

Control commands start with a mnemonic of three letters, followed by one space, possibly followed by one or more parameters.

The parameters are positional and separated by commas.

No additional spaces are allowed.

When the commands are entered via the typewriter, each command must be terminated with **CR LF**.

Some of the parameters have a fixed meaning:

<userid> is the user identification, a string of 1 to 8 alphanumeric characters, not starting with / (slash). The first character must be a letter.

<name> is a file name or object module name of 1 to 6 characters, not starting with / (slash), or a numeric character.

/<disc number> or /FX is one of the file codes F0 to FF (see File Codes).

Each time the system wants a new control command it will type out S: After that, the control command may be typed in by the user.

It is possible to add a comment statement after the last parameter of a command. It must be separated from the command by at least one space. On the following pages the control commands are listed in alphabetical order, according to their mnemonics.

They are followed by the processor calls, which are used in the same manner.

In the syntax descriptions, Backus Normal Form is used for the notation, i.e.:

- | means: or
- [] means: optional component; any or all items within these brackets may be omitted: [+ -]<integer> can mean +<integer>, -<integer>, or <integer>.
- { } means: alternative components; one of the items within these brackets must be selected: [+ -] 426 can mean +426 or -426.
- <> means: these brackets contain a syntactic item.
- means: one space.

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Command	Meaning	Page
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syntax ASG `[/< file code 1> [, /< file code 2> | ,< device name>] [,< name> [,<userid> [,<disc number> [,NP]],NP]]]`

use: This command is used to assign a file code to a peripheral unit, a disc file or a temporary area on disc.
The parameters have the following meaning:
 <file code1>: file code which is to be assigned.
 <file code2>: if this parameter is used, the assignment previously made for this file code has to be made for the first one (<file code1>) also. As a result the assignments for the two file codes specified will be equated.
 <device name>: if this parameter is used, <file code1> is assigned to the peripheral unit specified here by two characters for the unit type and 2 hexadecimal digits for the address. If the device is the disc, only DK need be specified, without address.
 <name>: this parameter is used only when DK is specified for <device name>. It specifies the name of the library file to which the file code must be assigned. If DK is used without this parameter, the file code will be assigned to a temporary disc area.
 <userid>: this parameter is used only when <name> is specified. With <disc number>, it allows assigning a file code to a file in another user's library on the disc specified. The file will be set to write-protected, unless the parameter NP is specified, in which case it will not be protected, to allow writing on a file of a different <userid>.

If the file code to be assigned has already been assigned previously, the old assignment is deleted.

Note:

As mentioned previously, file codes 01 to 09 and D0 to FF are reserved for the system or have standard assignments. The following restrictions apply, however:

- file code 01 cannot be assigned
- file codes 02 to 09 can be assigned only to non-disc devices.
- file codes D0 to DF cannot be assigned.
- file codes E0 to EF cannot be assigned to a disc file.
- file codes F0 to FF cannot be assigned.

errors: FILE CODE ERROR (1st parameter)
 2nd FILE CODE ERROR
 DEVICE UNKNOWN
 TOO MANY PARAM
 DEVICE NAME MISSING (2nd parameter)
 FILE CODE NOT ASSIGNED (2nd file code)
 FCT OVERFLOW (file code table overflow)
 FILE CODE ABSENT
 FILE NAME ERROR
 USERID ERROR
 INVALID FILE CODE
 USERID UNKNOWN
 DEVICE NAME ERROR
 DEVICE ADDRESS ERROR
 I/O ERROR (encountered during a read/write to/from disc)
 LFT OVERFLOW (disc logical file description table overflow)
 FILE NAME UNKNOWN
 DISK OVERFLOW (no free granule available to allocate to the temporary disc file)
 TOO MANY FILE CODE EQU (more than 7 file codes have been assigned to the same disc file)

BYE**END OF SESSION****BYE****syntax:** BYE[BYE[,<DNDA>]]

use: In *batch processing mode*, this command indicates the end of the job and the system looks for the following job; if the parameter BYE is also specified, the system will switch from batch processing to conversational mode. If, in this case, <DNDA> (device name + device address) is also specified, this becomes the new assignment for file code /E0.

In *conversational mode*, the user must give this command at the end of the session to indicate that he is leaving the system; the system is re-initialized and will again ask for identification in order to start a new session, unless the parameter BYE is also specified, in which case the system will switch to batch processing mode and automatically start reading the job control commands (on the card or punched tape reader).

DCU**DECLARE USER****DCU****syntax:** DCU[userid],/<disc number>

use: This command can only be used in a system session, i.e. when the user gives, at the start of the session, the user identification SYSTEM. Then, through this command, a new user identification is added to the Catalogue of the disc specified. A directory granule is allocated to this user and initialized with /FFFF. An entry for this user is filled in the Catalogue. The allocation table is updated.

errors: INVALID USERID (the user identification does not start with a letter)
 USERID ABSENT (no parameter is given in the command)
 INVALID FILE CODE (the disc number cannot be a disc file code, for it is not in the range from /F0 to /FF)
 DISK FILE CODE ABSENT (the disc file code is not present in the command)
 DISK NOT OPERATIONAL (the disc unit is not ready)
 USERID ALREADY CATALOGUED (the userid specified has already been catalogued previously on the disc specified)
 CATALOG OVERFLOW (too many userids have been catalogued on the disc specified)
 DISK I/O ERROR (an I/O error has been detected during a read/write operation to/from disc)
 DISK OVERFLOW (no free granule is available to be allocated to the userid directory)
 TOO MANY PARAM (an illegal parameter follows the disc number)
 COMMAND NOT ALLOWED (the current session is not a SYSTEM session)
 DISK FILE CODE UNKNOWN (the specified disc file code has not been declared at SYSGEN or the generated system does not contain the disc specified).

DEL**DELETE FILE****DEL****syntax:** DEL<name>[/OB][,/S]/O/L]]

use: This command is used to delete a file or object module from a library. <name> indicates the name of the file or module. /OB indicates that the whole object file of the library must be deleted. If /OB is used, /S, /O or /L may not be specified. /S, /O and /L specify the type of file: source, object or load. When <name> is used as the first parameter and no second parameter is specified, the type of file is UF (user file). If a /S, /O or /L file is to be deleted, this must be specified in the second parameter.

When <name> is used with /S or /L, a check is made on the types source or load to find the file which is to be deleted.

When <name> is used with /O, <name> is considered as being an object module in the object library.

errors: PARAM ERROR *When DEL /O is given the user object directory OBDIR is regenerated (see POD command).*

INVALID PARAMETER
MISSING PARAMETER
FILE NOT CATALOGUED
I/O ERROR
TOO MANY PARAM
ERROR ASSIGN
PROGRAM NOT CATALOGUED

DLU**DELETE USER****DLU****syntax:** DLU<userid>./<disc number>

use: This command can only be used in a system session, i.e. when the user gives, at the start of the session, the user identification SYSTEM. By means of this command, the user specified is deleted from the disc specified. <userid> specifies the user to be deleted.

/<disc number> gives the file code of the corresponding disc.

The corresponding entry in the Catalogue, the directory granule and all the granules of the library files are released and the allocation table of the disc is updated.

The DLU command may not be used to delete the first user on the disc with disc number /F0 (SYSTEM).

errors: COMMAND NOT ALLOWED (the current session is not a SYSTEM session)

USERID ERROR (the first parameter is not a userid)

USERID MISSING (no parameter is given)

DISK FILE CODE ERROR (the second parameter is not numeric)

DISK FILE CODE MISSING (no disc address specified in the command)

INVALID DISK FILE CODE (the value of the second parameter is not in the range from /F0 to /FF)

DISK FILE CODE UNKNOWN (the on-line system does not contain the specified disc)

DISK NOT OPERATIONAL (the disc unit is not ready)

TOO MANY PARAM (more than two parameters specified in the command)

USERID NOT CATALOGUED (the specified userid has not been catalogued on the disc specified)

I/O ERROR IN CATALOG (an I/O error has been detected during a read or write operation in the catalogue)

DISK I/O ERROR (an I/O error has been detected during the de-allocation of the user files).

DUF**DUMP FILE****DUF**

syntax: DUF[/<file code>| /O| /L| <name>] [, <sect.nb1>] [, <sect.nb2>]]

use: This command is used to get a hexadecimal dump on the print unit of a library file or a file with a file code or a disc at physical level (/FX)
 <file code>: file code of the file which must be dumped.
 <name>: name of a library file which must be dumped. This is a user file of the type UF.

/O and /L cause dumping of the object and load files respectively. This is mainly useful for system debugging purposes.

It is also possible to get a selective dump by specifying two sector numbers, <sect.nb1> and <sect.nb2>, as the beginning and ending sectors of the dump. A dump is made up to an EOF record, up to End-Of-Volume (last granule) or <sect.nb2>. The <sect.nb.> is a disc sector logical address.

Users must be careful about the position of the file after a DUF command. For a sequential file, they must rewind it before using it again. This means that the following command sequence will give an error:

```
ASM /S
DUF /O
LKE
```

After assembly, the sequential /O file is positioned to the next free sector of the file, but when a DUF command is executed, it is positioned to the last dumped sector, in random mode. This means that the EOF record written by the system when the LKE command is encountered does not immediately follow the object code and the result will not be correct. The command sequence should be as follows:

```
ASM /S    or:  ASM /S
LKE              KPF /O
DUF /O          DUF /O
                LKE
```

The DUF command must normally be performed only after the completion of execution of a job step.

errors: FILE NAME ERROR
 FILE NAME MISSING
 FILE CODE ERROR
 INPUT FILE ASSIGN ERROR (followed by a message giving the reason for the error)
 FILE CODE NOT ASSIGNED
 DISK NOT OPERATIONAL
 TOO MANY PARAM
 PARAM ERROR (error in sector number)
 I/O ERROR (an I/O error has been encountered while reading the disc file)
 SECTOR DELETED

END**END CATALOGUED PROCEDURE****END**

syntax: END

use: This command must be specified by the user at the end of a catalogued procedure to indicate its termination to the system (see page 23). This implies that the user cannot define a procedure named END, nor can he use any other CCI command name for a catalogued procedure.

INC**INCLUDE OBJECT MODULE****INC**

syntax: INC[**/OBJECT**]**<name>**][**,<userid>**][**,<disc number>**]

use: By means of this command it is possible to select an object module from the library of the current (**<userid>**) or another (**<userid>**,**<disc number>**) user and to copy it in the temporary file **/O**.

<name> is the name of the object module which is to be included.

<userid> is to be used only if this object module is to be searched in the library of a user other than the current one.

If **/O** (temporary object file) exists, but has not been terminated by an EOF yet, this module is written at the end of this file.

If **/O** exists and has already been terminated with an EOF, this file is lost and a new assignment is made for a new **/O**.

If **/O** does not exist, an assignment is made for it and this module will be the first one of this new **/O**.

When the module has been copied, no EOF is written. Thus, it is possible to use this command several times, mixed with RDO commands and language processor calls to build a **/O** file.

Note:

- If **/OBJECT** is specified, the whole object library will be copied onto **/O**.
- When filling the **/O** file, no RDO, ASM or FRT command must appear after an INC command.

It may only be followed by another INC command.

errors: MISSING PARAMETER
 PARAM ERROR
 ERROR ASSIGN
 UNKNOWN USERID
 NO OBJECT LIBRARY
 INVALID NAME
 PROGRAM NOT CATALOGUED
 I/O ERROR

JOB**START JOB****JOB**

syntax: JOB[**<userid>**]**/<disc file code>**,**<userid>**]

use: This command is used to define the beginning of a new batch. When it is encountered, the system will automatically switch to batch processing mode and implicitly close the preceding session, if any.

If **<userid>** only is specified, the system will scan the catalogue of each on-line disc, starting with disc unit **/F0**, until it finds the user identification specified.

If **/<disc file code>**,**<userid>** is specified, the system will look for the user identification only on the disc of which the file code is specified.

KPF**KEEP FILE****KPF**

syntax: KPF[/*S*]/*O*]/*L*]/<file code>][,<name>]

use: This command is used to keep a file or module, which has previously been created as temporary, in a library, i.e. to make this file or object module permanent.

S, *O*, *L* specify the type of the file which is to be kept.

<file code> is the file code of the file which is to be kept.

<name> is the name which is to be given to this file in the library and which will be placed in the directory.

If the first parameter is *S*, the file will be of the type source. If <name> is not specified, *S* is assumed to contain a source program of which the name can be found in its IDENT statement. Otherwise the name specified is taken as the file name. In case a file of the same name and type already exists in the library, it is deleted.

If the first parameter is *L*, <name> must be specified. An old file of the same name and type will be deleted, as with *S*.

If the first parameter is <file code>, <name> must be specified. An old file with the same file code will be deleted. Of course, <file code> must apply to a file which has previously been created as temporary.

If the first parameter is *O*, <name> is optional. If it is not specified, all object modules of the *O* file must be kept in a library, otherwise only the module <name> will be kept. Keeping object modules implies copying them from the *O* file onto the user object file. If any modules of the same name already are included in the existing object file, they will be deleted by the system setting the 'sector deleted' flag in the sectors containing these modules. If possible, the copying is done in the same physical area which the deleted modules occupied previously.

errors: PARAM ERROR
 INVALID PARAMETER
 MISSING PARAMETER
 DIRECTORY OVERFLOW
 FILE EMPTY
 I/O ERROR
 IDENT MISSING
 FILE CODE NOT ASSIGNED
 FILE ALREADY CATALOGUED
 MODULE UNKNOWN
 DISK OVERFLOW
 FILE OVERFLOW
 ASSIGN ERROR

When KPF /O is given, the system generates a user object directory, the layout of which is described under the CCI command POD. Note: Any NOD commands in the /O file will be ignored.

LIC**LIST CATALOGUE****LIC****syntax:** LIC[/<disc number>]

use: This command can only be used in a system session, i.e. when the user gives, at the start of the session, the user identification SYSTEM. It provides for printing out the catalogue of the disc specified on the typewriter.
/<disc number> gives the file code of the disc of which the catalogue must be listed.

errors: SYSTEM SESSION COMMAND
PARAM MISSING
PARAM ERROR
FILE CODE NOT ASSIGNED

LSD**LIST DIRECTORY****LSD****syntax:** LSD[/OB]

use: This command provides for a listing of the directory of the user library on the typewriter.
If /OB is specified, only the names of the modules of the object file are listed.

errors: PARAM ERROR
NO OBJECT FILE CATALOGUED

LSF**LIST FILE CODES****LSF****syntax:** LSF

use: When this command is given, a list is output on file code 1 of all the assigned file codes and the devices corresponding to them.

LST**LIST FILE****LST**

syntax: LST[<file code>|/S]/S,<name>[<name>]],<line nb1>[,<line nb2>]]

use: This command causes a listing of the specified disc file on the operator's typewriter. The file must be sequential and consist of ASCII records. If a record is longer than a print line it will be printed on several lines.

The file can be either:

- a catalogued source file: /S,<name>
- a catalogued user data file: <name>
- a temporary data file: <file code>
- the temporary source file: /S.

<line nb1>,<line nb2> if specified provides for a listing of the file from the first line number to the second line number specified.

The maximum record size allowed is 80 characters. Records which are longer will be truncated. Non-printable record characters will be replaced by spaces and trailing blanks will be removed. The listing will stop when either <line nb2>, an EOF or End-Of-Volume (the last granule of the file) is reached. End-Of-Volume occurs when no EOF has been written for this file, which normally is the case for temporary files created by a program in the debugging phase. After the listing, the file is positioned at the last record listed.

errors: FILE NAME ERROR (the first parameter is neither /S nor a file code nor a character string)

FILE NAME MISSING

LINE NUMBER ERROR

TOO MANY PARAM

INPUT FILE I/O ERROR

OUTPUT FILE I/O ERROR

FILE CODE ERROR

OUTPUT NOT ASSIGNED (/02 is assigned to NO device or has not been assigned at all)

INPUT FILE CANNOT BE ASSIGNED (the system has to assign a temporary work file to the file which must be listed but this turns out to be impossible. A message will follow explaining the error).

EOV ON INPUT FILE, MOUNT NEW TAPE THEN RESTART (the input file code is assigned to a magnetic or cassette tape and its end-of-volume is encountered before the whole file has been listed. To continue the operation, the operator must mount the next tape or turn over the cassette and restart the program. The EOV mark is not considered as a record, so it is not listed).

