

# Preface

## Target group

Since BS2000 Version 11.0 also provides an SDF interface for operator commands, this manual, *Operator Commands (ISP Format)*, will be the last manual to represent operator commands in the ISP format (for V11.0). This manual deals exclusively with the operator commands.

The tasks and functions of operators and the SDF format commands available at the operator terminal to perform these tasks are described in the *System Operator's Guide*.

The appendix of this manual lists the outputs for device management and contains a device type table and a volume type table.

## Changes to the ISP commands since BS2000 V10.0A

### Table of changes

The following table provides an overview of all the changes made to the ISP commands since BS2000 V10.0A:

Page	Command	New	Modified	Dropped
25	ADD-DEVICE-DEPOT		X	
41	ATTACH-DEVICE		X	
53	BCCONN	X		
	BCDISCON			X
	BCLOSE			X
	BCMOFF			X
90	BCOPTION	X		
148	DETACH-DEVICE	X		
169	HELP	X		
177	IMCAT		X	
182	INCLUDE-DEVICE-CONNECTION		X	
	MODIFY-CONSOLE-PARAMETER			X
198	MODIFY-MOUNT-PARAMETER		X	
214	MSGCONTROL	X		
220	RDIR		X	
228	REMOVE-DEVICE-CONNECTION		X	
243	SDVC		X	
	SHOW-CONSOLE-PARAMETER			X
290	SHOW-DEVICE-CONFIGURATION		X	

continued→

Page	Command	New	Modified	Dropped
294	SHOW-DEVICE-DEPOT	X		
296	SHOW-DEVICE-STATUS		X	
302	SHOW-DISK-STATUS		X	
306	SHOW-MESSAGE-SUPPRESSION		X	
312	SHOW-RESOURCE-ALLOCATION		X	
314	SHOW-RESOURCE-REQUESTS		X	

## Notational conventions

### Metasyntax used in command descriptions

Certain characters and conventions are used to indicate the format of the commands; these characters and conventions are referred to as the 'metasyntax' and are explained in the table below.

Representation	Explanation	Example
UPPERCASE	Uppercase letters indicate constants which have to be entered by the user exactly as shown.	/STATUS MSG,ALL ..... Example of entry: /STATUS MSG,ALL
lowercase	Lowercase letters indicate variables which the user has to replace with current values, i.e. their contents may vary from case to case.	/CANCEL tsn ..... Examples of entries: /CANCEL 1234 /CANCEL 34AB /CANCEL 3PPR etc.
{ }	Braces are used to enclose alternatives, i.e. one of the options included within the braces must be selected.	{CANCEL} {CAN } ..... Example of entry: CANCEL or CAN
	A vertical line is used to separate alternative entries.	NONE   password ..... Example of entry: NONE or e.g. C'XXX'

Representation	Explanation	Example
[ ]	<p>Square brackets enclose optional entries, i.e. entries which may be omitted. If a comma appears within these brackets for optional entries, it need only be included if the particular optional entry is used; it may be omitted if this is the first operand in the command. If, however, it appears outside the brackets, it must be included even if there are no optional entries in the command. (Round brackets (parentheses) must be entered.)</p>	<p>password[,REL=YES]                      .....                      Possible entries:                      C'XXXX' or                      C'XXXX',REL=YES</p>
—	<p>Underscoring highlights the default value. This is the value that the system uses if the user does not make an entry.</p>	<p><math>\left\{ \begin{array}{c} \underline{\text{ISAM}} \\ \text{SAM} \end{array} \right\}</math>                      .....                      Possible entries:                      SAM or ISAM                      or nothing (=ISAM)</p>
...	<p>Periods indicate repetition. They signal that the preceding element may be entered any number of times in succession.</p>	<p>(vsn,...)                      .....                      Examples of entries:                      (PVT003) or                      (PVT003,PVT456) or                      (XY00AB,XY0012,XY0005)                      etc.</p>
-	<p>This character stands for a blank (X'40').</p>	<p>STD_                      Entry required:                      'STD '</p>

## Wildcards

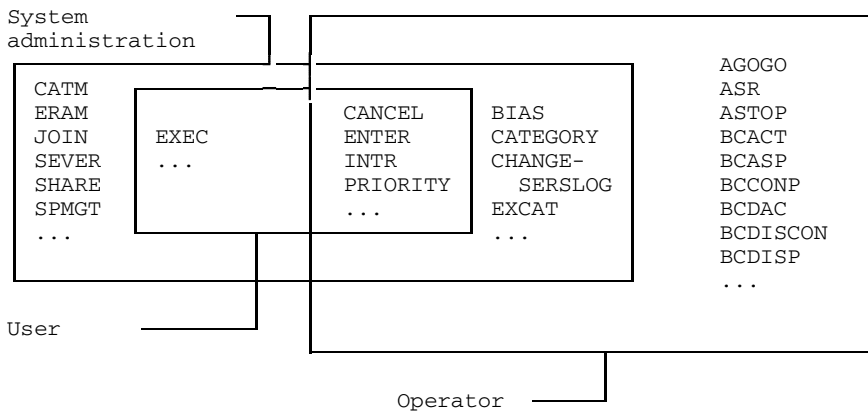
Wildcards	Meaning
*	Replaces any character string, including a blank character string.
/	Replaces any one character.
<wildcard1,...>	Replaces all character strings matching one of the specified wildcards.
<wildcard1:wildcard2>	<p>Replaces a character string satisfying the following conditions:</p> <ul style="list-style-type: none"> <li>- it is at least as long as the shortest wildcard character string;</li> <li>- it is no longer than the longest wildcard character string;</li> <li>- it lies between "wildcard1" and "wildcard2" in alphabetical order; numbers come after letters in this order;</li> <li>- "wildcard1" may be a blank character string; a blank string precedes all other strings in alphabetical order.</li> </ul>
<wildcard1:wildcard2,...>	Wildcards of the type "wildcard1:wildcard2" may also be given in list form. The above-mentioned rules apply to each such range. The system performs a logical OR operation, i.e. the wildcard list replaces all character strings to which one of the range entries applies. The length attributes apply in pairs, i.e. they are valid for one "wildcard1:wildcard2" entry, not for the entire list.
-wildcard	Replaces all character strings which do not match the specified wildcard. The minus sign may appear only at the start of the wildcard string.

# Operator commands

This chapter describes the operator commands and their formats, arranged in alphabetical order. The operator can enter these commands via the operator terminal. The abbreviated form, if any, is also given. All commands entered by the operator must start with a slash.

The BCAM commands for the operator (BCACT through BCXAF, DADM and DCSTART commands) are also described in the *Network Management in BS2000* manual.

The diagram below takes a few commands as examples to illustrate how authorization to issue user, operator and system administrator commands to the operating system is distributed:



Certain commands can be given both by the operator (via the operator terminal) and by the system administration (via a terminal under the TSOS ID). Thus there is no rigid division of functions between system administration and operator. There is a certain latitude in the organization of the computer center, but close cooperation between system administration and operator is always required.

## Command return code

SDF provides users with information on the analysis of command input and execution in the form of a command return code. This command return code is comparable to return codes at program level and enables users to take appropriate action in response to certain error situations.

Command return codes consist of three parts:

- the maincode, a message code that can be specified with the HELP-MSG-INFORMATION command in order to obtain detailed information.
- subcode1, which assigns the error situation that has occurred to an error class indicating how serious the error is. subcode1 has a *decimal* value. The following five error classes are defined under BS2000:
  - Class A: no error  
The value is zero. Processing can proceed normally.
  - Class B: syntax error  
The value is a number between 1 and 31. The command was entered with incorrect syntax. The command should be entered again only after the syntax error has been corrected.
  - Class C: internal error (system error)  
The value is 32. Input should not be repeated until the internal error has been corrected.
  - Class D: errors that cannot be assigned to any other error class.  
The value is a number between 64 and 127. Evaluate the maincode to determine how to proceed.
  - Class E: the command cannot be executed at the present time.  
The value is a number between 128 and 130. The command input can be repeated without modification once the wait time has elapsed; the length of the wait time is categorized as short, long or indefinite.  
128 indicates a short wait time, considered practical in interactive mode.  
129 indicates a long wait time, considered practical in batch mode.  
130 indicates an indefinite wait time and uncertainty as to whether the error will be recovered at all.



- subcode2, which can contain additional information (value is not zero). subcode2 has a *decimal* value. In the event of an error (subcode1 is not zero), there are no rules regarding the use of subcode2. The value of subcode2 may be zero, 1 or 2 if no error has occurred. If subcode2 has a value of 1, it indicates that the requested function had already been performed before the command was issued. If subcode2 has a value of 2, it indicates an exception situation and should be classified as a warning.

Command return codes can be evaluated only with SDF-P resources in *S procedures* and dialog blocks (see the *SDF-P* manual). For information on evaluation, see the descriptions of the IF-BLOCK-ERROR command and the builtin functions MAINCODE, SUBCODE1 and SUBCODE2 in the *User Commands (SDF Format)* manual.

*Note regarding the tables of command return codes:*

The description of each command contains a table listing all the command return codes that may be returned for that command. The tables contain columns for subcode2, subcode1, maincode and their meaning, in that order. If the value of subcode2 is zero, i.e. if no additional information is provided, subcode2 is not listed in the table.

Command return codes that may be returned in relation to the execution of a BS2000 command are part of the description of that command.

SDF returns the command return codes listed below when

- SDF detects an error before the command is executed (e.g. syntax error),
- the command cannot be executed,
- the command, i.e. the execution module itself, returns no command return code. In this case, the description of the command contains no specific command return codes.

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	CMD0002	Command execution with warning 4)
2	0	CMD0093	Termination of procedure in test mode 1)
2	0	CMD0201	End of file 1)
2	0	CMD0214	End of program 3)
	1	CMD0211	SDF transfer area too small
	1	CMD0202	Syntax error 5) 6)
	1	CMD0205	Spin-off 1) 2)
	1	CMD2201	Error in parameter(s)
	2	CMD0200	Command not presently available
	2	CMD2202	Subsystem not defined
	3	CMD2203	Error in installation
	32	CMD0221	Internal SDF error
	32	CMD2009	Error on output to variables
	64	CMD0216	Lack of required authorization
	65	CMD2241	Subsystem not loaded
	66	CMD2242	Subsystem not connected
	128	CMD2280	Subsystem not available for a short time
	129	CMD2281	Subsystem not available for a long time
	130	CMD2282	Subsystem not available for an indefinite time

- 1) The command return codes CMD0093, CMD0201 and CMD0205 are not possible for a command issued by means of the CMD macro.
- 2) The command return code CMD0205 is returned if spin-off was triggered, for example when the program terminated abnormally (TERMJ) but the application program itself did not set any command return code.
- 3) The CMD macro can no longer return command return code CMD0214 to the calling program since the program has already been terminated through execution of the CMD macro.
- 4) If a command executes without error but still triggers spin-off, SDF returns command return code CMD0002. This provides compatible support for the previous spin-off behavior of commands, and thus also for error handling in procedures. In S procedures where ERROR-MECHANISM=BY-RETURNCODE (see the SET- or MODIFY-PROCEDURE-OPTIONS command), error handling is not initiated since the associated subcode1 has the value zero.
- 5) If a command executes with an error but fails to trigger spin-off, SDF returns command return code CMD0202, which indicates syntactic and semantic errors that are detected during command execution. This provides compatible support for the previous spin-off behavior of commands, and thus also for error handling in procedures. In S procedures where ERROR-MECHANISM=BY-RETURNCODE (see the SET- or MODIFY-PROCEDURE-OPTIONS command), error handling is initiated since the associated subcode1 has a value other than zero.

- 6) The command return code CMD0202 is returned by SDF from the execution module whenever syntactic or semantic errors are detected.

*Note*

Within application programs, the macro call CMDRC can be used to set a command return code. This code continues to exist until the next CMDRC macro call is issued. When the program terminates, the current command return code is returned from the program to the caller and triggers error handling in S procedures if subcode1 has a value other than zero and ERROR-MECHANISM=BY-RETURNCODE was defined (see the SET- or MODIFY-PROCEDURE-OPTIONS command).

## Overview of operator commands

The entry under "AC" denotes the authorization code assigned to the command. Explanations of the various authorization codes are provided in the section immediately following the table below.

Command	AC	Function	Page
ADD-DEVICE- DEPOT ADD-DEV-DEP	G	Assigns physical tape devices to a depot	25
AGOGO	E	Continues processing of a halted command file	28
ASR	E	Outputs, assigns and modifies routing codes	29
ASTOP	E	Halts processing of a command file	40
ATTACH-DEVICE ATT	G	Provides one or more hardware units for the system; the system is allowed to use these units for I/O operations	41
BCACT	C	Activates, during operation, predefined applications, application groups, computers, TRANSDATA 8170 Local Cluster Controllers or individual terminals linked to TRANSDATA 8170 Local Cluster Controllers	44
BCAPPL	C	Opens predefined applications and also closes nonpredefined applications	49
BCASP	C	Alters the route from a host computer to another computer	51
BCCONN	C	Clears down connections	53
BCCONP	C	Proposes a connection to an application	55
BCDAC	C	Deactivates individual terminals connected to a host computer via a TRANSDATA 8170 Local Cluster Controller	56
BCDISP	C	Requests information from BCAM	59
BCEND	C	Terminates the data communication system in the host	64
BCGEN	C	Changes the name of an inactive computer	66

continued→

Command	AC	Function	Page
BCIN	C	Includes the RDF definition of a computer in the BCAM data structure for a TRANSDATA 8170 Local Cluster Controller	68
BCMAP	C	Controls the BCAM mapping function	74
BCMOD	C	Modifies the limits specified for DCSTART	82
BCMON	C	Starts cyclic BCAM monitoring	86
BCOPTION	C	Modifies operating options	90
BCOUT	C	Closes all applications in an application group; terminates communication with a computer or with a TRANSDATA 8170 Local Cluster Controller	92
BCSET	C	Sets diagnostic and maintenance parameters for BCAM	96
BCSHOW	C	Requests information from BCAM on hardware components	104
BCSWP	C	In the host computer, switches the line to the working or standby system to the device specified in the command; required only for dual FEP (front-end processor) system	109
BCTIMES	C	Defines the time for monitoring incoming messages and modifies the time for monitoring connection requests or warnings	110
BCXAF	C	Administers the XAF function of BCAM	113
BIAS	R	Defines the size of resident main memory	116
BROADCAST BCST	E	Sends a message entered at the operator terminal to all user terminals	117
CANCEL CAN	P	Terminates execution of a user job	118
CATEGORY CTGY	R	Defines the respective percentages of the total workload of an installation occupied by interactive, batch and transaction mode applications; defines the priority of the individual applications	121
CHANGE-CONSLOG	R	Closes the current logging file and opens a new one	123

continued→

Command	AC	Function	Page
CHANGE-DISK- MOUNT CHA-DISK	D	Modifies the mount status for a private or or public disk	124
CHANGE- SERSLOG CHAN-SE	A	Closes the current SERSLOG file and opens a new one	127
CHANGE-TAPE- MOUNT CHA-TAPE	T	Modifies the mount status of a magnetic tape	128
CHECK-DISK- MOUNT CHECK-DISK	D	Checks the mount status of a disk	130
CHECK-TAPE- MOUNT CHECK-TAPE	T	Checks the mount status of a magnetic tape	132
CONSOLE CON	*	Reassigns standby operator terminals	134
DADM	C	Transfers commands to the TDADM task which supports the administration of the TRANSDATA 960 system; at system generation these must be defined as special commands	137
DCSTART	C	Starts the TRANSDATA data communication system	138
DETACH-DEVICE DET	G	Detaches one or more hardware units from the system	148
ENTER-JOB E	P	Enters a cataloged file into the job queue as a batch job	152
EXCAT	R	Exports a previously imported pubset	163
GETJV	J	Outputs the value of a job variable at the operator terminal	167
HELP	E	Displays a help text	169
HOLD-JOB HOLD-J	J	Places a user job in the wait state	171
HOLD-JOB- CLASS HOLD-J-C	J	Places a job class in the wait state	172

continued→

Command	AC	Function	Page
HOLD-JOB- STREAM HOLD-J-S	J	Places a job stream in the wait state	173
HOLD-PCS	R	Places PCS in the wait state	174
HOLD-SS	R	Places a subsystem in the wait state	175
IMCAT	R	Imports a pubset	177
INCLUDE- DEVICE- CONNECTION INC	G	Attaches virtual connections between hardware units (CHN,CTL,DVC) to the system; the system is permitted to use these connections	182
INTR	P	Branches to the operator communication routine defined in the program by the STXIT macro	184
MESSAGE MES	E	Sends a message entered at the operator terminal to a specific user terminal or a specific user job	185
MODIFY-CONSOLE- OPTIONS	E	Modifies the screen format for SVP operator terminals of the types 3809, 3886-2 and 3886-3	187
MODIFY-JOB MOD-J	J	Modifies the characteristics of a user job	191
MODIFY-JOB- CLASS MOD-J-C	J	Modifies the limits and weights of job classes	195
MODIFY-JOB- STREAM MOD-J-S	J	Modifies the run priority and stream-specific parameters for job streams	197
MODIFY-MOUNT- PARAMETER MOD-MOUNT-PAR	G	Sets parameters for mounting and dismounting magnetic tapes and disks	198
MODIFY-PCS- OPTION	R	Modifies the activated PCS option	202
MODIFY- RESOURCE- COLLECTION MOD-RES	J	Controls the secure queue and collector task selection	204
MRSEND	R	Terminates MSCF communication	206

continued→

Command	AC	Function	Page
MRSMOD	R	Reconfigures the MSCF network after MSCF communication has started	207
MRSSTA	R	Interrogates the MSCF network	210
MRSSTART	R	Generates, initializes and activates MSCF communication	212
MSGCONTROL	E	Defines message files	214
NCHOLD	J	Halts a batch task temporarily without canceling its resource assignments	216
NCREL	J	Cancels the wait state of a batch task placed in the wait state by NCHOLD	217
PRIORITY PRI	P	Modifies job or task priorities	218
RDIR	N	Redirects output from a batch terminal to a printer	220
RELEASE-JOB REL-J	J	Cancels the wait state of a user job	224
RELEASE-JOB- CLASS REL-J-C	J	Cancels the wait state of a job class	225
RELEASE-JOB- STREAM REL-J-S	J	Cancels the wait state of a job stream	226
REMARK	@	Inserts comments in RUN files	227
REMOVE-DEVICE -CONNECTION REM	G	Detaches virtual connections between hardware units (CHN,CTL,DVC) from the system	228
REMOVE-DEVICE -DEPOT REM-DEV-DEP	G	Cancels the assignment between depot and physical tape device	232
RESET-MESSAGE -SUPPRESSION	E	Cancels message suppression	233
RESUME-PCS	R	Cancels the wait state for PCS	235
RESUME-SS	R	Releases a subsystem held with HOLD-SS	236

continued→



Command	AC	Function	Page
RFD RF	I	Assigns a floppy disk device to a spoolin job or releases it from a spoolin job	238
RUN	E	Starts execution of a command file	242
SDVC SD	S	Specifies the type of device used for spoolout	243
SET-DISK- DEFAULTS SET-DISK-DEF	D	Specifies system-global default values for disk parameters (for all private disks in DMS for which no default values were set with SET-DISK-PAR)	268
SET-DISK- PARAMETER SET-DISK	D	Sets volume-specific parameters for the allocation of private disks	270
SET-DSSM- OPTIONS	R	Activates or deactivates the logging function for DSSM	276
SETJV	J	Allocates a specific value to a user job variable	278
SET-MESSAGE- SUPPRESSION	E	Suppresses output of messages to an operator terminal	281
SET-RESTART- OPTIONS SET-R-O	R	Activates or deactivates automatic restart	283
SHOW-CJC- STATUS	E	Outputs information on CJC functions	284
SHOW-CONSLOG	E	Provides information on the logging status and on the name of the logging file	288
SHOW-CONSOLE- OPTIONS	E	Outputs information on the values set with MODIFY-CONSOLE-OPTIONS for controlling operator terminal output	289
SHOW-DEVICE- CONFIGURATION SH-DEV-CONF	E	Outputs information on the system configuration and the availability status of hardware units	290
SHOW-DEVICE- -DEPOT	E	Outputs information on the assignment of tape devices to depots	294
SHOW-DEVICE- STATUS SH-DEV	E	Outputs information on the allocation and monitoring of volumes which are physically online	296

continued→

Command	AC	Function	Page
SHOW-DISK- DEFAULTS SH-DISK-DEF	E	Outputs information on the default values set for the disk parameters with SET-DISK-DEF	301
SHOW-DISK- STATUS SH-DISK	E	Outputs information on the allocation, disk parameters and volume monitoring of the specified disks	302
SHOW-MESSAGE- SUPPRESSION	E	Requests information on message suppression	306
SHOW-MOUNT- PARAMETER SH-MOUNT-PAR	E	Outputs information on the default values set for the mounting and dismounting of volumes with MODIFY-MOUNT-PARAMETER	308
SHOW-PCS-OPTION	R	Outputs information on the PCS parameter settings and monitoring values	309
SHOW-PUBSET- ATTRIBUTES SH-P-A	E	Requests information on the attributes of a pubset	310
SHOW-RESOURCE -ALLOCATION SH-RES	E	Outputs information on the allocations and open operator actions for a specified job	312
SHOW-RESOURCE -REQUESTS SH-RES-REQ	E	Outputs information on the secure queue and the collector task	314
SHOW-RESTART- OPTIONS	R	Shows whether the automatic restart function is activated and which parameters are set	316
SHOW-SERSLOG SHOW-SE	A	Outputs information on the error logging status and on the name of the SERSLOG file	317
SHOW-SS-STATUS	R	Shows which tasks have a connection to a subsystem and specifies the subsystem status	318
SHOW-TAPE- STATUS SH-TAPE	E	Outputs information on magnetic tapes, their monitoring and on the devices on which they are mounted	320
SHOW-TRACE- STATUS	R	Outputs information about system traces	323
SHUTDOWN	R	Initiates system termination	328
SQUC SQ	O	Causes the current spoolout to be repeated or reset	331
STAM	R	Outputs information on a pubset	335

continued→

Command	AC	Function	Page
START-JOB- STREAM START-J-S	J	Starts a job stream and thereby, implicitly, a job scheduler	346
START-PCS	R	Activates PCS	347
START- RESOURCE- COLLECTION START-RES	J	Starts selection of a collector task	348
START-SERSLOG STAR-SE	A	Starts software error logging and opens a SERSLOG file	349
START-SS	R	Makes a subsystem available	350
START-TRACE	R	Activates a trace	353
STATUS STA	E	Outputs information on the system and existing jobs	356
STOP-JOB- STREAM STOP-J-S	J	Terminates a job stream	372
STOP-PCS	R	Deactivates PCS	373
STOP-RESOURCE -COLLECTION STOP-RES	J	Terminates selection of a collector task	374
STOP-SERSLOG STOP-SE	A	Terminates software error logging and closes the SERSLOG file	375
STOP-SS	R	Terminates a subsystem	376
STOP-TRACE	R	Deactivates a trace	378
TURN T	E	Requests an information dump from the current CONSLOG file	380
UNLOAD-TAPE	T	Unloads a magnetic tape or magnetic tape cartridge	384
UNLOCK-DEVICE UNLOCK-DEV	G	Cancels a hardware reservation	385
UNLOCK-DISK	D	Deletes from the system allocation log of a disk all catalog identifiers no longer working with the disk	387

Table 1 Summary information on the functions of the operator commands

Notes on the individual functional areas:

#### A System management

comprises activation/deactivation of the software error logging function and changing the SERSLOG file.

In addition, every assigned operator terminal receives messages which provide information on the status of accounting files, or which indicate that users have requested more space on public volumes than they are permitted.

#### C Data Communication System operation

includes the following activities, for example:

- starting the Data Communication System
- loading and starting communication computers
- activating lines
- administering a teleprocessing network.

Every assigned operator terminal also receives messages which indicate errors in the Data Communication System.

#### D Disk storage operation

includes the mounting/swapping of volumes (disk packs). Every assigned operator terminal also receives messages which indicate inconsistencies in the volume serial numbers, or other errors.

#### E General functions and capabilities

includes no precisely defined activities; the associated commands should rather be available to every operator terminal.

##### *Note*

Under the standard allocation of operator commands, the ASR command is assigned to this functional area. This means that, depending on the system parameters ASRSW1 and ASRSW2, *each* operator terminal has the option of independently assigning to itself any other functional area. If this is not desired, the ASR command should be allocated to a different functional area at system generation, possibly a private functional area (see also "Freely selectable" and the *System Installation* manual, CMD statement). The ASR command can then be specifically assigned to individual operator terminals.

**G Device management**

includes the following activities, for example:

- detaching a device from the system
- attaching a device to the system
- transferring a volume (cartridge, tape) from a defective device to an intact device

Every assigned operator terminal also receives messages which indicate inconsistencies.

**H Hardware maintenance**

Every assigned operator terminal receives messages which indicate errors in the CPU and which are evaluated by the maintenance personnel.

**I Operation of floppy disk devices**

includes the following activities, for example:

- inserting/changing floppy disks
- starting spoolin jobs

Every assigned operator terminal also receives messages which indicate errors associated with floppy disk devices.

**J Job control and job monitoring**

Every assigned operator terminal receives messages which indicate the start of or any peculiarities or errors in the processing of jobs, so that the operator can monitor job execution.

**K OPR command management**

Authorized user programs can define operator commands and delete the commands they have defined. They can also assume and relinquish responsibility for processing existing operator commands.

**N Remote spool monitoring**

### O Operation of printers

includes the following activities, for example:

- initiating a sample printout
- mounting an overlay negative in the laser printer

Every assigned operator terminal also receives messages which indicate errors associated with printers.

### P Task control

### R Supervision and control of system behavior

includes the following activities, for example:

- determining priorities for individual jobs
- determining the ratio of interactive versus batch jobs
- starting ENTER jobs
- terminating user jobs
- ending the session

Every assigned operator terminal also receives messages which indicate system errors or hardware faults.

### S Control of spoolout operation

includes the following activities, for example:

- assigning output devices to spoolout jobs

Every assigned operator terminal also receives messages which indicate inconsistencies.

### T Operation of magnetic tape units

includes the mounting/changing of volumes.

Every assigned operator terminal also receives messages which indicate errors.

### U File management

## V Suppression of messages during startup

causes messages to be suppressed during system startup and should be reassigned after startup in order to prevent the suppression of messages that are important for system operation.

## W,X,Y,Z

Freely selectable

These functional areas are freely available to the user for specific purposes (e.g. for special commands).

## 9

Reserved for VM2000 management.

## B,F,L,M,Q,0,1,2,3,4,5,6,7,8,9,#

Reserved for future system expansion

These functional areas have not yet been defined but may be defined in future versions.

## Authorization codes with a special meaning:

### \* Main operator terminal

This functional area is also reserved for the current main operator terminal. It includes the following activities, for example:

- assigning standby operator terminals
- switching over to standby terminals

Resetting switchovers to standby operator terminals is only possible from the main operator terminal.

The authorization code '\*' (asterisk) is also of significance in the following situations:

- During system generation, in the CMD statement.

The command to which the CMD statement refers can be entered only from the main operator terminal in this case.

- As the destination specified in a message. In this case the message is also (or only) directed to the main operator terminal.

- @ Messages which do not require a response are stored only in the CONSLOG file. Messages requiring a response (queries) are handled normally. Commands with this "authorization lock" are unprotected; any operator is authorized to enter them, so in practice there is no sense in assigning authorization code @ to operator terminals. It does, however, make sense to assign messages and commands to this area.
  
- \$ A command protected by '\$' is locked throughout the system. Although the authorization code '\$' may be assigned to any operator terminals or authorized user programs, it does not authorize them to issue a command protected by \$. '\$' has no special meaning as a message distribution code (routing code).

For further information on this subject, see the *System Operator's Guide*.



## ADD-DEVICE-DEPOT

### Define assignment of tape device to depot

The ADD-DEVICE-DEPOT command is used to specify the assignment of physical tape devices (using their mnemonics) to "depots" for NDM. These assignments are to be interpreted for subsequent allocation requests from the system in such a way that whenever certain VSN's are requested, a defined number of devices is given priority consideration for a mount request.

This command cannot be processed successfully unless the following conditions are satisfied:

- there is no allocation to the type of device specified in the command
- there are no allocations to a device type in an existing depot

If one of these conditions is not satisfied, message `NKG006` is issued to the operator.

This command is only effective if the MAREN subsystem is loaded. The system administration must ensure that the depots defined in the MAREN catalog match the depots specified in this command. If this is the case, BS2000 device management in conjunction with MAREN can arrive at a suitable selection of devices for a tape mounting request to be issued to the operator or to the ROBAR robot system.

The definition of depots permits the reservation of devices from a specific device set, e.g. during robot operation (see also the user command `SECURE-RES DEVICE=(...,LOCATION=...)`).

Devices of the same device type assigned to exactly the same depots are administered in "device pools" within NDM. Devices that are not assigned to any depot are classified as "RESTPOOL devices".

For information on how devices are selected according to their depots in NDM, see the "Device management" chapter in the *System Operator's Guide*.

Operation	Operands
{ ADD-DEVICE-DEPOT } { ADD-DEV-DEP }	UNIT={ mn (mn1, ... [, mn10]) }  , LOCATION=dep [ (SCRATCH-TAPES={ *UNCHANGED Y[ES] N[O] })  , ROUTING-CODE={ *UNCHANGED code }

**UNIT**

=mn

Mnemonic names (2 alphanumeric characters) of one or more devices to be assigned to a depot. A maximum of 10 devices can be specified per command.

**LOCATION**

=dep

Name of the depot (1 - 8 characters in length).  
Up to 128 devices can be assigned to a depot.

*Note*

As of Version 11.0, the depot (LOCATION) for scratch tape requests is determined by means of MAREN. If MAREN is not available, an attempt is made to select a tape device from the RESTPOOL (devices for which no depot has been defined).

**ROUTING-CODE** Controls message output.

=\*UNCHANGED

The preset value for the routing code remains unchanged.

=code

A defined routing code is specified. This enables the messages necessary for the devices assigned to this depot to be output to a specific console. The preset routing code is **T**.

**Command return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning</b>
	0	CMD0001	No error
	1	NKV0001	Syntax error
	64	NKV0004	Command partially processed
	64	NKV0005	Command not processed for an object
	64	NKV0006	Command not processed
	130	NKVT002	Tape monitor unavailable

## AGOGO

### Continue command file

The AGOGO command is used for processing a command file that has been placed in the wait state. (Depending on the conditions for continuation, several AGOGO commands may be required; see the ASTOP command.)

This command is intended for use in authorized user programs which need to be synchronized with the processing of a command file.

The operator should use this command only in the following situation:

If an authorized user program has been started from a command file and an error has occurred during its execution, the operator can use an AGOGO command (or several, if required) to shorten the wait time which would otherwise elapse before processing is continued. The wait time is 3 minutes, unless a different value has been set using the class 2 system parameter NBRUNWT.

Operation	Operands
AGOGO	

The way this command works is described in the "Command files for the operator" section of the *System Administrator's Guide*.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	EXC0916	No command file in ASTOP state
2	0	NBR1008	Command acknowledged. Another AGOGO command expected

## ASR

### Assign routing code

The ASR command enables the operator to carry out the following functions:

- Assign routing codes to operator terminals or authorized user programs with generated authorization names.

Messages with these routing codes are sent to the appropriate operator terminals or authorized user programs. Commands with these routing codes may be issued from the appropriate operator terminals or authorized user programs.

- Assign filter levels (suppression levels) to operator terminals or authorized user programs.

Messages with these filter levels are not sent to the appropriate operator terminals or authorized user programs.

- Change the routing codes and/or filter levels assigned to operator terminals or authorized user programs.
- Output information on the assignment of routing codes and filter levels to operator terminals or authorized user programs.
- Declare an operator subterminal as a main operator terminal.
- Cause or suppress the output of information messages at operator terminals or authorized user programs.
- Output the setting of the system parameter MSGDEST, i.e. where messages for which no destination is specified are to be sent.
- Suppress output of messages for a specific TSN.

Authorized user programs with dynamic authorization names can use ASR only to query their own set of routing codes.

Operation	Operands
ASR	$  \left[ \left[ \left[ \left[ \begin{array}{l} \text{CONSOLE} \\ \text{CS} \end{array} \right] = \left[ \begin{array}{l} \text{up} \\ (\text{up1}, \dots) \\ \text{mn} \\ (\text{mn1}, \dots) \\ \text{ALL} \end{array} \right] \right], \left[ \begin{array}{l} \text{FILTER} \\ \text{FI} \end{array} \right] = \left[ \begin{array}{l} \text{f} \\ (\text{f1}, \dots) \\ (, \text{f}) \\ (\text{f},) \\ \text{ALL} \\ \text{ANY} \end{array} \right] \right] \right] \\  \left[ \begin{array}{l} \text{HELP} \\ \text{H} \end{array} \right] \left[ , \left[ \begin{array}{l} \text{CODE} \\ \text{CD} \end{array} \right] = \left[ \begin{array}{l} \text{rc} \\ (\text{rc1}, \dots) \\ \text{ALL} \end{array} \right] \right], \left[ \begin{array}{l} \text{FILTER} \\ \text{FI} \end{array} \right] = \left[ \begin{array}{l} \text{f} \\ (\text{f1}, \dots) \\ (, \text{f}) \\ (\text{f},) \\ \text{ALL} \\ \text{ANY} \end{array} \right] \right] \right] \\  \left[ \begin{array}{l} \text{COMMAND} \\ \text{CM} \end{array} \right] = \left[ \begin{array}{l} \text{cmn} \\ (\text{cmn1}, \dots) \\ \text{ALL} \end{array} \right] \right] \\  \left[ \begin{array}{l} \text{CODE} \\ \text{CD} \end{array} \right] = \left[ \begin{array}{l} \text{rc} \\ (\text{rc1}, \dots) \\ \text{ALL} \end{array} \right] \left[ , \left[ \begin{array}{l} \text{FILTER} \\ \text{FI} \end{array} \right] = \left[ \begin{array}{l} \text{f} \\ (\text{f1}, \dots) \\ (, \text{f}) \\ (\text{f},) \\ \text{ALL} \end{array} \right] \right] \right] \\  \left[ \begin{array}{l} \text{ADD} \\ \text{A} \end{array} \right] \left[ , \left[ \begin{array}{l} \text{CONSOLE} \\ \text{CS} \end{array} \right] = \left[ \begin{array}{l} \text{up} \\ (\text{up1}, \dots) \\ \text{mn} \\ (\text{mn1}, \dots) \\ \text{ALL} \end{array} \right] \right] \left[ , \left[ \begin{array}{l} \text{CODE} \\ \text{CD} \end{array} \right] = \left[ \begin{array}{l} \text{rc} \\ (\text{rc1}, \dots) \\ \text{ALL} \end{array} \right] \right] \right] \\  \left[ , \left[ \begin{array}{l} \text{FILTER} \\ \text{FI} \end{array} \right] = \left[ \begin{array}{l} \text{f} \\ (\text{f1}, \dots) \\ (, \text{f}) \\ (\text{f},) \\ \text{ALL} \end{array} \right] \right] \right] \right]  $

continued →

Operation	Operands
ASR (cont.)	$  \left[ \left\{ \begin{array}{l} \text{DELETE} \\ \text{D} \end{array} \right\}, \left\{ \begin{array}{l} \text{CONSOLE} \\ \text{CS} \end{array} \right\} = \left\{ \begin{array}{l} \text{up} \\ (\text{up}1, \dots) \\ \text{mn} \\ (\text{mn}1, \dots) \\ \text{ALL} \end{array} \right\}, \left\{ \begin{array}{l} \text{CODE} \\ \text{CD} \end{array} \right\} = \left\{ \begin{array}{l} \text{rc} \\ (\text{rc}1, \dots) \\ \text{ALL} \end{array} \right\} \right] \left[ \begin{array}{l} \left\{ \begin{array}{l} \text{FILTER} \\ \text{FI} \end{array} \right\} = \left\{ \begin{array}{l} \text{f} \\ (\text{f}1, \dots) \\ (, \text{f}) \\ (\text{f},) \\ \text{ALL} \end{array} \right\} \\ \left[ \left\{ \begin{array}{l} \text{FILTER} \\ \text{FI} \end{array} \right\} = \left\{ \begin{array}{l} \text{f} \\ (\text{f}1, \dots) \\ (, \text{f}) \\ (\text{f},) \\ \text{ALL} \end{array} \right\} \right] \end{array} \right]  $ $  \left[ \left\{ \begin{array}{l} \text{PRIMARY} \\ \text{P} \end{array} \right\}, \left\{ \begin{array}{l} \text{CONSOLE} \\ \text{CS} \end{array} \right\} = \left\{ \begin{array}{l} \text{up} \\ (\text{up}1, \dots) \\ \text{mn} \\ (\text{mn}1, \dots) \\ \text{ALL} \end{array} \right\}, \left\{ \begin{array}{l} \text{CODE} \\ \text{CD} \end{array} \right\} = \left\{ \begin{array}{l} \text{rc} \\ (\text{rc}1, \dots) \\ \text{ALL} \end{array} \right\} \right]  $ $  \left\{ \begin{array}{l} \text{MAIN} \\ \text{M} \end{array} \right\}  $ $  \left\{ \begin{array}{l} \text{INF} \\ \text{I} \end{array} \right\}  $ $  \left\{ \begin{array}{l} \text{NOINF} \\ \text{N} \end{array} \right\}  $ $  \left\{ \begin{array}{l} \text{DESTINATION} \\ \text{DEST} \end{array} \right\}  $ $  \left\{ \begin{array}{l} \text{SUPPRESS} \\ \text{S} \end{array} \right\}, \text{tsn}  $

- HELP Gives information on the assignment of routing codes to operator terminals or authorized user programs and assigned filter levels.
- without operand Gives information on the authorization name of the authorized user program or on the mnemonic name of the operator terminal from which the ASR command was issued.

## CONSOLE

=up

=(up1,...)

Outputs the following information for the user programs 'up' ('up' is the 4-character authorization name of a user program):

- CODE=... Shows the routing codes assigned
- INOP No connection with  $\S$ CONSOLE
- NOINF Receipt of information messages is suppressed
- PROCESSOR=..., Name of the processor from which the connection was set up
- STATION=..., Name of the station of the authorized user program from which the connection was set up

=mn

=(mn1,...)

Outputs the following information for the operator terminals 'mn' ('mn' is the mnemonic device name of an operator terminal):

- CODE=... Shows the routing codes assigned
- INOP Operator terminals 'mn' not operable
- NOINF Receipt of information messages is suppressed
- SWITCHED OFF An operator terminal has been switched over to the standby operator terminal (see the CONSOLE command).

mn is the mnemonic device name of an operator terminal.

=ALL

Information as above is output for all operator terminals and all authorized user programs.

*Note*

Routing codes which are temporarily assigned to a standby operator terminal because of a main operator terminal failure are also output.

## CONSOLE=...,FILTER=...

Lists all routing codes assigned to the operator terminal 'mn' or the authorized user program 'up' to which the filter level 'f' is assigned.

The following can be specified for FILTER:

- f = single filter level
- (f1,...) = several filter levels
- (,f) = filter levels 1,2,...f
- (f,) = filter levels f,f+1,...4
- ALL = all filter levels
- ANY = any filter level



**CODE****=rc****=(rc1,...)**

Lists the operator terminals and authorized user programs to which the routing codes 'rc' are assigned.

**=ALL**

Lists information on all routing codes defined in the system.

*Note*

The routing codes which are temporarily assigned to a standby operator terminal because of a main operator terminal failure are not output.

**CODE=...,FILTER=...**

Lists all operator terminals/authorized user programs to which the routing codes 'rc' are assigned and for which the filter levels 'f' are set.

**COMMAND****=cmn****=(cmn1,...)**

The routing codes of the commands entered for 'cmn' are listed.

**=ALL**

All operator commands defined in the system are listed together with the associated routing codes.

**ADD**

Assigns a set of routing codes to operator terminals or authorized user programs or sets filter levels for allocated routing codes. This parameter may be used only in the CODE=...,FILTER=... form by authorized user programs with dynamic authorization names or with reference to these.

**CODE****=rc****=(rc1,...)**

The routing codes 'rc' are assigned to the operator terminal or authorized user program from which the ASR command was issued. The ASR command cannot be used to change the routing code set for authorized user programs with dynamic authorization names.

**=ALL**

All routing codes defined in the system are assigned to the operator terminal or authorized user program from which the ASR command was issued. The ASR command cannot be used to change the routing code set for authorized user programs with dynamic authorization names.

CODE=...,FILTER=...

The filter levels 'f' are set for the routing codes 'rc' at the operator terminal or authorized user program from which the ASR command was issued.

CONSOLE

=up

=(up1,...)

For the main operator terminal only:

The main operator terminal assigns itself all routing codes assigned to the user programs with the generated authorization names 'up'.

=mn

=(mn1,...)

The main operator terminal assigns itself all routing codes assigned to the operator terminals 'mn'.

=ALL

The main operator terminal assigns itself all routing codes assigned to other operator terminals or user programs with generated authorization names.

*Note*

The routing code assignment for the operator subterminals and user programs remains intact. The routing codes previously assigned to the main operator terminal are also retained.

See also note 6 below.

CONSOLE=...,CODE=...

For the main operator terminal only:

The main operator terminal assigns the routing codes 'rc' (specified in the CODE operand) to the operator terminals 'mn' or the user programs with generated authorization names 'up' that are specified in the CONSOLE operand.

See also note 6 below.

CONSOLE=...,FILTER=...

For the main operator terminal only:

The filter levels 'f' are set for all routing codes assigned to the operator terminal 'mn' or the authorized user program with generated authorization name 'up'. The setting is valid only for 'mn' or 'up'.

See also note 6 below.

CONSOLE=...,CODE=...,FILTER=...

For main operator terminal only:

The filter levels 'f' are set for the routing codes 'rc' at the operator terminals 'mn' or authorized user programs with generated authorization names 'up'.

See also note 6 below.

- DELETE** Cancels the assignment of routing codes to operator terminals or authorized user programs and the filter levels set. This parameter may be used only in the `CODE=...,FILTER=...` form by authorized user programs with dynamic authorization names or with reference to these.
- CODE**  
`=rc`  
`=(rc1,...)` The assignment of the routing codes 'rc' to the operator terminal or authorized user program from which the ASR command was issued is canceled. The ASR command cannot be used to change the routing code set for authorized user programs with dynamic authorization names.
- `=ALL` The assignment of all routing codes to the operator terminal or authorized user program from which the ASR command was issued is canceled. The ASR command cannot be used to change the routing code set for authorized user programs with dynamic authorization names.
- `CODE=...,FILTER=...` The filter levels 'f' of the routing codes 'rc' are canceled for the operator terminal or authorized user program from which the ASR command was issued. The assignment of the routing codes 'rc' remains unchanged.
- `CONSOLE=...,CODE=...`  
For main operator terminal only:  
The main operator terminal cancels the assignment of the routing codes specified in the `CODE` operand to the operator terminals or authorized user programs with generated authorization names specified in the `CONSOLE` operand.  
See also note 6 below.
- `CONSOLE=...CODE=...,FILTER=...`  
For main operator terminal only:  
The main operator terminal resets the filter levels 'f' for the routing codes 'rc' at the operator terminals 'mn' or the authorized user programs with generated authorization names 'up'. Assignment of the routing codes 'rc' remains unchanged.  
See also note 6 below.

PRIMARY	<p>Resets the assignment of routing codes and filter levels to the state which existed at system startup.</p> <p>The 'PRIMARY' operand may neither be entered by authorized user programs with dynamic authorization names, nor be used in relation to them.</p>
without operand	<p>The assignment of all routing codes and filter levels to the operator terminal or authorized user program which issued the command is reset to the state which existed at system startup.</p>
CODE	
=rc	
=(rc1,...)	<p>For the main operator terminal only: The main operator terminal resets the assignment of the routing codes 'rc' and the allocated filter levels to the state which existed at system startup.</p>
=ALL	<p>The main operator terminal resets the assignment of all routing codes and filter levels defined in the system to the state which existed at system startup. See also note 6 below.</p>
CONSOLE	
=up	
=(up1,...)	<p>For the main operator terminal only: The main operator terminal resets the assignment of all routing codes and filter levels to the user programs with generated authorization names 'up' to the state which existed at system startup.</p>
=mn	
=(mn1,...)	<p>The main operator terminal resets the assignment of all routing codes and filter levels to the operator terminals 'mn' to the state which existed at system startup.</p>
=ALL	<p>The main operator terminal resets the assignment of all routing codes and filter levels defined in the system to the state which existed at system startup. See also note 6 below.</p>

- MAIN** The operator terminal issuing this command wishes to become the main operator terminal.  
On the main operator terminal the following message appears:
- ```
NBR0820 ALLOW mn TO BECOME THE MAIN CONSOLE?
```
- where 'mn' is the operator terminal which issued the command.  
If the response is Y or YES, 'mn' becomes the main operator terminal. Otherwise, the following message is displayed on operator terminal 'mn':
- ```
NBR0821 ASR COMMAND REJECTED BY THE MAIN CONSOLE
```
- Note*
- If the main operator terminal becomes inoperable, its attributes are automatically transferred to the standby operator terminal. The standby terminals are assigned at system generation time; this assignment can be changed by means of the CONSOLE command. The following message is output via the routing code:
- ```
EXC0655 (&00) BECOMES MAINCONSOLE.
```
- The MAIN parameter must not be issued either by an authorized user program or by TELESERVICE.
- INF** The operator terminal issuing this message is ready to receive messages distributed via routing code.
- NOINF** Messages distributed via routing code (except questions) are suppressed at the operator terminal at which this command was given. However, suppressed messages are entered in the logging file.  
Messages starting with a question mark (?) are always output and require a response.
- DESTINATION** Outputs the setting of the system parameter MSGDEST.  
The class 2 system parameter MSGDEST is defined at system generation and specifies where messages for which no destination is specified are to be sent (the default value is the routing code \*).
- SUPPRESS** Pending messages from the specified TSN are suppressed at the operator terminal at which this command is issued. This command cannot be issued for a different operator terminal or by authorized user applications.

## Command return codes

| (SC2) | SC1 | Maincode | Meaning                                                                                                            |
|-------|-----|----------|--------------------------------------------------------------------------------------------------------------------|
|       | 0   | CMD0001  | No error                                                                                                           |
| 1     | 0   | NBR0823  | Terminal is already main operator terminal                                                                         |
| 2     | 0   | NBR1031  | Command only partially executed                                                                                    |
|       | 1   | CMD0202  | Syntax error                                                                                                       |
|       | 64  | EXC0053  | Operands valid for main operator terminal only                                                                     |
|       | 64  | NBR0822  | MAIN operand valid for physical operator terminals only                                                            |
|       | 64  | NBR0722  | SUPPRESS operand valid for physical operator terminals only                                                        |
|       | 64  | NBR1030  | Routing codes may not be modified either by or for authorized user programs with dynamic authorization names       |
|       | 64  | NBR1032  | Filter levels for authorized user programs with dynamic authorization names may only be modified by those programs |
|       | 128 | EXC0056  | Processing of previous ASR MAIN not yet complete                                                                   |
|       | 130 | EXC0054  | Space request error                                                                                                |
|       | 130 | EXC0057  | System bottleneck; ASR terminated abnormally                                                                       |

## Notes

1. The following maximum values may be specified in the various operands of an ASR command:

- 12 routing codes in the operand CODE=(rc1,...)
- 24 operator terminals in the operand CONSOLE=(mn1,...)
- 38 authorized user programs in the operand CONSOLE=(up1,...)
- 8 commands in the operand COMMAND=(cmn1,...)
- 4 filter levels in the operand FILTER=(f1,...)

2. If a keyword operand contains a mnemonic device name of an operator terminal, an authorization name of a user program or a command name which is not defined in the system, one of the following messages appears:

```
CONSOLE 'up' NOT FOUND
COMMAND 'cmn' NOT SUPPORTED.
```

3. If the ASR command contains a number of entries which are not defined in the system, a separate message is output for each invalid entry, for example: CONSOLE=(K1,B3) is not defined in the system, CODE=(X,Y,Z) and CONSOLE=(XY,KL) are defined. The command is therefore given as follows:

```
ASR A,CD=(X,Y,Z),CS=(K1,B3,XY,KL)
```

The following messages appear as a response:

```
CONSOLE K1 NOT FOUND  
CONSOLE B3 NOT FOUND  
NBR0740 COMMAND COMPLETED 'ASR'; RESULT: SC2=0,SC1=0,MC=CMD0001)
```

The command is still executed, but only the correct entries in the operands are taken into account. In other words, the command in the example is equivalent to

```
ASR A,CD=(X,Y,Z),CS=(XY,KL)
```

4. If an undefined filter level is specified in the ASR command, the command is rejected.
5. If the HELP operand is specified, the FILTER=ANY parameter may not be combined with the CONSOLE=ALL or CODE=ALL parameters.
6. Whether input from operator subterminals is admissible is specified at system generation with the class 2 system parameter ASRSW1 (see the *System Installation* manual). If input from operator subterminals is permitted, the operands are executed in so far as they affect subterminal status.
7. It is possible to influence the admissibility of an input from an authorized user program with a generated authorization name by means of the class 2 system parameters ASRSW1 and ASRSW2 (see the *System Installation* manual).
8. The ASR command (except for the MAIN function) can always be input from the main operator terminal.

## ASTOP

### Stop command file

This command stops the processing of a command file.

It is only permitted for use with RUN command files; it is not required.

| Operation | Operands |
|-----------|----------|
| ASTOP     | [n]      |

n                    Decimal number with the value:  $1 \leq n \leq 255$ .  
Default value: 1

This operand defines how many AGOGO commands must be received before command file processing is continued.  
If  $n > 255$ ,  $n = 255$  is set.

#### Command return codes

| (SC2) | SC1 | Maincode | Meaning                                         |
|-------|-----|----------|-------------------------------------------------|
|       | 0   | CMD0001  | No error                                        |
| 1     | 0   | CMD0001  | Message has length 0 or consists only of blanks |
| 2     | 0   | NBR0725  | Command could not be executed fully             |
| 1     | 1   | EXC0240  | Syntax error                                    |
|       | 130 | EXC0061  | System error; command processing aborted        |

#### Note

Processing of the command file is always resumed once the wait time set using the system parameter NBRUNWT has elapsed, even if an insufficient number of AGOGO commands has been specified.

For a description of how this command operates, see the "Command files for the operator" section of the *System Administrator's Guide*.



# ATTACH-DEVICE

## Attach hardware units

This command enables the operator to make available one or more hardware units, i.e. to allow the operating system to use these units for I/O operations. The hardware units are attached via SVP.

| Operation                        | Operands                                                                                                                                            |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>{ATTACH-DEVICE} {ATT}</pre> | <pre>UNIT={   [mn   (mn1, . . . mn16)   *unit-class (mn)   *unit-class (mn1, . . . ,mn16)   *CHA [NNEL] -R [ANGE] ( [FROM=] mn1, [TO=] mn2) }</pre> |

**UNIT** Specifies the hardware units to be attached to the system; the units are specified by means of their respective unit class and their mnemonic device name (2 or 4 alphanumeric characters; see note). A list of up to 16 elements may be entered in each case except for CHANNEL-RANGE (see below).

**=mn** Mnemonic device name of the device to be reconfigured.

**=\*unit-class(mn)** Mnemonic device name and unit class of the hardware unit to be reconfigured.

The following unit classes may be specified:

- SIDE
- IOS[IDE]
- CPU
- S[TORAGE]-E[LEMENT]
- CHA[NNEL]
- CON[TROLLER]

**=\*CHANNEL-RANGE(FROM=mn1,TO=mn2)** Specifies a set of channels that are to be reconfigured. mn1 and mn2 are channel path IDs, which must comply with the following rule: mn1 < mn2 and mn2 minus mn1 < 64.

**Command return codes**

| (SC2) | SC1 | Maincode | Meaning                                   |
|-------|-----|----------|-------------------------------------------|
|       | 0   | CMD0001  | No error                                  |
| 1     | 64  | ETMRK..  | Error in command execution                |
| 2     | 64  | ETMRK..  | Command processed partially without error |
| 4     | 64  | NKR0...  | Hardware unit already connected           |
| 12    | 64  | NKR0...  | Internal check negative                   |
| 16    | 64  | NKR0...  | Caller error                              |
| 20    | 64  | NKR0...  | Software error                            |

*Note*

If there is an error in command termination, the maincode contains the message code of the last message output during command processing.

The command return codes with the ETMRK.. maincodes occur only if the hardware unit to be reconfigured is a SIDE, a STORAGE-ELEMENT or a CPU.

**Effect of the ATTACH-DEVICE command:**

1. If the specified hardware units were in the "detached explicitly" state, they are placed in the "attached" state and can be used again.
2. If the specified hardware units were in the "detached implicitly" state, an ATTACH is rejected. The "detached explicitly" state, if applicable, is canceled.
3. If the outward connections associated with the unit were in the "removed implicitly" state, they are placed in the "included" state. These connections can be used again.
4. All outward hardware units in the "detached implicitly" state which have at least one connection to the relevant unit in the "included" state are placed in the "attached" state. These units can be used again.
5. If there are hardware attach actions (SVP actions) for the units to be attached, these actions are initiated. The hardware units addressed explicitly in the command are not placed in the "attached" state unless the hardware reactions resulting from SVP processing receive a positive acknowledgment. If this is not the case, ATTACH is rejected.
6. If an SVP action is required for an outward unit affected by ATTACH (e.g. a channel, if an I/O side is to be attached), and this action receives a negative acknowledgment, this unit is placed in the "detached explicitly" state. In this case, the message NKR0048 <unit-class>=<mn> DETACHED BY SYSTEM is output.

7. If ATTACH is issued for an I/O side, all channels not in the "detached explicitly" state and the I/O side itself are switched online via SVP.
8. If ATTACH is issued for a duplex side, all I/O sides not in the "detached explicitly" state and all associated channels that have not been detached explicitly are switched online via SVP.

**Note**

Two alphanumeric characters may be specified for 'mn' for all devices, connections, etc., with the exception of disk devices connected to H60, H90, H120 or H130 systems. In this case, 'mn' may comprise 4 hexadecimal characters (which must be specified in alphanumeric notation without X").

## BCACT

### Activate cluster controller and terminal

The BCACT command (BCAM activate) activates the following components, which were defined at generation, during the current session:

- applications
- application groups
- local or remote processors or a group of processors
- routes or groups of routes
- 8170 Cluster Controllers
- individual terminals connected to an 8170 Cluster Controller
- LAN nodes
- lines
- hosts

This command is accepted in the SOF (start option file), but not for applications and application groups, since these are activated already with the /DCSTART command.

| Operation | Operands                                                                                                                                                                                                           |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCACT     | <pre> [ name   LINE=name   HOST=name   ROUTE=name   NODE=name   PROCESSOR=name   MSN=name   GROUP=name ]  , [DIAG={   STOP   HERS }]  , [SLOW-POLL={   ON   OFF }]  , [ACT={   ONLY   LOCAL   NODE   ALL }] </pre> |

*continued* →

| Operation | Operands                                            |
|-----------|-----------------------------------------------------|
|           | , [WAIT-TIME={<br>SHORT<br>LONG } ]                 |
|           | , [LINK-DOWN={<br>DISCONNECT<br>KEEP-CONNECTION } ] |
|           | , [CONFIGURATION={<br>UPDATE<br>PRIMARY<br>NO } ]   |

|           |                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | Name of the application, the application group, the processor of the LAN node, the terminal or the cluster controller, as generated in the RDF.                                                                                                                                                                                                                       |
| LINE      | Name of the line                                                                                                                                                                                                                                                                                                                                                      |
| HOST      | Name of the host                                                                                                                                                                                                                                                                                                                                                      |
| ROUTE     | Name of the route                                                                                                                                                                                                                                                                                                                                                     |
| NODE      | Name of the LAN node                                                                                                                                                                                                                                                                                                                                                  |
| PROCESSOR | Name of the processor                                                                                                                                                                                                                                                                                                                                                 |
| MSN       | Name of the 8170 Cluster Controller                                                                                                                                                                                                                                                                                                                                   |
| GROUP     | Name of the application group                                                                                                                                                                                                                                                                                                                                         |
| DIAG      | HERS This operand activates generation of HERS entries for I/O errors. It is only evaluated in the case of 8170 Cluster Controllers.<br>STOP This operand is only evaluated in the case of directly connected processors of the type TRANSDATA 960. If a protocol error occurs, data transfer is halted; the PDN (in the communication processor) may then be dumped. |
| SLOW-POLL | ON Specifies automatic reactivation after a line failure. A reactivation attempt is performed until it succeeds or until a /BCDAC or /BCOUT is issued.<br>OFF No automatic line activation after failure.                                                                                                                                                             |
| ACT       | Specifies the group of processors to be activated.<br>ONLY The operation is only executed for the processor (node) specified.                                                                                                                                                                                                                                         |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | <p><b>LOCAL</b> The operation is executed for the processor (node) specified and - if this is the host - for the processors (nodes) behind it in the LOCAL group.</p> <p><b>NODE</b> The operation is executed for the processor (node) specified as well as for the processors (nodes) behind it in the LOCAL and NODE groups.</p> <p><b>ALL</b> The operation is executed for the processor (node) specified as well as for all the processors (nodes) behind it.</p> <p>Default value:     <b>NODE</b> when the specified processor is a node.<br/>                      <b>ONLY</b> for all other cases.</p>                                                                                                       |
| <b>WAIT-TIME</b>     | <p>This operand specifies whether or not the activation of a line is aborted if there is a long wait time.</p> <p><b>SHORT</b> Long wait times result in negative termination of the command.</p> <p><b>LONG</b> Line activation is not aborted.</p> <p>Default value: <b>LONG</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>LINK-DOWN</b>     | <p>This operand specifies whether or not, in the event of a route failure, the associated transport connections are to be cleared down.</p> <p>The route is identified by the <b>ROUTE</b> operand. If, however, the <b>PROCESSOR</b> is specified instead of <b>ROUTE</b>, the specification made for the <b>LINK-DOWN</b> operand applies to the route that leads to this processor.</p> <p><b>DISCONNECT</b>           In the event of a route failure, all transport connections assigned to this route are cleared down.</p> <p><b>KEEP-CONNECTION</b>   In the event of a route failure, the transport connections assigned to this route are not cleared down.</p> <p>Default value: <b>KEEP-CONNECTION</b></p> |
| <b>CONFIGURATION</b> | <p>This operand specifies whether or not the network configuration for the processor(s) may be modified and whether or not route modifications are permanent.</p> <p>It may be specified only for processors to which routes with the L3 profile IP or INTF lead.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

- UPDATE Route modifications resulting from routing protocol functions cause the BCAM routing tables to be updated and are therefore permanent.
- PRIMARY Route modifications resulting from routing protocol functions are to be canceled.
- NO Route modifications resulting from routing protocol functions are not permitted.

Default value: UPDATE

### *Remarks*

1. The BCACT command reactivates an application or group of applications that was previously closed by means of a BCAPPL or BCOUT command. The application or group of applications can then be reopened.

BCACT activates a processor or a group of processors

- for the first time, if ACT=N was specified for it in the BCIN command;
- again, if it was deactivated.

Thereafter it is possible to set up connections from terminals or applications of the host computer to the processor/group of processors specified under 'processornam'. Proposals are generated for the establishment of connections.

When a processor is connected directly, the line leading to it is also activated. For directly connected processors of the TRANSDATA 960 family, test mode may be activated by means of the optional operand DIAG=STOP.

BCACT activates a cluster controller if the operand ACT=N has been set for it in the BCIN command. Connections can then be set up.

At generation time the cluster controller is defined by the XKNOT macro under the name 'clustcontrnam'. In this definition, each terminal connected to the cluster controller is specified by an XSTAT macro. Each terminal for which the operand ACTIVE=JA has been specified in the appropriate XSTAT macro is also activated when the cluster controller is activated.

BCACT activates a terminal connected to a cluster controller which has been deactivated by the BCDAC command or which was not activated at the same time as the cluster controller. Connections can now (again) be set up.

2. This command is accepted in the SOF for processors, 8170 Cluster Controllers and their terminals. It is not permitted for applications and application groups, since these are already activated with the /DCSTART command).
3. The completion of command processing is reported by means of an execution acknowledgment.
4. Test mode means that the communication processor is halted in the event of an error.

*Note*

It is preferable to specify names as keyword operands, although it is also possible to specify them as positional operands.

If a name refers to a host and virtual hosts are generated, the name must be specified as a keyword operand. Otherwise, the command refers to the name as a target computer.

If one name is specified as a positional operand and another as a keyword operand, the positional operand is ignored.

If applications or terminals are connected to an 8170 Cluster Controller, the BCAPPL command should be used.



# BCAPPL

## Activate/deactivate application

The BCAPPL command (BCAM APPLICATION) is used to activate or deactivate a predefined application. The command is not valid for system applications (i.e. those beginning with a dollar sign \$).

| Operation | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCAPPL    | $\text{APPLICATION} = \left\{ \begin{array}{l} \text{appl} \\ (, \text{neaname}) \\ (\text{NEA}, \text{neaname}) \\ (\text{OSI}, \text{osiname}) \\ (\text{SOCKET}, \text{socketname}) \end{array} \right\}$ <p>[ , HOST=name]</p> $[ , \text{MODE} = \left\{ \begin{array}{l} \text{ACTIVATE} \\ \text{DEACTIVATE} [ , \text{TYPE} = \left\{ \begin{array}{l} \text{QUICK} \\ \text{NORMAL} [ , \text{W} = \left\{ \begin{array}{l} \text{NO} \\ \text{YES} \end{array} \right\} ] \end{array} \right\} \end{array} \right\} ] \end{array} \right\}$ |

### APPLICATION

appl

Name of the application.

The first eight characters of the NEA name and the first eight characters of the host name (each 1 to 8 alphanumeric characters long, left-justified and padded with blanks) should be used for the application name.

(,neaname) or (NEA,neaname)

NEA name for the application.

The first eight characters of the application name and the first eight characters of the host name (each 1 to 8 alphanumeric characters long, left-aligned and padded with blanks) should be used for the NEA name.

If only the application name is specified, the host name specified at BCAM startup is used to form the rest of the name.

(OSI,osiname)

OSI name for the application

(1 to 78 alphanumeric characters)

(SOCKET,socketname)

SOCKET name for the application

(1 to 78 alphanumeric characters)

|      |                                                                                                                                                                                                       |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HOST | Name of the host in which the application resides<br>Default value: the DCSTART host name entry.                                                                                                      |
| MODE | Specifies the function to be performed:<br><br>ACTIVATE The application is to be activated.<br>DEACTIVATE The application is to be deactivated.<br>Default value: DEACTIVATE                          |
| TYPE | Specifies the type of connection cleardown.<br><br>QUICK Connection cleardown does not take place in the network.<br>NORMAL Connection cleardown takes place in the network.<br>Default value: NORMAL |
| W    | NO Specifies that the application is not to be warned before connection cleardown.<br>YES Specifies that the application is to be warned before connection cleardown.<br>Default value: YES           |

*Remark*

1. If W=YES, all applications receive a warning before connection cleardown. Once the warning period has elapsed, any connections still existing are cleared down compulsorily.  
The length of the warning period depends on the value specified for warning time intervals (WARN parameter in the BCTIMES command).

# BCASP

## Change network access to a processor

This command (BCAM assign port) serves to change the network access between the host computer and a local or remote processor.

This command is accepted in the SOF.

| Operation | Operands            |
|-----------|---------------------|
| BCASP     | processor, FEP=line |

**processor**                      Name of the processor to be reached via the modified network access.

**FEP**                                Name of the line for the modified network access.

*Remarks*

1. FEP means: front end processor
2. From the viewpoint of the host, BCASP merely switches the entry into the network from one locally connected processor to another.  
The subsequent route must be defined in the relevant processors of the network or must be generated by means of commands for these processors.
3. The command is not permitted for processors which may be reached directly on a LAN.
4. The command is permitted for processors whose status is "BCIN" or "BCACT". In the latter case, the new front-end processor must also have the "BCACT" status (the status of the processor is not changed).
5. Using the command for a processor with the "BCIN" status enables the network access which was predefined upon generation, before the processor was activated, to be changed for this processor.
6. Completion of command processing is reported by means of a processing acknowledgment.
7. By using the command `/BCSHOW processor1=.....,SHOW=ROUTE`, it is possible to request the name of the locally connected processor (FEP or processor connected via data exchange controller), via which it is possible to reach the processor 'processor1'.

8. If 'processor1' is locally connected, the associated remotely attached processors are also reattached. In this case, all the processors must have the same status. The original network access line becomes inactive.
9. The command is not permitted for processors to which more than one route is assigned.

# BCCONN

## Clear down connections

The BCCONN command (BCAM connection) is used to clear down one or more connections.

| Operation | Operands                                                                                                                                                                                                                                       |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCCONN    | <pre>[APPLICATION={ (NEA, neaname)                 (OSI, osiname)                 (SOCKET, socketname) } ]  [ , PARTNER={ (NEA, neaname)               (OSI, osiname)               (SOCKET, socketname) } ]  [ , W={ NO         YES } ]</pre> |

- APPLICATION**      Name of the application.  
 (NEA,neaname)  
 The first eight characters of the application name and the first eight characters of the host name (each 1 to 8 alphanumeric characters long, left-justified and padded with blanks) should be used for the NEA name.  
 If only the application name is specified, the host name specified at BCAM startup is used to form the rest of the name.
- (OSI,osiname)  
 OSI name for the application  
 (1 to 78 alphanumeric characters)
- (SOCKET,socketname)  
 SOCKET name for the application  
 (1 to 78 alphanumeric characters)
- PARTNER**          NEA name of the partner application  
 (NEA,neaname)  
 The first eight characters of the NEA name and the first eight characters of the host name (each 1 to 8 alphanumeric characters long, left-justified and padded with blanks) should be used for the NEA name.  
 If only the NEA name is specified, the host name specified at BCAM startup is used to form the rest of the name.

(OSI,osiname)

OSI name for the partner application  
(1 to 78 alphanumeric characters)

(SOCKET,socketname)

SOCKET name for the partner application  
(1 to 78 alphanumeric characters)

- W            NO    Specifies that the application is not to be warned before connection cleardown.
- YES    Specifies that the application is to be warned before connection cleardown.
- Default value: YES

*Remarks*

1. One of the parameters APPLICATION and PARTNER must be specified.  
   If only APPLICATION is specified, all of this application's connections are cleared down.  
   If only PARTNER is specified, all connections that exist between any application and this partner are cleared down.  
   If both APPLICATION and PARTNER are specified, all connections that exist between the specified application and the specified partner are cleared down.
2. If W=YES, all applications receive a warning before connection cleardown. Once the warning period has elapsed, any connections that still exist are cleared down compulsorily.  
   The length of the warning period depends on the value specified for warning time intervals (WARN parameter in the BCTIMES command).

## BCCONP

### Propose connection to application

The BCCONP command (BCAM connection proposal) serves to suggest to an application in the home processor that it should set up a connection to a station (terminal or application in the home or remote processor).

| Operation | Operands                              |
|-----------|---------------------------------------|
| BCCONP    | stationname, processorname, PART=name |

stationname,processorname

Specifies the terminal/application to which a connection is to be set up.

PART

Specifies the application in the home processor which receives the connection proposal.

#### *Remark*

The application receiving the proposal does not need to be predefined.

## BCDAC

### Deactivate processor

The BCDAC command (BCAM deactivate) is used to deactivate individual processors or groups of processors (including LAN processors), LAN nodes and individual terminals connected to the host via an 8170 Cluster Controller. Applications are closed.

| Operation | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCDAC     | $\left[ \begin{array}{l} \text{name} \\ \text{LINE=name} \\ \text{HOST=name} \\ \left. \begin{array}{l} \text{ROUTE=name} \\ \text{NODE=name} \\ \text{PROCESSOR=name} \\ \text{GROUP=name} \end{array} \right\} \end{array} \right]$ $[ , \text{TYPE} = \left\{ \begin{array}{l} \text{QUICK} \\ \text{NORMAL} [ , \text{W} = \left\{ \begin{array}{l} \text{NO} \\ \text{YES} \end{array} \right\} ] \end{array} \right\} ]$ $[ , \text{DAC} = \left\{ \begin{array}{l} \text{ONLY} \\ \text{LOCAL} \\ \text{NODE} \\ \text{ALL} \end{array} \right\} ]$ |

|           |                                                                                                                                                                                                                                                                                                  |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | Name of the application or group of applications, the processor, the LAN node, the terminal or the 8170 Cluster Controller, as generated in the RDF.                                                                                                                                             |
| LINE      | Name of the line                                                                                                                                                                                                                                                                                 |
| HOST      | Name of the host.                                                                                                                                                                                                                                                                                |
| ROUTE     | Name of the route                                                                                                                                                                                                                                                                                |
| NODE      | Name of the node                                                                                                                                                                                                                                                                                 |
| PROCESSOR | Name of the processor                                                                                                                                                                                                                                                                            |
| GROUP     | Name of the application group                                                                                                                                                                                                                                                                    |
| W         | <p>NO No warning is to be issued before an application is closed.</p> <p>YES A warning is to be issued before an application is closed. When deactivating a terminal, a processor or a LAN node, only W=NO is permitted; W=YES is treated in the same way as W=NO.</p> <p>Default value: YES</p> |



|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE | Specifies the type of connection cleardown.<br>QUICK Connection cleardown does not take place in the network.<br>NORMAL Connection cleardown takes place in the network.<br>Default value: NORMAL                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DAC  | Specifies the group of processors to be deactivated.<br>ONLY The operation is performed only for the specified processor (node).<br>LOCAL The operation is performed for the specified processor (node) and - if this is the host for the processors (nodes) behind it in the LOCAL group.<br>NODE The operation is performed for the specified processor (node) and for the processors (nodes) behind it in the LOCAL and NODE groups.<br>ALL The operation is performed for the specified processor (node) and for all the processors (nodes) behind it.<br>Default value: NODE if the specified processor is a LAN node.<br>ONLY in all other cases. |

### *Remarks*

For applications and terminals:

Any existing connection is cleared down. A new connection cannot be set up until the BCACT command has been given for the terminal.

For processors:

Transport connections are not cleared down. However, if the deactivation state persists, transport connections may be severed (e.g. as a result of timeout monitoring) since there is no further data exchange with the deactivated processors.

*Notes*

It is preferable to specify names as keyword operands, although it is also possible to specify them as positional operands.

If the name refers to a host and virtual hosts are generated, the name must be specified as a keyword operand. Otherwise the command refers to the name as a target computer.

If one name is specified as a positional operand and another as a keyword operand, the positional operand is ignored.

If applications or terminals are connected to an 8170 Cluster Controller, the BCAPPL command should be used.

# BCDISP

## Request information from BCAM

This command (BCAM display) is used to request information from BCAM to be output at the console. Names can be specified so that only information on specific objects is output. The type of information is determined by specifying the display type.

| Operation | Operands                                                                                                                                                                                                                                                                                                           |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCDISP    | <pre> DISP=OPEN  appl, DISP={     SUPERIOR     CONNECTED     TASK }  applgroup, DISP=OPEN  processornam  [ processornam, DISP={     ROUTE     FEP     DEVICE } ] [ , MAXMSG#=n  appl, processornam, DISP=CONNECTED  TID=X'tid', DISP=TID  TSN=C'tsn', DISP=TSN  DISP=LIMITS  DISP=TIMES                     </pre> |

**no operand** Requests the names, the generation descriptions and the current status of all processors, 8170 Cluster Controllers and application groups known to BCAM. Whenever a positive acceptance acknowledgment is issued, the command terminates with a positive processing acknowledgment. Message BCA08E3 is output for each processor; message BCA08E4 is output for each 8170 Cluster Controller and each application group.

**DISP=OPEN** With no further specifications, this requests the name of all applications that were not predefined. Each of these applications is reported with BCA08FA; if no such applications are open in the session, message BCA08FB is issued.

- appl** Name of an application or of a terminal.
- DISP=SUPERIOR**  
Requests
1. the name of the application group containing the application 'appl'. If no higher-ranking application group exists, the home processor name is output.
- or
2. the name of the 8170 Cluster Controller to which the terminal 'appl' is connected, and the type of terminal.
- Note*  
Only information on applications or data terminals belonging to the home processor can be provided. If the application or station 'appl' is defined, message BCA08F2 is issued. If 'appl' is not defined, or there is no higher-ranking application group, this is reported by BCA08E5.
- The command `/BCDISP appl,DISP=S` is executed only for predefined applications.
- DISP=CONNECTED**  
The specification refers to an application or terminal belonging to the home processor. Information on its connections is output. If no application is open or no station is active, message BCA08E5 is issued.
- DISP=TASK**  
The TSNs (task sequence numbers) of all tasks are listed which have activated the application or terminal 'appl' of the home processor.
- applgroup** Name of an application group or of an 8170 Cluster Controller.
- DISP=OPEN**
1. If the name of an application group is specified, then the request is for the names of all open applications in the application group 'applgroup'.
  2. If the name of an 8170 Cluster Controller is specified, then the request is for the display of all the active terminals on the cluster controller 'applgroup'.

Message BCA08FA is generated for each open application from the group or each active station of the 8170 Cluster Controller. If no application in the group is open or no station of the cluster controller is active, this is reported by message BCA08FC. If the group is not defined, message BCA08E5 is issued.

processornam

Name of a processor.

Where there is no further specification:

The request is for the generation information and the current status of the specified processor.

#### DISP=ROUTE

Requests the name of the locally coupled processor or node and - if it exists - the name of the node-coupled processor (FEP or DXC-coupled processor) via which the remote processor 'processornam' can be reached. Message BCA08E3 is output for each processor and/or node.

If the processor 'processornam' is not found, message BCA08E5 is issued. If 'processornam' is not a remote processor, BCA08FF is issued.

#### DISP=DEVICE

Requests the mnemonic device name of the locally coupled processor 'processornam' (FEP or DXC-coupled processor). Message BCA078F is issued for the processor. If the processor cannot be found or is not locally coupled, BCA08E5 is issued.

#### DISP=FEP

'processornam' specifies a processor (FEP) connected directly to the host, a LAN node or a processor connected to a LAN node. All remote processors which can be reached via this FEP or node are listed. Message BCA08E3 is issued for each processor. If no processor can be reached via this FEP, message BCA08FE is issued. If 'processornam' is a remote processor, BCA08FF is issued. If 'processornam' cannot be found, message BCA08E5 is issued.

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| appl,processornam | <p>DISP=CONNECTED</p> <p>'appl,processornam' specifies an application or terminal at the processor 'processornam'. All connections between this application or terminal to applications or terminals in the home processor are output. Message BCA08FD is issued for each connection. If the application has not established any connection or there is no connection between this BCAM and the terminal, message BCA08F1. is issued.</p> |
| TID               | <p>Task ID of the task.</p> <p>DISP=TID</p> <p>Lists all applications opened under the specified TID. Message BCA0780 is issued for each application 'appl' opened by the task with the TID 'tid'. Specification of the TID is mandatory in this case. If the TID cannot be found in the BCAM tables, i.e. there is no task with this TID or no application has been opened with this TID, this is reported by BCA08E5.</p>               |
| TSN               | <p>Task serial number of the task.</p> <p>DISP=TSN</p> <p>Lists all applications opened under the specified TSN. Message BCA0780 is issued for each TSN. Specification of the TSN is mandatory in this case.</p> <p>If no TID is found for the specified TSN or if the task has not opened an application, this is reported by BCA08E5.</p>                                                                                               |
| DISP=LIMITS       | <p>Outputs the current values for the operands MAXNPA, MAXNPT, MAXCNN and DASTFA, which were defined via DCSTART/DCOPT or modified via BCMOD. Message BCA08F8 is issued.</p>                                                                                                                                                                                                                                                              |
| DISP=TIMES        | <p>Outputs the current values of the monitoring intervals, which can be modified via BCTIMES and defined via DCSTART. The monitoring intervals are output by means of message BCA08F7. The value INFINITE for the monitoring interval indicates that monitoring has not yet been started by means of a BCTIMES command.</p>                                                                                                               |
| MAXMSG#           | <p>Maximum number of messages which can be output for this command.</p> <p>Range: <math>0 &lt; n &lt; 100000000</math>; default value: 10.</p>                                                                                                                                                                                                                                                                                            |

*Remarks*

1. The BCSHOW command (see page 104) corresponds to the BCDISP command and provides more detailed information in some respects.
2. The station name specified in conjunction with DISP=CONNECTED may be either fully or partially qualified. If the specified name is fully qualified and a different processor name is specified, all connections of applications or terminals of the home processor to the specified station are output.
3. Both negative and positive acceptance acknowledgments are generated for this command:

BCA0780  
BCA078F  
BCA08E3  
BCA08E4  
BCA08E5  
BCA08F1  
BCA08F2  
BCA08F7  
BCA08F8  
BCA08FA  
BCA08FB  
BCA08FC  
BCA08FD  
BCA08FE  
BCA08FF

4. Completion of command processing is reported by means of a processing acknowledgment.
5. The information output corresponds to the specifications in the network generation. It is supplemented by the addition of current operating system information available to BCAM.
6. If the BCDISP command is used without operands, messages are displayed for each processor, each 8170 Cluster Controller and for each group of applications. Where operands are specified, additional messages are displayed for applications, stations, connections or TSNs (see the manual *Network Management Messages, Halt Codes*).

## BCEND

### Terminate DCM in host

This command (BCAM end) terminates the data communication system in the host computer. Any open applications are closed and communication with all 8170 Cluster Controllers and with all processors is ended.

| Operation | Operands                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCEND     | $[ \text{TYPE} = \left\{ \begin{array}{l} \text{QUICK} \\ \text{NORMAL} [ , W = \left\{ \begin{array}{l} \text{NO} \\ \text{YES} [ , \text{TERM} = \left\{ \begin{array}{l} \text{NO} \\ \text{YES} \end{array} \right\} ] [ , \text{TIME} = \text{sec} ] \end{array} \right\} \end{array} \right\} ] ]$<br>$[ , \text{MSG} = \left\{ \begin{array}{l} \text{ALL} \\ \text{NAK} \end{array} \right\} ]$ |

|      |                                                                                                                                                                                                                                                                 |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE | <p>Specifies the type of connection clear-down.</p> <p><b>QUICK</b> Connection clear-down does not take place in the network.</p> <p><b>NORMAL</b> Connection clear-down takes place in the network.<br/>Default value: NORMAL</p>                              |
| W    | <p><b>NO</b> No warning is to be issued to applications.<br/><b>See note 1.</b></p> <p><b>YES</b> Applications are to be warned of impending termination.<br/>This is the default.<br/><b>See note 2.</b></p>                                                   |
| TERM | <p><b>NO</b> Termination is not effected automatically but must be initiated by means of another BCEND command with the W=N operand.</p> <p><b>YES</b> Termination is effected automatically after the warning period has elapsed.<br/>This is the default.</p> |
| TIME | <p>Specifies the warning period in seconds.<br/><math>1 \leq \text{sec} \leq 32767</math>.<br/><b>See note 3.</b></p>                                                                                                                                           |



|     |     |                                                                                  |
|-----|-----|----------------------------------------------------------------------------------|
| MSG | ALL | All messages are to be displayed.                                                |
|     | NAK | Only negative messages for processors are to be displayed.<br><b>See note 4.</b> |

### Notes

1. This option should only be used in an emergency, since it does not enable the applications in the data communication system to terminate normally.
2. The warning is issued to any applications open in the host computer. The warning indicates that the data communication system in the host computer is to be terminated within a defined period. This enables correct termination of the applications. The warning period is 10 seconds unless a different time was specified for the WARN operand in the BCTIMES command. When the warning period has elapsed, the applications are forcibly terminated if necessary. Once BCEND W=Y has been entered, no further BCEND W=Y will be accepted for processing, just BCEND W=N.
3. This value overwrites the value defined by the BCTIMES command or the default value of 10 seconds.
4. The following positive messages are suppressed:

BCA0740  
BCA0763 for the commands BCIN (format 1), BCACT, BCDAC, BCOUT  
BCA082A  
BCA083F  
BCA0852  
BCA0853  
BCA0854 with reason 00/01/02  
BCA0855 with reason 00/01/02  
BCA085F  
BCA08D7  
BCA08DC  
BCA08DD  
BCA08DE  
BCA08DF

### Remarks

1. The trace function activated with DCDIAG is not affected by the BCEND command.
2. If command processing is not completed (for a monitoring interval independent of TIME or BCTIMES), message BCA08B9 is displayed.

## BCGEN

### Change processor name

The BCGEN command (BCAM generate) is used to change a processor name.

| Operation | Operands                                                                                                                                                                                                                                                                   |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCGEN     | CHANGE= (PROCESSOR=processornam,NEWNAME=newn<br>[,TDADR=( [REG#=]reg#, [PRO#=]pro#) ]<br>[,OLD-TDADR=( [REG#=]reg#, [PRO#=]pro#) ]<br>[,LANADR=lanaddr]<br>[,OLD-LANADR=lanaddr]<br>[,INTADR=intaddr]<br>[,OLD-INTADR=intaddr]<br>[,IPADR=ipaddr]<br>[,OLD-IPADR=ipaddr] ) |

|            |                                                                                                                                                                                                                                                    |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROCESSOR  | Name of the processor.                                                                                                                                                                                                                             |
| NEWNAME    | New name for the processor.                                                                                                                                                                                                                        |
| TDADR      | Specifies the new network address of the processor.<br>REG#   Region number (decimal, 0 .. 255)<br>PRO#   Processor number (decimal, 0 .. 255)                                                                                                     |
| OLD-TDADR  | Specifies the old network address of the processor to be replaced.<br>REG#   Region number (decimal, 0 .. 255)<br>PRO#   Processor number (decimal, 0 .. 255)<br>This must always be specified if the processor has more than one network address. |
| LANADR     | Specifies the new Ethernet address of the processor (hexadecimal, 1-6 digits, left-justified and padded on the right with X'00').<br>Entry of X'00' is not permitted.                                                                              |
| OLD-LANADR | Specifies the old Ethernet address of the processor to be replaced (hexadecimal, 1-6 digits, left-justified and padded on the right with X'00').<br>Entry of X'00' is not permitted.                                                               |

|           |                                                                                                                                                                                                                                     |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IPADR     | Specifies the new IP address of the processor (hexadecimal, 1-4 digits, left-justified and padded on the right with X'00').                                                                                                         |
| OLD-IPADR | Specifies the old IP address of the processor to be replaced (hexadecimal, 1-4 digits, left-justified and padded on the right with X'00').<br>This specification must always be made if the processor has more than one IP address. |

This command is executed only if the processor being addressed has not been activated with BCIN or has been deactivated with BCOUT.

## BCIN

### Include processor definition in BCAM data structure

This command (BCAM include) may be applied to generated objects (Function 1) or nongenerated processors (Function 2).

#### Function 1:

By transferring the definitions stored in the RDF, this command activates:

- LAN nodes
- hosts
- 8170 Cluster Controllers
- application groups defined at generation

This command is permitted in the SOF.

| Operation | Operands                                                                                                                                                                                                                                                |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCIN      | <pre> [ name   HOST=name   NODE=name   PROCESSOR=name   MSN=name   GROUP=name ]  [ , DIAG={   STOP   HERS } ]  [ , INI={   ONLY   LOCAL   NODE   ALL } ]  [ , SLOW-POLL={   ON   OFF } ]  [ , ACT={   N[O]   YES   ONLY   LOCAL   NODE   ALL } ] </pre> |

*continued* →

| Operation       | Operands                                                                                                                                                                    |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCIN<br>(cont.) | <p>[ , WAIT-TIME= {<br/>SHORT<br/>LONG } ]</p> <p>[ , LINK-DOWN= {<br/>DISCONNECT<br/>KEEP-CONNECTION } ]</p> <p>[ , CONFIGURATION= {<br/>UPDATE<br/>PRIMARY<br/>NO } ]</p> |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | Name of the processor, LAN node, host or 8170 Cluster Controller.                                                                                                                                                                                                                                                                                                                                                                                                             |
| HOST      | Name of the host.                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NODE      | Name of the LAN node.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PROCESSOR | Name of the processor.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MSN       | Name of the 8170 Cluster Controller.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| GROUP     | Name of the application group.                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DIAG      | <p>STOP This operand is evaluated only for directly connected processors of the TRANSDATA 960 type. In test mode, the PDN is stopped in the event of procedure errors. The communication processor can then be dumped. Further load or dump functions are possible only after a /BCDAC or /BCOUT command on this processor.</p> <p>HERS This operand is evaluated only for the 8170 Cluster Controller. This operand activates generation of HERS entries for I/O errors.</p> |
| INI       | <p>Specifies the group of processors to be declared.</p> <p>ONLY The operation is performed only for the processor (node) specified.</p> <p>LOCAL The operation is performed for the processor (node) specified and - if this is a host for the processors (nodes) behind it in the LOCAL group.</p>                                                                                                                                                                          |

- NODE The operation is performed for the processor (node) specified and for the processors (nodes) behind it in the LOCAL and NODE groups.
- ALL The operation is performed for the processor (node) specified and for all the processors (nodes) behind it.
- Default value: NODE in the case of LAN nodes  
ONLY in all other cases.
- SLOW-POLL This parameter specifies whether or not an automatic reactivation attempt is made following a line failure. A reactivation attempt is performed until it succeeds or until a /BCDAC or /BCOUT command is issued.
- ON A reactivation attempt is made.
- OFF No reactivation attempt is made.
- Default value: OFF
- ACT Specifies whether or not activation is to take place and what is to be activated.
- NO No activation takes place.
- YES The specified objects are activated.
- ONLY The operation is performed only for the processor (node) specified.
- LOCAL The operation is performed for the processor (node) specified and - if this is a host for the processors (nodes) behind it in the LOCAL group.
- NODE The operation is performed for the processor (node) specified and for the processors (nodes) behind it in the LOCAL and NODE groups.
- ALL The operation is performed for the processor (node) specified and for all the processors (nodes) behind it.
- Default value: YES
- See note below.**

If the name of an 8170 Cluster Controller is specified, the data structure for that 8170 Cluster Controller is initialized.

Connections to terminals linked to the processor or 8170 Cluster Controller can, however, only be opened once a BCACT command has also been given for the processor or 8170 Cluster Controller concerned. As an option, this function may already be activated with the BCIN command.

As functions are executed, messages and acknowledgments are issued.

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WAIT-TIME     | <p>This operand specifies whether or not the activation of a line is aborted if there is a long wait time. Abortion results in negative termination of the command.</p> <p>SHORT Line activation is aborted in the event of long wait times.<br/>         LONG Line activation is not aborted.<br/>         Default value: LONG</p>                                                                                                                                                                                                                                                                                                          |
| LINK-DOWN     | <p>This operand specifies whether or not, in the event of a route failure, the associated transport connections are cleared down. The route is identified by the ROUTE operand. If, however, the PROCESSOR is specified instead of ROUTE, the specification made for the LINK-DOWN operand applies to the route that leads to that processor.</p> <p>DISCONNECT In the event of a route failure, all transport connections assigned to this route are cleared down.</p> <p>KEEP-CONNECTION In the event of a route failure, the transport connections assigned to this route are not cleared down.</p> <p>Default value: KEEP-CONNECTION</p> |
| CONFIGURATION | <p>This operand specifies whether or not the network configuration for the processor(s) may be modified and whether or not route modifications are permanent. It may be specified only for processors to which routes with the L3 profile IP or INTF lead.</p> <p>UPDATE Route modifications resulting from routing protocol functions cause the BCAM routing tables to be updated and are therefore permanent.</p> <p>PRIMARY Route modifications resulting from routing protocol functions should be canceled.</p> <p>NO Route modifications resulting from routing protocol functions are not permitted.</p> <p>Default value: UPDATE</p> |

**Note**

If BCIN ACT=N is specified, connections to terminals linked to the processor (or group of processors) or to the cluster controller can be opened only after the BCACT command has been issued for that processor or cluster controller. Where BCIN ACT=Y is specified, the BCACT command is initiated implicitly for the specified object.

*Remarks*

1. The BCIN (ACT=N) command is issued if the processor (or group of processors) is to be loaded from the host computer. If the processor is already loaded but not yet known to the host computer (e.g. when a terminal computer is being locally loaded), the BCIN (ACT=Y) command must be issued for it so that communication between it and the host computer can be initiated.
2. The BCIN command must be issued for the cluster controller in order to initiate communication with it.
3. If a BCIN command is issued for a processor while a BCOUT command is being executed for the same processor, the BCIN command is rejected.

*Notes*

It is preferable to specify names as keyword operands, although it is also possible to specify them as positional operands.

If the name refers to a host and virtual hosts are generated, the name must be specified as a keyword operand. Otherwise the command refers to the name as a target computer.

If one name is specified as a positional operand and another as a keyword operand, the positional operand is ignored.

If applications or terminals are connected to an 8170 Cluster Controller, the BCAPPL command should be used.



**Function 2:**

This command is used to include a nongenerated processor in the BCAM data structure.

It permits minor changes to be made to the configuration without the need for regeneration. It is not possible to change the parameters of generated processors with this command.

This command should be issued only in agreement with the network administrator. The syntax and description of this command (Function 2) are given in the manual *Network Management in BS2000*.

# BCMAP

## Control BCAM mapping function

The BCPMAP command (BCAM mapping) administers the BCAM mapping function. The BCAM mapping function must be activated by FUNCT=INIT and terminated by FUNCT=TERM.

This command is accepted in the SOF.

| Operation | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCMAP     | <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">FUNCT=</div> <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 0 10px;"> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">                     DEFINE, SUBFUNCT=                     <div style="display: flex; align-items: center;"> <span style="font-size: 2em;">{</span> <div style="display: flex; flex-direction: column; align-items: center; margin: 0 5px;"> <span>SPECIAL</span> <span>GLOBAL</span> <span>LOCAL</span> </div> <span style="font-size: 2em;">}</span> </div> </div> <div style="margin-bottom: 10px;">                     SHOW, SUBFUNCT=                     <div style="display: flex; align-items: center;"> <span style="font-size: 2em;">{</span> <div style="display: flex; flex-direction: column; align-items: center; margin: 0 5px;"> <span>SPECIAL</span> <span>GLOBAL</span> <span>LOCAL</span> <span>APPL</span> <span>HOST</span> <span>PTSEL-N</span> <span>PTSEL-I</span> <span>PPORT#</span> <span>ES</span> <span>STATE</span> </div> <span style="font-size: 2em;">}</span> </div> </div> <div style="margin-bottom: 10px;">                     DELETE, SUBFUNCT=                     <div style="display: flex; align-items: center;"> <span style="font-size: 2em;">{</span> <div style="display: flex; flex-direction: column; align-items: center; margin: 0 5px;"> <span>SPECIAL</span> <span>GLOBAL</span> <span>LOCAL</span> <span>APPL</span> <span>HOST</span> <span>PTSEL-N</span> <span>PTSEL-I</span> <span>PPORT#</span> <span>ES</span> </div> <span style="font-size: 2em;">}</span> </div> </div> <div style="margin-bottom: 10px;">                     CHANGE, SUBFUNCT=                     <div style="display: flex; align-items: center;"> <span style="font-size: 2em;">{</span> <div style="display: flex; flex-direction: column; align-items: center; margin: 0 5px;"> <span>SPECIAL</span> <span>GLOBAL</span> </div> <span style="font-size: 2em;">}</span> </div> </div> <div style="margin-bottom: 10px;">                     INIT                 </div> <div style="margin-bottom: 10px;">                     ADD                 </div> <div style="margin-bottom: 10px;">                     SAVE                 </div> <div style="margin-bottom: 10px;">                     REORG                 </div> <div style="margin-bottom: 10px;">                     TERM                 </div> </div> </div> </div> |

*continued* →

| Operation         | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCPMAP<br>(cont.) | <pre> [ ,HOST=name]  [ ,APPL={     appl     ( ,neaname)     (NEA,neaname)     (OSI,osiname)     (SOCKET,socketname) }]  [ ,OPORT#=port#]  [ ,TSEL-N=name]  [ ,TSEL-I={     tsel     (len,tset) }]  [ ,NAME={     name     ( ,neaname)     (NEA,neaname)     (OSI,osiname)     (SOCKET,socketname) }]  [ ,ES=name]  [ ,ROUTES={     name     (name, ...,name) }]  [ ,PPORT#=port#]  [ ,PTSEL-N=name]  [ ,PTSEL-I={     tsel     (lth,tset) }]  [ ,FILE=name]  [ ,MAXMAP=n]  [ ,L3-CUD={     cud     (len,cud) }]                     </pre> |

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FUNCT | <p>DEFINE The significance depends on SUBFUNCT.</p> <p>SPECIAL For communication between two applications the appropriate transport selectors must be assigned. TSEL-N/TSEL-I/ OPORT# can be assigned to the application with the local name APPL in the host.<br/>The transport selector PTSEL-N/PTSEL-I/ PPORT, the end system ES, a list of route names ROUTES and layer 3 user data L3-CUD can be assigned to the partner application with the local name NAME.<br/>Mandatory operands: APPL, NAME, ES</p> <p>GLOBAL For communication with any applications in the host HOST, the transport selector PTSEL-N/PTSEL-I/PPORT#, the end system ES, a list of route names ROUTES and layer 3 user data L3-CUD can be assigned to the partner application with the local name NAME.<br/>Mandatory operands: NAME, ES</p> <p>LOCAL For communication with any partner applications, the transport selector TSEL-N/ TSEL-I/OPORT# can be assigned to the application with the local name APPL in the host HOST. Mandatory operand: APPL</p> <p>SHOW The significance depends on SUBFUNCT.</p> <p>SPECIAL The assignment defined via DEFINE, SUBFUNCT=SPECIAL is displayed.</p> <p>GLOBAL The assignment defined via DEFINE, SUBFUNCT=GLOBAL is displayed.</p> <p>LOCAL The assignment defined via DEFINE, SUBFUNCT=LOCAL is displayed.</p> <p>APPL All the defined assignments relating to APPL in the host HOST are displayed.</p> <p>HOST All the defined assignments relating to HOST are displayed.</p> |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|         |                                                                                                                |
|---------|----------------------------------------------------------------------------------------------------------------|
| PTSEL-N | All the defined assignments relating to PTSEL-N/ES are displayed.                                              |
| PTSEL-I | All the defined assignments relating to PTSEL-I/ES are displayed.                                              |
| PPOINT# | All the defined assignments relating to the socket port number port# in the end system ES are displayed.       |
| ES      | All the defined assignments relating to ES are displayed.                                                      |
| STATE   | The status of the BCAM mapping function is displayed.                                                          |
| DELETE  | The significance depends on SUBFUNCT.                                                                          |
| SPECIAL | The assignment made by means of DEFINE, SUBFUNCT=SPECIAL is canceled.                                          |
| GLOBAL  | The assignment made by means of DEFINE, SUBFUNCT=GLOBAL is canceled.                                           |
| LOCAL   | The assignment made by means of DEFINE, SUBFUNCT=LOCAL is canceled.                                            |
| APPL    | All the defined assignments relating to APPL in the host HOST are canceled.                                    |
| HOST    | All the defined assignments relating to HOST are canceled.                                                     |
| PTSEL-N | All the defined assignments relating to PTSEL-N/ES are canceled.                                               |
| PTSEL-I | All the defined assignments relating to PTSEL-I/ES are canceled.                                               |
| PPOINT# | All the defined assignments relating to the socket port number port# in the end system ES are canceled.        |
| ES      | All the defined assignments relating to ES are canceled.                                                       |
| CHANGE  | The definition of the routes previously defined via the DEFINE, SUBFUNCT=SPECIAL/GLOBAL parameters is changed. |
| INIT    | The BCAM mapping function is initialized for the maximum number of mappings defined using MAXMAP.              |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | <p>ADD      The assignments stored via SAVE in the file named FILE are added. Existing assignments are retained.</p> <p>SAVE     All existing assignments are saved in FILE.</p> <p>REORG    The number of assignments, defined with INIT, is reorganized according to the value in MAXMAP.</p> <p>TERM     Terminates the BCAM mapping function.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| HOST | <p>Name of the home end system.<br/>(1-8 alphanumeric characters, left-justified and padded with blanks)<br/>Default value:    Processor name defined as the name of the host in DCSTART/DCOPT)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| APPL | <p>appl<br/>Local name of the application in the host (own end system).<br/>The first eight characters of the NEA name and the first eight characters of the HOST (each 1 to 8 alphanumeric characters long, left-justified and padded with blanks) should be used for the application name.</p> <p>(,neaname) or (NEA,neaname)<br/>NEA name for the application.<br/>The first eight characters of the application name and the first eight characters of the host name (each 1 to 8 alphanumeric characters long, left-justified and padded with blanks) should be used for the NEA name.<br/>If only the application name is specified, the host name specified at BCAM startup is used to form the rest of the name.</p> <p>(OSI,osiname)<br/>OSI name for the application<br/>(1 to 78 alphanumeric characters).<br/>This name type may not be used where SUBFUNCT=SPECIAL.</p> <p>(SOCKET,socketname)<br/>Socket name for the application<br/>(1 to 78 alphanumeric characters).</p> |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPORT# | Socket port number of the home application<br>(1-2 characters in character or hexadecimal format, left-justified and padded on the right with X'00').                                                                                                                                                                                                                                                                                                                                                                                                               |
| TSEL-N | Transport selector for NEA transport connections for the APPL application<br>(1-8 alphanumeric characters, left-justified and padded with blanks).<br><br>Default value: Value of the APPL operand, if an application name or NEA name was specified for APPL.                                                                                                                                                                                                                                                                                                      |
| TSEL-I | Transport selector for OSI transport connections for the APPL application.<br>len: decimal length of tsel<br>$0 \leq \text{len} \leq 32$<br>tsel: character (c'...') or hexadecimal notation (x'...')<br>The length is determined by the actual length of the entry or by the length len. The entry is left-justified and padded with x'00' to length len.<br>Default value: (8, value of APPL operand), if APPL=name (NEA name) was specified.                                                                                                                     |
| NAME   | Name of the partner<br><br>(,neaname) or (NEA,neaname)<br>NEA name for the partner application (16 alphanumeric characters, left-justified and padded with blanks).<br>If 'neaname' is less than 9 characters long, characters 9 through 16 are determined by the entry made for the HOST operand.<br><br>(OSI,osiname)<br>OSI name for the partner application<br>(1 to 78 alphanumeric characters).<br>This name type may not be used where SUBFUNCT=SPECIAL.<br><br>(SOCKET,socketname)<br>Socket name for the application<br>(1 to 78 alphanumeric characters). |
| ES     | Name of the partner end system<br>(1-8 alphanumeric characters, left-justified and padded with blanks).<br>Where SUBFUNCT=SPECIAL or SUBFUNCT=GLOBAL, ES is a mandatory operand (for determining the partner processor).<br>Default value: characters 9 - 16 of the NAME operand value.                                                                                                                                                                                                                                                                             |

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ROUTES   | Name of the route(s) via which the partner system can be reached<br>(cf. <i>Generating a Data Communication System</i> , XPRO ROUTNAM)<br>(1-8 alphanumeric characters, left-justified and padded with blanks).<br>A list of up to 8 names is permitted.                                                                                                                                                                                                                                                 |
| PPORT#   | Socket port number of the partner application<br>(1 - 2 characters in character or hexadecimal format, left-justified and padded on the right with X'00').                                                                                                                                                                                                                                                                                                                                               |
| PTSEL-N  | Transport selector for NEA transport connections for the partner application NAME<br>(1-8 alphanumeric characters, left-justified and padded with blanks).<br>Default value: (8, value of the NAME operand)                                                                                                                                                                                                                                                                                              |
| PTSEL-I  | Transport selector for OSI transport connections for the partner application NAME.<br>len: decimal length of tsel<br>$0 \leq \text{len} \leq 32$ .<br>tsel: character (c'...') or hexadecimal notation (x'...'); left-justified and padded on the right with X'00'.<br>Default value: (8, value of the NAME operand)                                                                                                                                                                                     |
| FILE     | Name of the file used for backing up the assignments. The file must not exist already; it is automatically created. The attributes of an existing file may be changed by means of SAVE.<br>name: complies with BS2000 file-naming conventions.                                                                                                                                                                                                                                                           |
| MAXMAP=n | Maximum anticipated number of assignments.<br>Decimal value n<br>$1 \leq n \leq 19900$<br>Default value: 500                                                                                                                                                                                                                                                                                                                                                                                             |
| L3-CUD   | User data (Call user date) to be transferred to OSI end systems on active network connection setup (X.25 virtual call). The user data can be defined by means of<br>FUNCT=DEFINE, SUBFUNCT=SPECIAL/GLOBAL.<br>len: decimal length of the L3-CUD<br>$1 \leq \text{len} \leq 16$<br>cud: character (c'...') or hexadecimal notation (x'....').<br>The length is determined by the actual length of the entry or by the length 'len'. The entry is left-justified and padded with X'00' up to length 'len'. |



*Remarks*

Some types of console can only handle entries up to a maximum of 72 characters. If the BCPMAP command including all the parameters is longer than 72 characters, a command file or NETMAUSI must be used.

In order to have assignments and definitions available for the next session, it is necessary to bear in mind the following:

The current assignments and definitions must be saved prior to /BCEND by means of /BCMAP FUNCT=SAVE, FILE=xxxx.

After /DCSTART, the saved assignments and definitions can be called up by means of

```
/BCMAP FUNCT=INIT
```

```
/BCMAP FUNCT=ADD, FILE=xxxx.
```

The commands may be stored in the SOF.

## BCMOD

### Modify limit values defined in DCSTART

This command (BCAM modify) allows operand values defined at communication system startup with the DCSTART or DCOPT command to be modified during the session in order to meet changed requirements.

This command is accepted in the SOF.

| Operation | Operands                                                                                                                                                                                                                                                                                           |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCMOD     | [MAXNPA=decval]<br>[,MAXNPT=decval]<br>[,MAXCNN=decval]<br>[,DASTFA=decval]<br>[,PAGMEM=decval]<br>[,RESMEM=decval]<br>[,MSG= $\left. \begin{array}{l} \text{ALL} \\ \text{NAK} \end{array} \right\}$ ]<br>[,PRIVPORT#=port#]<br>[,FREEPORT#=port#]<br><br>At least one operand must be specified. |

**MAXNPA** Limits the number of nonpredefined applications which can be opened concurrently in the host computer.

Range:  $0 < n < 32767$ , default value: 20

**See note 1.**

**MAXNPT** Limits the number of nonpredefined applications which a single task can open concurrently in the host computer.

Range:  $0 < n < 32767$ , default value: 20

**See note 1.**

- MAXCNN** Limits the number of connections which can be maintained concurrently by a nonpredefined application (this does not apply to system applications).  
 Range:  $0 < n < 32767$ , default value: 10  
**See note 1.**
- DASTFA** This operand specifies the size of resident data storage (MEM-RES) available to BCAM for data transfer. This parameter is not evaluated if RESMEM is specified.  
 Valid range:  $0 \leq \text{DASTFA} \leq 5000$   
 Default value: 1000
- PAGMEM** This operand specifies the size (in kilobytes) of virtual memory (background storage, paging area) that BCAM may use for data transfer.  
  
 Valid range:  $1000 \leq n < 100000000$   
 After DCSTART, the value of PAGMEM is set at 1536.
- RESMEM** This operand specifies the size (in kilobytes) of resident memory (MEM-RES) that BCAM may use for data transfer.  
 If the RESMEM operand is specified, DASTFA is ignored.  
 Each direct connection of a processor or LAN has a default value for the required resident memory, which depends on its packet size.

| Packet size (Kbytes) |   |   |      | DATAST-STD (Kbytes) |
|----------------------|---|---|------|---------------------|
|                      | P | ≤ | 8    | 12                  |
| 8                    | < | P | ≤ 16 | 16                  |
| 16                   | < | P | ≤ 32 | 32                  |
|                      | P | > | 32   | 64                  |

The minimum value for MEM-RES (MEM-RES-min) is the sum of the DATAST-STD of all active line adapters of processors or LANs and a basic constant of 100 kilobytes.

Maximum value: 100000000

If the value of RESMEM is less than that of MEM-RES-min, MEM-RES-min is assumed for RESMEM.

- MSG** ALL All messages are to be displayed.
- NAK Only negative messages for the processor are to be displayed.
- See note 2.**

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRIVPORT# | <p>Low socket port numbers (with the exception of port number 20) may be used only by privileged applications.</p> <p>port# specifies the first socket port number that can be used by nonprivileged applications.</p> <p>Privileged applications are applications that run under the BS2000 system privilege TSOS or NETADM.</p> <p>PRIVPORT# must always be less than or equal to FREEPORT#.</p> <p>If the value selected for PRIVPORT# is greater than that of FREEPORT#, PRIVPORT# is limited to the value specified for FREEPORT#.</p> <p>Default value: 2050</p> <p><b>See note 3.</b></p> |
| FREEPORT# | <p>Specifies the number of the first free port that can be reserved by BCAM dynamically for an application.</p> <p>FREEPORT# must always be greater than or equal to PRIVPORT#.</p> <p>If the value selected for FREEPORT# is lower than that of PRIVPORT#, the value specified for PRIVPORT# applies.</p> <p>Default value: 4096</p> <p><b>See note 3.</b></p>                                                                                                                                                                                                                                  |

### Notes

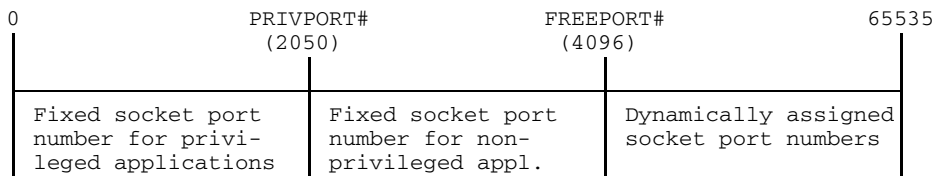
1. The values selected for these limits may range between 0 and 32767. However, specifying a limit only prevents it from being exceeded. Whether or not a limit can actually be reached, particularly when high values are involved, depends on further constraints, such as the storage space allocated to BCAM by the operating system, the address space (presently restricted to 2048 station numbers per processor number assigned in the generation), etc.

2. The following positive messages are suppressed:

BCA0740  
 BCA0763 for the commands BCIN (Format 1), BCACT, BCDAC, BCOUT  
 BCA082A  
 BCA083F  
 BCA0852  
 BCA0853  
 BCA0854 with reason 00/01/02  
 BCA0855 with reason 00/01/02  
 BCA085F  
 BCA08D7  
 BCA08DC  
 BCA08DD  
 BCA08DE  
 BCA08DF

The message for directly addressed processors is always output (otherwise sequences might not execute correctly). Positive messages are suppressed only for the processors behind the directly addressed processor.

3. Socket applications are addressed via their socket port number. The socket port numbers may range from 0 through 65535 and are divided into three subranges:



*Remark*

The limits set with the MAXNPA, MAXNPT and MAXCNN operands do not apply to predefined applications and system applications.

# BCMON

## Start BCAM monitoring

This command (BCAM monitoring on) starts a cyclic BCAM monitoring operation and outputs the desired values at regular intervals. At the same time it is possible to modify the preset cycle.

This command is acceptable in the SOF.

| Operation | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCMON     | <pre>           [ (STD, ... ,SPEC) ]           [ RECORD= {                     STD                     TRANSFER                     RES-MEMORY                     PAG-MEMORY                     CONNECTIONS                     L [AYER] 2                     L [AYER] 4                     SPEC                 } ]           [ , MODE= {                     OFF                     ON                 } ]           [ , SEC= {                     sec                     600                 } ]           [ , LINE=name ]           </pre> |

### RECORD

Specifies what data is to be output.  
The following specifications are possible:

(STD, ... ,SPEC)

This list can contain all the values of RECORD described below.

STD STD on its own results in output as for the RECORD specifications:

- TRANSFER
- RES-MEMORY
- PAG-MEMORY
- CONNECTIONS

TRANSFER Values are output which provide information on data transfer:

LDU, RDU, BTU, SUF, SUS

LDU Number of local TSDUs

RDU Number of remote input/output TSDUs

BTU Number of nontransferable TSDUs

SUF Number of subport-lock releases in I/O direction

SUS Number of subport locks in I/O direction

#### RES-MEMORY

Values are output which provide information on the resident memory.

#### PAG-MEMORY

Values are output which provide information on the pageable memory.

#### CONNECTIONS

Values are output which provide information on the transport connections:

APM, APP, CON

APM Number of open applications, including multiple openings.

APP Number of opened applications

CON Number of connections.

#### LAYER2 or L2

All line values relevant to layer 2 are output. Specifying LINE restricts the output to a single line.

#### LAYER4 or L4

The values relevant to layer 4 are output.

#### SPEC

Outputs values referring to 8170 Cluster Controllers:

NIO Number of inputs and outputs per 8170 Cluster Controller.

RRP Number of repeat requests during output per 8170 Cluster Controller.

IOE Number of input/output errors per 8170 Cluster Controller.

|      |     |                                                                                                                                                                                                            |
|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | FOE | Number of free output elements in the pool per 8170 Cluster Controller.                                                                                                                                    |
|      | FIE | Number of free input elements in the pool per 8170 Cluster Controller.                                                                                                                                     |
|      | ROR | Number of output requests rejected (due to memory shortage) per 8170 Cluster Controller                                                                                                                    |
|      | MRS | Number of cases per 8170 Cluster Controller in which no read instruction was issued owing to memory shortage.                                                                                              |
| MODE |     | This parameter specifies whether monitoring is to be activated or deactivated for the specified RECORD function.<br>Default value: ON                                                                      |
| SEC  |     | Specifies the monitoring period in seconds after which the relevant values are to be output. The specified value is rounded up to a multiple of 5.<br>Default value: 600<br>$1 \leq \text{sec} \leq 32767$ |
| LINE |     | Name of the line for which the values relevant to layer 2 are to be evaluated. LINE can be specified in order to restrict the output data where RECORD=LAYER2/L2.                                          |

### *Remarks*

1. If the BCMON command is issued after BCAM monitoring has already been started, the previous command is overwritten and monitoring is restarted taking into account the desired output and cycle time.
2. Each monitor function can be activated or deactivated individually, and any SEC entries made apply to the monitor function involved.  
A monitor function corresponds to a possible specification in the RECORD parameter, with the exception of the comma list (STD, ... , SPEC) and RECORD=L2/RECORD=LAYER2 for a line.
3. The values are output to the console and additionally written to the logging file (CONSLOG) so that they can be analyzed later. Output to the console can be suppressed using the ASR command.
4. CON, APP and APM are the maximum values during the monitoring interval. FOE and FIE are the minimum values during the monitoring interval.
5. SUS and SUF are cumulative values recorded from the start of the BCAM session.



6. The following console messages are output:
- BCA0B08 where RECORD=SPEC
  - BCA0B10 where RECORD=L2
  - BCA0B20 where RECORD=TRANSFER
  - BCA0B21 where RECORD=RES-MEMORY
  - BCA0B22 where RECORD=CONNECTIONS
  - BCA0B23 where RECORD=PAG-MEMORY
  - BCA0B30 where RECORD=L4

## BCOPTION

### Modify operating options

The BCOPTION command (BCAM options) is used to set BCAM operating options.

| Operation | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCOPTION  | $[\text{NEA-ADDRESS-EXTENSION}=\left\{\begin{array}{l} \text{ON} \\ \text{OFF} \end{array}\right\}]$<br>$[\text{, BROADCAST}=\left\{\begin{array}{l} \text{ON} \\ \text{OFF} \end{array}\right\}]$<br>$[\text{, ARP}=\left\{\begin{array}{l} \text{ON} \\ \text{OFF} \end{array}\right\}]$<br>$[\text{, RARP}=\left\{\begin{array}{l} \text{ON} \\ \text{OFF} \end{array}\right\}]$<br>$[\text{, CHECKSUM}=\left\{\begin{array}{l} \text{ON} \\ \text{OFF} \end{array}\right\}]$<br>$[\text{, ERROR-REPORT}=\left\{\begin{array}{l} \text{ON} \\ \text{OFF} \end{array}\right\}]$<br>$[\text{, ISO9542}=\left\{\begin{array}{l} \text{ON} \\ \text{OFF} \end{array}\right\}]$ |

#### NEA-ADDRESS-EXTENSION

Specifies whether or not the NEA address space extension is supported.

ON The NEA address space extension is supported.

OFF The NEA address space extension is not supported.

Presetting for a BS2000 session: OFF

#### BROADCAST

Handling of broadcast messages.

ON Messages are received and, if necessary, a reply is sent.

OFF Messages are not received.

Presetting for a BS2000 session: OFF

---

|              |                                                                                                                                                                                                             |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ARP          | Specifies whether or not the address resolution protocol is used during activation of LAN routes.<br>ON ARP is used.<br>OFF ARP is not used.<br>Presetting for a BS2000 session: OFF                        |
| RARP         | Specifies whether or not the reverse address resolution protocol is supported.<br>ON RARP is supported.<br>OFF RARP is not supported.<br>Presetting for a BS2000 session: OFF                               |
| CHECKSUM     | Specifies whether the CHECKSUM function is supported in ISO8473 data protocol elements to be sent.<br>ON CHECKSUM is supported.<br>OFF CHECKSUM is not supported.<br>Presetting for a BS2000 session: OFF   |
| ERROR-REPORT | Specifies whether or not the error flag is set in ISO8473 data protocol elements to be sent.<br>ON The error flag is set.<br>OFF The error flag is not set.<br>Presetting for a BS2000 session: ON          |
| ISO9542      | Specifies whether or not the ISO9542 protocol for the exchange of routing information is used.<br>ON ISO9542 protocol is used.<br>OFF ISO9542 protocol is not used.<br>Presetting for a BS2000 session: OFF |

## BCOUT

### Close application groups

This command (BCAM out)

- closes all applications in an application group
- terminates communication with a processor or a group of processors
- terminates communication with an 8170 Cluster Controller
- terminates communication with a LAN node.

| Operation | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCOUT     | $\left[ \begin{array}{l} \text{name} \\ \text{HOST=name} \\ \text{NODE=name} \\ \text{PROCESSOR=name} \\ \text{MSN=name} \\ \text{GROUP=name} \end{array} \right]$ $[ , \text{TYPE} = \left\{ \begin{array}{l} \text{QUICK} \\ \underline{\text{NORMAL}}, [ \text{W} = \left\{ \begin{array}{l} \text{NO} \\ \text{YES} \end{array} \right\} ] \end{array} \right\} ]$ $[ , \text{OUT} = \left\{ \begin{array}{l} \text{ONLY} \\ \text{LOCAL} \\ \text{NODE} \\ \text{ALL} \end{array} \right\} ]$ $[ , \text{DAC} = \left\{ \begin{array}{l} \text{ONLY} \\ \text{LOCAL} \\ \text{NODE} \\ \text{ALL} \end{array} \right\} ]$ |

|           |                                                                                |
|-----------|--------------------------------------------------------------------------------|
| name      | Name of the processor, LAN node, application group or 8170 Cluster Controller. |
| HOST      | Name of the host.                                                              |
| NODE      | Name of the LAN node.                                                          |
| PROCESSOR | Name of the processor.                                                         |
| MSN       | Name of the 8170 Cluster Controller.                                           |
| GROUP     | Name of the application group.                                                 |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE | Specifies the type of connection clear-down.<br>QUICK Connection clear-down does not take place in the network.<br>NORMAL Connection clear-down takes place in the network.<br>Default value: NORMAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| W    | This parameter specifies whether or not a warning is to be issued before an application is closed.<br>NO No warning is to be issued.<br><b>See note 1.</b><br>YES A warning is to be issued.<br><b>See note 2.</b><br>Default value: YES                                                                                                                                                                                                                                                                                                                                                                                                                               |
| OUT  | Specifies the group of processors to be terminated.<br>ONLY The operation is performed only for the processor (node) specified.<br>LOCAL The operation is performed for the processor (node) specified and - if this is the host for all the processors (nodes) behind it in the LOCAL group.<br>NODE The operation is performed for the processor (node) specified and for the processors (nodes) behind it in the LOCAL and NODE groups.<br>ALL The operation is performed for the processor (node) specified and for all the processors (nodes) behind it.<br>Default value: NODE, if the specified processor is a node.<br>In all other cases, the default is ALL. |
| DAC  | Specifies the group of processors to be deactivated (cf. the BCDAC command).<br>ONLY The operation is performed only for the processor (node) specified.<br>LOCAL The operation is performed for the processor (node) specified and - if this is the host for the processors (nodes) behind it in the LOCAL group.                                                                                                                                                                                                                                                                                                                                                     |

**NODE** The operation is performed for the processor (node) specified and for the processors (nodes) behind it in the LOCAL and NODE groups.

**ALL** The operation is performed for the processor (node) specified and for all the processors (nodes) behind it.

Default value: value of OUT

## Notes

1. This option should be used only in an emergency since it does not enable the applications involved to terminate normally.
2. The warning is issued, if applicable, to applications of the host that are connected with an application or terminal of
  - the application group,
  - the processor or processor group or
  - the cluster controller.

If the operand 'applgroup' is specified, the warning is also sent to the applications in the application group. The warning indicates that the applications are to be closed and the connections cleared down. This enables normal termination of those applications and/or connections. The warning period comprises 10 seconds unless a different time was specified for the WARN operand in the BCTIMES command.

## Remarks

1. If 'name' is an application group,
  - a) the applications in this group are forced to close (with the exception of system applications) and
  - b) the application group is placed in the inactive state; the applications in this group cannot be reopened until the BCACT command is issued for this group.
2. If 'name' is a processor or group of processors,
  - a) all connections between the host and the processor (or group of processors) are cleared down,
  - b) communication with the processors is terminated and
  - c) the processors are deactivated.

It is possible to execute the BCDAC function for a group of processors (by entering `/BCOUT DAC=. . .`). The transport connections for this group are not cleared down. The processor is placed in the NONE state and remains known to BCAM (can be queried using BCDISP or BCSHOW).

Completion of command processing is confirmed by a processing acknowledgment.

If the processor is to be reactivated, the commands BCIN and, if applicable, BCACT must be issued for it. This is also a precondition for setting up connections to terminals linked to this processor. If the processor 'processornam' is not reloaded from the host, the BCACT function can be invoked in the BCIN command by specifying the operand ACT=Y.

3. If 'name' is an 8170 Cluster Controller,
  - connections to terminals linked to the cluster controller are cleared down and
  - the cluster controller is deactivated.

If the cluster controller is to be reactivated, the commands BCIN and BCACT must be issued for it.

4. In the case of a BCOUT command for a directly connected processor, the release time for this processor may amount to several seconds. A BCIN command issued for this processor is rejected during this period.
5. As an option (within the BCTIMES command), it is possible to issue warnings to those applications that have connections to an application within the group of applications or to a terminal linked to the processor or the 8170 Cluster Controller. For each connection, they receive a request to clear down. If connections still exist after the warning period has elapsed, they are forcibly cleared down.
6. No warning is issued to applications for any connections with remote processors. The only way of providing such a warning is to issue an explicit BCOUT for the processors concerned.

#### *Note*

It is preferable to specify names as keyword operands, although it is also possible to specify them as positional operands.

If the name refers to a host and virtual hosts are generated, the name must be specified as a keyword operand. Otherwise the command refers to the name as a target computer.

If one name is specified as a positional operand and another as a keyword operand, the positional operand is ignored.

## BCSET

### Set diagnostic and maintenance parameters

The BCSET command (BCAM set) is used to set or change the diagnostic and maintenance parameters.

This command is reserved for the system consultant, system developer or diagnostics engineer; it is used for software maintenance.

BCSET is permitted for use in the SOF.

| Operation | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCSET     | <pre> LENGTH= ( {   [LTS [ , I=n] [ , O=n]   [PORT] [ , I=n] [ , O=n] [ , LINE=nam]   [TRANS [ , I=n] [ , O=n] } )  SELECT= ( {   ON   OFF } ,  [ , TRACE= ( {   NET = ( {     (LINE=linenam)     (A-LAN=lanaddr)     (A-NEA=tdaddr)     (A-INT=internetad)     (A-IP=ipaddr)     (ROUTE=routnam)     (ES=pronam)     (EVENT= {       [13-evtyp]     } )   } )    {     [TRANS]     [CON]     [L4]   } = ( {     (APPL=name)     (PART=partnam)     (ES=pronam)     (A-LAN=lanaddr)     (A-NEA=tdaddr)     (A-INT=internetad)     (A-IP=ipaddr)     (ROUTE=routnam)   } )    PORT = ( {     (PROFILE= {       [12-prf]     } )     (EVENT= {       [12-evtyp]     } )   } )    BASIC= (EVENT=b-evtyp) } ) </pre> |

*continued* →



| Operation        | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCSET<br>(cont.) | $  \left[ , \text{ERROR} = \left\{ \begin{array}{l} \text{ON} \\ \text{OFF} \end{array} \right\} , \text{REASON} = \left\{ \begin{array}{l} \text{BS2-SS} \\ \text{BOURSE-SS} \\ \text{TIMER-SS} \\ \text{CONTINGENCY-SS} \\ \text{MEMORY-SS} \\ \text{SIGNAL-SS} \\ \text{SLOTPOOL-SS} \\ \text{TASK-SS} \\ \text{DEVICE-SS} \\ \text{USER-TIMEOUT} \\ (\text{rea-1}, \dots, \text{rea-n}) \end{array} \right\} \right. \\  \left. \left[ , \text{ACTION} = \left\{ \begin{array}{l} \text{MSG} \\ \text{DUMP} \\ (\text{act-1}, \dots, \text{act-n}) \end{array} \right\} \right] \right] \\  \\  \left[ , \text{CELL-DOUBLING} = \left\{ \begin{array}{l} \text{ON} \\ \text{OFF} \end{array} \right\} \right] \\  \\  \left[ , \text{DISCON-RETARDING} = \left\{ \begin{array}{l} \text{ON} \\ \text{OFF} \end{array} \right\} \right] \\  \\  \left[ , \text{APPL-CLOSE-MSG} = \left\{ \begin{array}{l} \text{ON} \\ \text{OFF} \end{array} \right\} \right] \\  \\  \left[ , \text{NET-ENTRY-CHECK} = \left\{ \begin{array}{l} \text{ON} \\ \text{OFF} \end{array} \right\} \right]  $ |

**TRACE** Specifies the diagnostic and maintenance parameters to be changed for a trace.

**LENGTH** The maximum lengths for the data to be traced are changed.

**LTS** The action is to be performed for the DCM.LTS trace.

**PORT** The action is performed for the port trace indicated by LINE; if LINE is not specified the action is performed for all ports.

**TRANS** The action is performed for traces DCM.BCAM.TRANS and DCM.BCAM.LOC.

**LINE** Indicates the selected port trace  
 nam = line name  
 Trace name: DCM.BCAM.PORT.nam

- I Trace length for the input.  $1 \leq n \leq 3840$   
Default value: 80 for PORT, 64 for TRANS and 40 for LTS
- O Trace length for the output.  $1 \leq n \leq 3840$   
Default value: 80 for PORT, 64 for TRANS and 40 for LTS

SELECT Specifies the status of the trace selection.

- ON Trace selection activated.
- OFF Trace selection deactivated.
- NET The trace selection for the network trace (DCM.BCAM.NET) is changed.

#### LINE

The selection criterion is the line designated 'linenam'.  
The last line number is always valid.

#### A-LAN

The selection criterion is the LAN address (lanaddr).  
The entry is additionally valid.

#### A-NEA

The selection criterion is the NEA network address (tdaddr).  
The entry is additionally valid.

#### A-INT

The selection criterion is the INTERNET address (internetad).  
The entry is additionally valid.

#### A-IP

The selection criterion is the IP address (ipaddr).  
The entry is additionally valid.

#### ROUTE

The selection criterion is the route (routnam).  
The entry is additionally valid.

#### ES

The selection criterion is the end system (pronam). The entry is additionally valid.

## EVENT

The selection criterion is one or more of the following event classes (I3-evtyp):

|               |                      |
|---------------|----------------------|
| ADM           | INET-ADM interface   |
| SUPPORT       | SUPPORT flow control |
| FLOW          | IPOINT flow control  |
| OUT-DATA      | Data output          |
| IN-DATA       | Data input           |
| INDICATION    | Events               |
| TRANSSHIPMENT | Transshipment        |

The entry is additionally valid.

- TRANS The selection for transport traces DCM.BCAM.TRANS and DCM.BCAM.LOC is changed.
- CON The selection for the connection trace DCM.BCAM.CON is changed.
- L4 The selection for the transport traces and the connection trace is changed.

## APPL

The selection criterion is the name of an application on the home processor. Only the last APPL entry is valid. A PART entry made at the same time restricts the selection criterion.

name

Local name of the application that resides in the host (home end system).

The first eight characters of the NEA name and the first eight characters of the HOST name (each 1 to 8 alphanumeric characters long, left-justified and padded with blanks) should be used for the application name.

(,neaname) or (NEA,neaname)

NEA name for the application.

The first eight characters of the application name and the first eight characters of the HOST name (each 1 to 8 alphanumeric characters long, left-justified and padded with blanks) should be used for the NEA name.

If only the application name is specified, the host name specified at BCAM startup is used to form the rest of the name.

(OSI,osiname)

OSI name for the application

(1 to 78 alphanumeric characters).

(SOCKET,socketname)

Socket name for the application

(1 to 78 alphanumeric characters).

## PART

The selection criterion is the name of a partner.

Only the last PART entry is valid. An APPL entry which is valid at the same time restricts the selection criterion.

partnam

Local name of the partner application. The first eight characters of the NEA name and the first eight characters of the host name (each 1 to 8 alphanumeric characters long, left-justified and padded with blanks) should be used for the application name.

(,neaname) or (NEA,neaname)

NEA name for the partner application. The first eight characters of the NEA name and the first eight characters of the HOST name (each 1 to 8 alphanumeric characters long, left-justified and padded with blanks) should be used for the NEA name.

If only the NEA name is specified, the host name specified at BCAM startup is used to form the rest of the name.

(OSI,osiname)

OSI name for the partner application

(1 to 78 alphanumeric characters).

(SOCKET,socketname)

Socket name for the partner application

(1 to 78 alphanumeric characters).

## ES

The selection criterion is the end system (pronam). This entry is additionally valid.

## A-LAN

The selection criterion is the LAN address (lanaddr).

The entry is additionally valid.

## A-NEA

The selection criterion is the NEA network address (tdaddr).

The entry is additionally valid.

## A-INT

The selection criterion is the INTERNET address (internetad).

The entry is additionally valid.

## A-IP

The selection criterion is the IP address (ipaddr).

The entry is additionally valid.

## ROUTE

The selection criterion is the route (routnam).

The entry is additionally valid.

PORT The selection for the port traces (DCM.BCAM.PORT.) is changed.

## PROFIL

The selection criterion is one or more of the following profiles (l2-prof):

NEALKH

NEALKE

NEALKP

NEALKE.S

LLC1

SNAP

ETHERNET

CSMACD

FDDI

SINIX

The entry is additionally valid.

## EVENT

The selection criteria are the following trace event classes (I2-evtyp):

|              |                         |
|--------------|-------------------------|
| IPOINT       | IPOINT interface        |
| START-I/O    | Start of I/O operations |
| END-I/O      | End of I/O operations   |
| OUT-DATA     | Data output             |
| IN-DATA      | (Normal) data input     |
| IN-BROADCAST | Broadcast input         |
| IN           | Data input              |

**BASIC** The selection for the basis trace (DCM.BCAM.BASIC) is changed.

## EVENT

The selection criterion is the IBUF interface.  
The entry is additionally valid.

This command must be issued before the line is activated. It supports NEA address space extension for selected lines.

## ERROR

Behavior in the event of an error.

**ON** An error response is activated.

**OFF** An error response is deactivated.

## REASON

Indicates the reason for the action.

**BS2-SS:** Use of a BS2000 interface

**CONTIGENCY-SS:** Use of the BS2000 contingency interface

**TIMER-SS:** Use of the BS2000 timer interface

**MEMORY-SS:** Use of the BS2000 memory interface

**BOURSE-SS:** Use of the BS2000 bourse interface

**SIGNAL-SS:** Use of the BS2000 signal interface

**TASK-SS:** Use of the BS2000 task interface

**DEVICE-SS:** Use of the BS2000 device interface

**SLOTPPOOL-SS:** Use of the BS2000 slotpool interface

**USER-TIMEOUT:** Timeout after waiting for processing of the user call under BCAM task

Default value: (BS2-SS,USER-TIMEOUT) where ERROR=OFF

## ACTION

Describes the action to be performed.

**DUMPA** A dump is generated (when an error return code is issued).

**MSG** The BCA0777 message is generated (even if the return code is ok).

Default value: (DUMP,MSG) where ERROR=OFF

- CELL-DOUBLING Specifies whether or not the check for cell doubling is to be activated.  
ON Check is activated.  
OFF Check is deactivated.
- DISCON-RETARDING Specifies whether or not clear-down of transport connections is to be delayed.  
ON Transport connection clear-down is delayed.  
OFF Transport connection clear-down is not delayed.
- APPL-CLOSE-MSG Specifies whether or not the "APPLICATION CLOSED" message is to be output.  
ON "APPLICATION CLOSED" message is output.  
OFF "APPLICATION CLOSED" message is not output.
- NET-ENTRY-CHECK Specifies whether or not the network layer entry check is to be activated.  
ON Network layer entry check activated.  
OFF Network layer entry check deactivated.

*Note*

If no specification is made for 'appl', 'neaname', 'osiname' or 'socketname' in the PART operand, this operand is not evaluated.

# BCSHOW

## Display information

The BCSHOW (BCAM show) command is used to have BCAM display information on the console.

| Operation | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCSHOW    | <pre> [ MAXMSG# = n ]  [ LINE = name   HOST = name   ROUTE = name   NODE = name   PROCESSOR = name   GROUP = name   MSN = name ]  [ APPLICATION = { appl                   ( , neaname )                   ( NEA , neaname )                   ( OSI , osiname )                   ( SOCKET , socketname ) } ]  [ , SHOW = { *ALL              HOST              LINE              NODE              ROUTE              APPLICATION              TSAP-OPEN              CONNECTION              PROCESSOR              ( x , . . . , x ) } ]  [ , RANGE = { *ALL               LOCAL               *PROCESSOR               REMOTE               *CHANGED } ]  [ , INFO = { LONG             SHORT } ] </pre> |

*continued* →



| Operation         | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCSHOW<br>(cont.) | <pre> APP#=app# TSN=tsn TID=tid CON#=con#  FUNCT={     [NEA     ISO     STREAMS] }  [ , SELECT=(     PROT={         *ALL         LOCAL         NET         NEA         N[EAT]T         N[EATE]2         N[EATE]3         ISO         I[SO]0         I[SO]2-         I[SO]2+         I[SO]2         I[SO]4         TCP         (... , ... , ...)     }     PARTNER={         [name         ( , neaname)         (NEA, neaname)         (OSI, osiname)         (SOCKET, socketname)]     }     XAF=YES     PORT#=( [OWN=port#] [ , PART=port#] ) ) ]                     </pre> |

**MAXMSG#**                      Number of messages to be output for this command.  
 Range: 0 < n < 100000000  
 Default value: 10

The following console messages are issued:  
 BCA08E0 for the object type HOST  
 BCA08ED for the object type LINE  
 BCA08EB for the object type NODE  
 BCA08EA for the object type PROCESSOR  
 BCA08EC for the object type ROUTE

**LINE, HOST, ROUTE, NODE, PROCESSOR, GROUP, MSN**  
 Name of the object for which information output is to be started.

|             |                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APPLICATION | Name of the application for which information output is to be started.                                                                                                                                                                                                                                                                                                                    |
|             | <p>appl<br/>The first eight characters of the NEA name and the first eight characters of the HOST name (each 1 to 8 alphanumeric characters long, left-justified and padded with blanks) should be used for the application name.</p>                                                                                                                                                     |
|             | <p>(,neaname) or (NEA,neaname)<br/>The first eight characters of the application name and the first eight characters of the HOST name (each 1 to 8 alphanumeric characters long, left-justified and padded with blanks) should be used for the NEA name.<br/>If only the application name is specified, the HOST name specified at BCAM startup is used to form the rest of the name.</p> |
|             | <p>(OSI,osiname)<br/>OSI name for the application<br/>(1 to 78 alphanumeric characters).</p>                                                                                                                                                                                                                                                                                              |
|             | <p>(SOCKET,socketname)<br/>Socket name for the application<br/>(1 to 78 alphanumeric characters).</p>                                                                                                                                                                                                                                                                                     |
| SHOW        | Defines further objects on which information is to be output. Several objects may be specified.                                                                                                                                                                                                                                                                                           |
| RANGE       | This parameter defines the scope of information to be output for the objects ROUTE and PROCESSOR defined using SHOW.                                                                                                                                                                                                                                                                      |
|             | <p><u>*ALL</u> All information is requested.</p>                                                                                                                                                                                                                                                                                                                                          |
|             | <p>LOCAL Only information on locally connected routes and processors is to be supplied.</p>                                                                                                                                                                                                                                                                                               |
|             | <p>*PROCESSOR Information on all the routes to the processor is to be supplied.</p>                                                                                                                                                                                                                                                                                                       |
|             | <p>REMOTE Only information on remotely connected routes and processors is to be supplied.</p>                                                                                                                                                                                                                                                                                             |
|             | <p>*CHANGED Only information on changed routes is to be supplied.<br/>Routes are considered to be changed if they no longer match their generation. These are routes generated by means of /BCIN<br/>GEN=LOCAL/NODE/REMOTE and changed by means of BCASP or routing protocol actions.</p>                                                                                                 |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INFO   | Specifies the type of information to be displayed for connections (SHOW=CONNECTION):<br>SHORT displays data that changes during transfer (e.g. allocations or transferred data)<br>LONG displays unchanging data (e.g. addresses and names)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SELECT | Specifies the selection criteria for applications and connections.<br>APP# Presets an application number (works when SHOW=APPLICATION/CONNECTION).<br>TSN Presets the TSN of a task that has opened the corresponding application (works when SHOW=APPLICATION/CONNECTION).<br>TID Presets the task ID of a task that has opened the corresponding application (works when SHOW=APPLICATION/CONNECTION).<br>CON# Presets the connection number (works when SHOW=CONNECTION).<br>FUNCT Presets the interface functionality of the corresponding application (works when SHOW=APPLICATION/CONNECTION).<br>PROT Presets the Layer 4 protocol (works when SHOW=CONNECTION).<br>PARTNER<br>The selection criterion is the name of a partner (works when SHOW=CONNECTION).<br>(,neaname) or (NEA,neaname)<br>NEA name for the partner application.<br><br>The first eight characters of the NEA name and the first eight characters of the HOST name (each 1 to 8 alphanumeric characters long, left-justified and padded with blanks) should be used for the NEA name.<br><br>If only the NEA name is specified, the HOST name specified at BCAM startup is used to form the rest of the name. |

(OSI,osiname)

OSI name for the partner application  
(1 to 78 alphanumeric characters).

(SOCKET,socketname)

Socket name for the partner application  
(1 to 78 alphanumeric characters).

XAF=YES

Specifies the attribute "saved" as the selection criterion  
(works when SHOW=CONNECTION).

PORT#

If OWN=port#, this specifies the socket port number  
of the application as the selection criterion  
(works when SHOW=APPLICATION or  
SHOW=CONNECTION).  
If PART=port#, this specifies the socket port number  
of the partner as the selection criterion  
(works when SHOW=CONNECTION).

### *Remarks*

1. If no object is specified for the start of information output (no specification for LINE, HOST, ROUTE, NODE, PROCESSOR, GROUP, MSN or APPLICATION), information output starts at the default host, provided that SHOW=HOST was specified.
2. If no specification is made for 'appl', 'neaname' 'osiname' or 'socketname' in the PARTNER operand, it is not evaluated.
3. If an entry is made for APPLICATION, SHOW=CONNECTION must be set.
4. Entries made for SELECT, SHOW and RANGE restrict the scope of information output.
5. The following console messages are output:
  - BCA08E0 if an entry is made for HOST
  - BCA08ED if an entry is made for LINE
  - BCA08EB if an entry is made for NODE
  - BCA08EA if an entry is made for PROCESSOR
  - BCA08EC if an entry is made for ROUTE
  - BCA08E7 if an entry is made for APPLICATION
  - BCA08E8 if an entry is made for CONNECTION when INFO=SHORT
  - BCA08E9 if an entry is made for CONNECTION when INFO=LONG
  - BCA08E2 if an entry is made for TSAP-OPEN

## BCSWP

### Switch port

The BCSWP command (BCAM switch port) switches the allocation of the line to device addresses.

This command is accepted in the SOF.

| Operation | Operands                                                                                                                                                                                       |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCSWP     | $\text{linenam, [DEV= \left\{ \begin{array}{l} \text{mn}_{W-R} \\ (\text{mn}_{W-R} [ , \text{dummy-bc} ] , \text{mn}_L) \\ (\text{mn}_W, \text{mn}_R, [\text{mn}_L] ) \end{array} \right\} ]}$ |

**linenam** Name of the line whose device name is to be changed.

**DEV** Specifies the mnemonic device name of the line adapter to 'processor'.

**mn<sub>W</sub>** Mnemonic device name of the write device.

**mn<sub>R</sub>** Mnemonic device name of the read device.

**mn<sub>L</sub>** Mnemonic device name of the load/dump device.

**mn<sub>W-R</sub>** Mnemonic device name of the write/read device.

**See note 1.**

**dummy-bc**

The specification is ignored.

#### Note

- 'mn' consists of 2 alphanumeric characters. Which physical line is to be used to reach the processor 'mn' is determined at BS2000 system generation by means of the DVC statement.

#### Remarks

- The mnemonic device name of the line is changed. If the line is in the "BCACT" state, it is first deactivated and then reactivated once the device name has been changed.
- Termination of command processing is reported by means of a processing acknowledgment.

## BCTIMES

### Modify time intervals for message monitoring

The BCTIMES (BCAM times) command is used to define the time intervals for monitoring incoming messages. It can also be used to alter the time intervals for monitoring connection requests or warnings, which were automatically set to 30 or 10 seconds when the data communication system was started with the DCSTART command. Thirdly, this command can be used to define globally the time intervals for the window timer.

This command may be included in the SOF.

| Operation | Operands                                                                                                                                                                                                                 |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCTIMES   | [LETT=sec] [,CONN=sec] [,WARN=sec] [,WINDOW=sec]<br>[,DATAGRAM=sec] [,IP-LIFETIME=sec] [,CONFIGURATION=sec]<br>[,INTF-LIFETIME=sec] [,I-REASSEMBLY=sec] [,RETRANSMISSION=sec]<br>At least one operand must be specified. |

|      |                                                                                                                                                                                                                                                                                         |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LETT | Dwell time in seconds for incoming messages of the connection-oriented transport service (1 to 32767).<br>Messages that are not picked up within the specified time are deleted.<br>Presetting for a BCAM session: infinite                                                             |
| CONN | Dwell time for connection requests in seconds (1 to 32767)<br>Connection requests that are not accepted or rejected within the specified time are rejected.<br>The value is rounded up to a multiple of 5. The timer has a precision of 5 seconds.<br>Presetting for a BCAM session: 30 |
| WARN | Dwell time for warnings in seconds (1 to 32767)<br>The relevant command functions are performed only after the dwell time has elapsed following the warning (see the W operand in the commands BCOUT, BCDAC, BCCONN and BCEND).<br>Presetting for a BCAM session: 10                    |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WINDOW        | <p>Time interval for the ISO8073 window timer in seconds<br/>(1 to 180)</p> <p>If, via a given connection, nothing has been transmitted during the time interval, an acknowledgment element (AK-TPDU) is sent. Values are rounded up to a multiple of 2 seconds; the timer is accurate to 2 seconds. Values greater than 180 are corrected to 180.</p> <p>If you modify the value for WINDOW, this also modifies the maximum for the value of RETRANSMISSION (= one fifth of the WINDOW value).</p> |
| DATAGRAM      | <p>Dwell time for incoming messages of the connectionless transport service in seconds<br/>(1 to 32767)</p> <p>Messages that are not picked up during the dwell time are deleted automatically.</p> <p>The value is rounded up to a multiple of 5 seconds; the timer has a precision of 5 seconds.</p> <p>Presetting for a BCAM session: 30</p>                                                                                                                                                     |
| IP-LIFETIME   | <p>Time interval for IP-LIFETIME in seconds<br/>(1 to 255)</p> <p>The value is entered in the IP protocol elements.</p> <p>Values greater than 255 are set to 255.</p> <p>Presetting for a BCAM session: 32</p>                                                                                                                                                                                                                                                                                     |
| CONFIGURATION | <p>Time interval in seconds for the ISO9542 configuration timer for sending ESHs<br/>(150 to 900).</p> <p>Values greater than 900 or less than 150 are set to 900 or 150, respectively. The value is rounded up to a multiple of 5 seconds; The timer has a precision of 5 seconds.</p> <p>Presetting for a BCAM session: 300</p>                                                                                                                                                                   |
| INTF-LIFETIME | <p>Time interval in seconds for the ISO8473-LIFETIME (INTF profile)<br/>(1 to 127).</p> <p>The value is entered in the ISO8473 protocol elements.</p> <p>Values greater than 127 are set to 127. The timer has a precision of 2 seconds.</p> <p>Presetting for a BCAM session: 32</p>                                                                                                                                                                                                               |

- I-REASSEMBLY      Time interval in seconds for the IP and ISO8473 reassembly timer (1 to 255)  
Values that are not reassembled completely within the time interval are deleted.  
Values greater than 255 are set to 255.  
Presetting for a BCAM session: 32
- RETRANSMISSION    Time interval in seconds for the ISO8073-RETRANSMISSION-Timer (2 to 36)  
A protocol element which must be acknowledged is sent again if it is not acknowledged during the time interval by the partner transport controller. The value is rounded up to a multiple of 2; the timer is accurate to 2 seconds. The value may not be greater than one fifth of the value of the WINDOW parameter. Otherwise, it is set back to this maximum value or to 2.  
Presetting for a BCAM session: 10.
- Important:      The retransmission timer should not be modified except when absolutely necessary. The timer has a substantial effect on the load placed on the computer and the LAN.



# BCXAF

## Administer BCAM XAF function

The BCXAF command (BCAM EXTENDED AVAILABILITY FACILITIES) is used to administer the BCAM XAF function.

This command may be included in the SOF.

| Operation | Operands                                                                                                                                                    |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BCXAF     | hostname, MODE= $\left. \begin{array}{l} \text{WORK} \\ \text{STANDBY} \\ \text{UNSAVE} \\ \text{SAVE} \\ \text{RECONF} \\ \text{END} \end{array} \right\}$ |

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| hostname | Name of the virtual host which functions as a saving host or as a host to be saved in accordance with the generation parameters or the RDF definition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MODE     | <p><b>WORK</b> This operand value changes the assignment specified at generation time from STANDBY to WORK. This change can be made only after MODE=END.</p> <p><b>STANDBY</b> This operand value changes the assignment specified at generation time from WORK to STANDBY. This change can be made only after MODE=END.</p> <p><b>UNSAVE</b> This operand value interrupts the save operation until MODE=SAVE is specified; this allows maintenance work to be carried out on the XAF facility during normal operation without provoking malfunctions.</p> <p><b>SAVE</b> This reactivates a save operation previously interrupted with MODE=UNSAVE. This command can be used while a save operation is under way to undo initiation of resynchronization (BCA08A0) in the event of a false alarm.</p> |

- RECONF** This entry initiates both a resynchronization and a system reconfiguration. A malfunction in the working processor is detected by XAF via the line protocol (HDLC) or activity monitoring (LAN) (message BCA08A0). If a BCXAF command with **MODE=RECONF** is issued for this host, resynchronization is initiated.
- If, after a fault, connections which have previously been saved are to be transferred back from the current saving system (STANDBY), a BCXAF command with **MODE=RECONF** is issued on the system defined as **WORK**. This presupposes that there is no save operation in progress or **MODE=UNSAVE** has been specified.
- If the connections are to be transferred from the active saving processor (**WORK**) to the **STANDBY** system (e.g. to enable maintenance work to be carried out), **MODE=RECONF** must be specified on the **STANDBY** system. Any reconfiguration attempts made during an active save operation on the **WORK** system or during a fault condition on the **STANDBY** system are rejected.
- END** This operand value brings the XAF activities for the specified host to a complete stop. Once XAF has terminated normally, a restart can be performed at any time.

### *Remarks*

1. The operand values **MODE=UNSAVE / SAVE / END** specified in this command affect both sides, i.e. the command need only be issued for one side.
2. The command with the operand value **MODE=RECONF** is acknowledged asynchronously after command execution.
3. If **MODE=SAVE** or **MODE=RECONF** is issued on the current working host and the associated standby host is not in operation, the following console message appears:

```
BCA0938      name  NOT READY TO OPERATE .
```

4. All states of the save configuration can be displayed using the `/BCSHOW SHOW=HOST` command. The following states are relevant to XAF:

|             |                                                                                    |
|-------------|------------------------------------------------------------------------------------|
| XAF-WORK    | Defined at generation or redefined after <code>MODE=END</code> .                   |
| XAF-STANDBY | Defined at generation or redefined after <code>MODE=END</code> .                   |
| XAF-RECONF  | A reconfiguration or resynchronization has been initiated but is not yet complete. |
| XAF-CHANGE  | After successful reconfiguration or resynchronization on the STANDBY side.         |
| XAF-END     | After the <code>/BCXAF . . . . ,MODE=END</code> command.                           |

## BIAS

### Define size of resident main memory

This command defines the size of the resident main memory available to the users.

| Operation | Operands   |
|-----------|------------|
| BIAS      | COREBIAS=n |

#### COREBIAS

=n Specifies the maximum number of resident main memory pages.

Value:  $0 \leq n \leq w - y - z - 12$

where:

|    |                        |
|----|------------------------|
| w  | Main memory size       |
| y  | Size of class 1 memory |
| z  | Size of class 3 memory |
| 12 | Saturation criterion   |

Default value: 24

#### Command return codes

| (SC2) | SC1 | Maincode | Meaning                           |
|-------|-----|----------|-----------------------------------|
|       | 0   | CMD0001  | No error                          |
|       | 3   | CMD0202  | Function or unit not supported    |
|       | 3   | EXC0450  | ISP error                         |
|       | 3   | EXC0451  | Privilege missing                 |
|       | 3   | EXC0452  | Not enough memory space available |

#### Notes

- The command BIAS COREBIAS=15 assigns 60 K of main memory space for resident user programs.  
(15 x 4 K = 60 K since the size of one main memory page is 4 K).
- The defined value can be interrogated with the STATUS BIAS command.

## BROADCAST

### Send message to all active user tasks

The BROADCAST command sends a message from the operator to all interactive users currently connected to the system. The system adds the date and time of day to the operator's message.

| Operation                 | Operands |
|---------------------------|----------|
| { BROADCAST }<br>{ BCST } | message  |

message            Text comprising up to 72 characters, which is sent to all active user tasks. All printable characters are permitted.

#### Command return codes

| (SC2) | SC1 | Maincode | Meaning  |
|-------|-----|----------|----------|
|       | 0   | CMD0001  | No error |

#### Note

To send a message to a specific interactive user, the operator must use the MESSAGE command.

## CANCEL

### Cancel user job

The CANCEL command cancels a user job which has been started under any user ID. The resources allocated to the job are released.

If the job to be canceled has already terminated, the CANCEL command is rejected and an appropriate message is output.

The CANCEL command (without the KILL operand) does not cancel a job until the job has assumed user status or until processing of the next command is imminent.

| Operation             | Operands                                                                                      |
|-----------------------|-----------------------------------------------------------------------------------------------|
| { CANCEL }<br>{ CAN } | { tsn } [ { MONJV=jvname } ] [ { DUMP [ , NOSPOOL ] }<br>{ NOSPOOL [ , DUMP ] } ]<br>{ KILL } |

**tsn** Specifies the TSN of the job to be canceled. The number consists of one to four alphanumeric digits. Leading zeros may be omitted.

*Note*

If the job has previously been placed in the wait state by means of the NCHOLD command, CAN tsn is not effective unless the NCREL command is issued first.

**MONJV**

=jvname

This operand is available only to users who have the JV (Job Variables) software product. It specifies the name of the job variable which was defined in the LOGON or ENTER command of the job to be canceled.

**DUMP**

Causes a user memory dump to be written to disk for the job to be canceled. However, this applies only if DUMP=YES was specified in the OPTION command for the job to be canceled.

**NOSPOOL**

This operand prevents the SYSLST and SYSOUT system files from being output to printer for the job to be canceled.

**KILL**

This operand causes the job to be canceled without waiting for the termination of privileged system processes. Under certain circumstances, this may result in inconsistencies in operating system tables (see Notes).

The class 2 system parameter NRTKILL determines whether the operator is authorized to issue CANCEL KILL (NRTKILL=N). If not (NRTKILL=Y, default value), CANCEL KILL is rejected with an appropriate message. This does not affect the authorization of the system administrator in this matter.

The following messages are output for the job affected by the CANCEL KILL command:

```
— PROCESSING INTERRUPTED AT program-counter, IW=&00,
   CODE=NRTKILL, ELSN=&01
```

(NRTKILL signifies that the interrupt was caused by CANCEL KILL. In this case, the value output for IW= cannot be used for diagnostic purposes.)

```
— SYSTEMDUMP DESIRED? REPLY(EOT=DISC;DEVICE=TAPE; N=NO)?
```

```
— ABNORMAL TASK TERMINATION. ERROR CODE 'NRTKILL': /HELP-MSG
   NRTKILL
```

### Command return codes

| (SC2) | SC1 | Maincode | Meaning                       |
|-------|-----|----------|-------------------------------|
|       | 0   | CMD0001  | No error                      |
| 2     | 0   | CMD0002  | Command executed with warning |
|       | 32  | CMD0221  | System error                  |
|       | 64  | JMS0630  | Semantic error                |
|       | 64  | JMS0640  |                               |
|       | 64  | JMS0670  | Error in REMOTE job           |
|       | 132 | JMS0660  | Repeat command later          |

### Notes

- The CANCEL command may be issued in batch or interactive mode or via the operator terminal.
- Several spoolout jobs may have the same TSN, e.g. as the result of a PRINT command for several files. One CANCEL command suffices to cancel all these jobs. A message is issued for each canceled job. The jobs concerned may already be undergoing processing or still be waiting for spoolout.
- If a CANCEL command is issued for a job with a pending message, CANCEL has a retroactive effect as soon as the message is answered.

- A job cannot be canceled if:
  - it is waiting for an operator response, unless KILL is used,
  - an NCHOLD command was given for it,
  - it is in the "pending indefinitely" state,
  - it is in the job termination phase or
  - it is a system job.
- Use of the KILL operand can result in system downtime.

Consequently, the following rules should be observed:

- Wait 10 minutes between CANCEL and CANCEL tsn,KILL.
- Enter STA tsn at the operator terminal beforehand to check the status of this job.
- Reply to all open operator terminal messages beforehand.
- Do not use the command on jobs in a pass loop (Q13, Pendcode 04), as otherwise the wrong job will be canceled, i.e. not the one that caused the deadlock situation, but the one waiting for it to be rectified.
- CANCEL KILL for SPOOL jobs has the same effect as a normal CANCEL command.

**Notes on job monitoring** (see also the *Job Variables* manual)

- If the job is being monitored by a job variable, the status indicator of the job is set to \$A.
- If 'jvname' is not used to monitor a job, the command is rejected.
- If 'jvname' is not accessible, the command is rejected.
- If a program executing within this task is being monitored by a job variable, the status indicator in that job variable is also set to \$A.



## CATEGORY

### Control workload distribution

The CATEGORY command defines the number of tasks per category which may actively apply to use the resources CPU and main memory, and also determines the relative priorities of the different categories.

| Operation                                                                      | Operands                                     |
|--------------------------------------------------------------------------------|----------------------------------------------|
| $\left\{ \begin{array}{l} \text{CATEGORY} \\ \text{CTGY} \end{array} \right\}$ | CODE=name [ , WT=m ] [ , MIN=n ] [ , MAX=r ] |

#### CODE

=name                      Name of the category for which changes are to be implemented.

For the standard categories, these are the names DIALOG, BATCH and TP. If further categories have been defined with the JMU statement DEFINE-JOB-CLASS, these names are also permitted.

#### WT

=m                              This operand is used to weight the categories and control the task activation and task initiation (CPU allocation). It affects the order in which tasks are activated from the categories. It is also used to form the internal task priority which controls CPU allocation.

A high value signifies a high priority.

Value:  $1 \leq m \leq 511$   
Default value: 1

#### MIN

=n                              Request to task management to ensure that at least as many tasks as are specified here for the given category are kept active. This is designed to ensure a minimum workload per category. If MIN=0 is specified for any category, that category is given a very low priority rating.

Value:  $0 \leq n \leq 4095$   
Default value: 1

**MAX**

=r

This is the recommended maximum number of tasks which task management is to activate for the specified category. This operand serves to limit the workload in the event of overloading.

Value:  $0 \leq r \leq 4095$

Default value: 999

*Note*

The number of active jobs in a category can exceed the number specified for MAX. If the system is overloaded, MAX can be used to limit the number of tasks in each individual category.

**Notes**

- A detailed description of the operation of task management is provided in the *System Administrator's Guide*.
- The category in which the user may keep his tasks is defined by the system administrator in the job class and in the user catalog.
- The CATEGORY command cannot be used to modify the SYSTEM category for system tasks.
- The values currently defined can be queried with the STATUS CATEGORY command.
- This command should be used only with the system administration's agreement.

## CHANGE-CONSLOG

### Change logging file

The CHANGE-CONSLOG command closes the current logging file and opens a new one.

This allows the closed logging files to be evaluated during the current session. If a CHANGE-CONSLOG command is already being processed, all further CHANGE-CONSLOG commands are rejected. Depending on the class 2 system parameter NBKESNR, up to 99 files can be created per session or 999 files per day. The class 2 system parameter NBLOGENF (NBLOGENF=E(nforced)) can be used to prevent the last possible CONSLOG file from being changed.

| Operation      | Operands |
|----------------|----------|
| CHANGE-CONSLOG |          |

#### Command return codes

| (SC2) | SC1 | Maincode | Meaning                                                           |
|-------|-----|----------|-------------------------------------------------------------------|
|       | 0   | CMD0001  | No error                                                          |
| 1     | 0   | NBR0905  | CONSLOG not active                                                |
| 2     | 0   | NBR0906  | CONSLOG being deactivated                                         |
|       | 64  | NBR0904  | Last possible sequence number reached, command no longer possible |
|       | 130 | EXC065A  | CHANGE-CONSLOG already being processed                            |

#### Note

When printing the closed logging file, it is advisable to specify the operand ENDNO=252 in the PRINT command to ensure that all records are printed out in full.

## CHANGE-DISK-MOUNT

### Lock access to private disk

With this command the user is denied access to a private disk already in use.

| Operation                                 | Operands                                                                                                                                                                                                                                                                              |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>{CHANGE-DISK-MOUNT} {CHA-DISK}</pre> | <pre>{   {     UNIT={       {mn}       {mn1, ..., mn10}     }     VOL[UME]={       {vsn}       {vsn1, ..., vsn10}     }     EXCH[ANGE-PAIR]=( [DISMOUNT-VOLUME=] vsn1                       , [REMOUNT-VOLUME=] vsn2)<sup>L</sup>   }   ,ACT[ION]={     MOVE     CAN[CEL]   } }</pre> |

<sup>L</sup> The operand expression indicated by "L" can be specified as an operand list in the form ((op1,op2),(op3,op4),...).

#### UNIT

=mn

Specifies one or more disks which are to be no longer available, by means of their mnemonic device names (2 or 4 alphanumeric characters; see Notes).

A maximum of 10 disks may be specified.

#### VOLUME

=vsn

Specifies one or more disks which are to be no longer available, by means of their volume serial numbers (VSN, up to 6 characters). A maximum of 10 disks may be specified.

#### ACTION

=CANCEL

The allocated private disk specified in the UNIT or VOLUME operand is to be made unavailable to the user. Every I/O request is rejected. Opened files are not CLOSED, these files must be made available again using VERIFY before the next OPEN.

This operand should be used only in emergencies.

**The following operands are included in Version 10.0A for reasons of compatibility only. Removable disks - and the function defined by this operand - are no longer supported in this version.**

**ACTION****=MOVE**

The disk specified in the UNIT or VOLUME operand is to be remounted on another device. The system proposes a free device. The prerequisites for remounting are:

- a free device of the same type must exist;
- the disk must not be a fixed disk;
- the disk must have values for PHASE IN-USE and ACTION-STATE other than NO-DEVICE or CANCELLED (see SHOW-DISK-STATUS command);
- in the case of public disks, the disk monitor (DM) must be generated as resident and
- the user must not have specified NO MOVE at reservation time (SPECIAL usage mode).

EXCHANGE-PAIRA used disk for which no device is available (vs<sub>n2</sub>) is to be exchanged for a used disk which is allocated a device (vs<sub>n1</sub>). A maximum of 10 pairs (vs<sub>n1</sub>,vs<sub>n2</sub>) may be specified.

**DISMOUNT-VOLUME****=vs<sub>n1</sub>**

This used disk, which is allocated a device (PHASE IN-USE, ACTION neither NO DEVICE nor CANCELLED), is to be dismounted. Processing of inputs/outputs for this disk is interrupted but not terminated.

**REMOUNT-VOLUME****=vs<sub>n2</sub>**

This used disk, for which no device is available (PHASE IN-USE,ACTION NO DEVICE) is to be mounted instead of vs<sub>n1</sub>. The interruption in the processing of this disk is terminated.

**Command return codes**

| (SC2) | SC1 | Maincode | Meaning                             |
|-------|-----|----------|-------------------------------------|
|       | 0   | CMD0001  | No error                            |
|       | 1   | NKV0001  | Syntax error                        |
|       | 64  | NKV0004  | Command partially processed         |
|       | 64  | NKV0005  | Command not processed for an object |
|       | 64  | NKV0006  | Command not processed               |
|       | 130 | NKVD002  | Disk monitor not available          |

**Notes**

- In the case of the CANCEL function, the disk parameters ASSIGN-TIME=USER and USER-ALLOCATION=NO are implicitly set. In this way, all allocation requests are rejected until the disk is released by the occupying users. The disk can be made available again (SET-DISK-VOL=...,USER=ALL) only after it has been released by all users. Until that time, it is also indicated as allocated by the SHOW commands (SH-DEV, SH-DISK).
- For all devices, connections, etc., 2 alphanumeric characters are valid as 'mn'. Only in the case of disk devices connected to H60, H90, H120 or H130 systems are 'mn's comprising 4 hexadecimal characters (which must be specified in alphanumeric notation without X") also valid.

# CHANGE-SERSLOG

## Change SERSLOG file

The CHANGE-SERSLOG command closes the current SERSLOG file (SYS.SERSLOG.yyyy.mm.dd.xxx.nn) and opens a new one (SYS.SERSLOG...(nn+1)). This makes it possible to evaluate the SERSLOG file during the session. The CHANGE-SERSLOG command is executed only if software error logging is active.

| Operation                         | Operands |
|-----------------------------------|----------|
| { CHANGE-SERSLOG }<br>{ CHAN-SE } |          |

### Command return codes

| (SC2) | SC1 | Maincode | Meaning                                         |
|-------|-----|----------|-------------------------------------------------|
|       | 0   | CMD0001  | No error                                        |
| 2     | 0   | NER0006  | Command executed, but command lock not released |
|       | 32  | CMD0221  | System error                                    |
|       | 32  | NER0003  | SERSLOG not defined in CLTF                     |
|       | 64  | EXC0680  | Task being canceled                             |
|       | 64  | EXC098A  | No authorization for command                    |
|       | 64  | EXC0988  | DMS error                                       |
|       | 128 | NER0004  | A SERSLOG command is already being processed    |
|       | 129 | EXC098B  | SERSLOG function inactive                       |

### Note

If the new SERSLOG file cannot be opened on account of a DMS error, the operator receives a message, and the old SERSLOG file remains the current file. A new CHANGE-SERSLOG command makes an attempt to open the SERSLOG file after next (in the file name, nn is incremented by 2).

### Example

```

/SHOW-SERSLOG
% O 00.132316 % EXC0990 SERSLOG = ACTIVE. FILE : ' :K :$TSOS.SYS.SERSLOG.1992-01-10.018.01'

/CHANGE-SERSLOG
%SERS 00.132325 % EXC0040 LOGGING FILE 'SYS.SERSLOG.1992-01-10.018.02' OPENED
%SERS 00.132325 % EXC0657 LOGGING FILE ' :K :$TSOS.SYS.SERSLOG.1992-01-10.018.01' CLOSED

/SHOW-SERSLOG
% O 00.132350 % EXC0990 SERSLOG = ACTIVE. FILE : ' :K :$TSOS.SYS.SERSLOG.1992-01-10.018.02'
    
```

## CHANGE-TAPE-MOUNT

### Change mount state of tape

This command changes the mount state of a tape (initiates the remounting of a tape).

| Operation                                 | Operands                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>{CHANGE-TAPE-MOUNT} {CHA-TAPE}</pre> | <pre>{   {     UNIT={       {mn       (mn1, ... [, mn10])     }   },   {     VOL[VOLUME]={       {vsn       (vsn1, ... [, vsn10])     }   },   ACT[IION]={     {MOVE     CAN[CEL]     POS[ITION]}   } }</pre> <pre>EXCH[ANGE-PAIR]=( [DISMOUNT-VOLUME=] vsn1 , [REMOUNT-VOLUME=] vsn2)<sup>L</sup></pre> |

<sup>L</sup> The operand expression indicated by "L" can be specified as an operand list in the form ((op1,op2),(op3,op4),...).

#### UNIT

=mn Specifies one or more tapes which are to be remounted, by means of their mnemonic device names (2 alphanumeric characters). A maximum of 10 tapes may be specified.

#### VOLUME

=vsn Specifies one or more tapes whose mount state is to be changed, by means of their volume serial numbers (VSN, up to 6 characters). A maximum of 10 tapes may be specified.

#### ACTION

=MOVE The tape specified in the UNIT or VOLUME operand is to be remounted on another device. The system proposes a free device. The prerequisites for remounting are:

- there must exist a free device which supports the recording density used;
- the tape must have PHASE IN-USE but not ACTION-STATE NO-DEVICE or CANCELLED and
- the user must not have specified NO MOVE at reservation time (implicitly by 'SEC UNIT=mn').

=CANCEL The allocated tape specified in the UNIT or VOLUME operand is to be made unavailable to the user. All further input/output requests are automatically rejected until the tape has been released by the user.



**=POSITION** The allocated tape specified in the UNIT or VOLUME operand is to be repositioned. In this way, the operator can correct any inadvertent intervention on the device.

**EXCHANGE-PAIRA** used tape for which no device is available is to be exchanged for a used tape which is allocated a device. A maximum of 10 pairs may be specified.

#### DISMOUNT-VOLUME

**=vsn1** This used tape, which is allocated a device (PHASE IN-USE, ACTION neither NO DEVICE nor CANCELLED), is to be dismounted. Processing of this tape is interrupted but not terminated.

#### REMOUNT-VOLUME

**=vsn2** This used tape, for which no device is available (PHASE IN-USE, ACTION NO DEVICE) is to be mounted instead of vsn1. The interruption in the processing of this tape is terminated. All input/output requests for this tape are processed again.

### Command return codes

| (SC2) | SC1 | Maincode | Meaning                             |
|-------|-----|----------|-------------------------------------|
|       | 0   | CMD0001  | No error                            |
|       | 1   | NKV0001  | Syntax error                        |
|       | 64  | NKV0004  | Command partially processed         |
|       | 64  | NKV0005  | Command not processed for an object |
|       | 64  | NKV0006  | Command not processed               |
|       | 130 | NKVT002  | Tape monitor unavailable            |

### Notes

- Remounting (MOVE function) for a tape should always be announced with a command because if repositioning takes place without a command, there is no guarantee that the tape on the backup device will remain repositionable.
- The state PHASE IN-USE and ACTION NO DEVICE can only occur for a tape if the device on which the tape is mounted is immediately detached and no backup device is available (detachment by the operator with DET UNIT=mn, FORCE=YES or automatic detachment by the system).
- In the case of tapes without a STD label whose device is inoperable and for which no backup device is available, processing is stopped immediately. ACTION-STATE NO DEVICE is not possible for these tapes.

# CHECK-DISK-MOUNT

## Check mount state

This command checks the mount state of disk devices. The disk monitor (DM) is called to update the online state of the specified devices if the mounting or dismounting of a disk is not recognized by the system because of a missing activation interrupt.

| Operation                                  | Operands                                                                                               |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <pre>{CHECK-DISK-MOUNT} {CHECK-DISK}</pre> | <pre>UNIT={*ALL       mn       (mn1, . . . [, mn10])}  [, ACT[ION]={UPDATE              REPORT}]</pre> |

- UNIT** Defines the devices whose mount state is to be checked and updated.
- =\*ALL** All disk drives having the following attributes are checked and updated:
- ATTACHED or DETACH-PENDING
  - ACTION-STATE = NO ACTION
  - PHASE ≠ MOUNT and PHASE ≠ IN-USE.
- =mn** Mnemonic name of the device (2 or 4 alphanumeric characters; see Note below) whose mount state is to be checked and updated. A maximum of 10 devices can be specified.
- ACTION**
- =UPDATE** An updated online state is to be logged via the following messages (default value):
- ```
NKVD010 DISK vsn IS MOUNTED ON mn
NKVD011 DISK vsn IS DISMOUNTED FROM mn
```
- No message is issued for devices whose online status has not changed.
- =REPORT** In addition to UPDATE, the device error state is logged via message EXC0857 if no volume is recognized as online.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	NKV0001	Syntax error
	64	NKV0004	Command partially processed
	64	NKV0005	Command not processed for an object
	64	NKV0006	Command not processed
	130	NKVD002	Disk monitor not available

**Note**

For all devices, connections, etc., 2 alphanumeric characters are valid as 'mn'. Only in the case of disk devices connected to H60, H90, H120 or H130 systems are 'mn's comprising 4 hexadecimal characters (which must be specified in alphanumeric notation without X") also valid.

## CHECK-TAPE-MOUNT

### Check mount state

This command checks the mount state of tape devices and magnetic tape cartridge devices. The tape monitor (TM) is called to update the online state for the specified devices if the mounting or dismounting of a tape or magnetic tape cartridge is not recognized by the system because of the absence of an activation interrupt.

Operation	Operands
$\left\{ \begin{array}{l} \text{CHECK-TAPE-MOUNT} \\ \text{CHECK-TAPE} \end{array} \right\}$	$\text{UNIT} = \left\{ \begin{array}{l} *ALL \\ mn \\ (mn1, \dots [, mn10]) \end{array} \right\}$ $[ , \text{ACT}[\text{ION}] = \left\{ \begin{array}{l} \text{UPDATE} \\ \text{REPORT} \end{array} \right\}]$

- UNIT** Defines the devices whose mount state is to be checked and updated.
- =\*ALL** All tape devices having the following attributes are checked and updated:
- ATTACHED or DETACH-PENDING
  - ACTION-STATE = NO ACTION
  - PHASE  $\neq$  MOUNT and PHASE  $\neq$  IN-USE
- =mn** Mnemonic name of the device (2 alphanumeric characters) for which the mount state is to be checked and updated. A maximum of 10 devices can be specified.
- ACTION**
- =UPDATE** An updated online state is to be logged via the following messages (default value):
- ```
NKVT010 TAPE vsn IS MOUNTED ON mn
NKVT011 TAPE vsn IS DISMOUNTED FROM mn.
```
- No message is issued for devices whose online status has not changed.
- =REPORT** In addition to UPDATE, the device error state is logged via message EXC0858 if no volume is recognized as online.

**Command return codes**

| (SC2) | SC1 | Maincode | Meaning                             |
|-------|-----|----------|-------------------------------------|
|       | 0   | CMD0001  | No error                            |
|       | 1   | NKV0001  | Syntax error                        |
|       | 64  | NKV0004  | Command partially processed         |
|       | 64  | NKV0005  | Command not processed for an object |
|       | 64  | NKV0006  | Command not processed               |
|       | 130 | NKVT002  | Tape monitor unavailable            |

**Note**

Should an interrupt fail to occur for tape devices without an activation interrupt (e.g. devices attached to 3511 Magnetic Tape Controllers) or devices with a conditional activation interrupt (e.g. devices attached to 3513 Magnetic Tape Controllers), it is possible for the operator to use this command to notify the tape monitor that a tape has been remounted.

# CONSOLE

## Assign standby operator terminals

The CONSOLE command changes the assignment of standby operator terminals or switches over to standby operator terminals. It also serves to cancel assignments and switchover operations.

The CONSOLE command can be issued from the main operator terminal only. (Any modification of the routing code "\*" for the command has no effect.)

| Operation                                                                    | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $\left\{ \begin{array}{l} \text{CONSOLE} \\ \text{CON} \end{array} \right\}$ | $\left[ \begin{array}{l} \text{D[E FINE] , } \left\{ \begin{array}{l} \text{R[E PLACEMENT] = (mn1, mn2 [ , mn1, mn2, \dots ] )} \\ \text{O[R IGINAL] [= } \left\{ \begin{array}{l} \text{mn} \\ \text{(mn, mn, \dots)} \\ \text{ALL} \end{array} \right\} \end{array} \right\} \\ \\ \text{S[W ITCH] , } \left\{ \begin{array}{l} \text{OFF= } \left\{ \begin{array}{l} \text{mn} \\ \text{(mn, mn, \dots)} \end{array} \right\} \\ \text{ON= } \left\{ \begin{array}{l} \text{mn} \\ \text{(mn, mn, \dots)} \end{array} \right\} \end{array} \right\} \\ \\ \text{H[ELP] [ , CS= } \left\{ \begin{array}{l} \text{mn} \\ \text{(mn, mn, \dots)} \\ \text{ALL} \end{array} \right\} \end{array} \right]$ |

**DEFINE** Changes the assignment of standby operator terminals.

### REPLACEMENT

=(mn1,mn2[,mn1,mn2,..])

Operator terminal 'mn1' is assigned standby operator terminal 'mn2'. If more than 2 operator terminals are specified, the assignments are effected in pairs and in sequence.

'mn' is the mnemonic device name of an operator terminal.

#### Note

Teleservice buffers cannot be assigned as standby operator terminals.

### ORIGINAL

=mn

=(mn,mn)

The operator terminals 'mn' are assigned the standby operator terminals as defined during system generation.

|              |                                                                                                                                                                                                                                                                                                                                                            |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| =ALL         | <p>All operator terminals are assigned the standby operator terminals as defined during system generation.</p> <p>If no operator terminal is specified, the main operator terminal is assigned the standby operator terminal as defined during system generation.</p>                                                                                      |
| SWITCH       | <p>Switches operator terminals over to their standby operator terminals or resets this switchover.</p>                                                                                                                                                                                                                                                     |
| OFF          |                                                                                                                                                                                                                                                                                                                                                            |
| =mn          |                                                                                                                                                                                                                                                                                                                                                            |
| =(mn,mn,...) | <p>The operator terminals 'mn' are switched over to their standby operator terminals.</p> <p>If only one operator terminal is available to the system, the command is rejected.</p> <p>The main operator terminal is not permitted to switch itself off.</p>                                                                                               |
| ON           |                                                                                                                                                                                                                                                                                                                                                            |
| =mn          |                                                                                                                                                                                                                                                                                                                                                            |
| =(mn,mn,...) | <p>The operator terminals 'mn' regain their functions. The standby operator terminals are stripped of the functions of the reactivated operator terminals.</p> <p>If the former main operator terminal is reactivated, it regains only its previous routing codes; the "main operator terminal" function is retained by the standby operator terminal.</p> |
| HELP         | <p>Provides information on the allocation of standby operator terminals defined at system generation or by the CONSOLE command.</p>                                                                                                                                                                                                                        |
| CS           |                                                                                                                                                                                                                                                                                                                                                            |
| =mn          |                                                                                                                                                                                                                                                                                                                                                            |
| =(mn,mn,...) | <p>Outputs the standby operator terminal allocation for the operator terminals 'mn'.</p>                                                                                                                                                                                                                                                                   |
| =ALL         | <p>Outputs the standby operator terminal allocation for all operator terminals.</p> <p>If no operator terminal is specified, the standby operator terminal allocation of the main operator terminal is output.</p>                                                                                                                                         |

**Command return codes**

| (SC2) | SC1 | Maincode | Meaning                                                      |
|-------|-----|----------|--------------------------------------------------------------|
|       | 0   | CMD0001  | No error                                                     |
|       | 1   | CMD0202  | Incorrect operand                                            |
|       | 1   | EXC0646  | Incompatible operands                                        |
|       | 1   | EXC0648  | Console names not specified in pairs in DEFINE operand       |
|       | 64  | EXC0647  | Console has invalid console name                             |
|       | 64  | EXC0649  | TELESERVICE consoles may not be assigned as standby consoles |
|       | 64  | EXC0654  | Command may only be issued from main console                 |
|       | 64  | NBR0710  | Deactivation of main console not permitted                   |



## DADM

### Activate/deactivate display terminals or output messages

This command serves to pass all administrative commands to the TDADM task which supports the administration of the TRANSDATA 960 system. The DADM commands are split up into various functions by means of the first operand.

The DADM commands are described in the *Network Management in BS2000* manual.

| Operation | Operands             |
|-----------|----------------------|
| DADM      | command, information |

command            Command name.

information        Additional information.

## DCSTART

### Start data communication system in host

This command (DCM start) starts the data communication system in the host computer; at the same time the RDF definition for the host computer is transferred to the BCAM data structure.

It is possible to include and activate any group of processors at the same time.

| Operation | Operands                                                                                                                                                                                                                                                                                                       |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DCSTART   | <pre> {HOST=processornam } {DCSOF=[\$userid.]dcsof}  [,DCRDF={[\$userid.]dcrdf *NONE DCRDF}]  [,DADM={NO SPOOL} YES]  [,DCSEQ={[\$userid.]dcseq} DCSEQ}  [,MAXNPA={decval} 20}]  [,JV-READY=jvname]  [,MAXNPT={decval} 20}]  [,MAXCNN={decval} 10}]  [,DASTFA={decval} 1000}]  [,PAGMEM={decval} 1536}] </pre> |

*continued* →

| Operation          | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DCSTART<br>(cont.) | <pre>[ ,RESMEM={decval}]  [ ,INI={   { ONLY     LOCAL   }   NODE   ALL }]  [ ,ACT={   { ONLY     LOCAL   }   NODE   ALL }]  [ ,KONTGR={   { decval     512   } }]  [ ,MAXTSDU={   { decval     4096   } }]  [ ,TDADR={   { (REG#=reg#, PRO#=pro#)     (REG#=0, PRO#=0)   } }]  [ ,ACTION=      ]  [ ,REASON=      ]  [ ,#BITMAP=decval]  [ ,RETRY={   { ABNORMAL     NO   } }]  [ ,START={   { RETRY     NEW   } }]  [ ,MSG={   { ALL     NAK   } }]  [ ,SOKHOST=name]  [ ,PRIVPORT#=port#]  [ ,FREEPORT#=port#]</pre> |

- DCSOF** DCSOF specifies the file name of the SOF.  
The fully qualified name (`$userid.filename`) must be specified unless the SOF is cataloged under the user ID TSOS.  
**See note 1.**
- HOST** HOST specifies the name of the host for which BCAM was defined in the RDF.  
HOST must be specified in the DCSTART or DCOPT command.
- DCRDF** dcrdf = name of the RDF  
The fully qualified name (`$userid.dcrdf`) must be specified unless the RDF is located under the user ID TSOS. Default value for Format 2: DCRDF  
(userid = user identification)  
If \*NONE is specified, the system is started without the RDF. In this case, a value must be specified for TDADR in the DCSTART or DCOPT command.  
**See note 2.**
- DADM** The DADM operand must be assigned the value YES if the TDADM administration program is to be started automatically. TDADM is started automatically with the aid of the ENTER procedure `$TSOS.SYSDCM.E.START.TDADM`. This procedure is generated using `/LOGOFF NOSPOOL`.  
In this case, the name of the sequence file is specified using the DCSEQ operand so that later on, during operation, command sequences can be processed on the host computer. SPOOL has the same effect as YES.  
In this case the ENTER procedure is generated using `/LOGOFF SPOOL`.  
N should only be entered if TDADM is not to be started automatically.  
Default value for Format 2: `DADM=YES`  
**See note 3.**
- DCSEQ** dcseq = name of the sequence file  
The fully qualified name (`$userid.dcseq`) must be specified unless the sequence file was generated under the user ID TSOS.  
  
For an automatic start, the name of the sequence file is passed to TDADM by BCAM. This operand is ignored except when TDADM is started automatically by BCAM.  
Default value for Format 2: DCSEQ

|          |                                                                                                                                                                                                                                                                                                                                                                                                |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAXNPA   | Serves to limit the number of nonpredefined applications which can be opened in the host computer at the same time.<br>Default value: 20                                                                                                                                                                                                                                                       |
| JV-READY | Serves to specify the file name of a job variable containing the BCAM state.<br>If the job variable contains "BCAM READY", it indicates that BCAM is in the active state; any other contents indicate that BCAM is not operational.<br>The job variable is reset by BCAM only when BCAM terminates normally (message BCAM0716). If there is no job variable, BCAM does not log the BCAM state. |
| MAXNPT   | Serves to limit the number of nonpredefined applications which can be opened concurrently in the host computer by a single task.<br>Default value: 20.                                                                                                                                                                                                                                         |
| MAXCNN   | Serves to limit the number of connections which a nonpredefined application - not a system application can maintain simultaneously.<br>Default value: 10                                                                                                                                                                                                                                       |
| DASTFA   | This operand specifies the size of the resident data storage (MEM-RES) BCAM can use for data transfer. This parameter is not evaluated if RESMEM is specified. Valid range: $0 \leq \text{DASTFA} \leq 5000$ , default value: 1000<br><b>See note 4.</b>                                                                                                                                       |
| PAGMEM   | This operand is used to specify the size of virtual memory in kilobytes (background, paging memory/area) which BCAM may use for data transfer.<br><br>Valid range for PAGMEM: $\text{PAGMEM} \geq 1000$ After DCSTART, PAGMEM is set to 1536.                                                                                                                                                  |
| RESMEM   | This operand is used to specify the size of resident memory (MEM-RES) in kilobytes which BCAM is allowed to use for data transfer. If RESMEM is specified, DASTFA is ignored. Depending on its packet size, each direct connection of a processor or LAN has a default value for the resident memory required.                                                                                 |

| Packet size P in kilobytes |   |   |      | DATAST-STD in kilobytes |
|----------------------------|---|---|------|-------------------------|
|                            | P | ≤ | 8    | 12                      |
| 8                          | < | P | ≤ 16 | 16                      |
| 16                         | < | P | ≤ 32 | 32                      |
|                            | P | > | 32   | 64                      |

The minimum value for MEM-RES (MEM-RES-min) is the sum of the DATAST-STD of all active direct connections of processors or LANs and a basic constant of 100 kilobytes.

If the value of RESMEM is less than that of MEM-RES-min, MEM-RES-min is assumed for RESMEM.

INI

Specifies the group of processors to be included.

**ONLY** The operation is performed only for the processor (node) specified.

**LOCAL** The operation is performed for the processor (node) specified and - if this is the host for the processors (nodes) behind it in the LOCAL group.

**NODE** The operation is performed for the processor (node) specified and for the processors (nodes) behind it in the LOCAL and NODE groups.

**ALL** The operation is performed for the processor (node) specified and for all the processors behind it.

Default value: ONLY

ACT

Specifies the group of processors to be activated.

**ONLY** The operation is performed only for the processor (node) specified.

**LOCAL** The operation is performed for the processor (node) specified and - if this is the host for the processors (nodes) behind it in the LOCAL group.

**NODE** The operation is performed for the processor (node) specified and for the processors (nodes) behind it in the LOCAL and NODE groups.

**ALL** The operation is performed for the processor (node) specified and for all the processors behind it.

Default value: ONLY

- MSG            ALL     All messages are to be displayed.
- NAK     Only negative messages for the processor are to be displayed.
- See note 5.**
- KONTGR        Decimal value of the container size. This value is evaluated only if DCRDF=\*NONE has been set (see the *Generating a Data Communication System* manual). Default value: 512
- MAXTSDU        This parameter is evaluated only if DCRDF=\*NONE has been set. It defines the maximum message length that the host can receive. Default value: 4096
- TDADR          This parameter is evaluated only if DCRDF=\*NONE has been set. It specifies the NEA network address of the host. Default value: REG#=0,PRO#=0
- ACTION         Corresponds to entering the command /BCSET ERROR=(ON,ACTION= ,REASON= ) after starting the DCM communication services (see BCSET command, page 96f).
- REASON         Valid only in conjunction with ACTION.
- #BITMAP        Number of 256-byte bitmaps for managing each data slot pool. If this value is not specified, it is calculated from the system value MEMSIZE using the following algorithm:

| BS2000-MEMSIZE in Mbytes | Number of bitmaps |
|--------------------------|-------------------|
| M ≤ 8                    | 1                 |
| 8 < M ≤ 16               | 2                 |
| 16 < M ≤ 50              | 3                 |
| 50 < M ≤ 100             | 4                 |
| M > 100                  | 5                 |

decval restricts the size of the data slot pool. The maximum number of slots in a data slot pool is the product of decval and 2048.

- RETRY          This parameter controls system behavior on abnormal termination of BCAM.
- ABNORMAL    A restart is executed.
- NO            No restart is executed.
- Default value: NO

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| START     | Saves the valid start parameters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| RETRY     | BCAM is started with the parameters valid when the last session was started.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NEW       | The valid start parameters result from the DCSTART commands used for starting the last session with START=NEW, any DCOPT command issued and further changes caused by BCMOD commands.<br>Default value: NEW                                                                                                                                                                                                                                                                                                                                 |
| SOKHOST   | Specifies the socket host name<br>(32 characters, left-justified and padded with blanks).                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PRIVPORT# | Specifies the first socket port number that may be occupied by nonprivileged applications. All low port numbers (except socket port number 20) may be occupied only by privileged applications. Privileged applications are applications that run under the BS2000 system privilege TSOS or NETADM.<br>PRIVPORT# must always be less than or equal to FREEPORT#.<br><br>If the value selected for PRIVPORT# is greater than the value of FREEPORT#, the value specified for FREEPORT# applies.<br>Default value: 2050<br><b>See note 6.</b> |
| FREEPORT# | Specifies the first free port number that BCAM can allocate dynamically to an application.<br>FREEPORT# must always be greater than or equal to PRIVPORT#.<br>If the value selected for FREEPORT# is less than the value of PRIVPORT#, the value specified for PRIVPORT# applies.<br>Default value: 4096<br><b>See note 6.</b>                                                                                                                                                                                                              |

### Notes

1. If the DCSOF operand is used, BCAM accesses the SOF (start option file) 'dcsof'. The data communication system is activated automatically. The SOF must have been created previously; it contains all the commands required for automatic activation of the data communication system. The first command (DCOPT) of the SOF contains the DCSTART optional operands. If one or more of these optional operands are additionally specified in the DCSTART command, the values given for these operands in the DCOPT command are overwritten for this particular activation. The DADM operand must not be overwritten with the value 'N' if the 'dcsof' command file contains TDADM administration commands.



2. The RDF (resource definition file) is described in the manual *Generating a Data Communication System*.
3. If DADM=N is specified, only the Data Communication Method (DCM) is activated (TDADM is not started automatically). DADM=N is selected, if:
  - a) the computer network does not contain any TRANSDATA 960 communication computers,
  - b) the TRANSDATA 960 communication system is not to be administered from the host or
  - c) the TRANSDATA 960 communication system is to be started later.

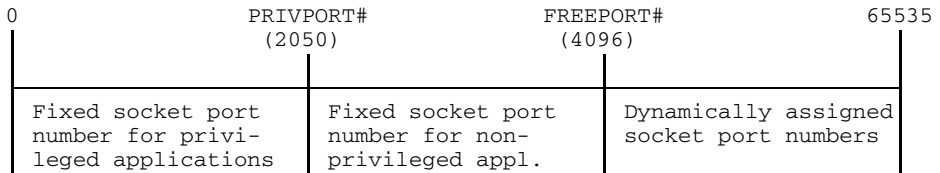
The ENTER procedure for starting TDADM is started with the priority 128, NTL=Y,EXPRESS=Y. The user ID TSOS should therefore be entered together with these authorizations in the JOIN file. If they are omitted, message EXC0176 is output and the ENTER procedure is started with the default authorizations.

5. The following positive messages are suppressed:

BCA0740  
BCA0763 for the commands BCIN (Format 1), BCACT, BCDAC, BCOUT  
BCA082A  
BCA083F  
BCA0852  
BCA0853  
BCA0854 with reason 00/01/02  
BCA0855 with reason 00/01/02  
BCA085F  
BCA08D7  
BCA08DC  
BCA08DD  
BCA08DE  
BCA08DF

The message for directly addressed processors is always output (otherwise sequences might not execute correctly). Positive messages are suppressed only for the processors behind the directly addressed processor.

6. Socket applications are addressed via their socket port numbers. The socket port numbers may range from 0 through 65535 and are divided into three subranges:



### Remarks

1. The DCSTART command initially causes the following internal, privileged applications to be opened automatically in the host computer:
  - a) §DIALOG (application for interactive processing (TIAM))
  - b) §RBATCH (application for remote batch processing (RBAM))
  - c) §CONSOLE (application for universal console (UCON))
  - d) §BCAM (application for TRANSDATA DCM information service)

The command sequence 'dcsof' is then processed if specified in the DCSOF operand of the DCSTART command.

2. The DCSTART command automatically starts the monitoring of connection requests and warnings. The following then applies during operation:
  - a) Connection requests are automatically rejected after 30 seconds if not already rejected or accepted. The time interval can be modified using the CONN operand in the BCTIMES command.
  - b) Ten seconds after the BCEND or BCOUT command is entered, the functions defined in the command is executed. The time interval can be modified using the WARN operand in the BCTIMES command.

Monitoring of incoming messages is not automatically started by DCSTART. If, during operation, incoming messages are to be automatically deleted (if they have not been picked up) after a set number of seconds have elapsed, the BCTIMES command must be issued and the LETT operand defined accordingly.

3. If several BS2000 host computers exist in a network, the DCSTART command must be entered at each of them.

4. The limits set by means of the operands MAXNPA, MAXNPT and MAXCNN do not apply to predefined applications and system applications.
5. Before the console message 'BCAM ACTIVE' is output, the current values for MAXNPA, MAXNPT, MAXCNN, DASTFA, PAGMEM and RESMEM are output in message BCA08F8. The current values can also be determined using the `/BCDISP DISP=LIMITS` command.
6. If DCRDF=\*NONE, the system is started without the RDF. In this case, a value must be specified for TDADR in the DCSTART or DCOPT command.

## DETACH-DEVICE

### Detach hardware units

This command detaches one or more hardware units from the system, and the system is prohibited from using these units.

| Operation                                                                             | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $\left. \begin{array}{l} \text{[DETACH-DEVICE]} \\ \text{[DET]} \end{array} \right\}$ | $\left. \begin{array}{l} \text{UNIT=} \left\{ \begin{array}{l} \text{[mn} \\ \text{(mn1, . . . mn16)} \\ \text{*unit-class (mn)} \\ \text{*unit-class (mn1, . . . , mn16)} \\ \text{*CHA [NNEL] -R [ANGE] ( [FROM=] mn1, [TO=] mn2) } \end{array} \right\} \\ \\ \left[ , \text{FORCE=} \left\{ \begin{array}{l} \text{N[O] [ (WAIT=} \left\{ \begin{array}{l} \text{[STD} \\ \text{int [ ( [DIM=} \left\{ \begin{array}{l} \text{[MIN]} \\ \text{[SEC]} \end{array} \right\} ) ] } \right\} \\ \text{NO} \end{array} \right\} \right\} \\ \text{Y [ES]} \end{array} \right\} \right]$ |

**UNIT** Specifies the hardware units to be detached from the system, by means of their respective unit classes and mnemonic device names (2 or 4 alphanumeric characters; see Note). A list of up to 16 elements may be specified. Exception: CHANNEL-RANGE (see below).

=mn Mnemonic device name of the device to be reconfigured.

=\*unit-class(mn) Mnemonic device name and unit class of the hardware unit to be reconfigured.

The following unit classes may be specified:

SIDE  
 IOS[IDE]  
 CPU  
 S[TORAGE]-E[LEMENT]  
 CHA[NNEL]  
 CON[TROLLER]

=\*CHANNEL-RANGE(FROM=mn1,TO=mn2)

Specifies a set of channels that are to be reconfigured. mn1 and mn2 are channel path IDs, which must comply with the following rule: mn1 < mn2 and mn2 minus mn1 < 64.

- FORCE** Specifies the execution mode for DETACH-DEVICE.
- =NO** The reconfiguration job is to be executed immediately only if the unit is not being used. Otherwise, the system must wait for the time specified in the WAIT operand for the unit to become free (default). The unit then enters the DETACH-PENDING state.
  - =YES** The reconfiguration job is to be executed immediately. This setting is not permitted for detaching SIDE, CPU or STORAGE-ELEMENT (see notes).
- WAIT** Specifies the maximum wait time for execution of the reconfiguration job in execution mode FORCE=NO.
- =STD** 15 minutes (default value) is set as the maximum wait time.
  - =int** Specifies the maximum wait time.  
Possible values:  
 $1 \leq \text{int} \leq 546$  when DIM=MIN  
 $1 \leq \text{int} \leq 32767$  when DIM=SEC.
  - =NO** No maximum wait time is specified for execution of the reconfiguration job.
- DIM**
- =MIN** The wait time is specified in minutes (default value).
  - =SEC** The wait time is specified in seconds.

### Command return codes

| (SC2) | SC1 | Maincode | Meaning                                   |
|-------|-----|----------|-------------------------------------------|
|       | 0   | CMD0001  | No error                                  |
| 1     | 64  | ETMRK..  | Error in command execution                |
| 2     | 64  | ETMRK..  | Command processed partially without error |
| 4     | 64  | NKR0..   | Hardware unit already detached            |
| 12    | 64  | NKR0..   | Internal check negative                   |
| 16    | 64  | NKR0..   | Caller error                              |
| 20    | 64  | NKR0..   | Software error                            |

#### Note

If there is an error in command termination, the maincode contains the message code of the message output last during command processing.  
The command return codes with the ETMRK.. maincodes occur only if the hardware unit to be reconfigured is a SIDE, a STORAGE-ELEMENT or a CPU.

**Effect of the DETACH-DEVICE command:**

1. Each of the hardware units specified assumes (if permitted) the state "detached explicitly". In this case, the hardware units cannot be used by the system.
2. All affected outward connections assume the state "removed implicitly". The connections cannot be used.
3. Each affected outer unit whose internal connections are all in the "removed implicitly" or "removed explicitly" state is placed in the "detached implicitly" state and cannot be used.
4. If the units to be detached are hardware units, i.e. there are corresponding SVP actions, these actions are initiated. The units are placed in the configuration state "detached", regardless of whether or not these actions are successful.

**Notes**

- If the reconfiguration job cannot be executed with FORCE=NO within the specified maximum wait time, it is rejected with the following messages:

```
NKR0037  DEVICE=<mn> MAY CURRENTLY NOT BE DETACHED  
NKR0049  <unit-class>=<mn> DETACHMENT REJECTED
```

In this case the operator should:

- request more detailed information with SHOW commands, terminate tasks which have reserved the device, or assign other devices,
  - Nor repeat the reconfiguration job in execution mode FORCE=YES.
- Regardless of the execution mode set, a reconfiguration job is not executed if the unit affected is absolutely essential for the system. The system requires the following units:
    - the only or the last CPU ready for operation
    - the only or the last operator terminal
    - the only or the last controller for the public disks
    - a disk drive for a public disk.
  - The "detach pending" state can be terminated by means of the appropriate command ATTACH-DEVICE or DETACH-DEVICE ..., FORCE=YES.

- If a duplex side (SIDE) or a CPU or a storage element (STORAGE-ELEMENT) is to be detached, FORCE=YES is not permitted.  
If the duplex side is nevertheless to be detached as quickly as possible, a DETACH with the FORCE=YES parameter can be executed selectively for the relevant I/O peripheral units (I/O sides, channels, controllers or devices). DETACH can then be issued for the duplex side itself.  
These DETACH FORCE=YES commands can also be entered while the side is in the "detach pending" state.
- To detach hardware units in the execution mode FORCE=NO(...), proceed as follows:
  - a) If the command is permitted, the following message is issued:  

```
NKR0092      <unit-class>=<mn> : /DETACH-DEVICE PENDING ACCEPTED
```
  - b) If the unit is being used neither by the system nor by user jobs, the command is executed immediately.
  - c) If the unit concerned is being used, the command is executed when the unit is no longer occupied. If execution is not possible within the period specified by WAIT, the following messages are issued:  

```
NKR0037 DEVICE=<mn> MAY CURRENTLY NOT BE DETACHED  
NKR0049 <unit-class>=<mn> DETACHMENT REJECTED
```
  - d) the command DET UNIT=mn, FORCE=NO(...) can be canceled with ATT UNIT=mn
- For all devices, connections, etc., 2 alphanumeric characters are valid as 'mn'. Only in the case of disk devices connected to H60, H90, H120 or H130 systems are 'mn's comprising 4 hexadecimal characters (which must be specified in alphanumeric notation without X") also valid.

## ENTER

### Submit batch job

The ENTER command is used to submit a new batch job (ENTER job). This batch job is independent of the submitting job and is given its own TSN by the system. The start of the new batch job may be delayed by operator or system administrator commands. When this is the case, the job is entered in the job queue and waits until it can be processed by the system.

In the ENTER command, the name of the file containing the commands for the new batch job must be specified. The first command in such an ENTER file must be LOGON and the last must be LOGOFF.

| Operation      | Operands                                                                                                                                                                                                                                                                                                                                            |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| {ENTER}<br>{E} | {pathname<br>{libname(element-name)}<br><br>[,userid,accountno[,password]]<br><br>[,FPASS=password]<br><br>[,ERASE={NO<br>YES}]<br><br>[,HOST={'bcam-name'<br>jvname1}]<br><br>[,CAT={'catid'<br>jvname2}]<br><br>[,JOB-CLASS={*STD<br>class}]<br><br>[,MONJV=jvname3] [,JVPASS=password]<br><br>[,JOB-PRIO={STD<br>p}]<br><br>[,RERUN={NO<br>YES}] |

*continued* →



| Operation        | Operands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENTER<br>(cont.) | <p>[ , FLUSH = {<br/> <span style="border: 1px solid black; padding: 2px;">NO</span><br/> <span style="border: 1px solid black; padding: 2px;">YES</span> } ]</p> <p>[ , START = {<br/> <span style="border: 1px solid black; padding: 2px;">STD</span><br/> <span style="border: 1px solid black; padding: 2px;">SOON</span><br/> <span style="border: 1px solid black; padding: 2px;">IMMEDIATELY</span><br/> WITHIN { ( HOURS=no [ , MINUTES=no ] ) }<br/> { ( [ HOURS=no , ] MINUTES=no ) }<br/> AT ( [ DATE=yy-mm-dd , ] TIME=hh:mm )<br/> EARLIEST ( [ DATE=yy-mm-dd , ] TIME=hh:mm )<br/> LATEST ( [ DATE=yy-mm-dd , ] TIME=hh:mm )<br/> AT-STREAM-STARTUP } ]</p> <p>[ , REPEAT = {<br/> <span style="border: 1px solid black; padding: 2px;">STD</span><br/> <span style="border: 1px solid black; padding: 2px;">NO</span><br/> <span style="border: 1px solid black; padding: 2px;">DAILY</span><br/> <span style="border: 1px solid black; padding: 2px;">WEEKLY</span><br/> PERIOD { ( HOURS=no [ , MINUTES=no ] ) }<br/> { ( [ HOURS=no , ] MINUTES=no ) }<br/> AT-STREAM-STARTUP } ]</p> <p>[ , RUN-PRIO = {<br/> <span style="border: 1px solid black; padding: 2px;">STD</span><br/> <span style="border: 1px solid black; padding: 2px;">nr</span> } ]</p> <p>[ , TIME = {<br/> <span style="border: 1px solid black; padding: 2px;">STD</span><br/> <span style="border: 1px solid black; padding: 2px;">NTL</span><br/> <span style="border: 1px solid black; padding: 2px;">t</span> } ]</p> <p>[ , PRINT = {<br/> <span style="border: 1px solid black; padding: 2px;">STD</span><br/> <span style="border: 1px solid black; padding: 2px;">NO</span><br/> <span style="border: 1px solid black; padding: 2px;">nr</span> } ]</p> <p>[ , PUNCH = {<br/> <span style="border: 1px solid black; padding: 2px;">STD</span><br/> <span style="border: 1px solid black; padding: 2px;">NO</span><br/> <span style="border: 1px solid black; padding: 2px;">no</span> } ]</p> <p>[ , LOG = ( [ LISTING = {<br/> <span style="border: 1px solid black; padding: 2px;">NO</span><br/> <span style="border: 1px solid black; padding: 2px;">YES</span> } ] ) ]</p> |

continued →

| Operation        | Operands                                                                                                                                                                                                                                                                           |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENTER<br>(cont.) | $[ , \text{JOB-PAR} = \left\{ \begin{array}{l} *NO \\ 'string' \end{array} \right\} ]$ $[ , \text{PRIORITY} = \left\{ \begin{array}{l} p \\ ( [p] , \text{EXP[RESS]} ) \end{array} \right\} ]$ $[ , \text{MSG} = \left\{ \begin{array}{l} F \\ C \end{array} \right\} ] [L] [H] ]$ |

**pathname** Specifies the name of a cataloged file which will become the command file (SYSCMD, also SYSDTA and SYSIPT as default values) for the new batch job. A valid file name must be used, as defined in the manual *DMS Introductory Guide*. If the file is not cataloged under TSOS, the file name must start with '\$userid.'. If the file is not located on the standard pubset of the user ID, the file name must be preceded by the pubset's catalog ID (catid).  
 pathname = [:catid:][\$userid.]filename

**libname(element-name)** Can be specified instead of 'filename' if a library member (element) is involved.  
**libname** Name of the cataloged library file.  
**(element-name)** Name of the library member, up to 8 characters. Permissible characters are: all letters from A to Z, \$, #, @, - (hyphen) and digits 0 through 9. The first character must be a letter.

**userid** Specifies the user ID for the ENTER job to be initiated. The user ID consists of 1 to 8 alphanumeric characters, the first of which must be a letter.

**accountno** Specifies the account number for the ENTER job. The account number consists of 1 to 8 alphanumeric characters and defines the account to which the runtime used for the ENTER job is to be charged.

**password** Specifies the password for the userid, is 1 to 8 characters long and may be entered as a character constant (C'...') or a hexadecimal constant (X'...'). The password is not logged to SYSOUT, i.e. it does not appear in the printer listing for the ENTER job. If 'userid', 'accountno' and 'password' are missing, their values will be taken from the ENTER file's LOGON command.

|              |                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FPASS        |                                                                                                                                                                                                                                                                                                                                                                                                                        |
| =password    | Password of the ENTER file.                                                                                                                                                                                                                                                                                                                                                                                            |
| ERASE        |                                                                                                                                                                                                                                                                                                                                                                                                                        |
| =NO          | Specifies that the ENTER file is not to be erased at the end of the associated job.                                                                                                                                                                                                                                                                                                                                    |
| =YES         | Specifies that the ENTER file is to be erased at the end of the ENTER job.                                                                                                                                                                                                                                                                                                                                             |
| HOST         | Specifies the target computer in the MSCF network (see the <i>MSCF</i> manual) on which a job is to be executed. The target computer is addressed in a general way, i.e. resource requirements for the job such as device, file or catalog requirements cannot be included.                                                                                                                                            |
|              | It is a precondition for use of the HOST operand that the entire MSCF network software be fully operational.                                                                                                                                                                                                                                                                                                           |
| ='bcam-name' | Specifies directly the target computer on which the job is to run.                                                                                                                                                                                                                                                                                                                                                     |
| =jvname1     | Specifies indirectly, via a job variable, the target computer on which the job is to run.                                                                                                                                                                                                                                                                                                                              |
|              | In the case of HOST addressing, the first 8 characters of the value of the job variable must contain the BCAM name of a target computer.                                                                                                                                                                                                                                                                               |
| CAT          | Designates the target computer specifically. This operand establishes a relationship between the resource requirements, e.g. the necessary catalogs, of a job due for processing, and the system environment, i.e. the computer on which the job is to run.                                                                                                                                                            |
|              | When using this operand, there is no need to make special provision for the details of catalog distribution in the MSCF network and the system of processor designations (BCAM), on which it is based. The job is allocated to the processor in which the catalog specified in the CAT operand is located when the ENTER command is input. (A home, imported or external catalog may be specified in the CAT operand.) |
|              | The MSCF environment is not necessarily mandatory when CAT is used. It is dispensable, for example, when the specified catalog is located on the processor on which the ENTER command was issued. Allocation of the job to an external processor is superfluous here.                                                                                                                                                  |
|              | The CAT operand may be used even in a BS2000 single-computer system.                                                                                                                                                                                                                                                                                                                                                   |

---

|           |                                                                                                                                                                                                                                                                |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| =catid'   | Specifies a catalog directly; the job is assigned to the processor to which the catalog has been allocated.                                                                                                                                                    |
| =jvname2  | Specifies a catalog indirectly via a job variable; the job is assigned to the processor to which the catalog has been allocated.                                                                                                                               |
| JOB-CLASS | Specifies the job class in which the job is to run.                                                                                                                                                                                                            |
| =STD      | Either default class defined for the user ID or system default class if no default class has been defined for the user ID.                                                                                                                                     |
| =class    | The user must have been authorized by the system administrator to work in this class.                                                                                                                                                                          |
| MONJV     | Allocates a job variable to the job to be processed. The job can subsequently be addressed via this job variable.                                                                                                                                              |
| =jvname3  | Specifies the name of the job variable to which the operating system assigns the value \$S, \$R, \$T or \$A (see the <i>Job Variables</i> manual) during job/task processing.                                                                                  |
| JVPASS    |                                                                                                                                                                                                                                                                |
| =password | Specifies the password for the monitoring job variable specified by MONJV.                                                                                                                                                                                     |
| JOB-PRIO  | Specifies the job scheduler priority with which the job is to be started.                                                                                                                                                                                      |
| =STD      | Default value; depends on the class in which the job is to run.                                                                                                                                                                                                |
| =p        | Number from 1 to 9. The priority which can be assigned depends on the class in which the job is to run. The smaller the number, the higher the priority.                                                                                                       |
| RERUN     |                                                                                                                                                                                                                                                                |
| =YES      | If the job is still being processed when the system is terminated or an unrecoverable system error occurs, the job is executed again from the beginning in the subsequent session (provided that a warm start or an appropriate selective start is performed). |
| =NO       | If the job is started but cannot be processed completely during the current session, the job is not to be started up again in subsequent sessions.                                                                                                             |

|                    |                                                                                                                                                                                                     |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FLUSH              |                                                                                                                                                                                                     |
| =YES               | If execution of the job is not started in the current session, the job is removed from the job queue during the next session without having been processed.                                         |
| =NO                | The job stays in the job queue until it is selected for processing by the job scheduler. If only warm or selective starts are involved, it does not matter in which session processing takes place. |
| START              | Specifies the time at which the job is to be started. The values which can be specified depend on the class in which the job is to run.                                                             |
| =STD               | Default value; depends on the class in which the job is to run.                                                                                                                                     |
| =SOON              | The job is to be started as soon as possible. If the SOON operand has been specified for more than one job, the the start order depends on the parameters of the associated job scheduler.          |
| =IMMEDIATELY       | The job is to be started immediately, even if other jobs of a higher priority are to be started at this time.                                                                                       |
|                    | <i>Note</i>                                                                                                                                                                                         |
|                    | The attribute IMMEDIATELY must be permitted in the job class, or the attribute EXPRESS=YES must be entered in the user catalog.                                                                     |
| =WITHIN            | Specifies the time within which the job is to be started:<br>HOURS = Hours from 0 through 23<br>MINUTES= Minutes from 0 through 59                                                                  |
| =AT                | Specifies the time at which the job is to be started:<br>yy-mm-dd = date; order: year-month-day<br>hh:mm = time of day; order: hour-minute                                                          |
| =EARLIEST          | Specifies the earliest time the job is to be started.<br>Specification as for AT.                                                                                                                   |
| =LATEST            | Specifies the latest time the job is to be started.<br>Specification as for AT.                                                                                                                     |
| =AT-STREAM-STARTUP | The job is to be started after the next startup of the associated job scheduler.                                                                                                                    |
| REPEAT             | Specifies that the job is to be repeated at specific intervals. The specifications which may be made depend on the class in which the job is to run.                                                |
| =STD               | Default value; depends on the class in which the job is to run.                                                                                                                                     |

|                    |                                                                                                                                                                                                                                                                                   |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| =NO                | The job is not to be repeated.                                                                                                                                                                                                                                                    |
| =DAILY             | The job is to be repeated every day. The time is specified by the START operand.                                                                                                                                                                                                  |
| =WEEKLY            | The job is to be repeated every week. The time is specified by the START operand.                                                                                                                                                                                                 |
| =PERIOD            | The job is to be repeated after the period specified. The period specified must be greater than zero.<br>HOURS = Hours from 0 through 23<br>MINUTES= Minutes from 0 through 59                                                                                                    |
| =AT-STREAM-STARTUP | The job is to be repeated after each startup of the associated job scheduler.                                                                                                                                                                                                     |
| RUN-PRIO           | Specifies the task scheduler priority with which the job is to run (the smaller the number, the higher the priority).                                                                                                                                                             |
| = <u>STD</u>       | Default value; depends on the job class in which the job is to run.                                                                                                                                                                                                               |
| =no                | Possible values for 'no': $30 \leq no \leq 255$<br>(see Notes).                                                                                                                                                                                                                   |
| TIME               |                                                                                                                                                                                                                                                                                   |
| = <u>STD</u>       | Default value of the selected job class.                                                                                                                                                                                                                                          |
| =NTL               | This operand allows a batch job to execute in a CPU without a time limit, provided either that the job class permits it or that the attribute NTL=YES is entered in the user catalog for the account number specified in the ENTER command.                                       |
| =t                 | Specifies the maximum CPU time, in seconds, which the new batch job may use.<br>Maximum value: 32767 or specification as per job class.<br><br>If the TIME operand is not specified, the job class default values are used.                                                       |
| PRINT              | Specifies the maximum number of records which may be output to system file SYSLST during the current job.<br>SYSOUT records, which are also logged on SYSLST when LOG=(LISTING=YES) or MSG=H is specified, are not counted.<br>If the limit value is reached, the job is aborted. |

|                |                                                                                                                                                                                                         |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>=STD</u>    | Default value; depends on the job class in which the job is to run.                                                                                                                                     |
| =NO            | There is no limit to the number of records that can be output (if job class NO is allowed).                                                                                                             |
| =no            | Specifies the maximum number of records.<br>Possible values for 'no': $0 \leq no \leq 999999$ or specification as per job class.                                                                        |
| PUNCH          | Specifies the maximum number of records which may be output to the SYSOPT system file. The permissible entries are the same as for the PRINT operand above.                                             |
| LOG            |                                                                                                                                                                                                         |
| =(LISTING=...) | Specifies whether output to SYSOUT is also to be logged to SYSLST.                                                                                                                                      |
| JOB-PAR        | Special information on controlling execution can be stored for each job by way of a system exit.                                                                                                        |
| = <u>*NO</u>   | No information is stored.                                                                                                                                                                               |
| ='string'      | Information, 0 - 127 characters in length.                                                                                                                                                              |
| PRIORITY       | This operand continues to be supported for compatibility reasons only. It is ignored if the RUN-PRIO operand is specified.                                                                              |
| =p             | A number between 30 and 255 which defines the task scheduling priority of the ENTER job. 30 is the highest priority, and 255 the lowest (see Notes).                                                    |
| =(,EXPRESS)    | The job is to be started immediately, even if other jobs with higher priority were to be started at this time. EXP is ignored if the START operand is specified.                                        |
| MSG            | This operand continues to be supported for compatibility reasons only. It controls how system messages are output and how the task run is to be logged. MSG is ignored if the LOG operand is specified. |
| = <u>F</u>     | The system messages are output to the system file SYSOUT. "F" is the default value unless 'C' was defined as the default value at system generation.                                                    |
| =C             | The coded, abbreviated form of the system messages is output to SYSOUT.                                                                                                                                 |
| =L             | Operator terminal messages and operator responses for this job are logged.                                                                                                                              |

=H                    Output to SYSOUT is also logged to SYSLST (corresponds to LOG=(LISTING=YES)).

### Command return codes

| (SC2) | SC1 | Maincode | Meaning                       |
|-------|-----|----------|-------------------------------|
|       | 0   | CMD0001  | No error                      |
| 2     | 0   | CMD0002  | Command executed with warning |
|       | 32  | CMD0221  | System error                  |
|       | 64  | JMS0630  | Semantic error                |
|       | 64  | JMS0640  |                               |
|       | 64  | JMS0670  | Error in REMOTE job           |
|       | 132 | JMS0620  | Saturation reached            |
|       | 132 | JMS0650  | File not available            |

### Notes

- All operands are optional in the LOGON command of the ENTER file. They are overwritten by the corresponding operands of the ENTER command. If they are omitted from the ENTER command, the values in the LOGON command are assumed. The operands 'userid', 'accountno' and 'password' must be specified in at least one of the LOGON or ENTER commands. If the other operands are omitted from both commands, the default values of the corresponding job class are assumed. The default value for MSG is defined at system generation (preset value: 'F').
- All operands in the LOGON command of an ENTER file are ignored if the ENTER job is started from another task and not from the operator terminal.
- Jobs with "immediately" or "express" are also immediately released for startup even if the job class is full. However, they are not initialized in the event of memory saturation or a category overload if the corresponding job stream is not active or if the associated job class is in the HOLD state.  
  
 "Immediately" and "express" are suitable for start priority control only. The greater the number of jobs started using these operands exceeds the limits of the job class, the greater the deviation from the anticipated workload profile (total number of jobs running and the ratio in which jobs of different classes are mixed).  
  
 "Job express" should not be used without good reason.
- A task scheduling priority specified in the ENTER command is checked both in the user catalog and in the job class allocated (see the following example:



| Priority<br>in the<br>ENTER<br>command | Priority<br>in the<br>job class |         | Priority<br>in the<br>user catalog | Priority<br>with which the<br>job is started |
|----------------------------------------|---------------------------------|---------|------------------------------------|----------------------------------------------|
|                                        | DEFAULT                         | MAXIMUM |                                    |                                              |
| 200                                    | 190                             | 150     | 180                                | 200                                          |
| 170                                    | 190                             | 150     | 180                                | 170                                          |
| 130                                    | 190                             | 150     | 180                                | 190                                          |
| -                                      | 190                             | 150     | 180                                | 190                                          |
| 200                                    | 190                             | NO      | 180                                | 200                                          |
| 170                                    | 190                             | NO      | 180                                | 190                                          |
| 130                                    | 190                             | NO      | 180                                | 190                                          |
| -                                      | 190                             | NO      | 180                                | 190                                          |

If the priority specified in the ENTER command is lower than the highest priority in the job class and in the user catalog, the job with the priority specified is started.

If the priority specified in the ENTER command is higher than the priority in the job class and in the user catalog, the job with the lower priority, calculated from the default priority and the priority of the user catalog entry, is started.

Where no priority has been specified in the ENTER command, the job with the default priority is started.

A fixed task scheduler priority (range 30-127) should not be assigned without good reason as it impairs operational efficiency.

- If, in the ENTER job, the runtime exceeds the limit specified in the TIME operand, the job is terminated.
- A copy with the name 'S.IN.file' is generated in the following cases:
  - if the ENTER file is located on a private disk,
  - if the ENTER file belongs to a user ID other than that under which the job is to run or
  - if an ENTER was issued for a library element.

ERASE=YES is ignored if the file in question is a library element.

- 'bcam-name' must specify an active processor in the MSCF network; otherwise, the ENTER command will be rejected.
- 'jvname1' must contain the 'bcam-name' of an active processor in the MSCF network; otherwise, the ENTER command will be rejected.
- 'catid' must specify a catalog known and accessible within the MSCF network; otherwise, the ENTER command will be rejected.

- 'jvname2' must contain the catid of a catalog known and accessible within the MSCF; otherwise, the ENTER command will be rejected.
- If 'jvname1' or 'jvname2' is not accessible, the ENTER command will be rejected.
- The syntax of 'jvname1/jvname2' must comply with the rules of a GETJV operation (see the *Job Variables* manual).
- If both the HOST and the CAT operand are specified, the value entered for HOST is used to identify the target computer.
- If the ENTER file resides on public volume, only the catalog ID of the home public volume set of the target computer may be specified for it.
- When the ENTER command is issued, the status indicator for 'jvname3' is set to "§S", the TSN indicator to the number of the job and the processor indicator to the catalog of the processor on which the job is being processed.
- If 'jvname3' is not accessible during command processing, an error message is output at the operator terminal and processing is continued.
- 'jvname3' must be accessible to both the user ID which issued the monitoring job variable and the user ID for which the job is being processed.
- JVPASS designates, in accordance with the password hierarchy, the password used to gain access to the monitoring job variable. The syntax of this password is the same as the syntax of the password used for the CATALOG command. The password for the monitoring job variable must be specified in the ENTER command if job distribution is required (see the *MSCF* manual). If job distribution is not required, the password can also be specified using a separate PASSWORD command.
- If JVPASS is specified while MONJV is omitted, JVPASS will be ignored.
- Access to the monitoring job variable is governed by the same rules as access to the ENTER file.

# EXCAT

## Export pubset

This system administrator/operator command exports a previously imported pubset. The status in the corresponding MRSCAT catalog entry is modified in accordance with the preset operands. This makes it possible to assign the pubset of one computer to another computer without terminating current tasks.

The home pubset and the paging pubsets cannot be exported.

This command can also be used to change the status of a remote catalog from 'temporarily inaccessible' to inaccessible. During the export phase, information is output indicating how many tasks are still using the pubset. A STAM command can be used to ascertain the TSNs of the tasks, which can be specified explicitly and thus forced to terminate their activities.

| Operation | Operands                                                                                   |
|-----------|--------------------------------------------------------------------------------------------|
| EXCAT     | catid[, {<br>END<br>CANCEL<br>FORCE<br>TERMINATE<br>}] [,MONJv=jv-name] [,JVPASS=password] |

**catid** Specifies the catalog ID of the pubset to be exported.

**END** Default value; the specified pubset with the identification "catid" is set to 'inaccessible'. Any access attempts are rejected. Moreover, a remote catalog with the local status 'temporary inaccessible' is set to the local status 'inaccessible'.

END may be specified if:

- the pubset is imported or
- the pubset is in the quiet state.

**CANCEL** Cancels the wait state of a running EXCAT job (because files are in use). The wait state is indicated by the following message:

```
DMS039B      ON HOST WITH SYSTEM ID '(&00)' (&01) TASKS ARE
              USING PUBSET WITH PUBSET ID '(&02)'.
```

The EXCAT job addressed acknowledges the CANCEL with the Message `DMS0371 COMMAND PROCESSING ABORTED BECAUSE OF (&00)` and terminates itself. CANCEL must be preceded by an EXCAT command with the END or TERMINATE operand.

- FORCE** Cancels the wait state of a running EXCAT job (because files are in use, message `DMS039B`).  
The EXCAT job addressed acknowledges the FORCE with the message
- ```
DMS0370 WAIT STATE TERMINATED BECAUSE "/EXCAT FORCE" HAS BEEN RECEIVED
```
- and exports the specified pubset regardless of any open files. FORCE must be preceded by an EXCAT command with the END operand and an EXCAT command with the TERMINATE operand.
- Notes*
1. Wait states which cannot be canceled with FORCE are only limited in terms of time; the processing of an EXCAT command with the FORCE operand can take a matter of minutes.
  2. Exporting with FORCE is permitted in exceptional cases only. A pubset exported with FORCE must not be reimported in the same session.
  3. A pubset exported with FORCE can contain files which are not closed properly. These files must be recreated in the next session by means of the VERIFY command.
- TERMINATE** With this operand, in contrast to the END option, EXCAT processing does not wait for the tasks using the pubset to terminate. An attempt is made to abort the jobs and to close files which are still open. EXCAT processing is resumed when all allocations of that pubset have been cleared.
- MONJV**  
=jv-name Defines a monitoring job variable which is set to the following values during pubset export:
- \$E at the beginning of export
  - \$T if the pubset was exported with the END operand
  - \$A if exportation was terminated due to error or EXCAT was aborted with the CANCEL operand.
- Note*
- The job variable must already be cataloged; otherwise, it is not set. However, EXCAT processing continues even if the job variable is not defined.
- This operand is available only when the JV (Job Variables) software product is used.
- JVPASS**  
=password Password of the monitoring job variable if it is write-protected.

## Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	DMS0355	Same export already active
1	0	DMS0364	PVS currently unavailable
1	0	DMS036C	No task for CANCEL-PUB-EX
	1	CMD0202	Syntax error
	32	DMS035C	Invalid operands
	32	DMS0363	MRSCAT access error
	64	DMS0354	Export attempt for remotely available pubset
	64	DMS035C	IMPORT-PUBSET required
	64	DMS0360	No authorization for command
	64	DMS0366	Export attempt for home PVS
	64	DMS036D	Invalid operand sequence
	64	DMS036E	FORCE attempt without TERMINATE
	130	DMS0351	Other import/export task active
	130	DMS035C	Maximum number of tasks reached
	130	DMS0362	Class 4 memory error

## Notes

- The home pubset and all paging pubsets must not be exported. Exportation of these pubsets takes place during system termination.
- During system termination, all imported pubsets are exported. The following procedure is observed:
  - a) Exportation of all imported pubsets (except home pubset):
    - EXCAT END for each of these pubsets,
    - wait until all pubsets have been exported (may take up to 1 minute),
    - EXCAT TERMINATE for all pubsets which have not yet been exported,
    - wait until all pubsets have been exported (may take up to 1 minute),
    - EXCAT FORCE for all pubsets which have not yet been exported,
    - wait until all pubsets have been exported (may take up to 1 minute).
  - b) Exportation of the home pubset
    - EXCAT END for for the home pubset,
    - wait until the home pubset has been exported (may take up to 1 minute),
    - EXCAT TERMINATE if the home pubset has not yet been exported,
    - wait until the home pubset has been exported (may take up to 1 minute),
    - EXCAT FORCE if the home pubset has not yet been exported,
    - wait until the home pubset has been exported (may take up to 1 minute).

- The EXCAT command generates a new job, the EXCAT job, and starts it. The actual exportation is carried out by the EXCAT job. After successful generation of the EXCAT job, the following message is output at the operator terminal:

```
DMS035D      EXCAT TASK WITH TSN '(&00)' FOR PUBSET WITH PUBSET ID '(&01)'  
             HAS BEEN CREATED AND STARTED BY /EXCAT
```

All messages output by the EXCAT job are sent to the operator terminal.

- Successful completion of the EXCAT command is acknowledged with the message:  
DMS037F EXCAT PROCESSING COMPLETED
- Modification of a pubset's availability is reported to all active computers in an MSCF network.

# GETJV

## Output value of job variable

The GETJV command displays the value of a user job variable or a special job variable at the operator terminal.

Operation	Operands
GETJV	$\left\{ \begin{array}{l} \text{jvid} \\ \text{(jvid[, [start][, length]])} \end{array} \right\}$ $[, \left\{ \begin{array}{l} \text{C[CHAR]} \\ \text{H[EX]} \end{array} \right\}] [, \text{PASS=password}]$

jvid	<p>Contains one of the following two kinds of job variable names:</p> <p><b>jvname</b> Designates a fully qualified job variable name. The name must be prefixed by a user ID if it is not TSOS. If the job variable is not located on the default pubset of the user ID, the catalog ID must also be prefixed.</p> <p><b>special-jvname</b> Designates the name of a special job variable.</p>
start	<p>Specifies the starting position within the job variable value. If the entry is omitted, a starting position of 1 is assumed. If the entry is specified, the value must lie in the range from 1 through 256.</p>
length	<p>Specifies the number of bytes (=characters) to be read. If specified, this value must lie in the range from 1 through 256. The default value for 'length' is the length of the job variable value minus 'start', plus 1.</p> <p>The sum of 'start' and 'length' must not exceed 257. Negative values are not permitted.</p>
<u>CHAR</u>	<p>Stipulates that output is to be in character format.</p>
HEX	<p>Stipulates that output is to be in hexadecimal format.</p>
PASS =password	<p>'password' defines the read password assigned to the job variable. The password may be from 1 to 4 characters long. Constants in character, hexadecimal or decimal format are permitted.</p>

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
1	0	CMD0001	No action was necessary
2	0	CMD0001	Command executed with warning
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	JVS04E0	Command not executable in the call environment; eliminate error cause if possible (see SYSOUT message JVS04xx)
	130	JVS04E1	Command cannot be executed for the moment; see SYSOUT message JVS04xx for cause
	130	CMD2282	Subsystem JV not available for undefined period

**Note**

If the length of the job variable value from the specified starting position to the end of the JV value is not equal to the number of bytes specified for "length", the smaller of the two values is used. Any attempt to read a nonexistent (partial) sequence, e.g. a sequence whose starting position is outside the job variable range, causes an error message to be output.



## HELP

### Display message text

The HELP command is used to display the text of a system message on the operator terminal. This command is also used to request explanations of messages and to specify the language preferred for message text output.

Operation	Operands
HELP	$\left[ \begin{array}{l} \{ \text{msgid} \} \\ \{ \text{LIST} \} \end{array} \right]$ $[ , \text{INFORMATION} = \left[ \begin{array}{l} \{ \text{E} \} \\ \{ \text{C} \} \end{array} \right] \left[ \begin{array}{l} \{ \text{D} \} \\ \{ \text{M} \} \end{array} \right] ] ]$ $[ , \text{LANGUAGE} = \text{language} ]$

**msgid** 4 or 7-character message code. The associated message text is displayed on the operator terminal.

#### INFORMATION

**=F** The system message is displayed in normal form. F (which stands for FULL MESSAGE) and D together are the default setting.

**=D** The system message is displayed together with an explanation of the message text. D (which stands for DESCRIPTION) and F together are the default setting.

**=C** The system message is displayed in coded, short form (C stands for CODE).

**=M** Only the message text is displayed (M stands for MINI).

**LANGUAGE** Designates the language in which system messages and explanations are to be displayed.

**=language** A letter, either D for German and E for English. To find out what characters may be entered for other languages, see the *System Messages* manual or consult the system administrator.

The default value defined at system generation is valid.

**Command return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning</b>
	0	CMD0001	No error
2	0	NMH9006	Warning
	1	NMH1174	Syntax error
	32	NMH1121	Internal error
	64	NMH1155	Semantic error
	64	NMH1199	Semantic error

## HOLD-JOB

### Place user job in wait state

The HOLD-JOB command places a user job that has not yet been started in the wait state.

The specified job, identified by its TSN or a defined job variable, is skipped by the job scheduler when it selects the jobs to be started. The wait state in which the held job is placed must be explicitly canceled with the RELEASE-JOB command. The STATUS command shows the operator which jobs are in the wait state (TYPE1/HO). Successful processing of the command is indicated on the operator terminal.

The command is rejected if

- the job scheduler has already released the job for starting; jobs which have already started can be placed in the wait state by means of the NCHOLD command;
- the job to be placed in the wait state is an interactive or transaction job (category DIA or TP).

Operation	Operands
{HOLD-JOB}	{tsn }
{HOLD-J }	{MONJV=jvname}

tsn                      Task sequence number of the job to be placed in the wait state.

MONJV=jvname      The job to be suspended is identified by a monitoring job variable.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	64	JMS0630	Semantic error

## HOLD-JOB-CLASS

### Place job class in wait state

This command affects only job classes in which batch jobs are executed. The HOLD status is temporary and can be canceled by means of the RELEASE-JOB-CLASS command.

Operation	Operands
{ HOLD-JOB-CLASS } { HOLD-J-C }	NAME=name

#### NAME

=name                      Name of the job class to be placed in the HOLD state.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	64	JMS0630	Semantic error
	64	JMS0640	

#### Notes

- The command is also accepted for system job class \$SYSJC.
- A message is output at the operator terminal if the command has been executed successfully.
- If the particular job scheduler is inactive at the time the command is issued, the command is rejected with an error message.
- With the aid of the STATUS command (JOB-CLASS operand), the operator can request an overview of the job classes that have been placed in the wait state.
- Batch jobs submitted for a halted job class are entered in the job queue of the appropriate job scheduler. These jobs are not released for starting.

## HOLD-JOB-STREAM

### Place job stream in wait state

The HOLD-JOB-STREAM command places a job stream in the wait state. The job scheduler that was active in the job stream cannot carry out its function until the wait state has been canceled by means of the RELEASE-JOB-STREAM command. During this time no job from a job class assigned to the job stream can be released for starting.

Operation	Operands
{HOLD-JOB-STREAM} {HOLD-J-S}	NAME=name

#### NAME

=name                      Name of the job stream to be placed in the wait state.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	64	JMS0630	Semantic error

#### Notes

- The command is also permitted for the system job stream \$SYSJS.
- The job stream is terminated normally if it takes place during the HOLD phase (see the STOP operand of the JMU statement DEFINE-JOB-STREAM).
- If a job stream cannot be placed in the wait state, an appropriate message is issued at the operator terminal.
- Once a certain job stream, and implicitly the related job scheduler, have been placed in the wait state, no more jobs are selected for starting; user jobs, however, continue to be accepted.
- With the aid of the STATUS command (JOB-STREAM operand), the operator can ascertain which job streams are still in the HOLD state.

## HOLD-PCS

### Place PCS in wait state

PCS is placed in the wait state; it can be resumed by means of the RESUME-PCS command. You can also place the PCS subsystem in the wait state using the DSSM command HOLD-SUBSYSTEM (see also the *PCS* manual).

Operation	Operands
HOLD-PCS	

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	000	CMD0001	No error
016	000	CMD0001	PCS already stopped
	001	CMD0202	Syntax error
	002	CMD2202	Subsystem not defined/not stopped
	064	ETMPC16	Privilege violation
	064	ETMPC12	Command not permitted by DSSM
	065	ETMPC19	Internal error

#### Note

The command return codes are supported only under operator task; The values are output in 3-digit decimal form.

## HOLD-SS

### Place subsystem in wait state

The HOLD-SS command sets a subsystem in the wait state.

No new connection is permitted to the specified subsystem. It is kept in the wait state until the RESUME-SS command lifts this state.

Operation	Operands				
HOLD-SS	SS-NAME=name  [,VERSION='versno']  [,STRING=C'string']  [,FORCED= <table border="0" style="display: inline-table; vertical-align: middle;"> <tr><td style="border: 1px solid black; padding: 2px;">NO</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">YES</td></tr> </table> ]  [,SYNCH= <table border="0" style="display: inline-table; vertical-align: middle;"> <tr><td style="border: 1px solid black; padding: 2px;">NO</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">YES</td></tr> </table> ]	NO	YES	NO	YES
NO					
YES					
NO					
YES					

SS-NAME=name

Name of the subsystem to be placed in the wait state.

VERSION='versno'

Version number of this subsystem; the format specified here must be identical to the format used for the declaration. It may consist of 4 or 7 alphanumeric characters.

*Format*

nn.m      Version ID  
 nn.mxyy   Version ID and update status  
 (nn, m and yy are numbers - x is a letter)

*Default value*

If there is only **one** version of the subsystem which has been loaded, that version is selected.

If there is **more than one** suitable version, the version must be specified.

STRING=C'string'

Defines special parameters which can be evaluated only by the relevant subsystem.

- FORCED**                      Determines the mode and urgency of command processing.
- =NO                      Processing and hence normal termination of all the tasks accessing this subsystem is allowed to take its normal course.
- =YES                      All accessing tasks are terminated immediately. In the case of a privileged subsystem, this can lead to a system dump; tasks which are connected to a nonprivileged subsystem have the option of exiting via the STXIT error recovery mechanism offered by DSSM.
- SYNCH**                      Enables synchronous or asynchronous processing to be selected.
- =NO                      The command is to be processed asynchronously, i.e. there is no need to wait for it to execute before making another entry. No error messages relating to execution of the command will be output.
- =YES                      The command must first be executed before another entry can be made. Accompanying error messages are output.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	No action necessary
	32	ESM0224	Command not processed
	32	ESM0228	Command terminated abnormally



# IMCAT

## Import pubset

IMCAT is a system administrator and operator command which creates a separate task under the control of the calling task. This IMCAT task requests all the resources. The F5 labels are read in and reconstructed if necessary. The user catalog is opened and the specified pubset is set to 'accessible'. Access to this pubset is then permitted. SPOOL is notified and the spoolout jobs are transferred to TYPE5/AC or TYPE4.

When a pubset is imported with ACTJOIN=FIRST, all files and job variables of the user ID TSOS are retained. Files and job variables of all other users are deleted.

The change in the availability of a pubset is notified to all active processors in the network.

A number of different pubsets can be imported to a processor; a pubset which has already been imported, however, cannot be reimported.

Operation	Operands
IMCAT	$\text{catid}[, \text{ACTJOIN}=\left\{ \begin{array}{l} \text{STD} \\ \text{ZIP} \end{array} \right\} [ , \text{RESET}=\underline{\text{NO}} ] \left. \vphantom{\left\{ \begin{array}{l} \text{STD} \\ \text{ZIP} \end{array} \right\}} \right\} \text{FIRST, RESET=YES}$ <p>[ , MONJV=jvname ] [ , JVPASS=password ]</p> $[ , \text{BUFCLS}=\left\{ \begin{array}{l} \text{NONRES} \\ \text{RES} \end{array} \right\} ] [ , \text{BUFNUM}=\text{number} ]$ $[ , \text{USE}=\left\{ \begin{array}{l} \text{*STD} \\ \text{SHARE} \\ \text{EXCL} \end{array} \right\} ]$ $[ , \text{SHAR-TYP}=\left\{ \begin{array}{l} \text{*STD} \\ \text{MASTER} \\ \text{SLAVE} \end{array} \right\} ]$ $[ , \text{SESSION-CHECK-MSG}=\left\{ \begin{array}{l} \text{YES} \\ \text{NO} \end{array} \right\} ]$

catid	Catalog ID (1-4 characters) of the pubset to be imported.
ACTJOIN	Specifies handling of the user catalog during import.
=STD	Opens the existing user catalog.
=ZIP	This operand may be specified only in the event of disk storage space bottlenecks to prevent the SYSPBN file from being created.
=FIRST	Creates a new user catalog. This operand may be specified only when a pubset is imported for the first time after generation. The RESET=YES operand must also be specified.
	<i>Note</i> After an IMCAT command with ACTJOIN=FIRST and RESET=YES, existing user files of this pubset can no longer be accessed.
RESET	Specifies whether an existing user catalog is to be reset.
=NO	The existing user catalog is not to be reset. If ACTJOIN = FIRST is specified, NO must <b>not</b> be specified. For STD or ZIP, NO is mandatory.
=YES	The existing user catalog is to be reset.
MONJV=jvname	Defines a monitoring job variable which is set to the following values during import: <ul style="list-style-type: none"> <li>§I at the start of import</li> <li>§R at the end of import if the entire pubset has been successfully imported</li> <li>§A if import was terminated due to an error</li> <li>§W if a shared pubset has been imported and the availability of the master processor has not yet been confirmed</li> </ul>
	<i>Note</i> The job variable must already be cataloged, otherwise it is not set. However, IMCAT processing continues even if the job variable is not defined.  This is available only when the JV (job Variables) software product is used.
JVPASS=password	Password of the job variable if it is write-protected.

BUFCLS	Defines the memory class of the CMS buffers. If this parameter is not specified, the data in the MRSCAT entry is used.
= <u>NONRES</u>	The CMS buffers are to be located in a nonresident storage area.
= <u>RES</u>	The CMS buffers are to be located in a resident storage area.
BUFNUM= <u>number</u>	Specifies the number of CMS buffers to be created for this pubset. If this parameter is not specified, the data in the MRSCAT entry is used. Possible values: $6 < n < 255$ Default value: 32, minimum value: 6 (see Notes).
USE	Defines the mode of access to the imported pubset. Please observe the relevant conditions and requirements (see the <i>MSCF</i> manual).
= <u>*STD</u>	The value specified in the MRSCAT entry applies.
= <u>SHARE</u>	The pubset is to be imported as a shared pubset.
= <u>EXCL</u>	The pubset is to be imported as an exclusive pubset.
SHAR-TYP	Defines the ownership of the pubset. Please observe the relevant conditions and requirements (see the <i>MSCF</i> manual).
= <u>*STD</u>	The value specified in the SET-PUBSET-ATTRIBUTES command applies.
= <u>MASTER</u>	The home system is to take over the as yet unassigned ownership of the pubset to be imported.
= <u>SLAVE</u>	The home system is to be a slave sharer, irrespective of the entry in the SET-PUBSET-ATTRIBUTES command.
SESSION-CHECK-MSG	Specifies whether or not a confirmation check message is to be issued for the import of a pubset.
= <u>YES</u>	Specifies that if the system crashes during importing of a pubset, the message DMS038C is to be issued to query whether the importing procedure is to be continued.
= <u>NO</u>	Specifies that, following a system crash, the importing procedure is to be continued without confirmation query.

## Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	DMS0350	pubset already available
	1	CMD0202	Syntax error
	32	DMS0352	MRSCAT access error
	32	DMS035A	Operand error
	64	DMS045A	Export to slave processor necessary
	64	DMS0360	No authorization for command
	64	DMS036B	Missing device type in MRSCAT
	64	DMS037B	Import as shared PVS not possible
	130	DMS0351	Other import/export task active
	130	DMS035C	Maximum number of tasks reached
	130	DMS0362	Class 4 memory error

## Notes

- The home pubset and all paging pubsets may not be imported. The home pubset is imported automatically during system initialization (startup phase).
- The IMCAT command generates a new task, the import (IMCAT) task, and starts it. Actual importing is performed by the IMCAT task. Successful generation of the IMCAT task is reported by the following message output at the operator terminal:

```
DMS035B      THE IMCAT-TASK (&00) FOR THE PUBSET (&01) WAS STARTED.
```

All messages output by the IMCAT task are sent to the operator terminal.

- If the pubset to be imported is still locked due to a previous system crash (message `NKVD019`), the operator can cancel this lock by means of the `UNLOCK-DISK` command. If the disks of this pubset are mounted on SPD devices, the operator must first ensure that the pubset is not being used by another system.
- If an IMCAT command is issued and no device of the type specified in the `CATM` command is allocated to the system, the message `ACQUIRE ERROR DURING IMCAT` is returned. The operator must first allocate a device of the required type before the command can be executed again successfully.
- Specifications made via `BUFCLS` and `BUFNUM` can indirectly influence the working set or paging rate of the system. If, for example, a large number of resident buffers are created on a small system, the cataloging operations will be faster but the paging rate for all other applications will increase. On the other hand, a class 4 memory bottleneck can occur for nonresident buffers.

If no buffer specifications are made, the system's default values are used. The following 4-level hierarchy applies:

1. Explicit parameter specifications in the IMCAT command.
  2. Specifications via the CATM command.  
If only one of the parameters (BUFCLS, BUFNUM) is specified, the default value is used for the other one. This rule applies only if at least one of the parameters is explicitly specified. Otherwise, both values remain undefined.
  3. Specification via class 2 system parameters CATBUFR and BMTNUM.
  4. Default values (BUFCLS=NONRES, BUFNUM=32).
- For reasons of performance and reliability, a minimum number of buffers is defined by the system. If a smaller number is specified explicitly in the BUFNUM operand, the minimum number defined by the system is set.

# INCLUDE-DEVICE-CONNECTION

## Attach virtual connections

The INCLUDE-DEVICE-CONNECTION command attaches virtual connections between the hardware units (CHN, CTL, DVC) to the system. The system is permitted to use these connections.

Operation	Operands
<pre>[INCLUDE-DEVICE -CONNECTION ] [INC</pre>	<pre>FROM={ [mn (mn1, . . . , mn8) *CHA[NNEL] (mn) *CHA[NNEL] ((mn1, . . . , mn8)) *CON[TROLLER] (mn) *CON[TROLLER] ((mn1, . . . , mn8)) ] , TO={ [mn (mn1, . . . , mn8) *CHA[NNEL] (mn) *CHA[NNEL] ((mn1, . . . , mn8)) *CON[TROLLER] (mn) *CON[TROLLER] ((mn1, . . . , mn8)) ]</pre>

**FROM** Defines the virtual connection to be attached in terms of one of the delimiting hardware units. The direction in which the virtual connection is attached is not prescribed. FROM therefore does not have to be the inner and TO the outer unit. A list of up to 8 elements may be entered.

**=mn** Mnemonic device name of the device which delimits the virtual connection (2 or 4 alphanumeric characters; see Note).

**=\*CHANNEL(mn)** Mnemonic designation of the channel which delimits the virtual connection.

**=\*CONTROLLER(mn)** Mnemonic designation of the controller which delimits the virtual connection.

**TO** Defines the virtual connection to be attached in terms of the other delimiting hardware unit. A list of up to 8 elements may be entered.

**=mn** Mnemonic device name of the device which delimits the virtual connection (2 or 4 alphanumeric characters; see Note).

=\*CHANNEL(mn)

Mnemonic designation of the channel which delimits the virtual connection.

=\*CONTROLLER(mn)

Mnemonic designation of the controller which delimits the virtual connection.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
4	64	NKR0...	Path already attached
12	64	NKR0...	Internal check negative
16	64	NKR0...	Caller error
20	64	NKR0...	Software error

#### Note

If there is an error in command termination, the maincode contains the message code of the message output last during command processing.

### Effect of the INCLUDE-DEVICE-CONNECTION command:

1. If the connections specified were in the state "removed explicitly", they assume the state "included". The connections can be used again.
2. If the outer units associated with this connection were in the state "detached implicitly", they assume the state "attached". These hardware units can be used again.
3. In the outer hardware units which have assumed the state "attached" as per point 2, the outward connections are checked: if the connections were in the state "removed implicitly", they assume the state "included". These connections can be used again.

#### Note

For all devices, connections, etc., 2 alphanumeric characters are valid as 'mn'. Only in the case of disk devices connected to H60, H90, H120 or H130 systems are 'mn's comprising 4 hexadecimal characters (which must be specified in alphanumeric notation without X") also valid.

## INTR

### Activate interrupt routine of a loaded program

The INTR command (interrupt) serves to control an active program. This command sends a message to the STXIT routine (as defined by the STXIT macro) of a program.

Operation	Operands
INTR	tsn[,text]

- tsn** Specifies the task sequence number of the batch job to be interrupted.
- text** This operand specifies a message which is moved to a buffer in the user program (see also the description of the STXIT macro in the *Executive Macros* manual). The text must not exceed 64 characters. Longer texts are truncated on the right; shorter texts are suffixed by a zero byte to denote the end of the text in the user buffer.



## MESSAGE

### Send message to specific user job

The MESSAGE command enables the operator to send a message to a specific timesharing user. The system adds the date and time of day to the operator message. The message is written to SYSOUT.

Operation	Operands
{MESSAGE} {MES }	{TERM=(processor,station)} {TSN=nnnn } ,message

#### TERM

=(processor,station)

Specifies the names of the processor and the station to which the message is to be sent.

processor can be up to 8 characters long;  
 station can be up to 8 characters long.

#### TSN

=nnnn

Specifies the task sequence number (up to 4 alphanumeric characters) of the job to which the message is to be sent.

If the job has already terminated, or has not yet been started, the MESSAGE command will not be executed and the operator will be informed.

message

Represents the message to be transmitted. Its maximum length is 151 characters. All printable characters are permissible. This length limitation does not apply to the date and time of day, which are added by the system.

#### Example

```
/MES TSN=0FC3, PLEASE REPORT STATUS
```

The message "PLEASE REPORT STATUS" is received by the job with the task sequence number 0FC3.

**Command return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning</b>
	0	CMD0001	No error
2	0	EXC0064	Warning. Specified task has temporarily suppressed message function
1	1	EXC0240	Syntax error
1	64	NBR0954	Message to batch task not possible
2	64	EXC0080	Specified task not available
3	64	EXC0062	Specified task cannot receive the message
4	64	EXC0081	Invalid task type
5	64	EXC0109	Semantic error; command is ignored
	130	EXC0061	System error; command processing aborted

# MODIFY-CONSOLE-OPTIONS

## Modify screen format

The MODIFY-CONSOLE-OPTIONS command is used to produce a custom screen layout on operator terminals of the types 3809 and 3886.

The command can also be used to change the terminal output control parameters and the type of connection between the terminal screen and the hardcopy device (types 3886-2, 3886-3 and 3888-3; permanent or temporary link).

Operation	Operands
MODIFY-CONSOLE-OPTIONS	$[ \text{CONSOLE-UNIT} = \left\{ \begin{array}{l} \text{*OWN} \\ \text{mn} \end{array} \right\} ]$ $[ , \text{SCREEN-UPDATE} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \text{SCROLL} \\ \text{PERIOD ( [ UPDATE-INTERVAL} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \text{sec} \end{array} \right\} ] )} \\ \text{[ , MESSAGE-REPLACE-RATE} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \text{int} \end{array} \right\} ] ) \end{array} \right\} ]$ $[ , \text{QUEUE-WARNING} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \text{int} \end{array} \right\} ]$ $[ , \text{PROTECTED-LINES} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \text{int} \end{array} \right\} ]$ $[ , \text{FORCED-HARDCOPY} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \text{YES} \\ \text{NO} \end{array} \right\} ]$ $[ , \text{RESTRICTED-MODE} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \text{MART} \\ \text{ATOP} \\ \text{NO} \end{array} \right\} ]$

**CONSOLE-UNIT** Specifies the operator terminal whose parameters are to be modified.

**=\*OWN** The parameters of the operator terminal from which the command was issued are to be modified (default value).

**=mn** Specifies the mnemonic device name of the operator terminal whose parameters are to be modified. A different operator terminal may be specified only when the command is given at the main operator terminal or by an authorized user program.

## SCREEN-UPDATE

Defines the time intervals at which the screen is to be updated and how many lines are to be affected. There are two screen update modes: roll-up mode and interval mode.

=UNCHANGED

The values set for UPDATE-INTERVAL and MESSAGE-REPLACE-RATE remain unchanged.

=SCROLL

Sets roll-up mode. Screen update takes place at intervals of 255 ms, with one message per output.

The following combinations of UPDATE-INTERVAL and MESSAGE-REPLACE-RATE values are referred to as 'interval mode'.

=PERIOD(UPDATE-INTERVAL=sec)

Specifies the time in seconds between two screen updates.  
sec = value between 0 and 60; the default setting is 0  
(equivalent to 255 ms).

=PERIOD(UPDATE-INTERVAL=UNCHANGED)

The preset value is to remain unchanged.

=PERIOD(,MESSAGE-REPLACE-RATE=int)

Specifies the maximum number of messages that can be redisplayed after the defined time interval has elapsed.  
Possible values:  $1 \leq \text{int} \leq 7$   
Default value: 7

=PERIOD(,MESSAGE-REPLACE-RATE=UNCHANGED)

The preset value is to remain unchanged.

*Note*

If a new time interval is defined during the output of a fixed number of lines, it does not become effective until output has been completed.

## QUEUE-WARNING

=UNCHANGED

The preset value is to remain unchanged.

=int

Specifies the number of queued messages which may accrue at a given operator terminal. If the number of such outstanding messages exceeds the specified value, a warning is issued to the appropriate operator terminal and control switches to interval mode with UPDATE-INTERVAL=0 (i.e. 255 ms) and MESSAGE-REPLACE-RATE=7.

Possible values:  $10 \leq \text{int} \leq 500$

The preset value is 50.

## PROTECTED-LINES

=UNCHANGED

The preset value is to remain unchanged.

=int

Specifies the number of lines to be allocated to the save area on the screen for logging outstanding queries.

Possible values:  $0 \leq \text{int} \leq 7$

The preset value is 0.

## FORCED-HARDCOPY

=UNCHANGED

The preset value is to remain unchanged.

=YES

Specifies that hardcopy logging at a given operator terminal is mandatory (permanent connection). If the hardcopy device at this operator terminal is defective, the operator terminal is marked as being defective and standby operator terminal handling is activated.

=NO

Hardcopy logging at this operator terminal is optional (temporary link), i.e. processing can continue if the hardcopy device at this terminal fails (or is deactivated). Temporary links are possible only if the class 1 system parameter NBKOPPEL was not set at system generation.

## RESTRICTED-MODE

Specifies the mode to be used for screen output.

=UNCHANGED

The preset value remains unchanged.

=MART

The operator terminal is to be switched from the normal operating mode to restricted mode **1** (MART mode).

- =ATOP            The operator terminal is to be switched from the normal operating mode to restricted mode 2 (ATOP mode).
- =NO             The normal (familiar) operating mode is set.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NBR0927	Command partially executed
1	32	NBR0926	Internal error in command server
0	64	CMD0216	Privilege violation
1	64	NBR0922	Semantic error: command may be issued only from main console or by application
2	64	NBR0923	Semantic error: incorrect MN
3	64	NBR0924	Command not permitted on this console type
4	64	NBR0925	Semantic error; operand F-H=NO not permitted
	130	CMD2282	Internal error; subsystem not available

# MODIFY-JOB

## Modify characteristics of user job

The MODIFY-JOB command modifies the characteristics of a batch job defined by the ENTER-JOB command.

If the job has not been activated, it can be re-entered in the queue by the job scheduler.

Operation	Operands
<pre>{MODIFY-JOB} {MOD-J}</pre>	<pre>{TSN=tsn} {MONJV=jvname}  [,JOB-CLASS={*STD}               {class}]  [,JOB-PRIO={STD}             {p}]  [,RERUN={NO}          {YES}]  [ ,START={STD           SOON           IMMEDIATELY           WITHIN { (HOURS=no [, MINUTES=no] ) }                 { ( [HOURS=no, ]MINUTES=no) }           AT ( [DATE=yy-mm-dd, ]TIME=hh:mm)           EARLIEST ( [DATE=yy-mm-dd, ]TIME=hh:mm)           LATEST ( [DATE=yy-mm-dd, ]TIME=hh:mm)           AT-STREAM-STARTUP         }  [ ,REPEAT={STD            NO            DAILY            WEEKLY            PERIOD { (HOURS=no [, MINUTES=no] ) }                  { ( [HOURS=no, ]MINUTES=no) }            AT-STREAM-STARTUP         }  [,JOB-PAR={*NO}            {'string' }]</pre>

TSN	
=tsn	Task sequence number of the job.
MONJV	
=jvname	The job is addressed via the monitoring job variable assigned to it.  This operand is available only when the JV (Job Variables) software product is used. The job variable will have been defined in advance in either a LOGON or ENTER command.
JOB-CLASS	Specifies the class in which the job is to run and may be specified only for jobs that have not been started.
=*STD	Either the default class defined for the user ID or the system default class if no default class has been defined for the user ID.
=class	Name of the class.
JOB-PRIO	Specifies the job's new job scheduling priority and may be specified only for jobs that have not been started.
=STD	Default value; depends on the class in which the job is running.
=p	Number from 1-9. The priority permitted depends on the class in which the job is running. The lower the number, the higher the priority.
RERUN	Specifies whether the job is to be restarted in a subsequent session if the job is started, but cannot be completely processed during the current session.
= <u>NO</u>	The job will not be restarted in subsequent sessions.
=YES	The job will be restarted in a subsequent session.
START	Specifies the time at which the job is to be started. The values that can be specified depend on the class in which the job is to run.
= <u>STD</u>	Default value; depends on the class in which the job is to run.
=SOON	The job is to be started as soon as possible. If the SOON operand has been specified for more than one job, the the start order depends on the priority.
=IMMEDIATELY	The job is to be started immediately, even if other jobs of a higher priority are to be started at this time.



=WITHIN	Specifies a time within which the job is to be started: HOURS = Hours from 0 through 23 MINUTES = Minutes from 0 through 59
=AT	Specifies the time of day at which the job is to be started. yy-mm-dd = date; order: year-month-day hh:mm = time of day; order: hour-minute
=EARLIEST	Specifies the earliest time the job is to be started. Specification as for AT.
=LATEST	Specifies the latest time the job is to be started. Specification as for AT.
=AT-STREAM-STARTUP	The job is to be started after the next startup of the associated job scheduler.
REPEAT	Specifies that the job is to be repeated at specific intervals. The specifications which may be made depend on the class in which the job is to run.
= <u>STD</u>	Default value; depends on the class in which the job is to run.
=NO	The job is not to be repeated.
=DAILY	The job is to be repeated every day. The time is specified by the START operand.
=WEEKLY	The job is to be repeated every week. The time is specified by the START operand.
=PERIOD	The job is to be repeated after the period specified. The period specified must be greater than zero. HOURS = Hours from 0 through 23 MINUTES = Minutes from 0 through 59
=AT-STREAM-STARTUP	The job is to be repeated after each startup of the associated job scheduler.
JOB-PAR	Special attributes for controlling job execution can be interpreted by means of a system exit for each job.
=* <u>NO</u>	No information is stored.
='string'	Information, 0 to 127 characters long.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	32	CMD0221	System error
	64	JMS0630	Semantic error
	64	JMS0640	
	132	JMS0620	Saturation reached

## MODIFY-JOB-CLASS

### Modify job class characteristics

With the MODIFY-JOB-CLASS command, the operator can modify the limits and weights of the job classes defined via the JMU statement DEFINE-JOB-CLASS.

The modifications remain valid either until a new MODIFY-JOB-CLASS command is given or until the end of the session.

Operation	Operands
<pre> { MODIFY-JOB- CLASS } { MOD-J-C } </pre>	<pre> NAME=name [ , C-LIMIT=n] [ , WEIGHT=m] [ , C-OPTIMUM=k] </pre>

#### NAME

=name      Name of the job class whose characteristics are to be modified.

#### C-LIMIT

=n      Defines the maximum number of jobs which may be executed simultaneously in the specified job class.  
The value 'n' must not be greater than the upper limit set with the class 1 system parameter ETMTSKNR. When the class scheduler receives a job for starting, it rejects this job if the C-LIMIT (class limit) has already been reached.  
As soon as this situation changes, the scheduler managing the job class is notified. The only exceptions are the express jobs, which can be started even if the class limit has been reached.

#### WEIGHT

=m      Defines the relative weights of the job classes. This operand influences selection of the job class from which a job is to be started.  
Possible values:  $1 \leq m \leq 9$   
The higher the value for WEIGHT, the greater is the urgency of starting a job of the selected class.

#### C-OPTIMUM

=k      Defines the ideal number of jobs that should run in the job class in order to achieve a certain job mix in the system.  
Possible values:  $0 \leq k \leq \text{C-LIMIT}$

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	64	JMS0630	Semantic error
	64	JMS0640	

**Notes**

- If any of the operands is not specified, its existing value applies.
- A message is displayed on the operator terminal when the command has been executed.
- The command does not affect jobs that have already been released for starting.
- The modified values can be displayed using the JOB-CLASS operand in the STATUS command.

## MODIFY-JOB-STREAM

### Modify job stream characteristics

The MODIFY-JOB-STREAM command modifies the task scheduling priority and stream-specific parameters that were defined via the JMU statement DEFINE-JOB-STREAM.

The modifications remain valid either until a new MODIFY-JOB-STREAM command is given or until the end of the session.

Operation	Operands
{ MODIFY-JOB- STREAM } { MOD-J-S }	NAME=name  [, RUN-PRIO=p]  [, S-PAR={ *NO [C' string' ] } ]

#### NAME

=name                    Name of the job stream whose characteristics are to be modified.

#### RUN-PRIO

=p                        The various job schedulers are implemented via separate stream tasks. This operand can be used to increase or decrease the run priority of the stream task.

Value:  $30 \leq p \leq 255$

#### S-PAR

Specifies a string that is interpreted by the relevant scheduler (see the "Job management" section of the *System Administrator's Guide*).

=\*NO                      Specifies an empty string.

=C'string'                Specifies a string with a maximum length of 127 characters.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	64	JMS0630	Semantic error
	132	JMS0620	Saturation reached

# MODIFY-MOUNT-PARAMETER

## Set default values for mounting and dismounting

This command enables the operator to specify default values for mounting and dismounting tapes and disks.

Operation	Operands
$\left. \begin{array}{l} \text{MODIFY-MOUNT} \\ \text{-PARAMETER} \\ \text{MOD-MOUNT-PAR} \end{array} \right\}$	$[\text{DISK} [-\text{MOUNT}] = \left. \begin{array}{l} \text{UNCHANGED} \\ \text{Y [ES]} \\ \text{N [O]} \end{array} \right\}]$
	$[, \text{TAPE} [-\text{MOUNT}] = \left. \begin{array}{l} \text{UNCHANGED} \\ \text{Y [ES]} \\ \text{N [O]} \end{array} \right\}]$
	$[, \text{ALLOC} [\text{ATE-TAPE}] = \left. \begin{array}{l} \text{UNCHANGED} \\ \text{Y [ES]} \\ \text{N [O]} \end{array} \right\}]$
	$[, \text{UNLOAD-RELEASED-TAPE} = \left. \begin{array}{l} \text{UNCHANGED} \\ \text{ACCORDING-TO-USER-REQUEST} \\ \text{REGARDLESS-OF-USER-REQUEST (TAPE=ALL)} \\ \text{REGARDLESS-OF-USER-REQUEST (TAPE=MBK)} \\ \text{IGNORE-USER-REQUEST} \end{array} \right\}]$
	$[, \text{NEXT-TAPE-MOUNT} = \left. \begin{array}{l} \text{UNCHANGED} \\ \text{BEST-GENERATED-DEVICE} \\ \text{LEAST-RECENTLY-USED-DEVICE} \end{array} \right\}]$

**DISK-MOUNT** Specifies whether the operator is ready to carry out disk mounting.  
The original presetting is YES.

**=UNCHANGED**

The value valid up to now (previous MOD-MOUNT-PAR or presetting) remains unchanged (default value).

**=YES**

The operator is ready to carry out disk mounting, i.e. allocation requests for unmounted private disks result in a MOUNT message.

**=NO**

The operator is not ready to carry out disk mounting. Allocation requests for private disks which are to be mounted are automatically rejected by the system. REMOUNT and INOP messages are still output and require appropriate responses.

**TAPE-MOUNT** Specifies whether the operator is ready to carry out tape mounting.  
The original presetting is YES.

=UNCHANGED

The value valid up to now (previous MOD-MOUNT-PAR or presetting) remains unchanged (default value).

## =YES

The operator is ready to carry out tape mounting, i.e. allocation requests for unmounted tapes result in a MOUNT message.

## =NO

The operator is not ready to carry out tape mounting. Allocation requests for tapes which are to be mounted are automatically rejected by the system. REMOUNT, INOP and WP-MISSING messages are still output and require appropriate responses.

## ALLOCATE-TAPE

Specifies whether the system can allocate tapes which are already online without operator support (without a MOUNT message).

The original presetting is YES.

=UNCHANGED

The value valid up to now (previous MOD-MOUNT-PAR or presetting) remains unchanged (default value).

## =YES

The system responds automatically to PREMOUNT, MOUNT and REMOUNT messages if the tape is recognized as being online.

## =NO

The system does not respond to PREMOUNT, MOUNT and REMOUNT messages even if the appropriate tape is recognized as being online. The appropriate response must be entered by the operator.

## UNLOAD-RELEASED-TAPE

Specifies whether tapes are to be unloaded after their release if they have not already been unloaded by the user.

The original presetting is ACCORDING-TO-USER-REQUEST; the default entry is UNCHANGED.

=UNCHANGED

The value valid up to now (previous MOD-MOUNT-PAR or presetting) remains unchanged (default value).

## =ACCORDING-TO-USER-REQUEST

When tapes are released, they are unloaded according to user request.

=REGARDLESS-OF-USER-REQUEST(TAPE=ALL)

All tapes (streamer tapes and/or cartridges) are unloaded after their release if they were in use (PHASE = IN-USE).

=REGARDLESS-OF-USER-REQUEST(TAPE=MBK)

Only cartridges are unloaded after their release. Streamer tapes are unloaded after their release according to user request.

=IGNORE-USER-REQUEST

A request to unload a tape volume after its release is ignored. Unload requests for streamer tape devices are always ignored by NDM.

Unload requests for tape cartridge devices are only ignored if the device is being used in the "manual" operating mode. This enables cartridges to be changed during unmanned operation if the stackers involved have a supply of cartridges for this purpose.

NEXT-TAPE-MOUNT

Specifies the device selection mode to be used by NDM to select the free device during tape allocation. The original presetting is BEST-GENERATED-DEVICE; the default entry is UNCHANGED.

=UNCHANGED

The device selection mode valid up to now remains unchanged.

=BEST-GENERATED-DEVICE

NDM searches through the device table from the beginning, i.e. in the order predefined at system generation, and selects the first suitable free device.

=LEAST-RECENTLY-USED-DEVICE

NDM searches through the device table and selects the least recently used device from the set of suitable free devices. This "wraparound" allocation enables tape devices to be used more evenly.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	NKV0001	Syntax error
	130	NKVD002	Disk monitor not available
	130	NKVT002	Tape monitor not available



**Note**

If spoolout to tape is being used in the current session, UNLOAD-RELEASED-TAPE=ACCORDING-TO-USER-REQUEST should always be set. This makes it unnecessary to unload and then remount the spoolout tape every time a file is spooled out.

# MODIFY-PCS-OPTION

## Modify activated PCS parameter set

This command is used to change the parameters of the activated PCS parameter set.

Operation	Operands
MODIFY-PCS-OPTION	$[ \text{SYSTEM-PARAMETER} = ( [ \text{REQUEST-DELAY-MAX} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \langle \text{integer } 1..100 \rangle \end{array} \right\} ]$ $[ , \text{THROUGHPUT-QUOTA} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \langle \text{integer } 0..100 \rangle \end{array} \right\} ] ) ] ]$ $[ , \text{USER-INFORMATION} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \text{YES} \\ \text{NO} \end{array} \right\} ]$

### SYSTEM-PARAMETER

Specifies the parameters to be modified.

### REQUEST-DELAY-MAX

Serves to set the optimal multiprogramming factor. The default value is dependent on the value of the THROUGHPUT-QUOTA operand and is calculated using the following equation:

$$5 + (\text{THROUGHPUT-QUOTA}) / 20$$

### THROUGHPUT-QUOTA

Defines a percentage which determines the relation between system response time optimization and system throughput optimization. The value THROUGHOUT-QUOTA = **100** implements an entirely throughput-oriented mode and the value **0** an entirely response-oriented mode. Preset value: 20%

### USER-INFORMATION

Specifies whether information on PCS is to be output to the end user. Preset value: NO.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	000	CMD0001	No error
	001	CMD0202	Syntax error
	032	CMD0221	Internal system error. Command not executed
	064	PCS0016	Privilege violation
	130	ETMPC17	Internal lock not available. Command not executed
	130	ETMPC20	PCS not started

# MODIFY-RESOURCE-COLLECTION

## Control collector selection

The MODIFY-RESOURCE-COLLECTION command is used to control the secure queue and selection of the collector task.

Operation	Operands
$\left. \begin{array}{l} \text{[MODIFY-RESOURCE]} \\ \text{-COLLECTION} \\ \text{[MOD-RES]} \end{array} \right\}$	$\text{ACT [ ION ]} = \left\{ \begin{array}{l} \text{[ADD [ -COLLECTOR]} \\ \text{[REM [OVE [ -COLLECTOR ] ]]} \\ \text{[SET [ -COLLECTOR]} \end{array} \right\}$ <p>, TSN=tsn</p>

### ACTION

#### =ADD-COLLECTOR

The specified job is taken into account when selecting the collector task within the system. This state corresponds to the presetting at the time the job enters the secure queue. This command has no effect unless a MOD-RES ACT=REM command has been issued for the same job.

#### =REMOVE-COLLECTOR

The specified job is not taken into account when the collector task is selected by the system. If the specified job is the collector, it loses this collector attribute. However, this does not prevent the job in question from reserving resources; it merely cannot collect them one after the other, and instead must wait until all its requests can be met at once.

#### =SET-COLLECTOR

The specified job becomes the collector task. If it is already the collector task, the command has no effect. If another job is the collector, it loses its collector attribute. The setting of the collector task has priority over its selection by the system.

### TSN

#### =tsn

Specifies the task sequence number of the job for which the MOD-RES command has been issued.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	64	NKS0023	MOD-RES not executed Task not in secure queue
	64	NKS0024	MOD-RES ACT=SET not executed Establishment not confirmed by task
	64	NKS0026	MOD-RES ACT=REM not executed Task currently being established collector
	64	NKS0027	MOD-RES ACT=SET not executed Collector currently being set up
	64	NKS0028	MOD-RES ACT=SET not executed Task is already collector
	64	NKS0029	MOD-RES ACT=SET not executed Task no longer in secure queue
	64	NKS0043	Internal error in NKRORQH module

**Notes**

- If a job loses its collector attribute, all existing reservations are canceled. The job waits in the secure queue until all reservation requests can be met at once.
- The collector attributes can be modified for each job in the secure queue as often as required. These attributes (collector, noncollector, to be taken into account at selection, not to be taken into account) are, however, only valid as long as the job is contained in the secure queue. When a job leaves (or re-enters) the secure queue, the default attributes apply (noncollector, to be taken into account at selection).
- Mount requests are issued only at the operator terminal when all the resources required for the job have been reserved. The mounting of volumes takes place in a subsidiary phase of secure processing. The MOD-RES command therefore has no effect on jobs waiting for a reply to a MOUNT message.
- The MOD-RES command with the REMOVE or SET operand is rejected if, at the time of command input, a job is turned into a collector task.

## MRSEND

### Terminate network participation

The MRSEND command is used to terminate MSCF. MRSEND also terminates the "job distribution" facility. Once MSCF has been successfully terminated, the local processor is no longer a member of the MSCF network, but may continue to be a member of the BCAM network.

Operation	Operands
MRSEND	

#### Command return codes

(SC2)	SC1	Maincode	Meaning
1	0	CMD0001	No error
	0	CMD0001	No action necessary
	32	ESM0224	Command not processed
	32	ESM0228	Command terminated abnormally

#### Notes

- Participation in the network should also be terminated if BCAM has been abnormally terminated in the local processor.
- If BCAM or the operating system of another processor within the network is abnormally terminated, the following commands should be used to terminate communication with that processor:

```
/BCOUT bcamname
/MRSMOD OUT,HOST=bcamname
```

- The MRSEND command should always be executed before the system session is terminated (SHUTDOWN).

# MRSMOD

## Reconfigure MSCF network

If the MSCF subsystem is loaded, the operator can dynamically change the configuration of the MSCF communication network. The initiative comes from the processor on which the command is entered.

The operator can cause a connection to be set up or cleared down with other processors in which the MSCF subsystem is loaded and its communication mechanism is active.

Reconfiguration causes the processor table to be updated. This does not affect the MSCF configuration file containing the BCAM names of the processors; this file has to be updated explicitly by means of a utility routine (e.g. EDT).

Operation	Operands
MRSMOD	<pre> {   IN, HOST=bcamname [ , HOST-PSW=password ]   [ , CONN-TYP={     LOOSELY-COUPLED     CLOSELY-COUPLED   } ]   [ , OWN-PSW=password ]   OUT, HOST=bcamname [ , FORCED={     NO     YES   } ] }                     </pre>

IN

The local processor wishes to be linked with the processor "bcamname".

HOST=bcamname

BCAM name of the processor with which the local processor wants to be linked. This corresponds to the name which was specified when the data communication system was generated.

HOST-PSW=password

Password of the target processors with which the validity of participation in the closely coupled system is checked. It need by specified only if the system is protected with passwords (see Note).

CONN-TYP=

Specifies whether the participation of the target processor in the closely coupled system is desired or not (see Note).

OWN-PSW=password	Password of the local processor with which the validity of the command is checked. It need be specified only if the system is protected with passwords (see Note).
OUT	The local processor wishes to be disconnected from the processor "bcamname". All access operations from and to the processor "bcamname" are terminated immediately.
HOST=bcamname	BCAM name of the processor from which the local processor wishes to be disconnected.
FORCED=	Specifies whether execution of the MRSMOD OUT command is to be forced.
=NO	Execution of the command is not to be forced.
=YES	Execution of the command can be forced if, for example, the local processor wishes to terminate the connection to a shared pubset processor but is not allowed to do this owing to the pubset allocation protocol.

### *Example*

The system consisting of the processors with the BCAM names PROCESSOR1, PROCESSOR2 and PROCESSOR3 is to be expanded from PROCESSOR1 by another processor, PROCESSOR4. The operator of PROCESSOR1 enters the following command:

```
/MRSMOD IN,HOST=PROCESSOR4
```

If the link to PROCESSOR1 has already been declared in PROCESSOR4 (with the MRSSTART or MRSMOD command), execution of the above command in PROCESSOR1 will result in a system comprising PROCESSOR1, PROCESSOR2, PROCESSOR3 and PROCESSOR4.



### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	1	CMS0006	Syntax error (MRSMOD IN)
	1	MCS0006	Syntax error (MRSMOD OUT)
	1	MCS0009	Incompatible operands
	2	MCA0001	'MSCF' subsystem not in 'DSSM' catalog
	32	MCA0007	Incorrect privilege call
	32	MCA0025	Internal error (REQM, bourse call)
	64	MCA0006	User is not privileged
	64	MCS0009	Invalid local password
	64	MCS0021	Command can be executed only in conjunction with the FORCED=YES operand
	65	MCA0002	'MSCF' subsystem not loaded
	65	MCA0003	'MSCF' subsystem currently being loaded
	65	MCA0004	'MSCF' subsystem currently being unloaded

### Note

The "loosely coupled" type of system corresponds to the MSCF connections of earlier versions and is supported for reasons of compatibility only. A "closely coupled system" is essential for shared pubset mode and allows passwords to be assigned to the individual processors in the system.

The different types of systems and the requirements for their deployment are described in the *MSCF* manual.

## MRSSTA

### Request information on MSCF configuration

This command provides information on the state of the MSCF configuration. It can be issued by the system administration, the operator and users, and provides information on active and requested connections from the viewpoint of the local processor. It also indicates whether the addressed processor(s) participate in or are intended for use in a closely-coupled system (CCS).

Operation	Operands
MRSSTA	[ {bcamname } [ {SYSID=sysid} ] ]

bcamname

BCAM name of the processor for which the MSCF configuration state is to be output.

SYSID=sysid

SYSID of the processor for which the MSCF configuration state is to be output. 1-3 characters may be specified.

If no operand is specified, information on the entire MSCF communication network is output.

#### Output format

```
PROCESSOR  SYSID  CONN-TYPE  STATUS  PSW
...
NR. OF SERVER: ACTUAL= x  FREE= x
```

PROCESSOR

BCAM name of the processor as defined in the generation of the data communication system.

SYSID

System identifier of the processor

CONN-TYPE

Connection type of the processor (CCS/LCS)

STATUS

Current status of the processor "bcamname"

MSCF-LOCAL "bcamname" is the local processor.

MSCF-UNKNOWN "bcamname" is neither the local processor nor is it contained in the processor table.

MSCF-CONNECTED

A connection exists between "bcamname" and the local processor.

**NOT MSCF-CONNECTED**

No connection to the processor "bcamname" exists, but "bcamname" is known to the local processor, i.e. connection setup to that processor is desired.

PSW                    The processor is password-protected (YES/NO)

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error (SHOW-MRS-CONNECTIONS)
	1	MCS0006	Syntax error (MRSSTA)
	2	MCA0001	'MSCF' subsystem not in 'DSSM' catalog
	65	CMD2241	'MSCF' subsystem not loaded
	65	CMD2241	'MSCF' subsystem currently being loaded
	65	CMD2241	'MSCF' subsystem currently being unloaded

**Note**

The "loosely coupled" type of system corresponds to the MSCF connections of earlier versions and is supported for reasons of compatibility only. A "closely coupled system" is essential for shared pubset mode and allows passwords to be assigned to the individual processors in the system.

The different types of systems and the requirements for their deployment are described in the *MSCF* manual.

## MRSSTART

### Activate MSCF communication

As soon as the operator enters the MRSSTART command at a processor, that processor is activated as an MSCF network node. By specifying or omitting the FILE operand, the operator can decide whether or not a connection to other processors is to be set up.

If the FILE operand is specified, an attempt is made to establish a connection to all processors whose names are contained in the specified file. The results of this attempt are recorded in a processor table. Processors which reject the connection proposal are marked "not active" in the processor table. The operator receives appropriate messages as to whether or not connection setup has been successful.

An MSCF connection between two processors can be established (by means of BCAM) only if the name of the requesting processor is contained in the processor table of the accepting processor, i.e. an MRSSTART command must already have been given at the accepting processor. If the relevant name is found, the connection to this processor is marked "active". Otherwise, the connection proposal is rejected.

If the MRSSTART command is issued without the FILE operand, MSCF is activated in the local processor, but no connection to other processors is set up. If, following the activation of MSCF, such a connection is desired, the operator must enter an additional MRSMOD IN,HOST=bcamname command for each processor (see MRSMOD).

Following each successful connection setup, DMS updates the MRS catalogs in the requesting processor and the accepting processor.

The MRSSTART command activates MSCF and the "job distribution" facility in the local processor (system tasks MRCAT and JODI are generated).

Operation	Operands
MRSSTART	[FILE=filename]

**FILE**

=filename

BCAM names of the processors to be connected to the local processor. If the file name does not contain a user ID, the user ID TSOS is assumed.

The file must not contain the local processor name. The processors have the same names as in the BCAM network (as used, for example, in the BCIN command).

The file must have SAM format and variable record length. One processor name is entered per record. The file may contain up to 163 names. Duplicate names are not permitted. The file can be used for the LCS type of system (see Notes).

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	No action necessary
	32	ESM0224	Command not processed
	32	ESM0228	Command terminated abnormally

**Notes**

- The BCAM commands are described in the *Network Management in BS2000* manual.
- The "loosely coupled" type of system corresponds to the MSCF connections of earlier versions and is supported for reasons of compatibility only. A "closely coupled system" is essential for shared pubset mode and allows passwords to be assigned to the individual processors in the system. The different types of systems and the requirements for their deployment are described in the *MSCF* manual.

## MSGCONTROL

### Activate/deactivate message files

The MSGCONTROL command allows the operator to activate/deactivate message files (task and system message files). Each command may include up to 8 of the maximum permissible total of 255 activatable message files, which may be displayed with the SHOW-MSG-FILE-ASSIGNMENT command. The message files specified are set in the form of range assignments at the beginning of the range assignment list in the system module for message output.

The default or normal range assignment list (class 2 system parameters MSGFIL01 - MSGFIL15 in generation) can be reloaded by issuing the command with the STD operand.

Operation	Operands
<pre>{MSGCONTROL} {MC}</pre>	<pre>{STD ([FILE={   ([ADD={file   (file,...)} [,DEL[ETE]={file   (file,...)}])   [,SCOPE={SYSTEM   TASK}] }]}</pre>

- FILE** Designates the name of the file.
- =STD** Restores the values of the system's range assignment list as defined at system generation.
- =(ADD=file)** Designates the file which is to be added to the message system.
- =(ADD=(file,file,...))**  
Up to 8 message files may be specified in a list.
- =(DEL=file)** Name of the message file which is to be deleted from the message system.
- =(DEL=(file,file,...))**  
Up to 8 message files may be specified in a list.
- SCOPE** Specifies the range assignment list in which the specified changes are to be made.
- =SYSTEM** The changes made to the range assignment list for message files are to have global effect throughout the system and not be restricted to the calling task (operator task).

**=TASK**            The changes made to the range assignment list for message files are to restricted only to the calling task. The activation/deactivation of the specified message files thus refers to the operator terminal.

*Note*

When using this operand to restrict the scope, you must bear in mind that various operator commands are processed by server tasks which may have no connection to the relevant task message file.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	NMH1174	Syntax error
2	0	NMH1178	Warning. The same command already processed.
	64	NMH1150	Semantic error. Command reserved for system administration.
	32	NMH1121	Internal system error
	32	NMH1181	System error

### Notes

- The message primary file is accessed by the HELP command.
- The files that are to be activated must be cataloged and shareable. They should also be set to ACCESS=READ, without any additional declaration of a read password.

## NCHOLD

### Place batch task in wait state

The NCHOLD command places a batch job that has already been started in the wait state.

During this time, the devices used by the task remain allocated.

Operation	Operands
NCHOLD	tsn

tsn                      Task sequence number of the batch job to be placed in the wait state.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	EXC0708	HOLD-TASK command already being processed
12	64	EXC0707	Task is in LOGOFF processing
12	64	EXC0710	Task is a transaction task (TP)
12	64	EXC0711	Specified job number not found
12	64	EXC0715	Command not permitted for this type of task

#### Notes

- The NCHOLD command is rejected if:
  - the task to be placed in the wait state is an interactive task;
  - the task to be placed in the wait state is involved with other tasks, e.g. via common memory areas, files in "shared update" mode, task serialization or conditional job control.
- The NCHOLD command should not be confused with the HOLD-JOB command, which refers to jobs which have not been started, while the NCHOLD command processes jobs which have already been started, i.e. tasks.



## NCREL

### Releases batch task from wait state

The NCREL command releases a batch task from the wait state in which it was placed by means of the NCHOLD command.

Operation	Operands
NCREL	tsn

tsn                      Task sequence number of the task which is to be released.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
12	64	EXC0711	Specified job number not found
12	64	EXC0712	job not in wait state
12	64	EXC0715	Command is not permitted for this task type

#### Notes

- If, after an NCHOLD command has been issued, an NCREL command is given for a task waiting for an operator response, the message

```
/RESUME-TASK OR /NCREL ISSUED FOR TASK NOT PENDED BY /HOLD-TASK.  
OR /NCHOLD. CMD REJECTED
```

is displayed. The task is not placed in the wait state until an operator response has been entered. Another NCREL command is then required to cancel the wait state of the task.

- The wait state is not canceled for a task by an NCREL command if a WHEN command was issued beforehand, i.e. an unpend is not executed on a task if the task is still in the WHEN queue.

# PRIORITY

## Modify priority of job or task

The PRIORITY command is used to modify the job scheduling priority for jobs waiting to be started, or the task scheduling priority for jobs that have been started.

This command allows the operator

- to assign a job a high start priority,
- to release a job for an immediate start or
- to release a job for an immediate start and assign it a high start priority.

Operation	Operands
$\left\{ \begin{array}{l} \text{PRIORITY} \\ \text{PRI} \end{array} \right\}$	$\left\{ \begin{array}{l} \text{tsn} \\ \text{MONJV=jvname} \end{array} \right\}, \left\{ \begin{array}{l} \text{p} \\ ( [\text{p}], \text{EXP}[\text{RESS}] ) \end{array} \right\}$

**tsn** Task sequence number of the job or task whose priority is to be modified.

**MONJV**  
=jvname Specifies the name of a job variable monitoring a job or task.

This operand is available only if the JV (job Variables) software product is installed. The job variable must have been defined previously in a LOGON or ENTER command.

**p** Specifies the new priority for the job or task.

Possible values:

- 1 ≤ p ≤ 9 job scheduling priority
- 30 ≤ p ≤ 127 fixed task scheduling priority
- 128 ≤ p ≤ 255 variable task scheduling priority

**(,EXPRESS)** This function affects only waiting user jobs; it causes the relevant job scheduler to release the job immediately for starting, and task management to start the job. If, in addition, a priority is defined, the job, once started, is dealt with in the individual queues in accordance with the specified priority.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	32	CMD0221	System error
	64	JMS0630	Semantic error
	64	JMS0640	
	64	JMS0670	Error in REMOTE job
	132	JMS0620	Saturation reached

**Notes**

- The job scheduling priorities 1-9 influence the starting order of the waiting batch jobs. The task scheduling priorities 30-255 determine the order of the jobs in the queues after they have been started.
- Specifying the EXPRESS operand has no effect in the following cases:
  - in the event of memory saturation,
  - in the event of category overload,
  - if the relevant job scheduler is not active or
  - if the job class has been placed in the wait state.
- The EXPRESS operand and the fixed task scheduling priorities should not be used without good reason, as they have an adverse effect on operating efficiency.

## RDIR

### Redirect outputs to another printer

The RDIR command redirects spoolout jobs:

- from an RSO printer/printer pool to an RSO printer/printer pool,
- from an RSO printer/printer pool to a local printer pool or
- from a local printer pool to an RSO printer/printer pool.

Only jobs that are in the "wait" or "keep" state are redirected. Either all jobs or a subset of them can be redirected. In the latter case, the jobs are selected by specifying the TSN, the job type, the user ID, the form or the job name. A negative list may be specified.

*Prerequisites for redirection:*

- The specifications for the two printers must be different (different printer names or printer pool names).
- RSO printers must belong to the same printer type.
- The same control (escape) character must be defined for the specified printers.
- In the case of family processing, **all** (sub)jobs must belong to the specified job type.
- The files to be printed must not be located on an exported pubset.
- If the spoolout job is directed to a printer pool, the allocated printer must not be specified in the RDIR command (e.g. job is of type 7/KEEP).

Operation	Operands
RDIR	$[\text{FROM}=\left\{\begin{array}{l} \text{device} \\ \text{pool} \end{array}\right\}]$ $[\text{, TO}=\left\{\begin{array}{l} \text{*CENTRAL} \\ \text{device} \\ \text{pool} \end{array}\right\}]$ $[\text{, TYPE}=\left\{\begin{array}{l} \text{W[AIT]} \\ \text{K[EEP]} \\ \text{ALL} \end{array}\right\}]$

*continued* →

Operation	Operands
RDIR (cont.)	$[ , \text{TSN} = \left\{ \begin{array}{l} \text{tsn} \\ (\text{tsn1}, \dots, \text{tsn16}) \end{array} \right\} ]$ $[ , \text{PNAME} = \left\{ \begin{array}{l} *ALL \\ \text{pname} \\ (\text{pname1}, \dots, \text{pname16}) \end{array} \right\} ]$ $[ , \text{UID} = \left\{ \begin{array}{l} ALL \\ \text{uid} \\ (\text{uid1}, \dots, \text{uid16}) \end{array} \right\} ]$ $[ , \text{FORM} = \left\{ \begin{array}{l} *ALL \\ \text{form} \\ (\text{form1}, \dots, \text{form16}) \end{array} \right\} ]$ $[ , \text{EXPNAME} = \left\{ \begin{array}{l} *NONE \\ \text{pname} \\ (\text{pname1}, \dots, \text{pname16}) \end{array} \right\} ]$ $[ , \text{EXUID} = \left\{ \begin{array}{l} NONE \\ \text{uid} \\ (\text{uid1}, \dots, \text{uid16}) \end{array} \right\} ]$ $[ , \text{EXFORM} = \left\{ \begin{array}{l} *NONE \\ \text{form} \\ (\text{form1}, \dots, \text{form16}) \end{array} \right\} ]$

<b>FROM</b>	This operand specifies a device or pool of devices from which output is to be redirected and may be used as an alternative to the TSN operand.
=device	Name of the RSO printer (1-8 characters in length) from which output is to be redirected.
=pool	Name of the local/RSO pool (1-8 characters in length) from which output is to be redirected.
<b>TO</b>	Specifies the device or pool of devices to which the output is to be redirected.
=device	Name of the RSO printer (1-8 characters in length) to which output is to be redirected.
=pool	Name of the local/RSO pool (1-8 characters in length) to which output is to be redirected.
=CENTRAL	Output is to be redirected to a central printer.
<b>TYPE</b>	Specifies the type(s) of jobs which are to be redirected.

=ALL	All jobs are to be redirected, both those waiting for processing (WAIT state) and those which have been placed on hold (KEEP state).
=K[EEP]	Only the jobs in the KEEP state are to be redirected.
=W[AIT]	Only the jobs in the WAIT state are to be redirected.
TSN	This operand is an alternative to the FROM operand.
=tsn	
=(tsn1,...)	Task sequence number, 1-4 alphanumeric characters in length, of the job which is to be redirected. Up to 16 jobs may be specified.
PNAME	PNAME of the job which is to be redirected.
=pname	
=(pname1,...)	PNAME, 1-8 alphanumeric characters in length. Up to 16 PNAMEs may be specified.
=*ALL	All jobs are to be redirected.
UID	User ID of the job which is to be redirected.
=uid	
=(uid1,...)	User ID, 1-8 characters in length. Up to 16 user IDs may be specified.
=*ALL	All jobs are to be redirected.
FORM	Specifies which jobs - depending on the form being used are to be redirected.
=form	
=(form1,...)	Form name, 1-6 alphanumeric characters in length. Up to 16 forms may be specified.
=*ALL	All jobs with forms are to be redirected.
EXPNAME	Jobs with the PNAME(s) specified here are not to be redirected.
=pname	
=(pname1,...)	PNAME, 1-8 alphanumeric characters in length. Up to 16 PNAMEs may be specified.
=*NONE	All jobs are to be redirected.
EXUID	Jobs with the user ID(s) specified here are not to be redirected.

=uid  
 =(uid1,...) User ID, 1-8 characters in length. Up to 16 user IDs may be specified.

=\*NONE All jobs are to be redirected.

EXFORM Jobs with the form name(s) specified here are not to be redirected.

=form  
 =(form1,...) Form name, 1-6 alphanumeric characters in length. Up to 16 forms may be specified.

=\*NONE All jobs with forms are to be redirected.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	01	CMD0202	Syntax error
	01	SRO0173	Semantic error
	32	SRO0174	System error; command rejected
	32	SRO0177	TSN error; command rejected
	64	SCP0976	Invalid operand value
	128	SPS0307	RSO or RBP not available

### Notes

- This command is useful, for example, when a print job cannot be processed because it is not possible to establish a connection.
- An output is redirected only if the form specification in the SPOOL request is also defined in the SPOOL parameter file for the newly allocated device.

## RELEASE-JOB

### Cancel wait state of user job

The RELEASE-JOB command releases a job from the wait state, in which it was placed with the HOLD-JOB command.

Operation	Operands
{RELEASE-JOB}	{tsn
{REL-J	{MONJV=jvname}

tsn                      Task sequence number of the job whose wait state is to be canceled.

MONJV=jvname

The job is identified via a monitoring job variable which was specified for the job.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	64	JMS0630	Semantic error

#### Notes

- As soon as the user job has been released from the wait state, the operator is issued a message at the operator terminal.
- Tasks which have been placed in the wait state with a NCHOLD command must be reactivated by means of a NCREL command.



## RELEASE-JOB-CLASS

### Cancel wait state for job class

The RELEASE-JOB-CLASS command releases a job class from the wait state, in which it was placed with the HOLD-JOB-CLASS command.

Operation	Operands
<pre>{RELEASE-JOB-CLASS} {REL-J-C}</pre>	NAME=name

#### NAME

=name                    Name of the job class which is to be released from the wait state.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	64	JMS0630	Semantic error
	64	JMS0640	

## RELEASE-JOB-STREAM

### Cancel wait state of job stream

The RELEASE-JOB-STREAM command releases a job stream, and thus implicitly its job scheduler, from the wait state. The job stream was placed in the wait state with the HOLD-JOB-STREAM command.

Once the command has been successfully executed, the associated job scheduler resumes its function.

Operation	Operands
{RELEASE-JOB-STREAM} {REL-J-S}	NAME=name

#### NAME

=name                      Name of the job stream whose wait state is to be canceled.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	64	JMS0630	Semantic error

## REMARK

### Insert comment into RUN files

The REMARK command is used to insert a comment into RUN files. The command is logged in the CONSLOG file.

Operation	Operands
REMARK	comment

comment            Any character string may be entered for this operand. If entered at the operator terminal, the comment must not exceed the length of a screen line.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error

#### Note

The command may be issued at all operator terminals and by authorized user programs.

## REMOVE-DEVICE-CONNECTION

### Clear virtual connections

The REMOVE-DEVICE-CONNECTION command is used to clear virtual connections between the hardware units (CHN, CTL, DVC) from the system. The system is then not allowed to use these connections.

Operation	Operands
$\left\{ \begin{array}{l} \text{REMOVE-DEVICE} \\ \text{-CONNECTION} \\ \text{REM} \end{array} \right\}$	$\left\{ \begin{array}{l} \text{FROM} = \left\{ \begin{array}{l} \text{mn} \\ (\text{mn1}, \dots, \text{mn8}) \\ * \text{CHA}[\text{NNEL}] (\text{mn}) \\ * \text{CHA}[\text{NNEL}] ((\text{mn1}, \dots, \text{mn8})) \\ * \text{CON}[\text{TROLLER}] (\text{mn}) \\ * \text{CON}[\text{TROLLER}] ((\text{mn1}, \dots, \text{mn8})) \end{array} \right\} \\ \\ \text{, TO} = \left\{ \begin{array}{l} \text{mn} \\ (\text{mn1}, \dots, \text{mn8}) \\ * \text{CHA}[\text{NNEL}] (\text{mn}) \\ * \text{CHA}[\text{NNEL}] ((\text{mn1}, \dots, \text{mn8})) \\ * \text{CON}[\text{TROLLER}] (\text{mn}) \\ * \text{CON}[\text{TROLLER}] ((\text{mn1}, \dots, \text{mn8})) \end{array} \right\} \\ \\ \left[ \text{, FORCE} = \left\{ \begin{array}{l} \left[ \text{N}[\text{O}] \left[ (\text{WAIT} = \left\{ \begin{array}{l} \text{STD} \\ \text{int} [ ( [\text{DIM} = ] \left\{ \begin{array}{l} \text{MIN} \\ \text{SEC} \end{array} \} ] ) } \right\} ] \right\} \right] \\ \text{NO} \end{array} \right\} \right\} \\ \text{Y}[\text{ES}] \end{array} \right\}$

**FROM** Identifies the virtual connection to be cleared via one of the delimiting hardware units. The direction in which the virtual connection is removed is not predefined, i.e. FROM does not have to be the inner and TO the outer unit. A list of up to 8 elements may be specified.

**=mn** Mnemonic device name of the hardware unit that delimits the virtual connection to be cleared (2 or 4 alphanumeric characters; see Note).

**=\*CHANNEL(mn)** Mnemonic designation of the channel which delimits the virtual connection.

**=\*CONTROLLER(mn)** Mnemonic designation of the controller which delimits the virtual connection.

TO	Defines the virtual connection to be cleared in terms of the other delimiting hardware unit. A list of up to 8 elements may be specified.
=mn	Mnemonic device name of the hardware unit that delimits the virtual connection to be cleared (2 or 4 alphanumeric characters; see Notes).
=*CHANNEL(mn)	Mnemonic designation of the channel which delimits the virtual connection.
=*CONTROLLER(mn)	Mnemonic designation of the controller which delimits the virtual connection.
FORCE	Specifies the execution mode for REMOVE-DEVICE-CONNECTION.
= <u>NO</u>	Immediate execution of the reconfiguration job is only required if the outer units involved are not being used. Otherwise, the time specified in the WAIT operand must elapse before the units are released (default), and the virtual connection then assumes the "remove pending" state.
=YES	The reconfiguration job is to be executed immediately.
WAIT	Specifies the maximum wait time for execution of the reconfiguration job in execution mode FORCE=NO.
= <u>STD</u>	The maximum wait time for execution of the reconfiguration job is set to 15 minutes (default).
=int	Specifies the maximum wait time. $1 \leq \text{int} \leq 546$ when DIM=MIN $1 \leq \text{int} \leq 32767$ when DIM=SEC.
=NO	Specifies no maximum wait time for the execution of the reconfiguration job.
DIM	
= <u>MIN</u>	Specifies the maximum wait time in minutes (default).
=SEC	Specifies the maximum wait time in seconds.

**Effect of the REMOVE-DEVICE-CONNECTION command:**

1. Each of the specified connections assumes (if permitted) the state "removed explicitly" and cannot be used.

2. Each affected outer unit whose internal connections are all in the "removed implicitly" or "removed explicitly" state is placed in the "detached implicitly" state and cannot be used.
3. The outward connections of the outer hardware units which are in the state "detached implicitly" as per point 2 assume the state "removed implicitly" and cannot be used.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
4	64	NKR0...	Path already detached
12	64	NKR0...	Internal check negative
16	64	NKR0...	Caller error
20	64	NKR0...	Software error

#### Note

If there is an error in command termination, the maincode contains the message code of the message output last during command processing.

### Notes

- If the reconfiguration job cannot be executed with FORCE=NO within the specified maximum wait time, it is rejected with the following messages:

```
NKR0037  DEVICE=<mn> MAY CURRENTLY NOT BE DETACHED
NKR0059  PATH<unit-class1>=<mn>/<unit-class2>=<mn> REMOVE REJECTED
```

In this case the operator should:

- request more detailed information with SHOW commands, terminate tasks which have reserved the device, or assign other devices,
- or repeat the reconfiguration job in execution mode FORCE=YES.
- A reconfiguration job is not executed, regardless of the execution mode, if the last path to a unit absolutely essential for the system is affected (refer to DETACH-DEVICE, note 2).
- The state "remove pending" can be terminated by means of an appropriate command
 

```
INCLUDE-DEVICE-CONNECTION OR REMOVE-DEVICE-CONNECTION ...,FORCE=YES.
```
- For magnetic tape controllers with two channel ports or for dual magnetic tape controllers, paths that are physically not available should also be logically removed. Otherwise, path handling by the system could cause an error.

- For all devices, connections, etc., 2 alphanumeric characters are valid as 'mn'. Only in the case of disk devices connected to H60, H90, H120 or H130 systems are 'mn's comprising 4 hexadecimal characters (which must be specified in alphanumeric notation without X") also valid.

## REMOVE-DEVICE-DEPOT

### Cancel assignment of tape device to depot

The REMOVE-DEVICE-DEPOT command is used to cancel the assignment of tape devices to depots created by means of the ADD-DEVICE-DEPOT command.

Operation	Operands
<pre>[REMOVE-DEVICE- DEPOT ] [REM-DEV-DEP ]</pre>	<pre>UNIT={ mn       (mn1, . . . [, mn10] )       *ALL } , LOCATION={ dep             *ALL }</pre>

#### UNIT

=mn Mnemonic names (2 alphanumeric characters) of one or more devices whose assignment to a depot is to be canceled. A maximum of 10 devices may be specified.

=\*ALL All device assignments to the specified depot are to be canceled..

#### LOCATION

=dep Name of the depot (1 - 8 characters long) for which the assignment of the specified devices is to be canceled.

=\*ALL The assignment of the device or the devices specified in this command is to be canceled for all known depots.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	NKV0001	Syntax error
	64	NKV0004	Command partially processed
	64	NKV0005	Command not processed for an object
	64	NKV0006	Command not processed
	130	NKVT002	Tape monitor not available



# RESET-MESSAGE-SUPPRESSION

## Cancel message suppression

This command cancels an arrangement set up with the SET-MESSAGE-SUPPRESSION command to suppress output of certain messages to operator terminals or authorized user programs.

The operator can use the SHOW-MESSAGE-SUPPRESSION command to display a list of current message suppression arrangements.

Operation	Operands
RESET-MESSAGE-SUPPRESSION	<p>MESSAGE-ID= { mess (mess1, ...mess6) *ALL }</p> <p>[ , CONSOLE= { *OWN *ALL cons (cons1, ...cons4) } ]</p> <p>[ , APPLICATION= { *OWN *ALL appl (appl1, ...appl6) } ]</p>

### MESSAGE-ID

=mess Mandatory operand which specifies a seven-digit message number or a list of message numbers identifying messages which can now be output again on the operator terminal.

=\*ALL All suppressed messages can now be displayed again on the specified operator terminals.

CONSOLE Specifies the mnemonic device name of the console on which the specified messages can now be displayed again.

=\*OWN Message suppression is canceled at the console on which the command was issued.

=\*ALL Message suppression is to be canceled for all consoles. This operand may be used only at the main operator terminal.

=cons Mnemonic device name of the main or standby console at which the specified messages are allowed to be displayed again. In this operand, remote consoles may be specified only from the main console.

- APPLICATION Specifies the authorized user program for which message suppression is to be canceled.
- =\*OWN Message suppression is canceled for the authorized user program in which the command was issued.
- =\*ALL Message suppression is canceled for all known authorized user programs.  
This operand may be used only at the main console.
- =appl Name of the authorized user program (4 alphanumeric characters) for which suppression of the specified messages is to be canceled.  
In this operand, remote authorized user programs may be specified only from the main console.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NBR0884	Command partially executed
	1	CMD0202	Syntax error
	64	NBR0865	Authorized application not found
	64	NBR0866	Console not found
	64	NBR0883	Can only be issued from main console in this form
	64	NBR0870	No message

## RESUME-PCS

### Cancel wait state for PCS

This command cancels the wait state for the PCS subsystem. The operator can put PCS in the wait state by using the HOLD-PCS or HOLD-SUBSYSTEM command.

Operation	Operands
RESUME-PCS	[OPTION-NAME={ <u>*STD</u> optname}] [, FILE-NAME={ <u>*STD</u> filename}]

**OPTION-NAME** Name of the PCS parameter set.  
Default value: STDOPT.

**FILE-NAME** Name of the PCS definition file.  
Default file name: SYSPAR.PCS.021

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	000	CMD0001	No error
016	000	CMD0001	PCS already started
	001	CMD0202	Syntax error
	002	CMD2202	Subsystem not defined/not suspended
	032	CMD0221	Internal system error
	064	ETMPC16	Privilege violation
	064	ETMPC12	Command not permitted by DSSM
	065	ETMPC19	Internal error

#### Note

The command return codes are supported only under operator task; the values are output in 3-digit decimal form.

## RESUME-SS

### Cancel wait state for subsystem

This command releases a subsystem from the wait state, in which it was placed with the HOLD-SS command.

Once the RESUME-SS command has been executed successfully, connections can once again be set up to the specified subsystem.

Operation	Operands
RESUME-SS	SS-NAME=name [,VERSION='versno']  [,STRING=C'string']  [,RESET={ NO YES }]  [,SYNCH={ NO YES }]

SS-NAME=name

Name of the subsystem whose wait state is to be canceled.

VERSION='versno'

Version number of the above subsystem; the format specified here must be identical to the format used for the declaration of the subsystem.

The version number may consist of 4 or 7 alphanumeric characters.

*Format*

nn.m      Version ID

nn.mxyy   Version ID and update status

(nn, m and yy are numeric characters - x is a letter)

*Default value*

If there is only **one** version of the subsystem that has been placed in the wait state, the default value applies for this version.

If there are **several** suitable versions, the version must be specified.

STRING=C'string'

Defines special parameters which are evaluated by the relevant subsystem only.

RESET	Determines the mode and urgency of command processing.
= <u>NO</u>	If the relevant system is not yet in a defined wait state, the command is rejected until this is achieved.
=YES	The command is accepted irrespective of any clear-down process still outstanding and the subsystem or some components are immediately initialized (see notes). The version parameter is mandatory for this operand.
SYNCH	Enables synchronous or asynchronous processing to be selected.
= <u>NO</u>	The command is to be processed asynchronously, i.e. there is no need to wait for it to execute before making another input. No error messages relating to the execution of the command will be output.
=YES	The command must first be executed before another entry can be made. Any messages relevant to its execution are output.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	No action necessary
	32	ESM0224	Command not processed
	32	ESM0228	Command terminated abnormally

## RFD

### Read floppy disk

The RFD (Read Floppy Disk) command is used to assign a floppy disk device to a spoolin job or to release a floppy disk device from a spoolin job.

In addition to jobs which start with LOGON and end with LOGOFF, simple data records can also be read in by means of the 'userid' operand.

When the disk drive is empty, the operator inserts a new floppy disk and presses the start key. The spoolin job then continues; no new device assignment is required.

Operation	Operands
{RFD} {RF }	<pre>           [UNIT=mn, USE=NO           [UNIT=mn] [ , USE=<u>INPUT</u>] [ , FILE={filename           (filename, ...)}]           [ ,userid[ ,ACC=acctno] [ ,ownerid]]           [ ,EX={filename           (filename, ...)}] [ ,AFTER=filename] [ ,VOL[UME]=vsn]         </pre>

#### UNIT

=mn

Specifies the mnemonic device name of the floppy disk device which is to serve as the input device, or which is to be released. If the operand is omitted, the operator receives a message informing him/her which device (the first free device) has been selected.

#### USE

=INPUT

The device is to be assigned as the input device.

=NO

The device is released as soon as the current file has been read, or immediately if the device is not currently in use.

#### FILE

=filename

The specified file is to be read in.

If this operand is omitted, all files on the floppy disk are read in.

=(filename,...)

The specified files are read in. A maximum of 10 files can be specified.

*Note*

Each time a file has been read in correctly, the operator is informed by an appropriate message.

RFD UNIT=mn,USE=NO must be specified before a new RFD FILE=filename command is issued.

userid	<p>User identification which must be specified to read in a floppy disk and under which the file is to be created. The contents of the floppy disk are not checked. All data on the floppy disk is stored unchanged in the file.</p> <p>If the operand is omitted, no data records are read in. The system then checks whether a job, i.e. a command sequence beginning with LOGON and ending with LOGOFF, is present. The job is read in and executed.</p>
ACC	
=acctno	<p>An account number for 'userid'; it must not exceed 8 alphanumeric characters in length.</p> <p>The operand is optional but may be specified only if the 'userid' operand is specified.</p> <p>If no account number is specified, the job listing is output under the spoolout class of the first account number entered under 'userid'. If an incorrect account number is specified, the spoolin job S.INtsn is aborted.</p>
ownerid	<p>Owner identification of the floppy disk; it may be up to 8 characters long.</p> <p>If 'ownerid' contains special characters, it must be specified in single quotes (any single quotes and the ampersand character (&amp;) within 'ownerid' must be specified twice in this case).</p> <p>The operand is mandatory if the VOL1 label contains an owner ID, but is permissible only if the 'userid' operand is also specified.</p> <p>If the VOL1 label contains blanks instead of an owner ID, the operand is not required.</p>
EX	
=filename	<p>Specifies the file which is not to be read in when a spoolin operation is carried out.</p>
=(filename,...)	<p>The specified files are not read in. Up to 10 files can be specified.</p>

**AFTER**

**=filename**      The spoolin procedure starts at the file which follows the file specified here.  
 This operand should be specified if a spoolin procedure is resumed after an abortion, or for selecting files which are stored at the end of the floppy disk.

**VOLUME**

**=vsn**            Specifies the volume serial number of the floppy disk with which the spoolin procedure commences (up to 6 alphanumeric characters). If this floppy disk contains a file which is continued on another floppy disk, SPOOL also continues the read-in procedure. Otherwise, the spoolin procedure is aborted (implicit USE=NO).

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	01	CMD0202	Syntax error
	01	SCP0973	Semantic error
	32	SCP0974	System error; command rejected
	64	SCP0975	No authorization for command
	64	SCP0976	Invalid operand value

**Notes**

- If a floppy disk is not inserted in the device within 10 minutes of giving the RFD command, spoolin is aborted with an appropriate message.
- If, for instance, the owner ID in the VOL1 label of a floppy disk is XYZ001, the following commands can be used:

RFD UNIT=mn,ABC001,XYZ001

The operand 'ownerid' (XYZ001) is checked against the owner ID field in the VOL1 label. If they tally, data is read in under the identifier ABC001.

RFD UNIT=mn,XYZ001

If 'ownerid' is not specified, the operand 'userid' (XYZ001) is checked against the owner ID field in the VOL1 label. If they tally, data is read in under the identifier XYZ001.

If the VOL1 label of a floppy disk contains no owner ID, no check is performed.



Normally, every floppy disk is checked. Even in the case of multi volume files (one file extending over two or more floppy disks), the owner ID of each floppy disk is checked.

- In BS2000, it is mandatory that when parts of a file are spread over a number of floppy disks, their physical arrangement must be sequential; i.e. if part of a file is at the end of one floppy disk, the next part must be at the start of the following floppy disk.
- The reading in of floppy disks under the same user ID continues until the device is released by an RFD command with the operand USE=NO.
- The operator receives a log which lists all the files that have been read in.
- Error recovery for data files is the same as for files defined by the DATA command.

The name of the file read in has the following format:

```
$userid.S.FD.vsn.fnam
```

where:

vsn      Volume serial number of the floppy disk (up to 6 bytes)

fnam     File name from file header label HDR1 of the floppy disk (up to 8 bytes, first character must be a letter).

'vsn' and 'fnam' can be changed at the operator terminal. This should be done with caution, however, as these applications are used in forming the file name; they may therefore comprise alphanumeric characters only.

A period is not permitted:

- within a character string for 'vsn'
- in the last position of the 'fnam' character string.

If 'vsn' and 'fnam' are not entered on the floppy disk, the appropriate fields in the file name are replaced with xxxxxx and xxxxxxxx.

- Files read in from floppy disks are output under the same user ID as was used for input.

If no account number exists (because the LOGON command is missing), no spoolout class is defined.

Thus, a printer without a spoolout class (no CLASS operand) has to be allocated for this output; otherwise, the output remains in the queue.

# RUN

## Start command file

This command starts the execution of a command file.

Operation	Operands
RUN	filename [,FPASS=password]

**filename** Fully qualified file name of the command file to be executed.

**FPASS**

=password Execution password of the command file.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NBR0746	Command revoked
	64	NBR0796	No password in command or it is wrong
	64	NBR0826	Record in RUN file too long
	64	NBR0827	Record in RUN file not recognized
	64	NBR1002	Specified file is missing or contains errors
	64	NBR1003	Read error during command file processing
	1	CMD0202	Syntax error

### Notes

- The system processes the command STA MSG,ALL with a higher priority than other commands. If this command is specified in a command file, the command STA MSG,ALL can overtake other commands located before it in the command file.
- An ASTOP command ought to be included in the RUN file after every 30 commands or so.
- Only one RUN command can be processed at a time. RUN commands in RUN files are not processed until all other commands in the RUN file have been processed.
- Processing of a RUN file is aborted if
  - a record cannot be interpreted as either a command or a console message
  - a record is longer than 201 bytes.

# SDVC

## Direct spoolout jobs to specific device

The SDVC command allows the operator to allocate devices for spoolout/spoolin jobs. Data output may be to tape, floppy disk or printer.

Operation	Operands
<pre>{ SDVC } { SD }</pre>	<pre>DEV={   mn   (mn1, ..., mn8)   device   (device1, ..., device8) }  [ , USE={   OUTPUT   INPUT   ND   NO   SHOW   UPDATE [ (REVISION={ ANY   number }) ] } ]  [ , SCHEDULING-STATE={ NEXT-JOB CURRENT-JOB } ]  [ , SAMPLE={ YES NO } ]  [ , EXIT={ YES NO } ]  [ , CLASS={ ALL n (n1, ..., n16) *ADD (n1, ..., n16) *REMOVE (n1, ..., n16) *EXCEPT (n1, ..., n16) } ]  [ , USERID={ ALL userid (userid1, ..., userid16) *ADD (userid1, ..., userid16) *REMOVE (userid1, ..., userid16) *EXCEPT (userid1, ..., userid16) } ]</pre>

continued →

Operation	Operands
SDVC (cont.)	<pre> [ ,FORM= {   ALL   *STD   form   (form1, ..., form16)   ((form1, ..., form16))   ((ALL))   *ADD(form1, ..., form16)   *REMOVE(form1, ..., form16)   *EXCEPT(form1, ..., form16)   *EQUIVALENT-EXCEPT(form1, ..., form16) } ]  [ ,DIA= {   ALL   *NONE   *ONLY   ovly   (ovly1, ..., ovly16)   *ADD(ovly1, ..., ovly16)   *REMOVE(ovly1, ..., ovly16)   *EXCEPT(ovly1, ..., ovly16) } ]  [ ,PNAME= {   ALL   name   (name1, ..., name16)   *ADD(name1, ..., name16)   *REMOVE(name1, ..., name16)   *EXCEPT(name1, ..., name16) } ]  [ ,ACCOUNT= {   ALL   number   (number1, ..., number16)   *ADD(number1, ..., number16)   *REMOVE(number1, ..., number16)   *EXCEPT(number1, ..., number16) } ]  [ ,DEST [INATION]= {   *NONE   (dest1, ..., dest16)   *ADD(dest1, ..., dest16)   *REMOVE(dest1, ..., dest16)   *STD   *LOCAL   *REMOTE   *PUBLIC-REMOTE } ] </pre>

continued →

Operation	Operands
SDVC (cont.)	$[ , \text{PRIORITY} = \left\{ \begin{array}{l} \text{ALL} \\ \text{number} \\ (\text{number1}, \text{number2}) \end{array} \right\} ]$ $[ , \text{ROTATION} = \left\{ \begin{array}{l} \text{ANY} \\ \text{YES} \\ \text{NO} \\ \text{MANUAL} \end{array} \right\} ]$ $[ , \text{FOB} = \left\{ \begin{array}{l} \text{ANY} \\ \text{ONLY} \\ \text{NO} \\ (\text{number1} [ , \text{number2} ]) \end{array} \right\} ]$ $[ , \text{CHAR} = \left\{ \begin{array}{l} \text{ALL} \\ \text{ONE} \\ (\text{number1} [ , \text{number2} ]) \end{array} \right\} ]$ $[ , \text{TWOUP} = \left\{ \begin{array}{l} \text{ANY} \\ \text{YES} \\ \text{NO} \\ \text{MODE1} \\ \text{MODE2} \end{array} \right\} ]$ $[ , \text{VSN} = \left\{ \begin{array}{l} \text{vs n} \\ (\text{vs n1}, \dots, \text{vs n16}) \end{array} \right\} ]$ $[ , \text{DENSITY} = \text{density} ]$ $[ , \text{RETPD} = \text{days} ]$ $[ , \text{RMODE} = \left\{ \begin{array}{l} \text{COPY} \\ \text{DIRECT} \end{array} \right\} ]$

*continued* →

Operation	Operands
SDVC (cont.)	<pre>[ , IMPORT=vsu]</pre> $  \left. \begin{array}{l}  \text{[ , TYPE= } \left. \begin{array}{l}  \text{ALL} \\  \text{MAY (DEVICE-TYPE= } \left. \begin{array}{l}  *ALL \\  \text{typ} \\  (\text{typ1}, \dots, \text{typ9})  \end{array} \right\} \\  \text{MUST (DEVICE-TYPE= } \left. \begin{array}{l}  *ALL \\  \text{typ} \\  (\text{typ1}, \dots, \text{typ9})  \end{array} \right\}  \end{array} \right\} \\  \text{ND} \\  \text{HP} \\  \text{NH P} \\  \text{LP} \\  \text{PR} \\  \text{FD} \\  \text{PU}  \end{array} \right. \\  \left. \begin{array}{l}  \text{[ , TRACE= } \left. \begin{array}{l}  \text{NO} \\  \text{YES (LEVEL= } \left. \begin{array}{l}  \text{S} \\  \text{B} \\  \text{C}  \end{array} \right\}  \end{array} \right\} \\  \text{[ , FORCE= } \left. \begin{array}{l}  \text{NO} \\  \text{YES}  \end{array} \right\}  \end{array} \right]  \end{array}  $

**DEV**

Devices to be processed.

If USE=SHOW is specified at the same time,

- DEVICE may be omitted,
- the DESTINATION operand may be specified instead of DEVICE,
- a device name may also be specified using wildcards (e.g. SD DEV=\*6,USE=SHOW causes information on all devices whose names end with the digit 6 to be output); if wildcards are used, the value \*LOCAL is set as the default value for the DESTINATION operand,
- full information on each specified device is output if several complete device names are given,
- any further operand is rejected if a complete device name is specified (exception: STATE),

- a device name can be specified instead of a mnemonic. In this case, the name is searched for in the SPOOL parameter file and the relevant mnemonic for this local printer is used. Otherwise, the SPOOL parameter file and the information it contains on the printer are ignored. If a device name has been specified, all subsequent commands relating to this printer must use the same name. This link between device name and printer is canceled by means of the command SDVC ,USE=NO.

=mn Specifies the mnemonic name of the device

- to be activated,
- to be deactivated,
- on which information is to be displayed on the screen,
- or whose scheduling parameters are to be changed.

*Note*

If DEV=mn is entered, the highest recording density for the tape is assumed as the default value.

Replay tape processing is terminated by specifying DEV=mn and USE=NO.

=(mn1,...,mn8) Up to 8 devices can be specified, for which the same attributes as identified via further operands of this command are to apply. Spoolout devices may include: printers, RSO printers, floppy disk devices or tape devices. However, RSO printers must not be specified in conjunction with other devices.

=device Specifies an RSO printer or a local printer.

=(device1,...,device8) Specifies a number of printers (local SPOOL and RSO) in list form. Wildcards are allowed when the USE=SHOW operand is also used (wildcards 1..24).

USE One or more devices (maximum 8) are to be:

- activated as an output device (OUTPUT),
- activated as an input device (INPUT),
- deactivated (NO),
- selected for displaying device information (SHOW),
- selected for updating scheduling operand values (UPDATE),
- selected for redirecting laser printer output to a line printer (ND).

*Compatibility of various device types with the USE operand*

Device types	Value of the USE operand					
	OUTPUT	ND	INPUT	SHOW	UPDATE	NO
Printer	x	x		x	x	x
Floppy disk/output	x			x	x	x
Tape/output	x			x	x	x
Tape/input			x	x		x

x: permissible values; in all other cases, the command is rejected.

*Compatibility of various operand types with the USE operand*

Operand types	Value of the USE operand				
	OUTPUT / ND	INPUT	SHOW	UPDATE	NO
Scheduling operands	x	x	x	x	
Printer operands	x			x	
Tape operands	x	x			
STATE operand			x		

x: permissible values; in all other cases, the command is rejected.

Scheduling operands include: CLASS, FORM, USERID, DIA, PNAME, ACCOUNT, DESTINATION, PRIORITY, ROTATION, FOB, CHAR, TWOUP, TYPE.

Printer operands are: SAMPLE, EXIT.

Tape operands are: DENSITY, RETPD, RMODE, IMPORT, VSN.

USE Purpose for which the devices are used.

=OUTPUT The devices identified by the DEV operand are to be used as output devices.

=INPUT The replay tape identified by the DEV operand is to be used as an input device.

*Note*

- With USE=INPUT, only one volume serial number (VSN) may be specified.



- The scheduling operand values cannot be changed for an input device (tape or floppy disk), i.e. the REVISION operand will be rejected in this case.
- =NO Following completion of the current processing, the devices identified by the DEV operand are no longer to be used as input/output devices, but are to be returned to the system.
- =ND Laser printer output (3350/3352 or 3351/3353) is to be redirected to the line printer specified in the DEV operand. This is not possible, however, if CONTROL=PHYS was entered in the corresponding PRINT job.
- =SHOW Outputs information on the devices named under DEV to SYSOUT. At the operator terminal, the SHOW option in SDVC is offered in place of the unavailable SDF command SHOW-ACTIVE-SPOOL-DEVICES. If a large number of devices are entered, the operator should specify additional operands in order to enhance the clarity of the screen output.

The spinoff mechanism is triggered if USE=SHOW is specified in a procedure or in batch mode and the specified device cannot be found.
- =UPDATE Modifies scheduling operand values. The number of the processing status (REVISION) of an active device is incremented by 1 for each SDVC command if the UPDATE operand has been specified. When the counter has reached the value 255, it is reset to 1. If the specified device is not active, the command is rejected. Operand values of the scheduling operands CLASS, FORM, USERID, DIA, PNAME, ACCOUNT, DESTINATION, PRI, ROTATION, FOB, CHAR, TWOUP and TYPE not specified in SDVC...USE=UPDATE remain unchanged. Operands where a list of values may be specified (CLASS, FORM, USERID, DIA, PNAME, ACCOUNT, DESTINATION) are treated as follows: if no constant is given or if the constant \*ALL or \*EXCEPT is specified together with a list, the specified list replaces any previous list. If the constant \*ADD or \*REMOVE is specified, the associated list is added to or removed from the existing list, respectively.

If \*REMOVE is specified with a name which has not been entered, the SDVC command is rejected.
- =UPDATE[(REVISION=ANY)] The scheduling operand values for the specified output are to be changed irrespective of the processing state (REVISION).

=UPDATE[(REVISION=number)]

The scheduling operand values are to be changed for the processing state identified by 'number' (REVISION = number). If the specified number does not match the number currently contained in the table, the SDVC command is rejected.

#### SCHEDULING-STATE

Can be entered only together with USE=SHOW and determines the status of the device on which information is to be output. If the scheduling operand values are changed (SDVC USE=UPDATE) while a PRINT job is being processed, the scheduling criteria for that device before the update (current values) and after the update (valid for the subsequent job) can be output prior to completion of that job.

=NEXT-JOB The values for the next scheduling operation are output by default, i.e. if a job is being processed on the specified device, the new scheduling values applying to the subsequent job will be output.

=CURRENT-JOB

The scheduling values for the current job are output even if they have already been changed via SDVC USE=UPDATE for the next job. If no job is currently being processed on the specified device, the valid scheduling criteria for the next job are displayed on the screen.

#### SAMPLE

=YES

For printing on forms, the operator can request a sample print in order to check and, if necessary, adjust the paper position before the actual printout takes place. The type of stationery is defined in the FORM operand, which can be specified either in the PRINT command or by the operator or system administrator in the SDVC command. The printout is thus directed to the printer with the specified stationery.

The sample printout is performed using the original file, but with its data modified in order to protect the sample copies against misuse, i.e. all letters are replaced with "X", and all digits with "0".

To add a dynamic element to the SAMPLE function, the user receives the message SPS0224 via SYSOUT. A response is required stating whether a sample printout is desired and, if yes, for how many pages.

#### *Note*

The SAMPLE operand is rejected if specified for type LP65 printers.

EXIT	Defines whether the EXIT routines are to be called during spoolout.
= <u>YES</u>	Calls the EXIT routines if they are active for any devices.
=NO	Calls no EXIT routines even if they are active.
CLASS	Defines which jobs can be processed on the specified devices (depending on the spoolout class). Both positive and negative lists may be specified. One spoolout class per account number may be entered for each user in the user catalog.
	If the operand is omitted, <ul style="list-style-type: none"><li>– *ALL is assumed if no scheduling values have yet been changed during the current session, and</li><li>– the previously valid value is retained for all other processing states: <math>1 \leq \text{REVISION} \leq 255</math>.</li></ul>
= <u>ALL</u>	All spoolout classes are admitted.
=n	Only one spoolout class is admitted. Possible values: $1 \leq n \leq 255$ .
=(n1,...,n16)	Up to 16 spoolout classes may be specified. A job with a spoolout class which is not contained in this positive list cannot be processed on the specified devices. This list replaces any existing positive list for the specified devices.
=*ADD(n1,...,n16)	The elements specified here (up to 16) are to be added to an existing list of spoolout classes for the specified devices. The list may contain up to 16 elements. The specified devices must be active.
=*REMOVE(n1,...,n16)	The elements specified here (up to 16) are to be removed from an existing list of spoolout classes for the specified devices. If an element is specified which is not contained in the list, the SDVC command is rejected. The specified devices must be active.
=*EXCEPT(n1,...,n16)	A job can be processed on the specified devices only if it is not associated with one of the spoolout classes (up to 16) specified here (negative list). This list replaces any existing negative list for the specified devices.

USERID	<p>Defines which jobs can be processed on the specified devices (depending on the user identification). Positive and negative lists can be specified.</p> <p>If the operand is omitted,</p> <ul style="list-style-type: none"> <li>– *ALL is assumed if no scheduling values have yet been changed during the current session, and</li> <li>– the previously valid value is retained for all other processing states: <math>1 \leq \text{REVISION} \leq 255</math>.</li> </ul>
= <u>ALL</u>	All user identifications are admitted.
=userid	Only the specified user identification is admitted. Jobs from other user IDs cannot be processed on the specified devices.
=(userid1,...,userid16)	Up to 16 user IDs may be specified. A job from a user ID which is not contained in this list cannot be processed on the specified devices. This list replaces any existing positive list for the specified devices.
=*ADD(userid1,...,userid16)	The elements specified here (up to 16) are to be added to an existing list of user IDs for the specified devices. The list may contain up to 16 elements. The specified devices must be active.
=*REMOVE(userid1,...,userid16)	The elements specified here (up to 16) are to be removed from an existing list of user IDs for the specified devices. If an element is specified which is not contained in the list, the SDVC command is rejected. The specified devices must be active.
=*EXCEPT(userid1,...,userid16)	A job can be processed on the specified devices only if it is not started under one of the user IDs specified here. This list replaces any existing negative list for the specified devices.
FORM	<p>Defines which jobs can be processed on the specified devices (depending on the form to be used). Positive and negative lists with or without a MOUNT message to the operator may be specified. The length of the form must be set on the printer.</p>
= <u>ALL</u>	All forms are permitted. For RSO, see the <i>RSO</i> manual.
=*STD	<p>Assignment of a standard form for RSO and local SPOOL.</p> <p>In this case, the list of forms defined in the SPOOL parameter file is used.</p>

- =form Only the specified form is permitted.
- =(form1,...,form16)  
Up to 16 forms may be specified. Only jobs using one of these forms will be processed. This list replaces any existing positive list for the specified devices.
- Note*  
Not for RSO. For RSO devices, only a list of equivalent forms can be specified (in double brackets).
- =((form1,...,form16))  
Up to 16 equivalent forms may be specified. The operator does *not* receive a message requesting a form change if the current job requires a form other than the one mounted. The job will then be processed with one of the forms specified in this list. This list replaces any existing positive equivalence list for the specified devices.
- =(ALL)  
All forms are permitted. No MOUNT message appears at the operator terminal.
- =\*ADD(form1,...,form16)  
The specified forms are added to the existing list of equivalent or nonequivalent forms. The list may contain up to 16 elements.
- =\*REMOVE(form1,...,form16)  
The specified forms are removed from the existing list of equivalent or nonequivalent forms. The list may contain up to 16 elements. If an element is specified which is not contained in the list, the SDVC command is rejected.
- =\*EXCEPT(form1,...,form16)  
The specified forms must not be used (job is aborted). This list replaces any existing negative list for the specified devices.
- =\*EQUIVALENT-EXCEPT(form1,...,form16)  
The specified forms are not used. The operator does *not* receive a message requesting a form switch. The job will be processed with a form which is not contained in this negative list. This list replaces any existing negative list of equivalent forms for the specified devices.

- DIA** Defines which jobs can be processed on the specified devices (depending on the specified overlays). Both positive and negative lists may be specified. The operand is rejected if specified for RSO printers. If the operand is omitted,
- \*ALL is assumed if no scheduling values have yet been changed during the current session, and
  - the previously valid value is retained for all other processing states:  $1 \leq \text{REVISION} \leq 255$ .
- =ALL** All overlays are permitted.
- =\*NONE** Only jobs which use **no** overlays are permitted.
- =\*ONLY** Only jobs which use **some** overlay are permitted.
- =ovly** Only the specified overlay is permitted.
- =(ovly1,...,ovly16)** Up to 16 overlays may be specified. The specified overlays can be used for printout. This list replaces any existing positive list of overlays for the specified devices.
- =\*ADD(ovly1,...,ovly16)** The specified overlays are added to the existing list. The specified devices must be active.
- =\*REMOVE(ovly1,...,ovly16)** The specified overlays are removed from the existing list. The specified devices must be active. If an element is specified which is not contained in the list, the SDVC command is rejected. The specified devices must be active.
- =\*EXCEPT(dia1,...,dia16)** The specified overlays must not be used. This list replaces any existing negative list for the specified devices.
- PNAME** Defines which jobs can be processed on the specified devices (depending on the job name). Both positive and negative lists may be specified.
- If the operand is omitted,
- \*ALL is assumed if no scheduling values have yet been changed during the current session, and
  - the previously valid value is retained for all other processing states:  $1 \leq \text{REVISION} \leq 255$ .

- =ALL All job names are permitted.
- =name Only the specified job name is permitted. Jobs with other job names cannot be processed on the specified devices.
- =(name1,...,name16)  
List with up to 16 job names. Only jobs using these names will be executed. This list replaces any existing positive list for the specified devices.
- =\*ADD(name1,...,name16)  
The specified job names are added to the existing list. The specified devices must be active.
- =\*REMOVE(name1,...,name16)  
The specified job names are removed from the existing list. If an element is specified which is not contained in the list, the SDVC command is rejected. The specified devices must be active.
- =\*EXCEPT(name1,...,name16)  
The specified job names must not be used (negative list). This list of impermissible job names replaces any existing negative list for the specified devices.
- ACCOUNT Defines which jobs can be processed on the specified devices (depending on the account number). Both positive and negative lists may be specified.
- If the operand is omitted,
- \*ALL is assumed if no scheduling values have yet been changed during the current session, and
  - the previously valid value is retained for all other processing states:  $1 \leq \text{REVISION} \leq 255$ .
- =ALL All account numbers are permitted.
- =number Only the specified account number is permitted. Jobs with other account numbers cannot be processed on the specified devices.
- =(number1,...,number16)  
Up to 16 account numbers may be specified. A job with an account number which is not contained in this list cannot be processed on the specified devices. This list replaces any existing positive list for the specified devices.

=\*ADD(number1,...,number16)

The elements specified here (up to 16) are to be added to an existing list of account numbers for the specified devices. The list may contain up to 16 elements. The specified devices must be active, and the following processing state must apply: REVISION  $\neq$  INITIAL.

=\*REMOVE(number1,...,number16)

The elements specified here are to be removed from an existing list of account numbers for the specified devices. If an element is specified which is not contained in the list, the SDVC command is rejected. The specified devices must be active, and the following processing state REVISION  $\neq$  INITIAL must apply.

=\*EXCEPT(number1,...,number16)

A job can be processed on the specified devices only if it does not have one of the account numbers specified here (negative list). This list of impermissible account numbers replaces any existing negative list for the specified devices.

**DESTINATION** Specifies one or more pools to be assigned to the specified SPOOL devices. Each pool name specified in the SDVC command must be entered in the SPOOL parameter file (see ADD-PRINTER-POOL), and all devices which have been started must belong to the specified pool (entry in the SPOOL parameter file).

=\*NONE

Default value if USE=OUTPUT is also specified. A list of output pools is not to be defined for the specified devices. The specified devices can therefore be addressed in the PRINT command only by their device names (and not via the name of a pool) in either the DEVICE or DESTINATION operand.

=dest

Only jobs which are to be output via the pool specified here can be processed on the specified devices.

=(dest1,...,dest16)

Jobs which are to be output via a pool contained in this positive list can be processed on the specified RSO devices. If a given device is active, an existing positive list of pools for that device is replaced with the list of pools specified here.

If one of the specified pool names has not been defined in the SPOOL parameter file for the specified devices (A-P-P or M-P-P), the command is rejected.



- =\*ADD(dest1,...,dest16)**  
The elements specified here are to be added to an existing list of pools for the specified devices. This operand value is permissible only with USE=UPDATE (for modifying the pool entries for output). The specified devices must be active at the time. If the list specified here causes more than 100 pools to be activated for the specified devices, the command is rejected.
- =\*REMOVE(dest1,...,dest16)**  
The elements specified here are to be removed from an existing list of pools for the specified devices. This operand value is permissible only with USE=UPDATE (for modifying the pool entries for output to printer). If an element is specified which is not contained in the list, the SDVC command is rejected. The specified devices must be active at the time. If all the pools are removed from the list, a further SDVC command must be issued to assign at least one pool to the specified devices.
- =\*STD**  
This operand value is permissible only with USE=OUTPUT and USE=UPDATE (for initializing or modifying the pool entries for output to printer). A list of standard pools is provided in the SPOOL parameter file. The list contains all the pools which have been assigned to the specified devices (see ADD-PRINTER-POOL). If the specified devices are currently active, an existing list is replaced by this list of standard pools. A maximum of 100 pools can be activated for a device. If the list of standard pools contains more than 100 pools, only the first 100 pools are activated for the specified devices, and the user is notified by means of an appropriate message.
- =\*LOCAL**  
Default value if USE=SHOW is specified. Outputs information on all local SPOOL devices to SYSOUT.
- =\*REMOTE**  
Can be specified only in conjunction with USE=SHOW. Outputs information on all RSO devices to SYSOUT.
- =\*PUBLIC-REMOTE**  
Can be specified only in conjunction with USE=SHOW. Outputs information on all RSO devices defined as PUBLIC-DEVICES to SYSOUT.

PRIORITY	Defines the priorities jobs must have in order to be processed on the specified devices. Values from 30 (highest priority) to 255 (lowest priority) are permitted.
=ALL	Jobs with any priority can be processed on the specified devices.
=number	All jobs with a priority > 'number' can be processed on the specified devices.
=(number1,number2)	All jobs with 'number1' ≤ priority ≤ 'number2' can be processed on the specified devices.
ROTATION	For HP laser printers only. Specifies whether jobs with or without page rotation can be output on the specified device.
= <u>ANY</u>	All jobs (with or without page rotation) can be output.
=YES	Only jobs making use of the page rotation module can be output.
=NO	Only jobs not requiring the page rotation module can be output.
=MANUAL	In contrast to the value NO, this entry allows the operator to address the page rotation module manually via a hardware switch. All pages are then rotated.
FOB	For HP laser printers only. Specifies which jobs can be output on the device (depending on the FOB size). The size of the FOB is determined by the number of sublines (see the manual <i>SPOOL Part 1, System Description</i> ).
=NO	Jobs which address an FOB cannot be output on the specified device. The value *NO corresponds to the value (0,0).
=ONLY	Only jobs which address an FOB can be output.
= <u>ANY</u>	Any job (with or without FOB) can be output.

**=(number1[,number2])**

Only jobs which use an FOB whose size is within the specified value range (number1, number2) can be output. Permissible values:

$0 \leq \text{number1} \leq \text{number of sublines permitted for the device}$

$0 \leq \text{number2} \leq 672$

In order to speed up loading, the operand value should correspond to the actual number of sublines (e.g. 100 for an FOB with 100 sublines).

During initialization of a device, SPOOL checks the buffer size for an FOB.

If the buffer is smaller than the values specified in the SDVC command, either a message is sent to the operator terminal and the values are adjusted (if  $\text{number1} \leq \text{number of sublines permitted for the device}$ ), or the command is rejected (if  $\text{number1} > \text{number of sublines permitted for the device}$ ). The operator may either accept or reject the deviating values for the device. Rejecting them is implicitly equivalent to issuing SDVC USE=NO.

The input (372) is interpreted as (372,), i.e. as the lower limit.

**CHAR**

For HP laser printers only.

Specifies which jobs can be output on a device (depending on the number of character sets they use).

During initialization of a device via SDVC, a check is made as to how many character sets can be loaded on the device. If this value is smaller than one of the two specified in SDVC, either a message is sent to the operator terminal and the value for 'number2' is adjusted (if  $\text{number1} \leq \text{number of character sets which can be loaded on the device}$ ), or the command is rejected (if  $\text{number1} > \text{number of character sets which can be loaded on the device}$ ).

**=ALL**

All jobs can be output on the specified device.

**=ONE**

Only jobs using just one character set can be output on the specified device (for SPOOL devices on which jobs with the operand CONTROL=NO in the PRINT command are to be processed).

**=(number1[,number2])**

Only jobs using a number of character sets within the specified value range (number1,number2) can be output.

Possible values:

$1 \leq \text{number1} \leq \text{number of character sets which can be loaded on the device}$

$1 \leq \text{number2} \leq 64$

The input (4) is interpreted as (4,), i.e. as the lower limit.

## TWOUP

Specifies the printer-specific characteristic of TWO-UP-PROCESSING for spoolout jobs on HP90 printers; defines whether and in what order two adjacent pages are to be output on 17-inch-wide paper. HP54 printers support this function (in which two pages, each with a maximum width of 8.5 inches, are printed out alongside each other) in three different ways.

TWO-UP-PRINTING is controlled via the operator terminal. In each case, the start position of the page to be printed on the right-hand side of the form can be selected via the operator terminal.

Mode 1 (operand MODE-1 in the SPSEIVE statement ADD-SPOOL-FORM)

Two consecutive pages are printed on each form:

Page n	Page n+1
--------	----------

Page n+2	Page n+3
----------	----------

·  
·  
·

Mode 2 (operand MODE-2 in the SPSEIVE statement ADD-SPOOL-FORM)

Two identical pages are printed on each form:

Page n	Page n
--------	--------

Page n+1	Page n+1
----------	----------

·  
·  
·

TWO-UP mode is supported via a new operand in the form record for the HP90 printer (see the *SPSEIVE* manual, ADD-SPOOL-FORM statement). The possible operand values are NO, MODE-1 and MODE-2.

When invited to insert a particular form, the operator is also requested to set the TWO-UP mode on the printer which is defined in the form entry.

= <u>ANY</u>	All jobs for the relevant form (with or without TWO-UP-PROCESSING) can be output.
=YES	Jobs with TWO-UP-PROCESSING are supported; the assignment of form to mode is handled implicitly via the appropriate entries in the form definition.
=NO	Jobs with TWO-UP-PROCESSING are not to be supported.
=MODE1	All jobs for the relevant form are to be output in mode 1 (see above).
=MODE2	All jobs for the relevant form are to be output in mode 2 (see above).
VSN	The volume serial number(s) or one or more replay tapes used as input/output tape(s) for the printer are specified.
=vsn	Volume serial number (up to 6 alphanumeric characters).
=(vsn1,...,vsn16)	No more than 16 volume serial numbers can be specified. The first VSN is used to form the file name of the directory file containing all the jobs required for reprocessing the replay tape (SR.vsn1).  Once the replay tape has been generated, the directory file is copied to the tape so that it can be exported from one computer center to another. When a replay tape is exported, the system administrator must erase the directory file in public space.  Replay tape generation is terminated using /SD DEV=mn,USE=NO. No more spoolout jobs will be written to the replay tape. The tape unit 'mn' is released as soon as the job being written has been completed.
	<i>Note</i> If the operand USE=INPUT is specified, only one volume serial number can be specified. The volume serial numbers of further tapes are taken from the directory file. This ensures that the tapes are in the correct order.
DENSITY	
=T9P	
=T1600	A tape with a recording density of 1600 bpi is to be used as the spoolout device.

=T9G  
=T6250

A tape with a recording density of 6250 bpi is to be used as the spoolout device.

*Note*

The DENSITY operand is not valid for replay tape reprocessing (input). The operand is also illegal if USE=NO is specified.

RETPD  
=days

The retention period for files on replay tapes is specified in days.  
Possible values: 0 to 999.  
Default value: 10

RMODE  
=COPY  
  
=DIRECT

Specifies the type of replay tape reprocessing.

The files are to be copied from the replay tape to a temporary (EAM) file before output.  
The temporary files are deleted after spoolout.

The files are to be output directly to an appropriate volume.

*Note*

If a replay file is to be printed and either COPIES or FROM=negative-value is specified in the PRINT command, or if the file is a multi volume file, RMODE=COPY is assumed even if RMODE=DIRECT was specified.

The same thing happens when a replay file is to be output with the PUNCH command and the COPIES operand is specified or the file extends over two or more volumes.

COPY mode is used when an input file is processed more than once because it can significantly reduce the amount of tape processing required, including the mounting and dismounting of multi file tapes.

IMPORT  
=vsn

If a replay tape is to be processed by a different computer center, the appropriate directory file must be imported prior to tape spoolout. For this purpose, the volume serial number of the tape containing the directory file must be specified. If the directory file (SR.vsn) cannot be located, the tape cannot be processed.

This operand is valid only for replay tape input processing and is ignored otherwise.

**TYPE** Specifies the print or FD jobs which are to be output to replay tape or read from replay tape. This operand is not applicable unless a replay tape has been assigned either as output device (USE=OUTPUT) or as input device for reprocessing (USE=INPUT).

**=ALL** Specifies that all jobs are to be written to or read from replay tape.

**=MAY(DEVICE-TYPE=(type1,..type9))**

This operand defines a printer type or a list of printer types for processing the jobs. **MAY** indicates that SPOOL **may** use a printer type in the list; no specific printer type is defined (see Example).

For 'type', the following entries are permissible:

LP	for line printers of type 3337, 3338 or 3339
LP48	for line printers of type 3348 or 3349
LP65	for line printers of type 3365
LP-EMULATED-PRINTER	for printers which use suitable SINIX software to emulate a 3337 and are addressed via BUS
HP90	for HP laser printers of type 3354(2090) or 3355(2140)
HP	for HP laser printers of type 3351 or 3353
2090-APA-PRINTER	for printers in APA mode of type 2090 or 2140
2050-APA-PRINTER	for printers in APA mode of type 2050

**=MUST(DEVICE-TYPE=(type1,...type9))**

This operand defines a printer type or a list of printer types for processing the jobs. **MUST** indicates that SPOOL **must** use a printer type in the list, i.e. it is not permissible to process the jobs on any other printer type (see Example).

**=LP** All jobs for line printers 3337, 3338 or 3339 are to be written to or read from replay tape.

**=HP** All jobs for HP laser printers are to be written to or read from replay tape.

**=PR** All printer jobs are to be written to or read from replay tape.

**=FD** All jobs for floppy disk devices are to be written to or read from replay tape.

**=PU** All jobs for floppy disk devices are to be written to or read from replay tape.

*Note*

- Input tapes and output tapes are processed differently.
- The values of the TYPE operand and the corresponding items displayed by the STATUS command are not 100% identical.

TRACE	Permissible only for APA printers. Name of the trace file: \$SYSSPOOL.TRACE.<mn>.<printer-name>.<yyyy-mm-dd>.<hhmmss>
=NO	Does not activate a trace.
=YES	Activates a trace.
=YES (LEVEL= $\begin{Bmatrix} S \\ B \\ C \end{Bmatrix}$ )	Specifies which data is to be written in the trace file.
=S	Logs execution and status data.
=B	Logs execution, status and block control data.
=C	Logs execution completely.
FORCE	For RSO only. This operand forces an immediate abort of the printout.

### Notes

- A maximum of 16 classes, user IDs, spoolout names, account numbers or form numbers may refer to each output device.
- If a sample printout was initiated and printing was delayed, the sample printout remains the same after restart.
- The operands TYPE, FORM, EXIT, SAMPLE, VSN and RETPD do not apply to floppy disks. Although they will not be rejected, no processing will take place.
- Tape processing
  - a) Spoolout jobs originating from a replay tape are output normally even if the jobs on tape require different device types (printer, floppy disk) or different forms.
  - b) Replay tapes can be printed out by any BS2000 computer center running the appropriate version of SPOOL. The validity check for PRINT jobs is carried out taking into account the system configuration of the computer center where the replay tape was created. If this replay tape is also to be used in another computer center, the system configuration of that other computer center must also be taken into account when the replay tape is created.



- c) During generation of a replay tape (USE=OUTPUT), the system administrator can also issue SD commands specifying the same tape device in order to modify the selection criteria (CLASS, FORM, USERID, PRI, DIA, PNAME, ACCOUNT, DESTINATION), but cannot alter the list containing the volume serial numbers.
  - d) During replay tape printout (USE=INPUT), the system administrator is not permitted to alter the selection of jobs, but can stop the replay run (by means of USE=NO) and restart it with new selection operands.
  - e) During replay tape processing, a temporary catalog entry with the name TP.<tsn>.<date and time> is generated. When starting processing, the user must ensure that no file of this name already exists ('tsn' is the task sequence number of the job).
- The RETPD, RMODE and IMPORT operands apply only to SPOOL tape processing and are ignored when specified for any other device.
  - If the exit routines are not active when spoolout is initiated, the entire process is executed without the exit call. This is the case even if the exit routines become active during the process.
  - If the exit routines are active and EXIT=Y is specified, spoolout takes the exit routines into account.  
If, however, the exit routines are deactivated during the spoolout process, the operator receives a message inquiring whether the process is to be aborted or continued without the exit interface.
  - For 8414/8415 remote stations only:  
If the exit routines are deactivated during spoolout, the spoolout process continues as usual.

## Operand interdependencies

Operands	Printer		Floppy disk device	Tape devices		RSO printer	
	Line	Laser		input	output		
DEV	M	M	M	M	M	M	
USE							
INPUT	R	R	R	M	R	R	
OUTPUT	A	A	A	R	A	A	
NO	A	A	A	A	A	A	
ND	A	A	R	R	R	R	
DESTINA-							
TION	A	A	I	A	A	A	} dependent on the scheduler
CLASS	A	A	A	A	A	A	
FORM	A	A	I	A	A	M	
USERID	A	A	A	A	A	A	
DIA	R	A	R	A	A	R	
PNAME	A	A	A	A	A	A	
ACCOUNT	A	A	A	A	A	A	
EXIT	A	A	I	R	R	A	
SAMPLE	A	A	I	R	I	A	
PRI	A	A	A	A	A	A	
TWOUP	R	A	R	A	A	R	
ROTATION	I	A	I	A	A	R	
FOB	I	A	I	A	A	R	
CHAR	I	A	I	A	A	R	
VSN	I	I	I	M	A	R	} Tape processing parameters
IMPORT	R	R	R	A	R	R	
RETPD	I	I	I	R	A	R	
TYPE	I	I	I	A	A	R	
RMODE	R	R	R	A	R	R	
DENSITY	R	R	R	R	A	R	

A: Operand accepted

I: Operand ignored

M: Operand mandatory

R: Operand rejected

*Example*

A series of jobs is to be processed on various types of printer:

<u>Job number:</u>	<u>Printer type:</u>
1	LP
2	ND
3	HP
4	ND, HP
5	LP, ND
6	LP, HP
7	LP, ND, HP

The following jobs are selected by means of the TYPE=MAY and TYPE=MUST operands:

<u>Operand value:</u>	<u>Jobs:</u>
TYPE=MAY (DEVICE-TYPE= (ND, HP) )	2, 3, 4, 5, 6, 7 _____ (a)
TYPE=MUST (DEVICE-TYPE= (ND, HP) )	2, 3, 4 _____ (b)

- (a) All jobs which can be processed in a computer center on ND and HP printers are selected.
- (b) All jobs which **cannot** be processed in a computer center which has neither an ND nor an HP printer.

## SET-DISK-DEFAULTS

### Define default values for disk parameters

The SET-DISK-DEFAULTS command is used to define system-global default values for disk parameters. These values apply to all private disks in DMS mode for which no special presettings have been made with the SET-DISK-PARAMETER command.

Operation	Operands
{ SET-DISK-DEFAULTS } { SET-DISK-DEF }	$[ \text{ASS [IGN-TIME]} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \text{USER} \\ \text{OPER [ATOR]} \end{array} \right\} ]$ $[ , \text{USER [-ALLOCATION]} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \text{SHARE} \\ \text{EXCL [USIVE]} \\ \text{ALL} \\ \text{N[O]} \end{array} \right\} ]$ $[ , \text{OPER [ATOR-CONTROL]} = \left\{ \begin{array}{l} \text{UNCHANGED} \\ \text{SHARE} \\ \text{EXCL [USIVE]} \\ \text{ALL} \\ \text{N[O]} \end{array} \right\} ]$

**ASSIGN-TIME** Defines the default value for the disk parameter ASSIGN-TIME.  
The original presetting is USER.  
The default value is UNCHANGED.

**USER-ALLOCATION**  
Specifies the default value for the disk parameter USER-ALLOCATION.  
The original presetting is ALL.  
The default value is UNCHANGED.

**OPERATOR-CONTROL**  
Defines the default value for the disk parameter OPERATOR-CONTROL.  
The original presetting is NO.  
The default value is UNCHANGED.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	NKV0001	Syntax error
	130	NKVD003	NKA system task not available

**Note**

For the meanings of the operands and their values, refer to the SET-DISK-PARAMETER command.

## SET-DISK-PARAMETER

### Set default values for monitoring disks

The SET-DISK-PARAMETER command is used to set volume-specific default values for the allocation of private disks in the DMS use mode for:

- automatic allocation by the system (ASSIGN-TIME operand)
- the use mode of the disk with respect to other systems (SYSTEM-ALLOCATION operand)
- permitting allocation requests from users (USER-ALLOCATION operand)
- requesting allocation permission via the operator (OPERATOR-CONTROL operand).

No default values can be set with this command for public disks and for private disks in SPECIAL mode (special applications such as VOLIN).

Operation	Operands
<pre>{SET-DISK-PARAMETER} {SET-DISK}</pre>	<pre>UNIT={ mn       {mn1, ..., mn10} }  VOL[UME]={ vsn            {vsn1, ..., vsn10} }  [, DEF[AULT] = { N[O]                 Y[ES] }  [, TYPE = { UNCHANGED             FROM-DEV[ICE]             FROM-USER             dev-type }  [, SYS[TEM-ALLOCATION] = { UNCHANGED                          EXCL[USIVE]                          SHARE                          ALL } }</pre>

*continued* →

Operation	Operands
SET-DISK (cont.)	$[ , ASS [IGN-TIME] = \left\{ \begin{array}{l} \underline{UNCHANGED} \\ STD \\ USER \\ OPER [ATOR] \end{array} \right\} ]$ $[ , USER [ -ALLOCATION ] = \left\{ \begin{array}{l} \underline{UNCHANGED} \\ STD \\ SHARE \\ EXCL [USIVE] \\ ALL \\ N [O] \end{array} \right\} ]$ $[ , OPER [ATOR-CONTROL] = \left\{ \begin{array}{l} \underline{UNCHANGED} \\ STD \\ SHARE \\ EXCL [USIVE] \\ ALL \\ N [O] \end{array} \right\} ]$

**UNIT**

=mn

Specifies one or more private disks for which default values are to be set, by means of their mnemonic device names (2 or 4 alphanumeric characters; see Note 2). A maximum of 10 private disks may be specified.

*Note*

This operand must not be used if the disk is intended as a mirror disk for duplicate data recording when working with the software product DRV.

In this case, disk parameters may be defined only by specifying the VSN (VOLUME operand).

**VOLUME**

=vsn

Specifies the volume serial number (VSN, max. 6 characters) of one or more private disks for which default values are to be set. A maximum of 10 VSNs can be specified.

**DEFAULT**

Specifies the default values which have been set for the ASSIGN-TIME, USER-ALLOCATION and OPERATOR-CONTROL parameters with the SET-DISK-DEFAULT command and defines the presetting (=ALL) for the SYSTEM-ALLOCATION operand.

=NO

The parameters described above are not changed to the default values.

=YES

The parameters described above are changed into the default values.

- TYPE** Specifies the device type of the disk units to be used for the disks defined in the VOLUME or UNIT operand.
- Specification of an explicit device type is only permitted if the disk is not allocated or as long as no MOUNT message has been received for the appropriate disk (TYPE=FROM-USER or FROM-DEVICE is accepted at any time). Specification of an explicit device type for a disk specified by its mnemonic device name is rejected (see UNIT operand).
- The original presetting is FROM-DEVICE.
- =UNCHANGED** The value valid up to now (previous SET-DISK or presetting) remains unchanged.
- =FROM-DEVICE** The device type is defined either by mounting the volume on a device or by a user request for a volume which has not yet been mounted (MOUNT message). A user's request for the disk is rejected if the device type specified does not match the disk already mounted.
- =FROM-USER** The device type of a private disk which has not yet been allocated is determined by the user request, i.e. a disk request with a device type which does not match that of a disk already mounted under the same VSN is not automatically rejected (as is the case with FROM-DEVICE); instead it causes a MOUNT message for the disk on a device of the type requested by the user.
- =dev-type** Explicit specification of the device type. A mount request from a user in which a different device type is specified is rejected.
- The possible specifications are given in the "Device type" column of the device tables in the appendix.
- SYSTEM-ALLOCATION** Specifies the use mode of the disk for the system in relation to other systems. If the disk is reserved by users, the parameter cannot be changed unless the new parameter setting is similar to the previous one (e.g. the previous parameter setting was SYS=ALL and the disk is allocated as system-exclusive; SYS=EXCL or SYS=ALL is accepted as the new default value).
- The original presetting is ALL.



- =UNCHANGED The value valid up to now (previous SET-DISK or presetting) remains unchanged.
- =EXCLUSIVE The disk can only be allocated by excluding other systems (no SPD operation possible). Initially the system allocates devices which have no SPD capability as long as any are available.
- =SHARE Other systems are not excluded from allocation (SPD operation possible). Initially the system allocates devices with SPD capability as long as any are available. However, this setting is rejected for disks which are explicitly intended for DRV operation.  
SPD disks are not supported by the software product DRV.
- =ALL The system allocation is effected according to device characteristics, task allocation and recording method (DRV, SRV). If the disk is mounted on an SPD device (POOL=SH) and is to be allocated in SRV mode and as task-shareable (default allocation in the case of DMS applications) it is allocated as system-shareable (SPD operation possible). In all other cases, it is allocated as system-exclusive (no SPD operation possible).
- ASSIGN-TIME Defines the time for allocation and release of a private disk which is to be used for DMS.  
  
The original presetting is STD.
- =UNCHANGED The value valid up to now (previous SET-DISK or presetting) remains unchanged.
- =STD The value set with the SET-DISK-DEFAULTS command is valid.
- =USER The time is defined as the first request or the last return of disk allocation by the user.
- =OPERATOR The private disk is allocated independently of a user request from the time the disk is mounted and recognized as being online. The disk is allocated until ASS=USER is set.

## USER-ALLOCATION

Defines default values for disk allocation by tasks according to the allocation types task-exclusive and task-shareable.

The original presetting is STD.

=UNCHANGED

The value valid up to now (previous SET-DISK or presetting) remains unchanged.

## =STD

The value set with the SET-DISK-DEFAULTS command is valid.

## =SHARE

Only disk allocations of the allocation type task-shareable are permitted (all disk allocations resulting from DMS applications and reservations by means of SECURE, except exclusive reservation for disks).

## =EXCLUSIVE

Only disk allocations of the allocation type task-exclusive are permitted (exclusive SECURE for disks).

## =ALL

Disk allocations of the allocation types shareable and task-exclusive are permitted.

## =NO

No disk allocations for the user type USE=DMS are permitted.

## OPERATOR-CONTROL

Determines whether the operator intends to check new allocations (first allocation attempt of a job for a private disk). The message is `NKA0004`. In this case, the allocation request is permitted or rejected only after confirmation by the operator. The operator's reply to message `NKA0004` is decisive for further access authorization for the appropriate job with respect to the disk; i.e. if the operator has not granted access authorization for a job, the job is not permitted to access the private disk until the setting of this parameter is again changed with the SET-DISK-PARAMETER command. For jobs which already occupy the private disk at the time the parameter is set, the new parameter setting has no effect.

The original presetting is STD.

=UNCHANGED

The value valid up to now (previous SET-DISK or presetting) remains unchanged.

## =STD

The value set with the SET-DISK-DEFAULT command is valid.

## =SHARE

Only new allocations of the type task-shareable are checked.

- =EXCLUSIVE Only new allocations of the type task-exclusive are checked.
- =ALL New allocations of the types task-shareable and task-exclusive are checked.
- =NO New disk allocations are not checked.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	64	NKA0094	Command partially processed
	64	NKA0096	Command not processed
	1	NKV0001	Syntax error
	130	NKVD003	NKA system task not available

### Notes

- The SET-DISK-PARAMETER command is rejected if SYSTEM-ALLOCATION and USER-ALLOCATION are not compatible (SET-DISK ...,SYS=SHARE,USER=EXCL). The combination SYS=SHARE,USER=ALL is permitted but any attempt by the user to make a task-exclusive reservation is rejected.
- For all devices, connections, etc., 2 alphanumeric characters are valid as 'mn'. Only in the case of disk devices connected to H60, H90, H120 or H130 systems are 'mn's comprising 4 hexadecimal characters (which must be specified in alphanumeric notation without X") also valid.

## SET-DSSM-OPTIONS

### Control logging for DSSM

This command allows the operator to activate or deactivate the logging function for DSSM.

Operation	Operands
SET-DSSM-OPTIONS	$[\text{LOG}=\left\{\begin{array}{l} \text{OFF} \\ \text{ON} \end{array}\right\}]$ $[, \text{TITLE}=\text{'text' }]$

<b>LOG</b>	Specifies whether DSSM-specific logging is performed for error diagnosis.
<b>=OFF</b>	No DSSM-specific logging is carried out.
<b>=ON</b>	All DSSM-specific data relevant to error diagnosis is logged in the DSSMLOG.date.time file.
<b>TITLE</b>	
<b>= 'text'</b>	Defines a header line to be added to the logging file. The specified text is written as the first record in the logging file. If this file is already open, a new file is not created; data logging continues from the current position. If specified when the logging function is being deactivated, this operand is ignored.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	32	ESM0432	Command not executed

**Notes**

- Logging to the DSSMLOG file has an adverse effect on performance. This function should therefore be activated only if errors actually occur.
- The command may be issued irrespective of the status of subsystem management.
- At system startup time, the logging function is deactivated by default but can be activated via the startup parameter LOGGING=ON.

## SETJV

### Set value of user job variable

The SETJV command is used to assign a certain value to a user job variable.

Operation	Operands
SETJV	$\left\{ \begin{array}{l} \text{jvid} \\ (\text{jvid}[, [\text{start}][, \text{length}]] \end{array} \right\}, \text{value}[, \text{PASS}=\text{password}]$

- jvid**                      Contains one of the following kinds of job variable names:
- jvname**      Specifies the fully qualified name of a permanent or temporary job variable.
  - jvlink**      Specifies a job variable link name.
- start**                      Specifies the first position to be modified in the job variable value. If no entry is made, 1 is assumed. If specified, the value must lie between 1 and 256.
- length**                      Specifies the number of characters to be set. If specified, the value must be in the range 1 through 256. If nothing is specified, the entire job variable value, from the position specified in 'start' onwards, is replaced with the value specified in the 'value' operand. In this case, the length of the job variable value may either remain the same or else be shortened or lengthened.
- If a length other than zero is specified and the substring to be modified lies within the old job variable value, the length of the old job variable value remains unchanged. If, on the other hand, a length other than zero is specified and the substring to be altered or added is longer than the old job variable value, the job variable value is lengthened.
- The sum of the values specified for 'start' and 'length' must not exceed 257. Negative values are not permissible.

- value Specifies the value in one of the following two forms:
1. Direct specification:
 

The value can be specified directly in character format or in hexadecimal format:

`C'.....'` or `X'.....'`

The maximum length of the constant specified for 'value' is 253 characters (or 126 characters for hexadecimal format) because only 256 characters are permitted for each operand of a command.
  2. Using a value from an existing job variable:
 

In the 'value' field, the following can be specified: a job variable name, a job variable link name (see the *Job Variables* manual, DCLJV command) or a special job variable name. Each of these can in turn be specified as a substring definition in the form 'name, start, length'. In this case, the job variable to be modified is set to the value itself, or else to the value of the substring of the job variable whose name is specified in the 'value' field.

**PASS**

- =password 'password' specifies the read or write password assigned to the job variable. If the job variable is protected by a write password, the write password must be specified; if the job variable is protected by a read password, the read password must be specified. 'password' can 1 to 4 characters long. Constants can be specified in character format, hexadecimal format or decimal format.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
1	0	CMD0001	No action necessary
2	0	CMD0001	Command executed with warning
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	JVS04E0	Command cannot be executed in the call environment; remove error cause if possible (see SYSOUT message JVS04xx)
	130	JVS04E1	Command cannot be executed at present; see SYSOUT message JVS04xx for cause
	130	CMD2282	Subsystem JV not available for undefined period

**Notes**

- Before this command can be entered for a job variable, the latter must have been cataloged by means of a /CATJV or /DCLJV command.
- If the job variable whose name was specified in the 'value' field is not available or has not been assigned a value, or if a nonexistent substring is referenced, command processing is terminated with an appropriate error message.
- If the length of 'value' is not equal to the length specified in the 'length' operand, the latter determines how many characters are to be set. In this case, the value specified in 'value' is truncated from the right or padded to the right with blanks (X'40'). The maximum total length of 256 characters permissible for job variables must not be exceeded.



# SET-MESSAGE-SUPPRESSION

## Suppress console messages

This command enables the output of certain messages to be suppressed at the main operator terminal or connected standby consoles. In contrast to the ASR command, with which command groups are accessed via their routing codes, specific messages can be accessed via their message codes.

Up to 128 different messages can be suppressed during a session. Messages with responses (queries) cannot be suppressed.

The operator can use the SHOW-MESSAGE-SUPPRESSION command to request a list of the currently defined arrangements to be displayed.

Operation	Operands
SET-MESSAGE-SUPPRESSION	<p>MESSAGE-ID= { mess (mess1, ..., mess6) }</p> <p>[ , CONSOLE= { *OWN *ALL cons (cons1, ..., cons4) } ]</p> <p>[ , APPLICATION= { *OWN *ALL appl (appl1, ..., appl6) } ]</p>

### MESSAGE-ID

=mess

Mandatory operand which specifies a seven-digit message number or a list of message numbers identifying messages whose output to the operator terminal is to be suppressed.

*Note*

Messages with nonexistent message numbers are not rejected.

### CONSOLE

Mnemonic device name of the console on which the specified messages are not to appear.

=\*OWN

The messages are suppressed at the console on which the command was issued.

=\*ALL

The arrangements made are to apply to all consoles. This operand may only be used at the main console.

- =cons Mnemonic device name of the main or standby console at which the specified messages are no longer to appear. In this operand remote consoles may only be specified from the main console.
- APPLICATION Specifies the authorized user program for which the specified messages are to be suppressed.
- =OWN Message suppression is to apply to the authorized user program for which the command was issued.
- =\*ALL The specified messages are suppressed for all known authorized user programs. This operand may be used only at the main console.
- =appl Name of the authorized user program (4 alphanumeric characters) for which the specified messages are to be suppressed. In this operand remote authorized user programs may be specified only from the main console.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NBR0884	Command partially executed
	1	CMD0202	Syntax error
	64	NBR0865	Authorized application not found
	64	NBR0866	Console not found
	64	NBR0883	May only be issued from main console in this form
	64	NBR0881	Max. number of suppressed messages

#### Note

Message suppression for authorized user programs applies only while the programs involved are connected. When an authorized user program is disconnected, the messages that were suppressed are released.

## SET-RESTART-OPTIONS

### Control automatic restart

The SET-RESTART-OPTIONS command specifies whether, and if so when, an automatic restart is to be performed.

Operation	Operands
{ SET-RESTART- OPTIONS } { SET-R-O }	{ ON [ , DELAY=n ] [ , UPTIME=m ] } { OFF }

**ON** In the event of a system crash the system will be reloaded automatically.

**DELAY**

=n

After a system crash has been reported (NRTT501 SETS;...), 'n' seconds elapse before a memory dump is taken with SLED. This gives the operator an opportunity to intervene. Only a nonnegative integer may be specified for 'n'. The default value for 'n' is 0.

**UPTIME**

=m

If a system crash occurs within 'm' minutes of SYSTEM READY, no automatic restart is initiated. Only a nonnegative integer may be specified for 'm'. The default value for m is 10.

**OFF**

Any previous SET-RESTART-OPTIONS command is ineffective, i.e. the system is not automatically reloaded after a system crash.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	EXC0685	Invalid DELAY parameter value
	1	EXC0686	Invalid UPTIME parameter value
	1	EXC0684	Syntax error
	64	CMD0216	Caller is not privileged
	64	EXC0688	IPL disk is not a public disk
2	0	EXC0750	Automatic restart must be set because of STCK error

## SHOW-CJC-STATUS

### Output information on CJC functions

This command enables the operator to gather information on jobs with CJC functions (ON, SKIPJV or WAIT commands or ONEVT macros) currently waiting for events (= value modifications of job variables). CJC stands for conditional job control.

Interrogation can be limited to the home computer or expanded to any or all computers of an existing multiprocessor system. Moreover, it is possible to limit the information to one or more named job variables. In this case the only jobs shown are those with functions in which the named job variables occur in conditional expressions.

Operation	Operands
SHOW-CJC-STATUS	<pre> *<u>OWN</u> *<u>ALL</u> *<u>FOREIGN</u> 'host' ('host1', 'host2', ...) jvidh [HOST={ (jvidh1, jvidh2, ...) } ]  *<u>CATALOG</u> (CATALOG-ID= { 'catid' ('catid1', 'catid2', ...) } ) jvidc (jvidc1, jvidc2, ...)  [ , JV-IDENTIFICATION= { *<u>ALL</u> jvidi (jvidi1, jvidi2, ...) } ]  [ , INFORMATION= { *<u>SUMMARY</u> *<u>USER-LIST</u> } ] </pre>

HOST	Specifies the computer(s) to which the status check relates.
=* <u>OWN</u>	Default value: outputs information about jobs with existing CJC functions on the home computer.
=* <u>ALL</u>	Outputs information about jobs with existing CJC functions on all computers in an MSCF multiprocessor system. If no multiprocessor system exists, the effect is the same as with the *OWN operand. See also the notes below.

- =\*FOREIGN      Outputs information about CJC functions on all computers in a multiprocessor system *except the home computer*. See also the notes below.
- =host'  
=('host1','host2',...)  
                 Specifies one or more BCAM processor names from an existing multiprocessor system. Interrogation is therefore limited to jobs with CJC functions on the named computers. See also the notes below.
- =jvidh  
=(jvidh1,jvidh2,...)  
                 Specifies one or more fully qualified names of permanent or temporary job variables containing as their sole value the BCAM name of a processor from a multiprocessor system. Interrogation is therefore limited to jobs with CJC functions on the named computers.
- =\*CATALOG(CATALOG-ID=...  
                 Output is limited to jobs with CJC functions on the computers to which the named catalogs belong.
- =catid'  
=('catid1','catid2',...)  
                 Specifies the catalog ID(s) (1 - 4 characters) directly.
- =jvidc  
=(jvidc1,jvidc2,...)  
                 Fully qualified name(s) of job variables whose contents consist exclusively of a valid catalog ID at the first position in its (their) value range.
- JV-IDENTIFICATION
- =\*ALL            Default value: outputs information on all jobs with CJC functions.
- =jvidi  
=(jvidi1,jvidi2,...)  
                 Output is limited to jobs with CJC functions using one of the named job variables in conditional expressions.
- jvidi can be:
- a fully qualified JV name
  - a partially qualified JV name
  - a catalog ID

## INFORMATION

=\*SUMMARY

Default value: the following is output for each computer: number of jobs, number of users and the referenced catalogs.

=\*USER-LIST The following is output for each computer: jobs are listed individually with TSN, user ID (only under TSOS) and referenced catalogs.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	1	CMD0202	Buffer overflow or no output possible, syntax error
	32	CMD0221	Internal error
	130	CJC0003	No access to remote computers because MSCF is not active

**Note**

The command name and command operands can be abbreviated from right to left as desired, provided they remain unique, or they can be omitted entirely. This is in conformance with the rules of the new BS2000 command language SDF. Examples of abbreviated notation are given below.

Output is directed to SYSOUT.

If a non-SNI computer in an MSCF system is interrogated, only those jobs are listed which, in the CJC functions, use at least one job variable from a local catalog of the calling processor in a conditional expression.

It is not permitted to specify JV link names at any location.

For more detailed information on the MSCF multiprocessor system, refer to the *MSCF* manual.

*Examples*

1. /SH-CJC-STA H=\*ALL

Jobs with CJC functions on all computers in a multiprocessor system are displayed in summarized form.

2. /SH-C-ST HOST=\*CAT(CAT-ID='V'),INF=\*U-L

Jobs with CJC functions on a computer which manages catalog V are displayed individually.

3. /SH-CJC-S JV-ID=(JV1,CTRL.JV)

Jobs on the home computer which use the job variables JV1 and CTRL.JV in the CJC functions are listed in summarized form.

## SHOW-CONSLOG

### Request information on logging

The SHOW-CONSLOG command shows whether logging is active or inactive and the name of the current logging file.

With the class 2 system option NBKESNR the system administration can define whether the CONSLOG file is cataloged under the user ID TSOS or SYSAUDIT and whether the serial number of the file is to have two or three digits.

Operation	Operands
SHOW-CONSLOG	

#### Command return codes

(SC2)	SC1	Maincode	Meaning
1	0	CMD0001	No error
	0	NBR0905	CONSLOG inactive

#### Example

```
/SHOW-CONSLOG
% EXC0990 CONSLOG = ACTIVE. FILE : 'K :$TSOS.SYS.CONSLOG.90.10.28.018.01'
```

```
/SHOW-CONSLOG
% EXC0990 CONSLOG = ACTIVE. FILE : 'K :$SYSAUDIT.SYS.CONSLOG.90.10.28.018.001'
```



# SHOW-CONSOLE-OPTIONS

## Display screen parameters

The SHOW-CONSOLE-OPTIONS command displays information on the values set by means of the MODIFY-CONSOLE-OPTIONS command for controlling operator terminal output.

Operation	Operands
SHOW-CONSOLE-OPTIONS	[CONSOLE-UNIT={ <u>*OWN</u> mn}]

**CONSOLE-UNIT** Specifies the operator terminal about which information is to be displayed.

=mn Mnemonic device name of the operator terminal about which information is to be displayed.

=\*OWN The information displayed refers to the operator terminal at which the command was issued (default value).

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NBR0928	Warning: not all operands could be processed
1	32	NBR0926	Internal error in the command server
	64	CMD0216	Privilege violation
2	64	NBR0923	Invalid console name
	130	CMD2282	Internal error; subsystem not available

## SHOW-DEVICE-CONFIGURATION

### Request information on configuration

This command provides information about the system configuration and the availability of hardware units.

The various output fields and their functions are described in the appendix ("Outputs for device management", page 389).

Operation	Operands
<pre> { SHOW-DEVICE   -CONFIGURATION } { SH-DEV-CONF } </pre>	<pre> UNIT={   *STD   mn   (mn1, . . . , mn26) } *unit-class (mn) *unit-class (mn1, . . . , mn26) *C [HANNEL] -R [ANGE] ( [FROM=]mn1, [TO=]mn2)  [, INFORMATION={   { STD     IN [NER]     OUT [ER]   }   ALL   PATH   [CONTENTS] }  CLASS={   ALL   SIDE   C [ENTRAL] -P [ROCESSOR]   S [TORAGE] -E [LEMENT] } IOS [IDE] CON [TROLLER] CHA [NNEL] DEV [ICE]  [, ATTR [IBUTES] = {   ALL   ATTACH [ED]   DETACH [ED] } DET [ACH] -P [ENDING] ATT [ACH] -P [ENDING] INV [ALID] }  ATTR [IBUTE] = {   ALL   ATTACH [ED]   DETACH [ED] } DET [ACH] P [ENDING] ATT [ACH] -P [ENDING] INV [ALID] } </pre>

#### UNIT

Specifies the mnemonic device names (2 or 4 alphanumeric characters; see Notes) and unit class of one or more hardware units about which information is to be displayed.

A maximum of 26 units can be specified. Exception: CHANNEL-RANGE (see below).

- =\*STD** Displays information on all the hardware units known to the system. Since output may be very extensive, \*STD is rejected when issued by users with 'operating' privilege.
- =mn** Mnemonic name of the device for which information is to be displayed.
- =unit-class(mn)** Mnemonic name and unit class of the hardware unit for which information is to be displayed.
- The following unit classes may be specified:
- SIDE
  - IOS[IDE]
  - CPU
  - S[TORAGE]-E[LEMENT]
  - CHA[NNEL]
  - CON[TROLLER]
- =\*CHANNEL-RANGE(FROM=mn1,TO=mn2)** Specifies a set of channels for which information is to be displayed. mn1 is the channel path ID of the first channel of the set, and mn2 the channel path ID of the last channel of the set.
- INFORMATION** Type of information required. If CLASS and/or ATTRIBUTE is specified, only default information is displayed.
- A header line is output, followed by a continuation line for each device containing the values.
- =STD** Default information.
- Output format:
- |      |          |         |            |           |
|------|----------|---------|------------|-----------|
| MNEM | UN-CLASS | UN-TYPE | CONF-STATE | POOL/SIDE |
|------|----------|---------|------------|-----------|
- =INNER** In addition to the default information, this operand displays information about all the inner connections of the unit specified by 'mn'.
- Output format:
- |      |          |         |            |                  |
|------|----------|---------|------------|------------------|
| MNEM | UN-CLASS | UN-TYPE | CONF-STATE | INNER CONNECTION |
|------|----------|---------|------------|------------------|

**=OUTER** In addition to the default information, this operand displays information about all the outer connections of the unit specified by 'mn'.

Output format:

```
MNEM UN-CLASS UN-TYPE CONF-STATE OUTER CONNECTION
```

**=ALL** In addition to the default information, this operand displays information about all inner and outer connections of the unit specified by 'mn'.

**=PATH** Displays information about possible input/output paths of the end device specified by 'mn' and their states.

Output format:

```
DVC DEV-TYPE CONF-STATE CTL CHPID IOS CUU PATH-STATE
```

**=CONTENTS** Displays information on the contents of a duplex side.

Output format:

```
SIDE STATE CPU STATE SE STATE IOS STATE
```

*Note*

- No defined connections exist for device class CPU.
- No inner connections exist for device class IOSIDE.
- No outer connections exist for device class DVC.
- No defined connections exist for device class SIDE.

**CLASS** Specifies the device class of the hardware units for which default information is to be output.

**=ALL** Displays default information for the hardware units of all device classes.

**=unit-class** Displays default information for all hardware units belonging to the device class specified.

The following device classes can be specified:

```
SIDE
CPU
S[TORAGE]-E[LEMENT]
IOS[IDE]
CHA[NNEL]
CON[TROLLER]
DEV[ICE]
```

ATTRIBUTE	Specifies the state of hardware units for which default information is to be displayed.
=ALL	Displays default information for hardware units in all states (default value, if only CLASS is specified).
=ATTACHED	Displays default information for hardware units in the ATTACHED state.
=DETACHED	Displays default information for hardware units in the DETACHED state.
=DETACH-PENDING	Displays default information for hardware units in the DETACH-PENDING state.
=ATTACH-PENDING	Displays default information for hardware units in the ATTACH-PENDING state.
=INVALID	Displays default information for hardware units in the INVALID state.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
	1	NKD0001	Syntax error in input; correct the command parameters to eliminate the error
4	1	NKD0001	Syntax error in subprocedure
	1	NKD0013	Syntax error in SH-DEV-C
	64	NKD0002	No information available
	64	NKD0006	Internal error during initialization of the command server or: syntax error in NKDDEV procedure
	64	NKD0024	No information available for <unit class> and <config state>
	64	NKD0025	No information available for <unit> and <information>

### Notes

- For all devices, connections, etc., 2 alphanumeric characters are valid as 'mn'. Only in the case of disk devices connected to H60, H90, H120 or H130 systems are 'mn's comprising 4 hexadecimal characters (which must be specified in alphanumeric notation without X") also valid.

## SHOW-DEVICE-DEPOT

### Query assignment of tape devices to depots

The SHOW-DEVICE-DEPOT command displays information on the assignment of tape devices to volume depots.

Operation	Operands
SHOW-DEVICE-DEPOT	$\left. \begin{array}{l} *SELECT (ROUTING-CODE = \left. \begin{array}{l} *ANY \\ routing-code \end{array} \right\} ) \\ \\ UNIT = \left. \begin{array}{l} *LOCATION (LOCATION = \left. \begin{array}{l} depot \\ (depot1, \dots, depot10) \end{array} \right\} ) \\ \\ mn \\ (mn1, \dots, mn26) \end{array} \right\} \end{array} \right.$

**UNIT** Selection criterion for information output. Possible entries: depots, use of scratch tapes, tapes with predefined VSN.

=\*SELECT(...)

Specifies a subset of the possible selection parameters that determine the scope of output.

=\*SELECT(ROUTING-CODE=...)

Specifies whether depots are to be selected for output according to a preset routing code.

=\*SELECT(ROUTING-CODE=\*ANY)

Specifies that all routing code presettings are to be included.

=\*SELECT(ROUTING-CODE=routing-code)

Selects the depots with the specified routing code.

Specifies one or more depots for which information is to be displayed on the assigned tape devices.

=\*LOCATION(LOCATION=depot)

Name of the depot (1 - 8 characters long). A maximum of 10 depots can be specified.

=mn

Mnemonic device names of tape devices whose depot is to be displayed. A maximum of 26 devices can be specified.

The three command options have identical output records.

Header line:

LOCATION            RTC        TAPE-MNEMONICS

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
	1	NKD0001	Syntax error in input; correct the command parameters to eliminate the error
	64	NKD0006	Internal error during initialization of the command server
	64	NKD0002	No information available
	64	NKD0006	Software error in NKDDEVD procedure
	64	NKD0002	No information available
	64	NKD0036	No information available on LOCATION list
	64	NKD0037	No information available on routing code

## SHOW-DEVICE-STATUS

### Request allocation and monitoring information on devices

This command is used to query information about volumes that are physically online (unlike SHOW-DISK-STATUS).

If no volume on a device is online, the output shows which volume is to be mounted on the device.

The various output fields and their functions are described in the appendix ("Outputs for device management", page 389).

Operation	Operands
<pre>{ SHOW-DEVICE-STATUS   SH-DEV }</pre>	<pre>{ mn   (mn1, ..., mn26)   UNIT= *SELECT-TYPE( { *ALL                        device-type                        family-type                        volume-type                        [, ATTR[IBUTE]= { ALL  attribute } ] )   *SELECT-LOCATION(LOCATION= { *ALL                              depot                              depot1, ..., depot10 } )   [, INF[ORMATION]= { STD                      SUM[MARY]                      TASK                      ALL                      SHORT                      LOCATION } }</pre>

#### UNIT

=mn

Specifies the mnemonic device names (2 or 4 alphanumeric characters; see Notes) of one or more hardware units about which information is to be displayed.

A maximum of 26 units can be specified. If UNIT is specified, only STD and SHORT are permitted for INF.

= \*SELECT-TYPE(...)

Displays information for a subset of devices, i.e. for the devices known to the system that have the specified type and attributes.



=\*SELECT-TYPE(\*ALL)

Displays information for all devices.

=\*SELECT-TYPE(device-type)

Displays information for all devices of the specified device type. The possible specifications are given in the "Device type" column of the device table in the appendix.

=\*SELECT-TYPE(family-type)

Displays information for all devices of the specified device family. The possible specifications are given in the "Device type" column of the device table in the appendix.

=\*SELECT-TYPE(volume-type)

Displays information for all tapes. Possible entries:

UM1600/T9P	tapes with a recording density of 1600 bpi
UM6250/T9G	tapes with a recording density of 6250 bpi
WORK[TAPE]	work tapes
TAPE-C1	tape cartridge, 18-track
TAPE-C2	tape cartridge, 18-track (compression)
TAPE-C3	tape cartridge, 36-track
TAPE-C4	tape cartridge, 36-track (compression)
TAPE-V1	tape cartridge, 2.1 Gbytes, Video 8
TAPE-CS1	tape cartridge, 155 Mbytes

ATTRIBUTE

=ALL

Displays information for devices with all possible attributes.

=attribute

Displays information for all devices with the specified attribute:

ATTACH[ED]	}	configuration state
DETACH[ED]		
DET[ACH]-P[ENDING]		
ATT[ACH]-P[ENDING]		
INV[ALID]		
FREE	}	device allocation state
DMS		
EXCL[USIVE]		
PUB[LIC]		
SWITCH	}	pool attribute
SHARE		

- =\*SELECT-LOCATION(...)**  
Displays information for devices assigned to the depots.
- =\*SELECT-LOCATION(LOCATION=\*ALL)**  
Displays information for the devices of all depots, regardless of type.
- =\*SELECT-LOCATION(LOCATION=depot)**  
Displays information for the devices of the specified depots. A maximum of 10 depots can be specified.
- INFORMATION** Specifies the type of information desired. If UNIT is specified, only the values STD and SHORT are permitted for INF.
- The display includes a header line, followed by a continuation line for each device containing the values.
- =STD**  
Displays default information.
- Output format:
- ```
MNEM  DEV-TYPE  CONF-STATE  POOL  VSN      DEV-A      PHASE      ACTION
```
- =SUMMARY** Displays a device-specific overview of configuration and allocation states.
- Output format:
- ```
DEV-TYPE  AVAIL  PRE-/IN-USE  RES-BY-MN  RES-BY-TYPE  ATT  DET  DET-P
```
- =TASK** Generates an overview of the occupying or reserving tasks for the specified type.
- Output format:
- a) List of allocations/reservations with device reference
- ```
      MNEM      TYPE      DEV-A      PHASE      MNEM  TYPE      DEV-A . . .
```
- b) List of allocations/reservations without device reference
- ```
      TYPE      TASKS-WITH-RESERVATIONS
```
- =ALL** Displays STD, SUMMARY and TASK.
- =SHORT** Gives a short form of STD (without header line). The values line contains the following elements:
- ```
mn, x, y, z      mn, x, y, z
```
- where:
- ```
mn      mnemonic device name
```

- x abbreviation of configuration state:  
A(ttached), D(etached), P (detach pending)
- y allocation state:  
tsn of the exclusively allocating task,  
FREE, DMS, PUB(lic)
- z \*, if SPD attribute is present

This is followed by the output of INFORMATION=SUMMARY and TASK.

=LOCATION Displays the scope of SUMMARY and TASK, broken down according to depots.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
2	0	NKD0030	Warning: INFORMATION parameter changed
	1	NKD0001	Syntax error in input; correct the command parameters to eliminate the error
	1	NKD0013	Syntax error in SH-DEV-STATUS
	64	NKD0002	No information available
	64	NKD0006	Software error in NKDDEVS procedure
	64	NKD0021	No information available on type and attribute
	64	NKD0023	No information available on MN list
	64	NKD0036	No information available on the specified depots
	64	NKD0038	No device of the specified type is assigned to a depot
4	130	NKD0009	Disk monitor temporarily unavailable; information may be incomplete
8	130	NKD0009	Tape monitor temporarily unavailable; information may be incomplete

**Notes**

- A VSN can appear in two output records at the same time during a remount operation: in the record of the device on which the volume is physically online, and in the record of the device on which the volume is to be mounted.
- Mnemonics or VSNs which cannot be generated are treated as unknown mnemonics or VSNs.  
If VSNs are specified which are currently unknown to the system, "empty" records containing only VSN and "NO ACTION" are returned. Only if '\*' is specified in the VSN operand will no records be output for unknown VSNs.

- For all devices, connections, etc., 2 alphanumeric characters are valid as 'mn'. Only in the case of disk devices connected to H60, H90, H120 or H130 systems are 'mn's comprising 4 hexadecimal characters (which must be specified in alphanumeric notation without X") also valid.

## SHOW-DISK-DEFAULTS

### Request default values for disk parameters

This command provides information on the default values set for the disk parameters with the SET-DISK-DEFAULTS command.

The various output fields and their functions are described in the appendix ("Outputs for device management", page 389).

Operation	Operands
{ SHOW-DISK-DEFAULTS } { SH-DISK-DEF }	

A header line and a values line are output.

Output format:

ASSIGN-TIME            USER-ALLOCATION        OPERATOR-CONTROL

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
	1	NKD0001	Syntax error in input; correct the command parameters to eliminate the error
4	1	NKD0001	Syntax error in subprocedure
	64	NKD0002	No information available
	64	NKD0006	Internal error during initialization of the command server

## SHOW-DISK-STATUS

### Request disk allocation and parameters

This command provides information on allocation, disk parameters and volume monitoring for the specified disks. The information output refers to the reserving disk. The VSN of the disk can also be specified using a wildcard.

The various output fields and their functions are described in the appendix ("Outputs for device management", page 389).

Operation	Operands
<pre>{SHOW-DISK-STATUS} {SH-DISK}</pre>	<pre>{   UNIT={mn         {mn1, ..., mn26}}   VOL[UME]={vsn             {vsn1, ..., vsn10}}   [     [, INF[ORMATION]={       {STD         PAR[AMETER]         TASK         SYS[TEMS]         ALL}     ]   ]   ATTR[IBUTE]={ALL                {attribute}}</pre>

#### UNIT

=mn

Specifies the disks about which information is to be displayed by means of the mnemonic device name (2 or 4 alphanumeric characters; see Notes) of the device on which the disks are mounted. A maximum of 26 units can be specified.

#### VOLUME

=vsn

Specifies the disks for which information is to be displayed, by means of their volume sequence numbers (VSN, up to 6 characters). A maximum of 10 VSNs can be specified.

The VSN can also be specified using a wildcard character: \*vsn

All disks belonging to the VSN which has been specified using a wildcard character are displayed. A wildcard/partial string may be delimited by an asterisk (\*) as a prefix or a suffix; at least one character must be entered between the asterisks. If a single \* is specified for '\*vsn', all disks either which are being monitored by NDM or for which specifications were made in the SET-DISK-PARAMETER command are displayed.

**INFORMATION** Specifies the type of information desired. This operand is valid only if UNIT or VOLUME is specified. If ATTRIBUTE is specified, only INFORMATION=STD is possible.

A header line is displayed, followed by one line of values for each disk specified.

**=STD** Displays a record with global allocation and monitoring information for each disk.

Output format:

```
MNEM  VSN    USE    LABEL    DEV-A  VOL-A    PHASE  ACTION
```

**=PARAMETER** Displays the parameters set with the SET-DISK-PARAMETER or SET-DISK-DEFAULTS command. Parameters set with SET-DISK-DEFAULT are identified by "(D)". No information can be requested for public disks with this operand.

Output format:

```
ALLOC  VSN    TYPE  SYS-ALLOC  ASS-TIME  USER-ALLOC  OP-CTL  ACCESS
```

**=TASK** Displays a list of the TSNs using this disk in the DMS use mode.

Output format:

```
MNEM    VSN    TSN'S
```

**=SYSTEMS** Displays a list of the systems using this disk.

Output format:

Header line 1:

```
MNEM  VSN  VTOC-SYS  TIME-STAMP  SVL-RECORDING-MODE  PAMKEY/FRMT
```

Header line 2:

```
MNEM    VSN  SVL-ALLOC  SYSTEMS
```

**=ALL** Provides all 4 output records (STD, PARAMETER, TASK and SYSTEMS) for the specified disks.

## ATTRIBUTE

=ALL

Displays information for all the disks specified.

=attribute

Displays default information for all the disks with the specified attribute. The following attributes may be specified:

```

FREE
EXCL[USIVE]
SHARE
    } volume allocation state

PUB[LIC]
    } device allocation state

ONLINE
MOUNT
IN-USE
    } volume phase

CAN[CELED]
NO-DEV[ICE]
REC[OVER]
DISMOUNT
UNLOCK
SVL-UPD[ATE]
    } action state

DMS
SPECIAL
    } use mode

STD
N[ON]-STD
BS1000
    } label type

```

## Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
2	0	NKD0030	Warning: INFORMATION parameter modified
2	0	NKD0035	Warning: no information on remaining VSNs
	1	NKD0001	Syntax error in input; correct the command parameters to eliminate the error
5	1	NKD0001	Syntax error in subprocedure
	64	NKD0002	No information available
	64	NKD0006	Internal error during initialization of the command server
	64	NKD0025	No information on MN list and INF parameter
	64	NKD0032	No information available on attribute
	64	NKD0033	No information on VSN and INF parameter
4	130	NKD0010	Disk monitor temporarily unavailable; command could not be executed



**Notes**

- No information is provided for public disks if INF=PAR or INF=TASK is specified; if INF=ALL is set, information is only provided for STD and SYSTEMS.
- If several disks with the same VSN exist in one system, only one record is output when INF=PAR or INF=SYS is set.
- If a disk is to be mounted (ACTION=MOUNT) or remounted (ACTION=REMOUNT) on a device but another disk is online, two output lines are provided in response to a request specifying a unit
- Mnemonics or VSNS which cannot be generated are treated as unknown mnemonics or VSNS.  
If VSNS are specified which are currently unknown to the system, "empty" records containing only VSN and "NO ACTION" are returned. Only if '\*' is specified in the VSN operand will no records be output for unknown VSNS.
- For all devices, connections, etc., 2 alphanumeric characters are valid as 'mn'. Only in the case of disk devices connected to H60, H90, H120 or H130 systems are 'mn's comprising 4 hexadecimal characters (which must be specified in alphanumeric notation without X") also valid.

## SHOW-MESSAGE-SUPPRESSION

### Request information on message suppression

This command gives the operator an overview of the provisions made with the SET- and RESET-MESSAGE-SUPPRESSION commands for suppressing certain messages on operator terminals.

Operation	Operands
SHOW-MESSAGE-SUPPRESSION	$[ \text{INFORMATION} = \left\{ \begin{array}{l} \text{SUMMARY} \\ \text{DESTINATION (DEST} = \left\{ \begin{array}{l} * \text{OWN} \\ \text{cons} \\ \text{appl} \end{array} \right\} ) \\ \text{MSG-ID (MSG-ID} = \left\{ \begin{array}{l} \text{msg} \\ (\text{msg1}, \dots, \text{msg6}) \end{array} \right\} ) \end{array} \right\} ]$

#### INFORMATION

=SUMMARY Lists all the messages which are suppressed for consoles and authorized user programs.

=DESTINATION(...)  
Specifies the operator terminal or the authorized user program for which information about message suppression is desired.

DEST=**\*\*OWN** Lists all the messages which are suppressed for the operator terminal or authorized user program from which the command was issued.

DEST=**cons** Mnemonic device name of the operator terminal for which suppressed messages are listed (2 alphanumeric characters).

DEST=**appl** Name of the authorized user program for which suppressed messages are listed (4 alphanumeric characters).

=MSG-ID(...)  
MSG-ID=**msg** Seven-digit message number or list of seven-digit message numbers. The output lists all output units at which these messages are suppressed.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	64	NBR0865	Authorized application not found
	64	NBR0866	Operator terminal not found
	64	NBR0870	Message not suppressed

**Notes on the output format:**

The message numbers are prefixed by a character which indicates the scope of message suppression:

- '\*': The message is suppressed for the operator terminal or authorized user program from which the command was issued.
- '+': The message is suppressed for other operator terminals or authorized user programs.
- '\*+': The message is suppressed both at the input device and for other operator terminals or authorized user programs.

## SHOW-MOUNT-PARAMETER

### Request mount presettings of disks and tapes

This command provides information about the volume mounting/dismounting presettings specified with the MODIFY-MOUNT-PARAMETER command.

The various output fields and their functions are described in the appendix ("Outputs for device management", page 389).

Operation	Operands
{ SHOW-MOUNT -PARAMETER }	
{ SH-MOUNT-PAR }	

Two header lines and two values lines are output.

Output format:

Header line 1:

DISK-MOUNT      TAPE-MOUNT      ALLOCATE-TAPE      UNLOAD-RELEASED-TAPE

Header line 2:

TAPE-SELECT

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
	1	NKD0001	Syntax error in input; correct the command parameters to eliminate the error
	64	NKD0002	No information available
	64	NKD0006	Internal error during initialization of the command server
	130	NKD0010	Disk or tape monitor temporarily unavailable; the command was not executed

# SHOW-PCS-OPTION

## Request information on PCS operand settings and monitored values

This command outputs an overview of the current PCS operand settings and monitored values.

If the command is entered without operands, the global values are output.

Operation	Operands
SHOW-PCS-OPTION	$\left. \begin{array}{l} \text{CATEGORY} = \left\{ \begin{array}{l} *ALL \\ \text{catname} \\ (\text{catname1}, \text{catname2}, \dots) \end{array} \right\} \\ \\ \text{TSN} = \left\{ \begin{array}{l} *OWN \\ \text{tsn} \end{array} \right\} \end{array} \right\}$

**CATEGORY**      Name of the category whose PCS operand settings are to be listed.

**TSN**              Task sequence number of the job whose PCS operand settings are to be listed.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	000	CMD0001	No error
	001	CMD0202	Syntax error
	001	PCS0032	Category not available
	001	PCS0033	Task not accessible to specified TSN
	032	CMD0221	Internal system error. Command not executed
	064	PCS0016	Privilege violation
	130	ETMPC17	Internal lock not available. Command not executed
	130	ETMPC20	PCS not started

## SHOW-PUBSET-ATTRIBUTES

### Display overview of pubset attributes

With this command the operator can display the values and characteristics which have been defined for a pubset.

Only the PUBRES of the relevant pubset needs to be available for executing the command.

Operation	Operands
[SHOW-PUBSET- ATTRIBUTES } [SHOW-P-A ]	PUBSET=catid  [, DEVICE-TYPE=device]

#### PUBSET

= catid                    pubset (1-4 characters) about which information is to be displayed.

#### DEVICE-TYPE

= device                    Device type of the PUBRES for the relevant pubset.  
This may be omitted if there is a MRSCAT entry with the device type for this pubset.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	32	DMS03BE	Error in command processing: - during MRSCAT read access - during time stamp read access - during SVL access - when calling SYSID conversion - during output to SYSOUT - during pubset allocation
	64	DMS03BE	No authorization for command
	64	DMS03BE	Missing device type in MRSCAT
	130	DMS03BE	Disk request rejected
	130	DMS03BE	Pubset currently being exported

**Note on output:**

Column	Meaning	Value
PVSID	Pubset identifier	1-4 characters
SYSID	Identifier for the system which uses this pubset as the home set	1-3 characters / ?
SHARABILITY	Shared pubset mode possible ?	YES/NO
CURRENT MASTER	System ID of the current master processor	1-3 characters / NONE / ?
DESIGNATED MASTER	System ID of the processor designated via the SET-PUBSET-ATTRIBUTES command	1-3 characters / NONE / ?
BACKUP MASTER	System ID of the processor to take over from master processor if master processor fails	1-3 characters / NONE / ?

**Note:**

The '?' character means that there is no correct entry for this value.

## SHOW-RESOURCE-ALLOCATION

### Request task allocations and outstanding operator actions

This command provides information on allocations and outstanding operator actions for a particular job.

The various output fields and their functions are described in the appendix ("Outputs for device management", page 389).

Operation	Operands
$\left\{ \begin{array}{l} \text{SHOW-RESOURCE} \\ \text{-ALLOCATION} \\ \text{SH-RES} \end{array} \right\}$	$\left[ \begin{array}{l} \left\{ \begin{array}{l} \text{TSN} = \left\{ \begin{array}{l} \text{*OWN-TSN} \\ \text{tsn} \end{array} \right\} \\ \text{MONJV} = \text{monjv} \end{array} \right\} \\ \\ \left[ \text{, IDENTIFICATION} = \left\{ \begin{array}{l} \text{JOB-NAME} \\ \text{USER-IDENTIFICATION} \end{array} \right\} \right] \\ \\ \left[ \text{, INFORMATION} = \left\{ \begin{array}{l} \text{RESOURCES} \\ \text{ACTIONS} \end{array} \right\} \right] \end{array} \right]$

#### TSN

- =\*OWN-TSN Provides information about the user's own job.
- =tsn Provides information about the job with the specified TSN.

#### MONJV

- =monjv Specifies a job by its monitoring job variable.

IDENTIFICATION Controls allocation of the output field NAME/ID.

- =JOB-NAME The job name is entered in the NAME/ID field.
- =USER-IDENTIFICATION  
The user ID is entered in the NAME/ID field.

#### INFORMATION

Specifies the type of information required.

- =RESOURCES  
A record is output for each resource allocation of the specified job.  
A header line and a values line are output.

Output format:

```
MNEM    TYPE    VSN    VOL-A    TSN    NAME/ID    PHASE    ACTION
```



*Note*

For DRV-DUAL allocation when DRV is being used, the mnemonic of the second disk is output under TYPE in the values line instead of the disk currently allocated.

LOCATION : <location name> (if location exists)

**=ACTIONS**

A record is output for each outstanding operator action for a volume of the specified job. Operator actions can include: mounting, setting write-enable ring, canceling INOP, premounting, remounting, etc.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Incomplete information
2	0	NKD0011	Caller is not authorized to receive information on the specified TSN
2	0	NKD0018	MONJV not found
2	0	NKD0019	Job variable found is not an active MONJV
	1	NKD0001	Syntax error in input; correct the command parameters to eliminate the error
	32	NKD0006	Software error in JINBAS parameter
	64	NKD0002	No information available
	64	NKD0006	Internal error during initialization of the command server
	64	NKD0014	No information available on TSN
4	130	NKD0009	Disk monitor temporarily unavailable; the information may be incomplete
8	130	NKD0009	Tape monitor temporarily unavailable; the information may be incomplete
	130	NKD0026	JVS not loaded

## SHOW-RESOURCE-REQUESTS

### Request information on secure queue and collector task

This command provides information about the secure queue (device queue) and the collector task.

The various output fields and their functions are described in the appendix ("Outputs for device management", page 389).

Operation	Operands
$\left\{ \begin{array}{l} \text{SHOW-RESOURCE} \\ \text{-REQUESTS} \\ \text{SH-RES-REQ} \end{array} \right\}$	$[\text{ID}[\text{IDENTIFICATION}] = \left\{ \begin{array}{l} \text{JOB}[-\text{NAME}] \\ \text{USER}[-\text{IDENTIFICATION}] \end{array} \right\}]$ $[\text{, INF}[\text{ORMATION}] = \left\{ \begin{array}{l} \text{ALL-TASKS} \\ \text{COLL}[\text{ECTOR}] - \text{TASK} \\ \text{COLL}[\text{ECT}] - \text{PAR}[\text{AMETER}] \end{array} \right\}]$

#### IDENTIFICATION

Controls the contents of the output field NAME/ID.

**=JOB-NAME** The job name is entered in the NAME/ID field.

**=USER-IDENTIFICATION**  
The user ID is entered in the NAME/ID field.

**INFORMATION** Specifies the type of information required.

A header line and a values line are output.

**=ALL-TASKS** Outputs information about all tasks in the secure queue.

Output format:

```
TSN      NAME/ID      TSK-TYPE      TSK-PRIO      ADMISSION-TIME  WAIT-TIME
RESOURCES REQUESTED
```

**=COLLECTOR-TASK**  
Outputs information about the collector task only.

Output format:

```
TSN      NAME/ID      TSK-TYPE      TSK-PRIO      ADMISSION-TIME  WAIT-TIME
RESOURCES REQUESTED                      RESOURCES COLLECTED
```

**=COLLECT-PARAMETER**

Outputs information about the collect parameters which were set with the RESOURCE-COLLECTION commands.

Output format:

RESOURCE-COLLECTION

TIME-WEIGHT

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
	1	NKD0001	Syntax error in input; correct the command parameters to eliminate the error
	64	NKD0002	No information available
	64	NKD0006	Internal error during initialization of the command server or:
	64	NKD0007	software error Caller not privileged
	64	NKD0040	Secure queue does not exist
	64	NKD0041	Collector task does not exist

## SHOW-RESTART-OPTIONS

### Request information on automatic restart

The SHOW-RESTART-OPTIONS command outputs information indicating whether automatic restart is switched on or off and, if it is on, which parameters are set for the restart.

Operation	Operands
{ SHOW-RESTART-OPTIONS } { SHOW-R-O }	

#### The output looks like this:

```
/SHOW-R-O
```

```
%    EXC0681  AUTOMATIC RESTART SWITCHED ON: DELAY=(&00) SEC., UPTIME=(&01)
          MIN., IPL DEVICE='(&02)', IPL VSN='(&03)'
```

if automatic restart is activated, or

```
%    EXC0682  AUTOMATIC RESTART SWITCHED OFF
```

if automatic restart is deactivated.

# SHOW-SERSLOG

## Request information on software error logging

The SHOW-SERSLOG command issues a message providing information about the software error logging status (active or inactive). If SERSLOG is active, the name of the current SERSLOG file is also output (see below).

Operation	Operands
{ SHOW-SERSLOG } { SHOW-SE }	

### Example

```
/SHOW-SERSLOG
% 0 00.141205 % EXC0990 SERSLOG = ACTIVE. FILE ':K :$TSOS.SYS.SERSLOG.1992-01-10.018.01'
```

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NER0006	Command executed but command lock not released
	32	CMD0221	System error
	32	NER0003	SERSLOG not defined in CLTF
	64	EXC098A	No authorization for command
	128	NER0004	A SERSLOG command is already being processed

## SHOW-SS-STATUS

### Request information on subsystem status

This command provides information about the status of subsystems. It shows:

- which tasks have a connection to the specified subsystem (TSN and TID)
- the status of the specified subsystems or their versions
- the number of connections to a specified subsystem since startup
- "Class 5" for all the subsystems loaded into this memory class

During command execution further tasks may set up or clear down connections to the subsystem; as a result, the list of tasks displayed by this command may not reflect the current situation.

Operation	Operands
SHOW-SS-STATUS	$  \text{SS-NAME} = \left\{ \begin{array}{l} *ALL \\ \text{name} \\ *NON-PRIV-SS \\ *ADDR-REGION \end{array} \right\}  $ $  [ , \text{VERSION} = \left\{ \begin{array}{l} 'versno' \\ *ALL \end{array} \right\} ]  $

<b>SS-NAME</b>	Specifies the subsystem.
<b>=*ALL</b>	Displays a status overview for all declared subsystems.
<b>=name</b>	Name of the subsystem about which information is desired.
<b>=*NON-PRIV</b>	Provides information about <b>nonprivileged</b> subsystems which have the generation attributes SCOPE=GLOBAL and CLASS=5. These attributes are assigned by system administration when the subsystem catalog is generated (see also the <i>System Installation</i> manual).
<b>=*ADDR-REGION</b>	Provides information about <b>all</b> subsystems which have the generation attributes SCOPE=GLOBAL and CLASS=5. The operand relates exclusively to the address space region occupied by the subsystems.

**VERSION** Specifies the version number.

=*'versno'* Version number of this subsystem; the format specified here must be identical to the format used for the subsystem definition. It can consist of 4 or 7 characters.

*Format*

nn.m	Version ID
nn.mxyy	Version ID and update status (nn, m and yy are numeric characters - x is a letter)

*Default value*

If the version is not explicitly defined, the following sequence applies to the assignment:

1. Information is provided about the subsystem which is not in the "Not Created" state.
2. If all versions are in the "Not Created" state, the output text does not refer to a particular version.

=\*ALL Provides information about all available versions of the relevant subsystems.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	32	ESM0602	Problems with memory management
	32	ESM0603	Internal DSSM error
	32	ESM0611	No connection tables exist for this task
	64	ESM0600	No version with *ALL
	64	ESM0601	Specified subsystem not found
	64	ESM0604	No version with *NON-PRIV-CLASS-5
	64	ESM0608	Subsystem version not found
	64	ESM0610	No subsystem found

**Notes**

- The combination of the SS-NAME=\*ALL and VERSION=\*ALL operands results in the same scope of information as SS-NAME=\*ALL.
- SHOW-SS-STATUS does not provide information on associated tasks for subsystems declared with the attributes CONSCOP=FREE and CLASS=4. Subsystems with the attributes CONSCOP=FREE and CLASS=5 are included in the output.

## SHOW-TAPE-STATUS

### Request information on tape allocation and monitoring

This command provides information about the specified tapes, their monitoring and the devices on which they are mounted. If reserved tapes exist, these will also be output even if they are not yet monitored by NDM, provided that `ATTRIBUTE=MONITORED` (see below) has not been specified. The VSN of the tape may also be specified using a wildcard character.

The various output fields and their functions are described in the appendix ("Outputs for device management", page 389).

Operation	Operands
<pre>{ SHOW-TAPE-STATUS   SH-TAPE }</pre>	<pre>UNIT={ mn         (mn1, ..., mn26) } [ VOL[UME] = { vsn                (vsn1, ..., vsn10) } ] ATTR[IBUTE] = { ALL                 attribute }</pre>

#### UNIT

=mn

Specifies the mnemonic device names (2 alphanumeric characters) of the tape devices about which information is to be displayed. Up to 26 devices can be specified.

#### VOLUME

=vsn

Specifies the volume serial numbers (up to 6 characters) of the tapes about which information is to be displayed. Up to 10 VSNs can be specified.

The VSN can also be specified using a wildcard character: \*vsn

All tapes belonging to the VSN(s) which have been specified using a wildcard character are displayed. A wildcard/partial string may be delimited by an asterisk (\*) as a prefix and/or suffix; at least one character must be entered between the asterisks. If a single \* is specified for '\*vsn', information is displayed on all the tapes either which are being monitored by NDM or which have been reserved offline.



## ATTRIBUTE

=ALL

Displays information about tapes with all possible attributes (default value).

=attribute

Displays information about all tapes with the specified attribute. The following attributes can be specified:

```

FREE      }
EXCL[USIVE] }    volume allocation state

ONLINE    }
MONITORED }
UNMONITORED }    volume phase
PRE [MOUNT] }
MOUNT     }
IN-USE    }

CAN [CELLED] }
NO-DEV [ICE] }    action state
REC [OVER]   }
DISMOUNT    }
POS [ITION]  }

DMS        }
SPECIAL    }    use mode
WORK       }

STD        }
N[ON]-STD  }    label type
TAPE-MARK  }

```

Notes on the output when ATTRIBUTE is specified:

**FREE:** Lists all tape devices on which tapes are mounted but not in use.

**MONITORED:** Lists all tapes being monitored.

**UNMONITORED:** Lists all tapes which have been reserved offline.

**EXCLUSIVE:** Lists all tapes which are in use or which have been reserved.

The output is grouped according to the following:

- all tapes monitored by NDM
- all tapes reserved offline

A header line is output for each group, and a values line is output for each tape device specified.

Output format for monitored tapes:

```
MNEM  VSN  USE  LABEL  DEV-A  VOL-A      PHASE  ACTION
```

Output format for tapes reserved offline:

```
DMS RESERVED UNMONITORED TAPES (vsn,tsn)
```

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
2	0	NKD0030	Warning: INFORMATION parameter changed
2	0	NKD0035	Warning: no information on remaining VSNS
	1	NKD0001	Syntax error in input; correct the command parameter to eliminate the error
4	1	NKD0001	Syntax error in subprocedure
	64	NKD0002	No information available
	64	NKD0006	Internal error during initialization of the command server
	64	NKD0025	No information on MN list and INF parameter
	64	NKD0032	No information available on attribute
	64	NKD0033	No information on VSN and INF parameter
8	130	NKD0010	Tape monitor temporarily unavailable; command could not be processed

### Note

If a tape is to be mounted (ACTION=MOUNT) or remounted (ACTION=REMOUNT) on a device, but another tape is online, two output lines are provided in response to a UNIT-related request.

# SHOW-TRACE-STATUS

## Output information on system traces

This command provides the operator with an overview of all the system traces. The default output comprises a list of the permanent, nonswitchable traces and the temporary traces which can be turned on and off explicitly using the START-TRACE and STOP-TRACE commands.

Operation	Operands
SHOW-TRACE-STATUS	<pre> [TRACE-IDENTIFICATION={ *<u>ALL</u>                         name                         (name1, ..., name50) } ]  [ , SELECT={ <u>ALL</u>             BY-ATTRIBUTES ( [STATUS={ <u>ANY</u>                                      ON                                      OFF                                      UNKNOWN } ]             [ , TYPE={ <u>ANY</u>                      PERMANENT } ] )             ] [ , INFORMATION={ <u>ID-AND-STATUS</u>                  <u>ALL-ATTRIBUTES</u>                  } ] [ , OUTPUT=<u>SYSOUT</u> ]                     </pre>

### TRACE-IDENTIFICATION

Specifies the traces on which information is to be output.

=ALL

Information is to be provided on all traces.

=name

=(name1, ..., name50)

Specifies the trace(s) on which information is to be displayed. 'name' is the trace ID of a trace.

Up to 50 traces (each with a name of up to 8 alphanumeric characters) may be specified.

Possible values (for TRACE-ID=ALL) are listed in the following table:

Trace ID	Subsystem name	Switchable	Brief description
AIDSYS	*NONE	N	AIDSYS trace
ASTRA	*NONE	N	ASTRA trace
CMSTRACE	*NONE	J	CMS trace
DIVTRACE	DIV	J	DIV trace
EMMIO	*NONE	J	EMMIO trace
FITC	BS2CP	J	FITC trace
GSAMHTRC	GSAMH	J	Caching trace for GS
MRSCAT	*NONE	J	MRSCAT occupation trace
MSCFLOG	MSCF	J	Trace for MSCF errors
NDVMTRAC	*NONE	J	BAVOLMON I/O trace
PAGING	*NONE	N	PAGING trace
RECTRACE	*NONE	N	Reconfiguration trace
SM2EVENT	SM2	J	SM2 error trace
SM2FUNCT	SM2	J	SM2 trace for user call
SYNTRACE	*NONE	N	ETMSYNCH trace
TBOURSE	*NONE	J	ETMBOWK trace
TDISAM	*NONE	J	K-ISAM trace
TDISAMNK	*NONE	J	NK-ISAM trace
TDJCTRL	*NONE	N	DJCTRL trace
TDRSRLER	*NONE	N	DRSRL error trace
TDRSRLSY	*NONE	N	DRSRL system trace
TEMMPPM	*NONE	J	EMMPPM trace
TEMMSLT	*NONE	N	EMMSLT trace
TFASTPAM	FASTPAM	J	Access method trace
TJLOGLOW	*NONE	J	JMS trace
TJOBPOOL	*NONE	J	JMS-JOBPOOL trace
TLOCK	*NONE	J	Task lock management trace
TNBCONS	*NONE	N	NBCONS trace
TNBCADB	*NONE	N	NBCADS character trace
TNBCADG	*NONE	N	NBCADS big trace
TNBCCER	*NONE	N	NBCCER character trace
TNBCCNT	*NONE	N	NBCCNT character trace
TNBCCS	*NONE	N	NBCCNTS character trace
TNBCCSG	*NONE	N	NBCCNTS I/O trace
TNBCENT	*NONE	N	NBCENTR I/O trace
TNBCREC	*NONE	N	NBCRECK I/O trace
TNBRUTE	*NONE	N	NBRUTE trace
TNDIDARM	*NONE	N	DAR manager trace
TNDM#ALL	BS2CP	J	Trace for all NDM-FEs
TNDM#ERR	BS2CP	N	NDM error trace
TNDM#NKA	BS2CP	J	Trace for module FE NKA
TNDM#NKD	BS2CP	J	Trace for module FE NKD
TNDM#NKG	BS2CP	J	Trace for module FE NKG
TNDM#NKL	DRV	J	Trace for module FE NKL
TNDM#NKR	BS2CP	J	Trace for module FE NKR
TNDM#NKS	NKS	J	Trace for module FE NKS
TNDM#NKT	BS2CP	J	Trace for module FE NKT
TNDM#NKV	NKVD	J	Trace for module FE NKV
TRFA	*NONE	J	Remote file access trace
TRSOADM	*NONE	N	RSO trace (old RSO version)
TRSOADM	RSO	J	RSO trace
TSDVINT	*NONE	N	SDV and interrupt trace
TSSVADM	*NONE	N	SPOOL trace (old Spool v.)
TSSVADM	SPOOL	J	SPOOL trace
UTLTRACE	*NONE	N	User table load trace
VMMALLOC	BS2CP	J	Trace for VM allocation

**SELECT**

**=ALL** Displays information on all traces, regardless of status or type.

**=BY-ATTRIBUTES**

Displays information only on the traces to which the following specifications apply:

**STATUS**

**=ANY** Displays information on all traces, regardless of status.

**=ON** Displays information only on traces which are activated.

**=OFF** Displays information only on traces which are deactivated.

**=UNKNOWN** Displays information only on traces whose current status cannot be ascertained.

**TYPE**

**=ANY** Displays information on all traces, regardless of whether they are permanently activated or can be switched on and off by means of a command.

**=PERMANENT** Displays information only on traces which are permanently switched on.

**=TEMPORARY** Displays information only on traces which can be switched on/off with a command.

**INFORMATION****=ID-AND-STATUS**

Displays the name and current status of the selected traces in alphabetical order.

**=ALL-ATTRIBUTES**

Displays all the information in the trace manager on the selected traces.

**OUTPUT****=SYSOUT**

Specifies that the information is to be output to SYSOUT in tabular form.

## Description of the output fields:

Field	Meaning / contents
TRACE-IDENTIFICATION	Global information that describes the trace in more detail:
NAME	Name of the trace.
SS-NAME	Name of the subsystem to which the trace is assigned.
SS-VERS	Version number of the subsystem.
STATUS	Current status of the trace. The status description is divided into two parts; any combination may occur. Part 1 describes the buffer status: DEF    No buffer available for trace. INI    Trace is initialized and buffer data is known to the trace manager.  Part 2 describes the activation status: ON     Trace is switched on. OFF    Trace is switched off. ON/OFF Trace is only partially activated.
SCOPE	Scope of a trace: SYSTEM  Global system trace. TASK    Task-specific trace.
TYPE	Indicates whether the trace is one that is permanently switched on or one that can be switched on and off: PERMANENT Trace is switched on permanently. TEMPORARY Trace can be switched on and off.
BUFFER	Information on the trace buffer:
SIZE	Size of the trace buffer in bytes.
CLASS	Memory class of the trace buffer:
	1        Class 1 memory
	2        Class 2 memory
	3        Class 3 memory
	4        Class 4 memory
	5        Class 5 memory

**Command return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning</b>
	0	CMD0001	No error
1	0	CMD0001	Requested trace does not exist
1	1	IDA0213	OUTPUT=SYSLST operand not permitted for console
	32	CMD0221	Internal error
	64	IDA0209	No authorization for command
1	64	IDA0200	No trace processed
2	64	IDA0200	One of the traces specified in the list was not processed

# SHUTDOWN

## Terminate session

This command prohibits new jobs or terminates all currently active jobs. The operator issues the SHUTDOWN command prior to physical shutdown of the system so that all system activities can be completed normally. System shutdown comprises two stages:

1. Suspension of job acceptance in the system and notification of the interactive user.
2. Immediate initialization of session termination (termination of all active jobs).

Operation	Operands
SHUTDOWN	[ { <u>END</u> [ QUIET [ , C 'message' ] ] } ]

END Causes the system to terminate all interactive and noninteractive jobs immediately. END is the default value.

QUIET Specifies that the Control System is to prohibit the scheduling of additional jobs. The command BCEND W=Y,TERM=N is simulated.

C'message' This message is appended to the message SHUTDOWN SOON and sent to all interactive users. It must not exceed 40 characters in length.

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	EXC0745	SHUTDOWN QUIET already called
2	0	EXC0747	SHUTDOWN continue interrogation rejected by caller
	1	EXC0746	Syntax error
	64	CMD0216	Caller is not privileged



## Notes

- The operator should always perform a normal shutdown to allow sufficient time for tasks to be terminated between SHUTDOWN QUIET and SHUTDOWN=END. Before SHUTDOWN END is entered, the MSCF environment must be deactivated (command MRSEND); otherwise, SHUTDOWN END is rejected.
- At the start of SHUTDOWN-END processing, a check is carried out to determine whether an archive save run is active. If so, the class 2 system parameter 'SHUTARCH' is checked to see whether the operator should be asked if SHUTDOWN-END processing is to continue. If 'SHUTARCH' is set to 'N' (the default value), the operator is not asked; if 'Y' is set, the operator is issued the following query: EXC074F            ARCHIVE SAVE RUN ACTIVE. CONTINUE SHUTDOWN PROCESSING? REPLY (Y=YES; N=NO)

The operator can abort system termination by entering 'N' when asked whether SHUTDOWN-END processing should continue. This is acknowledged with the following message:

```
EXC0747            SHUTDOWN FUNCTION WITHDRAWN BY CALLER
```

Nevertheless, the BCEND command should be called before the SHUTDOWN-END job to allow the user programs connected to BCAM time to terminate properly.

- If SHUTDOWN END is specified, the BCEND command is simulated.
- If a session is not properly shut down, the same accounting file must be loaded during the next system initialization in order to ensure that restoration takes place.
- All tasks for which a NCHOLD-TASK command was given must be released by means of the NCREL command before SHUTDOWN END is entered; otherwise these tasks will not be properly terminated.
- All pending system dumps should be completed prior to input of SHUTDOWN END. System dumps requested during SHUTDOWN processing are rejected.
- An attempt is made to terminate all existing user tasks via CANCEL calls. A CANCEL-KILL call is issued for all user tasks which cannot be terminated via a simple CANCEL command. If there is at least one task which cannot be terminated with either CANCEL or CANCEL-KILL, the following message is output after the CANCEL(-KILL) cycle:

```
EXC0716            ONE OR MORE TASKS PERMANENTLY PENDED. TAKE DUMP AFTER COMPLETION
OF SHUTDOWN"
```

- The SHUTDOWN-END job is normally acknowledged with the following message:

```
EXC0557      SHUTDOWN PROCESSING COMPLETED
```

If problems arise during SHUTDOWN-END processing, an appropriate warning, such as the above message `EXC0716`, is output instructing you to start a dump.

At the end of SHUTDOWN-END processing, the following message is issued as confirmation:

```
EXC0557      SHUTDOWN PROCESSING COMPLETED WITH PROBLEMS
```

In this case you should make a memory dump using SLED.

# SQUC

## Control spoolout jobs

The SQUC (Spoolout Queue Control) command is used to direct a device either to repeat a current spoolout operation or to hold it in the queue till later.

Operation	Operands
$\left\{ \begin{array}{l} \text{SQUC} \\ \text{SQ} \end{array} \right\}$	$\left[ \begin{array}{l} \text{RESPL} = \left\{ \begin{array}{l} \text{mn} \\ \text{sta} \end{array} \right\} \left[ , \left[ \text{TYPE} = \left\{ \begin{array}{l} \text{B} \\ \text{L} \\ \text{P} \\ \text{S} \end{array} \right\} \left[ \begin{array}{l} [-] \\ n \end{array} \right] \right] \right] \\ \\ \left\{ \begin{array}{l} \text{SUSP} = \left( \begin{array}{l} \text{mn} \\ \text{sta} \end{array} \right) \left[ , p \right] \\ \text{KEEP} = \left\{ \begin{array}{l} \text{mn} \\ \text{sta} \end{array} \right\} \end{array} \right\} \left[ , \text{TYPE} = \left\{ \begin{array}{l} \text{B} \\ \text{L} \\ \text{P} \\ \text{S} \end{array} \right\} \left[ \begin{array}{l} [-] \\ n \end{array} \right] \right] \\ \\ \text{REL} = (\text{tsn} [ , p ] ) \left[ , \text{TYPE} = \left\{ \begin{array}{l} \text{B} \\ [-] n \end{array} \right\} \right] \end{array} \right]$

### RESPL

- =mn
- =sta

This operand causes an immediate repetition of the output on the device with the mnemonic device name 'mn' (2 alphanumeric characters) or the station name 'sta' (up to 8 alphanumeric characters).

In the case of replay tape processing in direct mode (RMODE=DIRECT in the SDVC command), the tape containing the output file is positioned at the point desired and output continued immediately via the device 'mn'.

### SUSP

- =(mn)
- =(sta)

This operand causes a delay in repetition of the output to the device with the mnemonic device name 'mn' (printer or floppy disk) or the station name 'sta'. The job is returned to the device queue and selected for processing according to its priority.

The sequence of further job processing can be influenced by specifying a new priority for the job.

=(mn[,p])

=(sta[,p])

Specifies the new job priority. If no new priority is specified, the old priority remains valid.

Possible values:  $30 \leq p \leq 255$ .

In the case of replay type processing in direct mode, current output is stopped. All SPOOL jobs are written back to the file SR.vsn and provided with information relevant for continuation of the interrupted output. Continuation may be initiated only by means of a new SDVC command.

## KEEP

=mn

=sta

This operand halts output on the device with the mnemonic device name 'mn' or the station name 'sta'. The job is suspended until released by the operator or system administrator with SQ REL (see below). Only then is it transferred from the TYPE 5/KP queue to the TYPE 4 queue (or the TYPE 7 queue in the case of RSO devices).

In the case of replay type processing in direct mode, the current job is stopped. The SPOOL job is written back to the file SR.vsn and provided with information relevant for continuation of the interrupted output. Continuation may be initiated only by means of a new SDVC command. Further REPLAY jobs are executed as normal.

## REL

=(tsn)

This operand causes the job with the task sequence number 'tsn', which is being held in the TYPE 5/KP queue, to be released and moved to the TYPE 4 queue (or the TYPE 7 queue in the case of RSO devices), i.e. to be reactivated. The printer concerned must have status "S".

=(tsn,p)

Specifies the new job priority. If no new priority is specified, the old priority remains valid.

Possible values:  $30 \leq p \leq 255$ .

## TYPE

=B

This operand specifies that the spoolout job must be restarted from the beginning of the file. For output to floppy disk, the spoolout job must likewise start from the beginning of the file.

### *Note*

If SQUC REL is specified, the TYPE operand has no default setting.

- =L This operand specifies that the spoolout job is to be restarted at the penultimate checkpoint.
- If the job is to be spooled out to a laser printer, the spoolout job is restarted from the beginning of the last file page output by SPOOL. The laser printer can only print complete pages, but several pages are in an undefined state between file page and print page at the same time. Thus, in the case of ND laser printers (3350/3352), a maximum of 20 pages can be printed out twice, and in the case of HP laser printers (3351/3353), a maximum of 45 pages can be printed out twice.
- =n The printout is to be repeated from page n, where:  
 $n \leq 10^7$ .
- =-n Restart point at which the printout is to be repeated. -n = n pages before the current position in the file. If the specified value is greater than the distance (in pages) to the beginning of the file, the printout is restarted at the beginning of the file.  
 $n \leq 10^7$ .
- =P For laser printers:  
same as TYPE = L; for nonlaser printers: the spoolout job is to be started from the third last checkpoint.
- =S The spoolout job is to be started 2 pages before the page which was being spooled out when the interruption occurred. SPOOL notes this point automatically.
- When a laser printer is being used, the spoolout job is restarted as for the TYPE=L operand.
- If spoolout is to floppy disk, the spoolout job is restarted at the beginning of the file which was being processed when the interruption occurred.
- If the file extends over two or more floppy disks, the spoolout job is restarted at the beginning of the floppy disk which was being processed when the interruption occurred.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	01	CMD0202	Syntax error
	01	SCP0973	Semantic error
	32	SCP0974	System error; command rejected
	64	SCP0975	No authorization for command
	64	SCP0976	Invalid operand value

**Note**

The action taken for a specific file has no influence on other files of the same family, even if they are to be printed out on the same device.

# STAM

## Request information on pubset

This command may be used by the system administration, operator or end user to request information on the state of a pubset and thus also on the accessibility of its catalog.

The command may also be used by the system administration or operator to find out whether tasks are accessing the pubset, and if so, which tasks they are.

Operation	Operands
STAM	<pre> [ { catid } ] [ , REF = { NO } ] [ # ] [ , REF = { YES } ] [ , INFO = [ { CACHE } ] ] [ , HOST = { *LOCAL } ] [ , HOST = { *ALL } ] [ , HOST = { host } ] [ , SELECT = { ALL } ] [ , SELECT = { LOCAL } ] [ , SELECT = { REMOTE } ] [ , SELECT = { ACCESSIBLE } ] [ , SELECT = { PAGING } ] [ , SELECT = { SHARED } ] [ , SELECT = { EXCLUSIVE } ] [ , SELECT = { LOCAL-ACCESSIBLE } ] [ , SELECT = { REMOTE-ACCESSIBLE } ] [ , SELECT = { SPEEDCAT } ]                     </pre>

catid	Catalog ID of the subset about which information is desired. Only information on the specified subset is displayed. If the entry does not exist, the error message "CATID CANNOT BE FOUND" is issued. If 'catid' is not specified, all entries of the home MRS catalog are displayed. In this case, REF=YES and REF=ALL are ignored. The catalog ID may be specified as a wildcard string (not exceeding 255 characters in length). In this case, information is displayed on all the subsets whose catalog ID matches the wildcard string (see also the section dealing with the SDF metasyntax (data types and suffixes) in the <i>System Operator's Guide</i> ).
#	Placeholder for the home subset.
REF	Specifies whether the number of subset allocations and CMS buffers on the specified subset is to be determined and output.
=NO	The number of subset allocations and CMS buffers is not to be determined and output (default value).
=YES	The number of existing subset allocations is to be determined and output, as well as the number of static and current CMS buffers and their storage areas. REF=YES is evaluated only if a catid or # is specified; otherwise, it is ignored.
=ALL	In addition to the number of subset allocations, the static and current CMS buffers and their storage areas, the output for the operator includes detailed information on the occupying tasks. However, this operand may be specified only if the subset is also specified (catid or #).
INFO	Determines the scope of the information to be output for the specified subset.
=STD	Outputs only the default information for the specified subset.
If no catalog ID or wildcard is specified, the following operands are ignored and replaced with STD. These operands cause further information to be output in addition to the default information.	
=ALL	Outputs all the information described below on the subset.
=USER	Outputs only the information on the subset intended for nonprivileged users.
REF	Outputs for privileged users the MRS catalog entry and indicates whether or not and, if so, how many jobs occupy each specified subset.
=CACHE	Outputs detailed information on the cache configuration, which can be defined by the system administrator.



=ALLOC	Outputs detailed information on the storage allocation attributes. These attributes determine the default values for the primary and secondary allocations of storage space to the user and can be defined with the /CATM catid,STATE=NEW (or STATE=UPDATE) command.
=ORG	Outputs to privileged users the following additional information for each pubset specified: <ul style="list-style-type: none"><li>– wait times for batch and interactive jobs in the event of computer connection failure,</li><li>– number and location (memory class) of the CMS buffer (current values and presetting),</li><li>– maximum input/output length,</li><li>– specification of how the pubset is to be imported,</li><li>– an indication of whether SCA (Speedcat) is to be started automatically,</li><li>– information on access to the pubset,</li><li>– an indication of whether the file catalog of the pubset (TSOSCAT) is to be converted downwards ( → V10.0A) when the pubset is next exported.</li></ul>
=OCCUP	Outputs detailed information on the occupying tasks. The information can be restricted in the following substructure to certain processors on which these tasks are running.
=EAM	Outputs all attributes relating to the size of the SYSEAM file on the specified pubset.
HOST	In conjunction with the REF=ALL operand, information can be output on the tasks of a particular processor. Specifying the HOST= operand together with values of the INFO operand other than =ALL and =OCCUP has no effect.
=*LOCAL	Lists only local tasks which occupy the pubset.
=*ALL	If the specified pubset is shareable and the local processor is the master, all tasks using the pubset are displayed. Otherwise, the output is restricted to local tasks.
=host	Displays all the tasks of the connected slave processor which occupy the defined shareable pubset if the command is issued from the master processor.
SELECT	Specifies a selection criterion for the MRS catalog entries to be output. If a particular pubset is specified and the SELECT operand does not match the characteristics of the pubset, an appropriate error message is issued. Otherwise, the information is displayed.

- =ALL** No restriction.
- =LOCAL** Displays information only for pubsets which are managed locally on the processor.
- =REMOTE** Displays information only for pubsets for which the selection criterion LOCAL does not apply.
- =ACCESSIBLE** Displays information only for pubsets which are available locally or on a remote processor.
- =PAGING** Displays information only for pubsets with paging areas (local).
- =SHARED** Displays information only for pubsets which are used as shared pubsets or can be imported as shared pubsets.
- =EXCLUSIVE** Displays information only for pubsets which are not used as shared pubsets or which can be imported only exclusively.
- =LOCAL-ACCESSIBLE**  
Displays information only for pubsets which are available locally and are not in the quiet state.
- =REMOTE-ACCESSIBLE**  
Displays information only for pubsets which are available on a remote processor and are not in the quiet state.

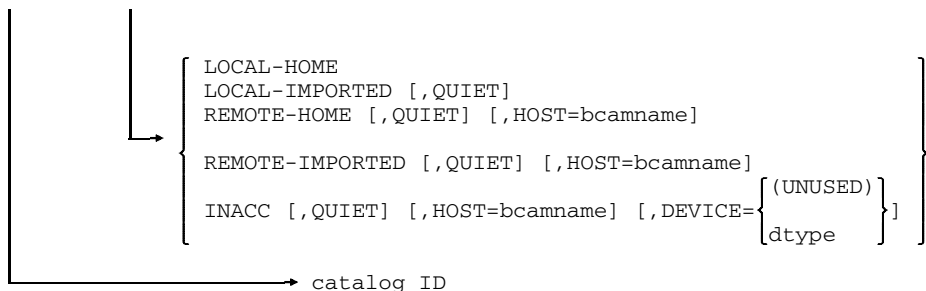
### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMS0011	Syntax error
	1	CMS0314	Syntax error for <catid>
	32	CMD0221	Internal system error
	32	CMD031F	MRS parameter error
	32	CMS0310	Error during privilege check
	32	CMS0311	Invalid operand
	32	CMS0313	Storage space release error
	32	CMS0316	Internal storage space error
	32	CMS0318	Synchronization error
	64	CMS0312	MRSCAT entry not found
	64	CMS031C	Invalid processor name
	130	CMS031A	MRSCAT not initialized
	130	CMS0313	Storage space request error
	130	CMS031B	Transfer error

Notes

- The following text is output for each entry:

```
PUBSET catid : state [(PAGING)], [NOWAIT] [ {NK4-FORMAT}
                                                {NK2-FORMAT}
                                                K-FORMAT } ]
```



If the status is "INACC, QUIET", an EXPORT-PUBSET must be issued.

If the user is authorized to request individual volumes of a pubset, a second line is output:

```
PHYSICAL ALLOCATION BY USER ALLOWED
```

For inaccessible pubsets for which an import job is in progress, a second line is output:

```
IMPORT-IN-PROCESS
```

For inaccessible pubsets for which an export job is in progress, a second line is output:

```
EXPORT-IN-PROCESS
```

For local shared pubsets for which a master change is in progress, an additional line is output:

```
SHARED, MASTER-CHANGE-IN-PROGRESS
```

For local and accessible shared pubsets, an additional line is output:

```
SHARED, MASTER-HOST= OWN-HOST / bcamname
```

In the case of an exclusive pubset, *nonprivileged* users receive the following additional line:

```
ACCESS CONTROLLED, RESERVED TO OWN USERID
```

or:

```
ACCESS CONTROLLED, RESERVED TO OTHER USERID
```

*Privileged* users receive the following additional line:

```
ACCESS CONTROLLED, RESERVED TO <userid>
```

For inaccessible pubsets on which the double recording method DRV is permitted, the following additional line is output:

```
DRV PUBSET
```

If no pubset is specified, the output ends with the number of entries found:

```
1 ENTRY FOUND or
int ENTRIES FOUND
```

The individual parts of the text have the following meaning:

(PAGING) Output if a paging area is set up on the pubset.

LOCAL The catalog is locally accessible, i.e. it is administered from the processor at which the command was issued.

REMOTE The catalog is not locally accessible, i.e. it is not administered on the processor at which the command was issued.

INACC The catalog is inaccessible for MSCF. It may, however, be accessible via RFA, for example.

HOME The catalog is the home catalog of a local or remote processor.

IMPORTED The catalog has been imported to a local or remote processor.

QUIET The connection is temporarily interrupted.

NOWAIT A connection failure results in the "inaccessible" status.

bcamname BCAM name of the processor

- on which the catalog is administered or
- on which the catalog was last administered or
- which was specified in the HOST operand.

NK4-FORMAT, NK2-FORMAT,

K-FORMAT

Specifies whether the pubset is a K or NK pubset and the size of the minimum transfer unit (TU).

DEVICE

Device type of the PUBRES.

**Additional output when INFORMATION=USER:**

Header line:

```
--- CURRENT PUBSET PARAMETERS -----
```

This is followed by information on the allocation values of the pubset:

```
ALLOCATION UNIT SIZE | BY SYSTEM
```

This is followed by information as to whether an exclusive volume allocation is permitted on this pubset:

```
PHYSICAL ALLOCATION | {BY ADMINISTRATOR}
                   | {USER ALLOWED }
```

This is followed by information on the current SCA mode:

```
SPEEDCAT MODE | {SCA RUNNING }
               | {NO SCA RUNNING}
```

This is followed by information on the current cache configuration:

Header line:

```
--- CURRENT CACHE CONFIGURATION -----
```

This is followed by information on the currently activated media:

```
CACHE MEDIUM | {NO CACHE IN USE}
              | {NONVOLATILE }
              | {VOLATILE }
```

If a cache medium is active, the following additional information is output:

– on buffer sizes:

```
CACHE SIZE | {<n> MB}
           | {<n> K }
```

– on buffer method:

```
DOUBLE BUFFERING | {NO }
                  | {YES}
```

**Additional output when INFORMATION=REF:**

Header line:

--- REFERENCE -----

This is followed by information on the number of occupying tasks:

NUMBER OF OCCUPYING TASKS | &lt;number&gt;

**Additional output when INFORMATION=CACHE:**

Header line:

--- CACHE-CONFIGURATION --- + ---- DEFINED ----- + ----CURRENT ---

This is followed by information on the cache medium:

CACHE MEDIUM		{ NONE MAIN MEMORY EXPANDED STORAGE CONTROLLER GLOBAL STORAGE }		{ NONE MAIN MEMORY EXPANDED STORAGE CONTROLLER GLOBAL STORAGE }
--------------	--	---	--	---

If the cache medium is currently inactive or suspended, the following additional line is output:

		{ NOT ACTIVE IN HOLD }
--	--	---------------------------

This is followed by information on the cache size:

CACHE SIZE		{ <n> MB <n> K }		{ <n> MB <n> K }
------------	--	---------------------	--	---------------------

This is followed by information on size tolerance:

SIZE TOLERANCE		{ YES NO }		
----------------	--	---------------	--	--

This is followed by information on crash resistance:

CRASH RESISTANT		{ NO FULL }		{ NO FULL }
-----------------	--	----------------	--	----------------

If the CRASH RESISTANT parameter is set to FULL, the following additional information is output:

FORCE IMPORT		{ NO BY OPERATOR }		{ NO BY OPERATOR }
--------------	--	-----------------------	--	-----------------------

If a controller is used as a buffer, the following additional information about this medium is output:

CONTROLLER: PREFETCH		{ NO LOW HIGH }		{ NO LOW HIGH }
----------------------	--	-----------------------	--	-----------------------

If a global storage is used as a buffer, the following additional information about this medium is output:

GLOBAL STORE : UNIT NUMBER		{ BY DEFAULT BY DEFAULT ANY DUAL (1) MONO (1) MONO (2) MONO (1,2) }		{ ANY DUAL ANY DUAL (1) MONO (1) MONO (2) MONO (1,2) }
----------------------------	--	---	--	--

**Additional output when INFORMATION=ALLOC:**

Header line:

--- SPACE-ALLOCATION --- + ---- DEFINED ----- + ----CURRENT ---

This is followed by information on the individual parameters:

PRIMARY ALLOCATION AMOUNT		<number> HP		<number> HP
SECONDARY ALLOCATION AMOUNT		<number> HP		<number> HP
SECONDARY ALLOCATION DOUB. L		<number> HP		<number> HP
SPACE SATURATION LEVEL 1		BY SYSTEM		<number> HP
SPACE SATURATION LEVEL 2		BY SYSTEM		<number> HP
SPACE SATURATION LEVEL 3		BY SYSTEM		<number> HP
SPACE SATURATION LEVEL 4		<number> HP		<number> HP
SPACE SATURATION LEVEL 5		BY SYSTEM		<number> HP
ALLOCATION UNIT SIZE		BY SYSTEM		<number> HP
PHYSICAL ALLOCATION		{ BY ADMINISTRATOR USER ALLOWED }		{ BY ADMINISTRATOR USER ALLOWED }

**Additional output when INFORMATION=ORG:**

Header line:

```
--- PUBSET-PARAMETERS ----- + ---- DEFINED ----- + ----CURRENT ---
```

This is followed by information on the wait times in the event of connection clear-down:

```
DIALOG WAIT TIME          | <number> SEC          | <number> SEC
BATCH WAIT TIME          | <number> SEC          | <number> SEC
```

This is followed by information on the CMS buffers:

```
NUMBER OF CMS BUFFERS    | { UNDEFINED           } | { <n> (PAGEABLE) }
                          | { <n> (PAGEABLE)     } | { <n> (RESIDENT) }
                          | { <n> (RESIDENT)    } |
```

This is followed by information on the maximum I/O length:

```
MAXIMAL I/O LENGTH      | BY SYSTEM             | <number> HP
```

This is followed by information on how the pubset is to be imported:

```
IMPORT MODE              | { EXCLUSIVE           } | { EXCLUSIVE }
                          | { SHARED              } | { SHARED   }
```

This is followed by information on the current SCA mode and whether SCA is to be loaded automatically when the next IMPORT-PUBSET command is issued.

```
SPEEDCAT MODE           | { NO                  } | { NO SCA RUNNING }
                          | { SPEEDCAT TASK      } | { SCA RUNNING   }
                          | { OWN TASK           } |
```

This is followed by information on access to the pubset:

```
ACCESS CONTROLLED       | { NO                  } | { NO              }
                          | { FOR <userid>       } | { FOR <userid>   }
```

This is followed by information on TSOSCAT conversion:

```
CONVERT TSOSCAT DURING NEXT EXPORT | { NO CONVERSION } |
```



**Additional output when INFORMATION=EAM:**

Header line:

```
--- EAM-PARAMETERS ----- + --- DEFINED ----- + ---CURRENT ---
```

This is followed by information on the storage space attributes of the SYSEAM file:

MINIMAL SIZE OF SYSEAM	$\left\{ \begin{array}{l} \text{SYSTEM-STANDARD} \\ \text{<number> HP} \\ \text{SYSTEM-STANDARD} \\ \text{<number> HP} \end{array} \right\}$	<number> HP
MAXIMAL SIZE OF SYSEAM		<number> HP
SECONDARY ALLOCATION OF SYSEAM		<number> HP
MEMORY CACHE SIZE OF SYSEAM		<number> HP

**Additional output when INFORMATION=OCCUP:**

Header line:

```
--- REFERENCE -----
```

This is followed by information on the number of occupying tasks:

```
NUMBER OF OCCUPYING TASKS | <number>
```

This is followed by detailed information on the occupying tasks, with the following header line:

```
--- DETAILS OF OCCUPATION -----
```

The occupying tasks are output for each connected processor, sorted according to user ID and - in the event of identical user IDs according to TSN.

The following is the first line of output for each processor:

```
OCCUPATIONS { BY LOCAL TASKS
              FROM HOST: (UNKNOWN)
              FROM HOST: <bcam-name> }
```

The following line is output for each occupying task. Each screen or print line can contain information on 4 tasks at a time:

```
<tsn> <userid>
```

## START-JOB-STREAM

### Start job stream

This command starts a job stream and thus, implicitly, its job scheduler.

Any start time stored in the job stream definition is then ignored.

Operation	Operands
{ START-JOB-STREAM } { START-J-S }	NAME=name

#### NAME

=name                      Name of the job stream that is to be started.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	64	JMS0630	Semantic error

#### Notes

The command is used if:

- the job stream was previously deactivated by the STOP-JOB-STREAM command,
- the job stream was given the START attribute "BY-OPERATOR" when defined or
- the job stream is to be started earlier than specified by the definition.
- Successful execution of the command is confirmed by a message displayed on the operator terminal.
- With a privileged ENTER, the command may be used to start the volume batch job of the job scheduler. The name of the job scheduler is specified in the associated ENTER file. The name of the ENTER file is part of the stream description in the SJMSFILE. The system administrator is responsible for ensuring that naming conventions are consistently observed.

# START-PCS

## Activate PCS

This command loads and activates the PCS subsystem.

Operation	Operands
START-PCS	[OPTION-NAME={ $\left. \begin{array}{l} *STD \\ \text{optname} \end{array} \right\}} \text{ } [, \text{FILE-NAME}=\left. \begin{array}{l} *STD \\ \text{filename} \end{array} \right\}} \text{ ]}$

**OPTION-NAME** Name of the PCS parameter set defined in the PCSDEFINE utility routine.  
 Default name: STDOPT.

**FILE-NAME** Name of the PCS definition file which contains the parameter set.  
 Default file name: SYSPAR.PCS.021

### Command return codes

(SC2)	SC1	Maincode	Meaning
	000	CMD0001	No error
016	000	CMD0001	PCS already started
	001	CMD0202	Syntax error
	001	ETMPC18	Parameter file not available
	002	CMD2202	Subsystem not defined/not suspended
	032	CMD0221	Internal system error
	064	ETMPC16	Privilege violation
	064	ETMPC12	Command not permitted by DSSM
	065	ETMPC19	Internal error

## START-RESOURCE-COLLECTION

### Start collector selection

This command starts the selection of a collector task by the system.

Operation	Operands
$\left. \begin{array}{l} \text{START-RESOURCE} \\ \text{-COLLECTION} \\ \text{START-RES} \end{array} \right\}$	$[\text{TIME}[-\text{WEIGHT}] = \left. \begin{array}{l} \text{STD} \\ \text{int} \end{array} \right\}]$

#### TIME-WEIGHT

=int

The system calculates a weight for each task in the secure queue according to its priority and the time it has spent in the secure queue. The task with the greatest weight becomes the collector.

The TIME-WEIGHT value can be used to influence the calculation of the weight:

- the higher the value selected for TIME-WEIGHT, the greater the influence of the priority in the calculation of the weight;
- the lower the value selected for TIME-WEIGHT, the greater the influence of the wait time in the calculation of the weight.

Value:  $0 \leq \text{int} \leq 600$ .

=STD

The default value is 10.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error

## START-SERSLOG

### Activate software error logging

The START-SERSLOG command activates software error logging and opens a new SERSLOG file.

If SERSLOG is already active, the command is rejected.

Operation	Operands
{ START-SERSLOG } { STAR-SE }	

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NER0006	Command executed but command lock not released
	32	CMD0221	System error
	32	NER0003	SERSLOG not defined in CLTF
	64	EXC0680	Task cancellation in progress
	64	EXC098A	No authorization for command
	64	EXC0988	DMS error
	128	NER0004	A SERSLOG command is already being processed
	129	EXC098B	SERSLOG function already active

#### Note

SERSLOG is started automatically during startup, i.e. it is not necessary to issue the START-SERSLOG command unless software error logging

- was not started due to a startup error,
- was terminated due to a system error or
- was deactivated with the STOP-SERSLOG command.

## START-SS

### Activate subsystem

The following information from the dynamic subsystem catalog is used for activating the subsystem:

- data concerning the loading and linking of the subsystem,
- data concerning initialization/deinitialization and the termination of job relations and
- data concerning entry points, secondary components and operational dependencies (see the UGEN statements in the *System Installation* manual).

The command is rejected if

- the subsystem could not be found in the dynamic subsystem catalog,
- another version of the subsystem already exists,
- subsystems on which the subsystem to be activated depends are not loaded or
- a required file (e.g. message file, library) is missing.

An appropriate message informs the operator or system administration of the acceptance/rejection of the command. The RESET=YES operand can be used to force initialization of those subsystems which are in the process of being deactivated.

Operation	Operands				
START-SS	SS-NAME=name  [,VERSION='versnr']  [,STRING=C'string']  [,RESET= <table style="display: inline-table; vertical-align: middle;"> <tr><td style="border: 1px solid black;">NO</td></tr> <tr><td style="border: 1px solid black;">YES</td></tr> </table> ]  [,SYNCH= <table style="display: inline-table; vertical-align: middle;"> <tr><td style="border: 1px solid black;">NO</td></tr> <tr><td style="border: 1px solid black;">YES</td></tr> </table> ]	NO	YES	NO	YES
NO					
YES					
NO					
YES					

SS-NAME=name Name of the subsystem to be activated.

VERSION='versnr'

Version number of this subsystem; the format specified here must be identical to the format used for the system declaration. 'versnr' may consist of 4 or 7 alphanumeric characters.

*Format*

nn.m          Version ID  
 nn.mxyy      Version ID and update status  
 (nn, m and yy are numbers - x is a letter)

*Default value*

If there is more than one version of the specified subsystem and no version has been specified or "STD" has been specified explicitly, the subsystem declared with the start attribute CREATIM=ONCALL (see the *System Installation* manual) is loaded. If this does not apply, the lowest version number in the static subsystem catalog for this subsystem is selected.

*Exception*

If a version of a subsystem is to be activated automatically in the first SVC call, this version is the default version.

STRING=C'string'

Defines special parameters which can be analyzed only by the relevant subsystem.

RESET

Determines the mode and urgency of command processing.

=NO

If the relevant subsystem is in the course of being deactivated, the command is rejected until this blocking process has been completed.

=YES

The command is accepted irrespective of any outstanding deactivation process and the subsystem or some of its components are initialized. The version parameter is mandatory for this operand.

SYNCH

Allows synchronous or asynchronous processing to be selected.

=NO

The command is to be processed asynchronously, i.e. there is no need to wait for it to execute before making another input. No error messages relating to the execution of the command are output.

=YES

The command must first be executed before another input can be made. Any error messages relating to execution are displayed.

**Command return codes**

<b>(SC2)</b>	<b>SC1</b>	<b>Maincode</b>	<b>Meaning</b>
	0	CMD0001	No error
1	0	CMD0001	No action necessary
	32	ESM0224	Command not processed
	32	ESM0228	Command terminated abnormally



# START-TRACE

## Activate trace

Traces are used to document certain process developments independently of a problem situation. The traces are stored in memory and overwritten using a wraparound algorithm.

Both permanent and temporary traces are recorded.

The switchable temporary traces can be switched on for diagnosing problem situations occurring in a development or test phase.

The traces are managed in BS2000 mode by the trace manager. The trace manager supports the provision (for CDUMP) and the evaluation (for SODA and DAMP) of diagnostic data for all the connected traces, as well as links to subsystem traces via a program interface.

Operation	Operands
START-TRACE	[TRACE-IDENTIFICATION=] { *ALL name (name1, ..., name50)                     }

### TRACE-IDENTIFICATION

Specifies which traces are to be activated.

**=\*ALL**           Activates all temporary traces (i.e. ones which can be switched on and off).

**=name**

**=(name1, ..., name50)**

Activates the specified trace(s).

'name' is the trace ID of a trace.

Up to 50 traces (each with a name of up to 8 alphanumeric characters) may be specified.

Possible values are listed in the following table:

Trace ID	Brief description
CMSTRACE	CMS trace
DIVTRACE	DIV trace
EMMIO	EMMIO trace
FITC	FITC trace
GSAMHTRC	Caching trace for GS
MRSCAT	MRSCAT occupation trace
MSCFLOG	Trace for MSCF errors
NDVMTRAC	BAVOLMON I/O trace
SM2EVENT	SM2 error trace
SM2FUNCT	SM2 trace for user call
TBOURSE	ETMBOWK trace
TDISAM	K-ISAM trace
TDISAMNK	NK-ISAM trace
TEMMPPM	EMMPPM trace
TFASPAM	Trace of access method
TJLOGLOW	JMS trace
TJOBPOOL	JMS-JOBPOOL trace
TLOCK	Task lock management trace
TNDM#ALL	Trace for all NDM-FEs
TNDM#NKA	Trace for module FE NKA
TNDM#NKD	Trace for module FE NKD
TNDM#NKG	Trace for module FE NKG
TNDM#NKL	Trace for module FE NKL
TNDM#NKR	Trace for module FE NKR
TNDM#NKS	Trace for module FE NKS
TNDM#NKT	Trace for module FE NKT
TNDM#NKV	Trace for module FE NKV
TRFA	Remote file access trace
TRSOADM	RSO trace
TSSVADM	SPOOL trace
VMMALLOC	Trace for VM allocation

\*)

\*): If the TNDM#ALL trace is activated, all the other NDM traces (TNDM#...) automatically assume the "ON" state. If you deactivate one of these traces with STOP-TRACE, the collective NDM trace TNDM#ALL goes into the "ON\_OFF" state.

## Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	Trace requested does not exist
2	0	IDA0201	One of the specified traces is already "on"
	32	CMD0221	Internal error
1	32	IDA0203	Specified trace not switchable
2	32	IDA0203	One of the traces specified in the list is not switchable
1	32	IDA0210	Invalid on/off pattern for the specified trace
2	32	IDA0210	Invalid on/off pattern for one of the traces specified in the list
1	64	IDA0200	Specified trace does not exist
2	64	IDA0200	One of the traces specified in the list does not exist
1	64	IDA0202	Trace is of the type PERMANENT
2	64	IDA0202	One of the traces specified in the list is of the type PERMANENT
	64	IDA0209	No authorization for command
1	64	IDA0214	Activation of some traces was rejected with different error messages; no action taken
2	64	IDA0214	Activation of some traces was rejected with different error messages; other specified traces were activated

# STATUS

## Request information on system and jobs

The STATUS command outputs the following:

1. information about the system: operands BIAS, CATEGORY, SATQ, WHQ, REPLAYQ, REMOTE, JOB-CLASS, JOB-STREAM, MSG
2. information about a group of jobs: operands SUMMARY, LIST, ENVIR, PROG, JOB, REPEAT
3. information about a specific job: operands TSN, JNAME, PNAME, NAME, MONJV, TID.

Operation	Operands
{STATUS} {STA }	B[ IAS] C[ ATEGORY]  { SATQ WHQ } [ , ID[ ENT] = { N[ ONE ] { [REPLAYQ] [RPLQ ] } { U[ ID ] J[ OB ] } ]  MSG[ , ALL]  [ { R[ EMOTE ] [ , DEV[ ICE ] = device } ]  JOB-CLASS[ , STATE = { ALL ACT INACT } ] HOLD DEL ]  JOB-STREAM[ , STATE = { ALL ACT INACT } ] HOLD ]

*continued* →

Operation	Operands
STATUS (cont.)	$  \left[ \begin{array}{l}  \left\{ \begin{array}{l}  \text{JN[AME]=jobname} \\  \text{MONJV=jvname} \\  \text{N[AME]=name} \\  \text{TID=X'tid'} \\  \text{[[TSN]=tsn]}  \end{array} \right\} \left[ , \text{DISP} = \left\{ \begin{array}{l}  \text{L[IST]} \\  \text{E[NVIR]} \\  \text{P[ROG]} \\  \text{A[CT]} \\  \text{J[OB]} \\  \text{REP[EAT]}  \end{array} \right\} [ , \dots ] \right\} \left[ \begin{array}{l}  \text{ID[ENT]} = \left\{ \begin{array}{l}  \text{N[ONE]} \\  \text{U[ID]} \\  \text{J[OB]}  \end{array} \right\} \\  \text{TER[MINAL]} = \left\{ \begin{array}{l}  \text{APPLI[CATION]} \\  \text{ORIG[INAL]}  \end{array} \right\}  \end{array} \right] \\  \\  \left[ \text{PN[AME]=pname} [ , \left\{ \begin{array}{l}  \text{ID[ENT]} = \left\{ \begin{array}{l}  \text{N[ONE]} \\  \text{U[ID]} \\  \text{J[OB]}  \end{array} \right\} \\  \text{DISP} = \left\{ \begin{array}{l}  \text{L[IST]} \\  \text{E[NVIR]}  \end{array} \right\} [ , \dots ] \right\} \right] \\  \\  \text{S[UMMARY]} [ , \left\{ \begin{array}{l}  \text{ALL} \\  \text{userid}  \end{array} \right\} ] [ , \text{TYPE} = \left\{ \begin{array}{l}  \text{P} \\  \text{S} \\  \text{R}  \end{array} \right\} \\  \\  \left[ \text{L[IST]} [ , \text{userid} ] [ , \text{TYPE} = \left\{ \begin{array}{l}  \text{P} \\  \text{S} \\  \text{n}  \end{array} \right\} ] [ , \left\{ \begin{array}{l}  \text{ID[ENT]} = \left\{ \begin{array}{l}  \text{N[ONE]} \\  \text{U[ID]} \\  \text{J[OB]}  \end{array} \right\} \\  \text{INTYPE} = ( [\text{min1}] [ , \text{min2}] ) \\  \text{TIMEREQ} = ( [\text{sec1}] [ , \text{sec2}] ) \\  \text{CATEGORY} = \text{cat} \\  \text{DEV[ICE]} = \text{device} \\  \text{DEST[INATION]} = \left\{ \begin{array}{l}  \text{device} \\  \text{pool}  \end{array} \right\}  \end{array} \right\} ] [ , \dots ]  \end{array} \right]  $

continued →

Operation	Operands
STATUS (cont.)	$  \left[ \begin{array}{l}  \left[ \begin{array}{l}  E[NVIR] [,userid] [,TYPE=\begin{Bmatrix} P \\ S \\ n \end{Bmatrix}] [, \\  \left[ \begin{array}{l}  P[ROG] [,userid] [,TYPE=\begin{Bmatrix} P \\ 2 \\ 3 \end{Bmatrix}] \\  \left[ \begin{array}{l}  J[OB] [,userid] [,TYPE=\begin{Bmatrix} P \\ 1 \\ 2 \\ 3 \end{Bmatrix}] \\  \left[ \begin{array}{l}  REP[EAT] [,userid] [,TYPE=\begin{Bmatrix} P \\ 1 \\ 2 \end{Bmatrix}]  \end{array} \right]  \end{array} \right]  \end{array} \right]  \left[ \begin{array}{l}  \left[ \begin{array}{l}  ID[ENT]=\begin{Bmatrix} N[ONE] \\ U[ID] \\ J[OB] \end{Bmatrix} \\  INTYPE=( [min1] [,min2] ) \\  TIMEREQ=( [sec1] [,sec2] ) \\  CATEGORY=cat \\  \left[ \begin{array}{l}  TER[MINAL]=\begin{Bmatrix} APPLI[CATION] \\ ORIG[INAL] \end{Bmatrix} \\  DEV[ICE]=device \\  DEST[INATION]=\begin{Bmatrix} device \\ pool \end{Bmatrix}  \end{array} \right]  \end{array} \right]  \end{array} \right]  \end{array} \right]  \end{array}  $

The operands are described in alphabetical order.  
 The output fields are described in the table following the operands.

- BIAS                      Supplies information on the maximum number of resident main memory pages.
- CATEGORY                Supplies information concerning the various categories in the system. Information is output for each category, in the following order:
  - SYS        - system tasks
  - DIALOG - interactive tasks
  - BATCH - batch tasks
  - TP         - transaction tasks

CATEGORY	
=cat	Supplies information only on tasks of the specified category.
DEVICE	
=device	Specifies one or more RSO or RBP printers about which information is desired; wildcards may be used to identify a subset of printers.
DESTINATION	Provides information on all the user spoolout jobs which are output on the specified RSO printers.
=device	Name of the RSO printer; wildcards may be used.
=pool	Name of an RSO device pool (defined in the SPOOL parameter file). All the printers of this pool are addressed.
DISP	This operand allows the output layout for a job to be selected.
=ACT	Provides information on task scheduling data. This specification applies only to jobs of type 2 or 3.
=ENVIR	Same output layout as when the ENVIR operand is specified.
=JOB	Same output layout as when the JOB operand is specified.
=LIST	Same output layout as when the LIST operand is specified.
=PROG	Same output layout as when the PROG operand is specified. This specification applies only to jobs of type 2 or 3.
=REPEAT	Same output layout as when the REPEAT operand is specified.
ENVIR	Provides information on the hardware available for a given job.
IDENT	Specifies whether or not the user ID or job name is to be output in addition to the task sequence number. IDENT=UID is the default value for all operands.
=NONE	Outputs only the task sequence number.
=UID	Outputs the user ID.
=JOB	Outputs the job name specified in the LOGON or PRINT command.
INTYPE	Makes it possible to limit the output to jobs (T1 - T3) with a particular processing time.
=(min1)	Provides information only on jobs which have been in processing for at least 'min' minutes.

<code>=(,min2)</code>	Provides information only on jobs which have been in processing for not more than 'min' minutes.
<code>=(min1,min2)</code>	Provides information only on jobs which have been in processing for at least 'min1' minutes and not more than 'min2' minutes.. Default values: min1 = 0; min2 = 2147483647
<b>JNAME</b>	
<code>=jname</code>	Provides information on the job with the specified job name.
<b>JOB</b>	Provides job-specific information for TYPE 1,2 or 3.
<b>JOB-CLASS</b>	
	Provides information on job classes.
<b>JOB-STREAM</b>	Provides information on job streams and hence also on the job schedulers.
<b>LIST</b>	Provides information on all jobs present in the system.
<b>MONJV</b>	
<code>=monjv</code>	Provides information on the job being monitored by the specified job variable.
<b>MSG</b>	Lists all the system messages that can be answered by the operator who issued the command.
<b>MSG,ALL</b>	Lists the unanswered messages for all operator terminals.
	<i>Note</i> Before reloading a system because the operator terminal appears not to be functioning, STA MSG,ALL should be entered to ascertain whether the problem is not simply due to the OPRT (operator task) being blocked by a query.
<b>NAME</b>	
<code>=name</code>	Provides information on all batch, interactive and spoolout jobs with the specified name.
<b>PNAME</b>	
<code>=pname</code>	Provides information on all spoolout jobs with the specified name.
<b>PROG</b>	Provides information on which program or BS2000 command is currently being processed in a job (only for jobs in T2 or T3). See Note 1.
<b>REMOTE</b>	Provides information on remote batch jobs.



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REPEAT	Provides information on job repetition if the job was started with the REPEAT operand in the LOGON or ENTER command.
REPLAYQ	Provides information on all tasks in the REPLAY queue.
SATQ	Provides information on the three saturation queues: <ul style="list-style-type: none"><li>– the queue for prereserving main memory,</li><li>– the HOLD queue for a paging device and</li><li>– the queue for prereserving a paging area.</li></ul>
STATE	Makes it possible to limit the information output to active, inactive or HOLD-state job classes. If this operand is not specified, the output includes information on all job classes.
=ACT	Provides information on the active job classes.
=INACT	Provides information on the inactive job classes.
=HOLD	Provides information on job classes which have been placed in the wait state.
=DEL	Provides information on job classes which are in the 'IN-DELETE' state, i.e. job classes whose class definition is to be deleted from the system (see also the DELETE-JOB-CLASS statement of the JMU utility routine in the <i>Computer Center Utility Routines</i> manual).
SUMMARY	Provides information on the number of user jobs in the individual processing states (see Note 2).
TERMINAL	For jobs linked to certain applications (e.g. OMNIS). The operand indicates which terminal types and processor names are to be displayed.
= <u>APPLICATION</u>	Displays the terminal types and processor names defined by the application.
=ORIGINAL	Displays the terminal types and processor names which relate to the actual terminal.
TID	
=X'tid'	Provides information on the job with the specified TID (task identifier).
TIMEREQ	
=(sec1)	Provides information only on jobs which have requested a maximum CPU time of at least 'sec' seconds.

=(,sec2)	Provides information only on jobs which have requested a maximum CPU time of at most 'sec' seconds.
=(sec1,sec2)	Provides information only on jobs which have requested a maximum CPU time of at least 'sec1' seconds and at most 'sec2' seconds.
TSN	
=tsn	Provides information on the job with the specified task sequence number.
TYPE	Makes it possible to limit the information output to particular types of job. If nothing is specified for this operand, the output includes information on all job types.
TYPE	Provides information on waiting jobs, batch jobs and interactive jobs (types 1 through 3).
=R	Provides information on waiting and active RBP spoolout jobs (type 6).
=S	Provides information on waiting and active spoolout jobs (types 4 through 8).
=n	Provides information on jobs of TYPE n. Possible values: $1 \leq n \leq 7$
userid	Provides information on jobs under the specified user ID. If no user ID is specified, the output includes information on all jobs in the system.
WHQ	Provides information on all tasks in the conditional queue.

The following table describes the individual output fields.

Output field	Operand	Meaning
#ACTIVE	CATEGORY	Number of active tasks in this category
#RDYINACT	CATEGORY	Number of inactive tasks in this category that are ready to run
#RDYNTADM	CATEGORY	Number of inactive, ready tasks in this category that are not admitted (applies only when the software product PCS is in use)

*continued* →

Output field	Operand	Meaning
A	REMOTE	Status of the individual devices RSO printer: A - SDVC command issued but not active I - No spoolout possible at present M - There is an outstanding message for this device (PUBLIC DEVICE) at the operator terminal R - Spoolout S - No spoolout possible T - Spoolout process started W - 9025 or 9645 Printer not accessible at present since an administration program is occupying the printer D - Status between issuing of an SDVC command and execution by the SRAM task  RBP printer: Y - Station is active N - Station is not active (see Note 3)
ACCNB ACCOUNT#	TSN LIST	Account number
ANCD	JOB-CLASS JOB-STREAM	Jobs not yet released by the job scheduler
CGY-NAME	CATEGORY	Name of a category
CHARS	TSN	Name of character set pool; if none has been specified, name of the (first) characters set; index if specified
CHARS#	TSN	Total number of the specified character sets
CLAS CLASS	ENVIR TSN	SPOOLOUT class as specified in the user catalog
CLIM	JOB-CLASS	Limitation of jobs per job class
CMD	TSN	Command being executed at the moment
CMD-FILE	TSN NAME PNAME JNAME	File name with the prefix S.IN if a copy of the original ENTER file is being created (for T1 and T2 jobs only)
CONTROL	TSN	PHYS or NO, dependent on whether the file contains laser-printer-specific control characters

*continued* →

Output field	Operand	Meaning
COPIES	LIST TSN	Number of copies still to be printed
CORE	BIAS	Limit on the number of main memory pages for resident user programs
CORE PRERE-SERVE	SATQ	Queue for prereserving main memory
CPU-MAX	LIST TSN	HOLD - the job was placed in the wait state by an NCHOLD command NTL - the operand TIME=NTL was specified in the LOGON or ENTER command t - the operand TIME=t (t=CPU time) was specified in the LOGON or ENTER command
CPU-USED	LIST TSN	CPU elapsed time in seconds This information is of interest only for active batch and interactive tasks and for active spoolout jobs.
CURR-CMD	PROG	Command which is being executed at present (maximum of 8 characters)
DATE	WHQ	Date when the task was included in the WHEN queue
DEV	RPLQ ENVIR	Desired output device
DEVICE	REMOTE TSN LIST ENVIR NAME PNAME	Virtual device name (max. of 8 characters, with wildcards allowed) or pool name For TSN, NAME and PNAME: if the DESTINATION operand was specified in the PRINT command, the field remains blank
DI DIA	RPLQ ENVIR TSN	Forms overlay used for the laser printer
DORM	JOB-CLASS JOB-STREAM	Number of jobs waiting because the relevant job scheduler is not yet active (see Note 4)
E	REMOTE	Activation of exit routines (see SDVC) when RBP devices are empty
ERCOD	REMOTE ENVIR	Return code from DCAM, PDN or printer
ERMSG	REMOTE ENVIR	Error message (ACT=S) when RBP devices are empty

continued →

Output field	Operand	Meaning
FAMILY	TSN	Number of files belonging to a group (=family)
FILE FILENAME	TSN NAME PNAME	Name of the file to be output
FLUSH	JOB TSN	YES or NO, depending on whether FLUSH was specified in the LOGON or ENTER command
FOB	TSN	Only for jobs of type 4 or 5: name of the FOB used
FOBSIZE	TSN	Only for jobs of type 4 or 5: size of the FOB used
FORM	RPLQ ENVIR TSN	Form number of paper to be used for printing
HOLD	JOB-CLASS JOB-STREAM ENVIR	Number of jobs in the wait state  Time when the job was placed in the wait state by an NCHOLD command, or NO
INTYPE	JOB TSN	Time during which the job had already been in the processing state under consideration
JCLASS	JOB-CLASS  JOB TSN	Name of the job class  Job class assigned to the user
JOBNAME	TSN	Job name
JSTREAM	JOB-CLASS  JOB-STREAM	Name of the relevant job stream  Name of the job stream
LIFETIME	JOB-STREAM	To be seen in conjunction with the contents of the STOP column; means that the job stream will be terminated after the time indicated
LOGON	TSN	LOGON time
M	REMOTE	I - RBP spoolin O - RBP spoolout R - remote printer
MAXMPL	CATEGORY	Maximum number of tasks in this category that task management is to keep active

*continued* →

Output field	Operand	Meaning
MINLIMIT	WHQ	Indication as to how long the task may remain in the queue
MINMPL	CATEGORY	Minimum number of tasks in this category that task management is to keep active
MRSCAT	ENVIR	Catalog ID and QUIET if the catalog is in the QUIET state; catalog ID and HOLD if the catalog is in the HOLD state; blank in all other cases
NAME	ENVIR JOB LIST PROG REPEAT RPLQ WHQ	User ID (UID), job name (JOB) or blank (NONE, default value), depending on what is required in the IDENT operand
NOW	TSN	Current date and time
NSTART	REPEAT	Calculated starting time for repeating the job
NTSN	REPEAT	Task sequence number reserved for job repetition
OPT	ENVIR LIST RPLQ	Optional display * - if FOB, scrolling or more than four character sets are being used
ORIGFILE	TSN NAME PNAME JNAME	Name of original ENTER file (for T1 and T2 jobs only)
P	JOB	Job scheduling priority
PD HOLD	SATQ	HOLD queue for a paging device
PD PRERE-SERVE	SATQ SATQ	Queue for prereserving a paging area
PNAME	TSN	Job name for a spoolout job
PND	DISP	PEND code of the job
PRI	LIST TSN	Job and task priority; * flags the job express function

*continued* →

Output field	Operand	Meaning
PROC PROCESS	TSN ENVIR REMOTE	BCAM name of the communication processor
PROGRAM-NAME PROG	PROG	Name of the program loaded; for a cataloged phase: :c:\$uid.filename; for an element loaded from a library: :\$uid.libname (elemname,version,typ)
PRSIZE	LIST	Only for jobs of type 4, 5, 6 or 7 and only if the spool parameter has been set to SPOOLOUT-SIZE=*LINES; number of line (records or blocks) already output at the time of the query. If the COPIES operand is specified in the PRINT command, its value is set to zero at start of each copy (see Note 5).
PVS	ENVIR TSN	Catalog ID of the pubset where the output file is stored
REP  REPEAT	JOB REPEAT  TSN	Indication of job repetition as defined in the LOGON or ENTER command: STUP - for AT-STREAM-STARTUP DAIL - for DAILY WEEK - for WEEKLY hhmm - for PERIOD
REPCNT	REPEAT	Job repetition counter
RER RERUN	JOB TSN	Indicates whether the RERUN operand has been set in the LOGON or ENTER command
ROT	TSN	Page rotation specified in the PRINT command (degrees)
RTSN	LIST TSN	Only for jobs of type 4, 5, 6 or 7; TSN of the job that generated the spoolout job
SESSID	RPLQ	VSN of the first REPLAY device
SIZE	LIST TSN PROG	Size of the spoolout file (see Note 6) Program size in virtual class 6 memory pages (4 Kbytes)
SPOOLIN	TSN	Time of spoolin

*continued* →

Output field	Operand	Meaning
START	JOB  JOB-STREAM	Indication of job start time in the LOGON or ENTER command: "Eyyymmdd.hhmm" for EARLIEST "Lyymmdd.hhmm" for LATEST "Ayyymmdd.hhmm" for AT "Whhmm" for WITHIN "BYOPER" "BYUSER" "SOON" "IMMED" "STUP" for AT-STREAM-STARTUP  ATLOAD - the stream was started in the course of system initialization BYOPER - the stream was started with the START-JOB-STREAM command hh:mm - the stream was started at a predefined time
STATE	JOB-CLASS JOB-STREAM	State of the job class/job stream (ACT/INACT/HOLD or, for the job class, also DEL)
STATION	ENVIR REMOTE TSN	Station name
STOP	JOB-STREAM	ATSHUTD - the stream will be terminated in the course of system termination BYOPER - the stream will be terminated with the STOP-JOB-STREAM command hh:mm - the stream will be terminated at a predefined point in time
STRT	JOB-CLASS JOB-STREAM	Number of jobs started
T1/DO	LIST SUMMARY	Jobs waiting because the relevant job scheduler is not yet active, or repeat jobs
T1/HO	LIST SUMMARY	Jobs placed in the wait state
T1/WT	LIST SUMMARY	Queued jobs
T2	LIST SUMMARY	Active batch jobs
T3	LIST SUMMARY	Interactive jobs

*continued* →



Output field	Operand	Meaning
T4	LIST REPLAYQ	Queued spoolout jobs: LP3 Line Printer (132/136 characters) LP6 Line Printer (160 characters) SD Printer with loadable VFB (3343) SD7 Printer 3337/3338/3339/3348/3365 NSD Printer with loadable VFB or 3350/3352 Laser Printer HP 3351/3353 Laser Printer NHS 3350/3352 Laser Printer or 3351/3353 Laser Printer or Printer with loadable VFB NHP 3350/3352 Laser Printer or 3351/3353 Laser Printer HSD 3351/3353 Laser Printer or Printer with loadable VFB PR Any printer FD Floppy disk drive F70 3170 Floppy Disk Unit F71 3171 Floppy Disk Unit T9P Magnetic tape drive, 1600 bpi T9G Magnetic tape drive, 6250 bpi TP Any magnetic tape drive
T4/FD	SUMMARY	Waiting spoolout jobs (floppy disk)
T4/PR	SUMMARY	Waiting spoolout jobs (printer)
T4/TP	SUMMARY	Waiting spoolout jobs (tape)
T5/AC	SUMMARY	Active spoolout jobs
T5/KP	SUMMARY	Suspended spoolout jobs that may still be output during the current session
T6/AC	SUMMARY	Active RBP spoolout jobs
T6/WT	SUMMARY	Waiting RBP spoolout jobs
T7/AC	SUMMARY	Active RSO spoolout jobs
T7/KP	SUMMARY	Suspended RSO spoolout jobs
T7/WT	SUMMARY	Waiting RSO spoolout jobs
T8	SUMMARY	Generated RBP devices and assigned RSO devices
TID	TSN	Internal task number (task identifier)
TIME	WHQ	Time when the task was entered in the queue

*continued* →

Output field	Operand	Meaning
TSN	LIST REMOTE TSN ENVIR PROG JOB	Job number (task sequence number)
TYPE	LIST PROG TSN JOB	Processing state
UNP/Q#	TSN	Task queue number
USERID	REMOTE TSN	User identification
W	JOB-CLASS	Weight (priority rating of job class)
WAIT	JOB-CLASS JOB-STREAM	Number of jobs waiting
WEIGHT	CATEGORY	Weighting (relative priority) of categories

### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error

### Notes

1. The value HOLD may be displayed in the 'CURR-CMD' and 'CMD' columns if the batch task has been placed in the wait state.  
The first 17 bytes of the program name may be displayed in the 'PROGRAM-NAME' and 'PROG' columns. If the name is longer, it is automatically written in one or two additional output lines.
2. The fields 'T4PR' through 'T8' are empty if SPOOL has not been loaded.
3. If the remote batch station is inactive, blanks appear in the columns STATION, PROCESSOR, USERID, TSN and MODE.
4. If a user job was started with the REPEAT option, that job is displayed in the 'DORM' column. The associated job scheduler is active.

5. Upon completion of the spoolout job, the value for "PRSIZE" may differ from the value calculated for "SIZE" since the effects of factors such as variable record lengths or PRINT command operands cannot be taken into account until execution time. An additional reason for different values may be that a spoolout job has been placed in the wait state or suspended by means of the SQUC command.

It's necessary to take into account the following:

- for /SQSUSP or /SQKEEP or /SQRESPL, the value under "PRSIZE" is set to zero.

In the case of spoolout for a logical system file, a value appears in the "PRSIZE" column only if

- the PRINT command was issued with the operand SPACE=1/2/3
- a SPARAM command with the operand COMPRESS=ALL/STD was issued before a PRINT command.

Following termination by the operator (SUSP operand in the SQ command), the value for PRSIZE is set to zero upon restart, i.e. at the end, it may be less than the value for SIZE.

6. The value displayed in the "SIZE" column depends on the settings in the MODIFY-SPOOL-PARAMETERS command. The file size is specified in the form of:
  - PAM blocks (`MODIFY-SPOOL-PARAMETERS SPOOLOUT-SIZE=*PAM-PAGES`)
  - an approximate number of line (printer), records (floppy disk) or blocks (tape) to be output (`MODIFY-SPOOL-PARAMETERS SPOOLOUT-SIZE=*LINES (LINES-FACTOR=nn)`)
  - logical print lines - in the case of files generated by the SYSFILE management. When the file is created by the SYSFILE management, the approximate size of the spoolout file is calculated and this value (flagged with a 'P') is displayed for the /STATUS LIST command.
7. If the STA MSG [,ALL] command is in a command file, it can be processed before the other commands, whose processing starts only at the end of the file or when an ASTOP is read.

## STOP-JOB-STREAM

### Terminate job stream

The STOP-JOB-STREAM command terminates a job stream and thus, implicitly, the job scheduler.

Operation	Operand
{ [STOP-JOB-STREAM] [STOP-J-S]           }	NAME=name

#### NAME

=name                    Name of the job stream to be terminated.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	64	JMS0630	Semantic error

#### Notes

- This command is generally issued only if the JMU statement DEFINE-JOB-STREAM for the job stream contains
  - the entry BY-OPERATOR for the STOP operand or
  - a job stream termination time from which the operator wishes to deviate.
- Termination of a job stream implies termination of its job scheduler. Batch jobs are accepted but, instead of being started, they are entered in a special queue (the dormant queue of the job stream).

## STOP-PCS

### Deactivate PCS

The STOP-PCS command deactivates the PCS subsystem. The storage space used by PCS is released.

Operation	Operands
STOP-PCS	

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	000	CMD0001	No error
016	000	CMD0001	PCS already stopped
	001	CMD0202	Syntax error
	002	CMD2202	Subsystem not defined/not suspended
	064	ETMPC16	Privilege violation
	064	ETMPC12	Command not permitted by DSSM
	065	ETMPC19	Internal error

#### Note

The command return codes are supported only under operator task; The values are output in 3-digit decimal form.

## STOP-RESOURCE-COLLECTION

### Stop collector selection

This command terminates the selection of a collector task by the system from the time of command input.

Operation	Operands
<pre>[STOP-RESOURCE -COLLECTION ] [STOP-RES ]</pre>	

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error

#### Note

If a task is the collector at the time of command input, it does not lose its collector characteristic. If a task is made the collector at that time, the command likewise has no influence on it. The characteristics of the tasks in the secure queue also remain unaffected.

## STOP-SERSLOG

### Deactivate software error logging

The STOP-SERSLOG command closes the current SERSLOG file and deactivates software error logging.

If SERSLOG is not active, the command is rejected.

Operation	Operands
{ STOP-SERSLOG } { STOP-SE }	

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NER0006	Command executed but command lock not released
	32	CMD0221	System error
	32	NER0003	SERSLOG not defined in CLTF
	64	EXC0680	Task cancellation in progress
	64	EXC098A	No authorization for command
	64	EXC0988	DMS error
	128	NER0004	A SERSLOG command is already being processed
	129	EXC098B	SERSLOG function inactive

#### Notes

- Software error logging can be reactivated by means of the START-SERSLOG command.
- After the STOP-SERSLOG command is issued, the SERS task is terminated. Termination of this task takes some time since all jobs already submitted to the system have to be processed. During this time, the START-SERSLOG command is rejected.

## STOP-SS

### Deactivate subsystem

This command has the following results:

- the subsystem in question is locked for all new callers
- the subsystem is deactivated when all the jobs which access this subsystem have terminated or, if the FORCED=YES operand was specified, immediately and regardless of the status of any occupying tasks;
- the subsystem is unloaded and
- all resources allocated are released.

Forced deactivation of tasks is accepted only if the command has already been issued with the FORCED=NO operand and failed to terminate the tasks.

The command is also rejected if:

- the subsystem is not found in the dynamic subsystem catalog,
- subsystems that are already active or in the process of activation are dependent on the subsystem to be deactivated or
- subsystems that are already active or in the process of activation have linkage relations with the subsystem to be deactivated.

Operation	Operands												
STOP-SS	SS-NAME=name  [ ,VERSION='versno' ]  [ ,STRING=C' string' ]  [ ,FORCED= <table style="display: inline-table; vertical-align: middle;"> <tr><td style="padding: 0 5px;">{</td><td style="padding: 0 5px;">NO</td><td style="padding: 0 5px;">}</td></tr> <tr><td style="padding: 0 5px;">YES</td><td></td><td></td></tr> </table> ]  [ ,SYNCH= <table style="display: inline-table; vertical-align: middle;"> <tr><td style="padding: 0 5px;">{</td><td style="padding: 0 5px;">NO</td><td style="padding: 0 5px;">}</td></tr> <tr><td style="padding: 0 5px;">YES</td><td></td><td></td></tr> </table> ]	{	NO	}	YES			{	NO	}	YES		
{	NO	}											
YES													
{	NO	}											
YES													

SS-NAME=name Name of the subsystem to be deactivated.

VERSION='versno'

Version number of this subsystem; the format specified here must be identical to the format used for the subsystem declaration.

The version number may consist of 4 or 7 alphanumeric characters.



*Format*

nn.m           Version ID  
 nn.mxyy       Version ID and update status  
 (nn, m and yy are numbers - x is a letter)

*Default value*

If there is only **one** version of the loaded subsystem, this version is selected. If there are **two or more** suitable versions, the version must be specified.

STRING=C'string'

Defines special parameters which are analyzed only by the relevant subsystem.

FORCED

Determines the mode and urgency of command processing.

=NO

Command processing is deferred to allow processing of all the tasks accessing this subsystem to continue through to normal termination.

=YES

All accessing tasks are terminated immediately. In the case of a privileged subsystem, this can lead to a system dump; tasks which are connected to a nonprivileged subsystem have the option of exiting via the STXIT error recovery mechanism offered by DSSM.

SYNCH

Allows synchronous or asynchronous processing to be selected.

=NO

The command is to be processed asynchronously, i.e. there is no need to wait for it to execute before making another input. No error messages relating to the execution of the command are output.

=YES

The command must first be executed before another entry can be made. Any error messages relevant to command execution are output.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	No action necessary
	32	ESM0224	Command not processed
	32	ESM0228	Command terminated abnormally

## STOP-TRACE

### Deactivate trace

An activated trace, identified as "active" in the trace address list, is deactivated by this command and identified as "initialized".

The switchable, temporary traces are used to store brief information on each executed operation of a functional unit in chronological order.

Operation	Operands
STOP-TRACE	[TRACE-IDENTIFICATION] = { *ALL name (name1, ..., name50) }

#### TRACE-IDENTIFICATION

Specifies which traces are to be deactivated.

=\*ALL      Deactivates all temporary traces (i.e. ones which can be switched on and off).

=name

=(name1, ..., name50)

Deactivates the specified trace(s).

'name' is the trace ID of a trace. A maximum of 50 traces (each with a name comprising up to 8 alphanumeric characters) may be specified.

For the possible values, see the START-TRACE command.

## Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	Trace requested does not exist
2	0	IDA0208	One of the specified traces is already "off"
	32	CMD0221	Internal error
1	32	IDA0203	Specified trace is not switchable
2	32	IDA0203	One of the traces specified in the list is not switchable
1	32	IDA0210	Invalid on/off pattern for the specified trace
2	32	IDA0210	Invalid on/off pattern for one of the traces specified in the list
1	64	IDA0200	Specified trace does not exist
2	64	IDA0200	One of the traces specified in the list does not exist
1	64	IDA0202	Trace is of the type PERMANENT
2	64	IDA0202	One of the traces specified in the list is of the type PERMANENT
	64	IDA0209	No authorization for command
1	64	IDA0214	Deactivation of some traces was rejected with different error messages; no action taken
2	64	IDA0214	Deactivation of some traces was rejected with different error messages; other specified traces were deactivated

## TURN

### Output logging file

This command enables the operator or an authorized user program to request an information dump from the current logging file (SYS.CONSLLOG...).

The operator or the authorized user program can print out messages according to specific selection criteria. After input of the TURN command, initially 5 messages are listed, followed by the message:

```
"&tsn-jid    00.hhmmss %  EXC0432 PROCESSING of /TURN TO BE CONTINUED? REPLY
              (Y=YES;
              N=NO) ?" .
```

The operator must respond with "tsn-jid:Y" or "tsn-jid:N".

'jid' is the job ID assigned when the command is entered. If you do not assign a job ID when entering the command, you do not have to specify one for the response. The default job ID '000' may therefore be omitted for the response.

'tsn' is the task sequence number of the job in the form 'nnnn'.

The operator is allowed four chances to enter a correct response. A fourth incorrect answer causes the TURN command to be terminated.

Operation	Operands
$\left\{ \begin{array}{l} \text{TURN} \\ \text{T} \end{array} \right\}$	$[\text{DAY}=\text{dd}] [ , \text{T}[\text{IME}]=\text{hhmmss}] [ , \text{S}[\text{RC}]=\left. \begin{array}{l} \text{ALL} \\ \text{a} \\ (\text{a1}, \text{a2}, \dots) \\ \text{SAME} \end{array} \right\}]$ $[ , \text{D}[\text{EST}]=\left. \begin{array}{l} \text{ALL} \\ \text{b} \\ (\text{b1}, \text{b2}, \dots) \\ \text{SAME} \end{array} \right\}] [ , \text{DESTALL}=\left. \begin{array}{l} \text{mn} \\ (\text{mn1}, \text{mn2}, \dots) \\ \text{SAME} \end{array} \right\}]$

#### DAY

=dd

Outputs messages logged on a specific day.

dd = day of the month (1...31).

The day specified must have been reached within the session. The default value is the output of messages of the current day of the session.

## TIME

**=hhmmss** Outputs messages logged from a specific time onwards.  
hh = hour, mm = minute, ss = second.  
The default value is the output of messages from the current day onwards (beginning of day or session).

If the TIME operand is specified together with the DAY operand, the messages logged on the day specified after the specified time are output.

## SRC

**=ALL** Outputs all messages.

**=a**  
**=(a1,a2,...)** Selection of information (commands, messages and responses which have been input) according to the sender. The sender can be an operator terminal, a DCAM application or a task. a,a1... stands for:

- mnemonic device name (2 characters) of the operator terminal; the messages sent from this terminal are to be output;
- authorization name (4 characters) of a DCAM application;
- task sequence number (4 characters); information sent by this task is to be output.

**=SAME** Outputs all the messages sent from the operator terminal or authorized user program from which the TURN command originated.

## DEST

**=ALL** Outputs all messages.

**=b**  
**=(b1,b2,...)** Selection of messages according to the receiver. The receiver can be an operator terminal or an authorized user program. b,b1... stands for:

- mnemonic device name (2 characters);
- routing code (1 character) of the operator terminal whose received messages are to be output;
- authorization name (4 characters) of the authorized user program whose messages are to be output.

**=SAME** Lists all the messages received by the operator terminal or authorized user program from which the TURN command originated.

**DESTALL**

=mn

=(mn1,mn2,...)

Outputs all messages which have the routing codes assigned to the operator terminals specified by 'mn,mn1,...'.

=SAME

Outputs all messages which have the routing codes assigned to the operator terminal from which the TURN command originated.

Default value: no output.

*Examples*

1. A session commenced at 10 p.m., and at 6 a.m. the following command is issued:

```
Turn time=03000
```

This causes all messages to be listed which occurred between 3 and 6 a.m.

2. A session commenced at 11:50:58, and at 11:52:25 the following command is issued:

```
Turn time=110000 %      O 00.115225 % EXC0434 TURN /CMD COMPLETED
```

The specified time of 11 a.m. (when the session had not yet started) results in the message `TURN/CMD COMPLETED`; no other messages are output.

3. A session commences at 8 p.m., and at 11 p.m. the next day the following command is issued:

```
Turn time=220000
```

The messages which occurred after 10 p.m. on the second day are listed.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
2	0	EXC0428	Input abbreviated, processing continued
	32	EXC0425	System deadlock
	64	EXC0254	CONSLOG not yet created
	64	EXC0433	Execution aborted
	130	EXC0424	Not enough memory
	130	EXC0431	Previous TURN not completed

**Note**

It is not possible to process several TURN commands at the same time.

A second TURN command will be rejected with the message:

```
EXC0431 "PROCESSING OF AN EARLIER /TURN NOT YET COMPLETED.  
        RETRY COMMAND LATER".
```

The messages of the file SYS.CONSOLE... which were output are no longer logged.

## UNLOAD-TAPE

### Unload magnetic tape or magnetic tape cartridge

This command is used to unload a magnetic tape or magnetic tape cartridge.

Operation	Operands
UNLOAD-TAPE	UNIT= { *ALL [mn1, . . . , mn10] }

<b>UNIT</b>	Specifies the devices to be unloaded.
<b>=*ALL</b>	Unloads the volumes of all tape devices which have the following attributes: <ul style="list-style-type: none"> <li>– ATTACHED or DETACH-PENDING</li> <li>– ACTION-STATE = NO ACTION</li> <li>– VOLUME-PHASE ≠ MOUNT and VOLUME-PHASE ≠ IN-USE.</li> </ul>
<b>=mn</b>	Mnemonic name of the device (2 alphanumeric characters) from which volumes are to be unloaded.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	1	NKV0001	Syntax error
4	64	NKV0004	Command partially processed
5	64	NKV0005	Command not processed for an object
6	64	NKV0006	Command not processed
2	130	NKVT002	Tape monitor unavailable

#### Note

Input/output errors are logged via message NKVT098.



## UNLOCK-DEVICE

### Cancel hardware reservations

This command cancels a hardware reservation for one or more devices.

Before issuing the UNLOCK-DEVICE command, users should ensure that no other UNLOCK attempt relating to the same device is being made from a different system. Injudicious use of this command may result in the cancellation of a reservation for a different system.

Operation	Operands
{ UNLOCK-DEVICE UNLOCK-DEV }	{ UNIT={ mn (mn1, . . . , mn16) }

#### UNIT

=mn Mnemonic device name of the hardware unit for which a device reservation is to be canceled. Up to 16 units may be specified.

#### Command return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
12	64	NKR0...	Internal check negative
16	64	NKR0...	Caller error
20	64	NKR0...	Software error

#### Note

If there is an error in command termination, the maincode contains the message code of the message output last during command processing.

**Notes**

- This command is required only for magnetic tape cartridge devices and should be issued when

- the magnetic tape cartridge device is "detached" on all other systems and an ATTACH command was rejected with the messages

```
NKR0111  DEVICE=<mn>  DEVICE ASSIGNED ELSEWHERE
NKR0044  DEVICE=<mn>  ATTACHMENT REJECTED
```

or

- it was not possible to release the hardware reservation after a DETACH/REMOVE command (message NKR0115).
- An UNLOCK-DEVICE command will be rejected if the device has the status "attached", "attach pending", "detached implicitly" or "detach pending implicitly".
- The following messages signal successful execution of the command:

```
NKR0114  DEVICE=<mn>  UNASSIGNED
NKR0102  DEVICE=<mn>  :/UNLOCK-DEVICE PROCESSED
```

## UNLOCK-DISK

### Clear system allocation log

This command causes the system allocation log (list of systems occupying disk space in the standard volume label) of a disk to be cleared of catalog IDs no longer working with the disk. For both private disks and pubsets, any file locks of the catalog ID still existing are reset. The operator is responsible for ensuring that no system is removed which is still working with the disk.

Operation	Operands
UNLOCK-DISK	$\left\{ \begin{array}{l} \text{UNIT} = \left\{ \begin{array}{l} \{mn\} \\ \{mn1, \dots, mn10\} \end{array} \right\} \\ *VOLUME \left\{ \begin{array}{l} \{vsn\} \\ \{vsn1, \dots, vsn10\} \end{array} \right\} \end{array} \right\} \left[ \left( \text{FORCE} = \left\{ \begin{array}{l} \underline{\text{NO}} \\ \text{YES, CHECK-VSN=vsn} \end{array} \right\} \right) \right]$ $\text{VOL[UME]} = \left\{ \begin{array}{l} \{vsn\} \\ \{vsn1, \dots, vsn10\} \end{array} \right\}$ $, \text{SYS[TEM]} - \text{ID[ENTIFIER]} = \left\{ \begin{array}{l} *ALL \\ *UNKNOWN \\ \text{sys-id} \\ \text{(sys-id1, \dots, sys-id16)} \end{array} \right\}$

#### UNIT

**=mn** Specifies the mnemonic device names (2 or 4 alphanumeric characters; see Notes) of one or more disks whose system allocation log is to be cleared. A maximum of 10 disks may be specified.

**=\*VOLUME(vsn)** Specifies the volume serial numbers (VSN, up to 6 characters) of one or more disks whose system allocation log is to be cleared. A maximum of 10 disks may be specified.

#### FORCE

**=NO** Before the command is executed, message `NKVD072` is issued, offering the operator the option of terminating processing.

**=YES,CHECK-VSN =vsn** Message `NKVD072` is suppressed; the option of terminating processing is not available. If a disk with the specified VSN is mounted on the specified device, the command is executed immediately.

**VOLUME**

=vsn Specifies the volume serial numbers (VSN, up to 6 characters) of one or more disks whose system allocation log is to be cleared. A maximum of 10 disks may be specified.

**SYSTEM-IDENTIFIER**

Specifies the systems for which the UNLOCK operation is to be performed.

=\*ALL Removes all foreign systems occupying disk space from the SVL. Also resets all file locks still maintained by foreign systems (for private disks, for example after SPD operation); this also applies to systems that are not stored in the SVL.

=\*UNKNOWN Resets all file locks of systems which are not entered in the SVL of the disk. This function is required if, for example, tasks of a system were not able to reset their file locks due to their abortion via CANCEL KILL and the disk was subsequently released by the system.

=sys-id Resets the allocation for the specified system in the SVL of the disk and cancels all its existing file locks. A maximum of 16 catalog IDs may be specified.

**Command return codes**

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	1	NKV0001	Syntax error
4	64	NKV0004	Command partially processed
5	64	NKV0005	Command not processed for an object
6	64	NKV0006	Command not processed
2	130	NKVD0002	Disk monitor unavailable

**Notes**

- When the UNLOCK job is processed, the operator is prompted to re-enter the VSN of the disk as confirmation of the job. This is a precautionary measure to prevent an UNLOCK operation being executed for a system that is still active. As soon as the system in question recognizes an unauthorized UNLOCK attempt, it initiates a CANCEL operation for the disk.
- For all devices, connections, etc., 2 alphanumeric characters are valid as 'mn'. Only in the case of disk devices connected to H60, H90, H120 or H130 systems are 'mn's comprising 4 hexadecimal characters (which must be specified in alphanumeric notation without X") also valid.

## Outputs for device management

The NDM information services provide the operator with certain output fields appropriate to the specified command and the desired scope of information. Information is supplied for the following commands:

SHOW-DEVICE-CONFIGURATION, SHOW-DEVICE-STATUS, SHOW-DISK-DEFAULTS, SHOW-DISK-STATUS, SHOW-MOUNT-PARAMETER, SHOW-RESOURCE-ALLOCATION, SHOW-RESOURCE-REQUESTS and SHOW-TAPE-STATUS.

Keyword	Meaning
ACTION	<p>Shows which mount operation is being performed for a volume by volume monitoring. This can have been initiated by one of the following actions:</p> <ul style="list-style-type: none"> <li>- operator intervention (inadvertently dismounting a volume that is in use);</li> <li>- commands (DETACH-DEVICE,...);</li> <li>- Device Error Recovery (DER), e.g. with INOP;</li> <li>- user request (MOUNT message for volumes that have not yet been mounted).</li> </ul> <p>The following states are possible:</p> <p>CANCELLED: Usage is permanently locked for a tape or a disk; the interrupt is not cleared.</p> <p>DISMOUNT: On another device, a REMOUNT message has not been received for the same volume, or for the same device a REMOUNT or MOUNT message has not been received for another volume.</p> <p>INOP: The device is temporarily unavailable (inoperable).</p> <p>MOUNT: The response to a MOUNT message has not been received for the relevant volume.</p> <p>NO ACTION: No interrupt.</p> <p>NO DEVICE: There no longer exists a device allocation for a volume due to a previous reconfiguration command (DETACH-DEVICE, REMOVE-DEVICE-CONNECTION).</p> <p>POSITION: A tape being used is being repositioned.</p> <p>PREMOUNT: The response to a PREMOUNT message has not been received for the relevant volume.</p> <p>RECOVER: An interrupt procedure which is not specified in more detail is being carried out for the volume in USE.</p> <p>REMOUNT: The volume is being remounted.</p> <p>SNATCHED: The allocation was passed to another task. The allocation was revoked by the device owner.</p> <p>SVL-UPDATE: The system allocation log is being stored on disk.</p>

*continued* →

Keyword	Meaning
ACTION (cont.)	<p>UNLOCK: An UNLOCK job for the removal of a system ID stored in the SVL is being executed.</p> <p>WP-MISSING: The write-enable ring for a tape is to be mounted or the write protection for a disk is to be canceled.</p>
ACCESS	<p>PPD: Specifies that the private disk is to be used in PPD mode (PPD = protected private disk; information on whether write and/or read access exists for the disk can be obtained via the PPD status information; chargeable product).</p> <p>WRITE: No PPD monitoring has been specified for the private disk.</p> <p>ALL: Only when the disk is allocated is the final ACCESS value determined as a function of the generation characteristics of the device on which the private disk is mounted:</p> <p>POOL=NO SH results in the setting ACCESS=WRITE</p> <p>POOL=SW results in the setting ACCESS=PPD</p> <p>This value is independent of the setting of the "WRITE INHIBIT" switch.</p>
ADMISSION-TIME	<p>Date and time of day at which the task entered the secure queue (yyyy-mm-dd hh:mm:ss).</p>
ALLOC	<p>Indicates whether the relevant disk is allocated or not</p> <p>YES: Disk is allocated</p> <p>NO: Disk is not currently allocated</p>
ALLOCATE-TAPE	<p>Indicates whether the system will execute the allocation of tapes already mounted without the support of the operator (without a MOUNT message).</p> <p>YES: PREMOUNT, MOUNT and REMOUNT messages are answered automatically by the system provided the tape is recognized as online.</p> <p>NO: PREMOUNT, MOUNT and REMOUNT messages must be answered by the operator.</p>
ASS-TIME/ ASSIGN-TIME	<p>SH-DISK (INF=PAR) defines the time at which a private disk in usage mode USE=DMS is allocated or released.</p> <p>SH-DISK-DEF defines the time of disk allocation or release for all disks for which this value has not been set explicitly.</p> <p>USER: A disk is allocated or released by the user.</p> <p>OPERATOR: If the disk is online and has still not been allocated by the system, allocation is initiated immediately.</p> <p>The suffix "(D)" indicates that the data was taken from the values set for the SET-DISK-DEFAULTS command.</p>

*continued* →

Keyword	Meaning
ATT[ACH]	Number of devices in the "attached" state belonging to the device type specified in the output (independent of allocation).
AVAIL	Number of devices of the device type defined in the output which are still free (available).
CONF-STATE	<p>Configuration state of the specified device, from which its availability is derived. The following states are possible:</p> <p>In the display shown in response to a SH-DEV-CONF command, this column also indicates the hardware status (with the values ON/OFF) for the device classes SIDE, STORAGE ELEMENT, CPU, IO-SIDE and CHANNEL.</p> <p>ATTACHED: The device is available to the system for input/output. ATT-PENDING: The device is not yet available to the system for input/output. DETACHED: The device is not available to the system for input/output. DET-PENDING: The device is declared unavailable for the system at the end of usage. INVALID: The device is not available to the system and cannot be reconfigured.</p>
CTL CHPID IOS SIDE	Inner virtual connection of the device to the I/O processor (IOS) via controller (CTL) and channel (CHN).
DET	Number of generated devices of the specified type which are not available as they are in the configuration state "detached".
DET-P	Number of devices of the particular type which are still required by the system for user requests and which are to assume the "detached" state after their release. Reallocation of these devices is not possible.
DEV-A	<p>Type of device allocation:</p> <p>FREE: The device is not yet allocated; it is available for allocation. DMS: The specified device is implicitly allocated by a DMS application on the private disk mounted on it. PUBLIC: The device is implicitly allocated by a public disk mounted on it. tsn: TSN of the job exclusively occupying the device. It was requested with the SECURE command (operand UNIT=), or, alternatively, the occupying job is using the allocated disk for the USE-SPECIAL application on disk devices (PHASE=IN-USE or MOUNT). DRV: The device is explicitly allocated by an action initiated by DRV.</p>

continued →

Keyword	Meaning
DEV-A (cont.)	DMS-DRV: The device is implicitly allocated by a DMS application on the private disk mounted on it as a DRV disk. PUB-DRV: The device is implicitly allocated by an imported (with IMCAT) public disk mounted on it as a DRV disk.
DEV-TYPE	Device type designation (D3480,UM1600,...)
DISK-MOUNT	Indicates whether the operator is ready to perform disk mount operations. YES: The operator is ready to execute disk mount requests. NO: Requests for the mounting of new private disks are automatically rejected by the system.
DVC	Mnemonic device name of a specified hardware unit.
CUU	Address of a path (CHN, CTL, DVC) leading to a device.
FRMT	2 or 4 Kbyte format
INNER CONNECTION	Describes the availability of the generated connections leading from the specified unit to all inner units that are directly connected to it (in the direction of CPU/TOP). The following states are possible: INCLUDED: The connection (path) is available to the system for input/output. REMOVED: The path is not available to the system for input/output. REM-PENDING: The path is declared unavailable by the system after end of usage.
LABEL	Describes the type of volume label. STD: The volume uses standard labels. BS1000: The disk uses BS1000 labels. TAPE-MARK: The tape starts with a tape mark. NON-STD: The label uses none of the above attributes.
LOCATION	Provides information on the name of a depot (eight alphanumeric characters).
MNEM	This field contains the mnemonic name of a device as defined at generation time.
NAME/ID	Provides information on the job name of the job referred to or on the user ID under which it is running.
OP-CTL/ OPERATOR- CONTROL	Specifies whether the operator wishes to be informed of new disk allocations by tasks (with the possibility of rejecting such allocation requests) (SHARE, EXCL, ALL, NO). The suffix "(D)" indicates that the data was taken from the values set for the SET-DISK-DEFAULTS command.

continued →



Keyword	Meaning
OUTER CONNECTION	<p>Describes the configuration state of the generated connections from the specified unit to all outer units directly connected to it (in the direction of the terminal).</p> <p>INCLUDED: The connection (path) is available to the system for input/output.</p> <p>REMOVED: The path is not available to the system for input/output.</p> <p>REM-PENDING: The path is declared unavailable by the system after end of usage.</p>
PAMKEY/FRMT	Specifies whether PAMKEY usage is permitted for disks.
PATH-STATE	<p>Describes the availability of a complete input/output path (from IOSIDE via CHN, CTL, SIDE to the device).</p> <p>AVAIL: path is available.</p> <p>NOT AVAIL: path is not available.</p>
PHASE	<p>Describes the monitoring mode for tapes and disks.</p> <p>ONLINE: The volume is mounted without being allocated;</p> <p>PREMOUNT: The volume is allocated; for this volume a device allocation exists for a previous or later usage.</p> <p>MOUNT: The volume is already allocated but must still be mounted by the operator.</p> <p>IN-USE: The volume is released for usage (except for ACTION=CANCELLED).</p> <p>For both of the allocation states IN-USE and PREMOUNT, volume monitoring takes place (a volume is always monitored if a valid allocation exists for it). Volume monitoring has the following functions:</p> <ul style="list-style-type: none"> <li>- it guarantees a device allocation for tapes in the PREMOUNT state;</li> <li>- it requests the operator to make a volume available again which has been allocated but is currently not accessible (INOP);</li> <li>- it instigates clearing of a NO-DEVICE state once a device of the required type becomes free;</li> <li>- it initiates automatic repositioning of tapes in the event of illegal operator intervention (e.g. unloading the wrong tape device).</li> </ul>

*continued* →

Keyword	Meaning
POOL	<p>Defines the availability of a device in relation to several systems.</p> <p>NO: This device is only available from the home system. Access to a volume mounted there is not possible from another system.</p> <p>SH[AREABLE]: This device is usually generated for several systems (device with a multiprocessor connection). A disk which is mounted on a device with this generation characteristic is operated as a shareable private disk unless otherwise specified.</p> <p>SW[ITCHABLE]: This device is usually generated for several systems.</p> <p>For disk devices, this means:</p> <ul style="list-style-type: none"> <li>- Device with a multiprocessor connection; unless otherwise specified, private volumes mounted on it are operated exclusively by the system (i.e. not in SPD mode).</li> <li>- In PPD mode only read access is authorized.</li> </ul> <p>For nondisk devices, this means:</p> <ul style="list-style-type: none"> <li>- Parallel operation is not possible because of the absence of hardware support (tape units). The operators of the systems concerned must ensure that devices with this generation characteristic are only "attached" in one system.</li> </ul>
PRE-/IN-USE	<p>Specifies the number of devices of the type defined which have been reserved implicitly by volumes of the relevant phase (PREMOUNT, MOUNT, IN-USE).</p>
RES-BY-MN	<p>Specifies the number of devices of the type concerned which a user has reserved with the command SEC-RES UNIT=mn.</p>
RES-BY-TYPE	<p>Specifies how many free devices of the type specified are needed to handle reservation and allocation requests already granted.</p>
RESOURCES REQUESTED/ COLLECTED	<p>List of devices or volumes specified with /SEC or list of devices and volumes already reserved by the collector task.</p>
RTC	<p>Specifies the routing code (one character).</p>
SIDE	<p>Specifies the SIDE number of a hardware UNIT.</p>
STATE	<p>Specifies the configuration state and the hardware state of the SIDE and the hardware units associated with it.</p>
SVL-ALLOC	<p>Actual disk allocation mode (system-shareable or system-exclusive); it does not have to conform to the presetting made by the operator by means of the command SET-DISK VOL=vsn,SYS=....</p>

*continued* →

Keyword	Meaning
SVL-RECORDING-MODE	<p>Defines the recording mode (DRV / SRV) in which the disk was last used and whether the flag indicating a recorded inconsistency is set in the SVL.</p> <p>SRV: The disk is allocated in SRV mode; data is recorded on one disk (SRV= Single Recording by Volume).</p> <p>DRV: The disk is allocated in DRV mode; data can be recorded in parallel on two disks (DRV= Double Recording By Volume)</p> <p>SRV(INCONS): The disk is allocated in SRV mode and the inconsistency flag is set in the SVL (when formatting or initializing the disk).</p> <p>DRV(INCONS): The disk is allocated in DRV mode and the inconsistency flag is set in the SVL (indicating failure of one of the DRV disks or termination by means of a command).</p>
SYSTEMS	<p>System IDs of the systems occupying the disk. Allocation is stored on the disk's SVL.</p>
SYS-ALLOC	<p>Value specifying in which mode a private disk is to be used by the home system in relation to other systems when USE=DMS applies.</p> <p>Possible operating modes:</p> <p>EXCL[USIVE]: Other systems are excluded from the use of this disk.</p> <p>SHARE[ABLE]: Other systems can also access the disk (SPD mode). Space and file usage are synchronized with the other systems; catalog locks are maintained on the disk's F1 label.</p> <p>ALL: The system allocation mode is taken from the generation characteristic of the device.</p> <p>An '(A)' following the above indicates the generation attribute of the device (ALL).</p>
TAPE-MNEMONICS	<p>Contains the devices assigned to the depot.</p>
TAPE-MOUNT	<p>Indicates whether the operator is ready to perform tape mount operations.</p> <p>YES: The operator is ready to perform tape mount operations; occupation requests for tapes not mounted lead to a MOUNT message.</p> <p>NO: Requests for the mounting of new tapes are automatically rejected by the system.</p>
TAPE-SELECT	<p>Specifies whether tapes are selected according to the BEST-GENERATED or LEAST-RECENTLY-USED values.</p>

*continued* →

Keyword	Meaning
TASKS-WITH-RESERVATIONS	List of tasks with the number of devices of the specified type occupied/reserved by them.
TIME-STAMP	Specifies the exact date and time of day at which the SVL of the disk last registered an initial allocation (date/time of day of the first system ID stored in the SVL). This time stamp is used, in addition to the VSN, for disk identification.
TIME-WEIGHT	Shows the time value specified in the START-RESOURCE-COLLECTION command.
TSK-PRIO	Priority of the relevant job.
TSK-TYPE	Informs the operator whether the task is a batch or interactive task or has been generated by RFA on the remote computer (SECURE requests were issued by another computer).
TSN	Task sequence number.
TYPE	Specifies the device type of the volume from which information is requested. The device type can be influenced not only by a user request (SECURE, FILE,...) but also by the following events:  online event: The activation interrupt assigns the volume to a device whose device type determines the device type of the volume in the event of a VSN request.  SET-DISK command: The device type is predefined before volume allocation.
UN-CLASS	Device class to which the specified unit belongs: DVC: defines an end-user device (disk, tape, printer, etc.); -S: for magnetic tape cartridge devices. SE : defines a storage element CHN : defines a channel. CTL : defines a controller. IOSIDE: defines an input/output processor with its associated channels CPU : defines a central processing unit. SIDE : defines the hardware elements belonging to a side of the duplex system
UN-TYPE	Generic term for "device type". It covers not only the set of all possible device types, but also the values of all CTL, CHN, IOP and CPU types.

*continued* →

Keyword	Meaning
UNLOAD- RELEASED- TAPE	Indicates whether tapes are unloaded following their release, provided they have not been unloaded by the user. ACCORDING-USER-REQ REGARDLESS-USER-REQ (ALL) REGARDLESS-USER-REQ (MBK) IGNORE-USER-REQ
USE	<p>Provides information on:</p> <ul style="list-style-type: none"> <li>- the usage mode in which a mounted volume is to be operated;</li> <li>- the degree of monitoring;</li> <li>- the scope of checking when assignment is performed by the monitors.</li> </ul> <p>The following values are possible:</p> <p>DMS: The volume is occupied by one or more DMS applications. Only readable volumes are accepted for allocation, i.e. disks can only be processed with an STD label, while tapes can be processed with or without an STD label as long as they are uniquely identifiable. The standard task allocation mode for USE=DMS is task-shareable for private disks and task-exclusive for tapes.</p> <p>Each operator intervention during PHASE=IN-USE results in a REMOUNT-RECOVER and, in the case of tapes, in repositioning. It is ensured that only one volume with a particular VSN is allocated in the DMS usage mode.</p> <p>SPECIAL: The volume is occupied by a special application (privileged application, e.g. VOLIN, INIT, test and debugging programs, FDDRL...). The task and system allocation mode is exclusive. Checks carried out upon allocation (VOLIN, INIT) or monitoring functions such as repositioning or MOVE (organized by online FDDRL itself) can be deactivated by the special application. There is no check to determine whether the VSN is unique.</p> <p>WORK: The tape mounted is used as a work tape (it is made available to the DMS user for the processing of work files).</p>
USER-ALLOC/ USER- ALLOCATION	Specifies which allocation requests issued by the user (task-shareable, task-exclusive, ALL) are allowed for a private disk working with USE=DMS. The suffix '(D)' indicates that the data was taken from the values set for the SET-DISK-DEFAULTS command.

*continued* →

Keyword	Meaning
VOL-A	<p>Provides information on the attributes of public disks or the types of allocation of private volumes:</p> <p>For public disks:  PAGING: The disk is part of the allocated pubset and is used for paging.  PUBLIC: The disk is part of the allocated pubset.  CANCEL: Use of the disk is canceled.</p> <p>For private volumes:  FREE: Currently no user is accessing the volume.  EXCL: The private volume is exclusively allocated to a user job.  SHARE: The private disk is already occupied by one or more jobs. Requests from other users are permitted.</p>
VSN	<p>"Name" of a volume: the volume serial number specified on initialization of a volume (VOLIN, INIT). If the volume has no readable label or if no VSN was included in the volume request, synonyms can also be output.</p> <p>The following values are possible:  &lt;vsn&gt;: The VSN of a volume specified with VOLIN or INIT.  UNKNO[WN]: The volume does not have a standard BS2000 label.  SCRAT[CH]: The volume request is not accompanied by a VSN (e.g. for tapes: FILE command without a VOLUME operand).  WORK: The tape concerned was requested with /FILE ...,DEVICE=WORK.</p>
VTOC-SYS	<p>System ID of the system which currently holds the VTOC lock for the disk and thus temporarily excludes other systems from space and catalog operations on this disk. The VTOC system is stored in the SVL of the disk.</p>
WAIT-TIME	<p>Time the specified task has waited for the release of the requested resources (hh:mm:ss).</p>

## Device and volume type tables

### Device table

- 1. = family code
- 2. = device channel class
- 3. = device type code

Device family	Family name	1.	2.	3.	Device type	Device name / product number
Operator terminals	CONSOLE	00	S	02	CON3027	3027-1, -2 3027-101, -102
				03	CON3027C	3027-11, -21 3027-111, -121 3027-LRC
			I	04	CON04	Emulated 3027 Console for CPUs with bus peripherals
				0A	CON38	3809/3886 75407-3, -4, -5
				0B	CON3803	75407-1, 3886-2, -3 (hardcopy unit on SVP)
				0C	CON3888	3888-3 Hardcopy Unit (for 3886 Subconsole) on 3803-90 Cluster Controller 75407-1
Printers	PRINTER	20	S	26	PRLS333	3337-51, 3338-51, -511, -512, 3339-51, -512, 3348-110, 3349-110
				I	2A	PRLI333
			S/I	21	STDPRINT	All other printers
Special devices	FAM50	50	S/I	51	DSVP1	SVP hard disk
			I	52	DSVP2	SVP hard disk on the C40
			S	53	TD8170	8170-21 LCC (Local Cluster Controller)
			I	54	CTRL-DEV	Control device for cache controller

Device family	Family name	1.	2.	3.	Device type	Device name / product number			
Tele-processing	TD	60	S	61	TD960	9631-1,-2,-3			
				62	ZAS-DUMP	9631-50,-51,-52,-55			
				63	ZAS-BCAM				
				6C	ZAS-SIN	TRANSDATA mainframe interface controller with connection to SINIX			
				6D	ZAS-LAN	9632-100			
				6E	DXC	3612			
			I	61	TD960	9631-1,-2,-3			
				62	ZAS-DUMP	9631-60,-61,-62,-65			
				63	ZAS-BCAM				
				64	SKP				
				6D	ZAS-LAN ZAS-FDDI	9632-200 91848-M			
			6E	DXC	3801-B				
			Physically supported devices				71 . . . . 7F	"name of exotic device"	The names are defined by ADAM. The device type code assignment takes place via the UGEN statement ADT.
			Floppy disk devices	DISKETTE	90	S	92	FD30243	3171 <sup>1)</sup>
93	FD3171	3171 with 31712 <sup>1)</sup> Option							
I	9B	FD75407				75407-2 (C40)			

- <sup>1)</sup> For these floppy disk devices, one CTL and two DVC statements (with addresses in ascending order) must be issued at system generation time.



Device family	Family name	1.	2.	3.	Device type	Device name / product number
Disk storage devices <sup>1)</sup>	DISK	80/A0				
		80	S/I	81	D3434-10	3434-10, -11, -12
				82	D3434-20	3434-20, -21
			I	85	D3409	Solid State Disk on 3409-26, -46
				89	D3490-30	3490-3A4, -3A8, -3B4, -3B8, -3BC
				8F	D3475-8F	74305-12, -13, -140, -141, -150, -151 75435
		A0	S/I	A1	D3439-10	3439-10, -12
				A2	D3436	3436, 3436-2, -10, -12
				A3	D3437	3437, 3437-2
				A4	D3438-20	3438-20, -232, -22
			I	A5	D3435	3435
				A7	D3490-10	3490-1A4, -1A8, -1B4, -1B8, -1BC
			S/I	AB	D3475	3475-1, -2, -3
			I	AC	D3480	3410 <sup>2)</sup> (ext. high-speed storage unit)
			S/I	AC	D3480	3480-1, -2, -11, -12, -111, -112 3848-A4, -B4, -AD4, -BD4
				AD	D348E	3480-21, -22 3848-AE4, -BE4
			I	AE	D348F	3480-131, -132
				AF	D3490-20	3490-2A4, -2A8, -2B4, -2B8, -2BC

- 1) For disk storage devices, one DVC statement per drive must be issued at system generation time.
- 2) For the 3410 External High-Speed Storage Unit, the DYNREC=NO operand must be given in the CTL statement.

Device family	Family name	1.	2.	3.	Device type	Device name / product number
Tape devices	TAPE	B0/ C0/ E0				Controller, + drive unit, + subsystem +
Unimodal tape devices	UNMTAPE	B0	S	B4	UM6250	3513 <sup>1)</sup> + 3557, 3559
			I	B4	UM6250	3514 <sup>1)</sup> + 3557, 3559
				B9	UMVID-1	MTC, 2.1 Gbytes, Video 8
				BA	UMSC-1	MTC, 155 Mbytes (for SIR and ARCHIVE only)
Magnetic tape cartridge devices	MBK	C0	I	C1	3580	3580-A10 + 3580-B10 3580-A20 + 3580-B20 3585-L01 3585-L02 3586-M01 3586-M02 3590-D31 3590-D32
				C2	3590	3580-A10 <sup>2)</sup> + 3580-B10 3580-A20 <sup>2)</sup> + 3580-B20 3590-D31 <sup>3)</sup> 3590-D32 <sup>3)</sup> 3590-A01 + 3590-B02/-B04 3590-A02 + 3590-B04/-B04
				C4	3590E	3590-D41 3590-D42 3590-C10 3590-C11 3590-C22 3590-A10 + 3590-B20/-B40 3590-A20 + 3590-B20/-B40

- 1) For these devices, the value MBS must be specified for the "type" operand in the CTL statement.
- 2) with 35830 Option for improved recording (IDRC, Improved Data Recording Capability)
- 3) with 35930 Option for improved recording (IDRC, Improved Data Recording Capability)

Device family	Family name	1.	2.	3.	Device type	Device name / product number
Tape devices	TAPE	B0/ C0/ E0				Controller, + drive unit, + subsystem +
Bimodal tape devices	BIMTAPE	E0	S	E2	BM1662	3513 <sup>1)</sup> + 3557, 3559
			I	E2	BM1662	3514 <sup>1)</sup> + 3557, 3559
			S	E2	BM1662	3515 + 3525 3516 + 3526 3517-1 + 3527-1 3519 + 3529 3535 + 3525 3536 + 3526 3537-1 + 3527-1
			I	E2	BM1662	3517-3 + 3527-3 3519-3 + 3529
			S	E3	BM1662S	3518 + 3528 3538 + 3528
			I	E4	BM1662S1	3506 (C40)
				E8	BM1662FS	3504-625

- 1) For these devices, the value MBS must be specified for the "type" operand in the CTL statement.

#### *Device channel classes*

- S: block multiplexer channel type 1 (SBL) or  
byte multiplexer channel type 1 (SBY)
- I: block multiplexer channel type 2 (IBL) or  
byte multiplexer channel type 2 (IBY) or  
byte multiplexer channel type 2 Extended Distance (IBO)  
emulation of multiplexer channel type 2 (bus channel)

Disk storage devices are always connected to block multiplexer channels.  
Magnetic tape devices may be connected to either block or byte multiplexer channels.

Volume type table

Volume type code	Volume type	Meaning
B2	T1600	Tapes with a recording density of 1600 bpi (device type codes: E2, E3, E4, E8)
B4	T6250	Tapes with a recording density of 6250 bpi (device type codes: B4, E2, E3, E4, E8)
B8	WORK TAPE	} Tapes with a recording density of 1600/6250 bpi
B5	TAPE-C1	
B6	TAPE-C2	18-track magnetic tape cartridge, compressed (device type code: C2)
BB	TAPE-C3	36-track magnetic tape cartridge (device type code: C4)
BC	TAPE-C4	36-track magnetic tape cartridge, compressed (device type code: C4)
B9	TAPE-V1	Magnetic tape cartridge, 2.1 Gb, Video 8 (device type code: B9)
BA	TAPE-CS1	Magnetic tape cartridge, 155 Mb (device type code: BA)

# References

[ 1] **BS2000/OSD-BC V1.0**

System Installation  
User Guide

*Target group*

BS2000/OSD system administration

*Contents*

This manual describes

- the generation of the hardware and software configuration with UGEN
- the following installation services:
  - disk organization with MPVS
  - program system SIR
  - volume installation with SIR
  - configuration update (CONFUPD)
  - utility routine IOFCOPY

[ 2] **BS2000/OSD-BC V1.0**

System Messages Volume 1  
User Guide

*Target group*

BS2000/OSD system administrators, operators and users

*Contents*

Chapter 1 deals with message processing in BS2000/OSD.

Chapter 2 contains the system messages for the basic configuration of the BS2000/OSD operating system. The messages are arranged in alphabetical order by message classes.

- [ 3] **BS2000/OSD-BC V1.0**  
System Messages Volume 2  
User Guide
- Target group*  
BS2000/OSD system administrators, operators and users
- Contents*  
This reference work contains the system messages for the basic configuration of the BS2000/OSD operating system in alphabetical order, arranged by message classes.  
Volume 2 comprises message classes LMC - WAR as well as messages from SDF and DAMP.
- [ 4] **BS2000/OSD-BC V1.0**  
System Administrator's Guide  
User Guide
- Target group*  
BS2000/OSD system administration
- Contents*  
The manual describes the measures to be taken by the system administration for the management and control of the operating system as well as the commands required for this purpose. The new edition contains a number of new functions and responsibilities, in particular for handling the caching media in BS2000/OSD.  
The manual contains the following chapters:
- System administration
  - System control and optimization
  - Data security
  - Data saving
  - Automation of system operation
  - Commands
- [ 5] **Network Management in BS2000 (TRANSDATA)**  
User Guide
- Target group*
- Network administrators
  - Network operators
  - Diagnostics and maintenance engineers
  - Ordinary users
- Contents*  
Techniques, products and commands required for network management
- Applications*  
Centralized and distributed processing with TRANSDATA

- [ 6]    **PCS V2.1A**  
(BS2000/OSD)  
Performance Control Subsystem  
User Guide
- Target group*  
BS2000/OSD system administration
- Contents*  
The manual describes how the Performance Control Subsystem (PCS) can be used to optimize the performance of a computer system in accordance with the task category concept. An introduction to the PCS philosophy is followed by detailed information on PCS operation.
- [ 7]    **Generating a Data Communication System** (TRANSDATA)  
User Guide
- Target group*  
Generators of data communication systems, network and system administrators
- Contents*  
This manual describes network generation from the DCAM and PDN viewpoints, as well as the structure and use of KOGS sources, e.g. for ISDN and LAN accesses. It also provides a detailed description of the KOGS macros and illustrates important implementations by means of tailor-made generation examples.
- [ 8]    **Network Management**  
**Messages and Halt Codes** (TRANSDATA, BS2000, PDN)  
User Guide
- Target group*  
Operators, system administrators, programmers of the TRANSDATA data communication system
- Contents*  
The manual is divided into two chapters, "Messages" and "Halt codes". The messages are output during the system operation and provide information on the current status of the system. The halt codes provide information on software halts in communication computers.

- [ 9]    **JV V11.0A**  
          (BS2000/OSD)  
          Job Variables  
          User Guide
- Target group*  
          BS2000/OSD users (both privileged and nonprivileged)
- Contents*  
          The manual describes the use of the software product JV (Job Variables). It contains descriptions of the commands and macros for JV management and conditional job control.
- [10]    **MSCF (BS2000)**  
          **Multiprocessor System**  
          User Guide
- Target group*  
          – BS2000 system administrators  
          – Operators  
          – End users
- Contents*  
          Generation, operation, management and application of MSCF for processors to be included in a computer network
- Applications*  
          – System management  
          – Computer center  
          – Network participation
- [11]    **BS2000/OSD-BC V1.0**  
          Executive Macros  
          User Guide
- Target group*  
          BS2000/OSD assembly language programmers
- Contents*  
          The manual contains a summary of all Executive macros, detailed descriptions of each macro with notes and examples, including job variable macros, and a comprehensive general training section.



- [12] **RSO V2.2A**  
(BS2000/OSD)  
Remote SPOOL Output  
User Guide
- Target group*  
Nonprivileged users, RSO device administrators and system administrators of BS2000/OSD
- Contents*  
The manual describes the functions and options of the three user groups with respect to utilizing and controlling RSO printers and deals with the technical characteristics of all RSO printers, the RSO-relevant commands, the utility routine RSOSERVE and the RSO messages.
- [13] **SPOOL V2.7A**  
(BS2000/OSD)  
Part 1, System Description  
User Guide
- Target group*  
BS2000/OSD users, system administrators and RSO device administrators
- Contents*  
The manual describes SPOOL V2.7A operation with the available commands, macros, system exits and system messages. Working with printers and data media is also dealt with. The SPOOLAPA V1.0A and RSO V2.2A extensions are also included in the description.
- [14] **SPSERVE V1.7A**  
(BS2000/OSD)  
User Guide
- Target group*  
BS2000/OSD users, system administrators and RSO device administrators
- Contents*  
The manual describes the SPSERVE utility routine with all statements for the generation and maintenance of SPOOL parameter files, as well as the SPSINF macro and the SPSEVERE messages. All extensions relating to SPOOL V2.7A, SPOOLAPA V1.0A and RSO V2.2A are included.

- [15] **B2000/OSD-BC V1.0A**  
Computer Center Utility Routines  
User Guide
- Target group*  
BS2000/OSD system administration
- Contents*  
The manual contains descriptions of the utility routines CONDMPPD, DPAGE, INIT, JMU, LMSCONV, MSGMAKER, PDPOOLS, PVSREN, RFUPD, SPCCNTRL, SODA and VOLIN.
- [16] **BS2000/OSD-BC V1.0**  
User Commands (SDF Format)  
User Guide
- Target group*  
Nonprivileged BS2000/OSD users (privilege STD-PROCESSING)
- Contents*  
This manual contains all BS2000/OSD commands available to the nonprivileged user in the basic configuration of BS2000/OSD. The user is given hints on command input in interactive and batch mode. The appendix contains, among other things, notes on SDF-P. The manual describes BS2000/OSD-BC V1.0.
- Further products discussed include:
- SDF V3.0A
  - SDF-P BASYS V1.0B
  - SPOOL V2.7A
  - RSO V2.2A
  - JV V11.0A
  - RFA V11.0A
  - FT V5.0A
- [17] **SDF-P V1.0B**  
(BS2000/OSD)  
User Guide
- Target group*  
BS2000/OSD users and system administrators
- Contents*  
The software product SDF-P is a procedure language expanding the BS2000/OSD command language into a programming language. SDF-P supports structured programming. SDF-P V1.0B can be used in BS2000 V10.0A and BS2000/OSD-BC V1.0.

- [18] **BS2000/OSD-BC V1.0**  
System Operator's Guide  
User Guide

*Target group*

This manual addresses operators at installations of the BS2000/OSD operating system.

*Contents*

It describes the operator's functions and responsibilities as well as the commands available for this purpose at the operator terminal. The following items are dealt with:

- System initialization and termination (startup types, shutdown)
- Commands in alphabetical order
- Device management (reconfiguration, resource allocation, volume monitoring, NDM handling, duplex reconfiguration)
- Tools and methods for facilitating system operation
- Memory dumps (SLED)
- Messages and responses in the event of saturation states

- [19] **BS2000/OSD-BC V1.0**  
DMS Introductory Guide and Command Interface  
User Guide

*Target group*

All BS2000/OSD users

*Contents*

The manual describes the DMS command interface with the functionality of BS2000/OSD-BC V1.0. An introductory part and access-method-oriented sections are followed by descriptions of the DMS commands in SDF format.

- [20] BS2000  
**Systemübersicht \***  
Technische Beschreibung  
(System Overview, Technical Description)

*Target group*

- BS2000 users with an interest in the technical background of their systems (software engineers, systems analysts, computer center managers, system administrators)
- Computer scientists interested in studying a concrete example of a general-purpose operating system

*Contents*

- Characteristics of BS2000 (application and performance features, interfaces, resources, internal structure and execution sequences)
- Possible hardware configurations
- BS2000 subsystems (nucleus, Data Management System, job management system, programming system, Data Communication System, transaction monitor, system management, service system)

*Order number*

U3210-J-Z53-1

- [21] BS2000  
**Nucleus**  
Technical Description

*Target group*

- BS2000 users with an interest in the technical background of their systems (software engineers, systems analysts, computer center managers, system administrators)
- Computer scientists interested in studying a concrete example of a general-purpose operating system

*Contents*

- Hardware functions and HSI (Hardware-Software Interface)
- Functions and principles of implementation of
  - the hardware drivers
  - process management
  - address space and paging
  - the I/O system
  - error recovery and reconfiguration
  - PCS (Performance Control Subsystem)

*Order number*

U3211-J-Z53-1-7600

- [22] BS2000  
**Datenverwaltungssystem \***  
Technische Beschreibung  
(Data Management System, Technical Description)

*Target group*

- BS2000 users with an interest in the technical background of their systems (software engineers, systems analysts, computer center managers, system administrators)
- Computer scientists interested in studying a concrete example of a general-purpose operating system

*Contents*

Functions and principles of implementation of

- the DMS services
- memory management
- file management
- the access methods
- data protection

*Order number*

U3212-J-Z53-1

- [23] BS2000  
**Auftragsverwaltungssystem \***  
Technische Beschreibung  
(Job Management System, Technical Description)

*Target group*

- BS2000 users with an interest in the technical background of their systems (software engineers, systems analysts, computer center managers, system administrators)
- Computer scientists interested in studying a concrete example of a general-purpose operating system

*Contents*

Functions and principles of implementation of

- the job management system
- the multiprocessor system
- the job variable system
- SPOOL
- the accounting system

*Order number*

U3213-J-Z53-1

[24] BS2000

**Datenkommunikationssystem \***

Technische Beschreibung

(Data Communication System, Technical Description)

*Target group*

- BS2000 users with an interest in the technical background of their systems (software engineers, systems analysts, computer center managers, system administrators)
- Computer scientists interested in studying a concrete example of a general-purpose operating system

*Contents*

Functions and principles of implementation of

- BCAM (Basic Communication Access Method)
- DCAM (Data Communication Access Method)
- TIAM (Terminal Interactive Access Method)
- RBAM (Remote Batch Access Method)
- VTSU-B (Virtual Terminal Support Basic)

*Order number*

U3214-J-Z53-1

[25] BS2000

**Programmiersystem \***

Technische Beschreibung

(Programming System, Technical Description)

*Target group*

- BS2000 users with an interest in the technical background of their systems (software engineers, systems analysts, computer center managers, system administrators)
- Computer scientists interested in studying a concrete example of a general-purpose operating system

*Contents*

Functions and principles of implementation of

- the linkage editor
- the static loader
- the Dynamic Linking Loader
- the debugging aids
- the program library system

*Order number*

U3216-J-Z53-1

- [26] BS2000  
**Systemadministration** \*  
Technische Beschreibung  
(System Management, Technical Description)

*Target group*

- BS2000 users with an interest in the technical background of their systems (software engineers, systems analysts, computer center managers, system administrators)
- Computer scientists interested in studying a concrete example of a general-purpose operating system

*Contents*

Functions and principles of implementation of

- static loading (UGEN - Universal GENERator, SIR - System Install and Restore)
- dynamic loading (startup, DLL - Dynamic Linking Loader, DSSM - Dynamic SubSystem Management)
- a monitoring system (SM2 - Software Monitor 2)
- software diagnosis (SLED - Self-Loading Emergency Dump routine, CDUMP, SODA, SODUMP, trace manager)
- hardware diagnosis (TDP - Test and Diagnosis Program)
- system termination (shutdown, crash)

*Order number*

U3217-J-Z53-1

- \* available in German only

# Contents

<b>Preface</b>	<b>1</b>
Target group	1
Changes to the ISP commands since BS2000 V10.0A	2
Table of changes	2
Notational conventions	4
Metasyntax used in command descriptions	4
Wildcards	6
<b>Operator commands</b>	<b>7</b>
Command return code	8
Overview of operator commands	12
<b>ADD-DEVICE-DEPOT</b>	
Define assignment of tape device to depot	25
<b>AGOGO</b>	
Continue command file	28
<b>ASR</b>	
Assign routing code	29
<b>ASTOP</b>	
Stop command file	40
<b>ATTACH-DEVICE</b>	
Attach hardware units	41
<b>BCACT</b>	
Activate cluster controller and terminal	44
<b>BCAPPL</b>	
Activate/deactivate application	49
<b>BCASP</b>	
Change network access to a processor	51
<b>BCCONN</b>	
Clear down connections	53
<b>BCCONP</b>	
Propose connection to application	55
<b>BCDAC</b>	
Deactivate processor	56
<b>BCDISP</b>	
Request information from BCAM	59



BCEND	
Terminate DCM in host . . . . .	64
BCGEN	
Change processor name . . . . .	66
BCIN	
Include processor definition in BCAM data structure . . . . .	68
BCMAP	
Control BCAM mapping function . . . . .	74
BCMOD	
Modify limit values defined in DCSTART . . . . .	82
BCMON	
Start BCAM monitoring . . . . .	86
BCOPTION	
Modify operating options . . . . .	90
BCOUT	
Close application groups . . . . .	92
BCSET	
Set diagnostic and maintenance parameters . . . . .	96
BCSHOW	
Display information . . . . .	104
BCSWP	
Switch port . . . . .	109
BCTIMES	
Modify time intervals for message monitoring . . . . .	110
BCXAF	
Administer BCAM XAF function . . . . .	113
BIAS	
Define size of resident main memory . . . . .	116
BROADCAST	
Send message to all active user tasks . . . . .	117
CANCEL	
Cancel user job . . . . .	118
CATEGORY	
Control workload distribution . . . . .	121
CHANGE-CONSLOG	
Change logging file . . . . .	123
CHANGE-DISK-MOUNT	
Lock access to private disk . . . . .	124
CHANGE-SERSLOG	
Change SERSLOG file . . . . .	127
CHANGE-TAPE-MOUNT	
Change mount state of tape . . . . .	128
CHECK-DISK-MOUNT	
Check mount state . . . . .	130

CHECK-TAPE-MOUNT	
Check mount state . . . . .	132
CONSOLE	
Assign standby operator terminals . . . . .	134
DADM	
Activate/deactivate display terminals or output messages . . . . .	137
DCSTART	
Start data communication system in host . . . . .	138
DETACH-DEVICE	
Detach hardware units . . . . .	148
ENTER	
Submit batch job . . . . .	152
EXCAT	
Export pubset . . . . .	163
GETJV	
Output value of job variable . . . . .	167
HELP	
Display message text . . . . .	169
HOLD-JOB	
Place user job in wait state . . . . .	171
HOLD-JOB-CLASS	
Place job class in wait state . . . . .	172
HOLD-JOB-STREAM	
Place job stream in wait state . . . . .	173
HOLD-PCS	
Place PCS in wait state . . . . .	174
HOLD-SS	
Place subsystem in wait state . . . . .	175
IMCAT	
Import pubset . . . . .	177
INCLUDE-DEVICE-CONNECTION	
Attach virtual connections . . . . .	182
INTR	
Activate interrupt routine of a loaded program . . . . .	184
MESSAGE	
Send message to specific user job . . . . .	185
MODIFY-CONSOLE-OPTIONS	
Modify screen format . . . . .	187
MODIFY-JOB	
Modify characteristics of user job . . . . .	191
MODIFY-JOB-CLASS	
Modify job class characteristics . . . . .	195
MODIFY-JOB-STREAM	
Modify job stream characteristics . . . . .	197

MODIFY-MOUNT-PARAMETER	
Set default values for mounting and dismounting . . . . .	198
MODIFY-PCS-OPTION	
Modify activated PCS parameter set . . . . .	202
MODIFY-RESOURCE-COLLECTION	
Control collector selection . . . . .	204
MRSEND	
Terminate network participation . . . . .	206
MRSMOD	
Reconfigure MSCF network . . . . .	207
MRSSTA	
Request information on MSCF configuration . . . . .	210
MRSSTART	
Activate MSCF communication . . . . .	212
MSGCONTROL	
Activate/deactivate message files . . . . .	214
NCHOLD	
Place batch task in wait state . . . . .	216
NCREL	
Releases batch task from wait state . . . . .	217
PRIORITY	
Modify priority of job or task . . . . .	218
RDIR	
Redirect outputs to another printer . . . . .	220
RELEASE-JOB	
Cancel wait state of user job . . . . .	224
RELEASE-JOB-CLASS	
Cancel wait state for job class . . . . .	225
RELEASE-JOB-STREAM	
Cancel wait state of job stream . . . . .	226
REMARK	
Insert comment into RUN files . . . . .	227
REMOVE-DEVICE-CONNECTION	
Clear virtual connections . . . . .	228
REMOVE-DEVICE-DEPOT	
Cancel assignment of tape device to depot . . . . .	232
RESET-MESSAGE-SUPPRESSION	
Cancel message suppression . . . . .	233
RESUME-PCS	
Cancel wait state for PCS . . . . .	235
RESUME-SS	
Cancel wait state for subsystem . . . . .	236
RFD	
Read floppy disk . . . . .	238

RUN	
Start command file . . . . .	242
SDVC	
Direct spoolout jobs to specific device . . . . .	243
SET-DISK-DEFAULTS	
Define default values for disk parameters . . . . .	268
SET-DISK-PARAMETER	
Set default values for monitoring disks . . . . .	270
SET-DSSM-OPTIONS	
Control logging for DSSM . . . . .	276
SETJV	
Set value of user job variable . . . . .	278
SET-MESSAGE-SUPPRESSION	
Suppress console messages . . . . .	281
SET-RESTART-OPTIONS	
Control automatic restart . . . . .	283
SHOW-CJC-STATUS	
Output information on CJC functions . . . . .	284
SHOW-CONSLOG	
Request information on logging . . . . .	288
SHOW-CONSOLE-OPTIONS	
Display screen parameters . . . . .	289
SHOW-DEVICE-CONFIGURATION	
Request information on configuration . . . . .	290
SHOW-DEVICE-DEPOT	
Query assignment of tape devices to depots . . . . .	294
SHOW-DEVICE-STATUS	
Request allocation and monitoring information on devices . . . . .	296
SHOW-DISK-DEFAULTS	
Request default values for disk parameters . . . . .	301
SHOW-DISK-STATUS	
Request disk allocation and parameters . . . . .	302
SHOW-MESSAGE-SUPPRESSION	
Request information on message suppression . . . . .	306
SHOW-MOUNT-PARAMETER	
Request mount presettings of disks and tapes . . . . .	308
SHOW-PCS-OPTION	
Request information on PCS operand settings and monitored values . . . . .	309
SHOW-PUBSET-ATTRIBUTES	
Display overview of pubset attributes . . . . .	310
SHOW-RESOURCE-ALLOCATION	
Request task allocations and outstanding operator actions . . . . .	312

SHOW-RESOURCE-REQUESTS	
Request information on secure queue and collector task . . . . .	314
SHOW-RESTART-OPTIONS	
Request information on automatic restart . . . . .	316
SHOW-SERSLOG	
Request information on software error logging . . . . .	317
SHOW-SS-STATUS	
Request information on subsystem status . . . . .	318
SHOW-TAPE-STATUS	
Request information on tape allocation and monitoring . . . . .	320
SHOW-TRACE-STATUS	
Output information on system traces . . . . .	323
SHUTDOWN	
Terminate session . . . . .	328
SQUC	
Control spoolout jobs . . . . .	331
STAM	
Request information on pubset . . . . .	335
START-JOB-STREAM	
Start job stream . . . . .	346
START-PCS	
Activate PCS . . . . .	347
START-RESOURCE-COLLECTION	
Start collector selection . . . . .	348
START-SERSLOG	
Activate software error logging . . . . .	349
START-SS	
Activate subsystem . . . . .	350
START-TRACE	
Activate trace . . . . .	353
STATUS	
Request information on system and jobs . . . . .	356
STOP-JOB-STREAM	
Terminate job stream . . . . .	372
STOP-PCS	
Deactivate PCS . . . . .	373
STOP-RESOURCE-COLLECTION	
Stop collector selection . . . . .	374
STOP-SERSLOG	
Deactivate software error logging . . . . .	375
STOP-SS	
Deactivate subsystem . . . . .	376
STOP-TRACE	
Deactivate trace . . . . .	378

TURN	
Output logging file . . . . .	380
UNLOAD-TAPE	
Unload magnetic tape or magnetic tape cartridge . . . . .	384
UNLOCK-DEVICE	
Cancel hardware reservations . . . . .	385
UNLOCK-DISK	
Clear system allocation log . . . . .	387
<b>Appendix . . . . .</b>	<b>389</b>
Outputs for device management . . . . .	389
Device and volume type tables . . . . .	399
<b>References . . . . .</b>	<b>405</b>

# BS2000/OSD-BC V1.0

Operator Commands (ISP Format)



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