

Printer Specifications

Printing

Printing method: 24-pin impact dot matrix

Printing speed:

Pitch	Quality	Character/second/line
10	draft	150
10	Letter Quality	50
12	draft	180
12	Letter Quality	60

Printing direction: Bidirectional logic-seeking for **text** and graphics printing. Can also be switched to unidirectional by using the proper software command or setting DIP switch 2-6 OFF).

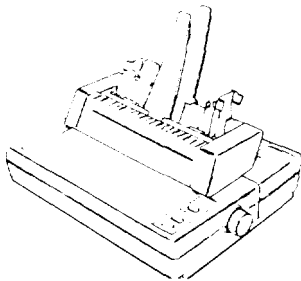
Line spacing: 1/6 inch, or programmable in increments of 1/180th of an inch

Printable columns:

Character pitch	Maximum printed characters
10 pitch	80
10 pitch doublewide	40
10 pitch condensed	137
12 pitch	96
12 pitch doublewide	48
12 pitch condensed	160
15 pitch	120
15 pitch doublewide	60
Proportional	68 (maximum width character) 160 (minimum width character)

Single - Bin Cut - Sheet Feeder (#7341A)

The cut sheet feeder gives you easy and efficient handling of single sheet paper. It automatically feeds up to 75 sheets of standard bond paper into the printer without reloading.



The Font Modules

To expand the range of your printer's capabilities, your printer has a slot in which you can install an optional font module. The table below lists some of the font modules that can be used with the L-1000.

Option	Font Name (LQ)	Character Pitch	Proportional
#7400A	Courier	10, 12, 15	No
#7401A	Prestige	10, 12, 15	No
#7402A	Script	10, 12, 15	No

Interfaces

Interface number	Name
#8143	New serial interface board
18145	RS-232C/current loop interface board
#8148	Intelligent serial interface board
#8149	32 Kbyte buffer serial interface board
#8149M	128 Kbyte buffer serial interface board
#8161	IEEE-488 interface board
#8165	Intelligent IEEE-488 interface board
#8172	32 Kbyte buffer parallel interface board
#8172M	128 Kbyte buffer parallel interface board

Character fonts:

Font	Available Pitches (characters per Inch)
Epson Draft	10, 12, 15
Epson Roman	10, 12, 15, proportional
Epson Sans Serif	10, 12, 15, proportional
Courier (optional)	10, 12, 15
Prestige (optional)	10, 12, 15
Script (optional)	10, 12, 15
OCR-8 (optional)	10

Character tables: 96 standard ASCII characters
13 international character sets
Epson Extended Graphics character

Paper

Paper feed methods: Friction
Single-bin cut sheet feeder (optional)
Pull tractor

Paper width: Single sheets
7.2 to 10.1 inches (182 to 257 mm)
Continuous
4.0 to 10.0 inches (101 to 254 mm)

Paper length: Single sheets
7.2 to 14.3 inches (182 to 364 mm)

Environment

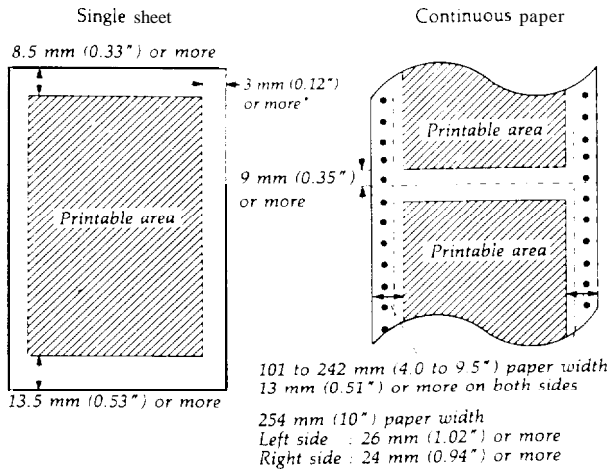
Temperature: Operation: 41° F to 95° F (5° C to 35° C)
 Storage: -22° F to 140° F (-30° C to 60° C)

Humidity: Operation: 10% to 80% without condensation
 Storage: 5% to 85% 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 55 Hz
 Storage: Up to 0.50 G at up to 55 Hz

Printable area:



*This distance is 27 mm (1.06 inches) if the paper width is 257 mm (10.1 inch).

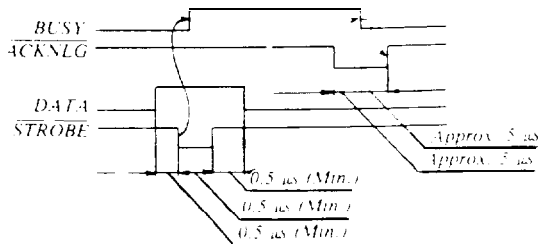
Paper feed speed: Approx. 100 ms/line at 1/6-inch line spacing with intermittent feeding;
 2.2 inches/s with continuous feeding.

Paper thickness: Single sheets
 0.065 to 0.1 mm (0.0025 to 0.004 inches)
 Continuous
 0.065 to 0.25 mm (0.0025 to 0.01 inches)

Number of copies: With continuous multi-part paper only, one original plus up to two copies.
 Maximum thickness: 0.25 mm (0.01 inches)

Interface Timing

The figure below shows the timing for the parallel interface



Mechanical

Ribbon: Cartridge ribbon, available in black only (#7753). Do not use ribbons for 9-pin printers.
 Life expectancy (in Letter Quality characters, at 48 dots/character): 2 million

MCBF: For all components excluding print head: 3 million lines

MTBF: 4000 power on hours

Print head life: 200 million strokes per wire

Dimensions and weight: Height: 5.5 inches (139 mm)
 Width: 15.3 inches (390 mm)
 Depth: 12.6 inches (320 mm)
 Weight: 15 lbs. (7 kg)

Electrical

Voltage: 120 VAC ± 10%

Power consumption: 120 Watts maximum

Frequency: 49.5 to 50.5 Hz (50 Hz version)
 59.5 to 60.5 Hz (60 Hz version)

Insulation resistance: 10 MΩ between AC power line and chaws

Dielectric strength:

- 120 V model can withstand 1.25 kV rms applied for one minute (between AC line and chassis);
- 720,240 V model can withstand 3.75 kV rms applied for one minute

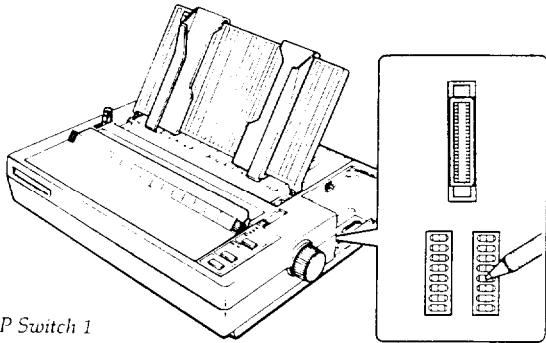
Printing enabled/disabled signals and control conditions

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 (Interface)	DC1/DC3 (Data on/off control)	ERROR	BUSY	ACKNLG (ea char)	Printing (Disabled/enabled)
on line	Low	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*
off line	High/Low (no effect)	DC1/DC3 (no effect)	Low	High	Not generated	Disabled

*While printing 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

L-1000/LQ-500 DOT-MATRIX PRINTER



DIP Switch 1

SW	Description	ON	OFF	Page
1.2	International character set	See table on page 3-7		3-13
1.3	Font selection	See table on page 3-7		3-10
1.4	Condensed mode	Condensed	Normal	3-3
1.5	Character table	Graonic	Italic	3-14
1.8	Cut sheet feeder mode	ON	OFF	7-4

DIP Switch 2

SW	Description	ON	OFF	Page
2.1	Page length	12 inches	11 inches	3-6
2.2	CSF page length	A4 size (65 lines)	Letter size (61 lines)	3-5
2.3	Skip over perforation	ON	OFF	3-9
2.4	Auto line feed	ON	OFF	3-5
2.5	Input buffer capacity	8 Kbytes	1 Kbyte	3-8
2.6	Print direction for graphics	Bidirect	Unidirect	3-9
2.7	Character pitch selection	See table on page 3-8		3-8
2.8				

ON LINE: On when the printer can receive and print data from the computer. If this light flickers, the print head is overheated. In this case, the printer waits until the print head cools and then resumes printing.

SelecType: The two SelecType lights indicate which font is currently selected as indicated by the labels next to each font name.

- : DRAFT selected
- : ROMAN selected
- : SANS SERIF selected
- : SLOT selected

When draft is selected, neither light is on. When Roman is selected, the left light is on. When Sans Serif is selected, the right light is on. When you are using an optional font module font, both lights are on.

Buttons

ON LINE: This button controls the printer's on line, off line status. When the printer is on line, this 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 eject a single sheet of paper or advance continuous paper to the top of the next page. When the printer is on line, press this button to select the character font. See the section in this chapter on selecting a font with SelecType.

LINE FEED: When the printer is off line, press this button to feed the paper one line, or hold it down to feed paper continuously. After inserting a single sheet while the PAPER OUT light is on, press this button to automatically load the paper.

Pitch selection

Character pitch	SW2-7	SW2-8
10 pitch	OFF	OFF
12 pitch	ON	OFF
15 pitch	OFF	ON
Proportional	ON	ON

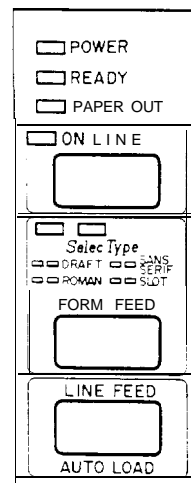
Font selection

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

International character set

Country	SW1-1	SW1-2	SW1-3
USA	ON	ON	ON
France	ON	ON	OFF
Germany	ON	OFF	ON
United Kingdom	ON	OFF	OFF
Denmark 1	OFF	ON	ON
Sweden	OFF	ON	OFF
Italy	OFF	OFF	ON
Spain 1	OFF	OFF	OFF

Country	ASCII code (hex)										DIP SW				
	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E	1-1	1-2	1-3
0 USA	#	\$	@	[	\	\]	^	{	|	}	~	..	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 U.K.	#	\$	@	[	\	\]	^	{	|	}	~	..	ON	OFF	OFF
4 Denmark 1	#	\$	@	Æ	Ø	Å	^	æ	ø	å	..	..	OFF	ON	ON
5 Sweden	#	¤	É	Ä	Ö	Å	^	é	ä	ö	Å	ü	OFF	ON	OFF
6 Italy	#	\$	@	·	\	é	^	ù	à	è	ì	..	OFF	OFF	ON
7 Spain 1	¤	\$	@	;	Ñ	¿	^	~	à	ñ	}	..	OFF	OFF	OFF



Commands in Numerical Order

ASCII	Dec.	Hex.	Description	Page
BEL	7	07	Beeper.....	9-13
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.....	9-14
CR	13	0D	Carriage Return.....	9-13
SO	14	0E	Select Double-wide Mode (one line).....	9-26
SI	15	0F	Select Condensed Mode.....	9-25
DC1	17	11	Select Printer.....	9-9
DC2	18	12	Cancel Condensed Mode.....	9-26
DC3	19	13	Deselect Printer.....	9-10
DC4	20	14	Cancel Double-wide Mode (one line).....	9-27
CAN	24	18	Cancel Line.....	9-13
DEL	127	7F	Delete Character.....	9-10
ESC so	14	0E	Select Double-wide Mode (one line).....	9-26
ESC SI	15	0F	Select Condensed Mode.....	9-25
ESC EM	25	19	Turn Cut Sheet Feeder Mode 0" Off.....	9-11
ESC SP	32	20	Set Intercharacter Space.....	9-31
ESC '	33	21	Master Select.....	9-23
ESC #	35	23	Cancel MSB Control.....	9-12
ESC 5	36	24	Set Absolute Print Position.....	9-20
ESC %	37	25	Select User-defined Set.....	9-34
ESC &	38	26	Define User-defined Characters.....	9-33
ESC *	42	2A	Select Graphics Mode.....	9-36
ESC C	45	2D	Turn Underlining On/Off.....	9-30
ESC /	47	2F	Select Vertical Tab Channel.....	9-18
ESC 0	48	30	Select 1/8-inch Line Spacing.....	9-16
ESC 2	50	32	Select 1/6-inch Line Spacing.....	9-16
ESC 3	51	33	Select n/180-inch Line Spacing.....	9-16
ESC 4	52	34	Select Italic Mode.....	9-32
ESC 5	53	35	Cancel Italic Mode.....	9-32
ESC 6	54	36	Enable Printable Characters.....	9-34
ESC 7	55	37	Enable Upper Control Codes.....	9-35
ESC	58	3A	Copy ROM to RAM.....	9-34
ESC <	60	3C	Select Unidirectional Mode (one line).....	9-10
ESC =	61	3D	Set MSB to 0.....	9-12
ESC >	62	3E	Set MSB to 1.....	9-12
ESC ?	63	3F	Reassign Graphics Mode.....	9-37
ESC @	64	40	Initialize Printer.....	9-9
ESC A	65	41	Select n/60-inch Line Spacing.....	9-17
ESC B	66	42	Set Vertical Tabs.....	9-18
ESC C	67	43	Select Page Length in Lines.....	9-14
ESC C O	67	43	Select Page Length in Inches.....	9-14
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.....	9-28
ESC H	72	48	Cancel Double-strike Mode.....	9-28
ESC J	74	4A	Perform n/180-inch Line Feed.....	9-17
ESC K	75	4B	Select Single-density Graphics Mode.....	9-35
ESC L	76	4C	Select Double-density Graphics Mode.....	9-35
ESC M	77	4D	Select 12 Pitch.....	9-24
ESC N	78	4E	Set Skip Over Perforation.....	9-15
ESC O	79	4F	Cancel Skip Over Perforation.....	9-15
ESC P	80	50	Select 10 Pitch.....	9-24
ESC Q	81	51	Set Right Margin.....	9-19
ESC II	82	52	Select an International Character Set.....	9-33

ASCII	Dec.	Hex.	Description	Page
ESC SO	83	53	Select Superscript Mode.....	9-29
ESC S1	83	53	Select Subscript Mode.....	9-29
ESC T	84	54	Cancel Superscript/Subscript.....	9-29
ESC U	85	55	Turn Unidirectional Mode On/Off.....	9-11
ESC W	87	57	Turn Double-wide Mode On/Off.....	9-26
ESC Y	89	59	Select High-speed Double-density Graphics.....	9-36
ESC Z	90	5A	Select Quadruple-density Graphics.....	9-36
ESC \	92	5C	Set Relative Print Position.....	9-21
ESC a	97	61	Select Letter Quality Justification.....	9-31
ESC b	98	62	Set Vertical Tabs in Channels.....	9-18
ESC g	103	67	Select 15 Pitch.....	9-24
ESC k	107	6B	Select Typestyle Family.....	9-U
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.....	9-30
ESC t	116	74	Select Character Table.....	9-32
ESC w	119	77	Turn Double-high Mode On/Off.....	9-27
ESC x	120	78	Select Letter Quality or Draft.....	9-22

Italic Character Tables

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

Epson Extended Graphics Character Tables

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0			0	@	P	'	p	Ç	É	á		L	l	a	≡	
1		!	1	A	Q	a	q	ü	æ	í		±	¶	β	±	
2		"	2	B	R	b	r	é	Æ	ó		†	‡	Γ	≥	
3		#	3	C	S	c	s	â	ô	ú		‡	‡	π	≤	
4		\$	4	D	T	d	t	à	ö	ñ		†	-	∞	∫	
5		%	5	E	U	e	u	ä	ö	ñ		†	-	∞	∫	
6		&	6	F	V	f	v	ä	ü	ä		†	†	μ	÷	
7		'	7	G	W	g	w	ç	ü	ø		†	†	τ	≈	
8		(	8	H	X	h	x	ê	ÿ	ç		†	†	φ	•	
9		)	9	I	Y	i	y	ë	ÿ	ø		†	†	θ	•	
A		*	:	J	Z	j	z	è	ÿ	ø		†	†	∂	•	
B		+	;	K	[	k	{	ï	ç	½		†	†	∂	√	
C		,	<	L	\	l	!	ï	£	½		†	†	∂	n	
D		-	=	M	]	m	}	ï	ÿ	;		†	†	∂	²	
E		.	>	N	^	n	~	Å	Æ	«		†	†	∂	ε	
F		/	?	O	_	o		Å	æ	»		†	†	∂		

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.