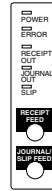
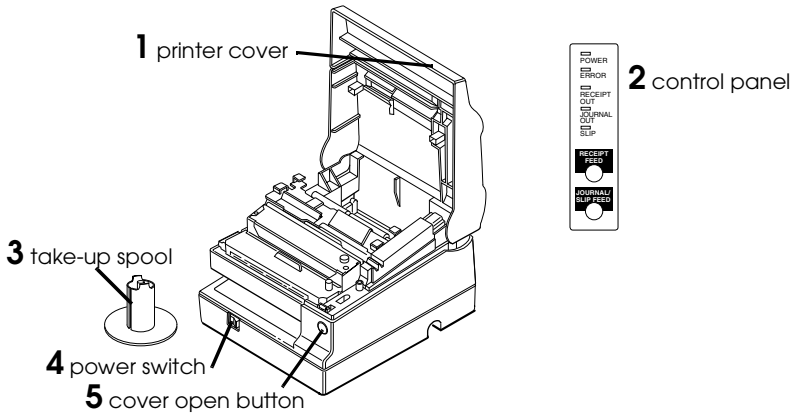


TM-U950

**User's Manual / Bedienungsanleitung
Gebruikershandleiding / Manuel d'utilisation
Manual do utilizador / Manual del usuario
Manuale dell'utente**

Printer Parts



DIP Switch Tables

Serial interface

SW	Function	ON	OFF
1-1	Data word length	7 bits	8 bits
1-2	Parity	Enabled	Disabled
1-3	Parity selection	Even	Odd
1-4 ~ 1-5	Transmission speed (see table below)		
1-6	Display module connection	Connected	Not connected
1-7	Data receive error	Ignored	Prints "?"
1-8	Handshaking	XON/XOFF	DTR/DSR

Transmission speed

Speed	1-4	1-5
1200	ON	ON
2400	OFF	ON
4800	ON	OFF
9600	OFF	OFF

SW	Function	ON	OFF
2-1	Auto line feed	Always enabled	Always disabled
2-2	Receive buffer	32 bytes	2048 bytes
2-3	Font selection (default)	9 × 9	7 × 9
2-4	Carriage speed default	Low	High
2-5	Handshaking (BUSY)	Receive buffer full	Offline or receive buffer full
2-6	Internal use	Fixed	—
2-7	I/F pin 6 reset	Enabled	Disabled
2-8	I/F pin 25 reset	Enabled	Disabled

Parallel interface

SW	Function	ON	OFF
1-1 ~ 1-5	Undefined	—	—
1-6	Internal use	—	Fixed
1-7 ~ 1-8	Undefined	—	—

SW	Function	ON	OFF
2-1	Auto line feed	Always enabled	Always disabled
2-2	Receive buffer	32 bytes	2048 bytes
2-3	Font selection (default)	9 × 9	7 × 9
2-4	Carriage speed default	Low	High
2-5	Handshaking (BUSY)	Receive buffer full	Offline or receive buffer full
2-6	Internal use	Fixed	—
2-7	Undefined	—	—
2-8	Internal use	Fixed	—

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EMC and Safety Standards Applied

Product Name: TM-U950/U950P

IEC 61000-4-5

Model Name: M62UA/M114A

IEC 61000-4-6

The following standards are applied only to the printers that are so labeled. (EMC is tested using the Epson power supplies.)

IEC 61000-4-8

IEC 61000-4-11

Directive 90/384/EEC EN 45501

Europe: CE marking
Safety: EN 60950

North America: EMI: FCC/ICES-003 Class A
Safety: UL 1950/CSA C22.2 No. 950

Japan: EMC: VCCI Class A

Oceania: EMC: AS/NZS 3548

WARNING

The connection of a non-shielded printer interface cable to this printer will invalidate the EMC standards of this device. You are cautioned that changes or modifications not expressly approved by SEIKO EPSON Corporation could void your authority to operate the equipment.

CE Marking

The printer conforms to the following Directives and Norms:

Directive 89/336/EEC EN 55022 Class B
EN 55024
IEC 61000-4-2
IEC 61000-4-3
IEC 61000-4-4

FCC Compliance Statement For American Users

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

For Canadian Users

This Class A digital apparatus complies with Canadian ICES-003.

Safety Precautions

This section presents important information intended to ensure safe and effective use of this product. Please read this section carefully and store it in an accessible location.



WARNING:

Shut down your equipment immediately if it produces smoke, a strange odor, or unusual noise. Continued use may lead to fire. Immediately unplug the equipment and contact your dealer or a SEIKO EPSON service center for advice.

Never attempt to repair this product yourself. Improper repair work can be dangerous.

Never disassemble or modify this product. Tampering with this product may result in injury or fire.

Be sure to use the specified power source. Connection to an improper power source may cause fire.

Do not allow foreign matter to fall into the equipment. Penetration by foreign objects may lead to fire.

If water or other liquid spills into this equipment, unplug the power cord immediately, and then contact your dealer or a SEIKO EPSON service center for advice. Continued usage may lead to fire.



CAUTION:

Do not connect cables in ways other than those mentioned in this manual. Different connections may cause equipment damage and burning.

Be sure to set this equipment on a firm, stable, horizontal surface. The product may break or cause injury if it falls.

Do not use in locations subject to high humidity or dust levels. Excessive humidity and dust may cause equipment damage or fire.

Do not place heavy objects on top of this product. Never stand or lean on this product. Equipment may fall or collapse, causing breakage and possible injury.

To ensure safety, unplug this product before leaving it unused for an extended period.

Do not use aerosol sprayers containing flammable gas inside or around this product. Doing so may cause fire.

Caution Labels



WARNING:

Do not connect a telephone line to the drawer kick-out connector or the display module connector; otherwise, the printer and the telephone line may be damaged.



CAUTION:

The print head is hot.

Unpacking

The following items are included with the standard specification printer. If any item is damaged, contact your dealer.

- Printer
- Paper rolls (2)
- Ribbon cassette
- Power switch cover
- Take-up spool
- Caution label
- Hexagonal lock screws (2) (only for the serial interface)

Downloading Drivers, Utilities, and Manuals

Drivers, utilities, and manuals can be downloaded from one of the following URLs.

For customers in North America, go to the following web site:
<http://www.epsonexpert.com/> and follow the on-screen instructions.

For customers in other countries, go to the following web site:
<http://www.epson-pos.com/>

Select the product name from the 'Select any product' pulldown menu.

Control Panel

RECEIPT FEED button

Press to feed receipt paper; hold down to feed continuously.

JOURNAL/SLIP FEED button

In roll paper mode, feeds the journal roll. In slip mode (when the SLIP LED is on or flashing and slip paper is inserted), feeds slip paper.

POWER LED

On when the printer is on.

ERROR LED

Indicates an error.

RECEIPT OUT LED

Indicates a receipt paper near end or out.

JOURNAL OUT LED

Indicates a journal roll paper near end or out.

SLIP LED

Indicates slip mode. Flashes while waiting for a slip to be inserted or removed.

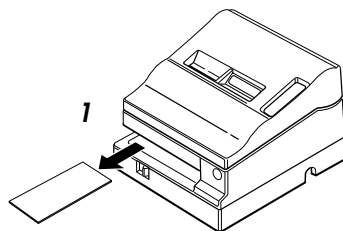
Removing the Transportation Damper

The printer is protected during shipping by a transportation damper that you must remove before turning on the printer.

Pull the damper out, as shown in illustration 1.

Note:

Before shipping the printer, reinstall the transportation damper.



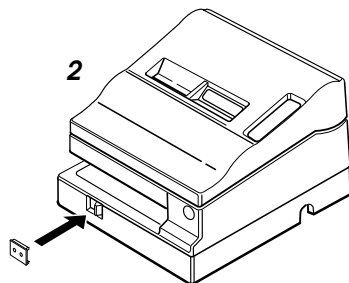
Using the Power Switch Cover



WARNING:

If an accident occurs with the power switch cover attached, unplug the power cord immediately. Continued use may cause fire.

The enclosed power switch cover ensures that the power switch is not pressed accidentally. To use this cover, install it as shown in illustration 2.

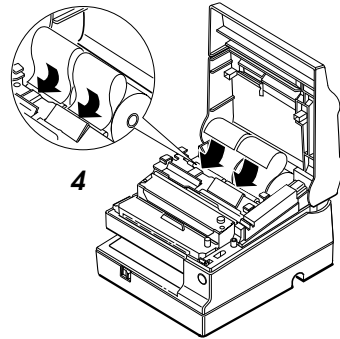
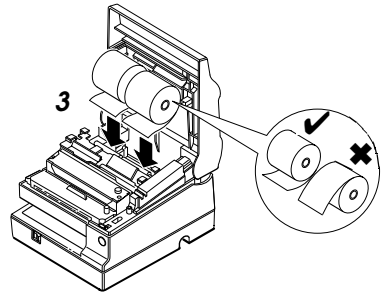


Installing the Paper Rolls

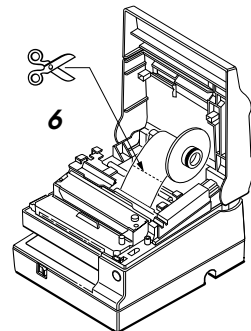
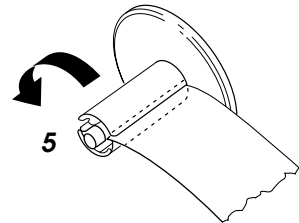
Note:

Use only paper rolls that meet the specifications.

1. Make sure the leading edge of the paper is straight.
2. Turn on the printer and open the printer cover.
3. Insert paper rolls on both the receipt and journal sides of the printer, as shown in illustration 3. (The journal roll is on the right in this illustration.)
4. For each roll, insert the tip of the paper into the paper inlet and push it in until it is automatically detected and fed into the printer. See illustration 4.
5. Tear off the receipt paper on the cutter. If the paper was not fed far enough, press the RECEIPT FEED button to feed additional paper.



6. Insert the tip of the journal paper into the groove in the take-up spool and rotate the spool two or three times to secure the paper. See illustration 5. If not enough paper was fed, press JOURNAL/SLIP FEED to feed more.
7. Install the take-up spool and close the printer cover.
8. To remove the journal paper roll, first lift the take-up spool and cut the paper. Then remove the take-up spool. See illustration 6.
9. For either a journal or receipt paper roll, next press the release lever (marked PRESS) on the appropriate side of the printer, pull out the paper, and remove the roll.



Inserting Slip Paper

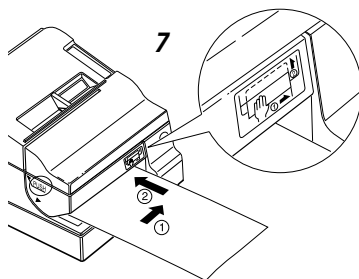
Notes:

Do not use wrinkled, folded, or curled paper.

Use only slip paper that matches the printer's specifications.

To prevent paper jams, install both paper rolls in the printer even if you plan to print only on slip paper.

1. When the SLIP LED flashes, insert slip paper, using the right edge of the slip paper inlet as a guide. See illustration 7.
2. When the printer detects the paper, it automatically draws it in and begins printing.



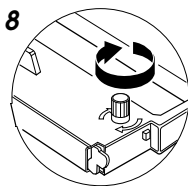
CAUTION:

Be sure to put the caution label exactly in the position shown. If you put it another place, such as over the slip paper inlet, the printer may be damaged.

Installing a Ribbon

Use the EPSON ERC-31. The use of any ribbon cassettes other than those approved by EPSON may damage the printer and will void the warranty.

1. Turn the printer on and open the ribbon cover.
2. Turn the ribbon cassette's knob 2 or 3 times in the direction of the arrow in illustration 8 to take up any slack.
3. Insert the ribbon in the printer and rotate the cassette's knob 2 or 3 more times to place the ribbon in the correct position.
4. Make sure the ribbon is installed in front of the print head without wrinkles or creases.
5. To remove the ribbon cassette, grasp the ribbon cassette's tab and pull it out of the printer.



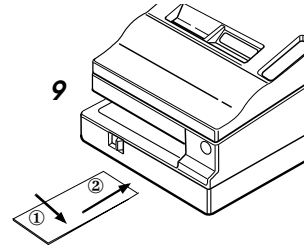
Using the MICR Reader (Option)

The optional, factory-installed magnetic ink character recognition (MICR) reader lets the printer read MICR ink on personal checks.

**CAUTION:**

To prevent paper jams, be sure both paper rolls are installed.
Do not insert checks with staples in them; do not insert wrinkled checks.

1. The SLIP light flashes.
2. Insert the check face down, with the MICR characters on the right-hand side.
3. Insert the check straight into the inlet, using the right edge of the inlet as a guide, as far as the check will go. See illustration 9.
4. The printer starts drawing the check in. Let go of the check immediately. The SLIP LED goes from blinking to on.
5. When MICR reading is complete, the printer ejects the check and the SLIP LED starts blinking again.
6. Remove the check by pulling it straight out (not at an angle). The SLIP LED goes off.



Cleaning the Optional MICR Mechanism

Clean the MICR head and MICR roller every 6000 passes or once a month.

Note:

If you encounter frequent MICR reading errors, use the procedure below.

For the MICR head

Use a moistened cleaning sheet, such as PRESAT brand (KIC) "Check Reader Cleaning Card" or an equivalent commercially available cleaning sheet.

For the MICR feed roller

Use an adhesive cleaning sheet available from EPSON. Contact your dealer.

Cleaning procedure

Use this procedure for both cleaning sheets.

1. Load both paper rolls into the printer; then turn off the power.
2. Open the front cover and turn the power back on while holding down the JOURNAL/SLIP button.

3. Press the JOURNAL/SLIP button 3 times.
4. Close the front cover (the SLIP LED flashes).
5. Follow the instructions on the cleaning sheet. You will insert the cleaning sheet the same way you insert a normal check.
6. When the sheet is ejected, remove it from the printer; then turn off the power.

Troubleshooting

LEDs on the control panel do not come on

Check the power cable and power outlet. If the outlet is controlled by a switch or timer, use another outlet.

ERROR LED is on (not flashing) with no printing

If RECEIPT OUT or JOURNAL OUT is **on**, a paper roll is not installed or nearly out. If these LEDs are **off**, the cover is not closed properly.

ERROR LED is flashing with no printing (and no paper jam)

The print head may be overheated. Printing resumes after the print head cools. If this does not occur, turn the printer off for 10 seconds and then back on. If there is still a problem, contact a qualified servicer.

The printer appears to be printing, but nothing is printed

Check ribbon installation and ribbon wear.

A line of dots is missing

The print head may be damaged. Stop printing and contact a qualified servicer.

Removing Jammed Paper

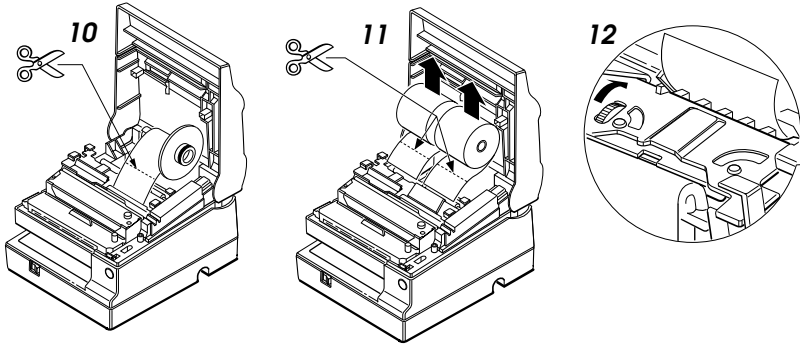


CAUTION:

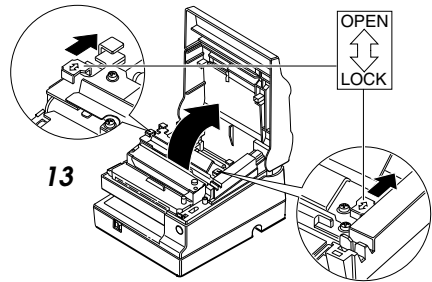
Do not touch the print head because it can be very hot after printing.

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

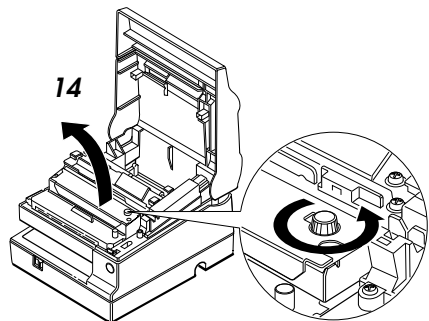
2. For a journal roll paper jam, cut with scissors or a knife, as shown in illustration **10**, and remove the take-up spool.
3. Cut the paper from the paper rolls as shown in illustration **11**.
4. If paper is caught in the automatic cutter, open the cutter blade by turning the gear in the direction shown in illustration **12**.



5. Move the OPEN ↔ LOCK lever on each side of the printer in the direction shown in illustration **13**; the cutter opens automatically.
6. Pull the paper out gently. If it tears, remove any pieces.



7. If necessary, remove the print head cover. Loosen the screw on the right as shown in illustration **14**. (Replace it by sliding the tab in the slot, and fasten the screw.)
8. After clearing all paper, close and lock the cutter unit (lock both locks), and reinstall the paper rolls.



TM-U950 Specifications

Printing method	Serial impact dot matrix
Head wire configuration	9-pin vertical line, wire pitch 0.353 mm {1/72"}, 0.29 mm {0.01"} wire diameter
Printing direction	Bidirectional, minimum distance printing
Printing width	Roll paper: 61.1 mm {2.41"}; slip paper: 135.6 mm {5.34"}
Characters per line (default)	9 × 9: roll paper = 30; slip paper = 66 7 × 9: roll paper = 40; slip paper = 88
Character spacing (default)	9 × 9: 3 dots (half dots); 7 × 9: 2 dots (half dots)
Print speed	High-speed — 9 × 9: 233 characters/second 7 × 9: 311 characters/second Low-speed — 9 × 9: 200 characters/second 7 × 9: 267 characters/second
Paper feed speed	Approx. 60.3 ms/line (4.23 mm {1/6"} feed); Approx. 86.36 mm/second {3.4"/second} continuous feed
Line spacing (default)	4.23 mm {1/6"}
Number of characters	Alphanumeric characters: 95; International characters: 32 Extended graphics: 128 × 9 pages (including space pages)
Character structure	9 × 9 or 7 × 9
Paper roll (single-ply)	Size: Width: 69.5 ± 0.5 mm {2.74 ± 0.02"} Maximum outside diameter: 83 mm {3.27"} Paper roll spool inside diameter: 10 mm {0.39"} or more
Slip paper	Normal, carbon-copy, and pressure-sensitive
Number of copies for slip	Original + 4 (at 20 to 40°C {68 to 104°F}) Original + 1 to 3 copies (at 5 to 40°C {41 to 104°F})
Total slip thickness	0.09 to 0.36 mm {0.0035 to 0.0141"}
Ribbon cassette	ERC-31
Buffer size	32 bytes or 2 KB, depending on the DIP switch setting
Supply voltage	+24 VDC ± 10%
Current consumption (at 24V)	Printing receipt and journal paper (40 columns): Mean: Approx. 1.8 A (alphanumeric characters) Peak: Approximately 8.0 A Feeding slip paper to the print start position or MICR reading: Mean: Approx. 2.3 A for approx. 1.4 seconds
Life	Mechanism: 7,500,000 lines Print head: 150 million characters Ribbon: 4,500,000 characters MICR: 240,000 passes
MTBF	180,000 hours
MCBF	18,000,000 lines
Temperature	Operating: 5 to 40°C {41 to 104°F} Storage: -10 to 50°C {14 to 122°F}, except for ribbon
Humidity	Operating: 30 to 80% RH Storage: 30 to 90% RH
Overall dimensions	194.5 × 251 × 298 mm {7.7 × 9.9 × 11.7"} (H × W × D)
Weight (mass)	Approximately 5.6 kg {12.3 lb}