

# EPSON

## PRODUCT INFORMATION GUIDE

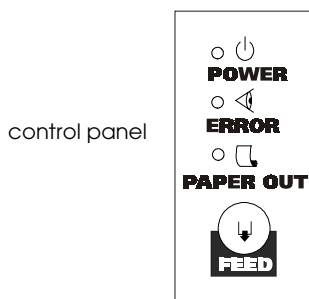
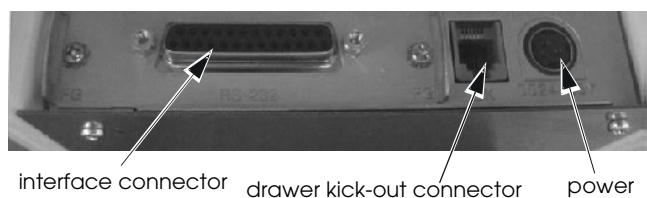
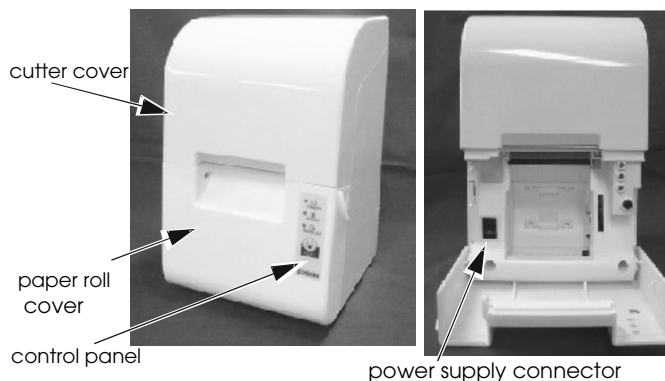
### UPDATE FOR SD PRODUCTS

8/01

This package provides a POS printer product section to be added to the *EPSON System Device Product Information Guide*. The table of contents of this section is listed below.

### EPSON TM-U230

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Characters per line 9 × 9: 35 (including 2 half dots spacing)  
 9 × 9: 33 (including 3 half dots spacing)  
 7 × 9: 42 (including 2 half dots spacing)  
 7 × 9: 40 (including 3 half dots spacing)

Print speed 3.5 lps {at 40 columns per line, 16 cpi}  
 6.4 lps {at 16 columns per line, 16 cpi}  
 (single-color printing)

Paper-feed speed 4.17"/s {10.59 cm/s}  
 25 lps, continuous feeding

Character sets alphanumeric: 95 characters;  
 international: 37 characters;  
 extended graphics: 128 characters × 12  
 pages (including a space page)

Paper dimensions width: 3 ± 0.02" {76 ± 0.5 mm}  
 maximum diameter: 3.27" {83 mm}

### Interfaces

Standard RS-232 or IEEE-1284  
 Options RS-485, USB, 10Base-T, Connect-It™ \*

\* To find out more about our line of Connect-It interfaces, contact your EPSON Sales Representative

### Reliability

Life: mechanism 7.5 million lines  
 head 150 million characters  
 autocutter 1 million cuts

MTBF: 180,000 hours

MCBF: 18 million lines

### Accessories

#### Ribbons

Model	Color
ERC-38 (P)	Purple
ERC-38 (B)	Black
ERC-38 (B/R)	Black/Red

#### Other options

Option	Model	Part number
Wall hanging bracket	WH-10	C32C845010
External power supply	PS-180	
	PS-170	C32C825321

### Printer Specifications

#### Printing

Printing method 9-pin serial impact dot matrix  
 Printing direction Bidirectional printing (logic-seeking)  
 Print width 2.5" {63.34 mm}, 200 dots

### Environmental Conditions

Temperature range:operating 32 to 122°F {0 to 50°C}  
 (Allowable humidity decreases above 93°F {34°C} to 65% at 104°F {40°C} and 35% at 122°F {50°C}.)

storage 14 to 122°F {-10 to 50°C}

Humidity range: operating {10 to 90% RH  
 storage {no condensation}

### Safety

EMI FCC Class A

Safety standards UL 1950  
 CSA C22.2 No. 950

(Tested using the EPSON's AC adapter.)

## DIP Switches

### Serial interface

Bank 1	Function	ON	OFF
1	Data reception error.	Ignored.	Prints "?"
2	Receive buffer capacity.	1KB	16KB
3	Handshaking.	XON/XOFF	DTR/DSR
4	Word length.	7 bits	8 bits
5	Parity check.	Yes	No
6	Parity selection.	Even	Odd
7	Baud rate selection.	4800 bps	9600 bps
8	Busy condition.	Buffer full.	Offline and buffer full.

Bank 2	Function	ON	OFF
1	Characters per line.	42 cpl/35 cpl	40 cpl/33 cpl
2	Reserved. Do not change.	Fixed to ON.	—
3	Pin 6 reset signal.	Used.	Not used.
4	Pin 25 reset signal.	Used.	Not used.
5	PAPER OUT LED.	Flashes.	Light is on.
6, 7	Reserved. Do not change.	—	Fixed to OFF.
8	Internal buzzer.	Disabled.	Enabled.

### Parallel interface

Bank 1	Function	ON	OFF
1	Auto line feed.	Enabled.	Disabled.
2	Receive buffer capacity.	1KB	16KB
3 — 7	Undefined.	—	—
8	Busy condition.	Buffer full.	Offline and buffer full.

Bank 2	Function	ON	OFF
1	Characters per line.	42 cpl/35 cpl	40 cpl/33 cpl
2	Reserved. Do not change.	—	Fixed to OFF.
3	Undefined.	—	—
4	Pin 31 reset.	Used.	Not used.
5	PAPER OUT LED.	Flashes.	Light is on.
6, 7	Reserved. Do not change.	—	Fixed to OFF.
8	Internal buzzer.	Disabled.	Enabled

## Control Panel

### LEDs

#### POWER

On when the power is on.

#### PAPER OUT

On or flashing when the printer is out, or nearly out, of roll paper. (Set with DIP switch 2-5.)

### ERROR

Steadily on when the printer is offline, except during paper feeding and the self-test. See if the cover is open.

Flashing if the head is too hot or there is an error. Turn the printer off, let the head cool, and turn it back on. If still flashing, contact a dealer or qualified service person.

### Button

#### FEED

This button feeds paper or starts a self-test.

## Buffer Sizes

Receive 1KB or 16KB, selectable by DIP switch.

## Electrical Characteristics

Supply voltage +24 V ± 10% (using an EPSON power supply)

Current consumption (approximate, using the PS-180)

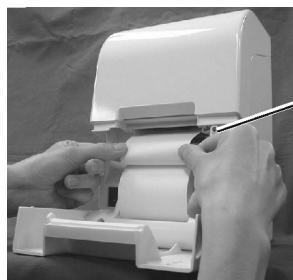
Operating Mean: 1.0 A  
Peak: 2.5 A

Standby Mean: 90 mA (internal buzzer is off)  
100 mA (internal buzzer is on)

## Loading Paper

Use only paper rolls that meet specifications.

1. Be sure the printer is not receiving data. Open the roll paper cover, and then turn on the printer.
2. Remove any used roll paper core. Insert the roll paper; then hold both edges of the paper and insert it straight into the paper insert slot until the paper is fed automatically. The correct direction is shown below.




paper insertion slot

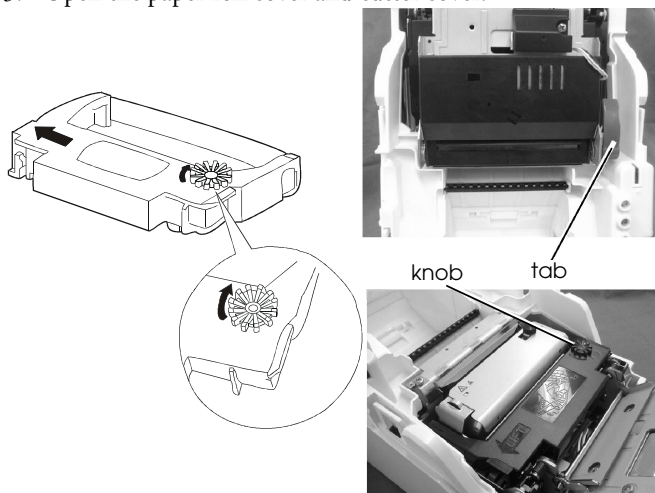


3. Close the roll paper cover.
4. When the **PAPER OUT** light flashes, press the **FEED** button to bring the printer online.

## Installing a Ribbon

 **CAUTION:** Use only the EPSON ERC-38 ribbon. Use of any ribbon cassette other than the one approved by EPSON may damage the printer and will void the warranty.

1. Turn on the printer.
2. Turn the knob on the ribbon cassette, as shown below.
3. Open the paper roll cover and cutter cover.



4. Lift the autocutter using the tab, and insert the new ribbon.
5. Turn the knob again 2 or 3 times and check if the ribbon cassette is in the right position.


## Testing the Printer

With the ribbon cassette and roll paper inserted in the printer, follow these steps to run a self-test:


1. Be sure the printer is off and the printer cover closed properly.
2. Hold down the **FEED** button, and turn on the printer.
3. The self-test starts printing status information. Then it prints the following and the **PAPER OUT** LED flashes to indicate that the printer is in standby.

**SELF-TEST printing. Please press PAPER FEED button.**

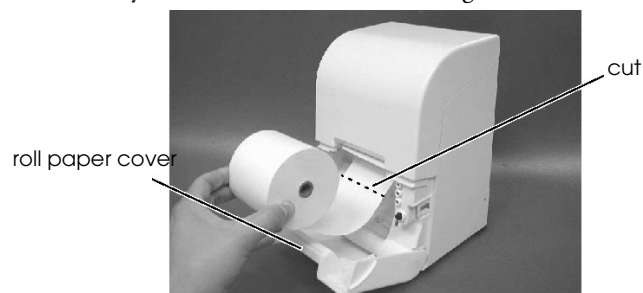
4. Press the FEED button to continue printing. The printer prints a pattern using the built-in character set.
5. The self-test automatically ends and cuts the paper after printing "\*\*\* completed \*\*\*." The printer is ready to receive data as soon as it completes the self-test.

 **Note:** To pause the self-test manually, press the **FEED** button. Press **FEED** again to continue the self-test.

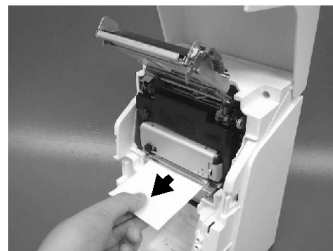
## Removing a Paper Jam

 **CAUTION:** The print head becomes hot during printing. Perform this procedure only after the head has cooled. Do not pull paper against the paper feed direction.

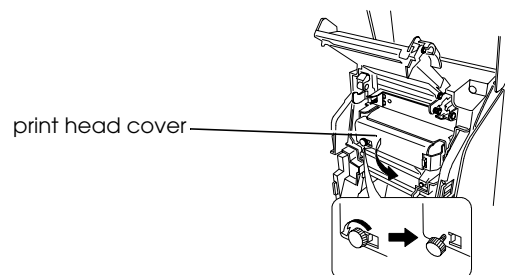
1. Turn the printer off, and open the roll paper cover.
2. Take out the roll paper and cut the paper along the area shown by the dotted line shown in the figure below.



3. Open the cutter cover.
4. Raise the autocutter tab and open the autocutter.
5. If possible, pull out jammed paper in the direction of the paper exit.



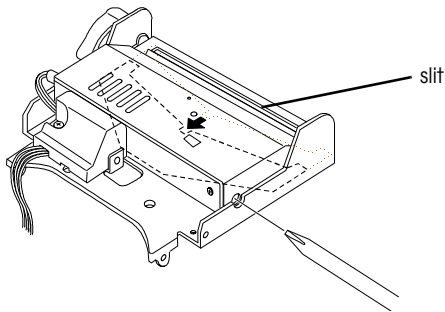
6. If you cannot pull out the paper, try the following:
  - Take the ribbon cassette out of the printer.
  - Loosen the screw that secures the print head cover until the screw tilts, as shown in the illustration. (Do not remove the screw.)
  - Remove the print head cover.






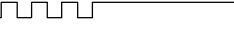



7. Remove the jammed paper.
8. Reinstall the head, secure the screw, and reinstall the ribbon cassette.

## Removing an Autocutter Jam

1. If the blade is visible through the slit in the autocutter, paper may have jammed in the autocutter.
2. Insert a screwdriver into the hole in the side of the autocutter to turn the gear and return the blade to where it cannot be seen from the slit in the autocutter. (This position is shown by the dotted line in the illustration below.)



## Error LED Codes

LED pattern	Solution
Autocutter error 	Check for paper jam in the autocutter. If problem continues, contact your servicer.
Home position detection error 	Home position cannot be detected because of a paper jam or other problem.
High-voltage error 	Replace power supply unit. If problem continues, contact your servicer.
Low-voltage error 	Replace power supply unit. If problem continues, contact your servicer.
CPU execution error 	Contact your servicer.
Head high-temperature error 	If you exceed the printer duty cycle, the head overheats. When it cools, the error clears. If this error occurs and you have not been printing very long, check that the ambient temperature is within specifications.
Print head temperature error 	Print head temperature is out of range.

## Related Documentation

- EPSON TM-U230 Service Manual
- EPSON TM-U230 Parts Price List
- EPSON TM-U230 User's Manual
- EPSON TM-U230 Specification