top cover

paper bail

ribbon protector

ribbon cartridge

front cover

print head

power switch

control panel

paper separator

paper separator cover

rear flap

AC inlet

serial interface

rear cover

interface cover

parallel interface

Printer Specifications

Printing

Printing method: 9-pin impact dot matrix

Printing speed:

Pitch	Quality	Characters/second/line
10	High-speed draft	560
10	Normal draft	420
10	Near letter quality	84
12	Draft	504
12	Near letter quality	101

Printing direction: Bidirectional with logic seeking for text printing (can also be switched to unidirectional by using the proper software command). Unidirectional for graphics.

Line spacing: 1/6-inch, 1/8-inch, or programmable increments of 1/216-inch

Paper feed speed:

Continuously   Approx. 17 ms/line (10 inches per second)
Intermittently   Approx. 26 ms/line

Note: Feeding speed (10 inches per second) reduces to 6 inches per second when the optional pull tractor is mounted.

Printable columns:

Pitch	Maximum printed characters
10 pitch	136
12 pitch	163
15 pitch	204
17.1 pitch	233
20 pitch	272

Buffer: 20KB or 0KB (DIP-switch selectable)

Character fonts:

Font	Available pitches (cpi)
EPSON high-speed draft	10
EPSON draft	10, 12, 15, 17.1, 20
EPSON Roman (NLQ)	10, 12, 15, 17.1, 20
EPSON Sans Serif (NLQ)	10, 12, 15, 17.1, 20

Note: The 15- and 20-cpi pitches are available only by sending software commands.

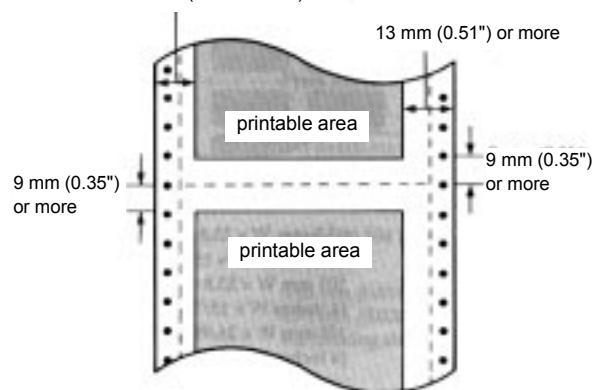Character tables: One italic and 8 graphics character tables

Character sets: 13 international character sets

Paper

Continuous paper:

Printable area

13 to 31 mm (0.51 to 1.22")

13 mm (0.51") or more

printable area

9 mm (0.35") or more

9 mm (0.35") or more

printable area

Quality   Plain paper
Width   101 to 406 mm (4 to 16 inches)

Number of copies

Front	6 sheets (1 original + 5 copies)
Rear	4 sheets (1 original + 3 copies)

Note: The number of copies are for carbonless sheets.

Total thickness

Front	0.46 mm (0.018 inches) maximum
Rear	0.30 mm (0.012 inches) maximum

Weight

Single	45 to 70 kg (14 to 22 lb)
Multi-part	35 to 48 kg (11 to 15 lb) $\times$ n (n $\leq$ 8) and within the total thickness

Labels:

Size	63.5 mm W $\times$ 23.8 mm H
	($2\frac{1}{2}$ inches W $\times$ 15/16 inches H)
	101 mm W $\times$ 23.8 mm H
	(4 inches W $\times$ 15/16 inches H)
	101 mm W $\times$ 26.99 mm H
	(4 inches W $\times$ 17/16 inches H)

Backing sheet

Width	101 to 406 mm (4 to 16 inches)
Length	88.9 mm (3.5 inches) minimum
Total thickness	0.19 mm (0.0075 inches) maximum
	The difference in thickness must be less than 0.12 mm (0.0047 inches).

Overlapping multi-part forms:

Quality	Plain paper
Paper path	Front only
Width	101 to 406 mm (4 to 16 inches)

Copy capability

Front	5 sheets (1 original + 4 copies) (excluding backing sheet)
Overlap length	10 mm (0.394 inches) maximum

Total thickness

Print area	0.46 mm (0.018 inches) maximum
Overlap	0.71 mm (0.028 inches) maximum including the backing sheet

Weight

Multi-part	35 to 48 kg (11 to 15 lb) within the total thickness
Backing sheet	45 to 70 kg (14 to 22 lb)

Multi-part forms with labels:

Quality	Plain paper
Paper path	Front only
Width	101 to 406 mm (4 to 16 inches)
Total thickness	0.46 mm (0.018 inches) maximum

Weight

Single	45 to 70 kg (14 to 22 lb)
Multi-part	35 to 48 kg (11 to 15 lb) $\times$ n (n $\leq$ 8) and within the total thickness

Paper requirements:

General

❏ The sprocket holes must be a circle or notched circle.

❏ The holes must be cleanly cut.

❏ The perforation between pages should not extend all the way to the edges of the paper.

❏ At the perforation between pages, the horizontal and vertical perforation cuts should not cross.

❏ The ratio of the cut/uncut length at the perforation should be less than 5:1.

❏ Expansion at the perforation (when the paper is kept flat) should be less than 1 mm (0.04 inches).

Multi-part forms

❏ It is best to use pressure-sensitive multi-part forms.

❏ The form sheets should be securely joined together along the left and right edges by crimping, spot-gluing, or tape stitching. For the best printing quality, use multi-part forms joined with spot-gluing. Never use multi-part forms joined with metal staples.

❏ Crimping should be pressed in from the original sheet side and go completely through all copy sheets. Also, crimping should be double-sided; using single-sided crimping may cause the printer to jam.

❏ For multi-part forms joined with spot-gluing, be sure the spots of glue are spaced the same way on the left and right edges of the paper.

❏ The binding area should be flat and should not have creases.

❏ Overlapping multi-part forms should be joined together at the top of the pages and not along the sides of the pages.

❏ The sprocket holes of all sheets in the form should be aligned properly.

❏ The binding position should be outside the printable area.

Labels

❏ Labels should be securely attached to the backing sheet.

❏ The backing sheet should be covered with the label material, both in the label area and in the spaces between labels. (The backing sheet should not be exposed.)

❏ The corners of the labels should be rounded.

❏ The label surface should be flat.

Mechanical

Paper feed methods:	Push tractor (front and rear) Push-pull feed with optional pull tractor
Ribbon:	Cartridge ribbon, available in black only (#8766). Do not use ribbons for 24-pin printers. Life expectancy is 15 million characters (at 14 dots/character).
MCBF:	For all components excluding print head and ribbon: 24,000,000 lines
MTBF:	8000 power-on hours (25% duty) Running the printer continuously for extended periods of time is not recommended. It can cause the printer to wear out sooner than expected.
Print head life:	300 million characters at 14 dots per character

Dimensions and weight:		
	Height:	369 mm (14.5 inches)
	Width:	700 mm (27.6 inches)
	Depth:	382 mm (15.0 inches)
	Weight:	29 kg (approx. 64 lb)

Electrical

Rated voltage	AC 120 V
Input voltage range	AC 103.5 to 132 V
Rated frequency range	50 to 60 Hz
Input frequency range	49.5 to 60.5 Hz
Rated current	5.0 A
Power consumption	Approx. 115 W (during self-test printing in draft mode at 10 cpi)

Environmental

Temperature:	Operation:	5°C to 35°C (41°F to 95°F)
	Storage:	−30°C to 65°C (−22°F to 150°F)
Humidity:	Operation:	10% to 80% RH without condensation
	Storage:	5% to 85% RH without condensation

Safety approvals

Safety standards:	UL1950 with D3, CSA22.2 #950 with D3
R.F.I.:	FCC Part 15 Subpart B class B

Interface Specifications

The DFX-5000+ has a built-in parallel and serial interface.

The parallel interface is an 8-bit, TTL-compatible signal.

The serial interface is an RS-232C asynchronous interface with the following characteristics:

Data format:	1 start bit Data word length: 8 bits Odd, even, or no parity 1 or more stop bits
Signal level:	Mark logical "1" (−3 V to −27 V) Space logical "0" (+3 V to +27 V)
Handshaking:	Handshaking by DTR signal or XON/XOFF.
Bit rate:	300, 1200, 9600, 19200 bps
Connector plug:	EIA 25-pin connector

Connector pin assignments for the serial interface and a description of their respective interface signals are shown in the table below.

Signal pin	Signal	Direction	Description
1	FG	—	Chassis ground
2	TXD	OUT	Transmits data for XON/XOFF
3	RXD	IN	Receives data
4-6	NC	—	Not connected
7	SG	—	Signal ground
8-10	NC	—	Not connected
11, 20	DTR	OUT	Indicates whether or not the printer is ready to receive input data. If data input is not ready, DTR = "MARK".
12-19	NC	—	Not connected
21-25	NC	—	Not connected

The column heading "Direction" refers to the direction of signal flow from the printer.

Setting the DIP Switches

This section describes the functions of the DIP switches. After setting one or more DIP switches, turn on the printer to put your settings into effect.

SW no.	Function	ON	OFF	Factory setting
1-1	Emulation mode	IBM mode*	ESC/P mode	OFF
1-2	Draft speed	Normal	High	OFF
1-3	Character quality	NLQ	Draft	OFF
1-4				OFF
1-5	IBM mode	See below for IBM mode		OFF
1-6		See next section		OFF
1-7	ESC/P mode	"International Character		OFF
1-8		Sets" for ESC/P mode		OFF
2-1	Shape of zero	Slashed	Not slashed	OFF
2-2	Input buffer	Invalid	Valid	OFF
2-3	Automatic LF by CR	Valid	by AFXT	OFF
2-4				OFF
2-5	Interface	See below		OFF
2-6				OFF
2-7	Serial baud rate	See below		OFF
2-8				OFF
3-1	Page length	See below		OFF
3-2				OFF
3-3	Skip over perforation	Valid (1")	Invalid	OFF
3-4	Paper memory area**	2	1	OFF
3-5	Overlapping forms**	Valid	Invalid	OFF
3-6	Forms with a label**	Valid	Invalid	OFF
3-7	Skip binding	Valid	Invalid	OFF
3-8	Automatic tear off	Valid	Invalid	OFF

*   IBM mode indicates IBM ProPrinter II emulation mode.

** These DIP switches are used for paper memory function settings.

DIP switch settings for IBM mode selection

SW No.	Function	ON	OFF	Factory Setting
1-4	Automatic CR by LF, ESC J	Invalid	Valid	OFF
1-5	Reserved			OFF
1-6	Codes 80-9FH	Characters	Commands	OFF
1-7	Reserved			OFF
1-8	Character table	PC865	PC437	OFF

DIP switch settings for interface and parity

Interface	SW 2-4	SW 2-5	SW 2-6
Automatic selection, serial interface, odd parity (30 seconds*)	OFF	OFF	OFF
Automatic selection, serial interface, odd parity (10 seconds*)	OFF	OFF	ON
Automatic selection, serial interface, no parity (30 seconds*)	OFF	ON	OFF
Automatic selection, serial interface, no parity (10 seconds*)	OFF	ON	ON
Parallel interface	ON	OFF	OFF
Serial interface, odd parity	ON	OFF	ON
Serial interface, even parity	ON	ON	OFF
Serial interface, no parity	ON	ON	ON

*   This is the standby time.

DIP switch settings for serial baud rate

Bit Rate (bps)	SW 2-7	SW 2-8
19,200	OFF	OFF
9,600	OFF	ON
1,200	ON	OFF
300	ON	ON

DIP switch settings for page length

| Page Length	SW 3-1	SW 3-2
11 inches	OFF	OFF
12 inches	OFF	ON
8.5 inches	ON	OFF
70/6 inches	ON	ON

International Character Sets

The following table describes how to select a character table with the DIP switches.

Character table (standard)	SW 1-4	SW 1-5	SW 1-6	SW 1-7	SW 1-8
Italic U.S.	OFF	OFF	OFF	OFF	OFF
Italic France	OFF	OFF	OFF	OFF	ON
Italic Germany	OFF	OFF	OFF	ON	OFF
Italic U.K.	OFF	OFF	OFF	ON	ON
Italic Denmark	OFF	OFF	ON	OFF	OFF
Italic Sweden	OFF	OFF	ON	OFF	ON
Italic Italy	OFF	OFF	ON	ON	OFF
Italic Spain	OFF	OFF	ON	ON	ON
PC437	OFF	ON	OFF	OFF	OFF
PC850	OFF	ON	OFF	OFF	ON
PC860	OFF	ON	OFF	ON	OFF
PC863	OFF	ON	OFF	ON	ON
PC865	OFF	ON	ON	OFF	OFF
PC861	OFF	ON	ON	OFF	ON
BRASCII	OFF	ON	ON	ON	OFF
Abicomp	OFF	ON	ON	ON	ON

The Control Panel

The control panel gives you access to several powerful features. The panel consists of indicator lights and buttons.

Indicator lights
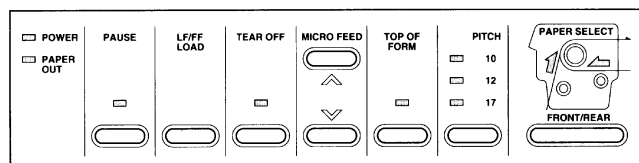
POWER   On when the printer is on.

PAPER OUT   On when the printer is out of paper.
              Flashes when the paper jams.

PAUSE   On when printing is paused.

TEAR OFF   On when the printer is in tear-off mode.

TOP OF FORM	On when the printer is in top-of-form mode.
PITCH	Indicates the selected pitch (10, 12, 17).
PAPER SELECT FRONT	On when the front tractor is selected. The light is green when paper is loaded (even if the paper is in the standby position), and red when the tractor is out of paper.
PAPER SELECT REAR	On when the rear tractor is selected. The light is green when paper is loaded (even if the paper is in the standby position), and red when the tractor is out of paper.

Buttons

|	
PAUSE	Stops or starts printing, if print data is currently in the input buffer.
LF/FF/LOAD	LF advances paper one line at a time. To feed paper one line, press this button once.
	FF advances the paper to the top of the next page. To use this feature, press and hold the button for about one second.
	LOAD loads paper on the push tractor of the selected paper path when no paper is currently loaded.
TEAR OFF	Feeds the paper to the printer's tear-off edge and puts the printer in tear-off mode.
	If the perforation of your paper does not align exactly with the printer's tear-off edge, use the MICRO FEED buttons to adjust the tear-off position.
MICRO FEED	Adjusts the paper position including the top-of-form and tear-off positions. The forward MICRO FEED button (∧) advances the paper in 1/216-inch increments and the backward MICRO FEED button (∨) feeds the paper backward in 1/216-inch increments.
TOP OF FORM	Enables the top-of-form mode, so that the top-of-form position can be adjusted using the MICRO FEED buttons. This button functions only when the paper is loaded into the printer using the LF/FF LOAD button and the printer is in pause mode.
PITCH	Selects a character pitch of 10, 12, or 17 cpi.
PAPER SELECT FRONT/REAR	Selects the front or rear tractor. If you have been using paper loaded on one tractor, first remove the printed output before pressing this button to switch the tractor. When you switch between tractors, the paper already loaded in the printer is fed backward to the standby position and the paper on the newly selected tractor is loaded.

Testing the Printer

You can use the built-in self-test to make sure the printer is working correctly. The self-test checks the following:

❑ Control circuit

❑ Printer mechanism

❑ Print quality

Before performing the self-test, you need to load paper.

Loading paper onto the front tractor

1. Open the printer's front cover by lifting the middle of its bottom edge up until it locks in place.

2. Release the sprocket lock levers on both the right and left sprocket units by pulling each lever down.
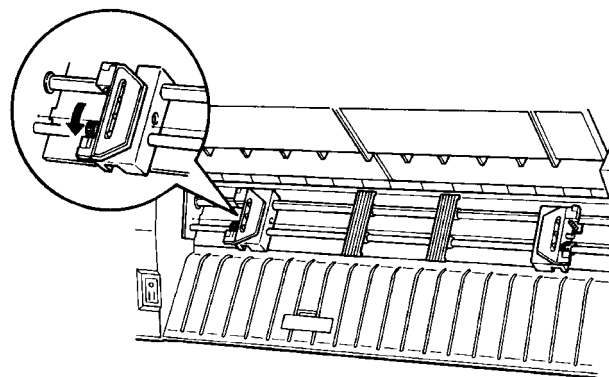
3. Slide the left sprocket unit all the way to the left. Lock it into place by pushing the sprocket lever up.

4. Slide the right sprocket unit to approximately match the width of the paper. (Do not lock it into place yet.)

5. Slide the two paper supports so that they are spaced evenly between the sprocket units.
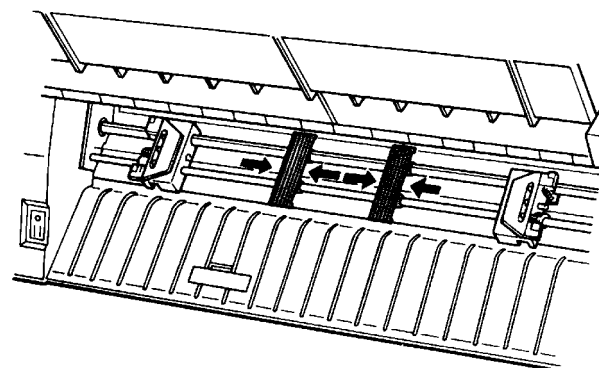
6. Open both sprocket covers.
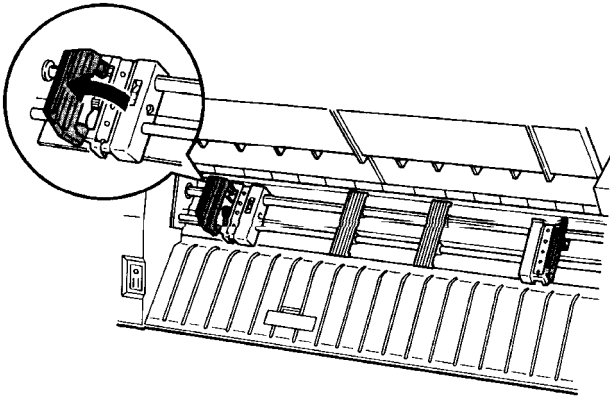
7. Be sure the paper has a clean, straight edge, and then fit the first five holes in the paper over the pins of the sprocket units as shown below. The side of the paper that you want to print should be facing you. Now close the sprocket covers.

8. Slide the right sprocket unit so that the paper is straight and has no wrinkles. Lock the sprocket unit in place by pushing the sprocket lock lever up.
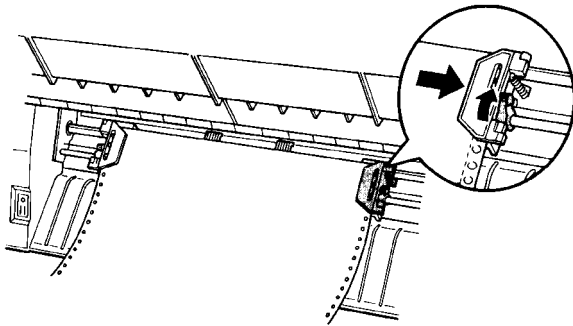
9. Pull out slightly on the printer's front cover and lower it until it is closed.

10. Turn on the printer.

11. Press the LF/FF/LOAD button. If the paper does not load, the front tractor may not be selected. Press the FRONT/REAR button to select the front tractor.

Running the self-test

Before running the self-test, turn off the printer if it is on. Wait 10 seconds before starting the self-test.

The self-test can be run in either draft or near letter quality (NLQ) mode.

1. While holding down the LF/FF button (for draft mode) or the TEAR OFF button (for NLQ mode), turn on the printer. After printing starts, release the button.

   The printer prints a series of characters.

2. The self-test continues until the paper runs out or until you press the PAUSE button. (To resume the test, press the PAUSE button again.)

3. To end the self-test, press the PAUSE button to stop printing and then hold down the LF/FF button to advance the paper.

4. Open the paper separator cover and tear off the paper at the perforation.

5. Turn off the printer.

Installation/Support Tips

Physical installation

The DFX-5000+ printer is very easy to set up, but because it is a very high-speed machine, take special care to ensure that a proper paper path is established. EPSON printer stand model 8502 is specially designed to accommodate the printer, and its use is recommended but not required. This stand provides a catch bin and a paper supply shelf large enough to hold paper for both the front and rear tractors, as well as detents, which hold the printer securely in place.

If this stand is not used, make sure that the paper supply to both tractors is properly aligned (no skewing to either side) and that the paper exiting does not interfere with the rear paper supply. Also ensure that the power and interface cables are routed away from both incoming and exiting paper.

The following illustration shows three ways to position the printer and paper supply: with the front tractor loaded, with the rear tractor loaded, and with both tractors loaded.
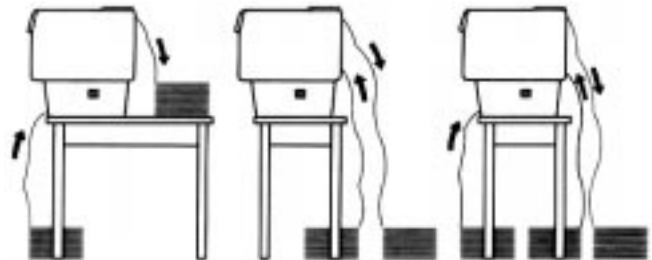
Software installation

The DFX-5000+ is code-compatible with the EPSON FX printer series, and therefore it will perform properly with virtually all popular software. The drivers that can be used with the DFX-5000+ printer are listed in order of preference:

DFX-5000+
DFX-8000
DFX-5000
FX-870/1170
FX series
LX series
RX series
MX series
EPSON

Note:
To use 15 or 20 characters per inch on your printer, you need a DFX-5000+ printer driver. If your software program does not list this printer, contact the software manufacturer to see if an update is available.

Optional Interface

When the serial board (C823051) is used, the printer's built-in serial interface is not available for use.

Options and Consumables

Use the following information when ordering DFX-5000+ options and consumables.

Description	Product Code	UPC Code
DFX-5000+ Printer	C117001	0-10343-81085-3
DFX Printer Stand	8502	7-17641-10602-1
Fabric Ribbon	8766	0-10343-60095-9
Fabric Ribbon Refill	8767	0-10343-60096-6
Pull Tractor	8309G-A	0-10343-80013-7
Type-B Serial Interface	C823051	0-10343-07003-5
Type-B Serial Interface w/32KB Buffer	C823071	0-10343-07004-2
Type-B Parallel Interface w/32KB Buffer	C823101	0-10343-80015-1
Type-B Ethernet Interface	C823241	0-10343-81035-8
Type-B Coax Interface	C823141	0-10343-80016-8
Type-B Twinax Interface	C823151	0-10343-80017-5

Information Reference List

Engineering Change Notices

None.

Technical Information Bulletins

None.

Product Support Bulletins

None.

Related Documentation

TM-DFX5K+	EPSON DFX-5000+ Service Manual
PL-DFX5K+	EPSON DFX-5000+ Parts Price List
4002443	EPSON DFX-5000+ User's Guide