

# TM-T81

## User's Manual

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of Seiko Epson Corporation. No patent liability is assumed with respect to the use of the information contained herein. While every precaution has been taken in the preparation of this book, Seiko Epson Corporation assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein.

Neither Seiko Epson Corporation nor its affiliates shall be liable to the purchaser of this product or third parties for damages, losses, costs, or expenses incurred by purchaser or third parties as a result of: accident, misuse, or abuse of this product or unauthorized modifications, repairs, or alterations to this product, or (excluding the U.S.) failure to strictly comply with Seiko Epson Corporation's operating and maintenance instructions.

Seiko Epson Corporation shall not be liable against any damages or problems arising from the use of any options or any consumable products other than those designated as Original Epson Products or Epson Approved Products by Seiko Epson Corporation.

EPSON is a registered trademark of Seiko Epson Corporation in Japan and other countries/regions.

**NOTICE:** The contents of this manual are subject to change without notice.

Copyright © 2009 by Seiko Epson Corporation. All rights reserved.

---

## Important Safety Information

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

### Key to Symbols

The symbols in this manual are identified by their level of importance, as defined below. Read the following carefully before handling the product.

 **WARNING:**

*Warnings must be observed carefully to avoid serious bodily injury.*

 **CAUTION:**

*Cautions must be observed to avoid minor injury to yourself, damage to your equipment, or loss of data.*

### Safety Precautions

This section describes the warnings and cautions intended to ensure safe and effective use of the TM-T81. Other warnings and cautions on handling of this product for its safe and effective use are described in other sections of the manual.

 **WARNING:**

*If the TM-T81 produces smoke, a strange odor, or unusual noise, shut down the TM-T81, unplug the power cable immediately, and then contact your dealer or an Epson service center for advice. Continued use may lead to fire or electric shock.*

*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.*

*Use the specified AC Adapter (Epson Model M159A/M159B (PS-180)) only. 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, shut down the TM-T81, unplug the power cable of the TM-T81 immediately, and then contact your dealer or an Epson service center for advice. Continued use may lead to fire or shock.*

*If you open the DIP switch cover, be sure to close the cover and tighten the screw after adjusting the DIP switch. Using this product with the cover open may cause fire or electric shock.*

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

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

 **CAUTION:**

*Do not connect cables in ways other than those mentioned in this manual. Different connections may cause equipment damage or fire.*

*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 this product 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.*

*Before moving this product, be sure to unplug it and all the cables connected to it.*

---

## **Restriction of Use**

When this product is used for applications requiring high reliability/safety, such as transportation devices related to aviation, rail, marine, automotive, etc.; disaster prevention devices; various safety devices, etc.; or functional/precision devices, etc.; you should use this product only after giving consideration to including fail-safes and redundancies into your design to maintain safety and total system reliability. Because this product was not intended for use in applications requiring extremely high reliability/safety, such as aerospace equipment, main communication equipment, nuclear power control equipment, or medical equipment related to direct medical care, etc., please make your own judgment on this product's suitability after a full evaluation.

---

## **Caution Labels**

The caution labels on the product indicate the following precautions.



### **CAUTION:**

*The thermal head can be very hot during printing and immediately after printing. Touching it may cause burns. Be sure to do cleaning and other work after the thermal head cools down. And be careful of the autocutter blade located close to the thermal head. For the location of the thermal head and the autocutter blade, see the illustration in "Cleaning the Thermal Head" on page 9.*



### **CAUTION:**

*Take care not to injure your fingers on the manual cutter*

- *When you remove printed paper*
- *When you perform other operations such as loading/replacing roll paper*

---

## **Purpose of This Manual**

This manual provides information to operators of the TM-T81 printer to describe basic operations to enable safe and correct use of the printer.

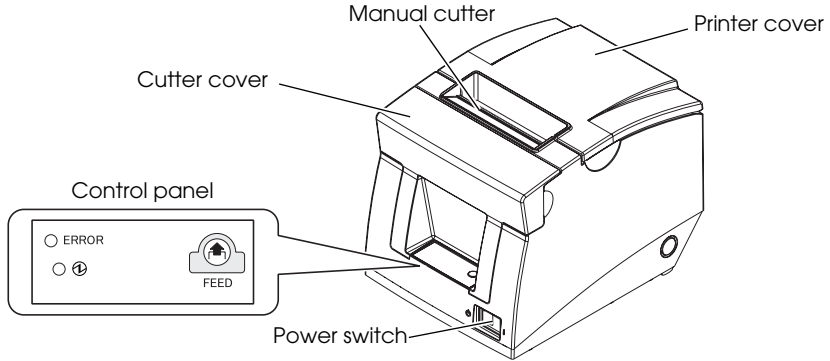
---

## **Unpacking**

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

- |   |   |
|---|---|
| <input type="checkbox"/> Printer  | <input type="checkbox"/> Roll Paper (for operation check) |
| <input type="checkbox"/> AC adapter                                     | <input type="checkbox"/> Power switch cover               |
| <input type="checkbox"/> Locking wire saddle (for USB interface models) |   |
| <input type="checkbox"/> CD-ROM   | <input type="checkbox"/> User's Manual (this manual)      |

## Part Names



## Control Panel

### **ERROR LED: Orange**

This indicates an error.

### **Ⓜ (Power) LED: Green**

This LED is on when the printer is on.

### **FEED button**

This button feeds paper.

## Using the Power Switch Cover

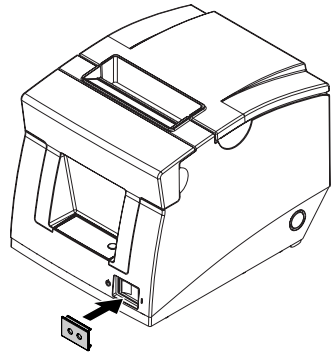
The enclosed power switch cover ensures that the power switch is not pressed accidentally. To use this cover, install it as shown in the illustration.

You can turn on and off the power switch by inserting a sharp-pointed object in the holes in the power switch cover.

To detach the power switch cover, use a sharp-pointed object.

### **⚠ WARNING:**

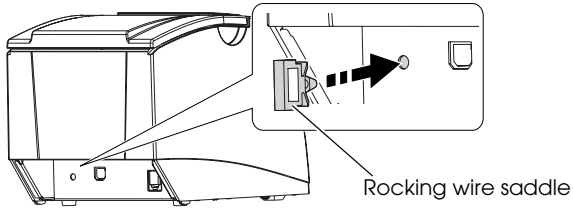
*If an accident occurs with the power switch cover attached, unplug the power cord immediately. Continued use may cause fire or shock.*



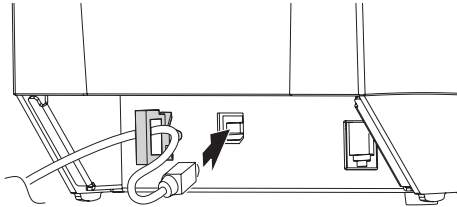
## ***Installing the Locking Wire Saddle***

For USB interface models, the locking wire saddle is included to prevent the USB cable from falling off the connector.

1. Insert the tip of the locking wire saddle into the leftmost hole in the back of the printer.

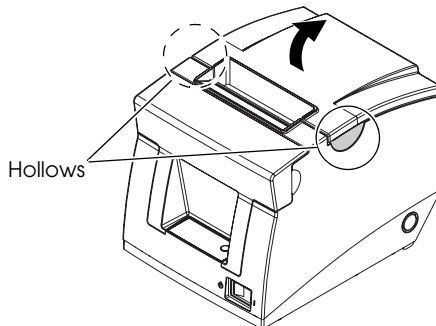


2. Hook the USB cable with the locking wire saddle.



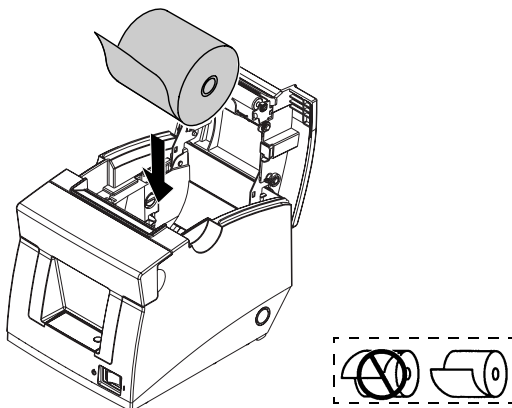
## ***Installing Roll Paper***

1. Place your fingers in the hollows under the printer cover shown in the illustration below, and pull in the direction of the arrow to open the printer cover.

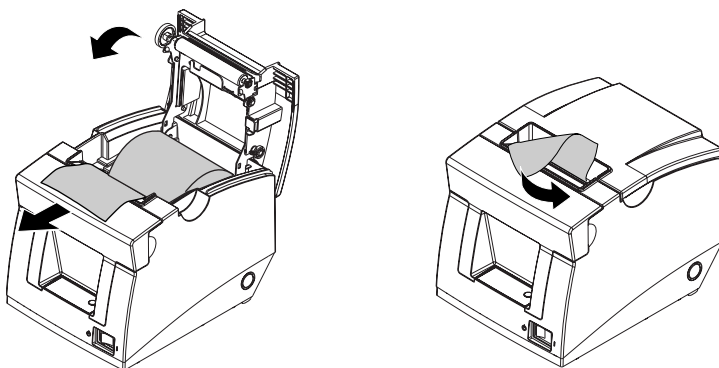


2. Remove the used roll paper core if there is one.

3. Install the roll paper in the correct direction as shown in the illustration below.



4. Pull out some roll paper as shown in the illustration below, and close the printer cover.
5. Tear off the roll paper.



## ***Troubleshooting***

---

### **No lights on the control panel**

---

Check whether the power supply cable is correctly connected to the printer and the power outlet.

---

### **ERROR LED on (not flashing) with no printing**

---

Check if the roll paper is correctly set, and the printer cover is closed properly.

---

### **ERROR LED flashing with no printing (and no paper jam)**

---

Printing stops if the thermal head overheats and resumes automatically when it cools.

If overheating is not the cause, turn the printer off, and after 10 seconds, back on.

## Removing Jammed Paper



### CAUTION:

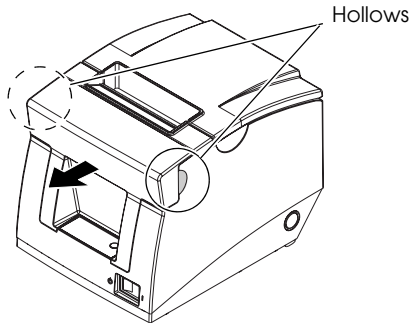
Do not touch the thermal head because it can be very hot after printing.

1. Turn the printer off, and open the printer cover.  
If you cannot open it, see "Recovery of the Autocutter Blade" to unlock the autocutter blade.
2. Remove the jammed paper, reinstall the roll, and close the printer cover.

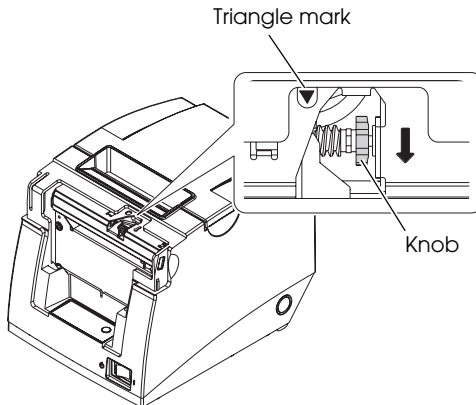
## Recovery of the Autocutter Blade

The autocutter blade may be locked because of a paper jam or a foreign object. If the problem is not serious, the autocutter blade returns to its normal position automatically, but if it does not recover, follow the steps below to move its position manually.

1. Turn off the printer.
2. Place your fingers in the hollows next to the cutter cover, and remove the cutter cover by pulling it as shown in the illustration below.



3. Turn the knob of the cutter blade in the direction of the arrow in the illustration below until you see a triangle mark in the opening in the frame.



4. Attach the cutter cover.

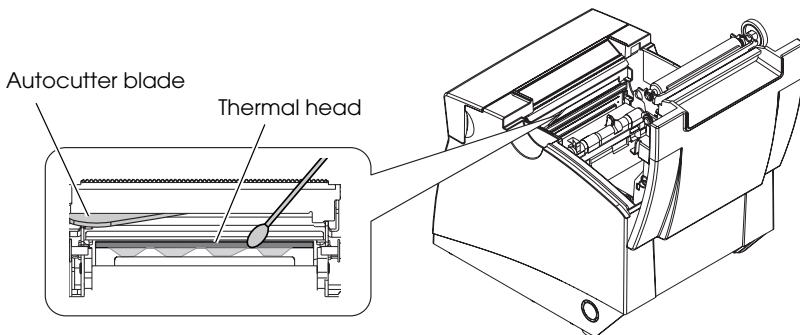


## Cleaning the Thermal Head

### **CAUTION:**

After printing, the thermal head can be very hot. Do not touch it and let it cool before you clean it. Do not damage the thermal head by touching it with your fingers or any hard object.

Turn off the printer and open the printer cover. As shown in the illustration below, clean the thermal elements of the thermal head with a cotton swab moistened with an alcohol solvent (ethanol or isopropyl alcohol).



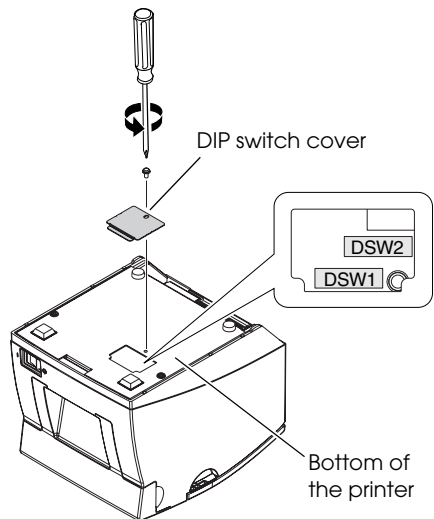
Epson recommends cleaning the thermal head periodically (generally every 3 months) to maintain good print quality.

## Setting the DIP Switches

Be sure to turn off the printer before removing the DIP switch cover. If you remove it when the printer is turned on, the printer may be damaged because of fire or electric shock.

1. Make sure the printer is turned off, and turn over the printer.
2. Remove the DIP switch cover on the bottom of the printer by removing the screw as shown in the illustration.
3. Set the DIP switch settings with a sharp-pointed object.
4. Install the DIP switch cover, and tighten the screw.

The new settings become effective after the printer is turned on.



# DIP Switch Tables

## DIP switch 1 (Serial Interface)

SW	Function	ON	OFF
1-1	Data reception error	Ignored	Prints "?"
1-2	Receive buffer capacity	45 bytes	4 KB
1-3	Handshaking	XON/XOFF	DTR/DSR
1-4	Data word length	7 bits	8 bits
1-5	Parity check	Enabled	Disabled
1-6	Parity selection	Even	Odd
1-7	Selects transmission speed. (See table below.)		

### Transmission speed

Transmission speed (bps)-bits per second	1-7	1-8
Adjustable by control commands (default: 38400)	ON	ON
4800	OFF	ON
9600	ON	OFF
19200	OFF	OFF

## DIP switch 2 (Serial Interface)

SW	Function	ON	OFF
2-1	Handshaking (BUSY condition)	Receive buffer full	Offline or Receive buffer full
2-2	Reserved (Do not change)	-	Fixed to OFF
2-3 2-4	Selects print density	See Table A.	
2-5	Release condition of receive buffer BUSY (If receive buffer capacity set to 4 KB.)	Releases BUSY when remaining receive buffer capacity reaches 138 bytes.	Releases BUSY when remaining receive buffer capacity reaches 256 bytes.
2-6 2-7	Reserved (Do not change)	-	Fixed to OFF
2-8	I/F pin 25 reset	Enabled	Disabled

## DIP switch 1 (Other than Serial Interface)

SW	Function	ON	OFF
1-1	Auto line feed	Always enabled	Always disabled
1-2	Receive buffer capacity	45 bytes	4 KB
1-3- 1-7	Undefined	-	-
1-8	Reserved (Do not change)	-	-

## DIP switch 2 (Other than Serial Interface)

SW	Function	ON	OFF
2-1	Handshaking (BUSY condition)	Receives buffer full	Offline or receives buffer full
2-2	Reserved (Do not change)	-	Fixed to OFF
2-3 2-4	Print density	See Table A.	
2-5	Release condition of receive buffer BUSY (If receive buffer capacity set to 4 KB.)	Releases BUSY when remaining receive buffer capacity reaches 138 bytes	Releases BUSY when remaining receive buffer capacity reaches 256 bytes.
2-6 2-7	Reserved (Do not change)	-	Fixed to OFF
2-8	Reserved (Do not change)	Fixed to ON	-

Table A

Print density/low power	SW 3	SW 4
	OFF	OFF
Print density (Standard)	ON	ON
Print density (Darker than standard)	ON	OFF
Print density (Darkest)	OFF	ON

## Specifications

<b>Printing method</b>	Thermal line printing
<b>Dot density</b>	203 dpi × 203 dpi (dots per 25.4 mm {1"})
<b>Printing direction</b>	Unidirectional with friction feed
<b>Printing width</b>	72 mm {2.83"}, 576 dot positions
<b>Characters per line (default)</b>	Font A, Special Font A: 48 Font B, Special Font B: 64
<b>Character spacing (default)</b>	Font A: 0.25 mm (2 dots); Font B: 0.25 mm (2 dots) Special Font A: 0.25 mm (2 dots); Special Font B: 0.25 mm (2 dots)
<b>Character size</b>	Standard/Double-height/Double-width/Double-width and Double-height Font A, Special Font A: 1.25 × 3.00 mm/1.25 × 6.00 mm/2.50 × 3.00 mm/2.50 × 6.00 mm Font B: 0.88 × 2.13 mm/0.88 × 4.25 mm/1.75 × 2.13 mm/1.75 × 4.25 mm Special Font B: 0.88 × 3.00 mm/0.88 × 6.00 mm/1.75 × 3.00 mm/1.75 × 6.00 mm
<b>Number of characters</b>	Alphanumeric characters: 95, Extended graphics: 128 × 1 page International character: 1 Thai characters: 128 × 3 pages (133 character types) Vietnam characters: 128 × 2 pages (135 character types)
<b>Printing speed</b>	Normal printing: 150 mm/s {5.91"/s} max. Page mode, Bit image printing: 150 mm/s {5.91"/s} max. Bar code, 2D code printing: 99 mm/s {3.9"/s} max. The values are when the printer prints with density "Normal" at 24 V and 25°C {77°F} Speed is adjusted automatically depending on the voltage applied and head temperature.
<b>Paper feed speed</b>	Approx. 150 mm/s {approx. 5.91"/s} continuous paper feed
<b>Line spacing (default)</b>	3.75 mm
<b>Character structure (including 2-dot horizontal spacing)</b>	Font A, Special Font A: 12 × 24, Font B: 9 × 17, Special Font B: 9 × 24 <Thai characters size in Thai 1-pass mode (default)> Font A: 12 × 46, Font B: 9 × 35, Special Font A: 12 × 24, Special Font B: 9 × 24
<b>Roll Paper (single-ply)</b>	Size: 79.5 mm ± 0.5 mm {3.13" ± 0.02"}, Maximum outside diameter: 83 mm {3.27"} Roll Paper spool diameter: Inside: 12 mm {0.47"}; Outside: 18 mm {0.71"}
<b>Thermal paper type</b>	Specified: NTP080-80
<b>Interface</b>	Serial (RS-232)/Parallel (IEEE1284)/USB (Full speed)/Ethernet (10/100Base-T)
<b>Receive buffer</b>	4 KB/45 bytes
<b>Cash drawer function</b>	2 drives
<b>Supplied voltage</b>	DC 24 V ± 7%
<b>Current consumption (at 24V)</b>	Mean: Approx. 1.4 A
<b>Temperature</b>	Operating: 5 to 45°C {41 to 113°F} Storage: -10 to 50°C {14 to 122°F}, except for paper
<b>Humidity</b>	Operating: 10 to 90% RH Storage: 10 to 90% RH, except for paper
<b>Overall dimensions</b>	145 × 144 × 189 mm {5.71 × 5.67 × 7.44"} (H × W × D)
<b>Weight (mass)</b>	Approx. 1.7 kg {3.75 lb} (Roll paper excluded)

dpi: dots per 25.4 mm (dots per inch)

