\$, #, @) variable that specifies a library member containing PAGEDEF information.

NPM=new process-mode

Specifies that the defined output is to be reassigned a new process mode.

NQ=HOLD

Specifies that the defined output is to be placed on the output service hold queue.

NSS=C or S

Specifies that the defined output is to be reassigned as continuously stacked (C) or burst into separate sheets (S). The NSS= parameter is valid only if the burster-stacker-trimmer feature is defined for the device.

NST=devtype or NONE

Specifies that the defined output is to be scheduled to a new specific device, such as a particular 1403, 2540, 3203, or 3211, or to any device of the same general type as the device specified in the ST= parameter. If you specify NONE, PRT is the default.

OB=nnnnn or NONE

Specifies that the writer-selection characteristics for output assigned to the designated printer output bin ID (00001 through 65535) are to be modified. NONE specifies that the defined output is reassigned with no writer selection characteristics. NONE specifies that only output with no printer output bin ID is to be modified.

NH=N or Y

Use the NH (new hold) keyword parameter to change the hold status of a network job or SYSOUT stream. You can issue the NH= keyword only for work in an inactive state (BS=INACTIVE).

NOOUTDISP=H|HOLD or K|KEEP or L|LEAVE or W|WRITE

Modifies the output disposition of the selected data sets.

NQ=WTR

Specifies that the defined output is to be placed on the output service writer queue.

NU=ucsid

Specifies that the defined output is to be scheduled to another train (UCS).

NW=extwriter

Specifies that the defined output is to be reassigned to the new designated external writer.

If you specify NW=*, the defined output is reassigned to the standard external writer. The following external writer names are not valid; NJERDR, INTRDR, and STDWTR.

OUTDISP=H|HOLD or K|KEEP or L|LEAVE or W|WRITE or N|NONE

Selects in the output queue with the specified output disposition.

P=prty

Selects the network job or SYSOUT stream by its priority.

PD=pagedef

Specifies that writer-selection characteristics of output requiring the designated *pagedef* are to be modified.

PG=nnnnnnnn or -nnnnnnnn

Specifies to select for modification data sets having a specified number of pages.

nnnnnnnn (1 to 8 characters)

Data sets with at least the specified number of pages.

-nnnnnnnn (up to 7 characters in length)

Data sets with no more than the specified number of pages. For example, PG=-500 selects data sets whose page count does not exceed 500.

PM=value or /value

Specifies that writer-selection characteristics are to be modified for data sets that have the specified process mode.

S=nnnnn

Specifies the sequence number of the data set whose writer-selection characteristics you want to modify. Only use this parameter if different data sets use identical ddnames. Sequence numbers are assigned on a first-in-first-out (FIFO) basis. This keyword can only be used when using the DD= keyword.

SL=seclabel

Specifies that only those output data sets with the designated security label (seclabel) are to be modified.

S

Specifies that only a summary message (IAT8118 or IAT8119) is displayed on the console. Other messages are written to the hardcopy log. If you omit S, all messages are written to both the console and the hardcopy log.

SS=C or S

Specifies that writer-selection characteristics of output to be continuously stacked (C) or output to be burst into separate sheets (S) are to be modified. The SS= parameter is valid only if the burster-stacker-trimmer feature is defined for the device.

ST=devtype

Specifies that writer-selection characteristics for output scheduled for the specific device type, such as 1403, 2540, 3203, 3211 are to be modified.

T=terminal name

Specifies that writer-selection characteristics are to be modified for data sets created by jobs submitted from the designated RJP terminal.

TG=? or group-id

Selects the network job or SYSOUT stream by its group identifier.

TT=? or JOB or SYSOUT

Selects network job streams only (JOB) or SYSOUT streams only (SYSOUT) to modify.

U=ucsid

Specifies that writer-selection characteristics for output that requires the designated train (UCS) are to be modified.

W=extwriter

Specifies that the characteristics of output destined to the designated external writer are to be modified.

Rules

- If you specify more than one operand for H=S|SYS and O|OPER and U|USER, you must use parentheses. Parentheses are optional if you specify only one operand. If you specify H=Y or N, only one operand is allowed.
- JES3 cannot include all of the new output characteristics in the new data set if all of the following are true:
 - You are moving a data set from the output service hold queue to the output service writer queue.
 - The data set was originally built from an //OUTPUT JCL statement.
 - You specify either the NQ= or the NCL= keyword.
- The use of IP=*ipaddr*, FD=, and PD= causes extra I/O to be performed and could affect performance. When possible, use the J= keyword to limit the search to one job or the N= keyword to limit the number of jobs processed.
- Adding a new IP address to SYSOUT on the HOLD queue could result in the loss of the IP address. This occurs if the following are true:
 - //FORMAT statements exist.
 - The modify command includes NQ=WTR.

If //FORMAT statements exist when moving SYSOUT from the HOLD queue to the WRITER queue, the SYSOUT is recycled through Output Service to build a new OSE from the modified JDS. An SWB FDB cannot be dynamically added to a JDS as the job could still be active on MAIN creating additional SYSOUT with OUTPUT JCL statements. This requires a reference number to be created to match a JDS with an OSE. Therefore, the SWB FDB created for the original OSE is lost.

- For datasets originally built from an //OUTPUT JCL statement, the presence of the OUTPUT statement prevents the OSE from being rebuilt when it is modified by a command. Modifying this output so that it is marked with COPIES=0 does not result in the deletion of the dataset in this case, since COPIES=0 processing only occurs at OSE (re)build time.

Examples

The following reroutes all output on the output service queue belonging to job MYJOB to remote WS001 at node NODE5:

```
*F U Q=WTR,J=MYJOB,ND=NODE5.WS001
```

The following reroutes the job USERSTUF for the data set associated with the specified ddname (STEP1.SYSUT2) to remote WS001 at node NODE5:

```
*F U,Q=WTR,J=USERSTUF,ND=NODE5.WS001,DD=.STEP1.SYSUT2
```

Cancel output for a particular job destined for a TCP/IP connected node:

```
*MODIFY,U,Q=TCP,J=1247,D=NODE2,C
```

Placing devices online or offline to JES3 *MODIFY,V

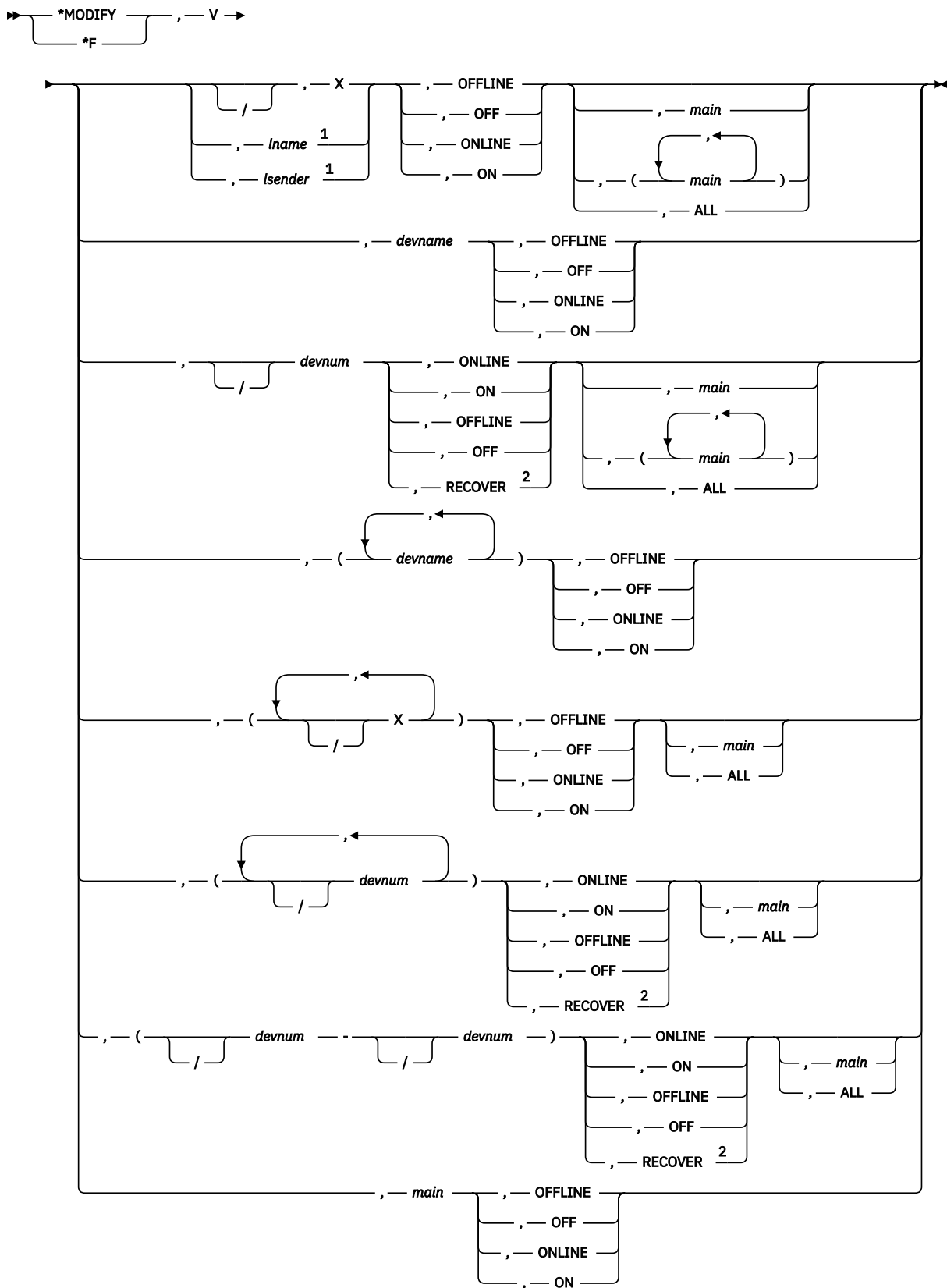
Function

Use the *MODIFY,V or *VARY command to make JES3, and JES3-managed devices available or unavailable for JES3 scheduling. These devices include RJP lines, devices at BSC RJP or SNA RJP workstations, logical senders used by JES3 networking, and mains.

Use the *MODIFY,V or *VARY command to vary SMS-managed devices online or offline to any processor in the JES3 complex.

Syntax

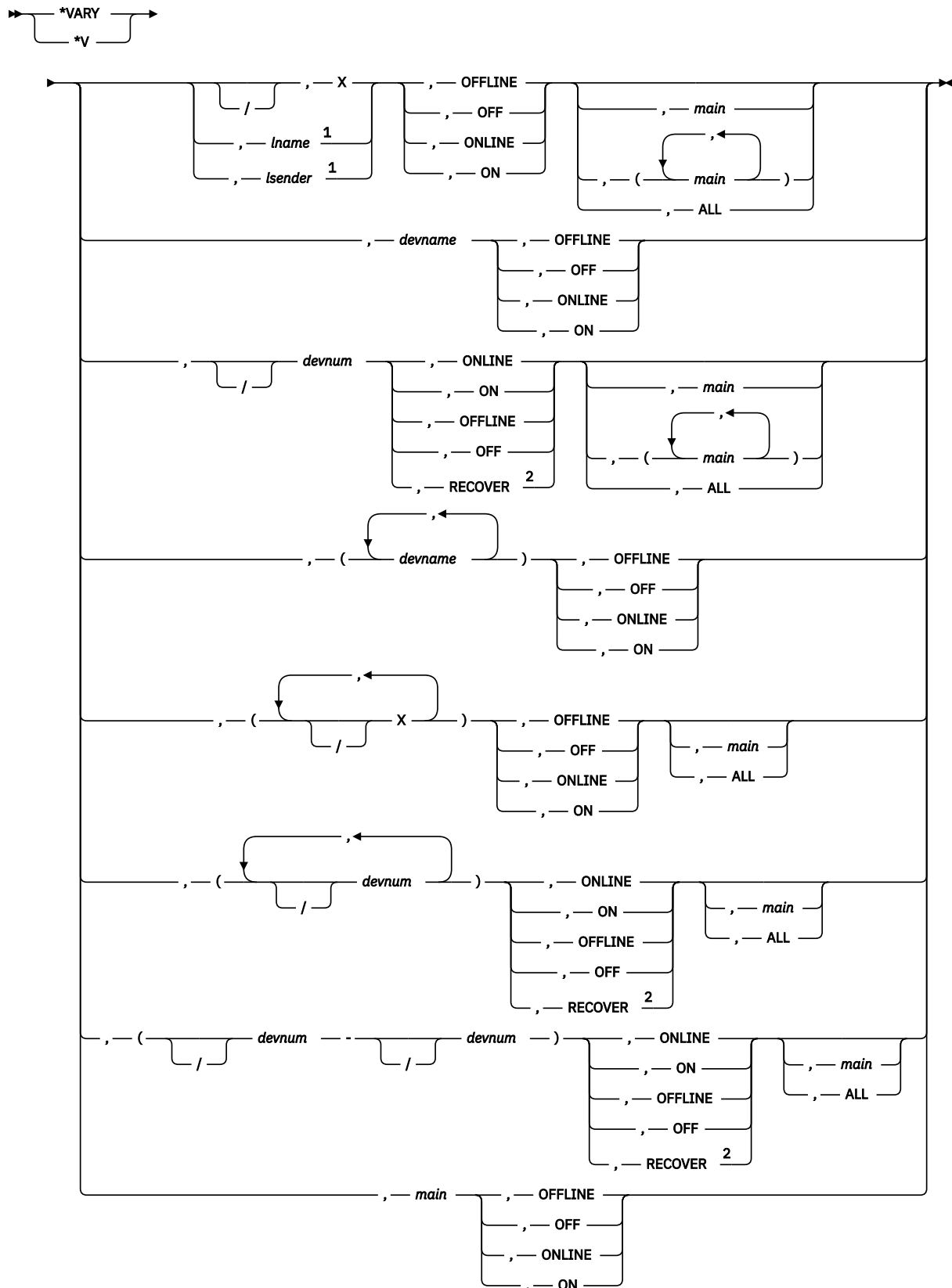
*MODIFY,V



Notes:

- ¹ You cannot code *lname* or *lsender* with *main* or *ALL*.
- ² You cannot code *RECOVER* with *ALL*. You must code *main* one or more times with *RECOVER*.

The *VARY command is equivalent to the *MODIFY,V command; either can be used to accomplish the same functions.



Notes:

¹ You cannot code *lname* or *lsender* with *main* or ALL.

² You cannot code RECOVER with ALL. You must code *main* one or more times with RECOVER.

Parameters

{devX|/devX}

Specifies a device range of sixteen devices.

lname

Specifies a networking or an RJP line name, as defined in the NJERMT or RJPLINE initialization statement.

lsender

Specifies the name of a logical sender used by JES3 networking. The names are defined by JES3 during initialization processing.

OFFLINE or OFF

Specifies that the designated device, main, or line be made unavailable for JES3 scheduling, RJP usage, or JES3 networking usage.

ONLINE or ON

Specifies that the designated device, main, or line be returned to availability for JES3 scheduling, RJP usage, or JES3 networking usage.

main

Specifies the name of a global or local main, as defined in the MAINPROC initialization statement. Although the designated main can be placed offline or online to all JES3 scheduling, jobs currently running are not affected.

devnum or /devnum

Specifies the 3-digit or 4-digit hexadecimal number of a device. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd  
dddd  
/ddd  
/dddd
```

where ddd and dddd represent the device numbers.

(devnum or /devnum–devnum or /devnum)

Specifies a range of device numbers.

RECOVER

Use the RECOVER parameter to logically move a permanently resident volume to a new address. The RECOVER parameter forces vary online and volume verification processing for a single direct access set-up device. The device that you specify on this command is treated as if it has a device characteristic of removable. Other devices that have the same volume serial as the specified device are also treated as removable devices.

RESTRICTIONS:

- The issuing console must have level 15 authority
- You must specify a main name
- You cannot move non-DASD volumes
- You cannot move JES3 spool volumes
- You cannot move a DASD volume that has a mount pending
- You cannot move a DASD volume involved in an active DDR swap.



CAUTION:

Use this parameter only with the approval of your system programmer. Improper use can damage your JES3 system.

devname

Specifies the name of a device, as defined in a DEVICE initialization statement.

(main1,main....)

Specifies the name of a global or local mains(s) as defined by the MAINPROC initialization statement. The requested setup devices and virtual units are to be varied online or offline to the main(s) specified in this parameter. This parameter is required if the online status of a real setup device or execution device is being changed. Entering the command without specifying the main1 parameter changes the online/offline status as a JES3 device.

ALL

Specifies all mains in the complex. The specified devices are varied online or offline to every main to which the devices are defined.

Examples

Vary tape drives 180 and 181 offline on SY1:

```
*V,(180,181),OFFLINE,SY1
      OI
*f,V,(180,181),OFFLINE,SY1
```

Vary local SY1 offline:

```
*V,SY1,OFF
      OI
*f,V,SY1,OFF
```

Changing device scheduling *MODIFY,W

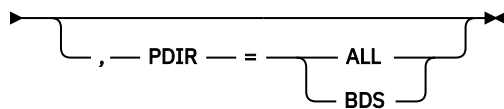
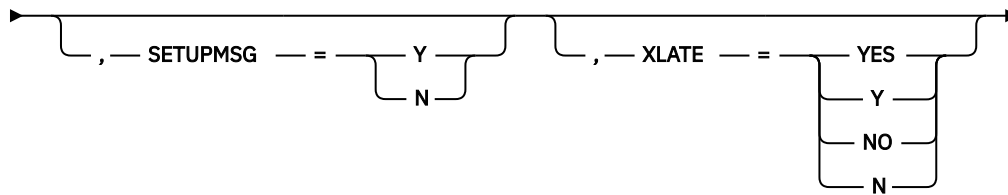
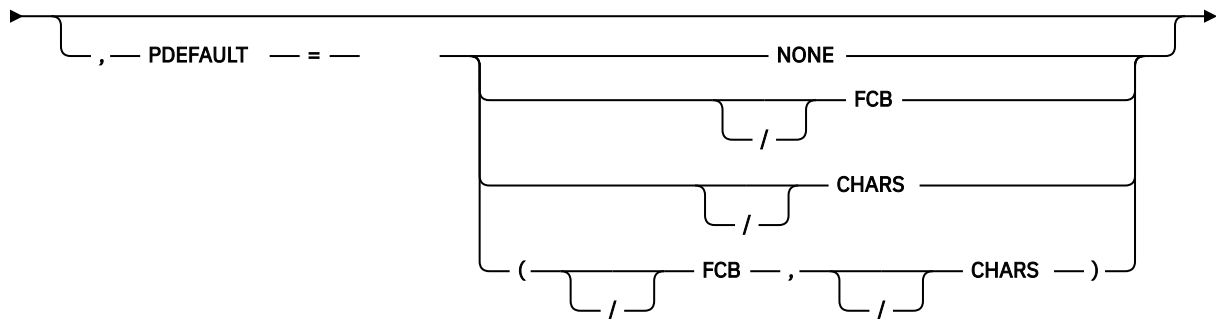
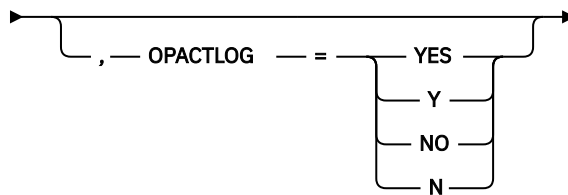
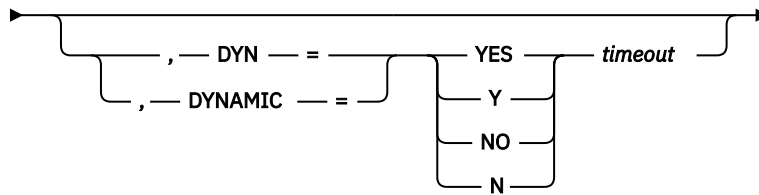
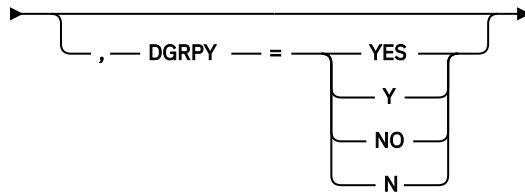
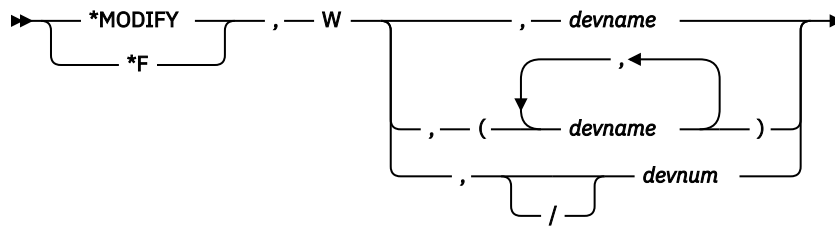
Function

Use the *MODIFY,W command to:

- Control whether JES3 is to limit output for a device to only those data sets that are destined for its device group. You must restart any jobs in the output service queue when you use this command to dynamically change the device group scheduling criteria.
- Control whether a writer for a printer can start dynamically or requires the *CALL,WTR command.
- Control whether JES3, during setup of a writer, will issue message IAT7030 and require operator intervention.
- Control whether certain FSS writer default values should be obtained from JES3 initialization defaults or from the FSS procedure.
- Control whether non-displayable characters for a printer are to be translated to blanks. You cannot specify a 3211 printer or a 3211 compatible device because the device performs its own translation.
- Control at what points a peripheral data set information record (PDIR) is sent with a job being sent to a remote writer.

Syntax

***MODIFY,W**



Parameters

devnum or /devnum or devname

Specifies the output device. The device number can be a 3-digit or 4-digit hexadecimal number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd
dddd
/ddd
/dddd
```

where ddd and dddd represent the device numbers.

DGRPY=Y or YES

Specifies that the device cannot process data sets that are destined for any local device.

DGRPY=N or NO

Specifies that the device can also process data sets that are destined for any local device.

DYNAMIC or DYN =Y or YES

Specifies that the device can be started dynamically.

DYNAMIC or DYN =(Y,timeout) or (YES,timeout)

Specifies that you want the writer to stop after the indicated 'timeout' value has elapsed but to restart dynamically when work is available to be processed.

Note: If the timeout value is at its default (meaning it has not been overridden by an initialization statement or an operator command), the corresponding timeout value will be put into effect. For a DYN=NO specification, the timeout value will be set to "NONE". For a DYN=YES specification, the timeout value will be set to zero. If the command sets the same timeout value as the default, the timeout value will remain in effect regardless of changes to the first subparameter. You can use the "/" specification (see below) to restore the default attribute.

timeout

The possible values for the timeout parameter are:

nnnM

Specifies the timeout interval in minutes (up to 999 minutes).

nnnH

Specifies the timeout interval in hours (up to 999 hours).

nnnD

Specifies the timeout value in days (up to 999 days).

0

Specifies that the writer is to be stopped when no more output is available for processing.

*

Specifies that the writer is to stay up until an operator stops it using JES3 *CANCEL command.

/

Specifies that the timeout value should be reset to its default setting. If DYN=YES was specified (or is currently in effect) the timeout value is set to zero. If DYN=NO is in effect, no timeout will be set.

DYNAMIC or DYN =N or NO

Specifies that the device cannot be started dynamically. You can only start the device by using the *CALL,WTR command.

DYNAMIC or DYN =(N,timeout) or (NO,timeout)

Specifies that you want the writer to stop after the indicated timeout value has elapsed. The writer has to be manually started when work is available to be processed.

Note: Possible values for timeout are the same as for DYNAMIC or DYN =(Y,timeout) or (YES,timeout).

OPACTLOG=Y or YES

Specifies that operator command actions will be logged in the output of the modified device using message IAT7066 or IAT7067. This parameter is only valid for FSS devices.

OPACTLOG=N or NO

Specifies that operator command actions will not be logged in the output. This parameter is only valid for FSS devices.

PDEFAULT=NONE or FCB|/FCB or CHARS|/CHARS

If PDEFAULT=NONE, this specifies that no characteristics for either FCB or CHARS should be obtained by the FSS from the procedure definitions in PROCLIB.

Otherwise, specifies that the FCB or CHARS characteristics, if not defined in the job's JCL, should be obtained by the FSS from the procedure definitions in PROCLIB. If the keyword is prefixed with a slash (/), the characteristics are obtained from the JES3 defaults set during initialization.

Note:

1. This keyword affects devices that were started with the work selection parameter for the requested characteristics. For FCB, the affected work selection parameter is WS=C. For CHARS, the affected work selection parameter is WS=U.
2. The FCB and /FCB keywords and also the CHARS and /CHARS keywords are mutually exclusive; that is, you cannot request that a default for either parameter be obtained from both the FSS procedure and JES3 definitions at the same time.
3. You can specify the FCB or /FCB keyword and the CHARS or /CHARS keyword together if they are separated by a comma and enclosed with parentheses.

SETUPMSG=YES

Specifies that the writer setup action message IAT7030 will be issued for the specified device (YES|Y).

SETUPMSG=NO

Specifies that the writer setup action message IAT7030 will be suppressed for the specified device (NO|N).

XLATE=YES

Specifies that the device is to translate non-displayable characters to blanks (YES|Y).

XLATE=NO

Specifies that the device is to send non-displayable characters to the device without translating them (NO|N).

PDIR=ALL

Specifies that a PDIR is to precede every data set in a job.

PDIR=BDS

Specifies that a PDIR is sent at the beginning of a job, when JES3 sends the begin destination select (BDS) command.

You want to use printer 002 for special jobs. Issue the *MODIFY,W command so that only a *CALL,WTR command can start the printer:

```
*MODIFY,W,002,DYNAMIC=NO
```

Assume the output for device PRT804 is being written to the RPM-3 spool. The device will select on forms, and forms are changeable. If the operator does not want to respond to message IAT7030 for form changes (the operator does not have to intervene), RPM-3 handles the forms changes. The operator can suppress these messages on device PRT804 by issuing the following command:

```
*MODIFY,W,PRT804,SETUPMSG=NO
```

You are located in Chicago. Printer 003 is an AFP printer located in Atlanta. JES3 considers AFP printers local devices, even though they can be placed at distant locations. Issue the *MODIFY,W command so that data sets that are destined for any local device (ANYLOCAL) do not print on this device:

```
*MODIFY,W,003,DGRPY=YES
```

You want to change the remote writer ABCDEPR1 so that a PDIR is sent with every job. You can enter the following command:

```
*MODIFY,W,ABCDEPR1,PDIR=ALL
```

You want to change the remote writer ABCDEPR2 to translate all non-displayable characters to blanks when it prints output. You can enter the following command:

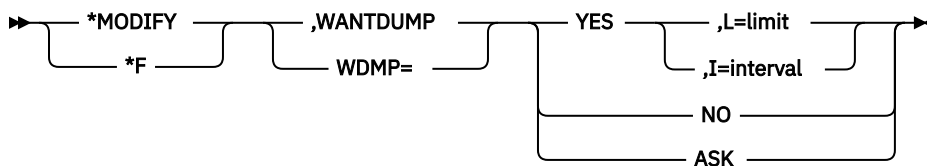
```
*MODIFY,W,ABCDEPR2,XLATE=YES
```

*MODIFY,WANTDUMP

Function

Use the *MODIFY,WANTDUMP command to change the current settings of the WANTDUMP parameter from the OPTIONS statement.

Syntax



Parameters

L=

The maximum number of failures within the interval before JES3 temporarily changes to WANTDUMP=ASK. The acceptable value is a number between 2 and 10 or a zero. The default value is 3.

0 (zero)

Indicates no limit will be used. If you choose to make the interval (I=) parameter 0, the limit parameter (L=) will automatically be forced to 0 as well.

I=

A time period, in minutes, that will be used as the basis for the limit. The acceptable value is a number between 2 and 60 or a zero. The default value is 10.

0 (zero)

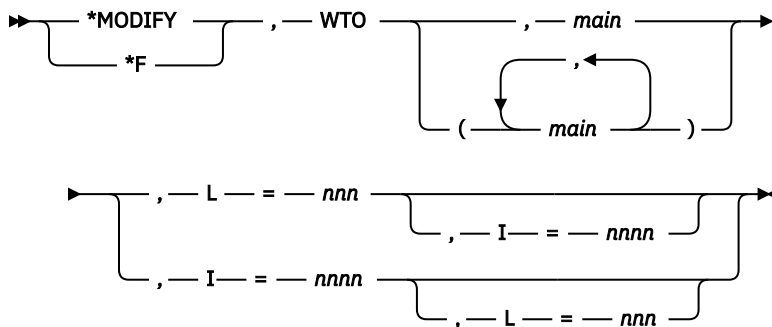
Indicates no limit will be used. If you choose to make the interval (I=) parameter 0, the limit parameter (L=) will automatically be forced to 0 as well.

Changing WTO pace-monitoring parameters *MODIFY,WTO

Function

Use the *MODIFY,WTO command to change the WTO pace-monitoring parameters for a specific processor in your JES3 installation. The original values were specified in the JESMSGGLMT parameter on the MAINPROC statement in the JES3 initialization stream.

The results of the command are not checkpointed; you must reenter the command each time the affected processor is re-IPLed.

Syntax**Parameters****main**

Identifies the main where you want to modify the WTO pace-monitoring parameters.

L=nnn

Specifies the number (0–99999999) of messages allowed within the interval specified on the MAINPROC JESMSG LMT parameter or changed by the I=nnn parameter on this command.

If the number of messages issued by an address space exceeds the limit within the interval, JES3 issues message IAT6850 to indicate the job name and system.

I=nnn

Specifies the interval (0–32767 seconds) for the WTO pace monitoring.

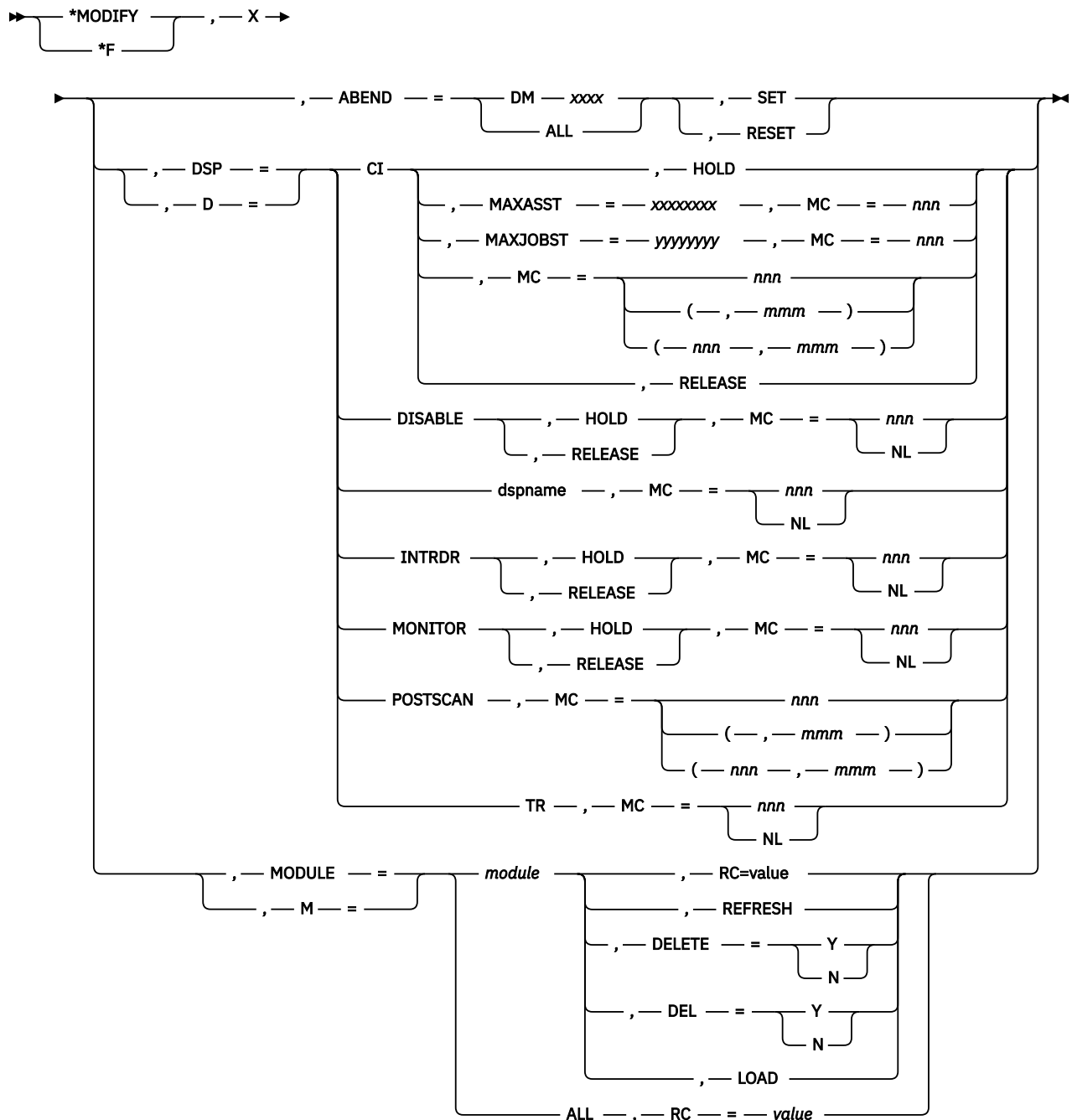
Changing DSPs and modules *MODIFY,X

Function

Use the *MODIFY,X command to:

- Increase or decrease the number of DSPs that can be active in the JES3 global address space.
- Modify the status of the C/I, DISABLE, INTRDR, and MONITOR DSPs.
- Set or reset dump suppression for all or specified JES3 failsoft codes.
- Change the residency count for a module.
- Change the deletion option for a module.
- Load a module that is not already loaded.
- Load a new copy of user exit into storage.

Syntax



Parameters

ABEND=DMxxx | ABEND=ALL

Specifying ABEND=DMxxx selects a specific JES3 failsoft code to set or reset dump suppression. Specifying ABEND=ALL selects all JES3 failsoft codes to set or reset dump suppression.

SET

Specifies that the dump for the specified JES3 failsoft code(s) is to be suppressed. Codes DM008 and DM133 cannot be suppressed.

RESET

Specifies that the dump for the designated JES3 failsoft code(s) is not to be suppressed.

DSP or D=CI or DISABLE or INTRDR or POSTSCAN or MONITOR

Specifies that JES3 can modify the status of the C/I, DISABLE, MONITOR, or INTRDR DSP. JES3 also can modify a C/I DSP or a POSTSCAN DSP in the JES3 global address space.

D=dspname

Use the *MODIFY,X,D=dspname command to change the number of DSPs that can be started. Processing of this command does not affect an active DSP when the command is processed. Dynamic readers are removed from the DSP chain when they complete reading the current input stream and are then limited to the new maximum count.

The dspname can be one of the following:

BDT	CBPRNT	CI	CICLENUP
CNT	CONCMD	CONSDM	CONSERV
CONSOLES	*CR	DISABLE	DISPDJC
DISPLAY	DJCPROC	DJCUPDAT	DMJA
DSDDDR	DSI	DYNAL	ENABLE
FAILSOFT	FSIO	FSSCONT	FSTS
GENSERV	IATMSR2	IC	INQDRVR
INQOSFCT	INTRDR	IOERR	ISDRVR
JESNEWS	JMF	JSAM	JSS
LJMF	LOCATE	MAIN	MDSCLNUP
MODDRVR	MODOSFCT	MSGC	NJE
NJECONS	NJEDUMY	NJERDR	NJEROUT
NJESF	NJESND	OUTSERV	POSTSCAN
PSODRVR	PSODSP	PURGE	READYQ
RJP	RJPSNPS	SETPR	SETUP
SNARJP	TAPDDR	TCP	TIMER
*TR	TSODRVR	TST	TST01
VARYL	VERIFY	WAIT	WTDDRVR
WTR	SAPI	SAPIDSP	WLM
GENERALP			

Use the appropriate DISPLAY command to determine the maximum count for each of these DSPs.

Note: *Hot readers remain active until canceled with the *C J=XXX,KN command. If the DSP count is being lowered, enough hot readers must be canceled to bring the count to a number equal to or lower than the new count before the new count can take effect.

INTRDR

Use the *MODIFY,X,D=INTRDR command to change the number of internal reader DSPs that can be started. This does not affect internal readers active when the command is processed. They will complete the processing of the current input stream.

HOLD or RELEASE

Specifies that C/I or DISABLE DSP activity should be stopped (HOLD) or resumed (RELEASE).

The MAXASST parameter and the MAXJOBST parameter apply to the C/I DSP only.

MAXASST=xxxxxxx

Specifies the maximum number of JCL statements that can be processed simultaneously in the JES3 global address space. The value of xxxxxxxx can be 0 to 99999999. If zero is specified, no JCL statement limit is imposed.

MAXJOBST=yyyyyyyy

Specifies the maximum number of JCL statements to be allowed in a single job. The value of yyyyyyyy can be 0 to 99999999.

MC =nnn or (,mmm) or (nnn,mmm)

Specifies the maximum number of active DSPs in the JES3 global address space for batch jobs (nnn) and started task and active TSO LOGON jobs (mmm). The total of the nnn and mmm values must not exceed 255, whether nnn and mmm are specified separately or together.

MC =nn or NL

nn specifies the maximum number of active DSPs that can be concurrently started. You specify this with the the D= parameter (nn=zero to 65534) or with the NL (no limit) parameter.

MODULE or M=module or ALL,RC=val

Specifies the number of times (2 to 32767) the ALOAD macro must load the module (or all modules) before being made resident.

DEL=Y|N or DELETE=Y|N

Changes the deletion option for the module. If DELETE=Y is specified, the module will be deleted from storage:

1. It has not reached its residency count (the number of times the module was loaded is less than its residency count).
2. The module has reached its residency count, but has not been used frequently enough.

If DELETE=N is specified, the module will remain in storage even if it has not reached its residency count or has not been used frequently enough.

REFRESH

If the module specified on the command is not a user exit, this function resets the number of times a module has been loaded and deletes the module from storage. The next load request for the module will cause a new copy to be brought into storage. If the module being refreshed is a module (CSECT) that is part of the JES3 IATNUC load module and it is eligible for refresh, a new copy of the module will be loaded at the time the REFRESH command is issued. If the module specified on the command is a user exit, the User Exit List (IATYUXL) is examined to determine if the user exit is refreshable or not. If it is refreshable, another copy of the exit is loaded into storage and the address stored into the IATYUXL. The original copy is not deleted.

The following user exits only run in the JES3 address space on the global and are refreshable:

- IATUX08 (Examine Setup Information)
- IATUX09 (Examine Final Job Status, JST and JVT)
- IATUX17 (Define Set of Scheduler Elements)
- IATUX19 (Examine/Modify Temporary OSE)
- IATUX20 (Create and Write Job Headers for Job Output)
- IATUX21 (Create and Write Data Set Headers for Output Data Sets)
- IATUX22 (Examine/Alter the Forms Alignment)
- IATUX23 (Create and Write Job Trailers for Job Output)
- IATUX24 (Examine the Net Id and the Devices Requested)
- IATUX27 (Examine/Alter the JDAB, JCT and JMR)
- IATUX28 (Examine the JOB JCL Statement)
- IATUX29 (Examine the Accounting Information)
- IATUX30 (Examine Authority Level for TSO/E Terminal Commands)
- IATUX33 (Modify JCL EXEC Statement and JES3 Control Statement)

- IATUX34 (Modify JCL DD Statement)
- IATUX35 (Validity Check Network Commands)
- IATUX36 (Collect Accounting Information)
- IATUX37 (Modify the JES3 Networking Data Set Header for Local Execution)
- IATUX38 (Change the SYSOUT Class and Destination for a Networking Data Sets)
- IATUX39 (Modify the Data Set Header for a SYSOUT Data Set)
- IATUX40 (Modify Job Header for a Network Stream Containing a Job)
- IATUX42 (TSO Interactive Data Transmission Facility Screening and Notification)
- IATUX43 (Modify Job Header for a Network Stream Containing SYSOUT Data)
- IATUX44 (Modify JCL Statements)
- IATUX45 (Change Job Information for Data Sets Processed by an Output Writer FSS)
- IATUX46 (Select Processors Eligible for C/I Processing)
- IATUX48 (Override Operator Modification of Output Data Sets)
- IATUX49 (Override the Address Space Selected for C/I Processing)
- IATUX50 (JES3 Unknown BSID Modifier Exit)
- IATUX60 (Determine Action to Take When a TSO User Is Unable to Receive a Data Set)
- IATUX61 (Cancel Jobs Going on the MDS Error Queue)
- IATUX62 (Verify a Mount Request)
- IATUX66 (Determine Transmission Priority for a SNA/NJE Stream)
- IATUX67 (Determine Action When Remote Data Set Is Rejected by RACF)
- IATUX68 (Modify Local NJE Job Trailers)
- IATUX71 (Modify a Tape Request Setup Message)
- IATUX72 (Examine/Modify a Temporary OSE or an OSE Moved to Writer Queue)

The following user exits may run both in the global and local. Only the copy of the user exit on the global may be refreshed:

- IATUX18 (Command Modification and Authority Validation)
- IATUX25 (Examine/Modify Volume Serial Number)
- IATUX41 (Determine the Disposition of a Job that Exceeds the Job JCL Limit)

The following exits may run both in the global and a C/I FSS. Only the copy of the user exit on the global may be refreshed:

- IATUX03 (Examine/Modify Converter/Interpreter Text Created from JCL)
- IATUX04 (Examine the Job Information)
- IATUX05 (Examine the Step Information)
- IATUX06 (Examine the DD Statement Information)
- IATUX07 (Examine/Substitute Unit Type and Volume Serial Information)
- IATUX10 (Generate a Message)
- IATUX11 (Inhibit Printing of the LOCATE Request/Response)

The following exits are NOT refreshable:

- IATUX14 (Validate Fields in Spool Control Blocks During a JES3 Restart)
- IATUX15 (Scan an Initialization Statement)
- IATUX26 (Examine MVS Scheduler Control Blocks)
- IATUX32 (Override the DYNALDSN Initialization Statement)
- IATUX57 (Select a Single WTO Routing Code for JES3)

- IATUX58 (Modify Security Information Before JES3 Security Processing)
- IATUX59 (Modify Security Information After JES3 Security Processing)
- IATUX63 (Provide SSI Subsystem Installation String Information)
- IATUX69 (Determine if A Message is to be Sent to the JES3 Global Address Space)
- IATUX70 (Perform Additional Message Processing)

LOAD

Loads a module if it is not already loaded. This is useful, for example, for loading modules before when they would normally be loaded so that traps can be set. A module that has been loaded using the LOAD function can be deleted from storage by issuing a *MODIFY,X,M= *modname*,REFRESH command.

Examples

Disable new internal reader activity by setting the maximum DSP count to 0:

```
*F,X,D=INTRDR,MC=0
```

Set the maximum concurrent internal readers to 5:

```
*F,X,D=INTRDR,MC=5
```

Modify the number of maximum allowable C/I DSPs in the JES3 global address space to 3 for batch jobs and 5 for started task and TSO LOGON jobs:

```
*F,X,D=CI,MC=(3,5)
```

Modify the number of maximum allowable POSTSCAN DSPs in the JES3 global address space to 1 for batch jobs and 3 for started task and TSO LOGON jobs:

```
*F,X,D=POSTSCAN,MC=(1,3)
```

Modify the global address space limit to 10000, and job JCL statement limit to 1000:

```
*F,X,D=CI,MAXASST=10000,MAXJOBST=1000
```

Stop C/I DSP activity:

```
*F,X,D=CI,HOLD
```

Resume DISABLE DSP activity:

```
*F,X,D=DISABLE,RELEASE
```

Suppress the dump for the JES3 failsoft code DM656:

```
*F,X,ABEND=DM656,SET
```

Reset dump suppression for the JES3 failsoft code ABENDDM704:

```
*F,X,ABEND=DM704,RESET
```

Reset dump suppression for all JES3 failsoft codes:

```
*F,X,ABEND=ALL,RESET
```

Resetting traps *RESTART,DC

Function

Use *RESTART,DC to reset all traps. The *RESTART command also posts any wait-type trap that is still in a waiting status.

Syntax

```

  ┌── *RESTART ───┐
  │                │
  └── *R ─────────┘ , — DC →

```

Restarting devices *RESTART,devname

Function

Use the *RESTART,devname command to:

- Resume writer activity
- Respecify the forms, carriage tape (FCB), band or train (UCS) , or all currently assigned to the output device while starting or restarting writer activity
- Reassign writer characteristics for the 3800 printer while starting or restarting writer activity
- Specify the non-process-run-out (NPRO) interval for the writer command
- Reassign the header or burst record designations
- Reassign the writer-selection characteristics
- Reassign the output classes that the writer can process
- Specify the process modes that the writer can select
- Reassign the number of output lines or pages allowed per unit of work
- Specify the number of pages that JES3 writes or the number of seconds that elapse before a checkpoint is taken
- Specify that you want vertical separator lines printed on the edges of output
- Respecify the action to be taken at the beginning of each output data set
- Determine the current page or record position of a data set being processed by a writer
- Alter the number of copies of the currently active data set to be produced and to commence writer activity
- Turn on the diagnostic mode and to start writer activity
- Space the current copy of the current data set forward or backward a prescribed number of lines or pages, and to restart writer activity
- Reload the FCB and UCS/CHARS buffer on applicable writers
- Place the current data set in hold status and commence printing another data set
- Print in single-space mode from the beginning of the data set, or to resume printing with American National Standard control characters or machine carriage control from the beginning of the data set (if program control was specified for the data set)
- Respecify the destination for the current output
- Restart a writer and then automatically end the writer when it completes the current request
- End a writer immediately after rescheduling all the completed (printed) data sets for the job
- Restart WTR and reset the output service diagnostic mode

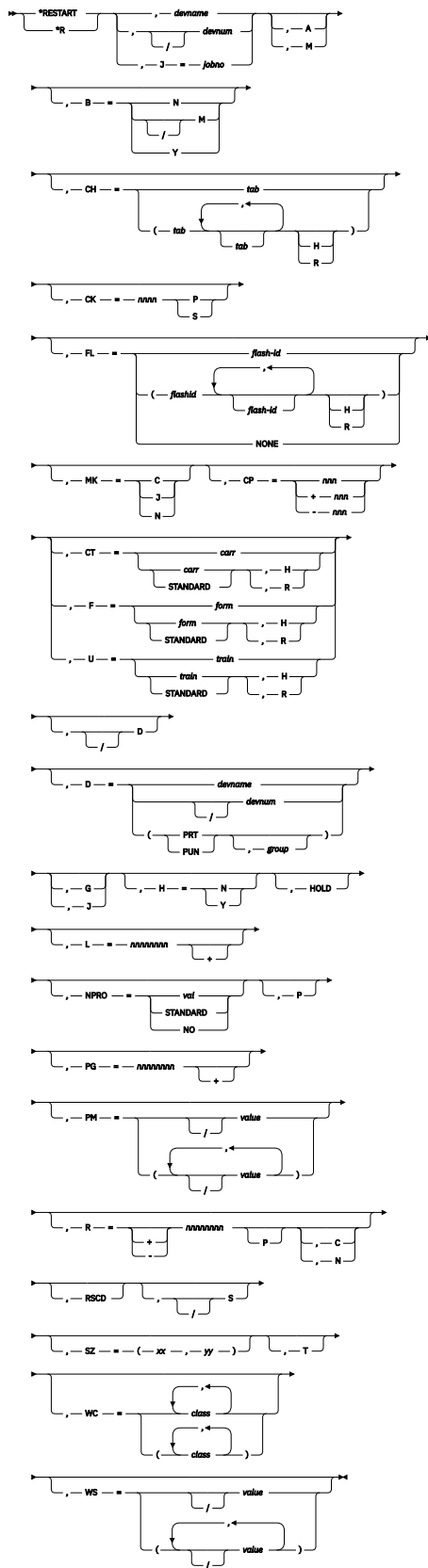
Note: For a 3800 printer, the display includes the number of pages remaining in the printer's buffer for all data sets that had been sent to the printer at the time you entered the command. This count can include data sets from more than one job. If the copy of the data set that is visible at the transfer station fills the entire buffer and more records remain to be sent to the printer, the display includes a second count: the approximate number of records remaining to be sent. For a 3800 printer, the current output is the output that is visible at the transfer station.

For a 3800 printer running in FSS mode, the approximate number of pages and records remaining for the data set visible at the transfer station is displayed.

The C and N parameters are only valid on the *RESTART,devname command. Use the *RESTART,devname command with the appropriate parameter to stop print or punch activity for the current data set and to immediately restart activity at a prior point in the job. The current data set on a printer is the data set that is visible at the operator orientation point (OOP). On a 3800 printer, the OOP is located slightly above the transfer station.

Syntax

*RESTART,devname



Parameters

devnum or /devnum or devname or J=jobno

Specifies the output device or the job number assigned to the writer DSP by the *CALL,WTR command or by JES3 in the case of a dynamic writer. Always use the JNAME of a device when selecting devices that are not directly connected to a channel.

The device number (devnum or /devnum) can be a 3-digit or 4-digit hexadecimal number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd
dddd
/devnum
/devnum
```

where ddd and dddd represent the device numbers.

A

Specifies automatic mode. Output continues to be processed by this writer if work is available. Automatic mode is assumed on any device operating in FSS mode except for a 3800 printer.

M

Specifies manual mode. An *START,devname command is required for the writer to continue (see [“Starting or restarting a writer” on page 115](#)).

When you specify manual mode for a 3800 printer, there is typically a delay between the time the *START command is issued and the time the data set appears on the paper. These delays can significantly increase the overall time required to process jobs that call for 3800 printer output. You can also specify manual mode for 3800 printers running in FSS mode. Consult your system programmer before using this option.

B=Y or N

Specifies that a burst record (job trailer) is to be placed behind each job (Y) or that the burst record option is to be suspended (N).

B=,M

Specifies that the edges of the burst page, or blank pages following a job's output, are to be marked for ease of separation. This parameter is valid only for page-oriented devices.

B=,/M

Specifies that form-marking is to be turned off.

C

Specifies restarting print or punch activity from the last checkpoint taken for the current data set.

The frequency with which checkpoints are taken is specified by the CKPNT parameter on the DEVICE initialization statement. The actual frequency with which checkpoints are taken is approximately the value specified by CKPNT (CKPNTPG or CKPNTSEC for FSS-supported devices) but is never more than twice the specification. For example, if the default for the 1403 is used (1000 records), a restart would cause printing to resume between 1000 and 2000 records before the current position. Because they are buffered devices, the printed output on remote writers might be misleading; the record count includes data that has been transferred to the buffer but not yet printed. If a restart with repositioning has been performed, the checkpoint intervals might not be on even boundaries.

If no valid checkpoint exists for the restarted data set, printing or punching resumes at the start of the current copy of the current data set.

G

Specifies that all data sets for the current job that were processed by the restarted device are to be printed. JES3 does not requeue spinoff data sets. JES3 does not requeue data sets which have an output disposition of LEAVE after processing.

J

Specifies that JES3 requeue all completed data sets of the appropriate type (that is, PRT or PUN) for the current job. JES3 does not requeue spinoff data sets. JES3 does not requeue data sets which have an output disposition of LEAVE after processing.

N

Specifies to restart printing of the current data set at the last internally-noted checkpoint (100 to 200 lines or records). If there is no internally-noted checkpoint, printing resumes at the last checkpoint or, if there is no checkpoint, at the beginning of the data set. This parameter is not valid for TSO/E writers. For a 3800 printer, N is treated as if C were specified (internally-noted checkpoints are not used).

CH

Specifies the reassigned character arrangement tables. No more than four table names can be specified. H specifies that this character arrangement table is to be used until you change it. R specifies JES3 may request a different table.

CK=nnnn P or S

Specifies the number of pages (P) that will be written or the number of seconds (S) that elapse before a checkpoint is taken. This parameter is valid only for a printer running in FSS mode.

Use the CK=keyword on **START,devname* or **RESTART,devname* command to specify the number of pages that JES3 writes or the number of seconds that elapse before a checkpoint is taken. You can issue this command while the writer is active. The current activity continues and the new checkpoint interval takes effect when the writer selects it next work.

MK=

C

Specifies that you want copy marks printed on a data set copy basis. For multiple copies of a data set, JES3 increments the thickness of the copy mark after each copy.

J

Specifies that you want copy marks printed on a job basis.

N

Specifies that you do not want to use copy marks. Although JES3 continues to print a vertical line on the edges of output from IBM 3800 printers, the thickness does not vary.

CP=nnn or +nnn or -nnn

Specifies the new copy count by the actual number (1 to 255) of copies required (nnn), as an increase over the current copy count by the specified amount (+nnn), or as a decrease over the current amount by the specified amount (-nnn).

For a 3800 printer: If copy grouping is in effect for the currently active data set, a replacement, increase or decrease in the copy count affects the current copy group or groups.

CT=STANDARD,H or ,R or carr,H or ,R

Specifies the carriage tape (FCB) name. Specify STANDARD for the installation-defined standard carriage tape. H specifies that only the designated carriage tape is to be used until you change this status. R specifies that JES3 can request that a different carriage tape be placed on this device.

F=STANDARD,H or ,R or form,H or ,R

Specifies the form name. Specify STANDARD for the installation-defined standard form. H specifies that only designated forms are to be used until you change this status. R specifies that JES3 can request that different forms be placed on this device.

U=STANDARD,H or ,R or train,H or ,R

Specifies the band or train (UCS) name. Specify STANDARD for the installation-defined standard band or train. H specifies that only the designated band or train is to be used until you change this status. R specifies that JES3 can request that a different band or train be placed on this device.

D

Specifies that the diagnostic mode is to be turned on. This causes message IAT7006 to be issued for each data set selected for processing. In addition, message IAT7060 is issued when **CALL*, **START*, **RESTART*, and **CANCEL* commands are processed. The diagnostic mode remains active until it is reset. See [*z/OS JES3 Diagnosis*](#) for a description of the data displayed during diagnostic mode.

/D

Specifies that the diagnostic mode is to be reset (turned off).

D=devname or devnum or /devnum or (PRT or PUN,group)

Specifies the new device to which output is to be sent (devname or devnum). The type of device to receive the output is specified as PRT for any printer or PUN for any punch. The group of devices (group) to which the device has been assigned typically refers to a physical location, such as FLOOR1 or LOCAL.

The device number (devnum or /devnum) can be a 3-digit or 4-digit hexadecimal device number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd
dddd
/ddd
/dddd
```

where ddd and dddd represent the device numbers.

H=Y or N

Specifies that a job header record is to precede the job and a data set header record is to be placed in front of each output data set (Y) or that the header record option is to be suspended (N).

FL=

Specifies the reassigned flash id (form overlay frame). H specifies that only designated flash is to be used on the device until you change this status. R specifies that JES3 may request that a different flash be placed on this device. NONE specifies that no flash is designated for this writer.

HOLD

Specifies that activity on the current data set be suspended and that the data set be placed in hold status (as in H=Y).

L

Specifies that the FCB and UCS/CHARS buffer be reloaded. This parameter can be used alone or with other parameters. The printer will restart based upon the specification of other parameters.

L=nnnnnnnn+

Specifies the maximum number of lines (nnnnnnnn) a unit of work can have to be selected for output processing on this writer: only units of work at or below this maximum count are selected. Specifying nnnnnnnn+ indicates the minimum number of lines a unit of work can have: only units of work at or above this minimum count are selected for this writer.

NPRO=

Specifies the non-process-run-out interval. STANDARD specifies the initialization-defined value.

P

Specifies that the approximate number of pages or records remaining to be written for the current copy of the data set be displayed.

PG=nnnnnnnn+

Specifies the maximum number of pages (nnnnnnnn) a unit of work can have to be selected for output processing on this writer: only units of work at or below this maximum count are selected. Specifying nnnnnnnn+ indicates the minimum number of pages a unit of work can have: only units of work at or above this minimum count are selected for this writer.

Note: If you specify L in the work selection (WS) list and also specify (or accept the default of) PAGELIM=0 here, JES3 will not be able to select page-mode data sets for this device.

PM=/value1,/value2.... or /value

Use the PM= command to add or delete process mode values for a writer. The values specified on the DEVICE initialization statement remain in effect in addition to the new values you include on this command. You can specify up to eight process modes per writer and 255 process modes complex-wide. Use the slash to delete an existing process mode from a writer.

A writer can select only the data sets which match the process mode value specified in a user's // OUTPUT JCL statement.

***RESTART,devname**

Some devices are capable of operating in both FSS or compatibility mode such as the IBM 3800-3 printer. The PM= parameter affects only the process mode(s) associated with the device mode that is active at the time you enter this command.

Use the *I,D,D= command to display the process modes currently in effect for a device.

R=nnnnnnnnP or +nnnnnnnnP

Specifies that the data set be spaced forward nnnnnnnn number of lines or nnnnnnnn number of pages (P) from the start of the current copy of the current data set, or from the point in the current job specified by the C or N parameter. For a page-oriented device, you must specify the number in terms of pages (P).

If the data set is spaced forward past the end of the current copy, message IAT7006 is issued and the output writer is stopped. Spacing by page on a non-3800 printer, when pages are not defined in the data set, also causes message IAT7006 to be issued and the output writer to be stopped.

R=-nnnnnnnnP

Specifies that the data set be backspaced nnnnnnnn number of lines or nnnnnnnn number of pages (P) from the point in the job specified by the C or N parameter. This parameter has no effect unless C or N is specified. For a 3800 printer, you must specify the number nnnnnnnn in terms of pages (P).

You can backspace a 3800 printer to any page of any copy of a data set that is not yet completely stacked. If you backspace it further, the printer is repositioned to the beginning of the data set currently being stacked.

C or N

Specifies a prior point in the current data set. The forward or backward spacing requested by the R= parameter originates at this point. If C or N is not specified, forward spacing originates at the beginning of the current copy of the current data set. Backspacing is ignored unless the C or N parameter is specified.

RSCD

Specifies that the writer is to perform a scheduling pass.

S

Specifies that printing is to be in single-space mode from the beginning of the data set.

/S

Specifies that printing is to be resumed under the program control that was previously specified for the data set.

SZ=(xx,yy)

Specifies the number of pages (xx) in a SNA RJP chain and the number of lines (yy) per page. If yy is zero, then a page is defined as skip to channel 1 for printers or skip to a new card for punches. If you specify SZ=, xx must be specified and cannot be zero. This parameter overrides the CHNSIZE parameter on the DEVICE initialization statement.

T

Specifies that the writer ends automatically once the current job is rescheduled.

WC=class

Specifies one or more output classes (A to Z, 0 to 9) that can be processed by this writer. The WC= parameter allows a maximum of 36 SYSOUT classes.

Note: After reassigning output class characteristics, you should issue the *R,devname,RSCD command to force the writer through a scheduling pass with the new criteria. At this point the writer will find work to process or it will end. In either case, the new characteristics will remain in effect until you respecify new ones.

WS=val

Specifies one or more writer-selection characteristics that JES3 uses when selecting output for this device. /value specifies that the characteristic prefixed with a slash (/) is not to be used as writer-selection criterion. To specify characteristics, enter the corresponding letter:

- P - data set output priority
- D - destination

T - specific device type
 F - forms required
 C - carriage tape (FCB) required
 U - UCS or characters required
 CL - output class
 L - line and page limits
 FL - flash-id (forms overlay)
 CM - copy modification module
 SS - stacker option
 PM - data set process mode

If you selected more than one characteristic, JES3 determines the importance of the characteristic by the order in which you specified them. The ones you do not select remain in the order established at initialization, or in earlier updates, and follow those that you enter in order of importance.

When Priority is Specified:

If you specify priority (P), JES3 selects the job with the highest priority that meets other selection criteria. Otherwise, JES3 selects the first job on the output service queue that meets the selection criteria.

Once a job is selected, the units of work for that job are always selected based on priority.

When Characteristics are Omitted:

For any omitted characteristics, JES3 uses the device characteristic, regardless of the data set specification. The following examples illustrate how device characteristics are used:

1. If the writer selection criteria does not include 'F' (forms), the device specifies forms='RED', and the output data set calls for forms='BLUE', JES3 prints the data set using the 'RED' forms.
2. If the writer selection criteria does not include 'U' (UCS/CHARS), the device specifies CHARS=GT20, and the data set specifies CHARS=GT15, JES3 prints the output using CHARS=GT20.

Note:

1. Specifying the not (/) indication has the same result as omitting a writer-selection characteristic: JES3 uses the device characteristic for the selection criteria you remove. Following are examples of specifying a /value:

(1)

```
*RESTART,PR1,WS=(F,C,U,/P)
```

This command restarts a writer for the printer named PR1 and reassigns selection based on forms, carriage tape, and UCS, regardless of output priority. All other characteristics remaining in their existing order.

(2)

```
*RESTART,PR1,WS=(F,C,/D)
```

The /D negates destination checking, so a job may print at an incorrect destination.

2. After respecifying writer-selection characteristics, you should issue the *R,devname,RSCD command to force the writer through a scheduling pass with the new criteria. At this point the writer will find work to process or terminate. In either case, the new characteristics will remain in effect until you respecify new ones.
3. If you specify (or accept the default of) PAGELIM=0 and specify L in the WS list here, JES3 will not be able to select page-mode data sets for this device.

Rules

- When limits are a selection criterion, a unit of work will be selected when both line *and* page parameters have been satisfied, except when both criteria have been defined as minimums. In the latter case, only one of the two criteria must be met for data set selection on the writer.
- Specifying line or page limit criteria overrides the LINELIM= and PAGELIM= values on the DEVICE initialization statement, or values defined on previous writer commands.
- If the C or N parameter is used in conjunction with the R= parameter, forward or backward spacing takes place after the C or N parameter takes effect. When a data set on a 3800 printer is spaced forward or backward to a page within a copy group, printing resumes at the first page of the copy group.
- Use the L= and PG= and SZ= keywords on the *START,devname or *RESTART,devname command to reassign the number of output lines or pages allowed per unit of work. Units of work outside the limit are not scheduled to this writer. Only subsequent units of work are scheduled accordingly.

Result

If both headers and trailers are in effect for an FSS-supported device, operator commands effecting the user's output will cause either message IAT7066 or IAT7067 to be printed on that output.

Activating a JESNEWS data set *RESTART,JESNEWS

Function

Use the *RESTART command to begin printing the data set created with the prior *CALL,JESNEWS and *START,JESNEWS commands.

Syntax

```

➤ ── *RESTART ──┐
                  │
                  └─ *R ──┐
                           │
                           └─ JESNEWS ➤

```

Restarting a job in execution *RESTART,main

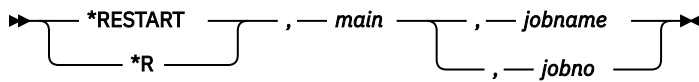
Function

Use the *RESTART,main command to restart a job that is already in execution. The *RESTART,main command causes the failure option for the job to be taken unless the job is registered with automatic restart management. If the job is registered with automatic restart management, the FAILURE option will be ignored and automatic restart management will decide if the job will be restarted. If automatic restart management decides not to start the job, then the job will be canceled.

If automatic restart management decides to start the job, all non-spin sysout data sets created during the previous execution will be deleted.

If you want to restart a job but do not want it to execute immediately, place the job in hold status with an *MODIFY command, and then issue the *RESTART,main command. The *RESTART,main command actually cancels the job on the main, making its resources available to other jobs. When the job can be released, using an *MODIFY command, it is rescheduled without having to be read into the system again. For information about restarting MVS jobs, see [z/OS MVS System Commands](#).

Syntax



Parameters

main

Specifies the main name, as defined during JES3 initialization, on which the specified job is currently being executed.

jobname or jobno

Specifies the job to be restarted.

The job will be restarted provided the system failure option for the job is RESTART. The failure option can be specified in this order:

1. `/**MAIN` statement
2. CLASS initialization statement
3. STANDARDS initialization statement

If RESTART was not specified, the job is processed according to its failure option.

Stopping all sockets in a Network Server *RESTART,ntsvname

Function

Use the `*RESTART,ntsvname` command to reset the server to a state where all sockets are inactive.

Syntax



Parameters

ntsvname

Specifies the name of the Netserv to be restarted.

Rules

- The Netserv must be defined and active.

Results

- The Netserv address space remains active.
- Any sockets that were active on this Netserv are marked inactive. Server sockets, named @nnnnnnnn, are automatically deleted when they become inactive.
- Any sockets that were active on Netservs running on remote nodes that were connected to this node are also marked inactive. Server sockets on the remote node are also automatically deleted when they become inactive.
- Any nodes connected by sockets to this Netserv are signed off and marked inactive.

Examples

Issue the following command on NODE1:

*RESTART,NJEROUT

```
*r jes3s1
```

The following response is received on NODE1:

```
SY1 IEESYSAS IAZ0510I JES3S1 NJETCP server bringing down all TCP/IP socket connections
SY1 IEESYSAS IAZ0543I JES3S1 S4 TCP/IP connection with IP Addr: alps4197.pok.ibm.com Port: 175 ended
due to subtask goaway post
SY1 IEESYSAS IAZ0543I JES3S1 S3 TCP/IP connection with IP Addr: alps4238.pok.ibm.com Port: 175 ended
due to subtask goaway post
SY1 IEESYSAS IAT9305 NODE NODE4 SIGNED OFF NETSERV JES3S1 SOCKET S4
SY1 IEESYSAS IAT9305 NODE NODE3 SIGNED OFF NETSERV JES3S1 SOCKET S3
```

The following response is received on NODE3:

```
SY1 IEESYSAS IAT9305 NODE NODE1 SIGNED OFF NETSERV JES3S3 SOCKET @0000001
SY1 IEESYSAS IAZ0544I JES3S3 NJE connection with IP Addr: alps4066.pok.ibm.com
Port: 1029 ended on receiving a Signoff record from the remote node
SY1 IEESYSAS *IAZ1201I JES3S3 NJETCP SERVER WAITING FOR WORK
```

The following response is received on NODE4:

```
SY1 IEESYSAS IAT9305 NODE NODE1 SIGNED OFF NETSERV JES3S4 SOCKET @0000001
SY1 IEESYSAS IAZ0544I JES3S3 NJE connection with IP Addr: alps4066.pok.ibm.com
Port: 1029 ended on receiving a Signoff record from the remote node
SY1 IEESYSAS *IAZ1201I JES3S4 NJETCP SERVER WAITING FOR WORK
```

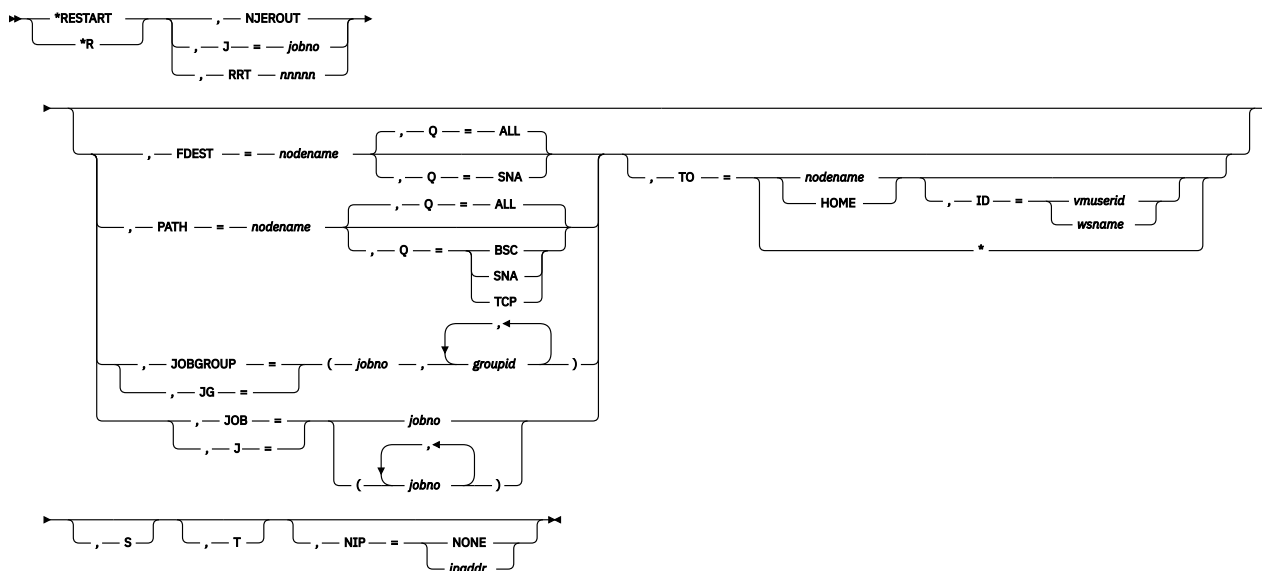
Restarting the NJEROUT DSP *RESTART,NJEROUT

Function

Use the *RESTART,NJEROUT command to reroute a job or a job's SYSOUT data to a location other than its original destination. You can also reroute the output to a VM userid or RJP workstation.

The *RESTART,NJEROUT command ends any reroute operations that are currently active before processing work specified on the *RESTART command.

Syntax



Parameters

J=jobno

Identifies the specific copy of the NJEROUT DSP to restart if more than one DSP is active. Use the *I,J=NJEROUT command to determine the DSP's job number if more than one NJEROUT DSP is active.

RRTnnnnn

Identifies the specific reroute DSP by its JES3-assigned job number.

FDEST=nodename

Specifies that all SNA/NJE network jobs that have the final destination which you supply (nodename) be rerouted to the location you supply on the TO= keyword. The final destination of a SNA/NJE network job is originally defined as a network node in a job's JCL. You can determine the final destination of one or more SNA/NJE network jobs by issuing an *I,U,Q=BDT command.

PATH=nodename

Specifies that network jobs (either SNA/NJE, BSC/NJE, or TCP/IP/NJE) that are scheduled for processing through the path that you supply (nodename), be rerouted to the final destination that you supply on the TO= keyword. Use the *I,A,D=NJESND command to determine the valid paths for BSC/NJE work and the *I,NJE,NAME= command to determine the valid paths for SNA/NJE or TCP/IP/NJE work.

JOBGROUP=(jobno,groupid,groupid,...)

Specifies the SNA/NJE or TCP/IP/NJE job and the group(s) of work (JES3 jobs or SYSOUT streams) within the selected job you want to reroute. You can specify more than one JOBGROUP parameter on a valid *CALL,NJEROUT command. Use the JOBGROUP parameter only when the job you are rerouting was originally destined for transmission to a SNA/NJE or TCP/IP/NJE node. You can use JG= as an abbreviation for the JOBGROUP= keyword. Use the *I,U,Q=BDT command to display the group-id(s) associated with a SNA network job. Use the *I,U,Q=TCP command to display the group-id(s) associated with a TCP/IP network job.

JOB=(jobno,jobno...)

Specifies the BSC/NJE job(s) that you want to reroute. Use the JOB parameter only when the job you are rerouting was originally destined for transmission on a BSC/NJE line. You can use the short form J= as an abbreviation for the JOB= keyword.

Q=ALL or SNA or BSC or TCP

Specifies the networking queue that you want searched when using the FDEST= or PATH= keywords. If you omit the Q= keyword, all network queues are searched. Otherwise:

Q=ALL

Specifies that all the SNA/NJE, BSC/NJE, and TCP/IP/NJE queues are searched. If you specify Q=ALL with the FDEST keyword, only the SNA/NJE work queue is searched.

Q=SNA

Specifies that only the SNA/NJE work queue is searched.

Q=BSC

Specifies that only the BSC/NJE work queue is searched. Q=BSC is not valid for use with the FDEST= keyword because the FDEST= keyword only reroutes SNA/NJE network jobs.

Q=TCP

Specifies that only the TCP/IP/NJE work queue is searched. Q=TCP is not valid for use with the FDEST= keyword because the FDEST= keyword only reroutes SNA/NJE network jobs.

TO=nodename or HOME,ID=vmuserid or wsname, or *

Specifies the name of the new destination node and, optionally, the VM userid or the name of the RJP workstation that is to receive the job or output data. You can specify HOME instead of using the home node name when rerouting jobs to your own system. Use the asterisk to send the network streams to their original destination using the appropriate networking protocol.

S

Specifies that JES3 display summation message IAT9202 to the issuing console in response to a reroute command. If you omit this parameter, JES3 issues individual messages for each job that you are rerouting.

*RESTART,RJP

T

Ends the DSP after completing the current request. This parameter cancels the DSP after a single transaction. A *RESTART,NJEROUT command overrides the terminate (T) parameter on a valid *CALL or *START,NJEROUT command.

NIP=ipaddr or NONE

Modifies or deletes an IP address. Specify *ipaddr* if an IP address needs to be added or changed. The IP variable *ipaddr* is case sensitive and must be enclosed in quotation marks. Specify IP=NONE if an IP address is to be deleted.

Example

You recently issued the command *S,NJEROUT,JOB=(7,8,9,10),TO=POK. Enter the command that will override the previous command and send jobs 7, 9, and 10, but not job 8 to nodename POK:

```
*R,NJEROUT,JOB=(7,9,10),TO=POK
```

Restart BSC RJP automatically after stopping *RESTART,RJP

Function

Use the *RESTART,RJP command to end a BSC RJP session or activity on any line and then start it again. The command can be used to end activity immediately or as though the normal workstation sign-off occurred. This command has the same effect as entering an *C,RJP command followed by an *S,RJP command for the same line(s). After the line is restarted, communication with the workstation must be reestablished through the workstation start-up procedure.

Syntax

➡ ***RESTART** , — RJP — , — L — = — *lname* — , — I — ➡
 ***R** —

Parameters

L=lname

Specifies the name of the BSC RJP communication line.

I

Specifies immediate cancellation of all current activity on one or all lines.

If the I parameter is not specified, the lines will be canceled after all currently active functions using the lines have completed normally.

Suspending the RJPSNPS *RESTART,RJPSNPS

Function

Use *R,RJPSNPS to suspend the RJPSNPS facility temporarily.

Syntax

➡ ***RESTART** , — RJPSNPS — , — CLASS — = — *class* — ➡
 ***R** —

Parameters

CLASS

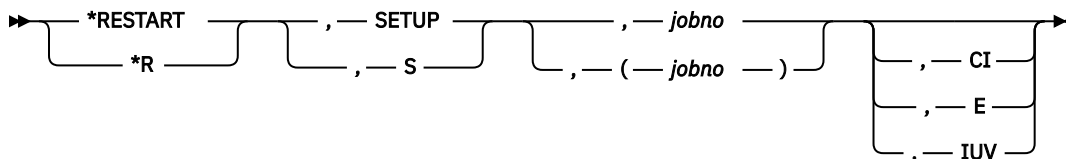
Directs the data set to a SYSOUT class other than that specified by the DBGCLASS parameter on the STANDARDS statement.

Restarting allocation ***RESTART,SETUP**

Function

Use the *RESTART,S command to return a job to the allocation stage (after volume fetch). The *RESTART,S command is used when a volume or device requested or needed by the job is unavailable. Generally, the *RESTART,S command can be used to return any job in the main device scheduling (MDS) processing to the MDS allocate queue. If a job is MVS restarting and the *RESTART,S command is issued to restart that job, the job becomes eligible to run on any main rather than only on the main where it was originally selected.

Syntax



Parameters

SETUP or S

Specifies that the job in MDS processing is returned to the allocation phase.

jobno

Specifies the job number of the job to which the SETUP message applies.

CI

Specifies that the job will restart from the beginning of C/I processing. This allows JES3 to restart jobs that completed C/I processing before a JES3 restart which changed the device configuration.

E

Specifies that extended information is to be sent to the console specified in the MDSLOG= parameter of the SETPARAM initialization statement during the next setup attempt by MDS if the job's eligibility for processing is reduced. The information given is identical to that inserted into the job's JESMSGGLG data set.

IUV

Specifies that a job currently in the MDS volume unavailable queue be allowed to allocate volumes which have been made unavailable by the *MODIFY,S,VU= command. The IUV operand allows a volume restore or repair job to run, while preventing access by any other jobs which use the volume. If the job is in any other MDS queue, the operand is ignored.

To return the job to the volume unavailable queue, reissue the *RESTART,SETUP command, with or without the IUV operand, for that job.

Restarting SNA RJP automatically after stopping

***RESTART,SNARJP**

Function

Use the *RESTART,SNARJP command to end a SNA RJP workstation and then start it again. This command has the same effect as entering an *CANCEL,SNARJP command followed by an *START,SNARJP command for the same workstation. It can be used to end activity immediately or conditionally. After the workstation is restarted, communication with the workstation must be reestablished by using the workstation start-up procedure.

Syntax

➤ ***RESTART** — **SNARJP** — **T** = — *wsname* — **I** ➤

Parameters

T=wsname

Specifies the five-character workstation name as specified in the N= parameter of the RJPWS initialization statement.

I

Specifies immediate checkpoint and cancellation of all current activity at the workstation.

If the I parameter is not specified, the workstation will be canceled after all current workstation activity has ended.

Stopping local processors ***RETURN**

Function

Before you remove a local main for maintenance or other reasons, allow jobs currently running to complete normally. Enter an * F, V,main,OFF command for the local main to prevent JES3 from scheduling any further jobs on the processor.

After all jobs on the local main have completed processing, issue the *RETURN command to end JES3.

Then issue the HALT EOD command on the local main to ensure that important statistics and data records in storage are not permanently lost. See [z/OS MVS System Commands](#) for information about stopping MVS.

Syntax

➤ ***RETURN** ➤

Note: When you use the RETURN command to stop local processors, it is suggested that you use 8RETURN instead of *RETURN.

Parameters

nodename

Specifies the name of a remote node. JES3 sends the specified command to this node.

system-command

Specifies the text of a system command. JES3 sends this command to the specified remote node.

Rules

You can enter this command from any console. Replies are returned to the console where the command was submitted.

You must enter the command text in a format that is acceptable to the receiving node.

You can issue only the following commands to nodes that are using JES3 (unless other commands have been authorized by an installation exit at the specified node:

***I,J=jobno or jobname**

Use to determine the status of a job that was submitted at your node. If you want to modify a job, use this command with the J=jobname parameter to obtain the job number required in the *MODIFY command.

***I,B**

Use to obtain statistics for the number of jobs waiting to be processed by each JES3 function, for jobs that were submitted at your node.

***I,Q,N=nnn | ALL**

Use to display the status of nnn or all jobs in the JES3 job queue that were submitted at your node.

***F,J=jobno,H|R|C|CP|CO**

Use to hold, release, or cancel a job that was submitted at your node. If you enter this command from an RJP workstation, the job must have originated at that workstation. Use the *I,J=jobname command to obtain the job number.

For descriptions of the commands you can issue to a node using JES2, see [z/OS JES2 Commands](#).

For descriptions of the commands you can issue to a node using VM, see *RSCS Networking Operator's Manual*.

Result

- JES3 sends the specified command to the designated remote node to be processed and returns any messages issued by the command to your console. These messages are in the format of the subsystem that issued the message.

Examples

Cancel job ABC which is running on remote node CHI. Print any output that has been generated by the job:

```
*SEND,CHI,*I,J=ABC
```

Obtain the job number assigned to job ABC in the remote node CHI:

```
*T,CHI,*F,J=1234,CP
```

Inquire on the status of the job named DEF. The job is running on remote node SFO and node SFO is using JES2:

```
*T,SFO,$D 'DEF'
```

Display the names of the RSCS files that are queued for transmission to this node (POK) from the VM node BOS:

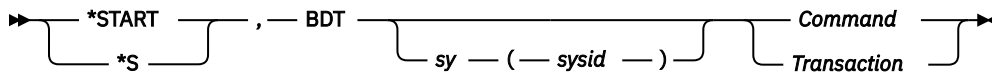
*T,BOS,QUERY,POK,QUEUE

Sending MVS/BDT commands *START,BDT

Function

Use the *START,BDT command to send MVS/BDT commands or transactions to your MVS/BDT subsystem.

Syntax



Parameters

sy(sysid)

Specifies the name of the MVS/BDT subsystem in your JES3 complex. If you omit this parameter, JES3 uses the MVS/BDT subsystem ID specified on the SYSID initialization statement.

BDT command

Any valid MVS/BDT system command. See *MVS/BDT: Transaction and Command Reference* for a description of MVS/BDT commands.

BDT transaction

Any valid MVS/BDT transaction. See *MVS/BDT: Transaction and Command Reference* for information about MVS/BDT transactions.

Modifying card reader parameters *START,CR

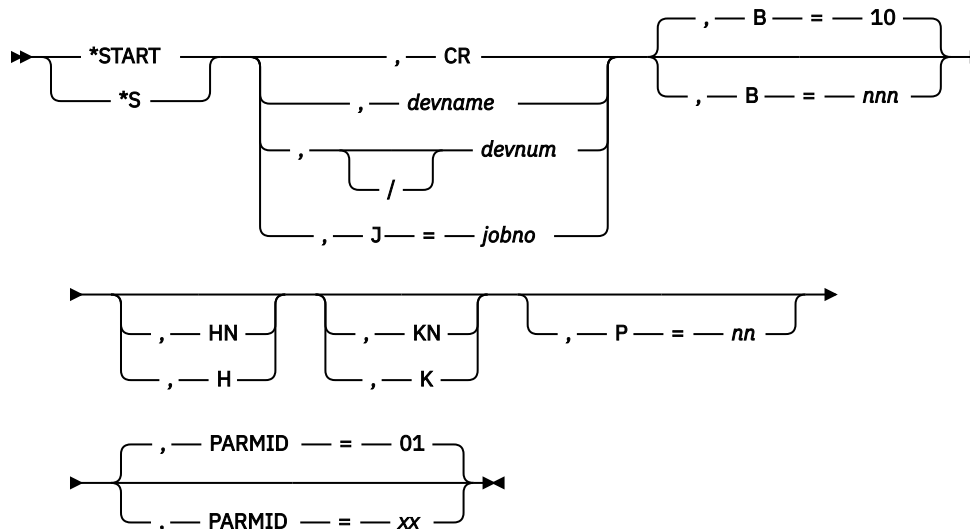
Function

Use the *START,CR command to modify the parameters specified by the last *CALL, *START, or *CANCEL command. The specified parameters become effective immediately.

If an optional parameter is not specified, the value for that parameter defaults to the value specified on the *CALL command or on the most recent *START or *CANCEL command that modified that parameter.

Syntax

*START,CR



Parameters

CR or devname or devnum or /devnum or J=jobno

Specifies the source from which the job input is to be read. CR is valid when there is only one card reader. If more than one card reader is currently active, use devname, devnum or /devnum, or jobno to ensure that the proper reader or job is affected. The device number can be a 3-digit or 4-digit hexadecimal number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd
dddd
/ddd
/dddd
```

where ddd and dddd represent the device numbers.

B=nnn

Specifies the size of the job batches created by this reader; that is, the number of jobs to be read from the reader and placed on the spool device. Valid values are 1 to 255.

H or HN

Specifies whether the JES3 control-card processor is to be put in the hold state (H) or allowed to process the jobs after the batch is created (HN).

Note: To release a job held by the H parameter, issue the `*F,J=jobno,R` command.

K or KN

Specifies whether the designated reader is to be kept active (K) when an EOF condition occurs or is to be allowed to purge (KN).

Note: The K parameter is ignored if input is from a BSC RJP device. This parameter is valid for a SNA RJP device.

P=nn

Specifies the scheduling priority (from low priority to high priority, 00 to 15) of the control-card processor job (without affecting the priorities of the individual jobs being read in). If the P=parameter is not specified, all priorities are affected.

PARMID=xx

Specifies the set of C/I options to be used by all jobs that are read in through this reader.

Example

Start a card reader, and use C/I option AA:

*START,CR,PARMID=AA

Using dump core *START,DC

Function

Use *START,DC, to:

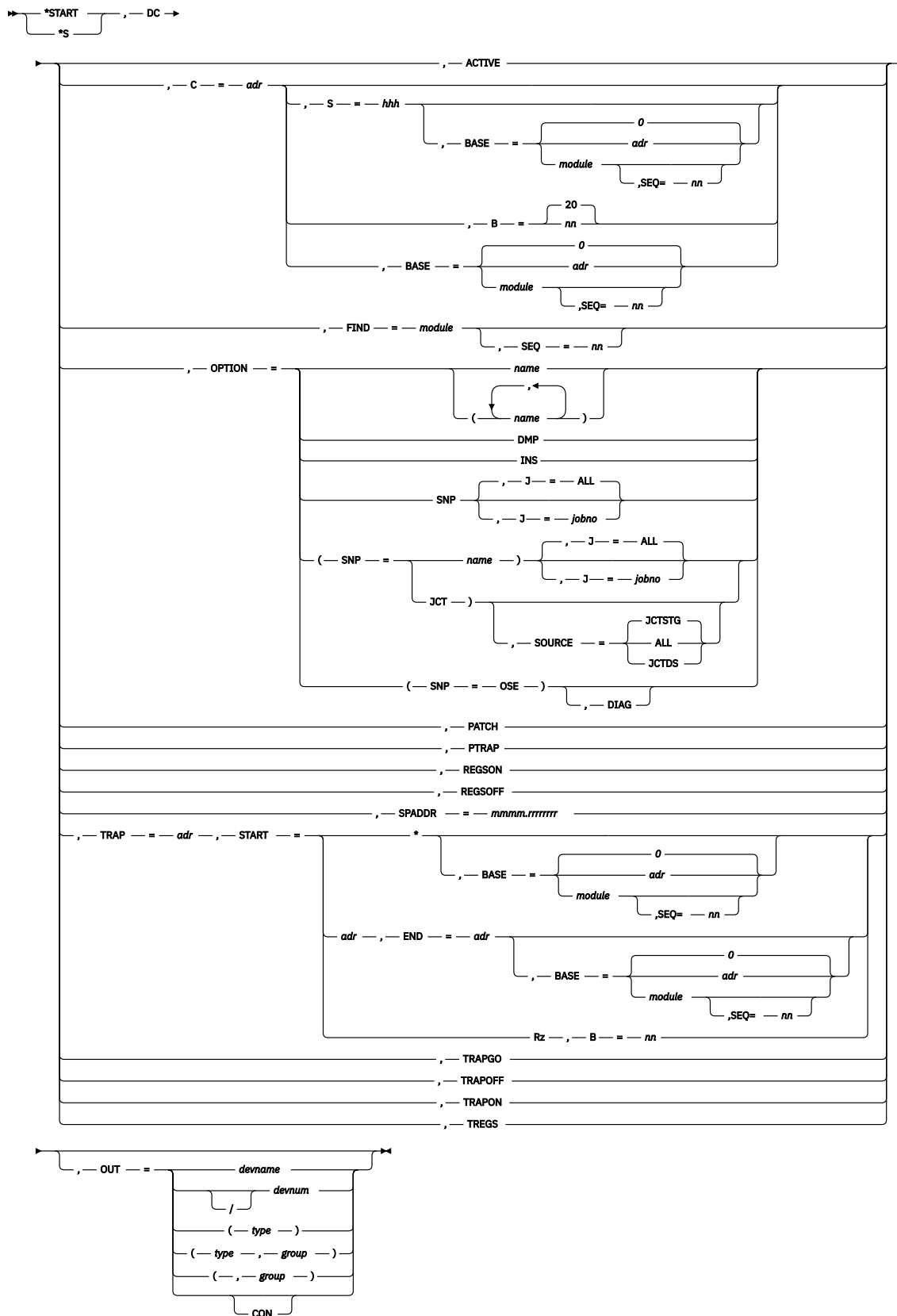
- Display all active traps.
- Alter data in storage.
- Display information about loaded modules.
- Display control blocks specified on the OPTION= parameter.
- Display the contents of a spool record.
- Specify the device to receive the dump core output. This can also be specified when the dump core DSP is called.
- Display all patch areas.
- Display the contents of the registers and take a snapshot of storage at a waiting trap.
- Display the contents of the registers at a waiting trap.

You can also use the *START,DC,TRAP command to:

- Print snapshots that are taken as a result of trap or while at a waiting trap.
- Intercept the processing of JES3 and print the contents of storage.
- Resume processing after a waiting trap.
- Deactivate waiting or the taking of snapshots at a trap.
- Activate waiting or the taking of snapshots at a trap.
- Inform JES3 that traps are set.

Syntax

*START,DC



Parameters

ACTIVE

Displays all the active traps in your installation.

C=adr

The starting address of the alteration, or the displacement to be added to BASE.

S=hhh

One to eight pairs of hexadecimal characters to be stored at the specified location. All leading and trailing zeros must be given.

B=nn

The number (in hexadecimal) of bytes to be displayed. This value is rounded up to a multiple of X'10'. The default is X'20' (decimal 32).

BASE=

Specifies the base address. The TRAP, START, and END addresses are displacements to be added to the BASE address. The address can either be specified as a hex address or a module name. The default value is zero.

FIND=module

Requests the entry point address and base of the named module.

SEQ=nn

The nth module on a load list of identically named modules.

Note: An entry point of zero means the module was once loaded but is no longer in storage.

OPTION=(name ,name1 ,...)

The name of dump contents of storage option(s) to be displayed. The format for most control blocks that are dumped by the *S,DC,OPTION= command is shown in [z/OS JES3 Diagnosis](#).

Name:

C/I

CSA

DFC

DJC

DSP

DSP= dspname

DYN

ENQ

FCT

(FCT=

```
{dspname} |
{devname} |
{ddd}      |
{dddd}     |
{/ddd}     |
{/dddd}    |
}
```

FSS

(FSS=fssname)

GMS

Displays:

C/I-related control blocks.

Tables in the JES3 storage management queue (JES3 uses the IATXSQE macro to add tables to this queue).

Device fence-related control blocks.

Dependent job control tables.

DSP dictionary entries.

A specific DSP dictionary entry.

The DYN table, the DYQ entries, and their associated ECFs.

AENQ-related control blocks.

The function control table and the auxiliary task dispatching element (ATDE) associated with each function control table entry if one exists.

A specific function control table entry and its associated auxiliary task dispatching element (ATDE) if one exists.

The functional subsystem (FSS) table and all associated functional subsystem application (FSA) tables.

A specific functional subsystem (FSS) table entry and its FSA tables, if any.

Generalized main scheduling tables.

Name:

GST

ICP

ITX

ITX=

fileid

JIO

JQE

JTV

LOC

MDS

MEM

MOD

MPC

(MPC=name)

MVD

NJE

(NJE=nodename)

NUC

PRT

(PRT=

```
{devname} |
{ddd      |
{ddd      |
{/ddd     |
{/ddd     |
{/ddd     |
{group    |
{          |
```

RJP

(RJP=devname)

RSQ

(RSQ=jobno)

SCT

SDA

SRS

STN

Displays:

Generalized subtask-related control blocks.

The Initialization Checkpoint Record (ICP).

The intermediate text records that were created when the initialization stream was read.

A specific intermediate text file.

Spool I/O control blocks.

JES3 job queue elements.

Spool I/O addresses and constants in the TVT.

Locate-related control blocks.

Main device scheduler tables.

JES3 storage (a map is produced).

Module information from the JDEs

Main processor control tables.

A specific main processor control table entry.

The Multi-Version Data Access control areas.

The NJE resident node table and any active line data areas.

A specific NJE resident table entry and the line data areas if the line is active.

A map of the JES3 nucleus.

The printer resources table, pending page queues and pending data set queues.

A specific printer resources table entry, a pending page queue, a pending data set queue, and associated output service control blocks.

Remote job processing tables.

A specific remote job processing device control table.

All the currently active resources.

A specific RESQUEUE table entry.

SYSOUT class tables.

The Statistics Data Area (SDA).

MDSSRS-related control blocks.

The SETNAMES table.

Name:

(STN=name)

STT

(STT=ALL)

(STT=nnnn)

(STT='id')

STU

(STU=

```
{ddd      } |
{dddd     } |
{/ddd     } |
{/dddd    } )
```

SUP

(SUP=

```
{devname} |
{ddd     } |
{dddd    } |
{/ddd    } |
{/dddd   } |
{group   } )
```

SYS

(SYS=

```
{ddd      } |
{dddd     } |
{/ddd     } |
{/dddd    } )
```

TGM

TRC

VLM

(VLM=

volser| GDGBASE)

WLM

WSB

(WSB=devname)

Displays:

A specific SETNAMES table entry.

Display a summary of the records in the Single Track Table (STT). If a record is not valid, the first 80 hex bytes of the record are displayed.

Display the contents of all records in the STT.

Display "nnnn" hex bytes of each of the records in the STT.

Display those STT records that have the specified control block ID. When the contents of an STT record is displayed, only the non- zero portion at the end of the record is displayed. For example, if you specify STT=100 to display 100 bytes of each STT record but a particular record contains only 50 bytes, then only 50 bytes of the record is displayed.

The SETUNITS table.

A specific SETUNITS table entry.

The SUPUNITS table.

A specific SUPUNITS table entry.

The SYSUNITS table.

A specific SYSUNITS table entry.

JES3 Spool Track Map

The format of the JES3 trace table.

SETVOL and SETDSN tables.

For volser, a specific SETVOL table entry and associated SETDSN entries are displayed. For GDGBASE, the SETDSN table entries for GDG bases are displayed.

Workload Manager-related control blocks.

SNA workstation control blocks.

A specific SNA workstation control block.

DMP

Causes all the standard formatting to be performed just as though a completely formatted JES3 dump was requested without system intervention.

INS

Displays information about internal reader control blocks.

SNP

Causes a dump of job-related control blocks to be recorded on the output device.

(SNP=name)

Causes a dump of a specific job-related control block to be recorded on the output device. You can request any one of the following control blocks:

Name

Dumps the

ARL

Allocation resource list

ASR

Available spool records

JDAB

Job description accounting block

JDS

Job data set control block

RQ

Resqueue

FRP

Format parameter buffer

JST

Job summary table

JVT

Job volume table

TAT

Job or data set track allocation table

MOSE

Master output service element

OSE

Output service element

DIAG

Displays a formatted OSE, which includes such information as:

- class
- forms
- queue
- destination

Note: Use caution when specifying this parameter. Control block displays are potentially very long, and output directed to the operator's console can disrupt normal operator/system interaction.

J=jobno or ALL

The number of the job whose control blocks are to be dumped. The default (ALL) causes all jobs' control blocks to be dumped (that is, the JES3 job queue is dumped). You can use this parameter to select a job number only when the OPTION= parameter is set to SNP or (SNP=name).

JCT

If you specify a dump of the JCT, use the SOURCE= parameter to specify whether dump core should obtain a copy of the JCT from:

- The JCT data space
- The JCT data set
- Both the JCT data space and the data set

See the SOURCE= parameter for any additional coding considerations.

SOURCE=JCTSTG, JCTDS, or ALL

Identifies where you want dump core to obtain a copy of the specified job's JCT from. You can only specify this parameter if you specify OPTION=(SNP=JCT) on the *START,DC command.

JCTSTG

Indicates you want the job's JCT copy that is in storage. This is the default when SOURCE= is not specified.

JCTDS

Indicates you want the job's JCT obtained from the JCT data set.

ALL

Indicates you want the job's JCT copy that is in storage and obtained from the JCT data set. You receive two versions of the requested JCT.

PATCH

Displays the dynamic patch area within module IATUTDC.

PTRAP

Causes all snapshot output from traps to be sent to output service for printing.

REGSON

Causes the registers to be recorded with snapshot data (specified when preparing traps) when a trap is entered.

REGSOFF

Causes the recording of the registers to be disabled when a trap is entered.

SPADDR=mmmm.rrrrrrrr

Displays the contents of the spool record that has a spool address of *mmmm.rrrrrrrr*. The *mmmm* portion of the spool address is the spool extent number (module) where the record resides. The *rrrrrrrr* portion of the spool address is the spool record number within the spool extent. The spool address must be coded exactly as shown; leading zeros in either part of the spool address must be specified.

When the contents of the spool record are displayed, only the nonzero portion at the end of the record is displayed. For example, if a particular spool record contains only zeros after the first 100 bytes of the records, only the first 100 bytes of the record will be displayed.

TRAP=

The address of the location to be intercepted (trapped) during processing. The trap must be at least eight bytes away from any other trap. When the trap is processed, register 12 is assumed to contain the address of the TVT. Register 14 is used by the trap routine, and its original contents are not saved. After the snapshot, the saved instructions are processed, and control is returned to the next user instruction beyond the trap location.

START=*

Causes the FCT active at the time of the trap to be placed in a waiting status so that other DC commands can be used to display or alter storage. Only one trap of this form (START=*) can be active at any given time.

START=adr,END=adr

Specifies the starting and ending addresses of the area to be displayed.

START=Rz,B=nn

Specifies the register number (z) that contains the starting address; the register number must be prefixed by R as shown. In B=nn, nn specifies the length of the area to be displayed.

TRAPGO

Causes the waiting FCT to be posted. Processing resumes with the saved user instructions from the trap location followed by processing of the instruction following the trap.

TRAPOFF

Turns off the snapshot or waiting for all traps.

TRAPON

Turns on the snapshot or waiting for all traps.

TREGS

Causes the registers to be displayed on the console when a waiting trap is entered.

OUT=

Specifies the device which is to receive output from DC. You can use this parameter to direct output to a device other than the one specified on the *CALL,DC command. Specify the device as follows:

devnum or /devnum

The address of the device. The device number can be a 3-digit or 4-digit hexadecimal number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd  
dddd  
/ddd  
/dddd
```

where ddd and dddd represent the device numbers.

devname

The name of the device as defined by the JNAME keyword of a DEVICE initialization statement.

type

Specifies the type of printer. If you specify PRT, JES3 uses any available printer. Otherwise, specify PRT1403, PRT3211, PRT3203, PRT3800, or PRT3820.

group

The name assigned to a group of devices (typically in physical proximity) and defined by the DGROUP keyword of a DEVICE initialization statement.

CON

Specifies that output is to be directed to the calling console.

Rules

Do not display a fetch-protected storage address on the *S,DC,C= command. Specifying fetch protected storage results in an abnormal end of the DSP. See [z/OS MVS Diagnosis: Reference](#) for additional information about fetch-protected storage areas.

Following a hot start of JES3 without an IPL of MVS, DC issues message IAT7932 to indicate the modules that were loaded by the MVS LOAD or NIP (link pack area modules) during a previous IPL of MVS. However, these modules still reside in the same storage location.

- Do not set traps in modules which run under the DC DSP. Setting traps in these modules can cause abnormal ends and loss of the DSP. These modules are IATUTCB, IATUTDC, IATUTC2, IATUTDA, IATUTD0, IATUTD1, IATUTD2, and all IATABxx series modules.
- Do not set traps in modules which reside in LPA, MLPA, or protected storage. Setting traps in these areas results in a protection exception (X'0C4').
- Do not set traps in code that runs in 24-bit addressing mode or code that calls other code that runs in 24-bit addressing mode. Setting traps in code which runs in 24-bit addressing mode can result in abnormal ends and failure of the DSP. You can determine the addressing mode of a module by referring to the block comments within the module's code.

Note: This restriction applies only to the addressing mode of a module not to its residency.

- Setting a trap that replaces a conditional branch instruction can affect the condition code setting. Unpredictable results can occur when the branch instruction is processed.
- Multiple traps in different DSPs or single traps in reentrant DSPs can cause abends and loss of the DSP because IATUTDC trap code is not reentrant and the contents of return registers can be lost.

- Do not put traps in the CONSERV and CONCMD DSPs. A trap in these DSP routines cause the system to fail because these routines are needed to display the trapped information. These modules are IATCNSV, IATCNCN, IATCNRN, IATCNCM, IATCNIN, IATCNIA, IATUX18, and IATCNDQ.
- Do not set any traps in code running under the auxiliary task (IATAUX); they are ignored.
- No more than five waiting traps can be active.
- You can set traps only on four-byte instructions.

Examples

Set a trap at location X'21E9878' and uses the address in register ten as the address of where to start recording storage. B=10 indicates ten bytes of storage is displayed:

```
*START,DC,OUT=CON,TRAP=21E9878,START=R10,B=10
IAT7921  ISSUE START/CANCEL/RESTART DC REQUEST
```

Dump Core Command:

Display all the traps that are currently active in your system:

```
*S,DC,ACTIVE
```

System Response:

```
IAT7922 THE FOLLOWING IS THE ACTIVE TRAPS
IAT7923 02236D7C-021005B8 00000000 40000000 000000
IAT7923 02236D8C-47F0F024 58E0B188 07FE0000 000000
IAT7923 02236D9C-021005B8 0000000F 80000000 000000
IAT7923 02236DAC-45E0C854 58E0B188 07FE0000 000000
*IAT7921 ISSUE START/CANCEL/RESTART DC REQUEST
```

Dump Core Command:

```
*S,DC,BASE=21005B8,TRAP=24,START=R15,B=30
```

System Response:

```
*IAT7921 ISSUE START/CANCEL/RESTART DC REQUEST
```

Dump Core Command:

```
*S DC OUT=CON,KEY=SYSTEM
```

System Response:

```
IAT6306 JOB 0025 IS DC      , CALLED BY CN0C0
*IAT7921 ISSUE START/CANCEL/RESTART DC REQUEST
*START,DC,TRAPON
IAT7921  ISSUE START/CANCEL/RESTART DC REQUEST
```

Message IAT7921 is issued to indicate that DC is ready to process another command.

Dump Core Command:

```
*S,DC,SPADDR=0003.00000384
```

System Response:

```
SPOOL RECORD: 0003.00000384
00000000-00030000 03840000 C3E2C240 00000000 *.D..CSB ....*
00000010-00000000 00000000 5CA2A3A3 0012D6E4 *.stt..0U*
00000020-E37EC3D6 D540D2C5 E87EE2E8 E2E3C5D4 *T=CON KEY=SYSTEM*
```

*START,DEADLINE

Dump Core Command:

```
*S,DC,SPADDR=0002.000012A8
```

System Response:

```
SPOOL RECORD: 0002.000012A8
00000000-00020000 12A80001 D6E2C540 00000000 *....y..0SE ....*
00000010-00000000 00000000 5CA2A3A3 00600060 *.....*stt.-.*
00000020-00000000 00000000 00000000 00000000 *.....*
00000030-00000000 00000000 00000000 00000000 *.....*
00000040-00000000 00000000 00000000 00000000 *.....*
00000050-00000000 00000000 00000000 00000000 *.....*
00000060-FFFFFFF 00000000 00000000 00000000 *.....*
```

Reinitializing deadline specifications *START,DEADLINE

Function

Use the *START,DEADLINE command to reinitialize the DEADLINE DSP. Use the command when you want to have all jobs (both in the queue and those not yet read in) affected by the current parameters, and one of the following has occurred:

- Changes have been made to the deadline specifications.
- The date or clock has been changed.
- The system has been restarted following an MVS QUIESCE command, or after the STOP button has been hit.

Unless reinitialized, deadline scheduling will consistently be delayed by the amount of time for which the system was quiesced or stopped.

Syntax

```
➡ *START — , — DEADLINE ➡
   |
   | *S
```

Starting or resetting the DJ facility *START,DJdevnum

Function

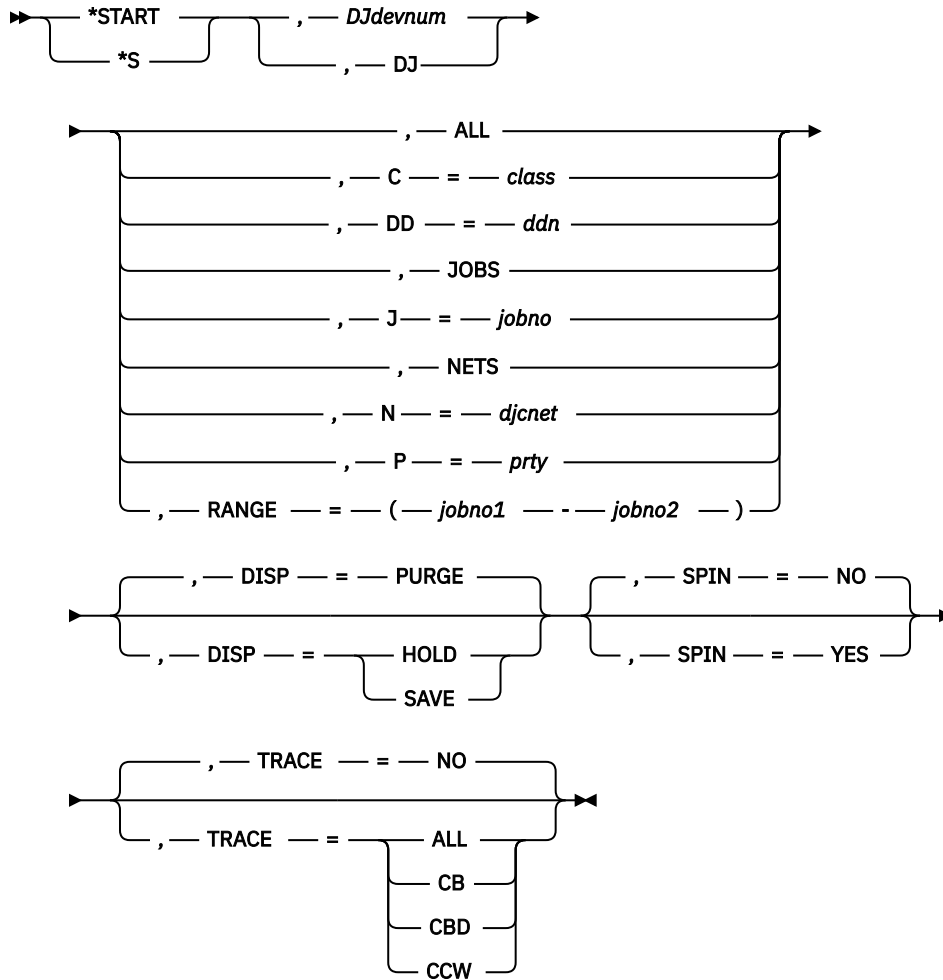
After a DJ DSP has been invoked, the DJ facility issues its login message and requests the mounting of a tape (unless OLD was specified). After the mount request, you can issue the *START command. Because multiple DJ DSPs can be active concurrently, use the appropriate DJdevnum identifier to start your DJ DSP.

When a DJ DSP is invoked to dump a job or net, the DJ facility sets dump control flags for each job processed. Because of these flags, any jobs remaining on the JES3 job queue after DJ has processed them cannot be dumped again until the flags are reset.

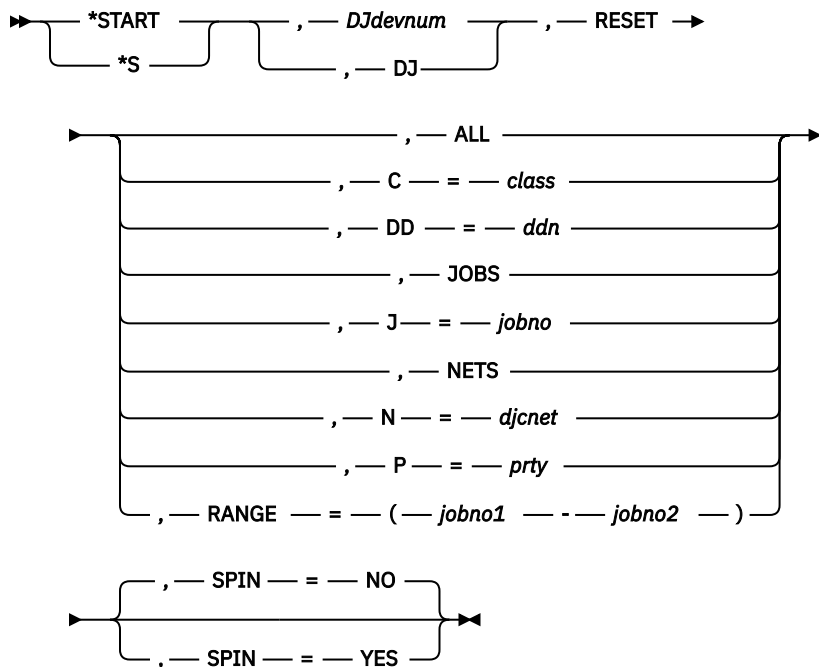
Use the *START command with the RESET parameter to reset DJ dump control flags for all jobs or a selected set of jobs on the JES3 job queue. Enter this command when all other dumping using the DJ facility is complete.

Syntax

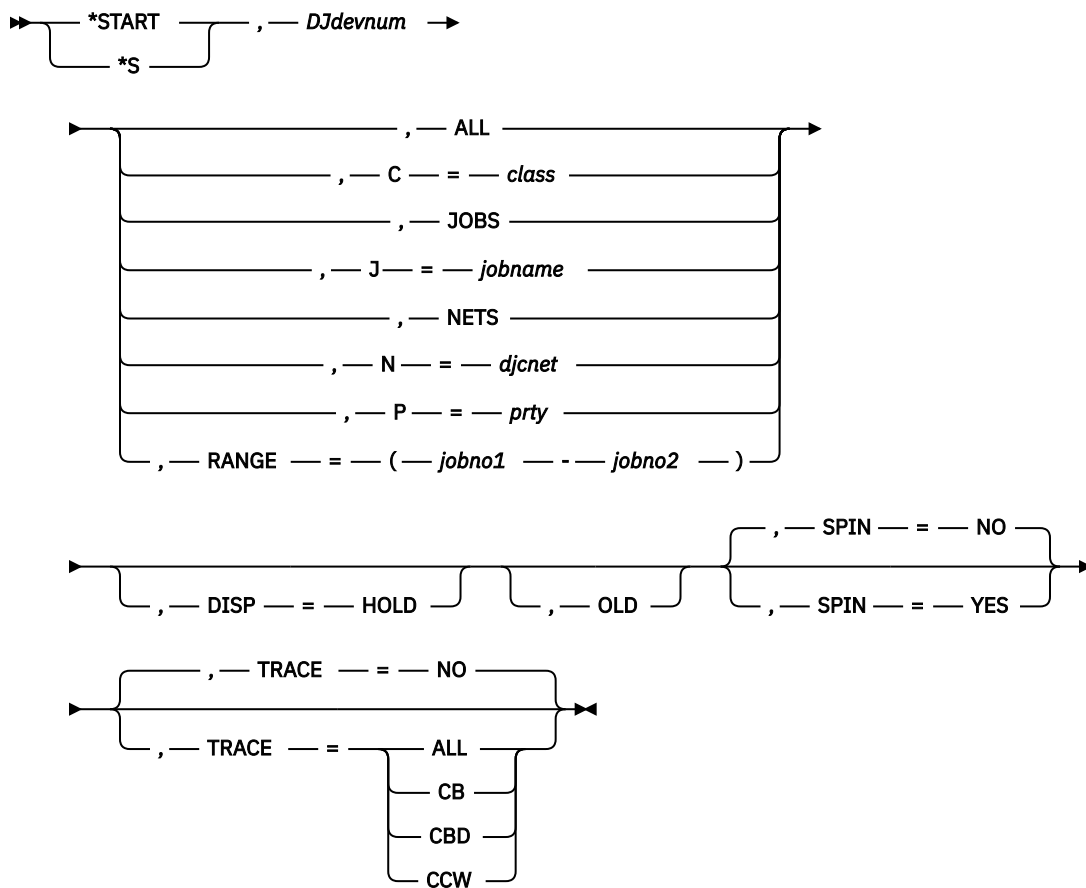
Out Mode



Out Mode To Reset DJ Dump Control Flags



In Mode



Parameters

DJdevnum

Specifies the DJ DSP that this command should be processed by. If only one DJ DSP is active, you do not have to specify the device number (devnum or /devnum). The device number can be a 3-digit or 4-digit hexadecimal number. A slash (/) preceding the device number is permitted but not required. Device numbers can be specified by any of the following formats:

```
ddd
dddd
```

where ddd and dddd represent the device numbers.

ALL

Specifies that all jobs, including DJC network jobs, are to be dumped or restored.

C=class

Specifies that all jobs in the indicated job class that are not part of a DJC network are to be dumped or restored.

DD=ddn

Specifies that all jobs that have data on the indicated spool data set that are not part of a DJC network are to be dumped.

JOBS

Specifies that all jobs in the JES3 job queue that are not part of a DJC network are to be dumped or restored.

J=jobno or jobname

Specifies a job, that is not part of a DJC network, to be dumped or restored. For out mode, specify jobno. For in mode, specify jobname.

N=djcnet

Specifies the DJC network to be dumped or restored. The network must be in operator hold status to qualify for dumping.

NETS

Specifies that all DJC networks be dumped or restored.

P=prty

Specifies that all jobs at the indicated priority that are not part of a DJC network are to be dumped or restored.

RANGE=(jobno1-jobno2)

Specifies the range of job numbers you want dumped or restored, where **jobno1** is the lowest number in the range, and **jobno2** is the highest. If a job is part of a DJC network, it will not be dumped or restored.

DISP=

Specifies the disposition of jobs **after** they are dumped by DJ.

PURGE (default)

All jobs dumped are to be purged from the job queue. DJ marks all of the job's scheduler elements except PURGE as complete. PURGE is the default for DJ. If IO=NO is specified on the *CALL command, PURGE is forced to SAVE. Valid on out mode only.

SAVE

The jobs dumped remain on the job queue. Valid on out mode only.

HOLD

All jobs dumped remain on the job queue, but in hold status.

SPIN=YES or NO

Specifies whether the message log data set is to be printed at completion of this *START request. NO is the default.

TRACE=

Specifies whether any tracing is to be performed on this *START command.

***START,DJdevnum**

NO (default)

Specifies that no tracing is to be done. NO is the default.

CCW

Specifies that the channel command words for each I/O operation to tape are to be traced.

CB

Specifies that the name of each control block is to be traced.

CBD

Specifies that the name and data contents of each control block are to be traced.

ALL

Specifies that all types of tracing be performed.

Use the TRACE= parameter with caution. All trace output is logged in the DJ message log data set. If you are dumping a large number of jobs, this could result in a shortage of spool space.

OLD

Specifies that DJ is not to rewind the input tape before processing. You would want to use OLD when the job to be restored has not yet been read past on the tape; this would save the time required to read through jobs that have already been restored by a previous *START command.

RESET

Specifies the DJ control flags for all jobs on the JES3 job queue are to be reset.

Rules

- Use care when dumping all jobs or when dumping jobs by priority level. Some jobs can be missed if their priority level is switched or if they are added to the job queue during DJ processing.
- If the end of a reel is reached during DJ processing, JES3 or the DJ server address issues a message requesting that another tape be mounted on the same device.
- After DJ processing completes, the DJ message log data set will indicate the jobs that were successfully dumped and those that were not.
- After DJ processing completes, JES3 requests that the DJ DSP be canceled or that a new *START command be issued. If you issue a new *START command, DJ will be in output (dumping) mode as specified on the *CALL,DJ command.
- When a DJ DSP is started with the RESET parameter, no other DJ DSPs can be active in output (dumping) mode.
- As each job is reset, the DJ message log data set will indicate the jobs that were successfully reset and those that were not.
- Note that when jobs are restored to the JES3 job queue, they might **not** be assigned the same job number.

Examples

Start DJ27E to dump job number 1319; retain the job on the JES3 job queue:

```
*START,DJ27E,J=1319,DISP=SAVE
```

Start DJ342 to dump DJC net COST1500; retain the net on the JES3 job queue in hold status:

```
*S,DJ342,N=COST1500,DISP=HOLD
```

Start DJ443 to dump all jobs with priority level 15 that are not part of a DJC network:

```
*S,DJ443,P=15
```

Start DJ28D to dump all class A jobs that are not part of a DJC network:

```
*S DJ28D C=A
```

Start DJ364 to dump job number 5290; perform all tracing:

```
*S,DJ364,J=5290,TRACE=ALL
```

Start DJ457 to dump all jobs that are not part of a DJC network:

```
*S,DJ457,JOBS
```

Start DJ42B to dump all jobs on the JES3 job queue and print the message log data set:

```
*S DJ42B ALL SPIN=YES
```

Start DJ352 to reset control flags for all jobs that remain on the JES3 job queue:

```
*START,DJ352,RESET,ALL
```

Start DJ353 to restore job COPYJOB to the JES3 job queue; begin restoring at the point at which the tape is currently positioned:

```
*START,DJ353,J=COPYJOB,OLD
```

Start DJ461 to restore DJC net COST1500 to the JES3 job queue in hold status:

```
*S,DJ461,N=COST1500,DISP=HOLD
```

Start DJ267 to restore the first encountered group of jobs with priority level 15 that are not part of a DJC network:

```
*S,DJ267,P=15
```

Start DJ449 to restore the first encountered group of class A jobs that are not part of a DJC network:

```
*S,DJ449,C=A
```

Start DJ35A to restore all DJC networks to the JES3 job queue:

```
*S,DJ35A,NETS
```

Start DJ451 to restore all jobs that are not part of a DJC network to the JES3 job queue:

```
*S,DJ451,JOBS
```

Start DJ342 to restore all jobs to the JES3 job queue and print the message log data set:

```
*S,DJ342,ALL,SPIN=YES
```

Starting a disk reader ***START,DR**

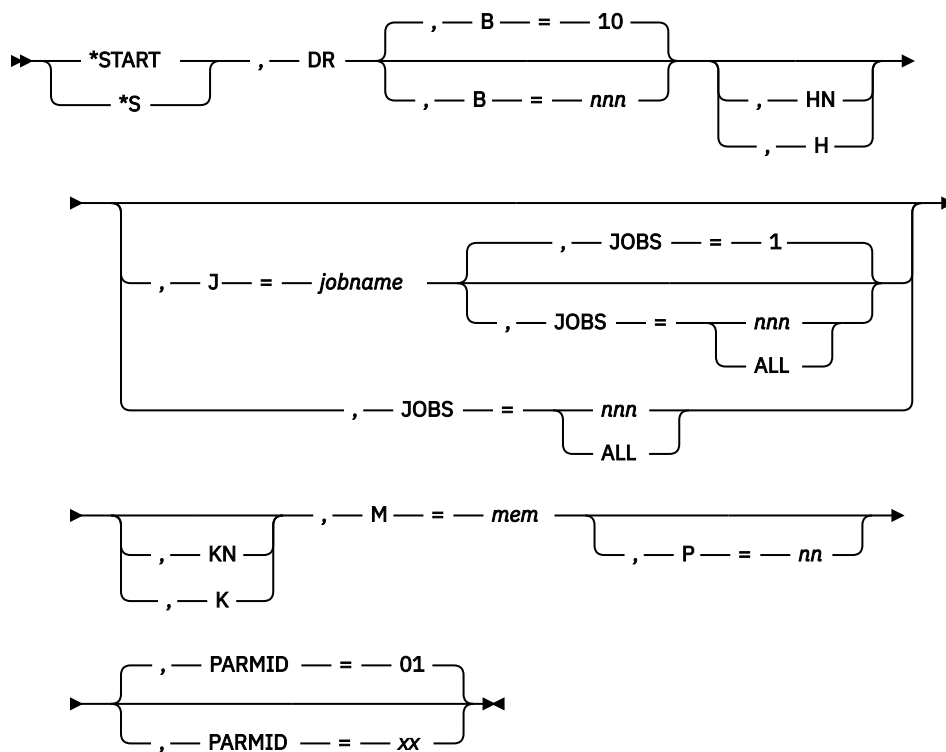
Function

Use the ***START,DR** command to restart a hot disk reader when it has reached an EOF condition or to alter or add to the parameters specified when the last ***CALL**, ***START**, or ***CANCEL** command was entered.

If an optional parameter is not specified, the value for that parameter defaults to the value specified on the ***CALL** command or on the most recent ***START** or ***CANCEL** command that modified that parameter.

Syntax

*START,DR



Parameter

B=nnn

Specifies the size of the job batches created by this reader; that is, the number of jobs to be read from the disk and placed on the spool device. The maximum allowed is 255.

H or HN

Specifies whether the JES3 control-card processor is to be put in the hold state (H) or allowed to process the jobs after the batch has been created (HN).

J=jobname

Specifies the name of the job with which input is to begin.

JOBS=nnn or ALL

Specifies the number of jobs to be read from the input device and placed onto the spool devices. ALL permits reading until a physical EOF is reached. When you specify J=jobname in addition to this parameter, the default for JOBS= is one. The maximum allowed is 254.

K or KN

Specifies whether the designated reader is to be kept active (K) when an EOF condition occurs or is to be allowed to purge (KN). Reading is resumed when you enter an *START command.

M=mem

Specifies the member of the disk reader data set to be read. This parameter is required.

P=nn

Specifies the scheduling priority of the control-card processor job (without affecting the job priorities of the individual jobs being read in). Valid values are 00 to 15.

PARMID=xx

Specifies the set of C/I options to be used for all jobs read in through this reader.

Example

Start a disk reader, read in member ACCT3, and purge the reader at the EOF:

```
*S,DR,M=ACCT3,KN
```

Starting dynamic system interchange ***START,DSI**

Function

DSI is the JES3 facility that allows a properly configured JES3 local main to assume the role of the JES3 global in the event of a catastrophic error on the current global or if complex reconfiguration is required to prepare for scheduled preventive maintenance.

The installation should provide comprehensive procedures for device switching and operator action during DSI. These should be carefully reviewed before and during DSI. Operator messages are provided to guide the operator through DSI; the operator responds with the *S,DSI command.

Syntax

```

>> *START _____ , — DSI —><
    |_____
    | *S
  
```

Displaying IC ***START,IC**

Function

Use *START,IC to display accumulated iteration counts.

Syntax

```

>> *START _____ , — IC —><
    |_____
    | *S
  
```

Results

JES3 issues messages IAT7945, IAT7947, IAT7946, and IAT7948.

Creating a JESNEWS data set ***START,JESNEWS**

Function

Use the *START command to place one or more lines of data in the JESNEWS data set being created, or added to, as a result of the *CALL,JESNEWS command.

Syntax

```

>> *START _____ , — JESNEWS — , — text —><
    |_____
    | *S
  
```

Parameters

text

Specifies the data line to be created. Up to 64 characters can be specified in free form. The *START,JESNEWS command must be reissued for each additional line to be added or replaced in the data set.

*START,JSS

If a second separate data set is to be created, issue the *RESTART,JESNEWS command and then reenter the *CALL,JESNEWS command.

Starting job scheduling *START,JSS

Function

You can start job scheduling after JES3 issues message IAT3100 notifying you that initialization processing is complete on the global:

```
IAT3100  JES3 xxxxx SYSTEM type START ON yyyy.ddd AS main
```

where xxxxx is the release level of JES3, *type* is COLD, WARM, or HOT. *yyyy.ddd* is the Julian date, and *main* is the JES3 name of the main.

Before starting job scheduling, you can use JES3 commands to cancel jobs, change the status of jobs, and change the status of devices. during a hot start with analysis, you can release jobs in spool hold status after reinstating a spool data set that contains data for the jobs, and you can vary devices online or offline. You can make adjustments for any system data that might have been lost during the restart. You can also make any changes to the system that were made before a hot start or a warm start but did not remain in effect after the restart. See [Table 3 on page 59](#) for a summary of the changes that remain in effect after a restart.

When you are satisfied that the system is ready to begin processing, enter a *START,JSS command to start job scheduling.

Syntax

► ***START** — **JSS** ►
 ***S**

Result

After you enter the *START,JSS command, be sure the global is varied online to JES3. If it is not, issue the *MODIFY,V,main,ON command to vary the processor online. This ensures that the subsystem interface, the MVS system commands, and the system log are initialized. JES3 then issues the following message:

```
IAT2645      ***** main CONNECT COMPLETE *****
```

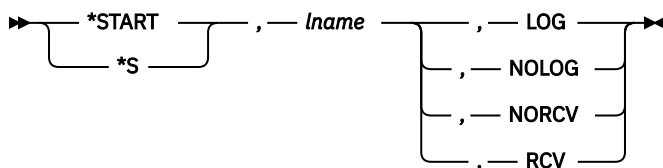
If you do not want the global to run jobs, you can now vary the main offline to JES3 scheduling with the *MODIFY,V,main,OFF command. At this point, you can resubmit any jobs that were canceled or whose processing was altered as a result of the restart.

Controlling an active BSC/NJE line *START,lname

Function

Use the *START,lname command on an active networking line to change the type of communication activity that can take place on the line and to control log tracing activity. Use the *START,lname *only* for BSC/NJE networking.

Syntax



Parameters

lname

Specifies the name of an active networking line that directly connects your node with a remote node. JES3 modifies the activity on this line as requested in one of the following parameters.

LOG

Starts the line tracing facility for the specified line.

NOLOG

Stops the line tracing facility for the specified line and prints any data that was collected for the line.

NORCV

Prevents network jobs from being received through the specified line; network jobs can only be transmitted on this line. (You can still transmit and receive messages and commands on the line.)

RCV

Allows network jobs to be received through the specified line.

Rule

You can specify only one parameter in the command.

Results

For the NORCV parameter, JES3 does not permit the remote node on the specified line to start new transmissions to your node through the line. The remote node completes any current transmission. You can still transmit network jobs through the line and both nodes can transmit and receive messages and commands through the line.

```
IAT9107 DATA RECEPTION INHIBITED FOR LINE lname
```

For the RCV parameter JES3 notifies the remote node on the specified line to start or restart transmitting network jobs to your node through the line.

```
IAT9108 DATA RECEPTION PERMITTED FOR LINE lname
```

For the LOG parameter JES3 initiates or resumes recording status and data information in a log data set for each I/O operation on the specified line.

```
IAT9110 LOGGING STARTED FOR LINE lname
```

For the NOLOG parameter JES3 stops recording status and data information for I/O operations on the specified line and releases the spooled output to be printed. See [z/OS JES3 Diagnosis](#) for a description of the data in the log.

```
IAT9109 LOGGING TERMINATED FOR LINE lname
```

Examples

Stop data reception through line ANB32:

```
*START,ANB32,NORCV
```

Restart data reception through line ANB32:

***START,main**

```
*S, ANB32, RCV
```

Start line tracing activity on line ANB32:

```
*S, ANB32, LOG
```

Stop line tracing activity on line ANB32:

```
*S, ANB32, NOLOG
```

Processor connect recovery *START,main

Function

When the local main has completed initialization, it initiates communication with the global. If this local is online to the global, both mains automatically enter the connection sequence. When the connection sequence is complete, JES3 issues this message on the global main:

```
IAT2645      ***** main CONNECT COMPLETE *****
```

If the local main is offline to the global, enter the *F,V,main ON or *V,main,ON command on the global to vary the local main online. The processors now enter the connection sequence.

If the automatic connection sequence fails, the JES3 global issues this message:

```
IAT2640      CONNECT REJECTED FOR main - error text
```

To resume the connection sequence, follow the operator response instructions in [z/OS JES3 Messages](#) for the error text received with message IAT2640.

If the automatic connection sequence does not take place (if the connection had completed, JES3 would have issued message IAT2645, which is discussed above) and JES3 does not issue any failure messages, try to determine the status of the local main. If JES3 initialization seems to be complete on the local main, use the *START,main,CONNECT command to restart the connection sequence. Use the *START,main,CONNECT command to reestablish communication between the global and a local main.

Recovery of work from a failed or stopped processor

Use the *START,main,FLUSH command to flush active jobs on a JES3 local main processor that has failed or been stopped. Only use this command in the case of a literal failure or stoppage. If jobs remain active on a main processor that has been flushed, errors on the JES3 spool can occur and a cold start would be required. For this reason, you cannot flush the global processor.

Note: JES3 does not allow a FLUSH command to be directed at a local system that is considered operational. If the target system is not down, JES3 will issue the following messages:

- IAT2061 SYSTEM *sysname* IS ACTIVE IN JESXCF GROUP *groupname*
- IAT2064 RESET ALL SYSTEMS SHOWN OR REPLY CANCEL

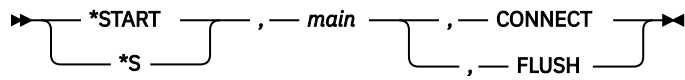
If you do not expect to restart JES3 on the old global processor immediately after a DSI, issue the *S,main,FLUSH command to:

- ensure jobs registered with automatic restart management on the old global processor are restarted on either the new global or another active local processor
- tell the new global all work in an on-main state, on the specified main, is to be removed from that state. This will allow JES3 to apply the failure option to all batch jobs and also allow the restarting of FSSs on the new global or another active local processor if the FSS is defined to execute there.

In response to this command, JES3 issues messages IAT2061 and IAT2064. These messages instruct you to reset the local main.

Note: If you decide not to flush the main after entering *S,main,FLUSH, reply CANCEL to message IAT2064.

Syntax



Parameters

main

Specifies the name of the local main processor.

CONNECT

Establishes a connection from the local to the global processor.

FLUSH

Specifies that all jobs currently running on the designated main processor are to be flushed.

If the *S,main,CONNECT command does not establish the connection between processors, run the *DUMP command (8DUMP on the local system) on the global and local processors, and provide the results to your system programmer. Once the problem is resolved, end JES3 and restart the local processor.

When the connection is complete, the local main is eligible for jobs to be scheduled to it. From now on the local main is treated as a JES3-managed device and can be varied online or offline.

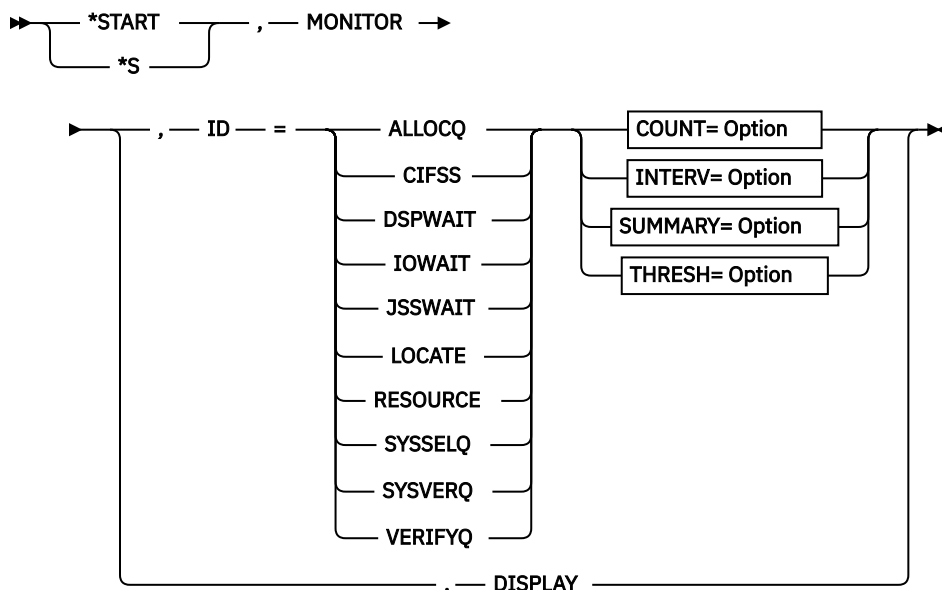
Modifying or displaying the monitoring parameters

*START,MONITOR

Function

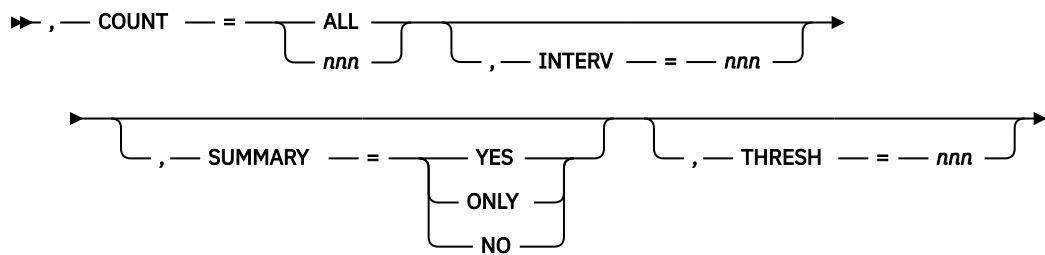
Use the following command to modify or display the monitoring parameters:

Syntax

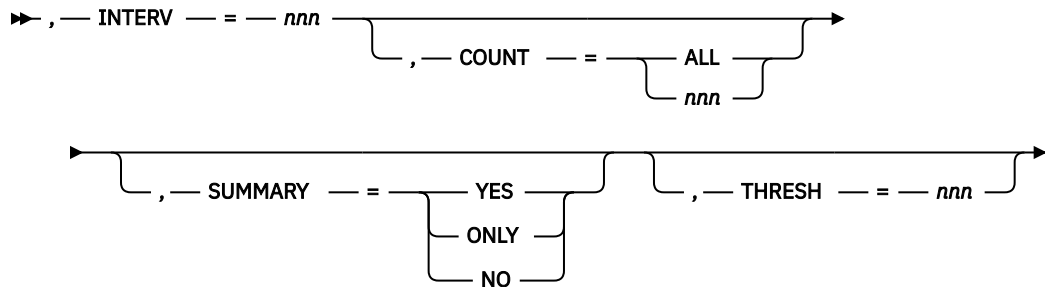


COUNT= Option

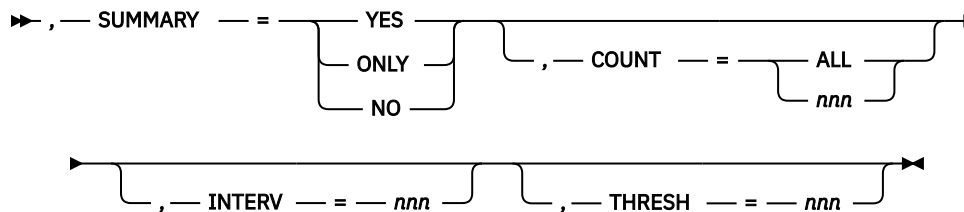
*START,MONITOR



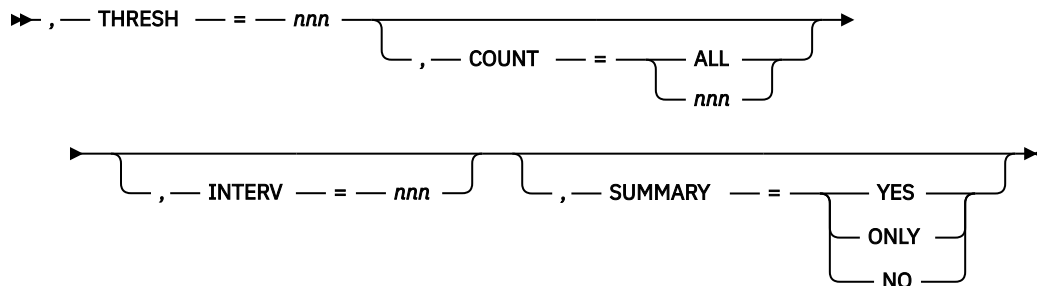
INTERV= Option



SUMMARY= Option



THRESH= Option



Parameters

ID=

Specifies the name of the monitoring definition to modify. The name is defined by the ID= parameter on the MNTRDEF macro.

You can display the name, other information, by entering the *START,MONITOR,DISPLAY command.

The following are the JES3 supplied values.

RESOURCE

Specifies monitoring of an unavailable JES3 resource. A JES3 resource is anything that can be used by an FCT and that can become unavailable. The monitor DSP allows you to monitor the following JES3 resources:

- Generalized subtasks
- AENQ resources
- JQEs

- Job numbers
- File directory entries
- JSAM buffers
- Spool space.

ALLOCQ

Specifies monitoring of jobs waiting in the MDS allocate queue for a resource to become available.

CIFSS

Specifies monitoring of jobs scheduled to a converter/interpreter functional subsystem (C/I FSS).

DSPWAIT

Specifies monitoring of jobs waiting for a particular DSP to become available.

IOWAIT

Specifies monitoring of the ending function waiting for I/O to complete.

JSSWAIT

Specifies monitoring of a job on a job segment scheduler (JSS) wait queue waiting for an event to occur or a resource to become available. For example:

- Jobs waiting for a PROCLIB to become available.
- Jobs waiting for a main processor, class, or group to become available.
- Jobs waiting for DFSMS-managed user catalogs to become available.
- Jobs waiting for a main processor to become available for catalog locate.

LOCATE

Specifies monitoring of jobs in catalog locate.

SYSSELQ

Specifies monitoring of jobs waiting in the MDS system select queue for DFSMS-managed resources to become available.

SYSVERQ

Specifies monitoring of jobs waiting in the system verify queue.

VERIFYQ

Specifies monitoring of jobs waiting in the MDS verify queue for one or more volume mounts to complete.

COUNT=

Specifies the number of FCTs or jobs over the threshold value that are displayed. The monitor DSP displays the jobs or FCTs in descending order based on the amount of time they have been waiting.

The count value must be in the range of 0 to 999, or ALL.

If you specify COUNT=ALL, all jobs or FCTs over the threshold value are displayed. If you specify COUNT=nnn, nnn number of jobs or FCTs are displayed. If you specify COUNT=0, no jobs or FCTs are displayed.

INTERV=

Specifies the time interval, in minutes, that the resource or queue is monitored and displayed. The interval value must be in the range of zero to 999.

If you change the interval from zero to a non-zero value, you activate monitoring for the particular queue or resource. If you change the interval from a non-zero value to 0, you deactivate monitoring for the particular queue or resource.

SUMMARY=YES|NO|ONLY

Specifies whether the monitor DSP issues a summary message describing the number of jobs or FCTs waiting.

If you specify SUMMARY=YES, a summary message is issued in addition to the messages issued for each job or FCT. If you specify SUMMARY=NO, messages are issued for each job or FCT; no

*START,MONITOR

summary message is issued. If you specify SUMMARY=ONLY, only the summary message is issued; no messages are issued for each job or FCT.

THRESH=

Specifies the minimum amount of time, in minutes, that a job or FCT must have been waiting on the specified queue or for the specified resource before the monitor DSP will display it. The threshold value must be in the range of 0 to 999.

If you specify THRESH=0, the job or FCT is displayed regardless of the amount of time it has been waiting.

DISPLAY

Specifies the name of the monitoring definition to display. You can display the name, or other information, by entering the *START,MONITOR,DISPLAY command.

Rule

You must specify at least one of the following parameters:

- COUNT=
- INTERV=
- SUMMARY=
- THRESH=

Examples

The MONITOR DSP issues messages IAT6399 and IAT6400 in response to the *START,MONITOR,DISPLAY command to describe the monitor parameters currently in effect. The below sample output of the *START,MONITOR,DISPLAY command shows the default parameters JES3 uses for each resource and queue if you do not change them.

IAT6399	ID	INTERVAL	THRESHOLD	COUNT	SUMMARY	STATUS
IAT6400	RESOURCE	005	001	ALL	YES	ACTIVE
IAT6400	LOCATE	005	001	ALL	YES	ACTIVE
IAT6400	CIFSS	005	001	ALL	YES	ACTIVE
IAT6400	SYSSSELQ	005	005	ALL	YES	ACTIVE
IAT6400	ALLOCQ	000	000	ALL	YES	INACTIVE
IAT6400	VERIFYQ	000	000	ALL	YES	INACTIVE
IAT6400	SYSVERQ	005	001	ALL	YES	ACTIVE
IAT6400	DSPWAIT	005	005	ALL	ONLY	ACTIVE
IAT6400	JSSWAIT	005	005	ALL	ONLY	ACTIVE
IAT6400	IOWAIT	030	001	ALL	YES	ACTIVE

All of the information, with the exception of STATUS, is described in [“Modifying or displaying the monitoring parameters *START,MONITOR” on page 399.](#)

Note: If COUNT=0 and SUMMARY=NO, no messages are issued.

Changes made with the *START,MONITOR,ID= command take effect immediately. If you cancel the monitor DSP, the same values come back into effect when you reactivate the monitor DSP. However, when you restart JES3, the default parameters go back into effect.

When the modify is complete, the monitor DSP issues the following message:

```
IAT6402  MONITOR MODIFY PROCESSING COMPLETE
```

If any of the modify parameters are incorrect, the monitor DSP issues the following message:

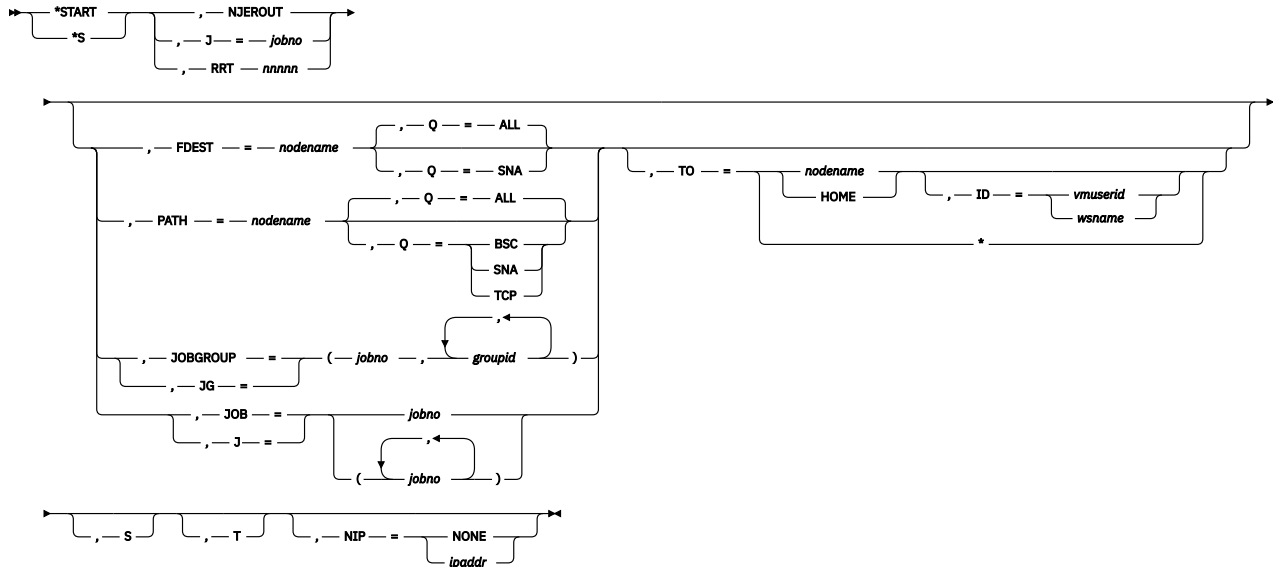
```
IAT6401  MONITOR START COMMAND REJECTED - reason text
```

Starting the NJEROUT DSP *START,NJEROUT

Function

Use the *START,NJEROUT command to reroute a job or a job's SYSOUT data to a location different from its original destination. You can also reroute the output to a VM user ID or RJP workstation.

Syntax



Parameters

J=jobno

Identifies the specific NJEROUT DSP to be started if more than one DSP is enabled. Use the *I,J=NJEROUT command to determine the DSP's job number if more than one NJEROUT DSP is active.

RRTnnnnn

Identifies the specific reroute DSP by its JES3-assigned job number.

FDEST=nodename

Specifies that all SNA/NJE network jobs that have the final destination which you supply (nodename) be rerouted to the location you supply on the TO= keyword. The final destination of a SNA/NJE network job is originally defined as a network node in a job's JCL. You can determine the final destination of one or more SNA/NJE network jobs by issuing an *I,U,Q=BDT command.

PATH=nodename

Specifies that network jobs (either SNA/NJE, BSC/NJE, or TCP/IP/NJE) that are scheduled for processing through the path that you supply (nodename), be rerouted to the final destination that you supply on the TO= keyword. Use the *I,A,D=NJESND command to determine the valid paths for BSC/NJE work and the *I,NJE,NAME= command to determine the valid paths for SNA/NJE or TCP/IP/NJE work.

JOBGROUP=(jobno,groupid,groupid,...)

Specifies the SNA/NJE or TCP/IP/NJE job and the group(s) of work (JES3 jobs or SYSOUT streams) within the selected job you want to reroute. You can specify more than one JOBGROUP parameter on a valid *CALL,NJEROUT command. Use the JOBGROUP parameter only when the job you are rerouting was originally destined for transmission to a SNA/NJE or TCP/IP/NJE node. You can use JG= as an abbreviation for the JOBGROUP= keyword. Use the *I,U,Q=BDT command to display the group-id(s) associated with a SNA network job. Use the *I,U,Q=TCP command to display the group-id(s) associated with a TCP/IP network job.

***START,RJP**

JOB=(jobno,jobno...)

Specifies the BSC/NJE job(s) that you want to reroute. Use the JOB parameter only when the job you are rerouting was originally destined for transmission on a BSC/NJE line. You can use the short form J= as an abbreviation for the JOB= keyword.

Q=ALL or SNA or BSC or TCP

Specifies the networking queue that you want searched when using the FDEST= or PATH= keywords. If you omit the Q= keyword, all network queues are searched. Otherwise:

Q=ALL

Specifies that all the SNA/NJE, BSC/NJE, and TCP/IP/NJE queues are searched. If you specify Q=ALL with the FDEST keyword, only the SNA/NJE work queue is searched.

Q=SNA

Specifies that only the SNA/NJE work queue is searched.

Q=BSC

Specifies that only the BSC/NJE work queue is searched. Q=BSC is not valid for use with the FDEST= keyword because the FDEST= keyword only reroutes SNA/NJE network jobs.

Q=TCP

Specifies that only the TCP/IP/NJE work queue is searched. Q=TCP is not valid for use with the FDEST= keyword because the FDEST= keyword only reroutes SNA/NJE network jobs.

TO=nodename or HOME,ID=vmuserid or wsname, or *

Specifies the name of the new destination node and, optionally, the VM userid or the name of the RJP workstation that is to receive the job or output data. You can specify HOME instead of using the home node name when rerouting jobs to your own system. Use the asterisk to send the network streams to their original destination using the appropriate networking protocol.

S

Specifies that JES3 display summation message IAT9202 to the issuing console in response to a reroute command. If you omit this parameter, JES3 issues individual messages for each job that you are rerouting.

T

Ends the DSP after completing the current request. This parameter cancels the DSP after a single transaction. A *RESTART,NJEROUT command overrides the terminate (T) parameter on a previous *CALL or *START,NJEROUT command.

NIP=ipaddr or NONE

Modifies or deletes an IP address. Specify *ipaddr* if an IP address is to be added or changed. The IP variable (*ipaddr*) is case sensitive and must be enclosed in quotation marks. Specify IP=NONE if an IP address is to be deleted.

Example

Start BSC RJP line LINE01:

```
*S,RJP,L=LINE01
```

Starting a BSC RJP line *START,RJP

Function

Use the *START,RJP command to start a BSC RJP line not started during BSC RJP initialization.

Note: Before starting BSC RJP on any line, ensure that no other use, such as JES3 networking, is defined for this line. Line errors will occur if BSC RJP and networking use the same line.

Syntax

\Rightarrow *START , — RJP — , — L — = — *lname* \Rightarrow
 *S

Parameters

L=lname

Specifies the name of the BSC RJP communications line (as defined in the RJPLINE initialization statement) to be started.

Example

Start BSC RJP line LINE01:

*S,RJP,L=LINE01

Starting RJPSNPS *START,RJPSNPS

Function

Use *S,RJPSNPS to resume recording of the RJPSNPS facility. RJPSNPS should be used with the RJPLINE enabled. See *F T,L=Iname SNAPON command.

Syntax

Parameters

CLASS

Directs the data set to a SYSOUT class other than that specified by the DBGCLASS parameter on the STANDARDS initialization statement.

Starting manual allocation *START,SETUP

Function

If manual allocation was specified during JES3 initialization or with the *F,S,AL=M command, use the *START,S command to allow a job to proceed to allocation processing. The *START,S command is not required when automatic allocation was specified during JES3 initialization or by the *MODIFY,S,AL=A command.

Syntax

[illegible]

Parameters

SETUP or S

Specifies that the job in the WAITVOL queue can proceed to the allocate phase.

jobno

Specifies the job number of the job that can proceed to allocation.

Result

If the job requires SMS-managed resources, JES3 sends the job to the main device scheduling (MDS) system select queue. If the job does not require SMS-managed resources, JES3 sends the job to the MDS allocate queue.

Using the ***START,SNARJP** command ***START,SNARJP**

Function

Although the ***START,SNARJP** command can be issued at any time, the only conditions when it must be used are:

- If there have been too many attempts to log on with the password incorrectly specified
- If an ***CANCEL,SNARJP,T=** command has been issued

In either case, the ***START,SNARJP** command allows JES3 to accept LOGONs from the specified workstation.

Use SNA RJP Recording Facility to trace SNA RJP processing for a remote workstation. JES3 uses the IATXSNTR macro in SNA RJP modules to create trace entries that you can use to diagnose problems with a SNA RJP workstation. The SNA RJP modules run under the SNARJP DSP that run the remote workstation.

You can invoke the SNA RJP recording facility by including the TRACE=ON parameter on the RJPWS statement that defines the remote workstation. For additional information about the RJPWS initialization statement, see [z/OS JES3 Initialization and Tuning Reference](#).

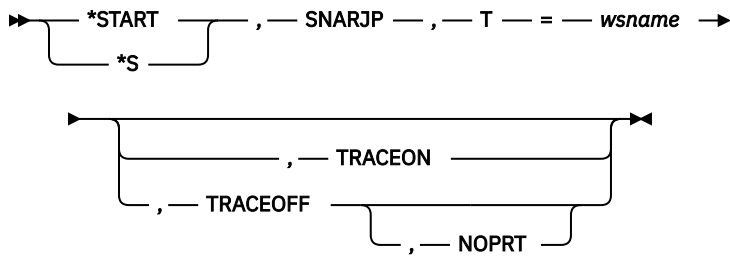
Traces are printed when:

- A session is ended
- The operator enters an ***START** command with the TRACEOFF parameter
- Errors are detected when inbound data is decompressed or deblocked

Traces can include:

- Protocols, including chaining, bracket, and function management header information
- Negative response sense data
- Task control block and service request block interactions
- Results of compare and swap operations
- Error returns from VTAM
- Up to four bytes of pertinent data

Syntax



Parameters

T=wsname

Specifies the five-character workstation name as specified in the N= parameter of the RJPWS initialization statement.

TRACEON

Activates the SNA RJP trace facility for all sessions on the specified workstation.

TRACEOFF,NOPRT

Indicates that the SNA RJP trace facility should be stopped for all sessions on the specified workstation. A spinoff data set is created for each trace table and is automatically printed. If NOPRT is specified, the trace table is not printed.

See *z/OS JES3 Diagnosis* for more information about the SNA RJP trace facility.

Example

Allow LOGONs from SNARJP workstation WS001:

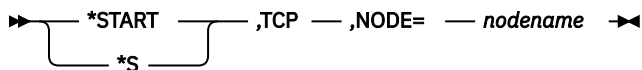
*S,SNARJP,T=WS001

Starting all sockets to a node *START,TCP,NODE=

Function

Use the `*START,TCP,NODE=nodename` command to start all sockets to a particular node. Then the particular node can begin communication with that node using TCP/IP protocol.

Syntax



Parameters

NODE=node

Specifies the name of the node that is to be started.

Rules

- At least one socket must be defined with the NODE= keyword that specifies the node to be started.
- All such sockets must define the NETSERV and HOSTNAME parameters.
- The Netservs for the sockets in question must be first started by the *CALL,TCP command. Because all sockets for a particular node do not necessarily reside in the same Netserv, this might mean that more than one Netserv must be started.

*START,SOCKET

- All affected sockets must be available on the remote node. If the remote node is JES2 or JES3, the socket becomes available when the Netserv starts and connects to TCP/IP.

Results

- The sockets that are defined for the requested node are started by an internally generated *S,TCP,SOCKET= command. See the results for the [“Starting a TCP/IP/NJE Socket *START,TCP,SOCKET=”](#) on page 408 command.

Examples

Using the same definitions as the ones for the *S,TCP,SOCKET= example, the following command is issued on NODE1:

```
*s tcp node=node4
```

The following response is received on NODE1:

```
SY1 IEESYSAS IAZ0543I JES3S1 TCP/IP connection with IP Addr: ALPS4197.POK.IBM.COM Port: 175 Initiated
SY1 IEESYSAS IAZ0543I JES3S1 TCP/IP connection with IP Addr: ALPS4197.POK.IBM.COM Port: 175 Successful
SY1 IEESYSAS IAT9305 NODE NODE4 SIGNED ON NETSERV JES3S1 SOCKET S4
SY1 IEESYSAS IAZ0544I JES3S1 S4 NJE connection with IP Addr: alps4197.pok.ibm.com Port: 175 Successful
```

The following response is received on NODE4:

```
SY1 IEESYSAS IAZ0543I JES3S4 TCP/IP connection with IP Addr: alps4216.pok.ibm.com Port: 1027 successful
SY1 IEESYSAS IAT9305 NODE NODE1 SIGNED ON NETSERV JES3S4 SOCKET @00000001
SY1 IEESYSAS IAZ544I JES3S4 NJE connection with IP Addr: alps4216.pok.ibm.com Port: 1027 successful
```

Starting a TCP/IP/NJE Socket *START,TCP,SOCKET=

Function

Use the *START,TCP,SOCKET= command to start a socket under a Netserv, in order to begin communication with a remote node with TCP/IP protocol.

Syntax

→ ***START** — **,TCP** — **,SOCKET=** — *sockname* →
 ↳ ***S** ↵

Parameters

SOCKET=sockname

Specifies the name of the socket to be started. The socket is defined by the SOCKET initialization statement or the *MODIFY,SOCKET,ADD= command.

Rules

- The socket to be started must specify the NETSERV, NODE, and HOSTNAME parameters. They can be specified on the SOCKET initialization statement or the *MODIFY,SOCKET=sockname command.
- The Netserv must first be started by the *CALL,TCP command.
- The socket must be available on the remote node. If the remote node is JES2 or JES3, the socket becomes available when the Netserv starts and connects to TCP/IP.
- The specified socket must not already be active.

- During *START ,TCP ,SOCKET= command processing, the NETSERV address space waits for a response from the remote NJE node. This can delay all NJE activity in that NETSERV address space until the connection is made or the timeout period expires.

Results

- The nodes that communicate over the socket are signed on to each other and can now be used to send jobs, output, messages, and commands.
- If this node was requested to sign on because another node issued a *S,TCP,SOCKET=, or equivalent, command, a server socket named @nnnnnnn (the first unique name starting with @0000001) is automatically added and marked active. This socket can be specified on any subsequent socket command in addition to sockets that were defined on this node by SOCKET statements.

Examples

The following command is issued on NODE1:

```
*s tcp socket=s4
```

The following response is received on NODE1:

```
SY1 IEESYSAS IAZ0543I JES3S1 TCP/IP connection with IP Addr: ALPS4197.POK.IBM.COM Port: 175 Initiated
SY1 IEESYSAS IAZ0543I JES3S1 TCP/IP connection with IP Addr: ALPS4197.POK.IBM.COM Port: 175 Successful
SY1 IEESYSAS IAT9305 NODE NODE4 SIGNED ON NETSERV JES3S1 SOCKET S4
SY1 IEESYSAS IAZ0544I JES3S1 S4 NJE connection with IP Addr: alps4197.pok.ibm.com Port: 175 Successful
```

The following response is received on NODE4:

```
SY1 IEESYSAS IAZ0543I JES3S4 TCP/IP connection with IP Addr: alps4216.pok.ibm.com Port: 1027 successful
SY1 IEESYSAS IAT9305 NODE NODE1 SIGNED ON NETSERV JES3S4 SOCKET @0000001
SY1 IEESYSAS IAZ544I JES3S4 NJE connection with IP Addr: alps4216.pok.ibm.com Port: 1027 successful
```

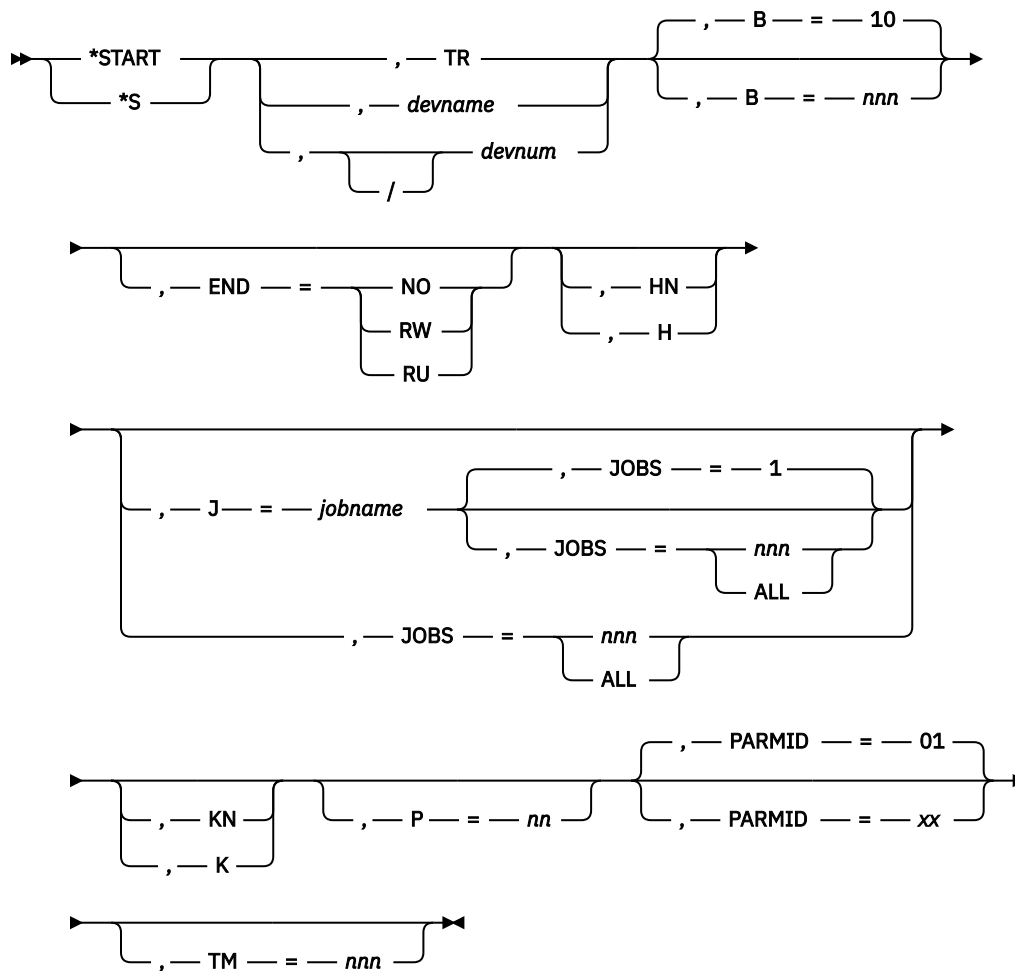
Starting a tape reader *START,TR

Function

Use the *START,TR command to restart a hot tape reader when it has reached an EOF condition or to alter or add to the parameters specified when the last *CALL, *START, or *CANCEL command was entered.

If an optional parameter is not specified, the value for that parameter defaults to the value specified on the *CALL command or on the most recent *START or *CANCEL command that modified that parameter.

Syntax



Parameters

TR or devname or devnum or /devnum

Specifies the source from which the job input is to be read. If more than one reader of the same type is currently active, use devname, devnum or /devnum to ensure that the proper reader is affected. The device number can be a 3-digit or 4-digit hexadecimal number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```

ddd
dddd
/ddd
/dddd
  
```

where ddd and dddd represent the device numbers.

B=nnn | 10

Specifies the size of the job batches created by this reader; that is, the number of jobs to be read from the tape and placed on the spool device. The maximum is 255. Valid values are 1-255.

END=RW or RU or NO

Specifies the action to be taken by the tape unit when it reaches the EOF: RW (rewind), RU (rewind and unload), or NO (no tape repositioning). JES3 does not support multiple reel input.

H or HN

Specifies whether the JES3 control-card processor is to be put in hold state (H) or be allowed to process the jobs after the batch has been created (HN).

J=jobname

Specifies the name of the job with which input is to begin.

JOBS=nnn or ALL

Specifies the number of jobs to be read from the input device and placed onto spool devices. ALL permits reading until a physical EOF is reached. When you specify J=jobname in addition to this parameter, the default for JOBS= is 1. The maximum is 254; the default is ALL.

K or KN

Specifies whether the designated reader is to be kept active (K) when an EOF condition occurs or is to be allowed to purge (KN). Reading is resumed when you enter an *START command.

P=nn

Specifies the scheduling priority of the control-card processor job (without affecting the priorities of the individual jobs being read in). Valid values are 00 to 15.

TM=nnn

Specifies the number of files the tape is to be spaced forward before reading begins. For unlabeled tapes, this is the number of tape marks bypassed; for labeled tapes, this is the number of logical files, each including its header and trailer labels. Valid values are 0 to 127.

PARMID=xx

Specifies the set of C/I options to be used for all jobs read in through this reader. PARMID=01 is the default.

Example

Read the next ten jobs from the hot tape reader:

```
*S,TR,B=10
```

VARYL dynamic support program *START,VARYL

Function

The VARYL dynamic support program (DSP) unassigns an IBM 3480 or higher tape drive from JES3 local mains. You must invoke the VARYL DSP from each local main to which the IBM 3480 or higher is assigned before using the device for a stand-alone dump.

Using the *START command unassigns the IBM 3480 tape drive from the local main.

Syntax

```

  ┌─── *START ───┐ ┌── VARYL ──┐ ┌── devnum ──┐ ┌── OFFLINE ──┐
  │               │ │           │ │           │ │           │ │
  └─── *S ───┘   └── / ──┘   └── , ──┘   └── OFF ──┘

```

Starting a writer *START,devname

Function

JES3 selects work for an output writer from the output queue based on one or more of the writer-selection characteristics. These characteristics and their order of importance are established during JES3 initialization by the WS= parameter on the OUTSERV initialization statement.

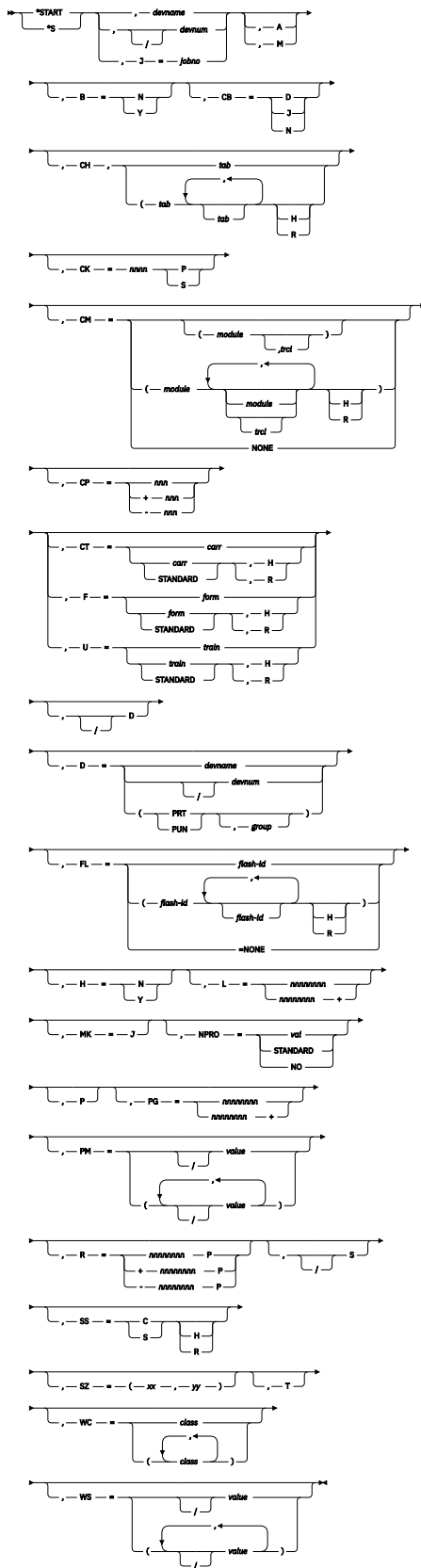
Use the *START,devname command to begin writer activity.

For a 3800 printer, the display includes the number of pages remaining in the printer's buffer for all data sets that had been sent to the printer at the time you entered the command. This count can include data sets from more than one job. If the copy of the data set that is visible at the transfer station fills the entire buffer and more records remain to be sent to the printer, the display includes a second count: the approximate number of records remaining to be sent.

***START,devname**

The currently active data set on a 3800 printer is the data set that is visible at the transfer station. For a 3800 printer running in FSS mode, the approximate number of pages and records remaining for the data set visible at the transfer station are displayed.

Syntax



Parameters

devname or devnum or /devnum or J=jobno

Specifies the output device or the job number assigned to the writer DSP by the *CALL,WTR command or by JES3 in the case of a dynamic writer. Always use the JNAME of a device when selecting devices that are not directly connected to a channel. The device number can be a 3-digit or 4-digit hexadecimal number. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd
dddd
/ddd
/dddd
```

where ddd and dddd represent the device numbers.

A

Specifies automatic mode. Output continues to be processed by this writer if work is available. Automatic mode is the default for all printers, whether operating in FSS mode or non-FSS mode.

M

Specifies manual mode. An *START,devname command is required for the writer to continue (see [“Starting or restarting a writer” on page 115](#)).

Use the A or M parameter on the *START,devname or *RESTART,devname command to respecify the action to be taken at the beginning of each output data set. Manual mode allows you to stop the writer at the beginning of each data set. Automatic mode allows continuous output processing if work is selected for the writer. Be careful when using manual mode on buffered devices such as the 3800 printer (see [“Calling a hot writer *CALL,WTR” on page 184](#)).

B=Y or N

Specifies that a burst record (job trailer) is to be placed behind each job (Y) or that the burst record option is to be suspended (N).

CB

Specifies whether clear printer processing is to be performed after each data set (D), at the end of each job (J), only when required by the 3800 writer (N).

CH

Specifies the reassigned character arrangement tables. No more than four table names can be specified. H specifies that this character arrangement table is to be used until you change it. R specifies JES3 may request a different table.

CK=nnn P or S

Specifies the number of pages (P) that will be written or the number of seconds (S) that elapse before a checkpoint is taken. This parameter is valid only for a printer running in FSS mode.

Use the CK= keyword on the *START,devname or *RESTART,devname command to specify the number of pages that JES3 writes or the number of seconds that elapse before a checkpoint is taken. You can issue this command while the writer is active. The current activity continues and the new checkpoint interval takes effect when the writer selects its next work.

CM=

Specifies the reassigned copy modification module. *trc.* specifies the table reference character (0,1,2,3). H specifies that only the designated copy modification module is to be used on this device until you change this status. R specifies that JES3 may request that a different copy modification module be placed on this device. NONE specifies no copy modification module is designated for this writer.

CP=nnn or +nnn or -nnn

Specifies the new copy count by the actual number (1 to 255) of copies required (nnn), as an increase over the current copy count by the specified amount (+nnn), or as a decrease over the current amount by the specified amount (-nnn).

Use the CP= keyword on the *START,devname or *RESTART,devname command to alter the number of copies of the currently active data set to be produced and to commence writer activity.

For a 3800 printer; if copy grouping is in effect for the currently active data set, a replacement, increase or decrease in the copy count affects the current copy group or groups.

CT=(STANDARD,H or ,R) or (carr,H or ,R)

Specifies the carriage tape (FCB) name. Specify STANDARD for the installation-defined standard carriage tape. H specifies that only the designated carriage tape is to be used until you change this status. R specifies that JES3 can request that a different carriage tape be placed on this device.

F=(STANDARD,H or ,R) or (form,H or ,R)

Specifies the form name. Specify STANDARD for the installation-defined standard form. H specifies that only designated forms are to be used until you change this status. R specifies that JES3 can request that different forms be placed on this device.

U=(STANDARD,H or ,R) or (train,H or ,R)

Specifies the band or train (UCS) name. Specify STANDARD for the installation-defined standard band or train. H specifies that only the designated band or train is to be used until you change this status. R specifies that JES3 can request that a different band or train be placed on this device.

Use the F=, CT=, and U= keywords on the *START,devname or *RESTART, devname command to respecify the forms, carriage tape (FCB), band or train (UCS), or all currently assigned to the output device while starting or restarting writer activity. This assignment can be made to either allow, or not allow, JES3 to request that your new assignments be made when output is in the queue with different writer-selection requirements.

/D

Specifies that the diagnostic mode is to be reset (turned off).

D

Specifies that the diagnostic mode is to be turned on. This causes message IAT7006 to be issued for each data set selected for processing. In addition, message IAT7060 is issued when *CALL, *START, *RESTART, and *CANCEL commands are processed. The diagnostic mode remains active until it is reset.

Use the D parameter on the *START,devname or *RESTART,devname command to turn on the diagnostic mode and to start writer activity. See *z/OS JES3 Diagnosis* for a description of the data displayed during diagnostic mode.

D=devname or devnum or /devnum or (PRT or PUN,group)

Specifies the name or number (by 3-digit or 4-digit hexadecimal number) of an output device. Always use the JNAME of a device when selecting devices that are not directly connected to a channel. A slash (/) preceding the device number is not required. Device numbers can be specified by any of the following formats:

```
ddd
dddd
/ddd
/dddd
```

where ddd and dddd represent the device numbers.

H=Y or N

Specifies that a job header record is to precede the job and a data set header record is to be placed in front of each output data set (Y) or that the header record option is to be suspended (N).

L=nnnnnnnn+

Specifies the maximum number of lines (nnnnnnnn) a unit of work can have to be selected for output processing on this writer: only units of work at or below this maximum count are selected. Specifying nnnnnnn+ indicates the minimum number of lines a unit of work can have: only units of work at or above this minimum count are selected for this writer.

NPRO=

Specifies the non-process-run-out interval. STANDARD specifies the initialization-defined value.

P

Specifies that the approximate number of pages or records remaining to be written for the current copy of the data set be displayed.

***START,devname**

Use the P parameter on the *START,devname or *RESTART,devname command to determine the current page or record position of a data set being processed by a writer.

PG=nnnnnnnn or nnnnnnnn+

Specifies the maximum number of pages (nnnnnnnn) a unit of work can have to be selected for output processing on this writer: only units of work at or below this maximum count are selected. Specifying (nnnnnnnn+) indicates the minimum number of pages a unit of work can have: only units of work at or above this minimum count are selected for this writer.

PM=/value1,/value2.... or /value

Use the PM= command to add or delete process mode values for a writer. The values specified on the DEVICE initialization statement remain in effect in addition to the new values you include on this command. You can specify up to eight process modes per writer and 255 process modes complex-wide. Use the slash to delete an existing process mode from a writer.

A writer can select only the data sets that match the process mode value specified in a user's // OUTPUT JCL statement.

Some devices are capable of operating in both FSS or compatibility mode such as the IBM 3800-3 printer. The PM= parameter affects only the process mode(s) associated with the device mode that is active at the time you enter this command.

Use the *I,D,D= command to display the process modes currently in effect for a device.

Use the PM= keyword on the *START,devname or *RESTART,devname command to specify the process modes that this writer can select. This command can be issued while the writer is active. The current activity continues and the process mode criteria take effect when the writer selects its next work. Note that regardless of the process modes specified, they can be ignored if the WS= keyword does not specify PM.

R=nnnnnnnn or +nnnnnnnnP

Specifies that the data set be spaced forward nnnnnnnn number of lines or nnnnnnnn number of pages (P) from the start of the current copy of the current data set. For a page-oriented device, you must specify the number in terms of pages (P).

Use the R= keyword on the *START,devname or *RESTART,devname command to space the current copy of the current data set forward a prescribed number of lines or pages, and to restart writer activity.

If the data set is spaced forward past the end of the current copy, message IAT7006 is issued and the output writer is stopped. Spacing by page on a non-3800 printer, when pages are not defined in the data set, also causes message IAT7006 to be issued and the output writer to be stopped.

MK=

C - Specifies that you want copy marks printed on a data set copy basis. For multiple copies of a data set, JES3 increases the thickness of the copy mark after each copy.

J - Specifies that you want copy marks printed on a job basis.

N - Specifies that you do not want to use copy marks. Although JES3 continues to print a vertical line on the edges of output from IBM 3800 printers, the thickness does not vary.

S

Specifies that printing is to be in single-space mode for the remainder of the data set.

/S

Specifies that printing is to be resumed under any previous program control that was specified.

Use the S or /S parameter on the *START,devname command to print in single-space mode for the remainder of the data set, or to resume printing with American National Standard control characters or machine carriage control for the remainder of the data set (if program control was specified for the data set).

SS=

Specifies the stacker option. C specifies continuous fanfold. S specifies printed output is to be burst into separate sheets. H specifies that only the designated stacker option is to be used on this device

until you change the status. R specifies that JES3 may request that a different stacker option be used on this device.

SZ=(xx,yy)

Specifies the number of pages (xx) in a SNA RJP chain and the number of lines (yy) per page. If yy is zero, then a page is defined as skip to channel one for printers or skip to a new card for punches.

Note: If you specify SZ=, xx must be specified and cannot be zero. This parameter overrides the CHNSIZE parameter on the DEVICE initialization statement.

T

Specifies that the writer will be ended automatically when this request completes.

WC=class

Specifies one or more output classes (A to Z, 0 to 9) that can be processed by this writer. The WC= parameter allows a maximum of 36 SYSOUT classes.

Use the WC= keyword on the *START,devname or *RESTART,devname command to reassign the output classes that the writer can process. This command can be issued while the writer is active. Output classes of subsequent activity are affected. Note that regardless of the classes specified, they can be ignored if output class (CL) is not specified in the WS= keyword.

WS=(VALUE,/VAL....)

Specifies one or more writer-selection characteristics that JES3 uses when selecting output for this device. /value specifies that the characteristic prefixed with a slash (/) is not to be used as writer-selection criterion. To specify characteristics, enter the corresponding letter:

- P - data set output priority
- D - destination
- T - specific device type
- F - forms required
- C - carriage tape (FCB) required
- U - UCS or characters required
- CL - output class
- L - line and page limits
- FL - flash-id (forms overlay)
- CM - copy modification module
- SS - stacker option
- PM - data set process mode

If you selected more than one characteristic, JES3 determines the importance of the characteristic by the order in which you specified them. The ones you do not select remain in the order established at initialization, or in earlier updates, and follow those that you enter in order of importance.

When Priority is Specified:

If you specify priority (P), JES3 selects the job with the highest priority that meets other selection criteria. Otherwise, JES3 selects the first job on the output service queue that meets the selection criteria.

Once a job is selected, the units of work for that job are always selected based on priority.

When Characteristics are Omitted:

For any omitted characteristics, JES3 uses the device characteristic, regardless of the data set specification. The following examples illustrate how device characteristics are used:

1. If the writer selection criteria does not include 'F' (forms), the device specifies forms='RED', and the output data set calls for forms='BLUE', JES3 prints the data set using the 'RED' forms.
2. If the writer selection criteria does not include 'U' (UCS/CHARS), the device specifies CHARS=GT20, and the data set specifies CHARS=GT15, JES3 prints the output using CHARS=GT20.

***SWITCH,from**

Note: Specifying the not (/) indication has the same result as omitting a writer-selection characteristic: JES3 uses the device characteristic for the selection criteria you remove. Following are examples of specifying a /value:

*START,PR1,WS=(F,C,U,/P)

This command starts a writer for the printer named PR1 and reassigns selection based on forms, carriage tape, and UCS, regardless of output priority. All other characteristics remaining in their existing order.

*START,PR1,WS=(F,C,/D)

The /D negates destination checking, so a job may print at an incorrect destination.

Note: After respecifying writer-selection characteristics, you should issue the `*R,devname,RSCD` command to force the writer through a scheduling pass with the new criteria. At this point the writer will find work to process or terminate. In either case, the new characteristics will remain in effect until you respecify new ones.

When you specify manual mode for a 3800 printer, there is typically a delay between the time the *START command is issued and the time the data set appears on the paper. These delays can significantly increase the overall time required to process jobs that call for 3800 printer output. You can also specify manual mode for 3800 printers running in FSS mode. Consult your system programmer before using this option.

Rules

- When limits are a selection criterion, a unit of work will be selected when both line *and* page parameters have been satisfied, except when both criteria have been defined as minimums. In the latter case, only one of the two criteria must be met for data set selection on the writer.
- Use the L= and PG= and SZ= keywords on the *START,devname or *RESTART,devname command to reassign the number of output lines or pages allowed per unit of work. Units of work outside the limit are not scheduled to this writer. Only subsequent units of work are scheduled accordingly.

Results

- Specifying line or page limit criteria overrides the LINELIM= and PAGELIM= values on the DEVICE initialization statement, or values defined on previous writer commands.
- If both headers and trailers are in effect for an FSS-supported device, operator commands effecting the user's output will cause either message IAT7066 or IAT7067 to be printed on that output.

Switching messages to another console *SWITCH,from

Function

Use the ***SWITCH** command to switch console message from one RJP console to another or to stop and start console message traffic to a specific RJP console.

Syntax

➤ *SWITCH — , — from — — rjp — — con — , — to — — rjp — — con ➤
 — . — NONE —

Parameters

from-rjp-con

Specifies the name of the RJP console whose message traffic will be affected.

to-rjp-con

Specifies the name of the RJP console to which output messages destined for the from-rjp-con will be routed. If you want to start message queuing to this console make the from-rjp-con and the to-rjp-con the same.

NONE

Indicates that the specified console is marked as switched. All console buffers queued to that console are removed and all queuing to it stops. The messages originally sent to the console will still appear in the log.

Rules

- The *SWITCH command must be issued from an MCS console. It is rejected when entered from an RJP console.
- JES3 only allows RJP consoles to be specified on the *SWITCH command as a value for the from-con or to-con variable.
- JES3 will not automatically switch an RJP console in the event of an error.
- The *SWITCH command provides a single level switch capacity. For example, messages switched from console A to console B cannot be forwarded to a console C by switching console B to console C. Console A must switch back to itself before console B can be switched.
- To restore a console to normal operation (that is, to route to a console only those messages that should normally appear at that console), place the name of the console to be restored in both parameters of the *SWITCH command.
- Messages queued to the *from-rjp-con* at the time of the switch will be displayed on the *to-rjp-con* with a switch character (#) immediately following the time stamp. Subsequent messages queued to the *to-rjp-con* as a result of the switch will not include this switch character.
- Messages spooled to an RJP console remain spooled to that RJP console. The messages cannot be switched or freed from that console.

Examples

Switch messages from console RTM01 to console RTM02:

```
*SWITCH,RTM01,RTM02
```

Restore console RMT01 (previously switched by the first example) to normal operation:

```
*SWITCH,RTM01, RTM01
```

Remove all console buffers queued to RTM01 and stop queuing to RTM01:

```
*SWITCH,RTM01,NONE
```

Restore console RTM01 to normal operations:

```
*SWITCH,RTM01,RTM01
```

Controlling GTF for JES3 *TRACE

Function

Use the following procedure to invoke GTF to trace message routing in your installation:

*TRACE

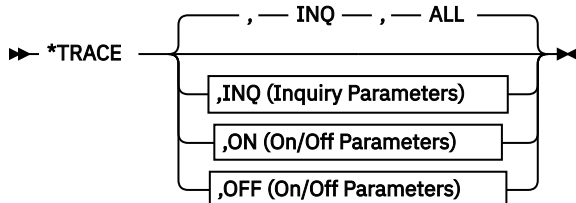
1. Enter the MVS Start GTF command and specify at least the following keywords:

- Identifier that specifies the GTF session at your installation.
- MEMBER=mbrname.

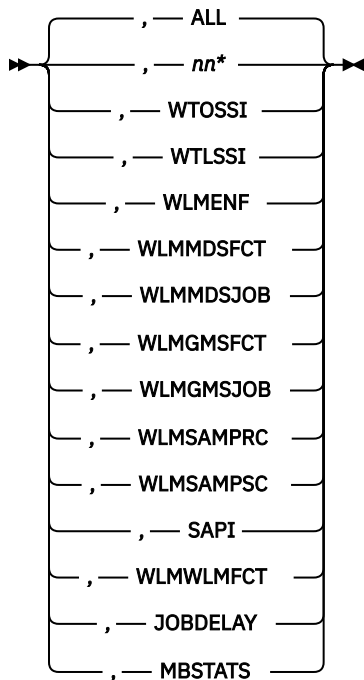
```
S GTF.identifier, MEMBER=mbrname
```

2. Reply U to message AHL125A so that GTF uses the options specified in the specified SYS1.PARMLIB member (mbrname as specified on the MEMBER= parameter). If you do not respond with U, you must specify new GTF options.
3. Issue the *Trace command for JES3 using the following format and parameters.

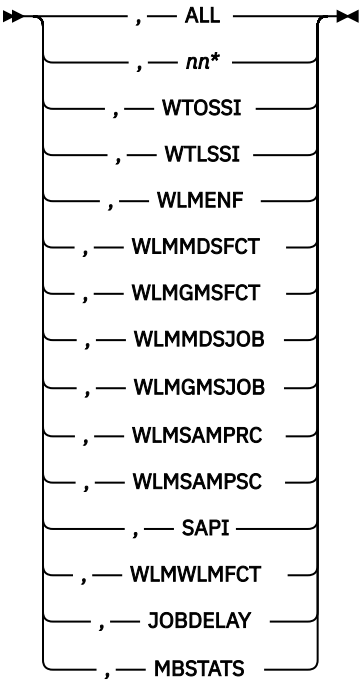
Syntax



Inquiry Parameters



On/Off Parameters



Parameters

INQ

Displays the GTF trace record identifiers you are currently tracing. INQ,ALL is the default. If you specify INQ without an option, the command will default to INQ,ALL. You can specify a generic trace name using *nn**. See [z/OS JES3 Diagnosis](#) for more information about the trace records.

ON

Enables the tracing of all JES3 GTF trace records, or you can trace a subset of JES3 GTF records by specifying a trace name with the ON parameter. You can also specify a generic trace name using *nn**.

OFF

Disables the tracing of all JES3 GTF trace records, or you can disable the tracing of a subset of JES3 GTF trace records by specifying a trace name with the OFF parameter. You can also specify a generic trace name using *nn**.

Example

Enable tracing for messages issued by the WTO macro (SVC 35):

```
*TRACE,ON,WTOSSI

IAT7136 JES3 GTF TRACE STATUS
TRACE ID TRACE NAME STATUS TRACE ID TRACE NAME STATUS
-----
      1 WTOSSI ACTIVE      2 WTOSSI ACTIVE
      3 WTOSSI ACTIVE      8 WTOSSI ACTIVE
      9 WTOSSI ACTIVE     11 WTOSSI ACTIVE
     12 WTOSSI ACTIVE
```

Note: Unless the console where you issued the *TRACE command receives messages that are issued with a routing code of ten or its destination class equivalent, you will not receive message IAT7136 at the console where you issued the command.

The *VARY command is equivalent to the *MODIFY,V command; either can be used to accomplish the same functions.

[illegible]

¹ You cannot code RECOVER with ALL. You must code *main* one or more times with RECOVER.

Parameters

devname

Specifies the name of a device, as defined in a DEVICE initialization statement.

lname

Specifies a networking or an RJP line name, as defined in the NJERMT or RJPLINE initialization statement.

lsender

Specifies the name of a logical sender used by JES3 networking. The names are defined by JES3 during initialization processing.

OFFLINE or OFF

Specifies that the designated device, main, or line be made unavailable for JES3 scheduling, RJP usage, or JES3 networking usage.

ONLINE or ON

Specifies that the designated device, main, or line be returned to availability for JES3 scheduling, RJP usage, or JES3 networking usage.

devnum (where devnum is optionally preceded by a slash (/))

Specifies the number of a device (by 3-digit or 4-digit hexadecimal number). Device numbers can be specified by any of the following formats:

```
ddd
dddd
/ddd
/dddd
ddX
dddX
/ddX
/dddX
```

where ddd and dddd represent the device numbers. If the last digit in ddd or dddd is specified as X, all devices in the range dd0-ddF or ddd0-dddF are varied.

RECOVER

Use the RECOVER parameter to logically move a permanently resident volume to a new address. The RECOVER parameter forces vary online and volume verification processing for a single direct access set-up device. The device that you specify on this command is treated as if it has a device characteristic of removable. Other devices that have the same volume serial as the specified device are also treated as removable devices.

RESTRICTIONS:

- The issuing console must have level 15 authority.
- You must specify a main name.
- You cannot move non-DASD volumes.
- You cannot move JES3 spool volumes.
- You cannot move a DASD volume that has a mount pending.
- You cannot move a DASD volume that is involved in an active DDR swap.



CAUTION:

Use this parameter only with the approval of your system programmer. Improper use can damage your JES3 system.

main

Specifies the name of a global or local main, as defined in the MAINPROC initialization statement. Although the designated main can be placed offline or online to all JES3 scheduling, jobs currently running are not affected.

(main1,main1....)

Specifies the name of a global or local main(s) as defined by the MAINPROC initialization statement. The requested setup devices and virtual units are to be varied online or offline to the main(s) specified

***VARY**

in this parameter. This parameter is required if the online status of a real setup device or execution device is being changed. Entering the command without specifying the main1 parameter changes the online/offline status of a JES3 device.

ALL

Specifies all mains in the complex. The specified devices are varied online or offline to every main to which the devices are defined.

devnum–devnum (where each devnum is optionally preceded by a slash (/))

Specifies a range of device numbers (by 3-digit or 4-digit hexadecimal number). Device numbers can be specified by any of the following formats:

```
ddd  
dddd  
/ddd  
/dddd
```

where ddd and dddd represent the device numbers.

Examples

Vary tape drives 180 and 181 offline on SY1:

```
*V,(180,181),OFFLINE,SY1  
      or  
*F,V,(180,181),OFFLINE,SY1
```

Vary local SY1 offline:

```
*V,SY1,OFF  
      or  
*F,V,SY1,OFF
```

Accessibility

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United States

Accessibility features

Accessibility features help users who have physical disabilities such as restricted mobility or limited vision use software products successfully. The accessibility features in z/OS can help users do the following tasks:

- Run assistive technology such as screen readers and screen magnifier software.
- Operate specific or equivalent features by using the keyboard.
- Customize display attributes such as color, contrast, and font size.

Consult assistive technologies

Assistive technology products such as screen readers function with the user interfaces found in z/OS. Consult the product information for the specific assistive technology product that is used to access z/OS interfaces.

Keyboard navigation of the user interface

You can access z/OS user interfaces with TSO/E or ISPF. The following information describes how to use TSO/E and ISPF, including the use of keyboard shortcuts and function keys (PF keys). Each guide includes the default settings for the PF keys.

- *z/OS TSO/E Primer*
- *z/OS TSO/E User's Guide*
- *z/OS ISPF User's Guide Vol I*

Dotted decimal syntax diagrams

Syntax diagrams are provided in dotted decimal format for users who access IBM Documentation with a screen reader. In dotted decimal format, each syntax element is written on a separate line. If two or more syntax elements are always present together (or always absent together), they can appear on the same line because they are considered a single compound syntax element.

Each line starts with a dotted decimal number; for example, 3 or 3.1 or 3.1.1. To hear these numbers correctly, make sure that the screen reader is set to read out punctuation. All the syntax elements that have the same dotted decimal number (for example, all the syntax elements that have the number 3.1)

are mutually exclusive alternatives. If you hear the lines 3.1 USERID and 3.1 SYSTEMID, your syntax can include either USERID or SYSTEMID, but not both.

The dotted decimal numbering level denotes the level of nesting. For example, if a syntax element with dotted decimal number 3 is followed by a series of syntax elements with dotted decimal number 3.1, all the syntax elements numbered 3.1 are subordinate to the syntax element numbered 3.

Certain words and symbols are used next to the dotted decimal numbers to add information about the syntax elements. Occasionally, these words and symbols might occur at the beginning of the element itself. For ease of identification, if the word or symbol is a part of the syntax element, it is preceded by the backslash (\) character. The * symbol is placed next to a dotted decimal number to indicate that the syntax element repeats. For example, syntax element *FILE with dotted decimal number 3 is given the format 3 * FILE. Format 3* FILE indicates that syntax element FILE repeats. Format 3* * FILE indicates that syntax element * FILE repeats.

Characters such as commas, which are used to separate a string of syntax elements, are shown in the syntax just before the items they separate. These characters can appear on the same line as each item, or on a separate line with the same dotted decimal number as the relevant items. The line can also show another symbol to provide information about the syntax elements. For example, the lines 5.1*, 5.1 LASTRUN, and 5.1 DELETE mean that if you use more than one of the LASTRUN and DELETE syntax elements, the elements must be separated by a comma. If no separator is given, assume that you use a blank to separate each syntax element.

If a syntax element is preceded by the % symbol, it indicates a reference that is defined elsewhere. The string that follows the % symbol is the name of a syntax fragment rather than a literal. For example, the line 2.1 %OP1 means that you must refer to separate syntax fragment OP1.

The following symbols are used next to the dotted decimal numbers.

? indicates an optional syntax element

The question mark (?) symbol indicates an optional syntax element. A dotted decimal number followed by the question mark symbol (?) indicates that all the syntax elements with a corresponding dotted decimal number, and any subordinate syntax elements, are optional. If there is only one syntax element with a dotted decimal number, the ? symbol is displayed on the same line as the syntax element, (for example 5? NOTIFY). If there is more than one syntax element with a dotted decimal number, the ? symbol is displayed on a line by itself, followed by the syntax elements that are optional. For example, if you hear the lines 5 ?, 5 NOTIFY, and 5 UPDATE, you know that the syntax elements NOTIFY and UPDATE are optional. That is, you can choose one or none of them. The ? symbol is equivalent to a bypass line in a railroad diagram.

! indicates a default syntax element

The exclamation mark (!) symbol indicates a default syntax element. A dotted decimal number followed by the ! symbol and a syntax element indicate that the syntax element is the default option for all syntax elements that share the same dotted decimal number. Only one of the syntax elements that share the dotted decimal number can specify the ! symbol. For example, if you hear the lines 2? FILE, 2.1! (KEEP), and 2.1 (DELETE), you know that (KEEP) is the default option for the FILE keyword. In the example, if you include the FILE keyword, but do not specify an option, the default option KEEP is applied. A default option also applies to the next higher dotted decimal number. In this example, if the FILE keyword is omitted, the default FILE (KEEP) is used. However, if you hear the lines 2? FILE, 2.1, 2.1.1! (KEEP), and 2.1.1 (DELETE), the default option KEEP applies only to the next higher dotted decimal number, 2.1 (which does not have an associated keyword), and does not apply to 2? FILE. Nothing is used if the keyword FILE is omitted.

*** indicates an optional syntax element that is repeatable**

The asterisk or glyph (*) symbol indicates a syntax element that can be repeated zero or more times. A dotted decimal number followed by the * symbol indicates that this syntax element can be used zero or more times; that is, it is optional and can be repeated. For example, if you hear the line 5.1* data area, you know that you can include one data area, more than one data area, or no data area. If you hear the lines 3* , 3 HOST, 3 STATE, you know that you can include HOST, STATE, both together, or nothing.

Notes:

1. If a dotted decimal number has an asterisk (*) next to it and there is only one item with that dotted decimal number, you can repeat that same item more than once.
2. If a dotted decimal number has an asterisk next to it and several items have that dotted decimal number, you can use more than one item from the list, but you cannot use the items more than once each. In the previous example, you can write HOST STATE, but you cannot write HOST HOST.
3. The * symbol is equivalent to a loopback line in a railroad syntax diagram.

+ indicates a syntax element that must be included

The plus (+) symbol indicates a syntax element that must be included at least once. A dotted decimal number followed by the + symbol indicates that the syntax element must be included one or more times. That is, it must be included at least once and can be repeated. For example, if you hear the line 6.1+ data area, you must include at least one data area. If you hear the lines 2+, 2 HOST, and 2 STATE, you know that you must include HOST, STATE, or both. Similar to the * symbol, the + symbol can repeat a particular item if it is the only item with that dotted decimal number. The + symbol, like the * symbol, is equivalent to a loopback line in a railroad syntax diagram.

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Product Number: 5650-ZOS

SA32-1008-50

