

OWNER'S MANUAL

LAPTOP PRINTER

LT-20

Shalashy
SEIKOSHA

WARNING:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

"It is necessary to use shielded interconnect cables to insure compliance with FCC Class B limits for radio frequency emissions."

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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Tokyo, Japan

IMPORTANT SAFETY INSTRUCTIONS

1. Read all of these instructions.
2. Save these instructions for later use.
3. Follow all warnings and instructions marked on the product.
4. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use this product near water.
6. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
7. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in, installation unless proper ventilation is provided.
8. This product should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
9. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
10. If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord ampere rating. Also, make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.

11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.
12. Except as explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing those covers that are marked "Do not Remove" may expose you to dangerous voltage points or other risks. Refer all servicing in those compartments to service personnel.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - A. When the power cord or plug is damaged or frayed.
 - B. If liquid has been spilled into the product.
 - C. If the product has been exposed to rain or water.
 - D. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
 - E. If the product has been dropped or the cabinet has been damaged.
 - F. If the product exhibits a distinct change in performance, indicating a need for service.

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Features

- This high-quality, high-density 24-pin printer has a built in cut-sheet feeder for use with cut sheets only.
- You can use the printer by putting your note book computer on top of it.
- The following printing modes are available:
 - Letter quality
 - Draft
 - S.S.D (Super-Speed Draft—15 cpi)
- You can feed paper by manual insertion instead of using paper cassette paper feeding mode.
- Paper size automatic detection function
This printer decides printing width by detecting paper width automatically.
- It has standard Courier 10 as letter quality characters.
- You can set each printer function easily by optical type function switch.
- You can use it with 3-way power source: domestic power, rechargeable battery pack (option), or car battery pack (option).

Options and Consumables

The following options and consumables are available for easier use of LT-20 and longer maintenance of functions.

Name		Model Number
Option	PAPER CASSETTE (B5 size)	#LT-2006B
	NiCad BATTERY PACK	#LT-2004NC
	BATTERY CHARGER (120V)	#LT-2003U
	BATTERY CHARGER (220-240V)	#LT-2003E
	CAR-BATTERY PACK	#LT-2002
Consumables	RIBBON CASSETTE	#LT-2051

Matters that Require Attention

[When positioning]

- ☐ Position the printer evenly on a flat surface.
- ☐ Do not use the printer in the place receiving direct sunlight or near heaters.
- ☐ Do not use the printer in humid or dusty places.
- ☐ Use only standardized power sources.
- ☐ You must switch off the power before fitting/removing the interface cable or the ribbon cassette.
- ☐ To prevent print head from a damage during transportation, it is fixed with wire band. Remove this wire band before using printer.

[When using]

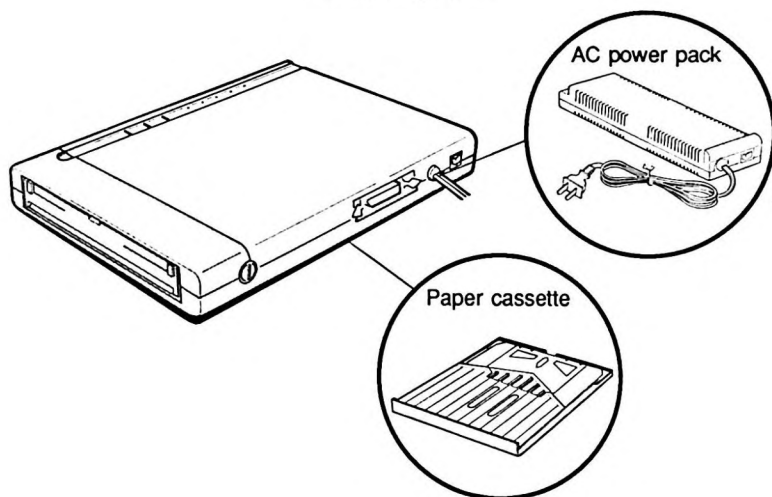
- ☐ Never print without a ribbon cassette and printer cover. This damages the print head or platen.
- ☐ Do not cut off the power source of printer while printing except in emergencies.
- ☐ Print head gets hot immediately after printing. Do not touch it directly.
- ☐ Wipe dirty case cover with a slightly wet soft cloth. Wipe heavy dirt with a soft cloth dampened with neutral detergent diluted with water. Never wipe with a hard cloth or volatile solvent such as alcohol, benzine or thinner. These cause discoloration, transformation or damage on the surface.
- ☐ When you use your note book computer on top of this printer, pay attention to the following:
 - Do not put any equipments heavier than 3-kg on this printer.
 - Do not put any equipments on the printer cover.
 - Do not put the equipments which generate oscillation, high-temperature, or radio wave on this printer.

Unpacking

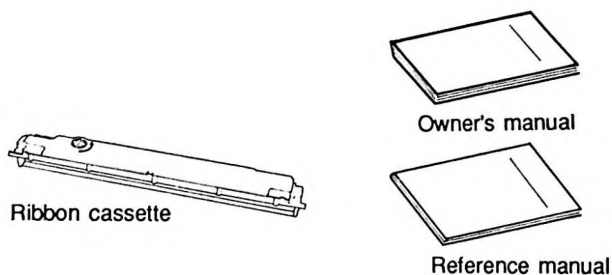
Unpacking

The following are in the printer carton. Check that no shortage or damage exists.

Packed goods



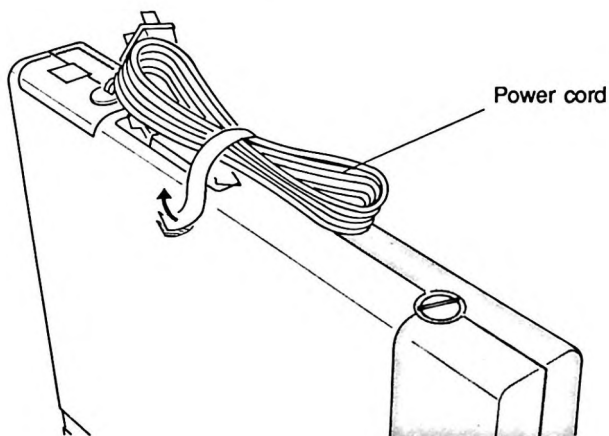
Printer (includes AC power pack and paper cassette)



Note : Keep packaging cartons or materials for retransportation.

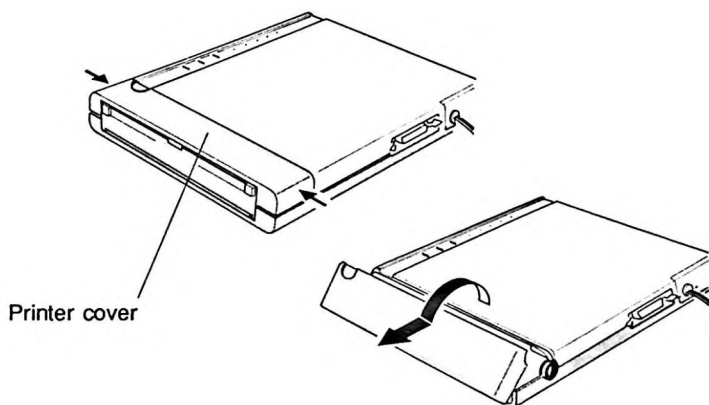
After unpacking the printer, first remove the fixed tools from the printer.

1. Remove the tape which fixes the power cord to the printer.



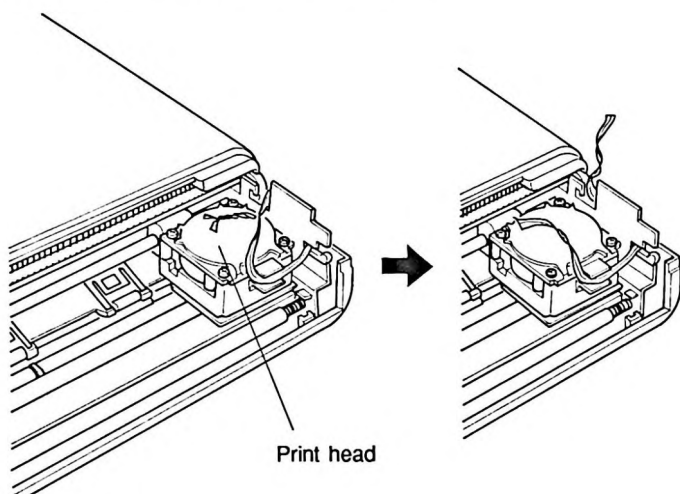
2. Remove the tie band which fixes the print head to the mechanism frame.

- (1) Open the printer cover. Push printer cover from right and left sides lightly and remove it as follows.



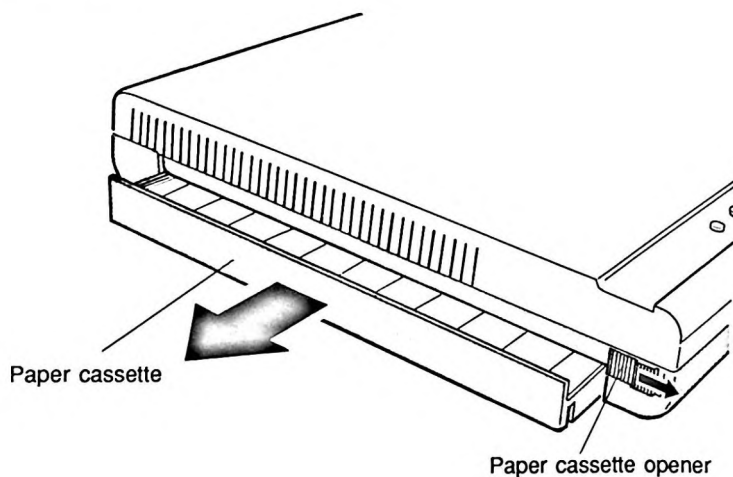
Unpacking

- (2) Remove the tie band from the printer.

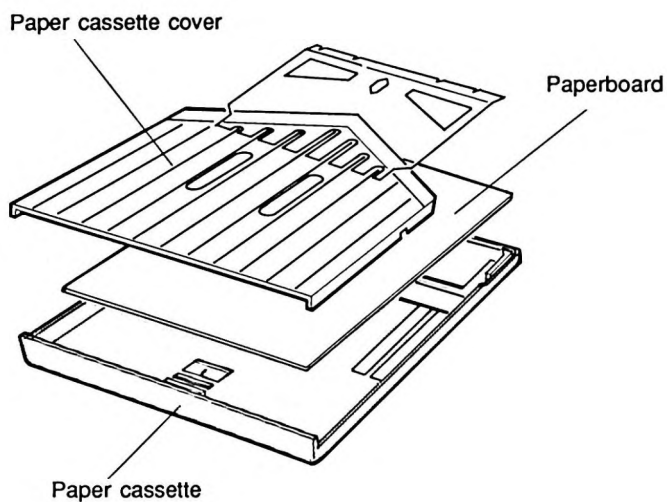


3. Remove the paperboard inside the paper cassette.

- (1) Slide the paper cassette opener, a part of paper cassette will expose. Then pull it out.

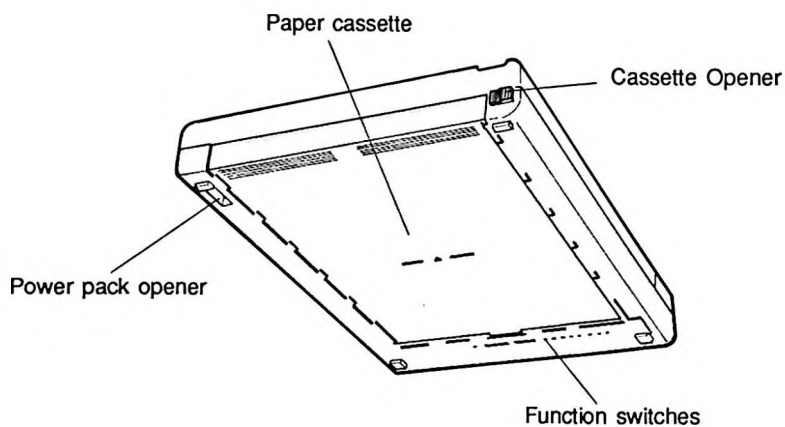
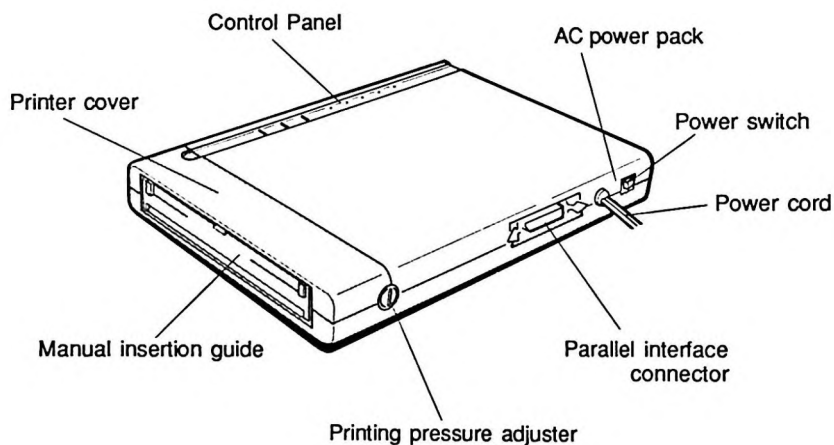


- (2) Lift up the cassette cover and remove the paperboard.



Getting Acquainted with Printer Parts

The illustrations that follow show main printer parts.



Fit each part

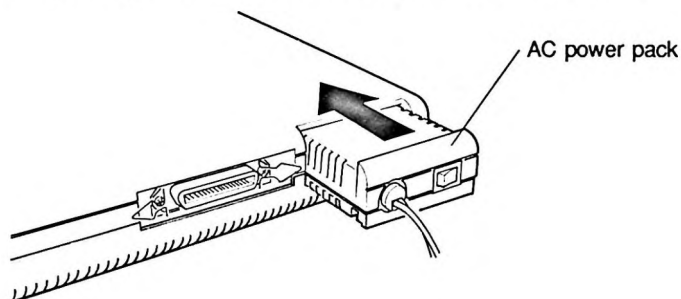
AC Power Pack

You can fit or remove the attached AC power pack.

Note: Never fit or remove AC power pack while plugged into power outlet.

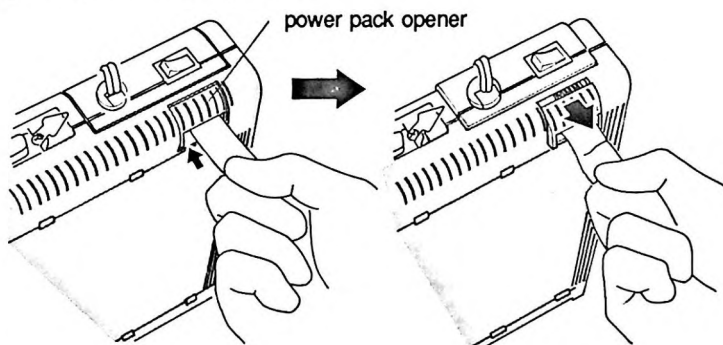
[Fitting]

Insert the AC power pack firmly in the arrow direction until it clicks.



[Removal]

Pulling the power pack opener on the bottom of printer downward exposes part of the AC power pack. Then, pull it out as it is.

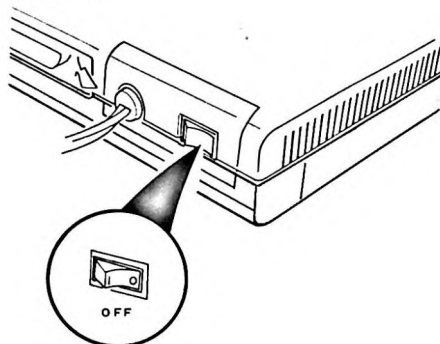


Notes on storage: Store the AC power pack in low-humidity, clean place without exposing it to direct sunlight.

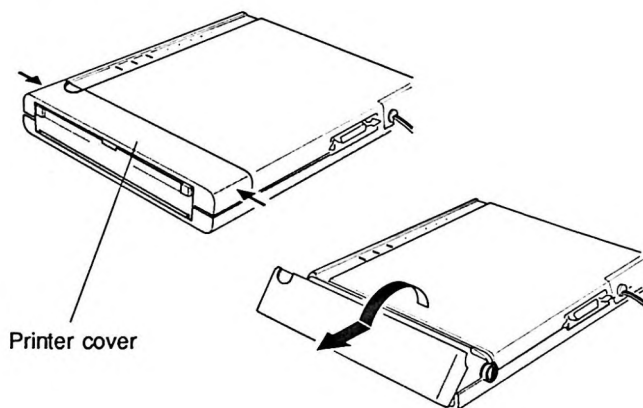
Fit Each Part

Ribbon Cassette

1. Check that power is off.



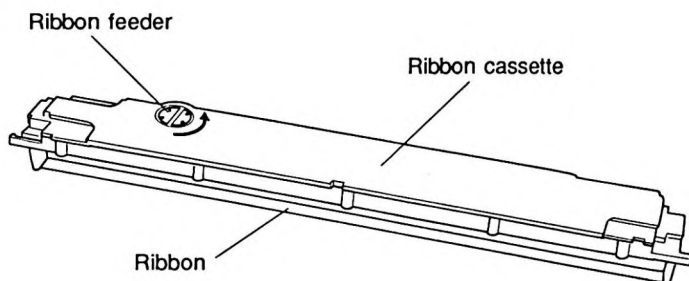
2. Slightly push the printer cover both on the right and left sides at the same time and remove it as follows.



Note: 1. Do not supply power when the printer cover is removed. This may damage the print head or platen.

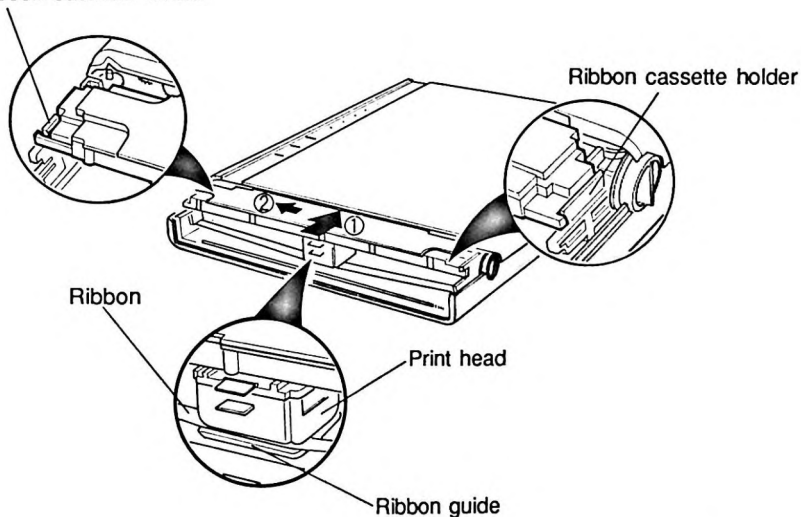
2. Do not touch the print head immediately after printing because it is too hot.

3. To remove ribbon slack, insert a coin into the ribbon feeder slot and turn it in the arrow direction.



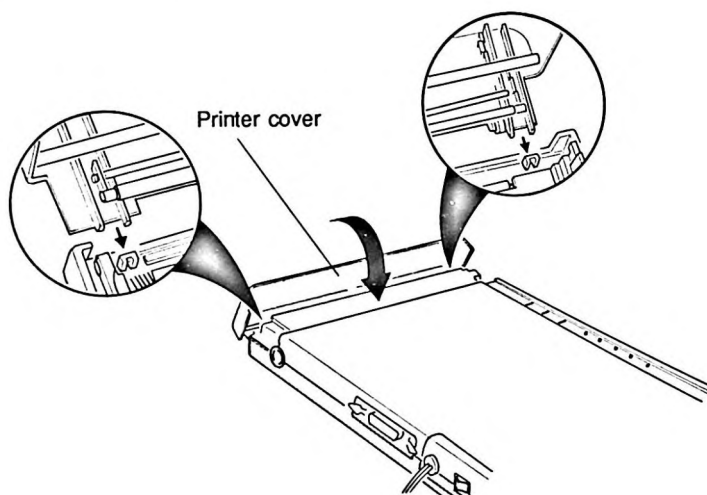
4. Push the ribbon cassette into the cassette holders as follows, then set it firmly into its position by pushing the cassette to the left. At this time, be sure that the ribbon is inserted correctly between the print head and ribbon guide. Centering the print head eases setting. Even if the ribbon is inserted incompletely between the print head and ribbon guide, the ribbon is set to the correct position automatically at power-on.

Ribbon cassette holder



Fit Each Part

5. Fit the printer cover.



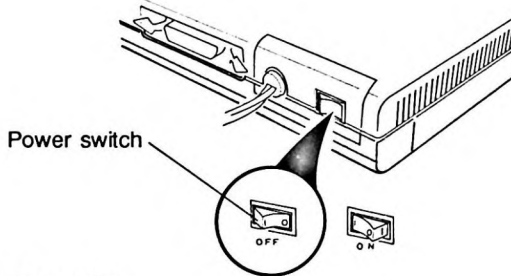
Powering-Up

Use applicable voltage power source mentioned on the label on bottom of printer.

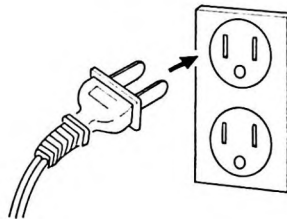
Note: 1. Use outlet away from equipment such as refrigerator using a large motor that produces electric noise.

2. After turning power switch off, wait more than 2 seconds before turning it on again. Short interval may damage printer.

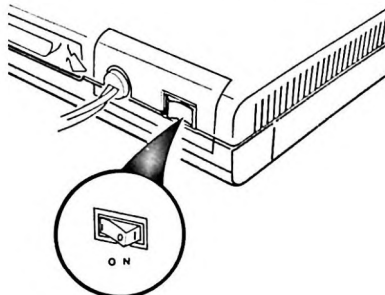
1. Check that AC power pack is fitted correctly and the power switch is off.



2. Plug into an outlet.



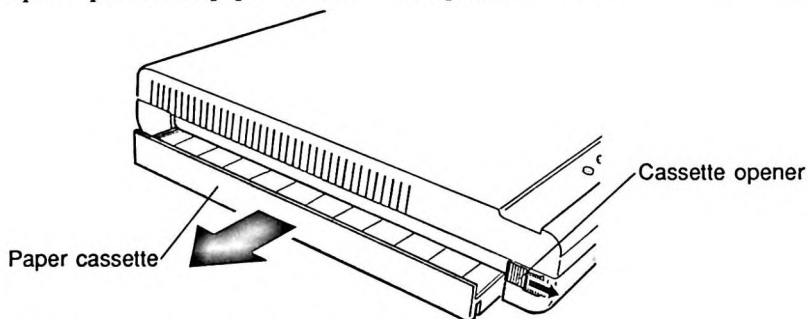
3. Turn the power switch on. ([POWER] lamp goes on.)



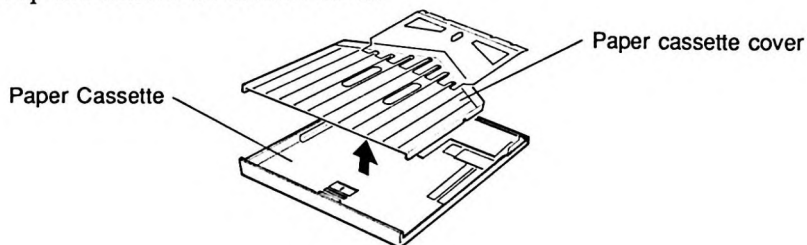
Handle the Paper

Paper Cassette

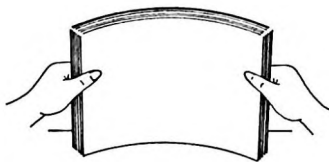
1. Pull out the paper cassette from the printer. The following figure shows the left side of printer. Sliding the cassette opener in the arrow direction (right) exposes part of the paper cassette. Then, pull it out as it is.



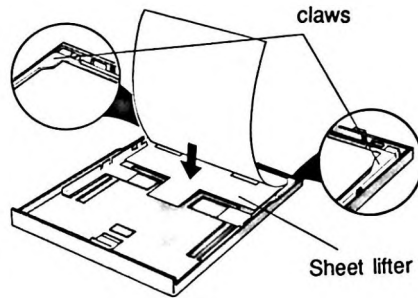
2. Lift up and remove the cassette cover.



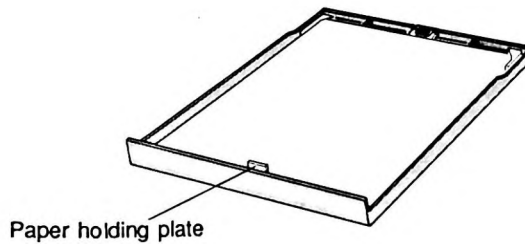
3. Use sheets whose size is indicated on the cassette and shuffle them on the even surface.



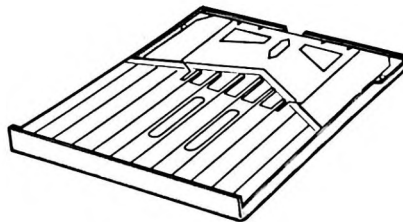
4. Set the right and left corners of paper below the claws of cassette after pushing the sheet lifter downward as follows:



5. Be sure that the edge of sheets is placed against the paper holding plate.

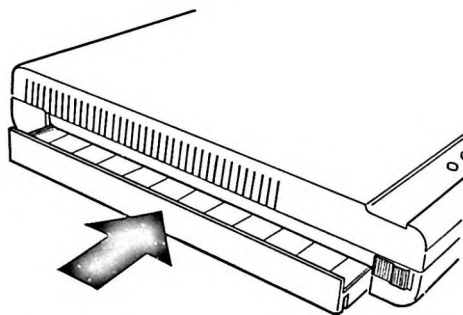


6. Place the paper cassette cover on the cassette.



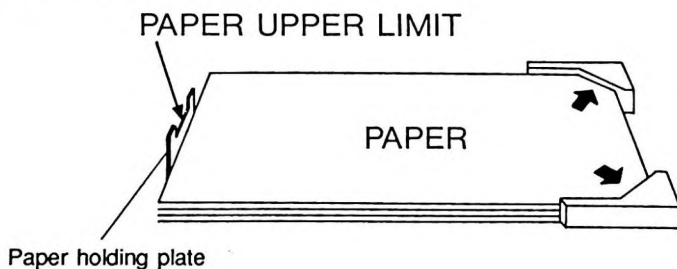
Handle the Paper

7. Gently insert the paper cassette into the printer. Press firmly until it clicks.



Note: 1. You can set maximum 50 sheets of 45-kg paper in the paper cassette. See Page 35 "Printer Specifications" for details.

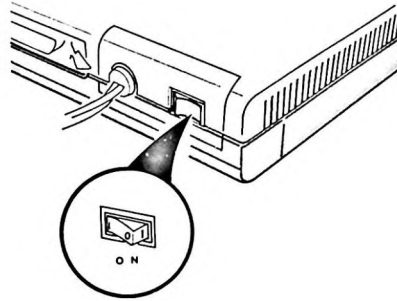
2. Use the paper size indicated on the paper cassette. Different size causes abnormal feeding.
3. When using the printer after carrying, check that corner of paper is correctly set below the claw of paper cassette by pulling out the paper cassette before printing.
4. A stack of paper should not exceed the paper upper limit of the paper holding plate.



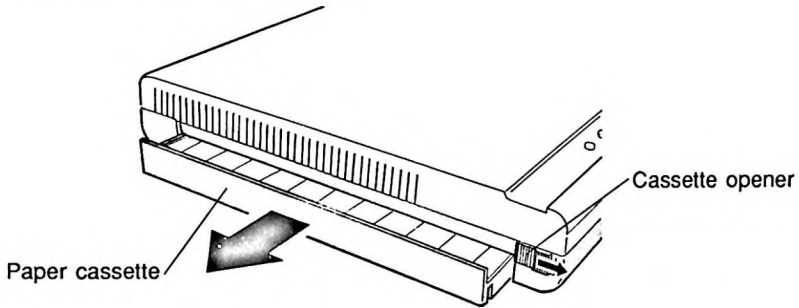
5. Do not use a bend or curled paper.

Manual Insertion

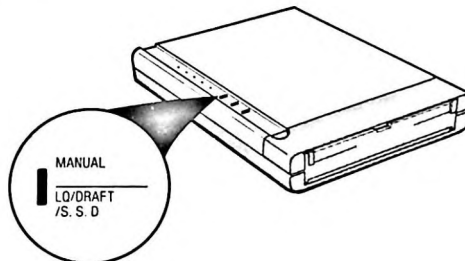
1. Turn the power on. Detection of paper causes the paper to eject.



2. Pull out the paper cassette.

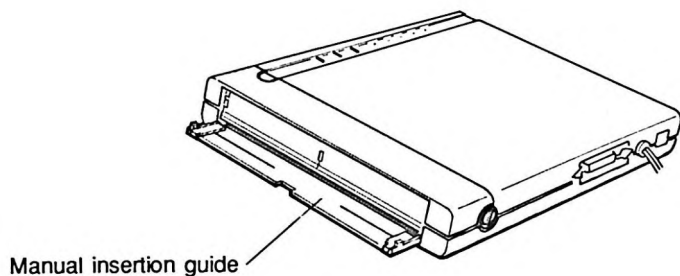


3. Check that [ON-LINE] lamp goes on (if it goes off, press [ON/OFF LINE] switch to select on-line condition.) Press [MANUAL] switch and select manual insertion mode.

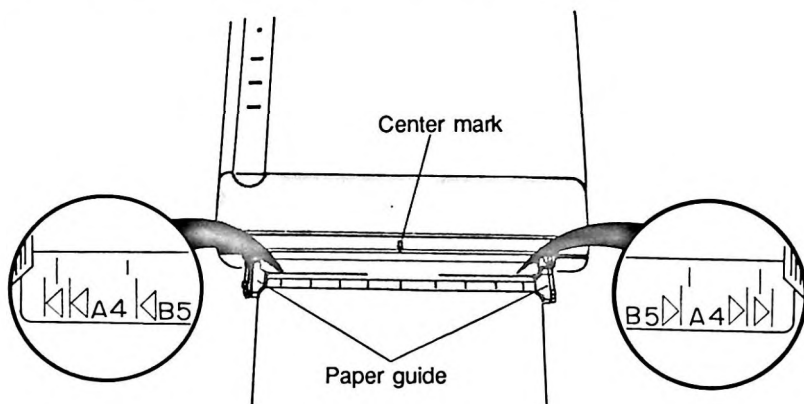


Handle the Paper

4. Open the manual insertion guide.



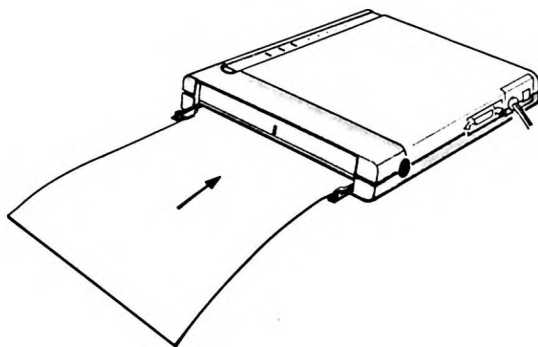
5. Slide the paper guides and insert the paper through right and left paper guides and fit the center of the paper to the center mark of printer.



Note: Manual insertion mode detects each paper width when feeding paper. Fit the center of paper to the center mark accurately because the printer measures the length from the center mark to the left edge of paper to determine the paper width.

When the printer receives data from your computer, the printer starts feeding paper and printing automatically. If you will print after setting paper, try to set paper as follows:

6. Press [ON/OFF LINE] switch and set the printer to the OFF LINE condition. ([ON-LINE] lamp goes off.)
7. Pressing [LF/FF] switch for more than 0.6 seconds starts feeding. Pushing paper into the printer causes normal feeding of paper.

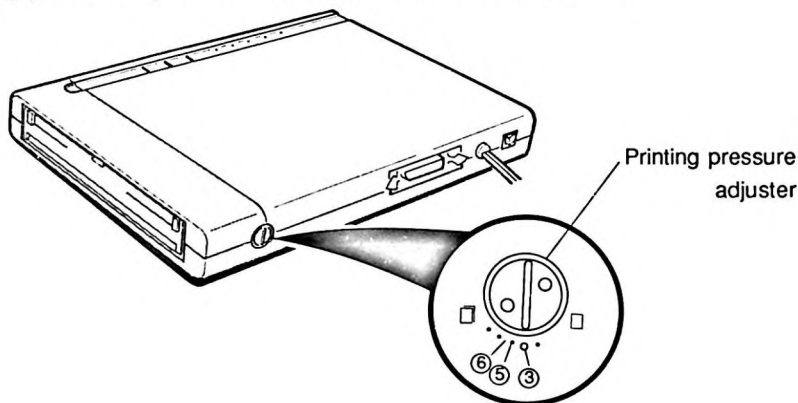


8. Press [ON/OFF LINE] switch and set the printer to ON LINE condition. ([ON-LINE] lamp goes on.)

Note: Failure of feeding in Step 7 turns [P.OUT] lamp on. In this case, pressing [ON/OFF LINE] switch starts feeding again, then printer enters ON-LINE condition after feeding. ([ON-LINE] lamp goes on, and [P.OUT] lamp goes off.)

Adjust Printing Pressure

A printing pressure adjuster is located on the back of the printer. It adjusts the printing pressure depending on the type or thickness of paper used.



Adjustment

- One-part paper: Set to position ③ shown in the above figure. (Adjuster is set to this position at the factory.)
- Copy paper: Set to position ⑤ or ⑥ shown in the above figure. (Use copy paper with manual insertion.)
- Thick paper: Turn to the clockwise direction (larger figure direction) shown in the above figure.
- Thin paper: Turn to the counterclockwise direction (smaller figure direction) shown in the above figure.

Adjust printing pressure while performing a self test.

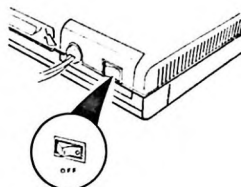
- Note:**
1. Too small a gap between the print head and paper may cause a smudge on the paper, paper jam, or abnormal paper feeding.
 2. Too big a gap between the print head and paper may cause illegible characters due to light printing or damage to the print head if that condition continues for a long time.

Perform Self Test

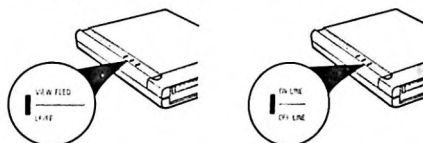
This printer has the self test function to check printing characters or operation. Also use it to adjust head position. As the self test is available only when feeding paper from paper cassette, put paper in the paper cassette and set to the printer correctly.

Note: Lack of paper in the paper cassette prevents the self test.

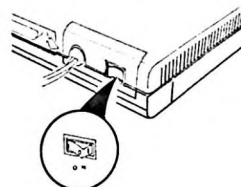
1. Turn power off.



2. Press and hold both [LF/FF] or [LF/FF] and [ON/OFF LINE].



3. Turn power on.



Turning power on while pressing [LF/FF] prints self test pattern in DRAFT characters. Turning power on while pressing both [LF/FF] and [ON/OFF LINE] prints self-test pattern in letter-quality characters.

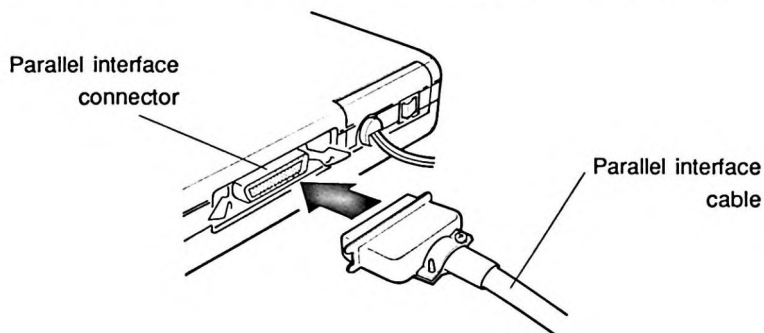
4. Continuous pressing of the switch till the end of initial operation of printer (approx. 6 seconds) starts feeding the paper and prints self test pattern.

Self test mode terminates if no-paper is detected. (No paper exists in the paper cassette.) Self test mode is also terminated by pressing [ON LINE] during self test printing.

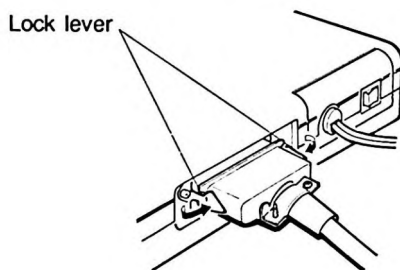
Connect with Computer

Note: Check that both the power to the computer and printer is off before connecting.

1. Insert the printer cable connector firmly into the printer interface connector.

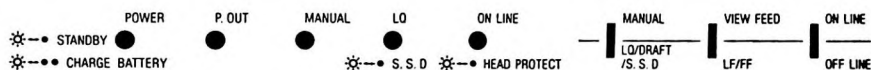


2. Fix it with right and left lock levers of interface connector.



3. Insert the other connector of printer cable firmly into the connector of computer, and fix it with lock levers as with printer side.

Operation Switch and Indication Lamp



Operation Switch

(1) [ON/OFF LINE] switch

Printer Condition	Function
ON LINE	Set to OFF LINE
OFF LINE	Set to ON LINE

Turning power on while pressing this switch and [VIEW-FEED | LF/FF] simultaneously causes the printer to enter the letter-quality self test mode and prints continuously standardized pattern in letter-quality characters. Also, pressing this switch during self test printing terminates the self test mode and sets the printer to ON-LINE. Turning power on while pressing this switch causes the printer to enter the hexadecimal dump list mode.

Operation Switch and Indication Lamp

(2) [VIEW-FEED | LF/FF] switch

When ON LINE :

Printer Condition	Function
No operating	Pressing this switch feeds paper to enable you to view the printing positioned at the print head, and the paper stops at the position while pressing. Releasing switch feeds back the paper to the original position.
Operating	The switch is ignored.

When OFF LINE :

Printer Condition	Function
Paper is fed	Pressing the switch feeds the paper by 1/6 inch. Furthermore, continuing to press for more than 0.6 seconds ejects the paper.
Paper is not fed	The switch is ignored. Continuing to press for more than 0.6 seconds feeds the new paper.

Turning power on while pressing the switch causes printer to enter DRAFT self test mode and prints standardized pattern in DRAFT characters.

(3) [MANUAL | LQ/DRAFT/S.S.D.] switch

Printer Condition	Function								
ON LINE	This selects/releases manual insertion paper feeding mode. Selection of manual insertion mode turns [MANUAL] lamp on. Pressing the switch while [MANUAL] lamp is turned on turns the lamp off and enters paper-feeding-from-paper-cassette mode.								
OFF LINE	Select the following printing modes at each press of the switch. [LQ S.S.D.] lamp conditions are also shown below. <table><tr><th>Printing mode</th><th>[LQ S.S.D.] lamp condition</th></tr><tr><td>LQ</td><td>On</td></tr><tr><td>DRAFT</td><td>Off</td></tr><tr><td>S.S.D.</td><td>Flashing</td></tr></table>	Printing mode	[LQ S.S.D.] lamp condition	LQ	On	DRAFT	Off	S.S.D.	Flashing
Printing mode	[LQ S.S.D.] lamp condition								
LQ	On								
DRAFT	Off								
S.S.D.	Flashing								

When the Function switch 9 "QUIET MODE" is set to ON (default setting), the quiet printing mode is released by pressing this switch within 0.5 seconds 2 times. When the Function switch 9 "QUIET MODE" is set to OFF, the quiet printing mode is set by pressing this switch within 0.5 seconds 2 times.

Indication Lamp

(4) [ON-LINE | HEAD PROTECT] lamp

This goes on for ON-LINE condition and off for OFF-LINE condition.

Too high a temperature of the print head stops printing for heat-release and sets OFF-LINE condition temporarily; [ON-LINE | HEAD PROTECT] lamp flashes at this time.

Printer condition	[ON-LINE HEAD PROTECT] lamp
When ON-LINE	On
When OFF-LINE	Off
When head heat-release	Flashing

(5) [LQ | S.S.D.] lamp

Change of printing mode by [MANUAL | LQ/DRAFT/S.S.D.] switch in OFF-LINE turns this lamp as follows:

Printing mode	[LQ S.S.D.] lamp
LQ	On
DRAFT	Off
S.S.D.	Flashing

Operation Switch and Indication Lamp

(6) [MANUAL] lamp

Selection of MANUAL mode by [MANUAL|LQ/DRAFT/S.S.D.] switch in ON-LINE turns the lamp on. Also, when the lamp goes off, the printer is set to paper-feeding-from-paper-cassette mode.

Paper-feeding mode	[MANUAL LQ/DRAFT/S.S.D.] lamp
Paper cassette	Off
Manual	On

(7) [P.OUT] Lamp

Paper cassette mode : When feeding printer paper from the paper cassette, the lamp goes on if the cassette is out of paper.

MANUAL mode : When feeding paper, the lamp goes on if paper is not set or fed in the manual guide.

Home sense error or paper jam flashes the [P.OUT] lamp.

Printer condition	[P.OUT] lamp
Normal	Off
When no paper	On
When error occurs	Flashing

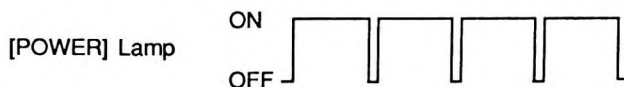
(8) [POWER / STANDBY | CHARGE BATTERY] lamp

It turns on when power is on and turns off when power is off.

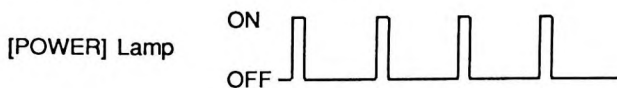
Printer condition	[POWER STANDBY CHARGE BATTERY] lamp
When power is on	On
When power is off	Off

When using battery pack (option), the lamp flashes in the following case.

- (1) If data is not output to the printer for more than a specified time, the printer enters the standby condition to prevent power consumption.


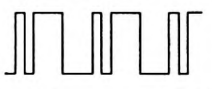

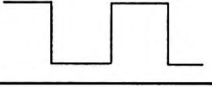



- (2) Decrease of charge of battery pack that requires charging to continue printing flashes the lamp in the following cycle.



Error Indication and Cure

Occurrence of printer error flashes P.OUT lamp. Flash cycle of lamp differs as follows depending on type of error.

Error	Flash cycle of P.OUT lamp	Cure
Home sense error	ON  OFF	Turn power off once and on again.
Standard RAM error	ON  OFF	Turn power off once and on again.
Option RAM error	ON  OFF	Turn power off once and on again.
CSF eject error (Paper jam error)	ON  OFF	Remove the jammed paper and press ON/OFF LINE switch.
Function switch read error	ON  OFF	Turn power off once and on again.

Hexadecimal Dump List Mode

To check input data from computer, this printer has hexadecimal dump list mode printing of all input data in 2-digit hexadecimal code.

The mode is available for paper-feeding-from-paper-cassette mode and manual mode.

1. Turn the printer's power off.
2. Turn the power on while pressing [ON/OFF LINE] switch.
3. Continuous pressing of switch (approx. 6 seconds) till the end of initializing causes the printer to enter hexadecimal dump list mode.
4. In the case of printing in manual insertion mode, select MANUAL mode by pressing [MANUAL] switch, and set the paper.
5. Send data from computer. The printer starts printing.
6. In case of interrupting printing, set the printer to OFF-LINE condition by pressing [ON/OFF LINE] switch. Pressing [ON/OFF LINE] again causes the printer to go ON-LINE condition and start printing.
7. After completing printing, set the printer to OFF-LINE condition by pressing [ON/OFF LINE]. The printer prints the remaining data stored in it.

Using this mode prints DRAFT characters, and it cannot be changed to the other modes. Also, as hexadecimal dump list mode prints 72 digits (7.2 inches), use letter or A4 size paper. To terminate the mode, turn the power off once and on again.

QUIET Mode

To reduce acoustic noise while printing, one line is printed in 2 passes. You can set QUIET print mode by one of the following three methods:

1. Set the Function Switch 9 "QUIET MODE" to ON before turning on the printer. (See page 33)
2. If the Function switch 9 "QUIET MODE" is set to OFF when the printer's power is on, press the [MANUAL] switch within 0.5 seconds 2 times. (See page 24)
3. If the Function switch 9 "QUIET MODE" is set to OFF when the printer's power is off, turn the power on while pressing the [MANUAL] switch and hold it till the end of initialization (approx. 6 seconds).

Function Switch

11 function switches are located at the bottom of the printer. The switches select following printer functions respectively.

(1) STANDBY MODE (Available only when using NiCad battery pack)

If data is not input for more than a specified time when using battery pack, it selects the printer to be set to STANDBY mode or not.

- | | |
|------------------|---------------------------------|
| STANDBY MODE ON | — Set to STANDBY condition. |
| STANDBY MODE OFF | — Not set to STANDBY condition. |

(2) PRINT WIDTH ADJUSTMENT

It enables or disables the paper size automatic detection function.

- | | |
|-----------|---|
| AUTO | — Paper size detection function is enabled, so that printing width is decided depending on the detected paper size. |
| 80 COLUMN | — Paper size detection function is ignored. Thus printing width is always 8 inches. |

(3) ZERO STYLE

It selects printing either zero with slash (0) or without slash (0) for hexadecimal code (30) H {decimal code (48) D}.

- | | |
|---|----------------------------------|
| 0 | — Zero without slash is printed. |
| 0 | — Zero with slash is printed. |

(4) PAPER EJECTION

If set, the paper is ejected in the following cases.

- | | |
|---------------------|--|
| AUTO (PAPER SENSOR) | — In case of detecting lower edge of paper during line feeding, it ejects the paper. |
| PAGE LENGTH | — In case of exceeding the length of the paper during line feeding, it ejects the paper. |

Set to avoid
excess top margins
& small bottom margins

Function Switch

(5) CHARACTER SET

It selects a character set at power-on.

- CHARACTER SET 1 — Selects character set 1
- CHARACTER SET 2 — Selects character set 2

(6) AGM MODE

It selects AGM (Alternate Graphics Mode) or not.

- OFF — Normal mode
- ON — AGM mode

In AGM mode, the following commands change functions when compared with normal mode.

Commands	Normal mode	AGM mode
ESC *	Invalid	Valid
ESC K, L, Y, Z	Printing result of 9-pin graphic differs	
ESC [g	Printing result of 9-pin graphic differs (That of 24 pin graphic is the same)	
ESC 3	Line feed unit is set in 1/72 inch	Line feed unit is set in 1/60 inch
ESC A	Line feed unit is set in 1/216 inch	Line feed unit is set in 1/180 inch
ESC J	Feed line by 1/216 inch	Feed line by 1/180 inch

Though basic line feed pitch is 1/216 inch for normal mode, it is 1/180 inch for AGM mode.

(7) LF CODE

It selects performing CR (Carriage Return) or not for LF (Line Feed) code.

- LF ONLY — CR is not performed
- CR + LF — CR is performed

Setting decides whether VT and ESC J commands perform CR or not as LF code.

(8) CR CODE

It selects performing LF (Line Feed) or not for CR (Carriage Return) code.

CR ONLY	— LF is not performed
CR + LF	— LF is performed

(9) QUIET MODE

It selects QUIET print mode or not.

OFF	— Normal mode
ON	— QUIET print mode

(10) CODE PAGE

It selects a code page from among the following five types.

437 (U.S.A)	— U.S.A
850 (MULTILINGUAL)	— GERMANY, U.K., ITALY, DENMARK, SWEDEN, SPAIN, JAPAN
860 (PORTUGAL)	— PORTUGAL
863 (FRANCE)	— FRANCE
865 (NORWAY)	— NORWAY

(11) TOF (Top Of Form)

It selects the position to start printing within the range of 3/12 - 14/12 inch.

0	} × 1/12" + 1/4"	— 3/12 inch
1		— 4/12 inch
2		— 5/12 inch
3		— 6/12 inch
4		— 7/12 inch
5		— 8/12 inch
6		— 9/12 inch
7		— 10/12 inch
8		— 11/12 inch
9		— 12/12 inch
10		— 13/12 inch
11	— 14/12 inch	

Printer Specifications

Printing Specifications

Printing Method

- Impact Dot Matrix
- Bidirectional Logic Seeking

Print Head

- 24 pins

Emulation

- IBM Proprinter X24

Number of Characters

- 96 ASCII Characters
- 110 Other Characters
- 50 Graphics Symbols

Graphic Printing 8 Categories:

- 60 dpi (dots per inch) [8-pin, 24-pin]
 - 80 dpi [8-pin] (Valid only in AGM mode)
 - 90 dpi [8-pin, 24-pin] (Valid only in AGM mode)
 - 120 dpi [8-pin, 24-pin]
 - 120 dpi (double-speed) [8-pin]
 - 180 dpi [24-pin]
 - 240 dpi [8-pin]
 - 360 dpi [24-pin]
- (dpi: dots per inch)

Print Mode

Draft:

10-cpi
12-cpi
15-cpi [S.S.D. (super speed draft)]
17-cpi

LQ (Letter Quality):

10-cpi
12-cpi
17-cpi (cpi: characters per inch)

8 categories of graphic printing

Mixing any of the above modes within a single line is possible.

In addition, this printer is capable of Emphasized, Double Width, Superscript/Subscript, and so on.

Paper

Paper Cassette Mode:

Cassette type (Paper Size)	A4 for Europe and Others LETTER for USA and Canada B5 (Optional) Maximum 50 sheets of 45-kg paper (52g/m ² or 14lb)
Paper Weight	45kg - 70kg in Japan 14lbs. - 21lbs. in USA 53g/m ² - 81g/m ² in Europe
Paper Thickness	0.07 - 0.10 mm (2.76 - 3.94 mils)

Manual Insertion Mode:

Paper Width	100 - 216 mm
Paper Thickness	0.07 - 0.22 mm (2.76 - 8.66 mils)

Printer Specifications

Multiple Copies

Paper Feed Mode: Manual Insertion only
Original plus 2, non-carbon 34 kg (40 g/m², 11 lbs)
Total thickness of less than 0.18 mm
Pasting Required Positions: Both top and bottom

Line Feed Pitch

Minimum of 1/216 inch

Line Feed Speed

8 lines/second (6 lines/inch)

Print Speed

Draft	10 cpi:	120 cps
	12 cpi:	144 cps
	15 cpi:	180 cps (S.S.D.: Super Speed Draft)
LQ	10 cpi:	50 cps
	12 cpi:	60 cps

Other Specifications

Power Supply

120 VAC: For USA and Canada

220-240 VAC: For Europe and Others

Temperature

41°F – 95°F (during operation)

[5°C – 35°C]

Humidity

20% – 80% (non-condensing)

Dimensions

2.1 inch (H) × 14.6 inch (W) × 11.3 inch (D)

[53 mm (H) × 371 mm (W) × 287 mm (D)]

Weight

Approximately 5.9 lbs [2.7 kg]

Power Consumption

24 watts (Self test)

9 watts (Stand-by)

Print Mode Specification

*: Includes half dot

Print Mode	Type	Character Matrix (H x V) [dots]	Maximum Character Column [column/line]	Maximum Dot Column [dots/line]	Print Speed	Character Size H x V [mm] (dots)
Normal	Draft Character	10 cpi*	80	960	120 cps	2.0x2.6 (9x17)
		12 cpi*	96	960	144 cps	2.0x2.6 (9x17)
		17 cpi*	137	1920	86 cps	1.1x2.6 (9x17)
	S.S.D. (Super Speed Draft)	15 cpi*	120	960	180 cps	2.3x2.6 (7x17)
	LQ Character	10 cpi*	80	2880	50 cps	2.3x2.6 (29x27)
		12 cpi*	96	2880	60 cps	2.3x2.6 (29x17)
		17 cpi*	137	2880	85 cps	1.3x2.6 (15x17)
	Proportional*	n x 17	80	2880	—	2.4x2.6 (31x17)
	Draft Character	10 cpi*	96	960	120 cps	1.6x1.4 (7x9)
		12 cpi*	137	960	144 cps	1.6x1.4 (7x9)
Superscript/ Subscript		17 cpi*	120	1920	86 cps	0.9x1.4 (7x9)
	LQ Character	10 cpi*	80	2880	50 cps	1.4x1.4 (17x9)
		12 cpi*	96	2880	60 cps	1.4x1.4 (17x9)
		17 cpi*	137	2880	85 cps	0.9x1.4 (9x9)
	Proportional*	n x 9	—	2880	—	1.4x1.4 (17x9)
	Normal-density	60 dpi	n x 8 or n x 24	—	720 dps	—
	CRT I	80 dpi	n x 8	—	400 dps	—
	CRT II, III	90 dpi	n x 8 or n x 24	—	300 dps	—
	Double-density	120 dpi	n x 8 or n x 24	—	600 dps	—
	Double-speed, Double-density	120 dpi*	n x 8	—	1440 dps	—
Graphics	Triple-density	180 dpi	n x 24	—	600 dps	—
	Quadruple-density	240 dpi*	n x 8	—	1200 dps	—
	Hex-density	360 dpi*	n x 24	—	1800 dps	—

(cps: characters per second, dps: dots per second)

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SEIKOSHA CO.,LTD.
ELECTRONIC EQUIPMENT DIVISION
4-1-1 TAIHEI SUMIDA-KU TOKYO 130, JAPAN.