

# EPSON

## PRODUCT INFORMATION GUIDE

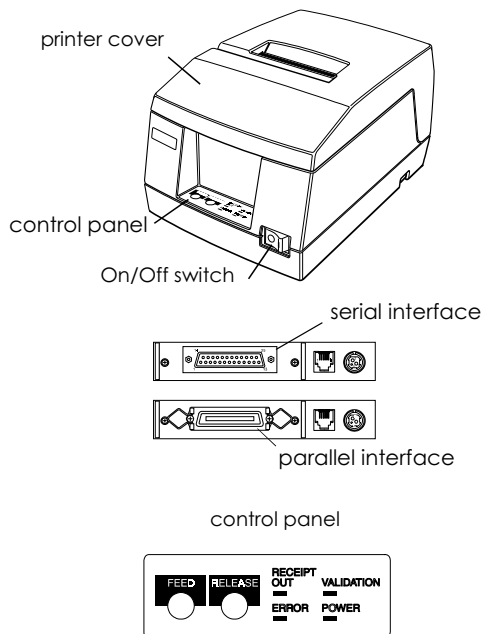
### UPDATE FOR SD PRODUCTS

2/07/02

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-U325

Accessories .....	1
Printer Specifications .....	1
Reliability .....	1
Buffer Sizes .....	1
DIP Switches .....	2
Environmental Conditions .....	2
Electrical Characteristics .....	2
Safety .....	2
Control Panel .....	2
Loading Paper .....	2
Installing the Ribbon Cassette .....	3
Running the Self-test .....	3
Removing a Paper Jam .....	3
Error LED Codes .....	4
Related Documentation .....	4



Print speed            approx. 3.5 lines/sec.  
                               (40 columns, 16 cpi)  
                               approx. 6.4 lines/sec.  
                               (16 columns, 16 cpi)

Character sets        alphanumeric: 95 characters  
                               international: 32 characters  
                               extended graphics: 128 × 8 pages

**Paper**

**Roll Paper**

Types                    plain and pressure-sensitive

Roll width            2.99 ± 0.02" {76 ± 0.5 mm}

Weight                plain paper (single-ply)  
                               13.9 to 17 lb  
                               pressure-sensitive paper  
                               12.6 lb (top and middle sheets)  
                               18.1 lb (bottom sheet)

Thickness            plain paper (single-ply)  
                               0.0024 to 0.0034" (0.06 to 0.085 mm)  
                               pressure-sensitive paper  
                               1 sheet: 0.0020 to 0.0031" (0.05 to 0.08 mm)  
                               3 sheets: 0.0024" (0.06 mm) (top/middle)  
                               0.0031" (0.08 mm) (bottom)

**Accessories**

**Options**

Option	Model	Part number
Ribbon cassette	Purple	ERC-38(P)
	Black	ERC-38(B)
Printer fastening tape	DF-10	
AC power adapter	PB-6509	C825271
External power supply	PS-170	C32C825321
External power supply (power-saving type)	PS-180	C32C825343

**Printer Specifications**

**Printing**

Printing methods    serial impact dot matrix

Dot pitch            1/72" {0.353 mm}

Dot wire diameter   0.01" {0.29 mm}

Wire configuration   9-pin serial type

Print width           2.49" {63.34 mm}

Characters per line   7 × 9: 40, 3-half-dot spacing  
                               42, 2-half-dot spacing  
                               9 × 9: 33, 3-half-dot spacing  
                               35, 2-half-dot spacing

Characters per inch   7 × 9: 16, 3-half-dot spacing  
                               17.8, 2-half-dot spacing  
                               9 × 9: 13.3, 3-half-dot spacing  
                               14.5, 2-half-dot spacing

Print direction        bidirectional with logic seeking

Paper-feed speed    4.17"/sec., 25 lines/sec. (continuous feed)

**Validation Paper**

Types                plain, pressure-sensitive, and carbon copy

Sizes                5.31 × 2.76" to 7.17 × 7.17"  
                               (135 × 70 mm to 182 × 182 mm)

Thickness            plain paper (single-ply)  
                               0.0035 to 0.0047" (0.09 to 0.12 mm)  
                               copy and pressure-sensitive paper  
                               backing: 0.0028 to 0.0047" (0.07 to 0.12 mm)  
                               copy + original: 0.0016 to 0.0028"  
                               (0.04 to 0.07 mm)  
                               carbon copy: 0.0014" (0.035 mm) (approx.)

**Interfaces**

Standard            RS-232 or IEEE-1284

Options             RS-485, Connect-It™ \*

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

**Reliability**

Life:                mechanism: 20 million lines  
                               print head 150 million characters

Validation switching: 500,000 transactions

Ribbon: purple: 4 million    black: 3 million characters

MTBF: 180,000 hours        MCBF: 49 million lines

**Buffer Sizes**

Receive            4KB or 45 bytes, selectable via DIP switch

## DIP Switches

### Serial interface

Bank 1	Function	ON	OFF
1	Data reception error	Ignored	Prints “?”
2	Receive buffer capacity	45 bytes	4KB
3	Handshaking	XON/XOFF	DTR/DSR
4	Word length	7 bits	8 bits
5	Parity check	Yes	No
6	Parity selection	Even	Odd
7, 8	Transmission speed	See table below.	

Transmission speed	Switch 1-7	Switch 1-8
2400	ON	ON
4800	OFF	ON
9600	ON	OFF
19200	OFF	OFF

Bank 2	Function	ON	OFF
1	Handshaking (BUSY)	Receive buffer full	Offline or receive buffer full
2	Not defined	—	—
3	Characters per line (7 × 9/7 × 9)	42/35	40/33
4, 5	Not defined	—	—
6	Internal use	—	Fixed to OFF.
7	I/F pin 6 reset	Enabled	Disabled
8	I/F pin 25 reset	Enabled	Disabled

### Parallel interface

Bank 1	Function	ON	OFF
1	Auto line feed	Always enabled	Always disabled
2	Receive buffer capacity	45 bytes	4KB
3—8	Not defined	—	—

Bank 2	Function	ON	OFF
1	Handshaking (BUSY)	Receive buffer full	Offline or receive buffer full
2	Not defined.	—	—
3	Characters per line (7 × 9/7 × 9)	42/35	40/33
4, 5	Not defined	—	—
6	Internal use	—	Fixed to OFF.
7	Not defined	—	—
8	I/F pin 31 (Do not change.)	Fixed to ON.	—

## Environmental Conditions

Temperature range:	operating	32 to 122°F {0 to 50°C}
	storage	14 to 122°F {–10 to 50°C}
Humidity range:	operating	10 to 90% RH
	storage	10 to 90% RH

## Electrical Characteristics

Output voltage	24 V ± 5% (using the EPSON adapter)
Current consumption (approximate, at room temperature)	
Operating	mean: Approximately 43 W (Except when driving drawer kick-out.)
Standby:	mean: Approximately 6 W

## Safety

EMI	FCC Class A
Safety standards	UL 1950, CSA C22.2 No. 950 (Tested using EPSON’s AC adapter.)

## Control Panel

### LEDs

#### *POWER*

On when the power is on.

#### *RECEIPT OUT*

On when the printer is out, or nearly out, of roll paper.  
Flashes during self-test printing standby.

#### *VALIDATION*

On when validation is inserted and printer is ready to print.  
Flashes while the printer waits for validation to be inserted or removed.

#### *ERROR*

On when the printer is offline, except during paper feed using the FEED button and during self-test printing.  
Flashes 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, see “Error LED Codes” later in this guide.

### Buttons

#### *FEED*

This button feeds paper or starts a self-test when held down at power on.

#### *RELEASE*

This button releases validation paper.


## Loading Paper

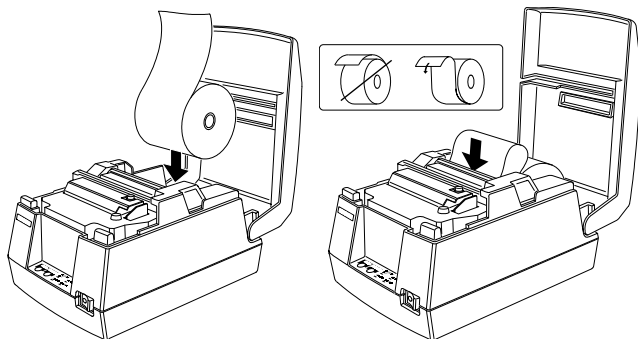
### Roll Paper



**Note:** Use only roll paper that meets specifications.  
Do not use rolls with paper glued to the core.


1. Cut the leading edge of roll paper straight across.
2. Turn printer on, open printer cover, and insert roll paper.

 **Note:** Be sure to insert paper in correct direction.

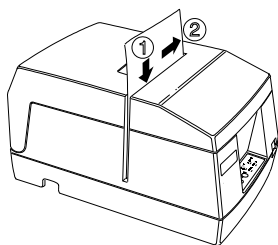


3. Hold both edges of the paper, and insert it straight into paper slot. The printer feeds the paper automatically.
4. Take up any slack in the paper, tear off the excess, and close the cover.

### Validation Paper


 **Note:** Use only validation paper that meets specifications. Be sure roll paper is loaded when you use validation paper. Validation paper must be flat, without curls, folds, or wrinkles.

1. Select validation paper using the control command.
2. When the VALIDATION LED flashes, insert validation paper into the inlet using the right edge of the paper as a guide. See the illustration below.



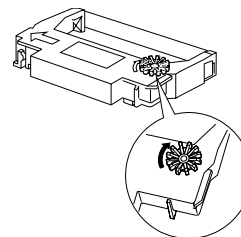
3. Insert the validation paper into the inlet as far as it will go.
4. When the sensor detects the paper, the VALIDATION light changes from flashing to On. Paper is drawn into the printer automatically, and printing begins.
5. After printing, the VALIDATION light begins flashing again. Remove the validation from the printer.

### Installing the Ribbon Cassette

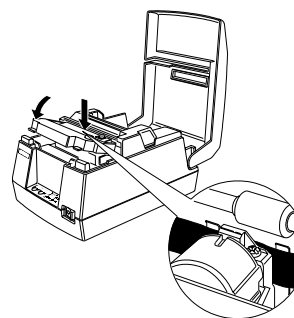
 **CAUTION:** Use only the EPSON ERC-38(P) or ERC-38(B) ribbon. Use of any ribbon cassette not approved by EPSON may damage the printer and will void the warranty. Never turn the ribbon cassette feed knob in the opposite direction of the arrow on the cassette. Otherwise, the cassette may be damaged.

1. Be sure the printer is not receiving data. Open the printer cover.

2. Turn the ribbon cassette knob in the direction of the arrow to take up any slack in the ribbon.




3. Insert the ribbon as shown below, and push the cassette until it clicks. Be sure the ribbon is installed between the print head and platen with no wrinkles or creases.




4. Turn the ribbon cassette knob 5 or 6 more times in the direction of the arrow to take up any slack.

### Running the Self-test

1. Be sure the ribbon cassette and roll paper are installed.
2. Hold down the FEED button while turning on the power.
3. The self-test prints the printer settings and then the RECEIPT OUT light flashes to indicate that the printer is in the stand by state.
4. Press the FEED button to start the second part of the test. The printer prints a pattern with the built-in character set.
5. The self-test automatically ends and prints “\*\*\* completed \*\*\*.” The printer is ready to receive data as soon as it completes the self-test.

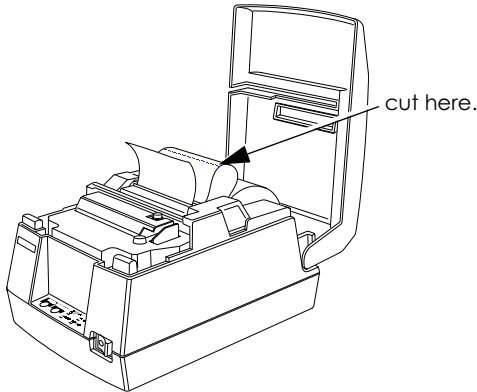
 **Note:** To pause the self-test manually, press the FEED button. Press FEED again to continue the self-test

### Removing a Paper Jam

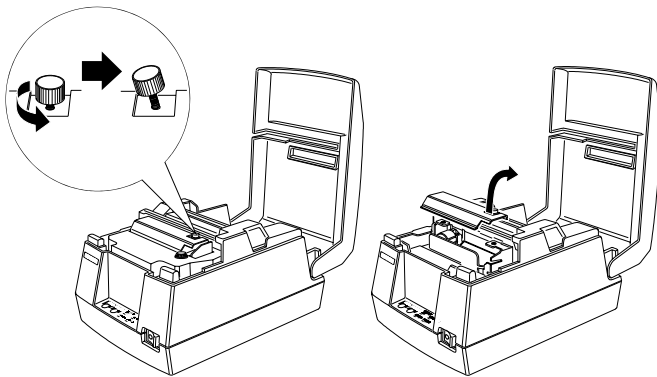
 **CAUTION:** The print head becomes very hot during printing. Let it cool before reaching into the printer.


1. Turn the printer off and open the printer cover.

- Pull the paper and cut it at the position shown by the dotted line in the illustration below.


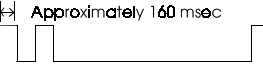
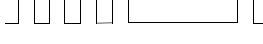

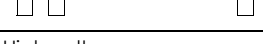
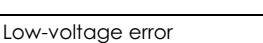
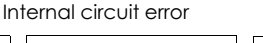



- Remove the roll paper from the printer.
- Remove the ribbon cassette.
- Loosen the screw on the print head cover, as shown on the left below.
- Lift up the print head cover, as shown on the right below.



- Remove all the jammed paper.
  -  **Note:** Do not pull paper out in the opposite direction of paper feed.
- Replace the print head cover and secure it with the screw.
- Replace the ribbon cassette and roll paper; then close the printer cover.

## Error LED Codes

LED pattern	Solution
Print head temperature error  Approximately 160 msec	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.
Home position error  Approximately 2.56 sec Approximately 160 msec	Check for a paper jam or paper particles on the sensor. If the problem continues, contact your servicer.
Validation error 	Check for a paper jam in the validation paper path. If the problem continues, contact your servicer.
CPU error 	Contact your servicer.
Read/write memory error 	Turn printer off, and after 10 seconds turn it back on. If problem continues, contact your servicer.
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.
Internal circuit error 	Contact your servicer.

## Related Documentation

- EPSON TM-U325 Service Manual
- EPSON TM-U325 Parts Price List
- EPSON TM-U325 User's Manual
- EPSON TM-U325 Specification