

IBM Proprinter X24/X24E Emulation

Printer Operation/Data Control Commands

DEC.	HEX.	MNEMONIC
27 126 53 n	1B 7E 35 n	ESC ~ 5 n

Selects emulation.
n=0 selects Epson LQ-series emulation.
n=1 selects IBM Proprinter X24E emulation.

17	11	DC1
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Selects the printer after deselected by ESC Q \$.

27 81 36	1B 51 24	ESC Q \$
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Deselects the printer.

27 106	1B 6A	ESC j
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Places the printer off line.

27 85 n	1B 55 n	ESC U n
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Selects/deselects unidirectional printing mode.
n=1 unidirectional
n=0 bidirectional

13	0D	CR
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Carriage return -- brings the print head to the left margin.

24	18	CAN
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Clears all characters stored in the preceding print buffer.

Vertical Motion Commands

DEC.	HEX.	MNEMONIC
12	0C	FF

Form feed -- advances the paper to the top of the next page.

27 67 n	1B 42 n	ESC C n
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Sets the page length in n lines.
0=<n=<127.

27 67 0 n	1B 43 00 n	ESC C NUL n
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Sets the page length to n inches.

0=<n=<22.

27 79 n	1B 4E	ESC 4E n
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Sets skip over perforation for n lines.
0=<n=<127

27 80	1B 4F	ESC O
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Cancels skip over perforation.

27 52	1B 34	ESC 4
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Sets the current paper position as the top of form.

10	OA	LF
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Advances the paper one line.

27 53	1B 35 n	ESC 5 n
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Selects (n=1) or cancels (n=0) automatic line feed mode. In the automatic line feed mode, the printer performs a line feed each time it receives a carriage return code.

27 48	1B 30	ESC 0
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Sets line spacing to 1/8 inch.

27 49	1B 31	ESC 1
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Sets line spacing to 7/72 inch.

27 126 48 n	1B 7E 30 n	ESC ~ 0 n
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Sets line spacing to n/120 inch.

27 65 n	1B 41 n	ESC A n
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Sets line spacing to n/72 inch.

27 50	1B 32	ESC 2
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Starts line spacing set by ESC A.

27 51 n	1B 33 n	ESC 3 n
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Sets graphics line spacing of n/216 inch. In AGM mode the line spacing is set to n/180 inch.

27 74 n	1B 4A n	ESC J n
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Performs graphics line feed -- advances the paper n/216 inch (n/180 inch in AGM mode).

27 91 92 4	1B 5B 5C 04	ESC [\ 4 NUL
0 0 0 0 m	00 00 00 00 m	NUL NUL NUL NUL m

Switches the units of graphics line feed (ESC 3 n or ESC J n). m selects the unit, either 180 or 216.

27 66 n1 ... n64 0	1B 42 n1 ... n64 00	ESC B n1 ... n64
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Sets a maximum of 64 vertical tab stops in the current line spacing.
0=<n1,...n16=<64

27 82	1B 52	ESC R
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Sets tabs to power-on settings -- horizontal tabs at every eighth column and clears all vertical tabs.

11	0B	VT
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Vertical tab -- advances the paper to the next tab stop.

Horizontal Motion Commands

DEC.	HEX.	MNEMONIC
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27 88 n1 n2	1B 58 n1 n2	ESC X n1 n2
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Sets the left and right margins. n1 and n2 are column numbers for the left and right margins, respectively.
0=<n1, n2=<255

8	08	BS
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Backspace -- moves the print head one character to the left.

27 100 n1 n2	1B 64 n1 n2	ESC d n1 n2
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Relative dot tab -- moves the print head n1 x (n2 x 256) dots from the current position.

27 68 n1 ... n28	1B 44 n1 ... n28	ESC D n1 ... n28
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Sets a maximum of 28 horizontal tab stops.

27 82	1B 52	ESC R
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Sets tabs to power on settings -- horizontal tabs at every eight column and clears all vertical tabs.

9	09	HT
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Horizontal tab -- advances the print head to the next horizontal tab setting.

Printing Style Commands

DEC.	HEX.	MNEMONIC
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23 73 n

1B 49 n

ESC ! n

Selects an internal or download font with printing quality and character pitch.

- n = 0 Internal, draft, 10 cpi (characters per inch)
- n = 2 Internal, LQ Courier, 10 cpi
- n = 3 Internal, LQ, proportional
- n = 4 Download, draft, 10 cpi
- n = 6 Download, LQ, 10 cpi
- n = 7 Download, LQ, proportional
- n = 8 Internal, draft, 12 cpi
- n = 10 Internal, LQ prestige, 12 cpi
- n = 12 Download, draft, 12 cpi
- n = 14 Download, LQ, 12 cpi
- n = 16 Internal, draft, 17 cpi
- n = 18 Internal, LQ courier, 17 cpi
- n = 20 Download, draft, 17 cpi
- n = 22 Download, LQ, 17 cpi

Print Size Commands

DEC.	HEX.	MNEMONIC
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18	12	DC2
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Selects 10 cpi (characters per inch).

27 58	1B 3A	ESC :
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Selects 12 cpi.

27 126 66 n	1B 7E 42 n	ESC ~ B n
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Selects between high-speed 12-cpi printing (n=0) and high-density 12-CPI printing (n=1).

15	0F	SI
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Selects condensed printing mode.

27 80 n	1B 50 n	ESC P n
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Selects (n=1) or cancels (n=0) proportional printing mode.

27 126 51 n	1B 7E 33 n	ESC ~ 3 n
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Selects the pitch.

- n = 0 10 cpi
- n = 1 12 cpi
- n = 2 17.1 cpi

14	0E	SO
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Sets the character width to double for one line.

20	14	DC4
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Cancels one-line double-width printing setting set with SO.

27 87 n	1B 57 n	ESC W n
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Selects (n=1) or cancels (n=0) the double-width printing mode.

27 91 64 4	1B 5B 40 04	ESC [\ 4 NUL
0 0 0 n1 n2	00 00 00 n1 n2	NUL NUL n1 n2

Sets the character height and/or width mode.

n1 = 0	Unchanged space, Unchanged height	n2 = 1	Single width
n1 = 1	Unchanged space, Single height	n2 = 2	Double width
n1 = 2	Unchanged space, Double height		
n1 = 16	Single space, Unchanged height		
n1 = 17	Single space, Single height		
n1 = 18	Single space, Double height		
n1 = 32	Double space, Unchanged height		
n1 = 33	Double space, Single height		
n1 = 34	Double space, Double height		

27 126 49 n	1E 7E 31 n	ESC ~ 1 n
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Sets the character width/height to quadruple.

n = 0	Normal width, normal height
n = 1	Double height
n = 2	Quadruple height
n = 3	Double width
n = 4	Quadruple width
n = 5	Double height, double width
n = 6	Quadruple height, quadruple width

Print Enhancement Commands

DEC.	HEX.	MNEMONIC
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27 69	1B 45	ESC E
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Selects emphasized printing.

27 70	1B 46	ESC F
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Cancels emphasized printing.

27 71	1B 47	ESC G
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Selects double-strike printing.

27 72	1B 48	ESC H
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Cancels double-strike printing.

27 83 n	1B 53 n	ESC S n
Selects superscript (n=0) or subscript (n=1).		
27 84	1B 54	ESC T
Cancels superscript/subscript.		
27 45 n	1B 2D n	ESC - n
Selects (n=1) or cancels (n=0) underline.		
27 95 n	1B 5F n	ESC _ n
Selects (n=1) or cancels (n=0) overscore.		
27 126 50 n	1B 7E 32 n	ESC ~ 2 n
Selects (n=1) or cancels (n=0) the reverse printing mode (white letters on a black background).		
27 126 52 n	1B 7E 34 n	ESC ~ 4 n
Selects (n=1) or cancels (n=0) slashed zero.		
27 114 n	1B 72 n	ESC r n
Selects print color.		
n = 0 Black		
n = 1 Magenta		
n = 2 Cyan		
n = 3 Violet		
n = 4 Yellow		
n = 5 Orange		
n = 6 Green		

Character Table Commands

DEC.	HEX.	MNEMONIC
27 55	1B 37	ESC 7
Selects IBM Character Set 1.		
27 54	1B 36	ESC 8
Selects IBM Character Set 2.		
27 94	1B 5E	ESC ^
Prints the next character from the All Character Chart.		
27 92 n1 n2	1B 5C n1 n2	ESC \ n1 n2
Prints the next n1 + (n2 x 256) characters from the All Character Chart.		

User-Defined Character Commands

DEC.	HEX.	MNEMONIC
27 61 n1 n2 m	1B 3D n1 n2 m	ESC = n1 n2 m
a1 a2 d1...d11	a1 a2 d1...d11	a1 a2 d1...d11

Define downloading characters.

Graphics Commands

DEC.	HEX.	MNEMONIC
27 75 n1 n2	1B 4B n1 n2	ESC K n1 n2
d1 ... dk	d1 ... dk	d1 ... dk

Selects the 8-wire normal density graphics mode.
k=n1 + (n2 x 256)

27 76 n1 n2	1B 4C n1 n2	ESC L n1 n2
d1 ... dk	d1 ... dk	d1 ... dk

Selects the 8-wire double density graphics mode.
k=n1 + (n2 x 256)

27 89 n1 n2	1B 59 n1 n2	ESC Y n1 n2
d1 ... dk	d1 ... dk	d1 ... dk

Selects the 8-wire high-speed double density graphics mode.
k=n1 + (n2 x 256)

27 90 n1 n2	1B 5A n1 n2	ESC Z n1 n2
d1 ... dk	d1 ... dk	d1 ... dk

Selects the 8-wire quadruple density graphics mode.
k=n1 + (n2 x 256)

27 91 103	1B 5B n1 n2	ESC [g n1 n2 m
n1 n2 m	n1 n2 m	n1 n2 m

Selects a graphics mode. n1 and n2 specifies the number of data bytes, as in ESC K command. m specifies the graphics mode.

n = 0 60-dpi 8-pin normal density
n = 1 120-dpi 8-pin double density
n = 2 120-dpi 8-pin high-speed double density
n = 3 240-dpi 8-pin quadruple density
n = 8 60-dpi 24-pin normal density
n = 9 120-dpi 24-pin double density
n = 11 180-dpi 24-pin triple density
n = 12 360-dpi 24-pin hex density

27 42 m n1 n2	1B 2A m n1 n2	ESC * m n1 n2
d1 ... dk	d1 ... dk	d1 ... dk

Selects various graphic mode (AGM mode only).
k=n1 + (n2 x 256)

m = 0 60-dpi 8-pin normal density
m = 1 120-dpi 8-pin double density
m = 2 120-dpi 8-pin high-speed double density
m = 3 240-dpi 8-pin quadruple density
m = 4 80-dpi 8-pin CRT I
m = 6 90-dpi 8-pin CRT II
m = 32 60-dpi 24-pin normal density
m = 33 120-dpi 24-pin double density
m = 38 90-dpi 24-pin CRT III
m = 39 180-dpi 24-pin triple density
m = 40 360-dpi 24-pin hex density

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