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User Note 17

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Title:

Graph and Matrix Plotter devices on EDNET

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Software Support Category: See Note 15

Synopsis

This Note describes the graph and matrix plotting devices attached to EDNET and how they may be accessed.

Keywords

DRAWPICTURE, GPLIST, Graph plotters, Matrix plotter, MPLIST, MPLISTN

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Graph Plotters

Chapter 5 of the ERCC Graphics Manual describes the routines provided to enable the production of drawings on a graph plotter. Listed below are the locations and the characteristics of the types of graph plotter recognized by these routines.

The standard sequence for producing and outputting a graph plotter file is

Command: DEFINE channel,plotterfile
Command: RUN plotting program
Command: GPLIST plotterfile,device[,copies,forms]

where GPLIST is a catch-all routine which ensures that the plotter file has the correct characteristics for the chosen device. DRAWPICTURE should be used instead of GPLIST if you want to view plotterfile on an EMAS terminal with graphics capability, or device is not one of those listed below.

Unless the device is a Hewlett Packard plotter (for example .GP15, .GP25, .GP33, .GPENG, .GPCAST, .GPEFC) when format conversion by GPLIST is always necessary, you can minimize GPLIST's cpu time usage. By calling from your plotting program the routine PLOTTERTYPE/PLTYPE with the appropriate type value from the table (opposite) the plotter file will automatically contain the correct vectors for that plotter.

Alternatively you can avoid the need to call PLOTTERTYPE/PLTYPE at all by specifying

Command: DEFINE chan,device

The GPLIST call will be performed for you automatically in this case. However, not all plotters have device names recognized by the Subsystem routine DEFINE - see note b. opposite.

Graph Plotter devices

For other than the ERCC devices you should negotiate with the relevant department for the use of its resources if you are not 'local' to that department.

.GP15	ERCC, JCMB (3RD FLOOR)	
.GP16	SIAE, BUSH	**See notes below**
.GP23	ERCC, JCMB	
.GP25	ERCC, Appleton Tower Basement	
.GPENG	ELEC. ENG., KB	**See notes below**
.GPCAST	CAST, I Roxburgh Street	
.GP33	SCRI, INVERGOWRIE	
.GPEFC	FORESTRY COMMISSION, ROSLIN	
.GP34	GLASGOW, SYSTEM 90	
.GP64	MARINE BIOLOGY, OBAN	
.GPSRSX	S'CLYDE ROYAL COLLEGE	
.MPSRSX	S'CLYDE ROYAL COLLEGE	**Actually Matrix plotters but **
.MPSLIV	S'CLYDE LIVINGSTONE	**accept graph plotter files **
.MPSCUR	S'CLYDE COMPUTING SERVICE	**just as .GPSRSX does **

Graph Plotter types and devices

Plotter Type	Device	No. of Pens	Units	Increment Size	Max. Window		Default Maximum Paper Usage	
					Width	Height	Students	Others
1	.GP23	4	cm	.0025	300	82.5	90	320
2	--	1	in	.0025	120	28.5	36	125
3	--	1	in	.0025	120	10.25	36	125
4	--	1	cm	.01	300	72.5	90	320
5	--	1	in	.005	120	28.5	36	125
a 6	.GP16	1	cm	.01	300	28	90	320
cf 7	.GP15, .GP25, .GP33, .GPEFC	8	cm	.0025	40	27	90	320
8	.GPSRSX,.MPSRSX .MPSCUR,.MPSLIV	4	cm	.0025	300	82.5	90	320
9	.GP64	3	cm	.005	300	32	90	320
10	.GP34	2	cm	.005	300	27.5	90	320
11	.GP34	2	cm	.005	300	84	90	320
bcf 12	.GPENG	4	cm	.0025	40	27	90	320
bd 13	.GPENGTR	4	cm	.0025	19	25.5	90	320
bd 14	.GP15TR,.GP25TR, .GP33TR,.GPEFCTR	8	cm	.0025	19	25.5	90	320
be 15	.GPENGHTR	4	cm	.0025	25	20	90	320
be 16	.GP15HTR,.GP25HTR, .GP33HTR, .GPEFCHTR	8	cm	.0025	25	20	90	320
c 17	.GPCAST	8	cm	.0025	19	27	90	320
bd 18	.GPCASTTR	8	cm	.0025	19	27.5	90	320
be 19	.GPCASTHTR	8	cm	.0025	27.5	19	90	320
bf 20	.GPCASTA3	8	cm	.0025	40	27	90	320

Notes

Although the package routines recognize all of these plotter types, so far as the devices are concerned

a .GP16 is not available at present.

b .GPENG,.GPCASTA3 and all of the device names ending in ....TR are only recognized by the routine GPLIST; you cannot DEFINE and I/O channel directly to these devices.

c .GP15,.GP25,.GPENG,.GPCAST,.GP33,.GPEFC
standard plotting (forms 0) uses 0.3mm fibre pens in four colours: black, blue, red, green.
For liquid ink plotting specify forms:
1 for 0.35mm pen on single sheet vellum,
2 for 0.35mm pen on ordinary roll paper,
3 for 0.50mm pen on single sheet vellum,
4 for 0.50mm pen on ordinary roll paper.

d .GP15TR,.GP25TR,.GPENGTR,.GPCASTTR,.GP33TR,.GPEFCTR
give vertical overhead transparencies in four colours: black, blue, red, green, using fibre pens. Specify forms:
54 for 0.35mm pen, 56 for 0.6mm pen.

e .GP15HTR,.GP25HTR,.GPENGHTR,.GPCASTHTR,.GP33HTR,.GPEFCHTR
give horizontal overhead transparencies in four colours: black, blue, red, green, using fibre pens. Specify forms:
55 for 0.3mm pen, 57 for 0.6mm pen.

f .GP15,.GP25,.GPENG,.GPCASTA3,.GP33,.GPEFC
for special arrangements use forms 21 and liaise with the device operator.

Matrix Plotters

Chapter 4 of the ERCC Graphics Manual describes the routines provided for obtaining Matrix Plotter output. At present the only device available for this type of output is .MP23 situated at ERCC, JCMB, The King's Buildings.

A Matrix Plotter file is automatically provided with header and trailer banners identifying, among other things, the address for delivery of the hard-copy output. This address is obtained from the current DELIVER string when the file is created. Two routines in the Matrix Plotter suite in the directory ERCLIB.GRAPHICS on both the 2976 and 2988 machines may be called either at *Command:* level or from within programs in the usual way.

(a) *Command:* MPLIST infile[,output,copies]

MPLIST replaces all instances of the original address information in the existing Matrix Plotter output file 'infile' with the contents of the current DELIVER string, then places the modified file in 'output'. The contents of 'infile' remain unaltered. If 'output' is .MP23 (the default if 'output' is omitted) then 'copies' copies of 'output' are sent to the Matrix Plotter, otherwise the 'copies' parameter is ignored. For example

Command: DELIVER "J.Bloggs_JCMB"
Command: MPLIST MPFILE,,2

sends 2 copies of MPFILE to .MP23 with delivery address J.Bloggs_JCMB

(b) *Command:* MPLISTN infile,send output to

MPLISTN calls DELIVER and MPLIST as a couplet as many times as specified by 'send output to'. On completion the original DELIVER string is reinstated. 'send output to' in its simplest form is

deliver address[,output,copies]

just as used by MPLIST. You may extend this to

address1[,output1,copies1] + address2[,output2,copies2] + ...

but remember that MPLISTN's parameter is limited to 255 characters. If you require more of this sequence than the parameter will cope with then terminate it with a '+'. MPLISTN will then prompt you for more of the

address[,output,copies]

sequence until you respond with the character '&'.

N.B. The address field must not contain the characters '+' or ','.

Example

Command: MPLISTN MPFILE,J.Bloggs_JCMB,,2+A.N.Other_59_Geo.Sq+
Advisory_JCMB,NEWADDRMPFL
&

sends 2 hard-copies of MPFILE to .MP23 addressed to J.Bloggs at JCMB, another to A.N.Other at 59 George Square, and finally keeps a copy in another file, NEWADDRMPFL, where the header and trailer address information is now 'Advisory_JCMB'.