Printer

Paper guide

Platen knob

Ribbon cartridge

The Cut Sheet Feeder

The option cut sheet feeder (C806122) makes it possible to handle single-sheet paper more easily and more efficiently. Up to 150 sheets of standard bond paper can be fed automatically into the printer without reloading.

Printer Specifications

Main Board Type: SAMA-X

Print method: 24-pin impact dot matrix

Print speed:

Quality	Characters per inch	Characters/second/line
Draft	10	150
	12	180
LO	10	50
	12	60

Printing direction: Bidirectional logic-seeking for text printing. Unidirectional for graphics (can also be switched to bidirectional by using the proper software command when DIP switch 2-6 is on).

Line spacing: 1/6 inch or programmable in increments of 1/360th of an inch

Paper feed speed: (continuous feed)   Single sheet: 2.2 inches per sec (100 ms/line)
Continuous: 2.2 inches per sec (100 ms/line)

Printable columns:

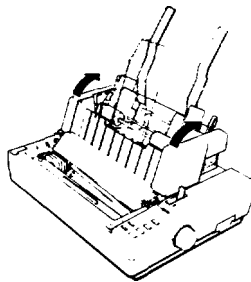| Character spacing	Maximum printed characters
10 cpi	80
10 cpi condensed	137
12 cpi	96
12 cpi condensed	160

Input buffer: 8 KB / 1 KB (DIP switch selectable)

Character fonts:

Family Number	Font Name	Sizes Available (Characters Per Inch)
0	Roman	10, 12, 15, proportional
1	Sans Serif	10, 12, 15, proportional
2	Courier	10, 12, 15
3	Prestige	10, 12, 15
4	Script	10, 12, 15
5	OCR-B	10
5	OCR-A	10
7	Orator	10
8	Orator-S	10
	Draft	10, 12, 15

OCR-A and Orator-S must be selected using escape sequences.

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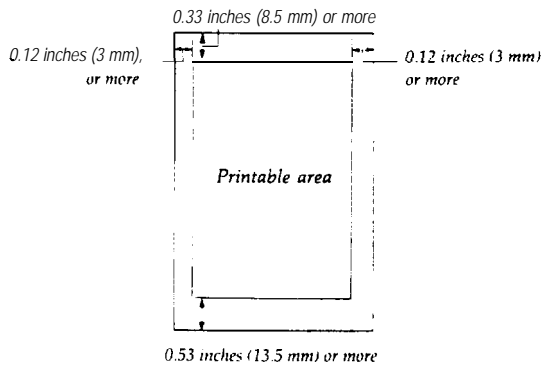Epson Extended Graphics character set

Paper

Paper width:
Single sheet	7.2 to 10.1 inches (182 to 257 mm)
Continuous	4 to 10 inches (101 to 254 mm)
Envelope	6.5 or 9.5 inches (166 or 240 mm)
Labels (continuous only)	2 1/2 x 15/16 inches (minimum) (63.5 x 23.8 mm)

Paper Length: Single sheet   7.2 to 14.3 inches (182 to 364 mm)

Printable area: Single sheet

0.33 inches (8.5 mm) or more

0.12 inches (3 mm), or more

0.12 inches (3 mm) or more

Printable area

0.53 inches (13.5 mm) or more
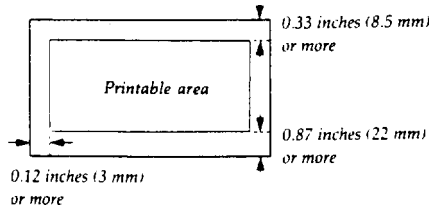
Continuous paper

0.35 inches (9 mm)

Printable area

Printable area
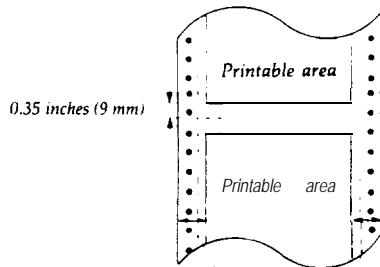
0.51 inches (13 mm) or more (both sides) when the 4 to 9.5 inch (101 mm to 242 mm) width paper is used.
0.98 inches (25 mm) or more (both sides) when the 10 inch (254 mm) width paper is used.

Envelope

0.33 inches (8.5 mm) or more

Printable area

0.87 inches (22 mm) or more

0.12 inches (3 mm) or more

Note: Envelope printing is only available at normal temperature. Load the envelope with its long side horizontal.

Paper weight:	Single Sheet	*14* lb to 24 lb
	Continuous	14 lb to 22 lb
	Multi-part	*12* lb to 15 lb per sheet.
	forms	Maximum number sheets = 3
	Envelope	*12* lb to 24 lb

Paper thickness:	Single Sheet	0.0025 to 0.0055 inches *(0.065* to 0.14 mm)
	Continuous	0.0025 to 0.01 inches *(0.065* to 0.25 mm)
	Envelope	0.0063 to 0.0197 inches (0.16 to 0.52 mm)
	Label (with backing)	0.01 inches (Maximum 0.28 mm)

| Copy *Capacity:* | Up to 3 sheets including the original. Total thickness must not exceed 0.01 inches *(0.25 mm).* |

Note: Label printing is available only at normal temperature

Mechanical

Paper feeding methods: Friction
Push tractor
Cut sheet feeder (optional)
Pull tractor (optional)

Ribbon:	Cartridge ribbon, available in black: #7753
Life expectancy *of ribbon:*	#7753: 2,000,000 characters (in Letter Quality characters, at 48 dots/character)
MCBF:	For all components excluding print head: 3,000,000 lines
MTBF:	4000 power on hours (duty 25%)
Print head life:	200,000,000 strokes/wire

Dimensions *and weight:* (excluding knobs and paper guides)
Height:	5.51 inches (139.9 mm)
Width:	16.46 inches (418.0 mm)
Depth:	13.66 inches (347.0 mm)
Weight:	13 lbs (6 kg approx.)

Electrical

Voltage:	*120* VAC ± 10%
Power consumption:	100 watts maximum
Frequency:	50 ± *0.5* Hz, 60 ± 0.5 Hz
Insulation resistance:	10 Mohms between AC power line and chassis
Dielectric strength (between AC line and chassis):	Can withstand 1.25 kV rms applied for one minute

Environment

| **Temperature:** | Operation: | 40°F to 95°F (5°C to 35°C) |
	Storage:	-22°F to 140°F (-30°C to 60°C)
Humidity:	Operation:	10% to 80% (noncondensing)
	Storage:	5% to 85% (noncondensing)
Shock:	Operation:	Up to I G within 1 ms
	Storage:	Up to 2 G within 1 ms
Vibration:	Operation:	Up to 0.25 G at up to 55 Hz
	Storage:	Up to 0.50 G at up to 55 Hz
Operation angle:	Less than 15° (without cut sheet feeder) 0" (with cut sheet feeder)

Interfaces

Interface Timing

The figure below shows the timing for the parallel interface.
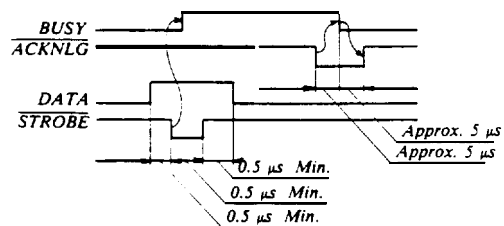
Compatible Interfaces

The following is a list of Epson interfaces that are compatible with your LQ-510 printer.

| Interface number	Name
#8143	New Serial Interface
#8148	Intelligent serial interface
16165	Intelligent IEEE-466 interlace
#8172	32 KB buffered parallel interface

Printing Enabled/Disabled Signals and Control Conditions

The table below shows the relationship between printing being enabled or disabled, the on line/off line status, and the receipt of the data on/off control characters, DC1 or DC3.

ON LINE (Indicator on)	SLCT IN	DC1/DC3 (Data on/off control)	ERROR	BUSY	ACKNLG	Printing (Disabled/enabled)
on line	Low (J1 Interface)	DC1/DC3 (no effect)	High	High/Low	Pulsed ea. char.	Enabled (normal cond.)
on line	High	DC1 Recv'd	High	High/Low	Pulsed ea. char.	Enabled
on line	High	DC3 Recv'd	High	High/Low	Pulsed ea. char.	Disabled*
on line	High/Low (no effect)	DC1/DC3 (no effect)	Low	High	Not generated	Disabled

* While pnnting is disabled, character data is being received and acknowledged so that the printer can look for another DC1 character. which would allow it to resume printing.

Setting the DIP Switches
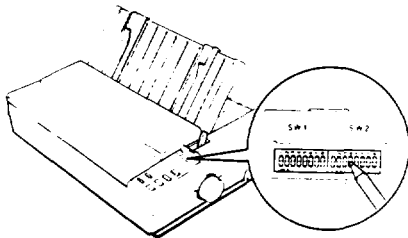
DIP switch 1

SW	Description	ON	Off	Page
I-1	International character set	See table 1		3-20
1-2				
1-3				
I-4	Font selection	See table 2		3-8
I-5				
1-6	Condensed mode on/off	Condensed	Normal	3-19
I-7	Character fable	Graphics	Italics	3-22
I-8	Cut sheet feeder mode on/off	On	Off	5-2

DIP switch 2

SW	Description	ON	OFF	Page
2.1	Page length	12 inches	11 inches	3-10
2.2	Tear-olfmcde	On	Off	3-9
2-3	1-inch skip over perforation	On	Off	3-11
2.4	Auto line feed	On	on	3-9
2.5	Input buffer capacity	8 KB	1 KB'	3-9
2-6	Graphics pnnt direction	Bidirect	Unidirect	3-9
2.7	Character spacing	See table 3		3-a
2-8				

* Required for use of user-defined (download1 characters

Table 1 *International character sets*

Country	SW 1-1	SW 1-2	SW 1-3
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

Table 2 **Font** *selection*

Font	SW1-4	SW1-5
Roman	OFF	OFF
Sans Serif	ON	OFF
Slot	OFF	ON
Draft	ON	ON

Table 3 *Character spacing*

Spacing	SW2-7	SW2-8
10 cpi	OFF	OFF
12 cpi	ON	OFF
15 cpi	OFF	ON
Proportional	ON	ON

cpi characters per inch

Country	ASCII code hex												DIP SW		
	23	24	40	5B	5C	5D	SE	60	7B	7C	70	7E	1-1	1-2	I-3
0 U.S.A	#	$	@	[	\	]	^	`	{	¦	}	~	ON	ON	ON
1 France	#	$	à	°	ç	§	^	`	é	ù	è	¨	ON	ON	OFF
2 Germany	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß	ON	OFF	ON
3 UK	£	$	@	[	\	]	^	`	{	¦	}	~	ON	OFF	OFF
4 Denmark	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~	OFF	ON	ON
5 Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü	OFF	ON	OFF
6 Italy	#	$	@	°	\	é	^	ù	à	ò	è	ì	OFF	OFF	ON
7 Spain	Pt	$	@	¡	Ñ	¿	^	`	¨	ñ	}	~	OFF	OFF	OFF

In addition to the eight character sets shown above, the seven international character **sets** that **follow** can be selected with a **software command:** ESC R For more information, see the Command Summary

Country	ASCII code hex											
	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
8 Japan	#	$	@	[	¥	]	^	`	{	¦	}	~
9 Norway	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	A	ü
10 Denmark II	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
11 Spain II	#	$	á	¡	Ñ	¿	é	`	í	ñ	ó	ú
12 Latin America	#	$	á	¡	Ñ	¿	é	ü	í	ñ	ó	ú
13 Korea	#	$	@	[	₩	]	^	`	{	¦	}	~
64 Legal	#	$	§	°	'	"	¶	`	©	0	†	™

The Control Panel

Lights

Selectype
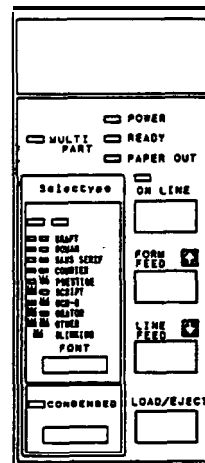
MULTI-PART (orange)
On when the paper thickness lever is set to position 4 or higher. When this light is blinking, the micro-adjustment function can be used.

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 during printing.
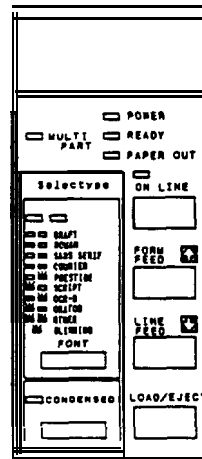
PAPER OUT (red)
On when the printer is out of paper or when continuous paper is in the standby position.

ON LINE (green)
On when the printer is on line and ready to accept data.

FONT
Press this button to select a font. The two orange indicator lights show the selected font. See Selecting Typestyles later in this chapter.

CONDENSED
This button is used to turn the condensed mode on and otf. The orange Indicator light is on when the printer is in the condensed mode. In the condensed mode, all characters are printed at approximately 60 percent ot their normal width
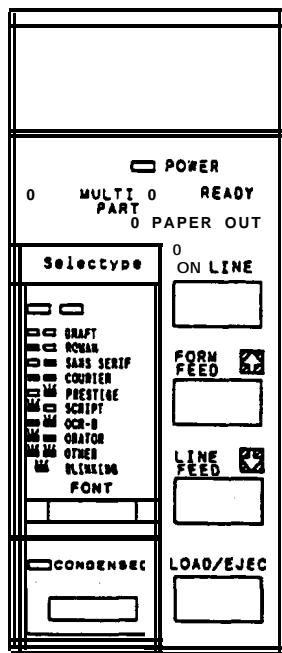
Buttons

.ON LINE

This button controls the printer's on line and off line status. Press this button to put the printer on line or to take it off line. When the printer is on line, the ON LINE light is on and the printer can receive and print data from the computer.

.FORM FEED

When the printer is off line, press this button to elect a single sheet of paper or to advance continuous paper to the top ot 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 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 backward (out of the paper path) if the release lever is set to the continuous paper position.

Other control panel features

The control panel of your printer also gives you access to several special functions.

Self test: Both a draft and Letter Quality 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 turning on the printer. See the section on the self test in Chapter 1 for more information.

Micro-adjustment: By pressing the FORM FEED button immediately after loading paper or when using short tear-off, you can make fine adjustments to the loading and short tear-off positions. These positions can only be adjusted while the MULTI-PART light is blinking. See the sections on adjusting the loading position and using the short tear-off function later in this chapter.

Data dump: By holding down both the LINE FEED and FORM FEED buttons while you switch 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.

Commands in Numerical Order

ASCII	Dec.	Hex.	Description	Page
BEL	7	07	Beeper	9-12
BS	8	08	Backspace	9-20
HT	9	09	Tab Horizontally	9-21
LF	10	0A	Line Feed	9-14
VT	11	0B	Tab Vertically	9-17
FF	12	0C	Form Feed	9-13
CR	13	0D	Carriage Return	9-12
s o	14	0E		
			(one line)	9-26
SI	15	0F	Select	9-25
DC1	17	11	Select Printer	9-8
DC2	18	12		9-26
DC3	19	13	Deselect Printer	9-9
DC4	20	14		
			(one line)	9-27
CAN	24	18	Cancel	9-12
DEL	127	7F	Delete	9-9
ESC SO	14	0E		
			(one line)	9-27
ESC SI	15	0F	Select	9-26
ESC EM	25	19		9-10
ESC SP	32	20		9-33
ESC !	33	21	Master Select	9-23
ESC #	35	23	Cancel MSB Control	9-11
ESC $	36	24	Set Absolute Print Position.	9-20
ESC %	37	25	Select User-defined Set	9-37
ESC &	38	26	Define User-defined Characters	9-36
ESC (-	40	28	Select score	9-31
'ESC'	42	2A	Select Graphics Mode	9-39
ESC +	43	2B	Set $n/360$-inch Line Spacing....	9-15
ESC -	45	2D	Turn Underline Mode On/Off.....................	9-32
ESC /	47	2F	Select Vertical Tab Channel	9-18
ESC 0	48	30	Select 1 /8-inch Line Spacing ...	9-15
ESC 2	50	32	Select 1 /&inch Line Spacing ...	9-15
ESC 3	51	33	Set $n/180$-inch Line Spacing....	9-16
ESC 4	52	34	Select Italic Mode.	9-34
ESC 5	53	35	Cancel Italic Mode	9-35
ESC 6	54	36	Enable Printable Characters	9-37
ESC 7	55	37	Enable Upper Control Codes ...	9-37
ESC:	58	·3A	Copy ROM to RAM	9-36
ESC <	60	3c	Select Unidirectional Mode (one line)	9-9
ESC=	61	3D	Set MSB to 0	9-11
ESC>	62	3E	Set MSB to 1	9-11
ESC?	63	3F	Reassign Graphics Mode	9-40
ESC @	64	40	Initialize Printer	9-8
ESC A	65	41	Set $n/60$-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 C0	67	43	Set Page Length in Inches.	9-13
ESC D	68	44	Set Horizontal Tabs	9-22
ESC E	69	45	Select Emphasized Mode	9-28
ESC F	70	46	Cancel Emphasized Mode	9-28
ESC G	71	47	Select Double-strike Mode	9-29
ESC H	72	48	Cancel Double-strike Mode	9-29
ESC J	74	4A	Perform $n/180$-inch Line Feed	9-16
ESC K	75	4B	Select Single-density Graphics Mode	9-38
ESC L	76	4c	Select Double-density Graphics Mode	9-38
ESC M	77	4D	Select 12 CPI	9-24

ASCII	Dec.	Hex.	Description	Page
ESC N	70	4E	Set Skip Over Perforation	9-14
ESC O	79	4F	Cancel Skip Over Perforation. ..	9-14
ESC P	80	50	Select 10 CPI	9-24
ESC Q	81	51	Set Right Margin	9-19
ESC R	82	52	Select an International Character Set.	9-35
ESC S 0	83	53	Select Superscript Mode	9-29
ESC S 1	83	53	Select Subscript Mode.	9-30
ESC T	84	54	Cancel Superscript/Subscript Mode	9-30
ESC U	85	55	Turn Unidirectional Mode On/Off	9-10
ESC W	87	57	Turn Double-wide Mode On/Off	9-27
ESC Y	a9	59	Select High-speed Double-density Graphics Mode	9-38
ESC Z	90	5A	Select Quadruple-density Graphics Mode	9-39
E S C\	92	5c	Set Relative Print Position	9-21
ESC a	97	61	Select Justification	9-33
ESC b	98	62	Set Vertical Tabs in Channels. ..	9-18
ESC g	103	67	Select 15 CPI	9-24
ESC k	107	6B	Select Typestyle Family........	9-23
ESC l	108	6C	Set Left Margin	9-19
ESC p	112	70	Turn Proportional Mode On/Off	9-25
ESC q	113	71	Select Character Style	9-32
ESC t	116	74	Select Character Table.	9-34
ESC w	119	77	Turn Double-high Mode On/Off	9-28
ESC x	120	78	Select Letter Quality or Draft ...	9-22

Epson Extended Graphics Character Table

Italic Character Table

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 unexpected results.

Cut-Sheet Feeder/
Single-Sheet Operation

The page length will have to be adjusted (shortened) to 61 lines per page if your software does not properly support cut-sheet paper. There will be lines from the first page printed at the top of the second page if the page length is not set correctly.