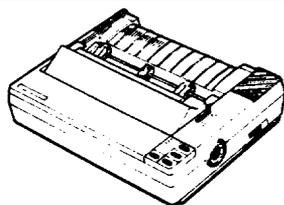
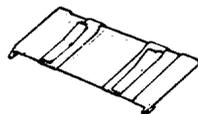


# LX-810 DOT-MATRIX PRINTER



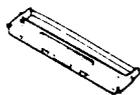
Printer



Paper guide



Platen knob



Ribbon cartridge



Power cable

## Printer Specifications

### Printing

**Print method:** 9-pin impact dot matrix

**Print speed:**

Quality	Character per inch	Character/second/line
High-speed draft	10	200
	12	150
Normal draft	10	160
	12	25
NLO	10	30
	12	

**Printing direction:** Bidirectional logic-recking for text printing. Unidirectional for graphics (can also be switched to bidirectional by using the **proper** software command).

**Line spacing:** 1/6 or 1/8 inch, or programmable in increments of 1/216th of an inch.

**Paper feed speed:** Approx. 75 ms/line at 1/6-inch line spacing during continuous feeding. Apprx. 95 ms/line at 1/6-inch line spacing during intermittent feeding.

### Printable columns:

Character sizes	Maximum printed characters
10 cpi	80
10 cpi condensed	137
12 cpi	96
12 cpi condensed	160

**Input buffer:** 4K byte

### Character fonts:

Font	Available sizes (Character per inch)
Epson High-speed draft	10, 12
Epson Draft	10, 12
Epson NLQ Roman	10, 12
Epson NLQ Sans Serif	10, 12

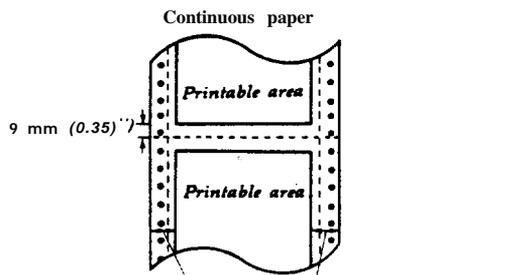
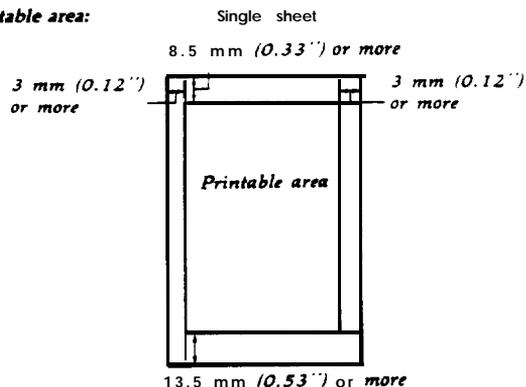
**Characters:** 96 standard ASCII character set (including italic characters)  
13 international character sets (including italic characters)  
Epson Extended Graphics character set

### Paper

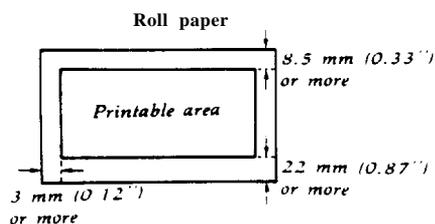
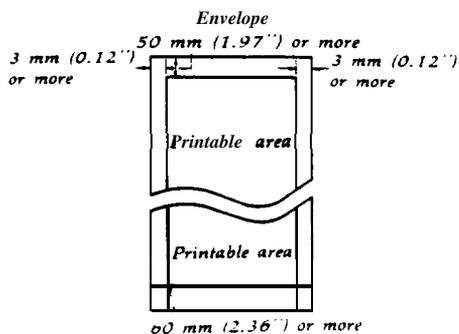
#### Paper width and length:

Paper	Width and length
Single sheet	Width: 162 to 257 mm (7.2 to 10.1")
	Length: 162 to 364 mm (7.2 to 14.3")
Continuous paper	width: 101 to 254 mm (4.0 to 10.0")
Roll paper	Width: 216 ± 3 mm (6.5 ± 0.12")
	Diameter: 127 mm (5.0") maximum
Envelope	No.6 166 × 92 mm (6.5 × 3.6")
	MO.10 240 × 104 mm (9.4 × 4.1")
Labels	63.5 × 23.6 mm (2.5 × 0.94") minimum

#### Printable area:



13 mm (0.15") or more (both sides) when the 101 mm to 242 mm (4 to 9.5") width paper is used. 26 mm (1.02") or more (left side) and 24 mm (0.94") or more (right side) when the 254 mm (10") width paper is used.



- Envelope printing is only available at normal temperature.
- Keep the longer side of the envelope horizontally at setting
- Align the left edge of the envelope to the guide mark of the paper guide

# LX - 810 DOT - MATRIX PRINTER

<b>Paper weight:</b>	Single sheet:	14 lb to 24 lb (52 g/m <sup>2</sup> to 9-J g/m <sup>2</sup> )
	Continuous paper:	14 lb to 22 lb (52 g/m <sup>2</sup> to 62 g/m <sup>2</sup> )
	Multi-part forms:	[12 lb to 15 lb] × N [[45 g/m <sup>2</sup> to 56 g/m <sup>2</sup> ] × N) N ≤ 3
	Roll paper:	14 lb to 17 lb (52 g/m <sup>2</sup> to 64 g/m <sup>2</sup> )
	Envelope:	12 lb to 24 lb (45 g/m <sup>2</sup> to 90 g/m <sup>2</sup> )
<b>Paper thickness:</b>	Single sheet:	0.065 to 0.140 mm (0.0025 to 0.0055")
	Continuous paper:	0.065 to 0.250 mm (0.0025 to 0.0098")
	Roll paper:	0.070 to 0.090 mm (0.0028 to 0.0035")
	Envelope:	0.160 to 0.520 mm (0.0063 to 0.0197")
<b>Label:</b>		0.160 to 0.190 mm (0.0063 to 0.0075") including the base sheet

**Copy capacity:** Up to 3 sheets including the original. Total thickness must not exceed 0.25 mm (0.0098").

• 24 lb paper printing is only available at normal temperature.

- Label with a Pressure sensitive paper jointed by dotted or pasting and its total thickness is less than or equal to 0.3 mm (0.0118") can be printed out under the condition of 5°C to 35°C and 10% to 80% RH.

## Mechanical

### Paper feeding methods:

Friction  
Push tractor  
Cut sheet feeder (optional)  
Pull tractor (optional)  
Roll paper holder (optional)

### Ribbon:

Cartridge ribbon, available in black:  
**#8750**  
Life expectancy at 14 dots/character:  
3 million characters

### MCBF:

For all components excluding print head:  
3 million lines

### MTBF:

4000 power-on hours (duty 25%)

### Print head life:

200 million strokes/wire

### Dimensions and weight:

Height: 141 mm  
Width: 416 mm (excluding platen knob)  
Depth: 339 mm  
Weight: approx. 5.8 kg

## Electrical

### Voltage:

120 VAC ± 10% (120 V model)  
220 VAC ± 10% (220 V model)  
240 VAC ± 10% (240 V model)

### Power consumption:

28 W (self test printing: draft mode)

### Frequency:

50.0 ± 0.5 Hz, 60.0 ± 0.5 Hz

### Insulation resistance:

10M ohms between AC power line and chassis

### Dielectric strength (between AC line and chassis):

120 V model can withstand 1 00 kV rms applied for one minute.  
220/240 V model can withstand 1.25 kV rms applied for one minute.

## Environment

### Temperature:

Operation: +5°C to +35°C  
Storage: -30°C to +60°C

### Humidity:

Operation: 10% to 80%  
(without condensation)  
Storage: 5% to 65%  
(without condensation)

### Shock:

Operation: Up to 1 G within 1ms  
Storage: Up to 2 G within 1ms

### Vibration:

Operation: Up to 0.25 G at up to 55Hz  
Storage: up to 0.50 G at up to 55Hz

### Operation angle:

Less than 15° (without cut sheet feeder)  
0° (with cut sheet feeder)

## Menu Selections

Because the family of Epson printers shares a great many commands, you can "se an application program even if it does not list the LX-810 on its printer selection men". If the LX-810 is not listed, choose one of the following printers. They are listed in order of preference.

LX-600  
Lx-66  
LX-80  
FX-850  
**FX-86e**  
**EX-800**  
FX-85  
**FX-80+**  
FX-80

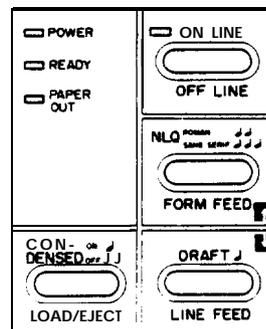
If none of these printers is listed, select the first one available on the following list:

Lx  
FX  
EX  
RX  
MX  
Epson printer  
Standard printer  
Draft printer

To "se all of the features of the LX-810, however, it is best to "se a program with the LX-810 on its men". If your program does not list any LX printers, contact the software manufacturer to see if an update is available.

## The Control Panel

### Lights



### POWER (green)

On when the power switch is on and power is supplied.

### READY (green)

On when the printer is ready to accept input data. Flickers while data is printed.

### PAPER OUT (red)

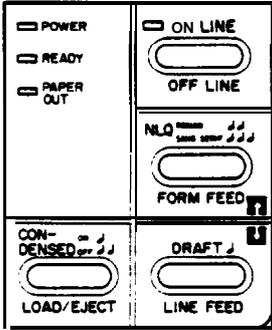
On when the printer is out of paper or when continuous paper is in a standby position. The printer also beeps when it is out of paper.

### ON LINE (green)

On when the printer is on line and ready to accept data from the computer. When this light is flickering, the micro-adjustment feature can be used.

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## Buttons



**ON LINE**  
This button controls the printer's on line and off line status. Press this button to put the printer on line or take it off line.

**FORM FEED**  
When the printer is off line, press this button to eject a single sheet of paper or to advance continuous paper to the top of the next page.

**LINE FEED**  
When the printer is off line, press this button to advance the paper one line, or hold it down to advance the paper continuously.

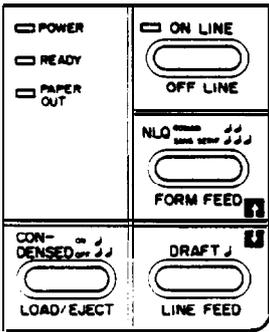
**LOAD/EJECT**  
This button is used to feed the paper to the loading position, or to eject paper that is already loaded. Paper is ejected forward if the paper release lever is set to the single sheet position and is ejected backward (removed from the paper path) if the release lever is set to the continuous paper position.

**NLQ**  
This button is used to select NLQ Roman and NLQ Sans Serif fonts. When you select Roman, the beeper sounds two times. When you select Sans Serif, the beeper sounds three times.

**DRAFT**  
This button is used to select draft printing. When you select draft, the beeper sounds once.

**CONDENSED**  
This button is used to select or deselect the condensed mode. When you select the condensed mode, the beeper sounds once. In this mode all characters are printed at approximately 60% of their normal width. When you return to the normal mode, the beeper sounds twice.

## SelectType



Note: Condensed mode cannot be selected when either of the NLQ fonts have been selected.

Buttons	Number of beeps	Typestyles
	Select	draft font
		Select NLQ Roman font
		Select NLQ Sans Serif font
		Select Condensed mode
		Cancel Condensed mode

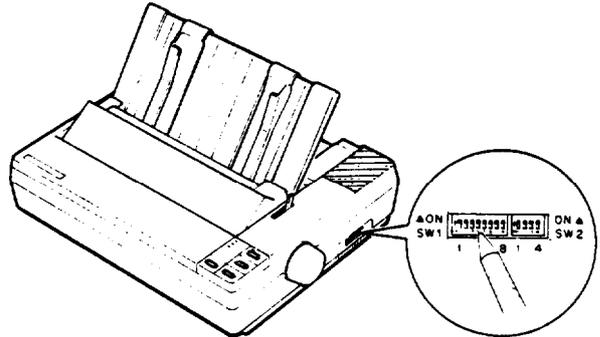
## Other control panel features

**Self test:** Both a draft and NLQ self test function are built into the printer. The self test printout lets you check the current DIP switch settings and operating status of the printer. You can start the printer's self test by holding down the LINE FEED button or the FORM FEED button while switching the printer on. See the section on running the self test in Chapter 1 for more information.

**Micro-adjustment:** By pressing the FORM FEED and LINE FEED buttons immediately after loading paper or when using short tear-off, you can make fine adjustments to the loading and short tear-off positions. See the sections on adjusting the loading position and using short tear-off later in this chapter.

**Data dump:** By holding down both the LINE FEED and FORM FEED buttons while turning on the printer, you turn on the data dump mode. This feature allows advanced users to locate the source of communications problems between the computer and printer. See the section on using the data dump mode later in this chapter for more information.

## Setting the DIP Switches



The DIP switch tables

### DIP Switch 1

SW	Description	ON	OFF	Page
1-1	Character spacing	12 cpi	10 cpi	4-3
1-2	Shape of zero	Slashed	Not slashed	3-8
1-3	Character table	Graphics	Italics	3-25
1-4	Short tear-off	Invalid	Valid	3-15
1-5	Draft printing speed	Normal	High	3-8
1-6				
1-7	international character set	See table on the next page		3-23
1-8				

### DIP Switch 2

SW	Description	ON	OFF	Page
2-1	Page length	12 inches	11 inches	3-9
2-2	Cut sheet feeder mode on/off	ON	OFF	5-2
2-3	1-inch skip over perforation	ON	OFF	3-10
2-4	Auto line feed	ON	OFF	3-8

### International character set

Country	SW 1-6	SW 1-7	SW 1-8
USA	ON	ON	ON
France	ON	ON	OFF
Germany	ON	OFF	ON
UK	ON	OFF	OFF
Denmark	OFF	ON	ON
Sweden	OFF	ON	OFF
Italy	OFF	OFF	ON
Spain	OFF	OFF	OFF

## The DIP switch functions

### Slashed zeros

When DIP switch 1-2 is ON, the printer prints slashed zeros (0); when OFF, the printer prints open zeros (0). This feature is useful for clearly distinguishing between uppercase O and zero when printing documents such as program lists.

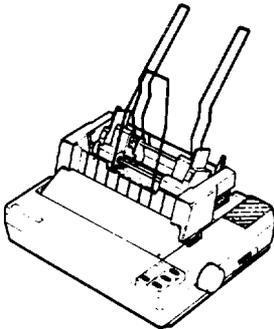


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Paper Type	Lever Position
Paper (single sheets or continuous)	2
Thin paper	2
24 lb paper (single sheets)	3
Multi-part forms	
2-sheet	2
3-sheet	3
Labels	4
Envelopes	
A1, mail	4 or 5
Plain	6
Bond (20 lb, Bond 124 lb)	6
Bond (20 lb, Bond 124 lb)	7

## The Cut Sheet Feeder

### Single-Bin Cut Sheet Feeder (C806121)



### Single-bin cut sheet feeder (optional)

#### Dimensions and weight:

444 mm (W) x 434 mm (D) x 423 mm (H)  
(mounted on the printer)  
Approx. 1.1 kg

**Bin capacity:** Single sheet: Up to **100** sheets of  
90 g/m<sup>2</sup> (24 lb) paper  
up to **150** sheets of  
82 g/m<sup>2</sup> (22 lb) paper  
Up to **185** sheets of  
64 g/m<sup>2</sup> (17 lb) paper  
(Total thickness should not exceed 15 mm)

**Stacker capacity:** Single sheet: Up to 55 sheets of  
90 g/m<sup>2</sup> (24 lb) paper  
Up to **80** sheets of  
82 g/m<sup>2</sup> (22 lb) paper  
Up to 100 sheets of  
64 g/m<sup>2</sup> (17 lb) paper

**MCBF:** 100,000 cycles

#### Environmental condition:

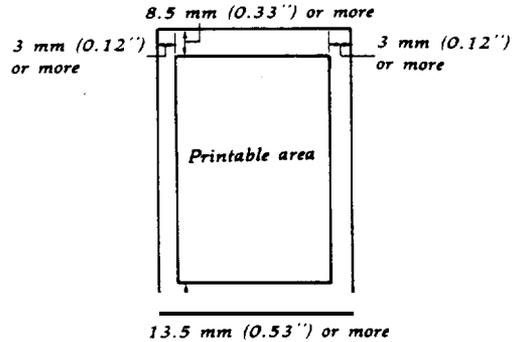
Temperature  
  Operation: +5°C to +35°C  
  storage: -30°C to +60°C  
Humidity  
  Operation: 15% to 80%  
            (without condensation)  
  Storage: 5% to 85%  
            (without condensation)

**Paper:** Width: 182 to 216 mm  
(7.17 to 8.50")  
Length: 257 to 364 mm  
(10.12 to 14.30")  
Thickness: 0.07 to 0.14 mm  
(0.0028 to 0.0055")  
Weight: 64 g/m<sup>2</sup> to 90 g/m<sup>2</sup>  
(17 lb to 24 lb)

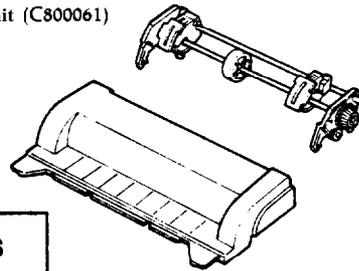
#### Storage condition of paper:

Temperature: +18°C to +22°C  
Humidity: 40% to 60%

### Printable area:



### Pull Tractor Unit (C800061)



## Interfaces

Interface number	Name
#8143	New Serial interface
#8148	Intelligent serial interface
#8165	Intelligent IEEE-488 interface

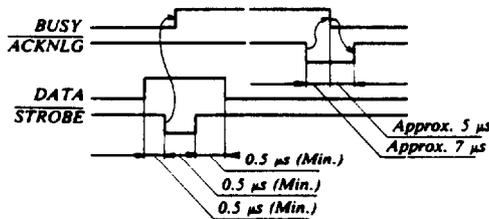
### Pin assignments for the parallel interface

Signal Pin	Return Pin	Signal	Direction	Description
1	19	STROBE	IN	STROBE pulse to read data Pulse width must be more than 0.5 microseconds at the receiving terminal
2	20	DATA 1	IN	These signals represent information of the 1st of 8 bits of parallel data, respectively Each signal is at HIGH level when data is logical 1 and LOW when it is logical 0
3	21	DATA 2	IN	
4	22	DATA 3	IN	
5	23	DATA 4	IN	
6	24	DATA 5	IN	
7	25	DATA 6	IN	
8	26	DATA 7	IN	
9	27	DATA 8	OUT	
10	28	ACKNLG	OUT	About a 12 microsecond pulse. LOW indicates that data has been received and that the printer is ready to accept more data.
11	29	BUSY	OUT	A HIGH signal indicates that the printer cannot receive data. The signal goes HIGH in the following cases: 1) During data entry (ea. char. time) 2) When off line 3) During printer-error state
12	30	PE	OUT	A HIGH signal indicates that the printer is out of paper
13	—	—	—	Pulled up to +5 volts through 3.3K ohm resistance.
14	—	AUTO FEED XT	IN	When this signal is LOW the paper is automatically fed 1 line after printing. (The signal level can be fixed to this by setting DIP switch 2-4 to ON.)
15	—	NC	—	Unused
16	—	0V	—	Logic ground level.
17	—	CHASSIS GND	—	Printer's chassis ground, which is isolated from the logic ground
18	—	NC	—	Unused
19-30	—	GND	—	Twisted-pair return signal ground level.

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Signal Pin	Return Pin	Signal	Direction	Description
31	—	INIT	IN	When this level becomes LOW, the printer controller is reset to its power-up state and the print buffer is cleared. This level is usually HIGH; its pulse width must be more than 50 microseconds at the receiving terminal.
32	—	ERROR	OUT	This level becomes LOW when the printer is: 1) in paper out state. 2) off line. 3) in error state.
33	—	GND	—	Same as for Pm 19.30
34	—	NC	—	Unused
35	—	—	—	Pulled up to + 5V through 3 3K ohm resistance
36	—	SELECT IN	IN	The DC1/DC3 code is valid only when this signal is "HIGH" (internal fixing can be carried out with Jumper J1)

## Interface timing



## Commands in Numerical Order

ASCII	Dec.	Hex.	Description	Page
BEL	7	07	Beeper .....	9-11
BS	8	08	Backspace .....	9-20
HT	9	09	Tab Horizontally .....	9-21
LF	10	0A	Line Feed .....	9-15
VT	11	0B	Tab Vertically .....	9-17
FF	12	0C	Form Feed .....	9-13
CR	13	0D	Carriage Return .....	9-12
so	14	0E	Select Double-wide Mode (one line) .....	9-25
SI	15	0F	Select Condensed Mode .....	9-24
DC1	17	11	Select Printer .....	9-8
DC2	18	12	Cancel Condensed Mode .....	9-24
DC3	19	13	Deselect Printer .....	9-9
DC4	20	14	Cancel Double-wide Mode (one line) .....	9-25
CAN	24	18	Cancel Line .....	9-12
DEL	127	7F	Delete Character .....	0-12
ESC SO	14	0E	Select Double-wide Mode (one line) .....	9-25
ESC SI	15	0F	Select Condensed Mode .....	9-24
ESC EM	25	19	Turn Cut Sheet Feeder Mode On/Off .....	9-11
ESC C	33	21	Master Select .....	9-23
ESC %	37	25	Select User-defined Set .....	9-33
ESC &	38	26	Define User-defined Characters (draft mode) .....	9-32
			Define User-defined Characters (NLQ mode) .....	9-33
ESC *	42	2A	Select Graphics Mode .....	9-35
ESC -	45	2D	Turn Underlining Mode On/Off .....	9-29
ESC /	47	2F	Select Vertical Tab Channel .....	9-18
ESC o	48	30	Select 1/8-inch Line Spacing .....	9-15
ESC 1	49	31	Select 7/72-inch Line Spacing .....	9-15
ESC 2	50	32	select 1/b-inch Line Spacing .....	9-16
ESC 3	51	33	Set n/216-inch Line Spacing .....	9-16
ESC 4	52	34	Select Italic Mode .....	9-28
ESC 5	53	35	Cancel Italic Mode .....	9-29
ESC 6	54	36	Enable Printable Characters .....	9-32
ESC 7	55	37	Enable Upper Control Codes .....	9-32
ESC 8	56	38	Disable Paper Out Detection .....	9-10
ESC 9	57	39	Enable Paper Out Detection .....	9-10

ASCII	Dec.	Hex.	Description	Page
ESC :	58	3A	Copy ROM to RAM .....	9-33
ESC <	60	3c	Select Unidirectional Mode (one line) .....	9-9
ESC ?	63	3F	Reassign Graphics Mode .....	9-36
ESC @	64	40	Initialize Printer .....	9-8
ESC A	65	41	Set n/72-inch Line Spacing .....	9-16
ESC B	66	42	Set Vertical Tabs .....	9-17
ESC C	67	43	Set Page Length in Lines .....	9-13
ESC C 0	67	43	Set page length in Inches .....	9-13
ESC D	68	44	Set Horizontal Tabs .....	9-21
ESC E	69	4s	Select Emphasized Mode .....	9-26
ESC F	70	46	Cancel Emphasized Mode .....	9-26
ESC G	71	47	Select Double-Strike Mode .....	9-27
ESC H	72	48	Cancel Double-Strike Mode .....	9-27
ESC J	74	4A	Perform n/216-inch Line Feed .....	9-17
ESC K	7s	4B	Select Single-density Graphics Mode .....	9-34
ESC L	76	4C	Select Double-density Graphics Mode .....	9-34
ESC M	77	4D	Select 12 cpi .....	9-23
ESC N	79	4E	Set Skip Over Perforation .....	9-14
ESC O	79	4F	Cancel Skip Over Perforation .....	9-14
ESC P	80	so	Select 10 cpi .....	9-23
ESC Q	81	51	Set Right Margin .....	9-19
ESC R	82	52	Select an International Character Set .....	9-31
ESC S 0	83	53	Select Superscript Mode .....	9-27
ESC S 1	83	53	Select Subscript Mode .....	9-28
ESC T	a4	54	Cancel Superscript/Subscript Mode .....	9-2 8
ESC U	85	55	Turn Unidirectional Mode On/Off .....	9-1 0
ESC W	a7	57	Turn Double-width Mode On/Off .....	9-2 6
ESC Y	89	59	Select High-Speed Double-density Graphics Mode .....	9-34
ESC Z	90	SA	Select Quadruple-density Graphics Mode .....	9-35
ESC ^	94	SE	Select Q-pin Graphics Mode .....	9-36
ESC d	97	61	Select Near Letter Quality Justification .....	9-30
ESC b	98	62	Set Vertical Tabs in Channels .....	9-18
ESC e	101	65	Set Tab Increments .....	9-20
ESC f	102	66	Horizontal/Vertical Skip .....	9-21
ESC k	107	6B	Select Typestyle Family .....	9-22
ESC l	108	6C	Set Left Margin .....	9-19
ESC s	11s	73	Turn Half-Speed Mode ON/Off .....	9-9
ESC t	116	74	Select Character Table .....	9-31
ESC x	120	78	Select Near Letter Quality or Draft .....	9-2 2

## Installation/Support Tips

### Software

The type of printer installed on your system must be identified for each software package. This is usually done through a setup menu. If this printer is not listed in your program, look in the printer User's Manual for the next - best model selection.

### DIP Switch Settings

The default settings will usually work for most applications, but they should be checked before using the printer. This will avoid unexplained faults.

### Optional Serial Interface Operation

Epson's optional serial interfaces may be used in this printer, but the DIP switches on the interface board must be set to match the configuration of the serial port on the host computer.

### Cut - Sheet Feeder Operation

The page length will have to be adjusted (shortened) if your software does not properly support cut-sheet paper. There will be lines from the first page printed on the top of the second page if the page length is not set correctly.

# LX-810 DOT- MATRIX PRINTER

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## Information Reference List

### Engineering Change Notices

None.

### Product Support Bulletins

None.

### Related Documentation

M - TM - LX810		LX-810 Technical Manual
M - PL - LX810		LX-810 Parts Price List
Y46399102000		LX-810 User's Manual

### Technical Information Bulletins

None.