PRINTRONIX®

OKI® Emulation

Programmer's Reference Manual

Line Matrix Series Printers

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1   *Introduction*

About this Manual

This manual describes OKI language support, functionality, and compatibility in Printronix Line Matrix H-Series printers. The OKI emulation allows users to replace a serial matrix printer (with OKI emulation) with a PTX Line Matrix

H-Series printer without modifying its current operating environment. OKI printer model references are Microline 6100F and Microline 6300F. **NOTE:** Not all OKI commands and menu options are fully implemented.

The ESC/PK emulation in the OKI ML6300F printer is not supported.

OKI windows drivers which use the ESC/PK emulation are not supported.

Printer Configuration Compatibility

Table 1 lists the OKI configuration settings and describes their behavior on OKI ML6300 printers and corresponding Printronix menu settings.

Menus Supported

Table 1 Supported OKI menus for OKI ML6300 and Printronix Printers

Menu Option	OKI ML6300	Printronix
Emulation	OKI*/Epson	Emulation ->LP+->OKI
DBCS Mode	Yes*/No	Emulation->LP+->FontAttr.->DBCS/ASCII Mode
Buffer Size	0, 64K	Buffer size under Host Interface
Page Length	279.4mm* (11 inch), 296.3mm...	Emulation->LP+->Form Length
LF	LF only/CR+LF*	Emulation->LP+->OKI->Define LF Code
CR	CR only/CR+LF	Emulation->LP+->OKI->Define CR Code
Slash Zero	Yes/No*	Emulation->LP+->Font Attributes->Slashed Zero
Printing Direction	Uni-direction/Bi-direction*	Printer Control->Unidirectional
Characters per line	80/106*	Emulation -> LP+ -> Page Format -> Form Width -> Function of CPI

Table 1 Supported OKI menus for OKI ML6300 and Printronix Printers

Menu Option	OKI ML6300	Printronix
Printing Direction Control Command	Enable*/Disable	Emulation->LP+->Host Command->Ignore Unidir.
Print Mode	Normal*/High Speed	Emulation->LP+->Font Attributes->Typeface
High Speed Printing	High Speed*/Super HS/ Ultra HS	Emulation->LP+->Font Attributes->Typeface
Line Spacing	6LPI*/8LPI	Emulation->LP+->CPI/LPI Select->Select LPI
Printing Adjustment	Normal/High Speed/ Super High Speed/Ultra High Speed	Diagnostics->Printer Test->Phase Printer

Menus Not Supported

Table 2. Non-supported OKI menus for OKI ML6300 and Printronix Printers

Menu Option	OKI ML6300	Printronix
Compression	100%* / 75% / 50%	
Character Size	Normal/Double Width/ Double Height/Two By Two	
Form Length Adjust	-4.23mm~-0.35mm, 0, 0.35mm~4.23mm	**NOTE:** N7000 supports Form Length Setting in 0.1mm increments.
Form Length Adjust2	-4~-1, 0, 1~4 (0.07mm)	
Paper Out Detect	Enable/Disable	**NOTE:** N7000 always enables the paper out fault detection.
Cutter Position Adjust	-7, -6, ...0, 1, ..., 7	**NOTE:** N7000 does not have a cutter menu option.
TOF Position (Single Sheet Paper)	2.12mm (1/12"), ..., 6.35mm (3/12")*, ...	**NOTE:** N7000 does not support single sheet paper.
TOF Position Adjust (Single Sheet Paper)	-7, ..., -1, 0, 1, ..., 7	**NOTE:** N7000 does not support single sheet paper.
TOF Position (Continuous Paper)	2.12mm (1/12"), ..., 6.35mm (3/12")*, ...	

Table 2. Non-supported OKI menus for OKI ML6300 and Printronix Printers

Menu Option	OKI ML6300	Printronix
TOF Position Adjust (Continuous)	-7, ..., -1, 0, 1, ..., 7	
Table Printing Mode	Standard/Special	**NOTE:** There is no difference on the OKI printer for the Standard/Special option.
Feed Paper Waiting Time (Single Sheet Paper)	0.5s, 1.0s, 2.0s	**NOTE:** N7000 does not support single sheet paper.
Printing Position	Printing/Cutter Position	**NOTE:** N7000 does not support the cutter option.
Cutter	Manual/0.5s/1.0s/2.0s	**NOTE:** N7000 does not support the cutter option.
Character Styling	Song/Hei	**NOTE:** N7000 supports the Song option only.
Numeric Styling	Standard/Banking/Small	**NOTE:** Not supported in N7000.
Process FF when TOF	Enable/Disable	
Init Signal Processing		
LF Adjust in Single Sheet Paper		**NOTE:** N7000 does not support single sheet paper.

2   *Supported Commands*

This chapter explains how to support OKI language compatibility.

Printer Disk Control Command Functions

Table 3. Printer Disk Control Commands

Command	Description	Compatibility	Reference
DC1	Printer Select	Full	page 13
DC3	Printer Deselect	Full	page 13
CAN	Cancel Line	Full	page 13
ESC b	Confirm Printer End	Ignored, Hardware Limitation (Not supported on ML6300F printers)	page 23
ESC T	Single Sheet Paper Feed Direction	Ignored, Hardware Limitation	page 23
ESC Z	Paper Out Detect	Ignored, Command Not Implemented	page 23
DLE B	Initialize Printer	Full	page 13
ESC /	Emulation Switch	Full	page 13

Horizontal Motion Command Functions

Table 4. Horizontal Motion Commands

Command	Description	Compatibility	Reference
CR	Carriage Return	Full	page 13
ESC % 4	Left Movement	Full	page 13
BS	Backspace	Full	page 13
ESC % 6	Sets Absolute Horizontal Print Position	Full	page 14
ESC % 3	Right Movement	Full	page 14
ESC (	Sets Left Margin	Full	page 14
ESC)	Sets Right Margin	Full	page 14
ESC L	Sets Horizontal Tab	Full	page 14
HT	Executes Horizontal Tab	Full	page 14

Vertical Motion Command Functions

Table 5. Vertical Motion Commands

Command	Description	Compatibility	Reference
LF	Line Feed	Full	page 14
ESC 6	Line Spacing 1/16 inch (6 lpi)	Full	page 14
ESC 8	Line Spacing 1/8 inch (8 lpi)	Full	page 14
ESC% 8	Reverses Form Feed n/120 inch	Full	page 14
ESC% 9	Line Spacing n/120 inch	Full	page 14
ESC VT	Sets Vertical Movement in Lines	Full	page 14
ESC % 5	Feeds Forward n/120 inch	Full	page 15
FF	Form Feed	Full	page 15
ESC F	Sets Form Length by Lines	Full	page 15
ESC C	Sets Form Length by Lines	Full	page 15
ESC J	Sets Form Length by 1/120 inch	Full	page 15
ESC 5	Sets TOF	Full	page 15
DC4	Sets Vertical Tab	Full	page 15
VT	Executes Vertical Tab	Full	page 15
ESC G	Sets Bottom Margin	Full	page 15

Character and Graphic Control Command Functions

Table 6. Character and Graphic Control Commands

Command	Description	Compatibility	Reference
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ESC H	12 point (pt) HD ANK Char Set	Partially Compatible	page 21
ESC B	Character Size HS ANK Char Set	Partially Compatible	page 21
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ESC &	Hiragana ANK Char Set	Ignored, Command Not Implemented	page 23
ESC '	Katakana ANK Char Set	Ignored, Command Not Implemented	page 23
ESC % 1	Sends Graphic Data	Full	page 15
ESC % 2	Sends Double Width Expansion Graphic Data	Full	page 15

Printing Mode Command Functions

Table 7. Printing Mode Control Commands

Command	Description	Compatibility	Reference
ESC D	Selects Print Quality High Speed	Full	page 16
ESC H	Selects Print Quality High Density	Full	page 16
ESC O	Selects Print Quality Low Noise	Ignored, Hardware Limitation	page 23
ESC Y	Cancels Underline	Full	page 16
ESC U	Sets Double Wide Print	Full	page 16
ESC R	Cancels Double Wide Print	Full	page 16
ESC <	Sets Horizontal 1/2 Condensed Print	Full	page 16
ESC >	Cancels Horizontal 1/2 Condensed Print	Full	page 16
ESC [	Sets Double High Print	Full	page 16
ESC]	Cancels Double High Print	Full	page 16
ESC e	Sets Triple High Print	Full	page 16
ESC f	Cancels Triple High Print	Full	page 16
ESC g	Sets Triple Wide Print	Full	page 17
ESC h	Cancels Triple Wide Print	Full	page 17
ESC i	Sets Emphasized Print	Full	page 17
ESC j	Cancels Emphasized Print	Full	page 17
ESC m	Sets Double Strike	Full	page 17
ESC n	Cancels Double Strike	Full	page 17
ESC % U	Sets Unidirectional Print	Full	page 17
ESC # U			
ESC % B	Sets Bidirectional Print	Full	page 17
ESC # B			
ESC c	Color Mode	Ignored, Hardware Limitation	page 23

DBCS Command Functions

Table 8. DBCS Commands

Command	Description	Compatibility	Reference
ESC $ @	Sets DBCS Mode	Full	page 17
ESC (H	Cancels DBCS Mode	Full	page 17
CEX $	Sets Intercharacter Spacing in DBCS	Full	page 17
CEX 0	Sets Extended Font Typeface	Full	page 17
CEX 2	User-Defined DBCS Character	Full	page 18
CEX J	Selects DBCS Vertical Printing	Full	page 18
CEX K	Selects DBCS Horizontal Printing	Full	page 18
CEX N	Sets DBCS Superscript Print	Full	page 18
CEX O	Cancels DBCS Superscript Print	Full	page 18
CEX P	Sets DBCS Subscript Print	Full	page 18
CEX Q	Cancels DBCS Subscript Print	Full	page 18
CEX R	Sets DBCS Superscript and Subscript Print	Full	page 18
CEX S	Cancels DBCS Superscript and Subscript Print	Full	page 18
CEX _	Sets Vertical Half Width Combined Mode	Full	page 18
CEX p	Sets DBCS Double Wide Print	Full	page 18
CEX q	Cancels DBCS Double Wide Print	Full	page 18
CEX r	Sets DBCS Half-Width Print	Full	page 19
CEX s	Cancels DBCS Half-Width Print	Full	page 19
CEX t	Disables Vertical Half-Width Print	Full	page 19
CEX u	Enables Vertical Half-Width Print	Full	page 19
ESC k	Sets Shift JIS Mode	Full	page 19
ESC l	Cancels Shift JIS Mode	Full	page 19

Extended Command Functions

Table 9. Extended Commands

Command	Description	Compatibility	Reference
ESC |	Selects Print Mode	Full	page 19

3 *Fully Compatible*

The commands in this chapter are fully compatible with the OKI emulation. The following sections list fully supported commands with valid parameters.

Printer Disk Control Commands

Printer Select (DC1)

Places printer in select state.

Printer Deselect (DC3)

Places printer in deselect state.

Cancel Line (CAN)

Clears all printable data in the current line without affecting the control code.

Initalize Printer (DLE B)

Sets the printer's initial condition.

Emulation Switch (ESC / n)

Switches between LQ1600K and OKI emulation.

Horizontal Motion Commands

Carriage Return (CR)

Moves the print position to the left margin position.

Left Movement (ESC % 4 n1 n2 and ESC # 4 n1 n2)

Moves the horizontal print position to the left of the current position.

Back Space (BS)

Moves the print position to the left a distance equal to one character space.

**Set Absolute Print Position
(ESC %6 n1 n2 and ESC #6 n1 n2)**

Moves the horizontal print position to an absolute print position.

Right Movement (ESC %3 n1 n2 and ESC #3 n1 n2)

Moves the horizontal print position to the right from the current position.

Set Left Margin (ESC (n1 n2)

Sets the left margin to specified inches.

Set Right Margin (ESC) n1 n2)

Sets the right margin to specified inches.

Set Horizontal Tab (ESC L)

Sets the horizontal tab position as measured from the left edge.

Execute Horizontal Tab (HT)

Moves the horizontal print position to the next tab to the right of the current print position.

Vertical Motion Commands

Line Feed (LF)

Advances the vertical print position one line at the current line spacing.

Set 1/6-Inch Line Spacing (ESC 6)

Sets the line spacing to 1/6 inch.

Set 1/8-Inch Line Spacing (ESC 8)

Sets the line spacing to 1/8 inch.

Reversed Form Feed n/120" (ESC % 8 n and ESC # 8 n)

Reverses Form Feed by n/120 inch.

Set Line Space By 1/120" (ESC %(#) 9 n1 n2)

Sets the line spacing to n2/120 inch.

Set Vertical Movement in Lines (ESC VT n1 n2)

Sets vertical movement positions at the current line space by specified lines.

Feed Forward n/120" (ESC %(#) 5 n)

Feeds paper forward by n/120 inch.

Form Feed (FF)

Advances the vertical print position to the top of the next form.

Set Page Length (ESC F n1 n2)

Sets the page length to specified lines at the current line spacing.

Set Form Length by Lines (ESC C n)

Sets the page length to specified lines at the current line spacing.

Set Form Length in Inch by 1/120" (ESC J n1 n2)

Sets the page length to specified inches in increments of 1/120 inch.

Set Top of Form (ESC 5)

Sets the current print position as the top of form (TOF).

Set Vertical Tab (DC4)

Sets the vertical tab positions at the current line space by specified lines.

Execute Vertical Tab (VT)

Moves the vertical print position to the next vertical tab position.

Set Bottom Margin (ESC G n1 n2)

The printer will skip a number of specified lines from the bottom line and feed directly to the next TOF.

Character and Graphic Commands

Send Graphic Data (ESC % 1 nHnL d1 ... dk and ESC # 1 nHnLd1 ... dk)

Prints dot graphics in 24-dot columns.

**Send Double Width Expansion Graphic Data
(ESC % 2 nHnLd1 ... dk and ESC #2 nHnLd1 ... dk)**

Prints double width graphic data.

Printer Mode Commands

Select Print Quality - High Speed (ESC D)

Selects Normal typeface.

Select Print Quality - High Density (ESC I)

Selects LQ typeface.

Turn on Underline (ESC X)

Turns on printing of a line below all characters.

Turn Off Underline (ESC Y)

Turns off printing of a line below all characters.

Turn on Double-Width Printing (ESC U)

Turns on double width printing of all characters, spaces, and intercharacter spacing.

Turn off Double-Width Printing (ESC R)

Turns off double width printing of all characters, spaces, and intercharacter spacing.

Select Half Width Printing (ESC <)

This command reduces character width and intercharacter spacing by half its original size.

Cancel Half Width Printing (ESC >)

Cancels half width printing and sets the width to normal.

Turn on Double-Height Printing (ESC [)

Turns on double height printing of all characters.

Turn off Double-Height Printing (ESC])

Turns off double-height printing of all characters.

Turn on Triple-Height Printing (ESC e)

Turns on triple height printing of all characters.

Turn off Triple-Height Printing (ESC f)

Turns off triple height printing of all characters.

Turn on Triple-Width Printing (ESC g)

Turns on triple width printing of all characters, space, and intercharacter spacing.

Turn off Triple-Width Printing (ESC h)

Turns off triple width printing of all characters, space, and intercharacter spacing.

Select Bold Font (ESC i)

Sets the font attribute to bold print.

Cancel Bold Font (ESC j)

Turns off bold printing set by ESC i.

Select Double-Strike Printing (ESC m)

Makes characters bolder by printing each dot twice.

Select Double-Strike Printing (ESC n)

Turns off double strike printing set by ESC m.

Set Unidirectional Printing (ESC % U and ESC # U)

Selects unidirectional printing.

Set Bidirectional Printing (ESC % B and ESC # B)

Selects bidirectional printing.

DBCS Commands

Set DBCS Mode (ESC $ @)

Sets the printer to DBCS mode and GB High Byte to OFF.

Reset DBCS Mode (ESC (H)

Cancels the effect of setting DBCS mode and sets the printer to ASCII mode.

Set DBCS InterCharacter Spacing (CEX $ n)

Sets the intercharacter space to the right of the DBCS/ASCII character.

Set Expansion Font Typeface (CEX 0 n1 n2)

Sets the parameters for user defined graphic data.

Defined User-Defined Chinese Character (CEX 2 a1 a2 d1 d2 d3 ... d72)

Defines the graphic data.

Select Vertical Printing (CEX J)

The character prints in the same position with counterclockwise 90 degrees rotation.

Select Horizontal Printing (CEX K)

Cancels vertical printing.

Select Superscript Printing (CEX N)

Prints following characters at half the normal height. The printing location is the upper part of the character space.

Cancel Superscript Printing (CEX O)

Cancels superscript printing selected by the CEX N command.

Select Subscript Printing (CEX P)

Prints following characters at half the normal height. The printing location is the lower part of character space.

Cancel Subscript Printing (CEX Q)

Cancels subscript printing selected by the CEX P command

Select Super/Subscript Printing (CEX R)

Prints following characters at half the normal height. The printing location is set at the upper part of the character space then the lower part of the character space.

Cancel Super/Subscript Printing (CEX S)

Cancels superscript/subscript printing selected by the CEX R command.

Pair Two ASCII Characters in Vertical Print Mode (CEX -)

Aligns two rotated ASCII characters to fit the space occupied by a normal size rotated character.

DBCS Double Width Print (CEX p)

Doubles the DBCS characters and intercharacter spacing width. This function affects DBCS characters only.

Cancel DBCS Double Width Print (CEX q)

Cancels double width printing.

Set DBCS Half Width Mode (CEX r)

Sets the printing of DBCS characters as half width.

Cancel DBCS Half Width Mode (CEX s)

This command cancels DBCS Half Width mode set by the CEX r command.

Disable DBCS ASCII Vertical Printing Mode (CEX t)

Prints DBCS ASCII characters horizontally when Vertical Printing mode is set by the CEX J command.

Enable SBCS Vertical Printing Mode (CEX u)

Prints DBCS ASCII characters counterclockwise vertically 90 degrees when Vertical Printing mode is set by the CEX J command.

Set Shift JIS Mode (ESC k)

Sets to DBCS mode with MSB set to ON.

Cancel Shift JIS Mode (ESC l)

Turns MSB off when the printer is in DBCS mode.

Extension Commands

(ESC | 15H 07H 00H P1 P2 P3 P4 P5 P6 0)

Selects the printing mode.

4 *Partially Compatible Commands*

Character Set Commands

12 Points (10 CPI) HS ANK Character Set (ESC N)

Selects 10 CPI HS ANK character set in ASCII mode.

Differences with OKI printer: no characters in range from 166 to 223.

12 Points (10 CPI) HD ANK Character Set (ESC H)

Selects 10 CPI HD ANK character set in ASCII mode.

Differences with OKI printer: no characters in range from 166 to 223.

Select 12 CPI HS ANK Character Set (ESC B)

Selects 12 CPI character set in ASCII mode.

Differences with OKI printer: no characters in range from 166 to 223.

Select 12 CPI HD ANK Character Set (ESC E)

Selects 12 CPI HD character set in ASCII mode.

Differences with OKI printer: no characters in range from 166 to 223.

5 *Unimplemented or Ignored Commands*

The commands listed in this chapter will be unimplemented or ignored in the PTX_OKI emulation. Some of these commands may be implemented in the future, while others are ignored due to hardware and software limitation. All of the unimplemented commands will be accepted without error, but will not take effect.

Confirm Print End (ESC b)

This command indicates the end of printing. It will affect the BUSY signal in parallel port data. This command is ignored due to hardware differences.

Set Single Paper Orientation (ESC T)

This command in OKI ML6300F sets the orientation for single paper size such as A4. This command is ignored due to hardware and mechanical differences.

Paper Out Detection Control (ESC Z)

Paper out is detected when the end of paper supply is sensed. This command is ignored due to hardware differences.

Low Noise Printing (ESC O)

Sets low noise printing mode. This command is ignored due to hardware differences.

Set Color Mode (ESC c)

The command is invalid in OKI ML6300F printers.

Select Hiragana ANK Mode (ESC &)

Selects Hiragana ANK character set overlay in ASCII mode. This command is unimplemented.

Select Katakana ANK Mode (ESC ')

Selects Katakana ANK character set overlay in ASCII mode. This command is unimplemented.

A   *Contact Information*

Printronix Customer Support Center

IMPORTANT   **Please have the following information available prior to calling the   Printronix Customer Support Center:**

- Model number
- Serial number (located on the back of the printer)
- Installed options (i.e., interface and host type if applicable to the problem)
- Configuration printout: (See "Printing A Configuration") in your printers *Administrator's Manual.*
- Is the problem with a new install or an existing printer?
- Description of the problem (be specific)
- Good and bad samples that clearly show the problem (faxing or emailing of these samples may be required)

Americas	(714) 368-2686
Europe, Middle East, and Africa	(31) 24 6489 311
Asia Pacific	(65) 6548 4114
China	(86) 800-999-6836

http://www.printronix.com/support.aspx

Printronix Supplies Department

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Americas	(800) 733-1900
Europe, Middle East, and Africa	(33) 1 46 25 19 07
Asia Pacific	(65) 6548 4100
China	(86) 400-886-5598
India	1800 102 7869

http://www.printronix.com/supplies-parts.aspx

Corporate Offices

Printronix, LLC
6440 Oak Canyon Rd, Suite 200
Irvine, CA 92618
U.S.A.
Phone: (714) 368-2300
Fax: (714) 368-2600

Printronix LLC
c/o Printronix Nederland BV
Bijsterhuizen 11-38
6546 AS Nijmegen
The Netherlands
Phone: (31) 24 6489489
Fax: (31) 24 6489499

Printronix Schweiz GmbH
3 Changi Business Park Vista
#04-05 AkzoNobel House
Singapore 486051
Phone: (65) 6548 4100
Fax: (65) 6548 4111

Printronix Commercial (Shanghai) Co. Ltd
Room 903, 9th Floor
No.199, North Xizang Road
200070 Shanghai P.R.China
Phone: (86) 400 886 5598
Fax: (8621) 61171256

Printronix India Pvt Ltd
B-808/809, BSEL Tech Park
8th Floor, Sector 30A
Vashi Navi Mumbai 400705
India
Toll Free No.: 1800 102 7896
Fax: (9122) 4158 5555

Visit the Printronix web site at www.printronix.com

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