



# EMAS

## INFORMATION CARD

3rd Edition

January, 1978

**DESCRIPTION OF STANDARD COMMANDS****NOTES**

- \* underlined parameters are obligatory - others optional.
- \* parameters are separated by commas.
- \* if an omitted parameter is not the last used then the comma following it must still be inserted.
- \* lists consist of one or more items separated by commas, e.g. *ownfilelist* is a list of files belonging to self.
- \* the character '/' is used to separate alternatives.
- \* commonly used parameters are described in the following table - others with the individual commands.

<i>file</i>	- any file										
<i>ownfile</i>	- <i>file</i> belonging to self										
<i>lib</i>	- library index <i>file</i>										
<i>ownlib</i>	- <i>lib</i> belonging to self										
<i>objectfile</i>	- <i>file</i> of type object (compiled)										
<i>outdev</i>	- code for output device e.g. .LP for the line printer; see separate table for full list; default .TT unless otherwise stated.										
<i>out</i>	- <i>outdev</i> or <i>ownfile</i> to be used for command output. Default .TT.										
<i>job</i>	- identifier of a background job.										
<i>source</i>	- input for compilers - can be one <i>file</i> or more than one concatenated by +; for example SPECS+SRCE3+ROUTS.A										
<i>clist</i>	- listing produced by compiler - default is <i>ownfile</i> SS#LIST. Alternatives <i>ownfile</i> , <i>outdev</i> or .NULL.										
<i>ddname</i>	- logical name for I/O channel e.g. <table border="0"> <tr> <td>STREAM27 (or ST27)</td><td>- IMP STREAM</td></tr> <tr> <td>SQFILE01 (or SQ1)</td><td>- IMP SQFILE</td></tr> <tr> <td>DAFILE07 (or DA7)</td><td>- IMP DAFILE</td></tr> <tr> <td>FT03F001 (or FT3)</td><td>- FORTRAN FILE</td></tr> <tr> <td>SMFILE04 (or SM4)</td><td>- STORE MAP FILE</td></tr> </table>	STREAM27 (or ST27)	- IMP STREAM	SQFILE01 (or SQ1)	- IMP SQFILE	DAFILE07 (or DA7)	- IMP DAFILE	FT03F001 (or FT3)	- FORTRAN FILE	SMFILE04 (or SM4)	- STORE MAP FILE
STREAM27 (or ST27)	- IMP STREAM										
SQFILE01 (or SQ1)	- IMP SQFILE										
DAFILE07 (or DA7)	- IMP DAFILE										
FT03F001 (or FT3)	- FORTRAN FILE										
SMFILE04 (or SM4)	- STORE MAP FILE										

## LIST OF COMMANDS

### **ACCEPT**(*file,newname*)

Accept *file* OFFERed by another user; optionally rename it to *newname*.

### **ALERT**(*out*)

List information on system faults etc..

### **ALGOL**(*source,object,clist,outdev*)

Compile ALGOL 60 program from file *source* into file *object* (or .NULL), with listing in *clist*, and optionally extra list of fault messages on *outdev*.

### **APPENDLIB**(*liblist*)

Add names of library indexes to current library index.

### **ARCHIVE**(*ownfilelist*)

Mark files for archiving.

### **CHERISH**(*ownfilelist*)

Mark files for backing-up and automatic archiving after four weeks of non-use.

### **CLEAR**(*ddname*)

Clear definition set up by DEFINE. Also use *ddname* = STREAMS, SQFILES, DAFILES, FTFILES or SMFILES to clear groups and no parameter to clear all definitions.

### **CONCAT**(*controlfile*)

Read names of files to be concatenated from .TT or *controlfile* - one to a line; list terminates with .END. Followed on the next line by name of output file.

### **COPYFILE**(*file,ownfile*)

Copy *file* into *ownfile*; this is the standard method for adding a member to a pd file or copying a member out, i.e. either *file* or *ownfile* may be a member of an existing pd file.

### **CPULIMIT**(*time*)

Set time limit for each subsequent command to *time* (mins, secs).

At least one of mins and secs must be specified.

Mode	Default	Max
Foreground	30 secs	varies with no of users - up to 10 mins.
Background	2 mins	119 mins

CPULIMIT(?) gives current setting.

### **DDLIST**(*out*)

List current definitions set by DEFINE.

### **DEFINE**(*ddname,file/outdev,size,format*)

Set up data file definition -

*size* integer in range 1-1023 (Kbytes) gives maximum allowed size for *file*. Default 255.

*format* of the form rn

r = record format F, V, FA or VA. Default V.

n = logical record length in bytes. Default 1024.

For input, *file* may be concatenated using +, and pd members may be included, e.g.

A+AOLD+ABC\_X

### **DEFINEMT**(*ddname,dsn,vol,label,format,blocksize*)

Set up data file definition for magnetic tape file.

*dsn* name of file on tape

*vol* tape serial no (followed immediately by \* if write permit ring required).

*label* position of file on tape. Default 1.

*format* of the form rn

r = record format F, V, FA or VA. Default V.

n = logical record length in bytes. Default 1024.

*blocksize* size in bytes of blocks on tape. Default 4096.

Access to magnetic tape is restricted. Check before use with Operations Controller.

### **DELETE JOB**(*joblist*)

Delete jobs from background job queue.

### **DELIVER**(*address*)

Set delivery information to *address*; max 19 characters. Also

DELIVER(?) prints current delivery information.

### **DESTROY**(*ownfilelist*)

Destroy files or members of pd files.

**DETACH(*jobfile,keyword/processor,time,out*)**

Send *jobfile* to background job queue or remote computer.

*jobfile* file containing commands and data, or as required by remote processor.

*keyword* NOW - job can be run after log off

default - job not run before 2200

LOW - job run after all other work - reduced charge.

*processor* .Pn where n is processor number on network, e.g.

.P37 Newcastle 360/370.

*time* time limit for local job; integer minutes (default 2).

*out* output of command file for local job - default .LP.

**DISCARD(*controlfile*)**

Read names and dates of files to be deleted from archive store from

.TT or *controlfile*. If .TT, terminate with .END.

**DISCONNECT(*filelist*)**

Disconnect files from virtual memory and copy back to backing store.

**EDIT**

See separate section.

**FILEANAL(*file,out*)**

Give information about size, type and access permission of *file*.

**FILES(*mask,group,out*)**

List *ownfiles* in specified *group* which fit the *mask*.

*mask* - Up to three fields where a field is either a set of explicit characters, or the symbol '\*' representing any set of characters.

*group* - I immediate store files (the default)

C CHERISHed immediate store files

H HAZARDed immediate store files

A ARCHIVED files

E causes extra information to be printed

S specifies single spacing of file names

Any combination of these letter codes may be given.

**FINDJOB(*job*)**

Give information about *job* in background job queue. If *job* omitted, about all jobs in background job queues.

**FORTE(*source,object,clist*)**

Compile FORTRAN IV program from file *source* into file *object* (or .NULL) with listing in *clist*.

**HAZARD(*ownfilelist*)**

Un-CHERISH: files will not be backed up and will be destroyed if unused for four weeks. Also has the effect of revoking a request to ARCHIVE a file.

**HELP(*param*)**

Print information about subsystem facilities. *Param* can be: omitted for general information; name of command for information about that command e.g. HELP(RENAME); or output line printer, e.g. .LLP or .LP15 for listing of all HELP information on line printer.

**IMP(*source,object,clist,outdev*)**

Compile IMP program from file *source* into file *object* (or .NULL), with listing in *clist*, and optionally extra list of fault messages on *outdev*.

**INSERTFILE(*objectfilelist*)**

Put information about object files into current library index.

**LIBANAL(*lib,out*)**

Give information about library index file - default for *lib* is current library index.

**LINK(*controlfile*)**

Read names of object files to be linked from .TT or *controlfile*, one to each line. List terminated with .END. Followed by name of output file.

**LIST(*file,outdev,copies*)**

List character file or data file on *outdev*. Files may be concatenated using the '+' operator, e.g.

A+HOLD\_V2+BC\_V3

*Copies* default 1, max 15.

**LOOK(*file*)**

Invoke editor to examine, but not alter, *file*. Same as EDIT(*file*,.NULL). Default for *file* is SS#LIST.

**METER**

Print date, time and for this session, cpu time used, connect time, page turns and charge.



**NEWPDFILE(*newname*)**

Create a new, empty partitioned file.

**NEWSMFILE(*file,size*)**

Create *file* of *size* bytes for use for direct mapping.

**OBEYFILE(*file,out*)**

Obey *file* containing sequence of commands and data, optionally putting output in *out*.

**OFFER(*ownfile,user*)**

Offer *ownfile* to another user. If *user* is omitted then revoke outstanding offer on *ownfile*.

**OPTION(*optionlist*)**

Set options for own process. Takes effect at next log-on and remains in effect until further call of OPTION.

*optionlist* - one or more of the following (standard settings are marked \*)

- \* QUICKSEARCH - don't search library index structure for standard commands
- FULLSEARCH - always search library structure
- \* FULLMESSAGES - print confirmatory messages
- NOMESSAGES - suppress confirmatory messages
- STACK = *n* - (*n* = 2 - 8) set stack size in segments of 64K bytes. Default 2.
- \* NORECALL - do not store terminal I/O
- TEMPRECALL - store terminal I/O for use by RECALL later in current session
- PERMRECALL - store terminal I/O for use by RECALL
- \* BRACKETS - command parameters are enclosed in brackets
- NOBRACKETS - parameters are separated from the command by a space and are terminated with newline
- STARTFILE - nominates file to be executed by OBEYFILE on foreground process start-up; precludes use of STARTCOMMAND
- = *ownfile*
- STARTCOMMAND - nominates (parameterless) command to be executed on foreground process startup; precludes use of STARTFILE
- = *command*

OPTION(?) gives list of options currently in effect.

**PARM(*parmlist*)**

Set compile time options. Remains in effect until next call or log off.

PARM with no parameter resets the default options, to which the alternatives are as follows:

DYNAMIC	Compile with external routine calls marked for dynamic loading (FORTE only).
LABELS	Maintain list of last 50 labels used and print at failure (FORTE only).
NOARRAY	Suppress array bound checking.
NOCHECK	Suppress unassigned variable checking.
NODIAG	Do not record line numbers for printing in diagnostics. In IMP, also suppress list of scalar variables.
NOENTRIES	Do not automatically call INSERTFILE at end of successful compilation.
NOLIST	Reduce compiler listing to abbreviated form.
NOTRACE	Do not store information to allow trace-back of routines during diagnostic output. In FORTE suppress list of scalar variables.
OPT	Optimise code to reduce run time. Includes effect of NOCHECK, NOARRAY, NODIAG.
STACK	For FORTE, put local variables on stack.

PARM(?) gives list of current compile time options.

**PASSWORD(*foreground,background*)**

Set *foreground* and/or *background* passwords - each must be four printable characters other than comma.

**PERMITFILE(*ownfile,user,permission*)**

Set access permission for *ownfile*.

*user* can be 6 character username, or null (meaning everybody else), or can include ? characters to indicate group of users.

<i>permission</i>	null or RS	Read shared
	R	Read
	WS	Write shared
	W	Write
	ALL	All modes
	NONE	No access
	CANCEL	Remove individual or group access already set.

#### **PERMITLIB(ownlib,user,permission)**

Set access permission for ownlib and all ownfiles inserted in it. User and permission as for PERMITFILE.

#### **PROJECT(proj)**

Set project code to be proj - 2 alphanumeric characters. Remains in effect until next call of PROJECT or STOP.

PROJECT(?) gives the current project code.

#### **QUEUES**

Give information about files waiting in output queues for local and remote output devices.

#### **RECALL**

Call editor to look at stored terminal I/O. (See OPTION).

#### **REMOVEFILE(objectfilelist)**

Remove information about files from current library index.

#### **REMOVELIB(liblist)**

Remove names of library indexes from current library index.

#### **RENAME(ownfile,newname)**

Change name of ownfile to newname.

#### **RESTORE(ownfile,date,perm)**

Transfer ownfile from archive store to immediate store. Format for date is dd/mm/yy. If date omitted use most recent copy on archive. Use perm to set other users' access permission, coded as in PERMITFILE; alternatively WP restores with permissions in force when file was archived - default - NONE.

#### **RUN(objectfile)**

Run program which has been compiled into objectfile.

#### **SEND(ownfile,outdev,copies)**

List (and destroy) ownfile on outdev (default .LP) - copies 1-15, default 1. Outdev cannot be .TT.

#### **STOP**

Call METER and log out.

#### **SUGGESTION**

Send suggestion about improvement to EMAS to system manager.

Command prompts for SURNAME:, ADDRESS:, and TEXT:.

Terminate text with newline \* newline.

#### **USERLIB(ownlib)**

Set current library index to be ownlib. If no parameter specified set to SS#LIB. Remains in effect until next call of USERLIB.

USERLIB(?) prints name of current library index.

#### **USERS**

Print number of active users.

### **Partitioned Files**

Pdfiles may contain any number of individual members. A member is referenced as a pdfile\_member; e.g.

HOLD\_A, HOLD\_MEMB2, PROJECT\_TESTDATA.

Members are added to the pdfile using COPYFILE and removed using DESTROY. They may be written to only by COPYFILE but can be used as input files in the following commands:

ALGOL, CONCAT, COPYFILE, DEFINE, DETACH, FILEANAL, FORTE, IMP, LIBANAL, LINK, LIST, OBEYFILE.

## EDIT COMMAND

### EDIT(file1)

If *file1* exists edit it, if not create one.

### EDIT(file1,file2)

Copy *file1* into *file2* (creating *file2* if necessary), and edit *file2*.

Do not alter *file1*.

### EDIT(file1, NULL)

Use editor to look at, but not alter, *file1*. The same effect is produced by LOOK(*file1*).

Editor commands are all single letters, followed in some cases by an integer, a text string, or a file name.

text string: any characters enclosed in delimiters /, . or ? e.g.

/THIS IS A TEXTSTRING/

If text includes delimiter it is typed twice.

For A, D, M, P, R and U commands also allow '-' before text parameter, meaning search backwards.

file name: written <file> e.g. <ABTEST>

List of editor commands showing valid parameter types:

Command	Brief definition	None	Integer	Text string	File name
A	After		*	*	
B	Bottom	*			
C	Cancel		*		
D	Delete		*	*	
E	Exit	*			
F	File				*
G	Go to column		*		
H	Reset cursor	*			
I	Insert			*	*
K	Kill	*			
M	Move		*	*	
O	Over	*			
P	Print		*	*	
Q	Quit	*			
R	Remove		*	*	
S	Set Marker	*			
T	Top	*			
U	Uproot		*	*	
W	Write	*			

## OUTPUT DEVICE CODES

.TT Interactive terminal e.g. Teletype

.LP Line Printer

.LLP Lower case line printer

.CP Card Punch

.PP Paper Tape Punch

.BPP Binary Paper Tape Punch

.GP Graph Plotter

.SGP Special Graph Plotter (requiring operator intervention)

.MP Matrix Plotter

.P Processor - used for DETACH

## CONSOLE INTERRUPTS

INT:A abort current command

INT:C abort current command and ignore any input typed.

INT:H abort diagnostic printing and return to calling program.

INT:M ensure permanent copies of connected files contain all latest alterations

INT:Q abort current command and give diagnostics.

INT:T print number of users, time and page turns used by current command without affecting command.



## CONSOLE CONTROL

The following control characters have special effects when typed on interactive terminals:-

EM (Ctrl+Y) Input ended  
 CAN (Ctrl+X) Cancel the current line  
 ESC Escape to INT: - see CONSOLE INTERRUPTS  
 HT (Ctrl+I) Tab to next tab position using spaces  
 DEL (Rubout) Cancel previous character  
 SOH (Ctrl+A) Enter SET: mode

Replies to SET: consist of a code as below followed by CR.

CODE	MEANING	ACTION
U	UPPER MODE	- the default - all lower case input characters translated to upper case.
L	LOWER MODE	- no translation of lower case input characters.
G	GRAPHIC MODE	- no translation of input - no newlines inserted on output.
Pn	PADS=n	- set pad characters - n in range 0-9 to be inserted after outputting CR.
W	WIDE LINES	- carriage width up to 132 characters.
N	NORMAL LINES	- carriage width up to 72 characters.
EOT(Ctrl+D)		- send EOT-log off console.

## EMAS INTERNAL CHARACTER CODE

0	NULL	32	SPACE	64	@	96	
1	SOH	33	!	65	A	97	a
2	STX	34	"	66	B	98	b
3	EXT	35	#	67	C	99	c
4	EOT	36	£	68	D	100	d
5	ENQ	37	%	69	E	101	e
6	ACK	38	&	70	F	102	f
7	BEL	39	'	71	G	103	g
8	BS	40	(	72	H	104	h
9	HT	41	)	73	I	105	i
10	LF(NL)	42	*	74	J	106	j
11	VT	43	+	75	K	107	k
12	FF	44	,	76	L	108	l
13	CR	45	-	77	M	109	m
14	SO	46	.	78	N	110	n
15	SI	47	/	79	O	111	o
16	DLE	48	0	80	P	112	p
17	DC1	49	1	81	Q	113	q
18	DC2	50	2	82	R	114	r
19	DC3	51	3	83	S	115	s
20	DC4	52	4	84	T	116	t
21	NAK	53	5	85	U	117	u
22	SYN	54	6	86	V	118	v
23	ETB	55	7	87	W	119	w
24	CAN	56	8	88	X	120	x
25	EM	57	9	89	Y	121	y
26	SUB	58	:	90	Z	122	z
27	ESC	59	;	91	[	123	{
28	FS	60	<	92	\	124	
29	GS	61	=	93	]	125	}
30	RS	62	>	94	^	126	~
31	US	63	?	95	_	127	DEL

## MEDIUM SPEED NETWORK

Devices connected to the medium speed network are referenced by the device code followed by the remote terminal number, e.g. the line printer on terminal 15 is .LP15.

Remote No.	Location	.P	.LP	.PP	.BPP	.CP	.GP
15	JCMB		*				
16	SIAE(BUSH ESTATE)		*	*	*		*
17	ABRO		*			*	
18	COLLEGE OF AGRICULTURE		*	*	*		
19	STATISTICS(ARCUS)		*			*	
20	RCO 2980 (BUSH)	*	*			*	
22	IGS(EDINBURGH)		*	*	*		
24	ARC(ROTHAMSTED)		*				
25	MEDICAL COMPUTING		*	*	*		
26	SOCIAL SCIENCE(AFB)		*	*	*		*
27	ADRA(MOREDUN)		*	*	*		
28	WESTERN GENERAL HOSP.		*				
29	CHEMISTRY(KB)		*	*	*		
30	PHYSICS(JCMB)		*	*	*		
33	SHRI(INVERGOWRIE)		*				
35	WOSCA(AYR)		*	*	*		
37	NEWCASTLE 360/370	*	*			*	
38	BUCCLEUCH PL LANE		*				
39	RUTHERFORD LAB	*					
40	ERCC(GEORGE SQ)		*				
41	APPLETON TOWER		*				
50	CHEMISTRY(KB)		*				
53	ST ANDREWS UNIVERSITY		*	*	*		
54	OPEN UNIVERSITY		*				
59	NOTTINGHAM UNIVERSITY		*				
64	HERIOT WATT UNIVERSITY		*				
68	DUNDEE UNIVERSITY		*	*	*		
72	STIRLING UNIVERSITY		*	*	*		
76	GLASGOW UNIVERSITY		*				
91	STRATHCLYDE UNIVERSITY		*				

## USEFUL TELEPHONE NUMBERS (STD CODE 031-)

Datel 200 Service 667 1071

Advisory Service

Kings Buildings 667 1081 Ext 2901-2904

ERCC 59 George Square 667 1011 Ext 2300-2303

Computer State Ansafoe 667 7491

Computer Room/

Operations Supervisor/

Job Reception (K.B.)

667 1081 Ext 2901-2904

from 0900 to 1700 hrs.

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