

**Summary of Commands for CSIRONET Terminals  
and the Subsystems of CYI**

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**Division of Entomology Report No. 10**

**Commonwealth Scientific and Industrial  
Research Organization, Australia  
April 1980**

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This *Summary* has been written to provide a quick reference for the user of CSIRONET terminals and the subsystems ED, USEQS, EVAL, CY76, and CIO of the Cyber 76 host of CSIRONET. It is not intended to be fully explanatory: complete information is available in the *CSIRONET Users' Reference Manual*. References to that *Manual* are indicated by the symbol §.

An ED box program is available which will run a job to provide users with a copy of this *Summary* on 35 mm film. The film is suitable for enlargement up to 500 × 400 mm. The program may be run with the commands U;CETXXX;[;CYI,;\$

Logging In and Out § 2.5

- \*CYI, *pid/pidpw, uid/uidpw, nd, sys, text*  
 Establish an interactive connection to the Cyber 76 interactive system.  
*pid* is a 6 character project ID.  
*pidpw* is the project password.  
*uid* is all or part of the 6 character user ID; default is the project ID.  
*uidpw* is the user password.  
*nd* is the 2 character node mnemonic; default is the home node for the user ID.  
*sys* is the required subsystem — ED, USEQS, EVAL, CY76, CIO, or Q; default is ED.  
*text* is the first line of text for the required subsystem.
- \*CYI, *pid, , ,* Log in using all defaults.
- Q, *sys, text* Quit a subsystem, enter subsystem *sys* and use *text*. § 2.5.5

Control Characters § 2.2

The control characters used are:

- BEL CTRLG
- VT CTRLK
- CR Special key
- LF Special key
- DLE CTRLP

Local Editing Using Control Characters § 2.2.4

- BEL Delete the last character typed into the current line.
- VT Display the current line.
- CR Delete the current line (unless CR is immediately followed by LF).
- LF OR CR LF Send the current line to the host computer.
- DC3 Suspend output.
- DC1 Resume output.

DLE Sequences § 2.2.5

- DLE? Request system status report; also cancels DLEN and DLE\.
- DLEA Stop the execution of a command and terminate any output in progress.
- DLEE Cancel DLEN, DLES, and DLE:.
- DLEI Send the current line to the host computer without echoing as CR LF.
- DLEN Inhibit system messages. Cancelled by DLE?, DLEE, or DLET.
- DLEP *n* Set delay after CR sent to terminal by local node. Setting remains in force until altered or until the node is reloaded.  
  - n* = 0 : no delay.
  - n* = 1 : 0.5 to 0.6 second delay.
  - n* = 2 : delay dependent on line length.
  - n* = 3 : 0.2 to 0.3 second delay.
  - n* = 4 : 0.3 to 0.4 second delay.
- DLES Suppress echoing by the local node of characters typed in on a terminal. Cancelled by DLEE or DLET.
- DELT Clear and reset the terminal. Logs off from host and cancels DLEN, DLES, DLE:, DLE&, and DLE\.
- DLE: Change the terminal prompt from : to BEL. Cancelled by DLEE or DLET.
- DLE& Set CR character on input to have the same meaning as LF. Cancelled by DLEE or DLET.
- DLE\ Set node to 'single record at a time' state and request next record. Cancelled by DLE?, DLEE, or DLET.
- DLE> Set terminal to echo DC3 characters as DC1. Cancelled by DLET.
- DLE< Set terminal to ignore DC3 and DC1 characters; DLE> is also ignored in this mode. Cancelled by DLET.

## File Access § 4.2.1

<i>n</i> C; <i>name</i> ;	Copy cycle <i>n</i> of the upper-case (DISPLAY) file <i>name</i> to the workfile.
' <i>n</i> C; <i>name</i> ;	Copy cycle <i>n</i> of the mixed-case (ASCII) file <i>name</i> to the workfile.
<i>n</i> V; <i>name</i> ;	Insert cycle <i>n</i> of the file <i>name</i> in the workfile after the current line.
<i>r</i> ' <i>n</i> M; <i>name</i> ;	Make the workfile into cycle <i>n</i> of the file <i>name</i> , with retention period <i>r</i> days.
^ <i>n</i> M; <i>name</i> ;	Purge cycle <i>n</i> of the file <i>name</i> . The default cycle is the lowest.
<i>r</i> ' <i>n</i> #; <i>name</i> ;	Create cycle <i>n</i> of <i>name</i> , with retention period <i>r</i> . Contents specified by following P or ? commands.
#;;	Finish the file being created by a preceding # command.
U; <i>id</i> ;	Use <i>id</i> for the ID of files referenced by commands in the current string. Library attaches use MR = 1.
U;;	Use the logged-in user ID for file ID's. Library attaches use MR = 0.
*; <i>request</i> ;	See Cyber File Requests, p. 5.

## ED Library Files § 4.3

Passwords and comments are optional, and if they are not used the comma which would normally precede them need not be used. \* may be used in place of the name of the currently attached library.

M;, <i>lname</i> , <i>passwords</i> ;	Create a library with name <i>lname</i> . Default <i>lname</i> is LIB- <i>userid</i> .
M; <i>pname</i> , <i>lname</i> , <i>comment</i> ;	Make the workfile into partition <i>pname</i> of library <i>lname</i> .
]; <i>pname</i> , <i>lname</i> , <i>comment</i> ;	Save the contents of the boxes as partition <i>pname</i> of library <i>lname</i> .
^M; <i>pname</i> , <i>lname</i> ;	Purge the partition <i>pname</i> from the library <i>lname</i> .
C; <i>pname</i> , <i>lname</i> , <i>passwords</i> ;	Copy the upper-case (DISPLAY) partition <i>pname</i> of library <i>lname</i> to the workfile.
'C; <i>pname</i> , <i>lname</i> , <i>passwords</i> ;	Copy the mixed-case (ASCII) partition <i>pname</i> of library <i>lname</i> to the workfile.
[; <i>pname</i> , <i>lname</i> , <i>passwords</i> ;	Copy partition <i>pname</i> of library <i>lname</i> into the boxes.
V; <i>pname</i> , <i>lname</i> , <i>passwords</i> ;	Insert partition <i>pname</i> of library <i>lname</i> in the workfile after the current line.
<i>n</i> C;, <i>lname</i> , <i>passwords</i> ;	Print internal audit of library <i>lname</i> . <i>n</i> = 1 or absent: actual order. <i>n</i> = 2 : actual order including deleted partitions. <i>n</i> = 3 : alphabetic order of partitions. <i>n</i> = 4 : reverse alphabetic order of partitions. <i>n</i> = 5 : in order of creation time (oldest partition first). <i>n</i> = 6 : in order of creation time (newest partition first).
'M;, <i>lname</i> , <i>passwords</i> ;	Copy the currently attached library to another file <i>lname</i> and carry out compaction.
^ <i>x</i> ; <i>pname</i> , <i>lname</i> , <i>passwords</i> ;	where <i>x</i> is C, ^, or V. Release library after copying partition.
^C;;	Release the currently attached library.
'C;, <i>lname</i> , <i>passwords</i> ;	Attach library <i>lname</i> .

## Displaying Workfile § 4.1.6

LF	Display the pointer position. § 4.2.6
<i>n</i> P	Print the next <i>n</i> lines.
<i>n</i> .	Truncate output lines to <i>n</i> characters.

## Pointer Movement § 4.2.3

O	Move the pointer to the start of the workfile.
^O	Move the pointer to the start of the last line of the workfile.
J	Move the pointer to the start of the line.
^J	Move the pointer to the end of the line (the column after the last character in the line).
<i>n</i> L	Move the pointer <i>n</i> positions to the left.
<i>n</i> R	Move the pointer <i>n</i> positions to the right.
<i>n</i> B	Move the pointer <i>n</i> lines back.
<i>n</i> F	Move the pointer <i>n</i> lines forward.
<i>n</i> S; <i>text</i> ;	Search for the <i>n</i> -th occurrence of <i>text</i> after the current pointer position.

## Text Insertion § 4.2.2

**C;?;** Clear the workfile and enter upper-case (DISPLAY) text-input mode.  
**'C;?;** Clear the workfile and enter mixed-case (ASCII) text-input mode.  
**V;?;** Enter text-input mode (add to current workfile).  
**I;text;** Insert *text* at the pointer position. § 4.2.4  
**Z;text;** Insert a new line, containing *text*, after the current line. § 4.2.4  
**n+** Insert *n* blanks to the left of the current pointer position. § 4.2.4  
**LF** Return from text-input mode to editing mode.

## Text Deletion § 4.2.4

**nD;text;** Delete the *n*-th occurrence of *text* after the current pointer position.  
**nA;text;** Replace the *n*-th occurrence of *text*, after the current pointer position, with blanks.  
**n-** Delete *n* characters from the current line, starting from the current pointer position.  
**nY** Replace *n* characters, starting from the current pointer position, with blanks.  
**nE** Erase *n* lines, starting from the current line.  
<sup>^</sup>**nE** Erase *n* lines above the current line. The first line erased is the one above the current line.

## Text Rearrangement § 4.2.4

**n%** Move the current character and the pointer *n* columns to the right.  
**nX** Move the current line and the pointer *n* lines forward.  
**G** Split the current line into two lines. Current pointer position becomes start of second line.

## Command Modifiers § 4.2.6

<sup>^</sup> Used with % A D E J O S X — reverse the direction of operation of the command. § 4.2.3 and § 4.2.4  
**nW** Used with A D S — restrict the operation of the command to columns 1 to *n*.  
**nN** Used with A D S — restrict the operation of the command to columns *n* and greater.  
**n'** Used with A D S — restrict the operation of the command to *n* lines, including the current line.  
**n'** Used with C K \*; ATTACH...; — specify mode of copy. *n* = 1 or absent : mixed case (ASCII).  
     *n* = 2 : uncoded binary, timeout EOI. *n* = 3 : uncoded binary, linefeed delimited. § 4.2.2  
**'** Used with T H ? < > — expand a text string of the form  $t_1'b_1't_2'b_2'$  ... where  $t_i$  is a text string and  $b_i$  is a box number or reserved word. § 4.2.11

## Tabs § 4.2.6

**n"** Set a tab at column *n*. (By default, there is a tab at column 7.)  
**0"** Clear the tabs.  
**;a;** Alter the tab character to *a*. (By default, the tab character is ".)  
**N"** Deactivate the tabs.  
**W"** Reactivate the tabs.  
**"** In text of Z and I commands, and in text-input mode — skip to the next tab.

## Running Jobs § 4.2.5

**K;name;** Run the workfile as a batch job and copy the output to the alternate workfile.  
     The default station is CYI.  
<sup>\</sup>**K;name;** Run the workfile as a batch job. The default station is RIO.  
**K;;** Try again to copy the output from a previous **K;name;** .  
**C;\*;** Move to the alternate workfile. § 4.2.1

### Repetition and Branching § 4.2.6

<i>n</i> @	Repetition factor equal to 10000 if <i>n</i> is 0 or absent, otherwise equal to the value in box <i>n</i> .
<i>n</i> ( <i>string</i> )	Execute <i>string</i> <i>n</i> times. A soft command failure in <i>string</i> causes termination of the lowest-level parenthesis-pair or box containing the failing command. Soft-failing commands are S D A L R B F % G X . § 4.1.4
<i>n</i> =	Skip to the <i>n</i> th comma following the = in a command string.
,	Mark a place in a command string where skipping, initiated by an = command, may terminate.

### Box Commands and Reserved Words § 4.2.7

<i>n</i> H; <i>string</i> ;	Hold <i>string</i> in box <i>n</i> .
<i>n</i> H;;	Clear box <i>n</i> .
<i>n</i> T; <i>string</i> ;	Evaluate <i>string</i> as in the EVAL subsystem and store the result in box <i>n</i> .
<i>n</i> <	Store the contents of the current line in box <i>n</i> .
<i>n</i> >	Replace the current line by the contents of box <i>n</i> .
<i>n</i> \$	Execute the contents of box <i>n</i> .
<i>x</i> '0'	Use the next line entered on the terminal as the text string of the command <i>x</i> .
<i>x</i> ' <i>n</i> '	Use the contents of box <i>n</i> as the text string of the command <i>x</i> .
<i>x</i> ' <i>word</i> '	Use the status corresponding to <i>word</i> as the text string of the command <i>x</i> . <i>word</i> may be COLM, CYCL, DATE, LINE, MSEC, NODE, PROJ, SIZE, STOP, TIME, or USER. § 4.2.9
?;;	Print the contents of all the boxes. § 4.2.10
?; <i>text</i> ;	Print <i>text</i> . § 4.2.10
<i>r</i> ' <i>n</i> ]; <i>name</i> ;	Save the contents of the boxes as cycle <i>n</i> of the file <i>name</i> , with retention period <i>r</i> days. § 4.2.1
<i>n</i> ]; <i>name</i> ;	Copy cycle <i>n</i> of file <i>name</i> into the boxes. The file must be in the appropriate format. § 4.2.1
[;;	Clear all the boxes.

### Modes § 4.1.8

;	Clear relaxed editing mode.
^;	Set relaxed editing mode.
C;;	Set mode of workfile to DISPLAY.
<i>n</i> 'C;;	Set workfile to mode specified by the modifier <i>n</i> '. (see Command Modifiers).

### Delimiters § 4.1.3

;/!	Text delimiters.
'	Delimiter used with boxes and reserved words.

### Cyber File Requests § 4.2.5

*; <i>request</i> ;	ATTACH (copy), CATALOG (make), or PURGE a file. The requests are the same as the corresponding SCOPE control statements, except that the lfn must be omitted and the file ID defaults to the logged-in user ID.
*;DISPOSE(*, <i>parameters</i> );	Dispose the workfile to a device specified by parameters as in the DISPOSE control statement. The defaults are the line printer (PR or PE) and RIO.
*;DISPOSE(SFT <i>n</i> , <i>parameters</i> );	Dispose the the file with SFT number <i>n</i> to a device specified by parameters as in the DISPOSE control statement.

### Subsystem Entry and Exit § 4.2.5

Q	Quit (log out of ED). § 4.2.6
^Q	Clear workfiles and boxes and quit.
*; <i>subsys</i> , <i>request</i> ;	Carry out the request within the nominated subsystem. Subsystems may be CY76, EVAL or USEQS. Control remains with the subsystem on the completion of the execution of the request. The ED workfile and environment is preserved, and may be restored by leaving the subsystem by means of a Q command.
\*; <i>subsys</i> , <i>request</i> ;	Carry out a single request within the nominated subsystem and then return control to ED.
*;CY76 <i>request</i> ;	Carry out a single request in the CY76 subsystem and then return control to ED.

## USEQS

USEQS is used to interrogate or modify the queues of Cyber files waiting for output on peripheral devices. Queue names are specified by a 3-letter station name, a 2-letter node mnemonic, and a 2-letter peripheral-device type. The default station is RIO, and the default node is that specified at log-in. Each entry in each queue is identified by a number called the queue position (*pos*). A special queue called FACTS contains a log of files recently output. SIZE = number of sectors, WAIT = sum of all earlier file sizes on queue, NOMINAL = original queue requested, AMENDED = actual queue used. § 2.5.3

LQ( <i>queue(s)</i> )	List the specified <i>queue(s)</i> .
<i>queue</i>	List the single <i>queue</i> specified.
EVICT( <i>queue, pos</i> )	Evict a file from a queue.
EVICT(FACTS, <i>time</i> )	Evict items older than <i>time</i> minutes from the FACTS queue. Default time is 2 minutes.
DISPOSE( <i>queue, pos, parameters</i> )	Re-direct a file from a queue. <i>parameters</i> specifies the new device, as in the DISPOSE control statement.
STATUS	List the CY76 queues HI, J, HP, and HO, and items in the RIO input and output queues.
STATION( <i>stn</i> )	Set default station to <i>stn</i> .
NODE( <i>nd</i> )	Set default node to <i>nd</i> .

## EVAL

EVAL evaluates FORTRAN-like expressions containing constants and functions. The following functions may be used: AINT (or INT), ABS (or IABS), SIN, COS, TAN, ASIN, ACOS, ATAN, SINH, COSH, TANH, EXP, ALOG (or LOG), ALOG10 (or LOG10), SQRT, and the constant PI. Also %≡/100 and ^≡\*\*. § 2.5.4

## CY76

CY76 permits the interrogation of the status of jobs running in the Cyber, the dropping of running jobs, and the eviction or diversion of files from the System File Table (SFT). § 2.5.2

HI	List files waiting for execution.
B	List jobs in execution (JCB, job ID, priority, station, node, operator action request, status).
J	List jobs in execution (JCB, job ID, operator action request, time elapsed, time left, message).
T	Display system status and time of day.
HO	List printer files waiting for output to COM or RIO.
HP	List non-printer files waiting for output to COM or RIO, and DR files waiting for output to CYI.
EVICT, <i>sft</i>	Evict file with SFT number <i>sft</i> .
DROP, <i>jcb</i>	Drop job with JCB number <i>jcb</i> .
DIVERT, <i>sft, stn nd</i>	Divert file with SFT number <i>sft</i> to station <i>stn</i> and node <i>nd</i> . The defaults are respectively RIO and the node specified at log-in.

## CIO

CIO allows users to communicate directly with a running Cyber job. There are two modes: active mode, in which communication is with CIO; and transparent mode, in which communication is with the user program.

SUBMIT( <i>pname, lname, parameters</i> )	Submit partition <i>pname</i> of library <i>lname</i> for execution; default <i>lname</i> is LIB- <i>userid</i> . <i>parameters</i> are the parameters needed to attach the file; default file ID is <i>userid</i> . Enter transparent mode.
%A	Return to active mode and suspend job. Used when user program is waiting for input.
DLE A	Return to active mode and suspend job. Used when user program is outputting.
STATUS	Provide information about the last Cyber 76 job connected from the terminal. The STATUS information is one of INPUT, OUTPUT, or RUN, indicating that the job is waiting for input, ready with output, or is currently in execution.
EXIT or Q	Disconnect from CIO but do not drop an active job.
END	Disconnect from CIO and drop any active job submitted by the terminal user.
DROP	Drop job.
RESUME	Enter transparent mode again; resume communicating with the Cyber 76 job.
PROMPT, ON	Set prompt for input to Cyber 76 job to \$\$.
PROMPT, OFF	The default condition — the only user prompt is the colon (: ) provided by the network.

