

Technical Data and Instructions

Standard DataPlot Character Fonts

This sheet discusses the character fonts that are available for use by the standard DataPlot 1xxx and 2xxx series printers. Special application programs for these printers may restrict or expand character printing capability to some degree. If you printer contains such a custom program, refer to its special documentation for a description of any such restrictions and/or enhancements.

FONT: Letters “G” for the 5 standard fonts are shown in the sample printouts section, enlarged to show the dot matrix. From top to bottom, they are: 5x7, 5x7d, 7x9 and 11x15d. The numbers indicate the dot matrix size for upper case letters. The 5x7d and 11x15d fonts include both upper and lower case, with descenders, and numeric subscripts and superscripts, 128 characters total in each font. The other 3 fonts include 64 characters each, converting lower case codes to upper case for printing. See the reverse side of this sheet for a table of ASCII codes for the printable characters in both kinds of fonts.

SIZE: All characters of each font can be printed in 4 different sizes. The printed dot pattern produced by a single character pixel:

Size	Pattern produced by each pixel
1	each pixel prints a single dot.
2	2 dots high by 1 dot wide.
3	2 dots high by 2 dots wide.
4	4 dots high by 2 dots wide.

BOLDNESS: Normal characters print on a square dot matrix, with adjacent dots just touching. Bold characters add additional dots “in the cracks.”

ORIENTATION: DataPlot printers can print characters in the x-direction (across the paper width) and y-direction (down its length). Either “x” or “y” printing, or both, can also be inverted, by software command or by keypad. This flexibility applies to any character, in any font, in any size, normal or bold.

ESCAPE CODE SELECTIONS: One way to select a font, size, boldness or orientation other than the power-on default is through escape codes; that is, sending to the printer the escape character (0x1B), followed by another character as listed in the following table:

ESC “A”	selects the 11x15d font.
ESC “B”	selects the 5x9 font.
ESC “C”	selects the 5x7d font.
ESC “D”	turns off bold printing.
ESC “E”	turns on bold printing.
ESC “F”	selects the 5x7 font.
ESC “G”	selects the 7x9 font.
ESC “H”	selects size 1 characters.
ESC “I”	selects size 2 characters.
ESC “J”	selects size 3 characters.
ESC “K”	selects size 4 characters.
ESC “L”	selects normal y-printing.
ESC “M”	selects inverted y-printing.
ESC “N”	selects normal x-printing.
ESC “O”	selects inverted x-printing.

KEYPAD SELECTIONS: With the optional keypad connected to J9 and the keypad in “test” mode (jumper removed from pins 7-8 of JP1; see the DataPlot Printer Control Board data sheet), font and other selections can be made by pressing keys:

Key	Resulting Action
0	Advances font selection in the cycle: 5x7, 5x9, 5x7d, 7x9, 11x15d, 5x7, etc.
1	Prints an x-direction test pattern.
2	Prints a y-direction test pattern.
3	Toggles between bold & normal print.
4	Toggles inverted y-printing on & off.
5	Toggles inverted x-printing on & off.
6	Advances character size in the cycle: 1, 2, 3, 4, 1, etc.

X-direction printing can also be inverted by grounding pin 19 of J9 on the control board.

DEFAULTS: When power is applied to the standard printer, the 5x7 font is selected, in size 2, with normal boldness. X-printing is selected to be upright when the printer is mounted behind a vertical panel.

Y-printing orientation is such that the bottoms of the characters are nearest the stepper motor. To select different fonts, sizes, boldness or orientation, send escape codes to the printer or use the keypad interface J9 as described on the front side of this data sheet. Grounding pin 19 of J9 (connecting to pin 2) will also invert the x-direction printing without need to use a keypad or escape codes.

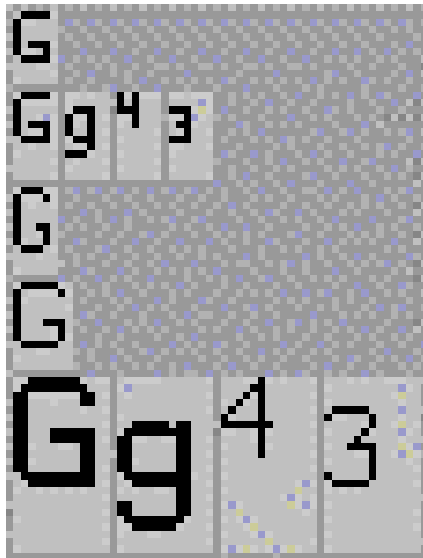
CHARACTERS PER LINE: The number of characters that can be printed on a line in the x-direction depends on the number of printing dots in the printhead and on the selected font and size. The following table shows the maximum number of characters per line using 3 different fonts in size 1 on 3 different model printers:

	224	320	416	448	832	172
5x7	37	53	69	72	138	284
5x9	37	53	69	72	138	284
5x9d	37	53	69	72	138	284
7x9	38	40	52	54	104	213
11x21 d	17	13	32	33	64	131

CHARACTER CODES: The table below shows the character printed by a standard DataPlot printer when the corresponding code byte is received. For the most part, the codes follow the normal ASCII convention. The upper 4 lines, shown in boldface, are included in all standard DataPlot fonts. The lower 4 lines, which include lower case letters, subscripts and superscripts, are used only in the 5x7d and 11x15d fonts. In the 5x7, 5x9 and 7x9 fonts, a lower case letter code prints as the corresponding upper case letter, and codes above 0x7A are ignored.

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
2		!	"	#	\$	%	&	'	()	*	+	,	-	.	/
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
8	----- superscripts 0-9 -----><----- reserved -----															
	>															
9	----- subscripts 0-9 -----><----- reserved ----->															

SAMPLE PRINTOUTS: These are photographic copies of sample character sets printed by a DataPlot model 1320 printer, using the 11x15d bold font in 3 of the 4 available sizes. Sizes 1 and 2 are shown below in the normal x-orientation. Sizes 1, 2 and 3 are shown to the right and below in the normal y-orientation. Both x and y-direction printing can be inverted. For smaller characters, you would select one of the other available fonts.



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