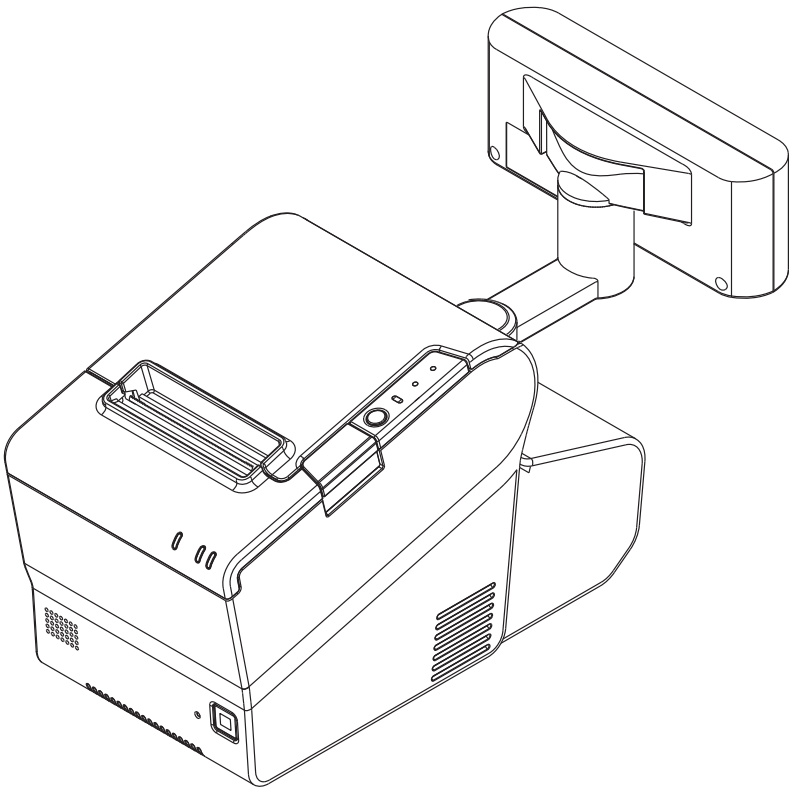
EPSON
EXCEED YOUR VISION

TM-T88V-DT

Technical Reference Guide



Product Overview

Describes features for this product.

Printer Functions and Settings

Describes the printer functions and setting methods.

Windows Settings

Describes the pre-installed Widows settings and specifications.

System Development Using TM-DT Software

Describes the requirements for system development using TM-DT software.

PC-POS System Development

Describes the PC-POS System interface, the control method for devices, and system development using the Thin-Client environment.

Product Specifications

Describes this product's specifications.

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ESC/POS® Proprietary Command System

Epson took the initiative by introducing ESC/POS, a proprietary POS printer command system, which includes patented or patent pending commands and enables versatile POS system construction with high scalability. Compatible with all types of Epson POS printers and displays, this proprietary control system also offers the flexibility to easily make future upgrades. Its popularity is worldwide.

ESC/POS is designed to reduce the processing load on the host computer in POS environments. It comprises a set of highly functional and efficient commands that enables the full realization of the potential of printers.

For Safety

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	You must follow warnings carefully to avoid serious bodily injury.
CAUTION	Provides information that must be observed to prevent damage to the equipment or loss of data. • Possibility of sustaining physical injuries. • Possibility of causing physical damage. • Possibility of causing information loss.
CAUTION	Provides information that must be observed to avoid damage to your equipment or a malfunction.
NOTE	Provides important information and useful tips.

Warnings

WARNING

- To avoid risk of electric shock, do not set up this product or handle cables during a thunderstorm.
- Never insert or disconnect the power plug with wet hands.
  Doing so may result in severe shock.
- Handle the power cable with care.
  Improper handling may lead to fire or electric shock.
  * Do not modify or attempt to repair the cable.
  * Do not place any heavy object on top of the cable.
  * Avoid excessive bending, twisting, and pulling.
  * Do not place the cable near heating equipment.
  * Check that the plug is clean before plugging it in.
  * Be sure to push the plug all the way in.
- Be sure to use the specified power source.
  Connection to an improper power source may cause fire or shock.
- Do not place multiple loads on the power outlet.
  Overloading the outlet may lead to fire or shock.
- 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.
- 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, do not continue to use it.
  Continued use may lead to fire. Unplug the power cord immediately and contact your dealer or a Seiko Epson service center for advice.
- Do not use aerosol sprayers containing flammable gas inside or around this product.
  Doing so may cause fire.

Cautions

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.
- Take care not to injure your fingers on the manual cutter
- Do not open the roll paper cover without taking the necessary precautions, as this can result in injury from the autocutter fixed blade.
- To ensure safety, unplug this product before leaving it unused for an extended period.
- To power off the product, use the application or OS function.
  Do not use the operations shown below unless the product cannot be turned off due to an application or OS problem. Doing so may cause loss of unsaved data, require OS recovery, or damage the HDD, SSD or other hardware.
  * Forced termination by holding down the power button for approx. 4 sec.
  * Power shutdown by turning off the circuit breaker on the distribution board or by disconnecting the AC cable/DC cable.

  The same phenomenon may also occur due to power shutdown caused by power failure/temporary power failure.
  To prevent power shutdown due to power failure/temporary power failure, using an uninterruptible power supply (UPS) is recommended.

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.

Contents

Product Overview

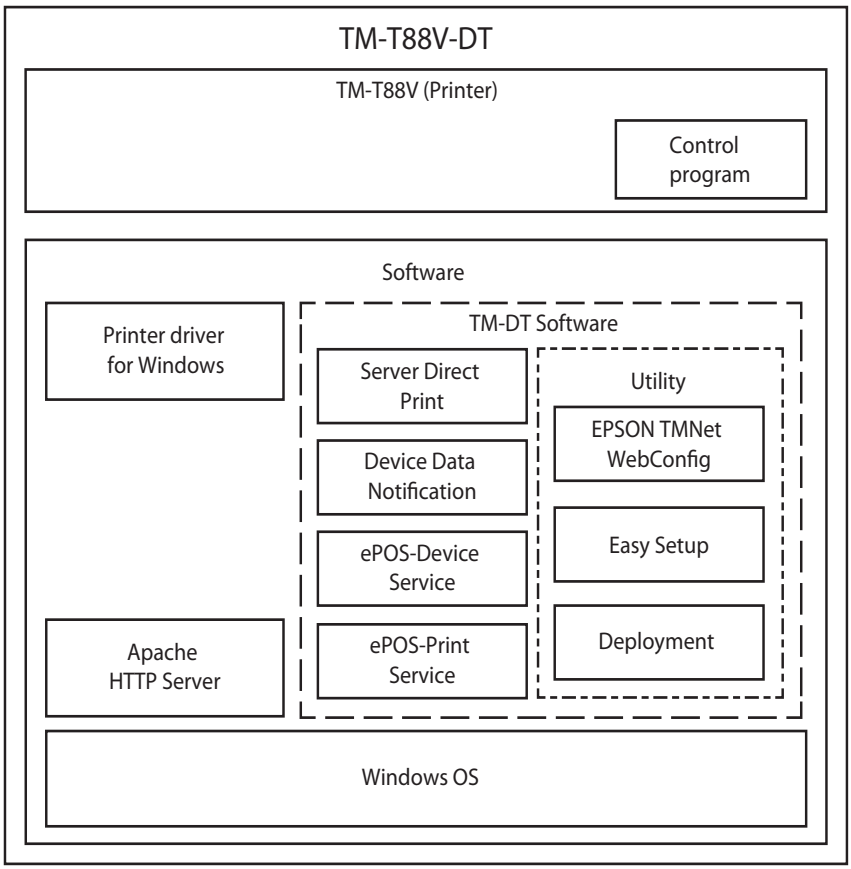
This chapter describes features of this product.

Features

The TM-T88V-DT is a highly-functional receipt printer used in tandem with a Windows computer.

A number of modules that operate on Window can be used to configure an effective POS System.

- TM-DT software
  TM-DT software provides features for controlling the TM printer and POS peripherals from smart devices and Web applications, and connecting with Web servers. There is also a feature for efficiently configuring the TM-DT software and setting up the TM-DT.
  TM-DT software may be subject to upgrading with additional or improved features. For details, see "System Development Using TM-DT Software" on page 73.
- Windows printer driver
  You can also conduct Windows POS application development using the Windows EPSON Advanced Printer Driver or OPOS ADK, and system development utilizing existing Windows POS applications.
  For details, see "PC-POS System Development" on page 130.
- Apache HTTP Server
  You can use this product as a Web server. You can execute Web applications for server-side scripting (Perl or php). You can also use SQLite database.
  For details, see "Web Server" on page 89.



The printer has the following features.

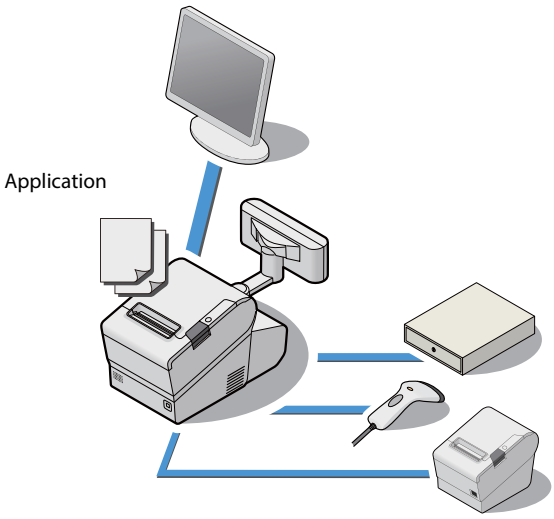
- Space-saving design through integrating computer with printer.
- Interfaces for connecting with peripherals (USB x6, serial x1, DisplayPort x1 *1, VGA x1)
- Printing and control of peripherals from smart device applications *2 or Web applications.
- Server direct print function
  The server direct print functions allows print data to be directly obtained and printing results to be notified from the Web server.

*1 Not equipped on all models.
*2 TM-DT software Ver.3.0 or later.

System Outline

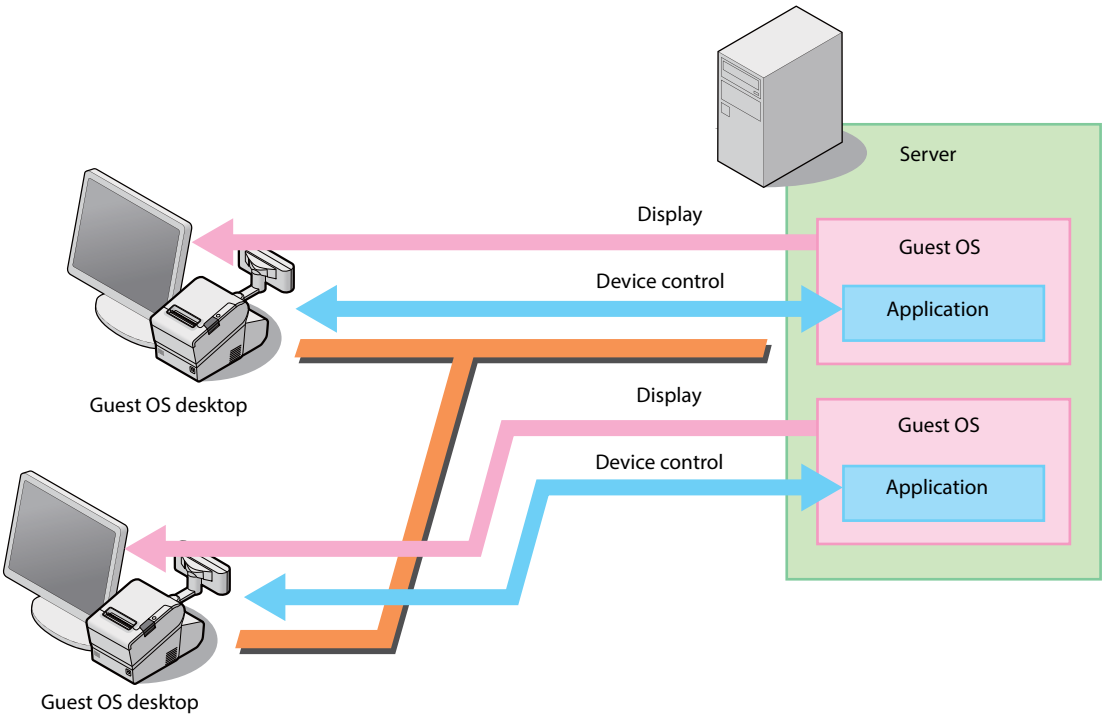
As shown below, you can configure various systems using this product.

PC-POS system

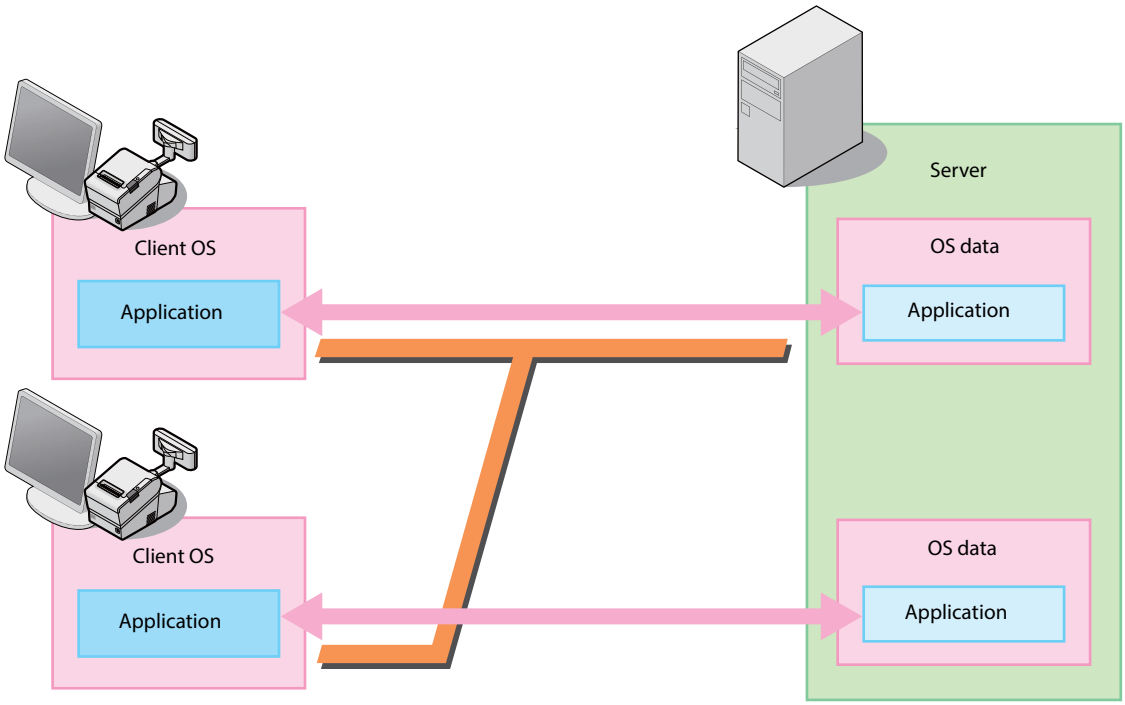


Thin-Client system

- Virtual Desktop Infrastructure (VDI)

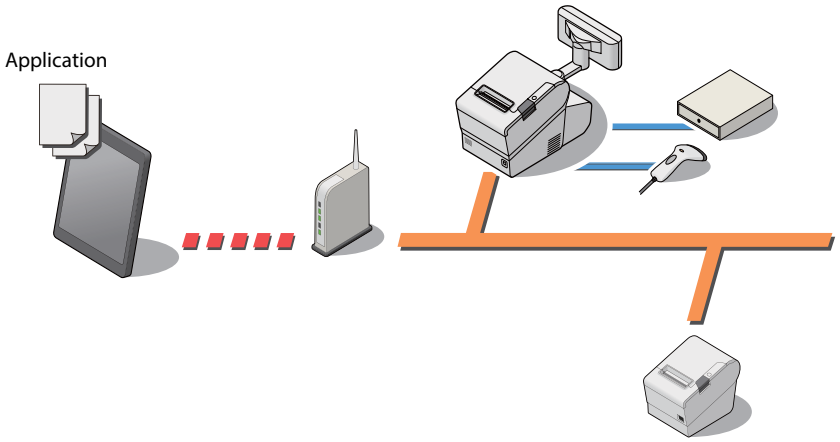


- Application virtualization system

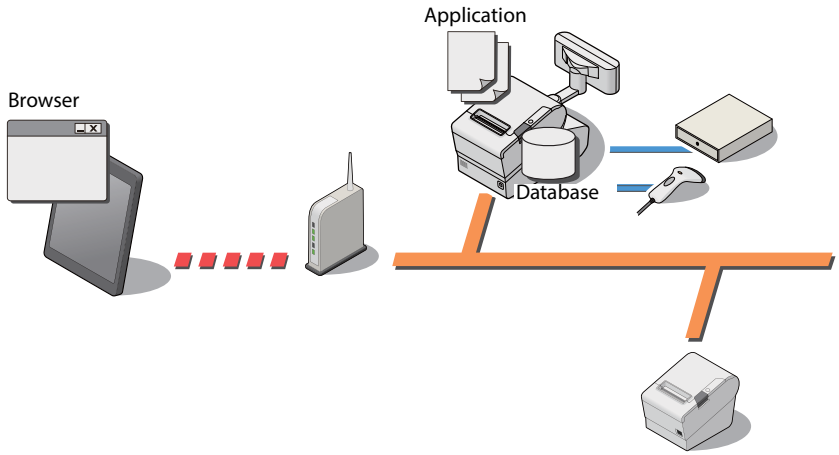


Systems that Use TM-DT software

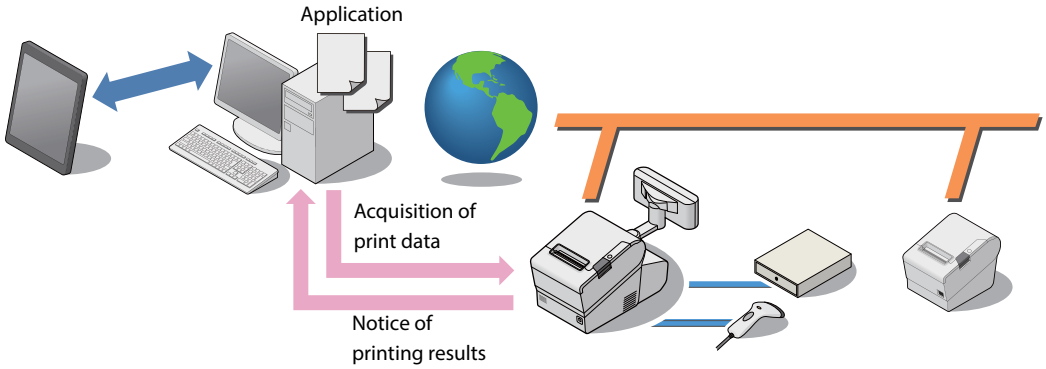
- Systems that implemented application in the smart device (TM-DT Software Ver.3.0 or later)



- Web application system



- Server Direct Print system



Development Information

Development tools, drivers, related manuals, and utilities are provided for developing systems that make use of this product. These can be obtained from the following URL.

For customers in North America, go to the following web site:

http://www.epson.com/support/ and follow the on-screen instructions.

For customers in other countries, go to the following web site:

https://download.epson-biz.com/?service=pos

Common to All Systems

Name	Descriptions	How to Obtain	
		Web site	Other
TM-T88V-DT Technical Reference Guide	This document.	✔	-
TM-T88V Utility	This utility is for confirming and changing printer settings. It is already installed in this product.	✔	-

PC-POS system

Name	Descriptions	How to Obtain	
		Web site	Other
EPSON Advanced Printer Driver for TM-T88V	Dedicated Windows printer driver for the TM-T88V. This is already installed in this product.	✔	-
EPSON Advanced Printer Driver	Windows printer driver for the TM printer.	✔	-
EPSON Advanced Printer Driver for DM-D	Windows printer driver for the customer display.	✔	-
EPSON OPOS ADK	Driver with UPOS (UnifiedPOS) specifications for use with Win32 API compatible applications.	✔	-
EPSON OPOS for .NET	Driver with UPOS (UnifiedPOS) specifications for use with .Net compatible applications.	✔	-
EPSON JavaPOS ADK	Driver with UPOS (UnifiedPOS) specifications for use with Java compatible applications.	✔	-
ESC/POS Command Reference	Provides ESC/POS for controlling the TM printer and the customer display command detailed information, character code table as a Web reference.	-	Web Refer-ence
DM-D110/DM-D210 Technical Reference Guide	Provides information necessary for system development using the DM-D110 for TM-T88V-DT (customer display).	✔	-

Name	Descriptions	How to Obtain	
		Web site	Other
DM-D30 Technical Reference Guide	Provides information necessary for system development using the DM-D30 (customer display).	✔	-

Thin-Client system

Name	Descriptions	How to Obtain	
		Web site	Other
TM-DT Thin-Client system Setup Tool	Tool for assisting Thin-Client system construction.	✔	-
IP Address Setting Tool	Tool for setting the IP address of this product (client) from the Thin-Client system server.	✔	-

Systems that Use TM-DT software

Name	Descriptions	How to Obtain	
		Web site	Other
Epson ePOS SDK	Software development kit for controlling the printer and peripherals from Web applications and smart device applications.	✔	Web Reference
for iOS *1			
for Android *1			
for Universal Windows apps *2			
for JavaScript			
TM-DT Series Peripheral Device Control Guide	Manual describing the method for controlling peripherals with TM-DT series printers. It explains device control programs and scripts. This manual is included in the Epson ePOS SDK package.	✔	-
ePOS-Device XML User's Manual	Manual describing the method for transmitting XML data from applications via socket communication to control printing and peripherals.	✔	-
ePOS-Print XML User's Manual	Manual describing the method for using Web services from applications to conduct printing.	✔	-
Server Direct Print User's Manual	Manual describing the method for developing systems using server direct print.	✔	-
Device Data Notification User's Manual *2	Manual describing the method for developing systems using device data notification.	✔	-
Deployment Guide *2	This guide includes the information needed to configure settings for multiple products efficiently.	✔	-

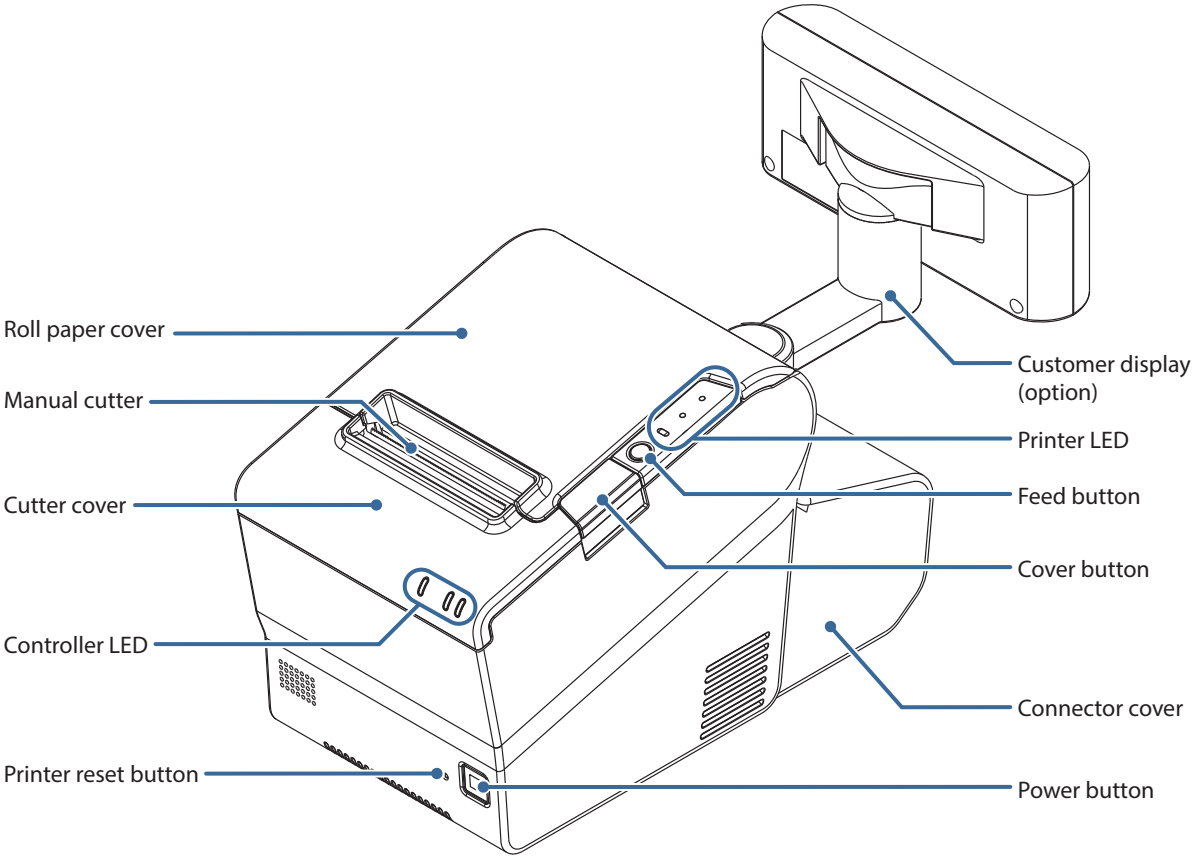
*1 TM-DT Software Ver.2.5 or later
*2 TM-DT Software Ver.3.0 or later

Printer Functions and Settings

This chapter describes the printer functions and setting methods.

Part Names and Functions

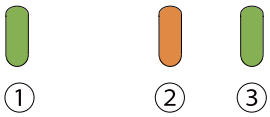
Main Unit Front



Name	Description
Power button	Turns this product power on or off.
Printer reset button	Resets this product's printer. This product's computer is not reset.
Manual cutter	A cutter for cutting the roll paper by hand.
Cover open button	Opens the roll paper cover.
Cutter cover	If there is a paper jam in the printer, open the cover and remove the paper.
Customer display (optional)	Displays characters from applications.
Feed button	Pressing this button once feeds the roll paper by one line. Holding this button down feeds the roll paper continuously.

Controller LED

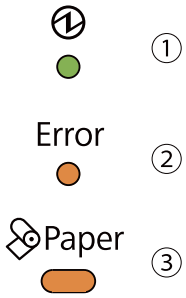
These display this product's computer status.



Name	Status	Description
(1) Storage Access LED (Green)	On	Accessing the storage
(2) Status LED (Orange)	Flashing (Approx. 1 second intervals)	OS start sequence (Accessing the storage device; Do not turn the power off. Doing so may result in data loss.)
	Flashing (Approx. 160 millisecond intervals)	CPU high-temperature warning (Failure has occurred. Please contact Epson.)
(3) Status LED (Green)	On	Windows in operation
	Flashing (Approx. 1 second intervals)	Standby or hibernate status
	Off	Power off

Printer LED

These display the printer status.



Name	Status	Description
(1) ⏻(Power) LED	On	Power is being supplied
	Off	Power is not being supplied
(2) Error LED	Off	Normal printing is possible (online).
	On	Printing is not possible. (For details, see "Offline" on page 31) Immediately after power comes on or after resetting, the LED will go out when printing becomes possible. If the Paper LED is also on, replace the roll paper. For the roll paper replacement method, see "Installing and Replacing Roll Paper" on page 34.
	Flashing	Printer error has occurred. (For details, see "Error Status" on page 22.)
(3) Paper LED	Off	There is a sufficient amount of roll paper remaining
	Flashing	A self-test printing standby state
	On	There is little or no roll paper remaining

Error Status

Printing cannot be done when there is a printer error. There are three possible error types: automatically recoverable errors, recoverable errors, and unrecoverable errors. Check the error LED flash code.

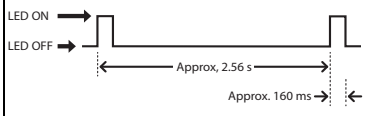
Automatically Recoverable Errors

Online status can be restored by the methods described below.

Error	Error description	Error LED flash code	Recovery measure
Roll paper cover open error	The roll paper cover was opened during printing.		Recovers automatically when the roll paper cover is closed.
Print head temperature error	A high temperature outside the head drive operating range was detected.		Recovers automatically when the print head cools.

Recoverable Errors

After removing the cause of error, online status can be restored by pressing the printer reset button.

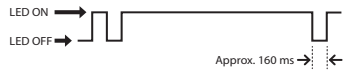
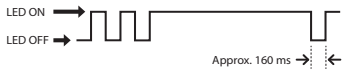
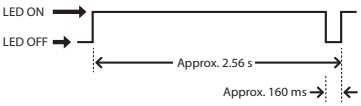
Error	Error description	Error LED flash code	Recovery measure
Autocutter error	Autocutter does not work correctly.		Remove the jammed paper or foreign matter in the printer, close the roll paper cover, and then press printer reset button.

Unrecoverable Errors

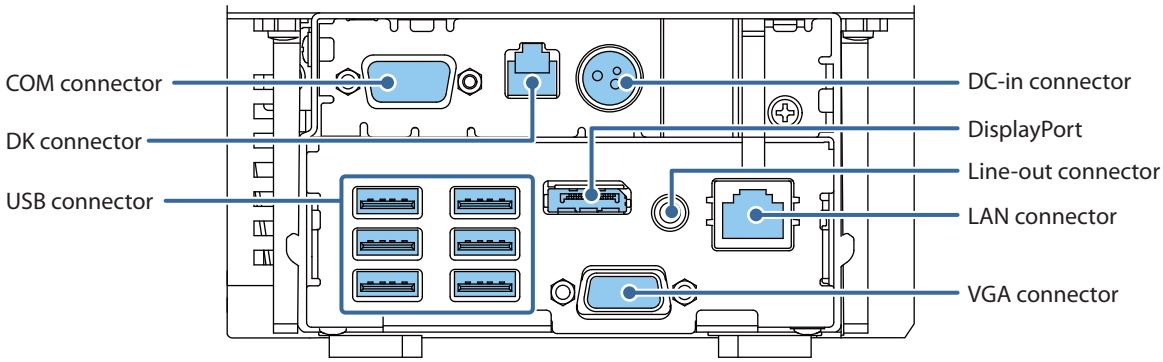
If an unrecoverable error occurs, immediately press the printer reset button. If the same error still occurs, turn the printer power off. Since it is possible a failure has occurred in the printer, contact your dealer or a Seiko Epson service center for advice.

CAUTION

If an unrecoverable error occurs after resetting the printer, immediately turn the printer power off.

Error	Error description	Error LED flash code
Memory R/W error	After R/W checking, the printer does not work correctly.	
High voltage error	The power supply voltage is extremely high.	
Low voltage error	The power supply voltage is extremely low.	
CPU execution error	The CPU is executing an incorrect address.	
Internal circuit connection error	Internal circuits are not connected correctly.	

Product Rear

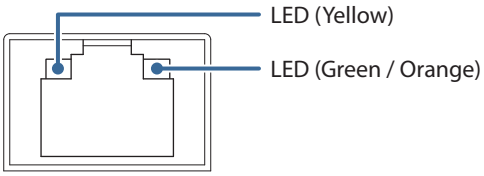


Name	Description
DK connector	Connect the cash drawer here.
LAN connector	Connect the LAN cable here.
USB connector	Connect external devices with USB interface here.
DC-In connector	Connect the AC adapter here.
VGA connector	Connect the display here.
DisplayPort *	Connect the display here.
COM connector	Connect a serial communication device.
Line-Out connector	Connect an external speaker here.

* This may not be provided, depending on the product specifications.

LAN Status LED

The LAN status LEDs are the LEDs on the LAN connector. They indicate the network communication status of this product.



LED	Status	Description
Green/Orange	On (Green)	1 Gbps link established
	On (Orange)	100 Mbps link established
	Off	10 Mbps link established or link not established
Yellow	On	Data is being exchanged.
	Off	Data is not being exchanged.

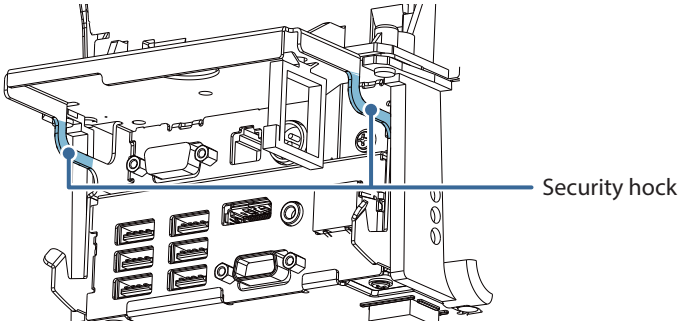
Installing the Product

Display caution regarding the following points when installing the Product.

- The Product must be installed horizontally on a flat surface (not tilted).
- Do not place the product in dusty locations.
- Do not knock or strike the product. This may cause defective print.
- Do not catch cables and do not place foreign matter under the product.

Security Hook

Commercially available theft prevention wire can be attached.



Connecting the AC Adapter

WARNING	• Be sure to use the specified AC adapter (AC adapter, T). If you use a non-standard AC adapter, there is a risk of causing fire or electric shock. • If an abnormality arises despite using this product's attachments, immediately turn the power off and remove the power cord from the wall socket. • When connecting or detaching the AC adapter to and from this product, remove the AC adapter's power cord from the wall socket. If the power cord is not removed, there is a risk that the adapter and/or this product will be damaged.
CAUTION	Use the AC adapter separated from the main unit.
NOTE	When using this product connected to the powered USB hub unit (Model: OT-PH10), connect the AC adapter to the Powered USB Hub Unit. See "the OT-PH10 Installation Guide" for details.

Connect the AC adapter to this product by the following procedure.

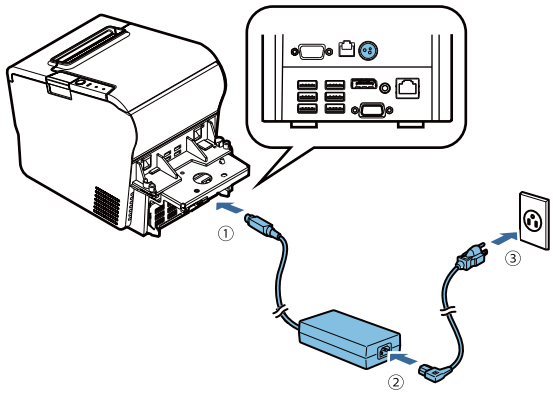
1 **Make sure that power is off and that the AC adapter power cord is detached from the wall socket.**

2 **Firmly insert the DC connector of the AC adapter all the way into the DC-in connector on the product. ((1) in the illustration)**

3 **Firmly insert the connector of the AC cable all the way into the AC inlet on the AC adapter. ((2) in the illustration)**

4 **Firmly insert the plug all the way into the grounded wall outlet. ((3) in the illustration)**

5 **Set the AC adapter so that its label side is facing down.**



Detaching the AC Adapter

Detach the AC adapter from this product by the following procedure.

1. **Make sure that power is off.**
2. **Detach the power cord from the wall socket.**
3. **Detach the AC adapter DC connector from this product.**

Turning Power On and Off

Turning Power On

With product power turned off, press the power button.

The power LED and the status LED (green) comes on.

The status LED (orange) flashes during startup of the OS, when OS startup is finished, goes out.

Turning Power On for the First Time

When turning power on for the first time, it is necessary to perform Windows initial settings.

For details, see "Windows Initial Settings" on page 63.

Turning Power Off

Turn the power off from an application or OS function.

CAUTION	• To power off the product, use the application or OS function. • Do not use the operations shown below unless the product cannot be turned off due to an application or OS problem. Doing so may cause loss of unsaved data, require OS recovery, or damage the HDD, SSD or other hardware. ∗ Forced termination by holding down the power button for approx. 4 sec. ∗ Power shutdown by turning off the circuit breaker on the distribution board or by disconnecting the AC cable/DC cable. The same phenomenon may also occur due to power shutdown caused by power failure/temporary power failure. To prevent power shutdown due to power failure/temporary power failure, using an uninterruptible power supply (UPS) is recommended.
NOTE	• Product power can also be turned off from EPSON TMNet WebConfig (page 118). • Product power can also be turned off from the Web application. For details, see "Epson ePOS SDK for JavaScript User's Manual".

Power Button Settings

You can set the functions that are available when you press the power button while power is on to this product.
Revisions are made by means of Windows "Power Options" or EPSON TMNet Config "Shutdown Settings."
The functions that can be set, and the setting methods are described below.

Function	Description	Setting from Windows	Setting from EPSON TMNet WebConfig
Shutdown	Shuts down Windows and turns power off (initial settings).	✔	✔
Do nothing	Invalid (does nothing)	✔	✔
Standby	Switches to Windows standby	✔	-
Hibernation	Switches to Windows hibernation	✔	-

In standby, the current work contents are saved in the memory. On returning from standby, work can be immediately resumed from where you left off.
If the AC adapter is removed in the standby mode, the work contents saved in the memory will be lost.
For settings when using Windows hibernation, see "Windows Hibernation" on page 65.

Return from Standby / Hibernation

When this product is in Windows standby or hibernate mode, press the power button to restore the original state.

Prevention of Accidental Operation of Power Button

The power button cover supplied with this product can be attached to prevent accidental operation of the power button.
For details, see "Power Button Cover" on page 48.

Forced Termination

If you cannot turn this product power off using applications or the OS, you can execute forced termination as a last resort. Keep pressing the power button for approximately 4 seconds until this product is turned off.

CAUTION	Be careful; when forced termination is executed, all unsaved data is lost.

Online and Offline

This section describes the conditions in which the printer goes online and offline.

This product's printer can print when it is online but not when it is offline.

Because this product's computer and printer operate independently, the computer operates irrespective of the printer status.

The printer LEDs display the following.

Printer Status	Power LED	Error LED
Online	On	Off
Offline	On	On

Online

This is the online status when no offline events or printer errors are happening.

Offline

The printer automatically goes offline under the following conditions:

- During power on (including resetting with the interface) until the printer is ready
- During the self-test
- When the roll paper cover is open
- While roll paper is feed using the Feed button
- When printing stops due to end of paper. (When the roll paper end sensor detects the end of paper or the printer is set so that printing stops upon detection of roll paper near-end.)
- When an error has occurred (For detail, see "Error Status" on page 22.)

Handling the Roll Paper

Changing the Paper Width

The printer is initially set to print on 80 mm width paper and you can change the printer to print on 58 mm width paper by installing the roll paper guide and changing the paper width setting with the customized value.

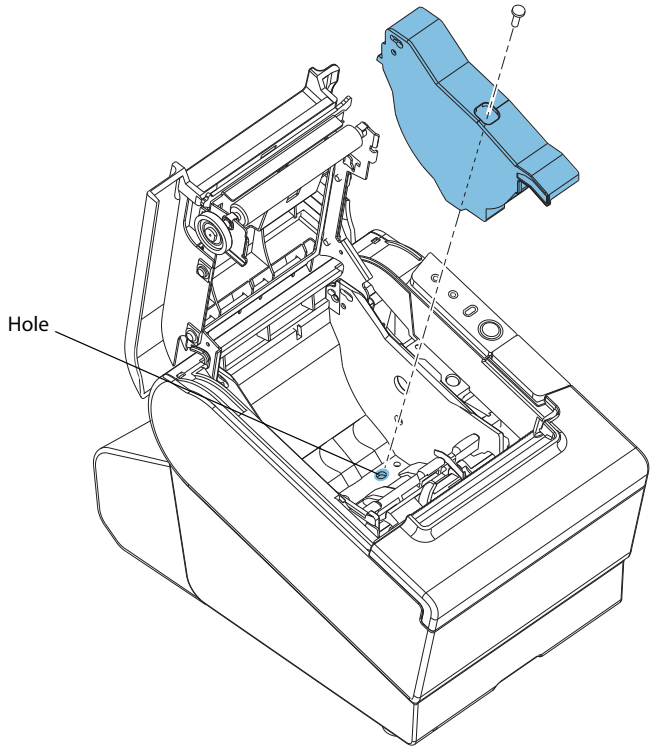
Follow the steps below to install the roll paper guide.

CAUTION

- Once you change the paper width from 80 mm to 58 mm, you cannot change it back to 80 mm.
- If changing the paper width, use TM-T88V-Utility, and change the width on the TM-T88V-DT or via the network.

1 **Open the roll paper cover.**

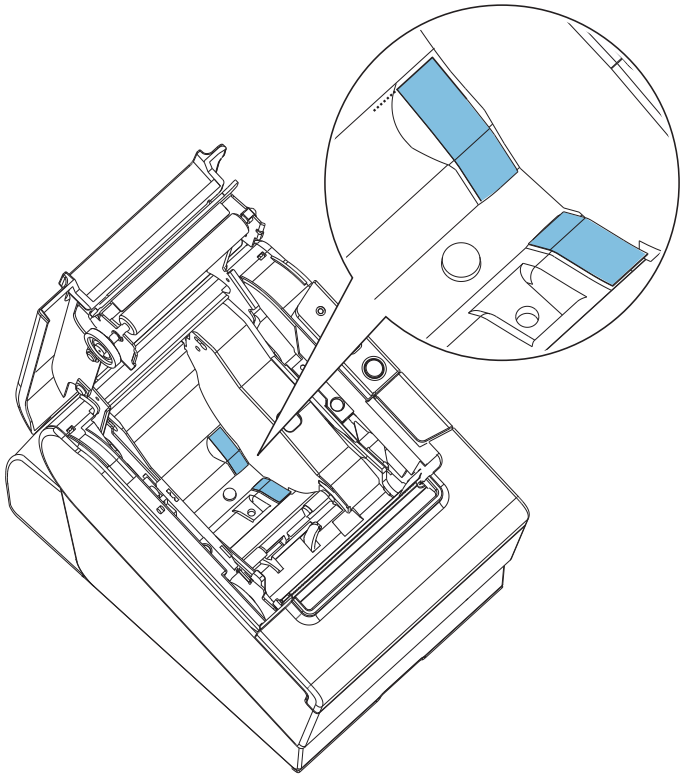
2 **Install the roll paper guide so that the projection on its bottom is aligned with the hole at the right of the roll paper holder.**



3 **Tighten the enclosed screw to fix the roll paper guide.**

4 **Paste the enclosed 2 small strips along the roll paper guide on the bottom of the roll paper holder.**

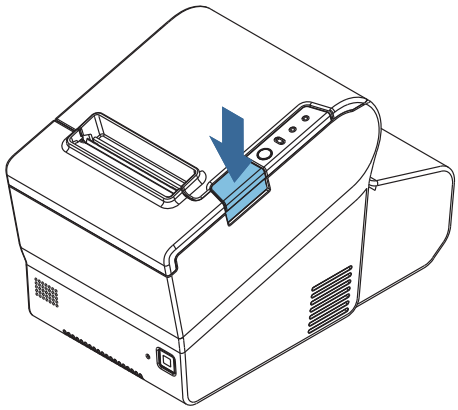
CAUTION	Make sure the space between the top edge of the strip and the line of the groove in the roll paper guide is 0.5 mm {0.020"} or less.



Installing and Replacing Roll Paper

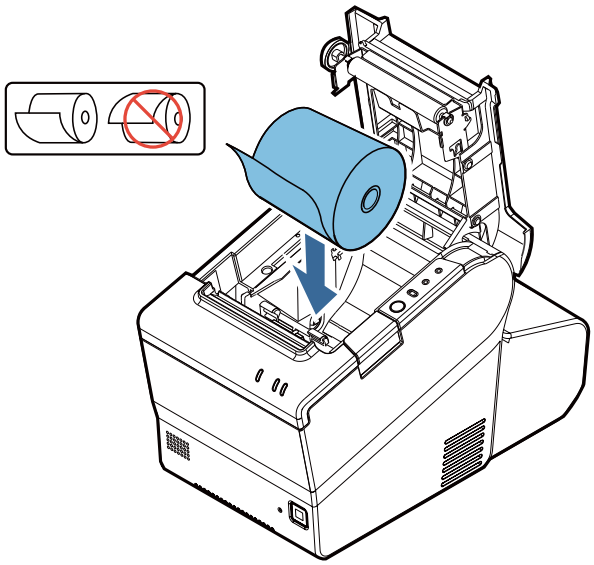
WARNING	• Do not open the roll paper cover during printing. The product may be damaged. • Do not touch the manual cutter with your hands when installing or replacing the roll paper. Otherwise, you may be injured because the manual cutter blade is sharp.
CAUTION	• Use roll paper that meets the product specification. For details about paper specification, see "Roll Paper Specifications" on page 144. • Paper must not be pasted to the roll paper core.

1 **Press the cover open button to open the roll paper cover.**

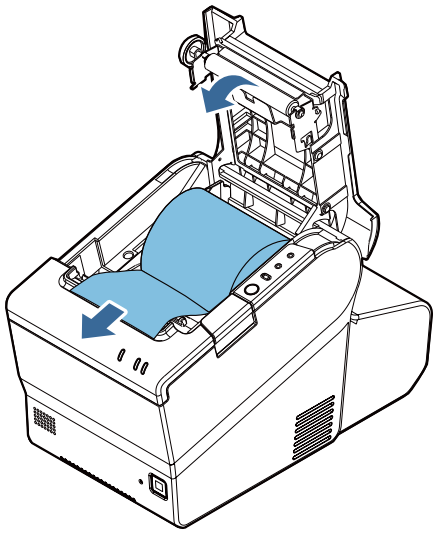


2 **Remove the used roll paper core, if any.**

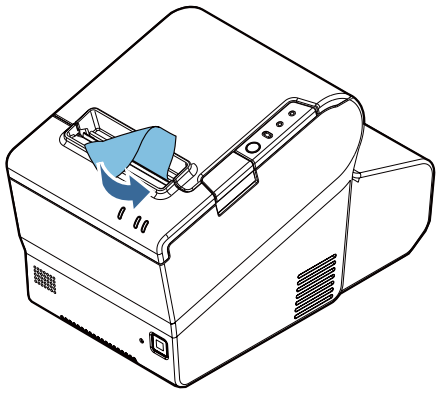
3 **Install the roll paper in the correct direction.**



4 **Pull out some roll paper, and close the roll paper cover.**



5 **Tear off the roll paper with the manual cutter.**



Removing Jammed Paper

When roll paper gets jammed inside the printer, remove the paper and reset the printer as follows.

1 **Open the roll paper cover.**

2 **Remove the jammed paper.**

3 **Press the printer reset button to reset the printer.**

The roll paper cover will not open (the autocutter blade is locked)

The roll paper cover will not open if the auto cutter blade is locked.

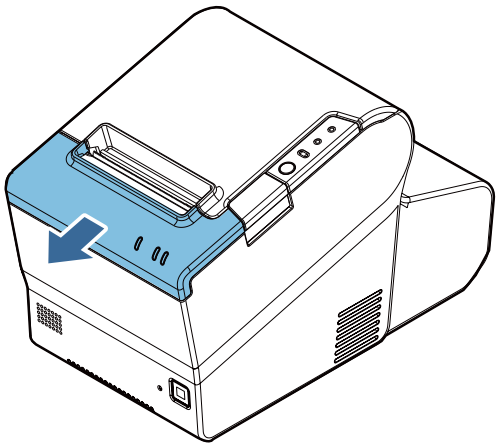
Restore the auto cutter blade to its normal position and remove the jammed paper by the following procedure.

1 **Turn off the product.**

2 **Slide the cutter cover toward the front to open it.**

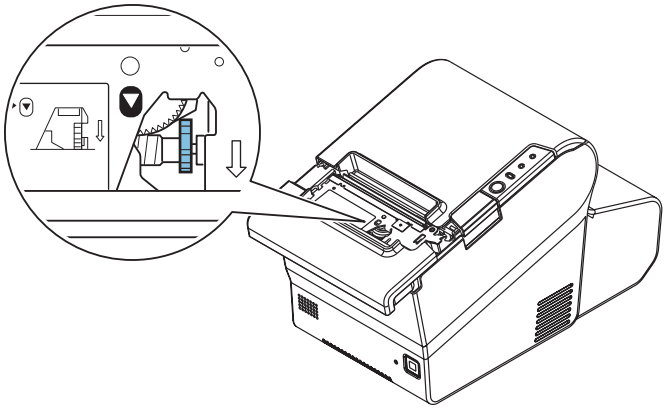
CAUTION

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



3 **Turn the knob until you see a triangle in the opening. This returns the cutter blade to the normal position.**

There is a label near the cutter to assist you.



4 **Close the cutter cover.**

5 **Close the roll paper cover.**

6 **Remove the jammed paper.**

7 **Turn on the product.**

Adjusting the Roll Paper Near-End

Below are two situations where a roll paper near-end sensor adjustment is required.

- To adjust the detection position to suit the diameter of the roll paper core used.
- To adjust the detection position of remaining amount of paper.

CAUTION

- Since roll paper cores vary slightly in shape, depending on roll paper design and manufacturing tolerances, it is impossible to detect the remaining paper exactly.
- Use roll paper with a core whose inner diameter is 12 mm {0.47"} and outer diameter is 18 mm {0.71"} so that the near-end sensor can detect the remaining paper as accurately as possible.

Follow the steps below to adjust the roll paper near-end sensor.

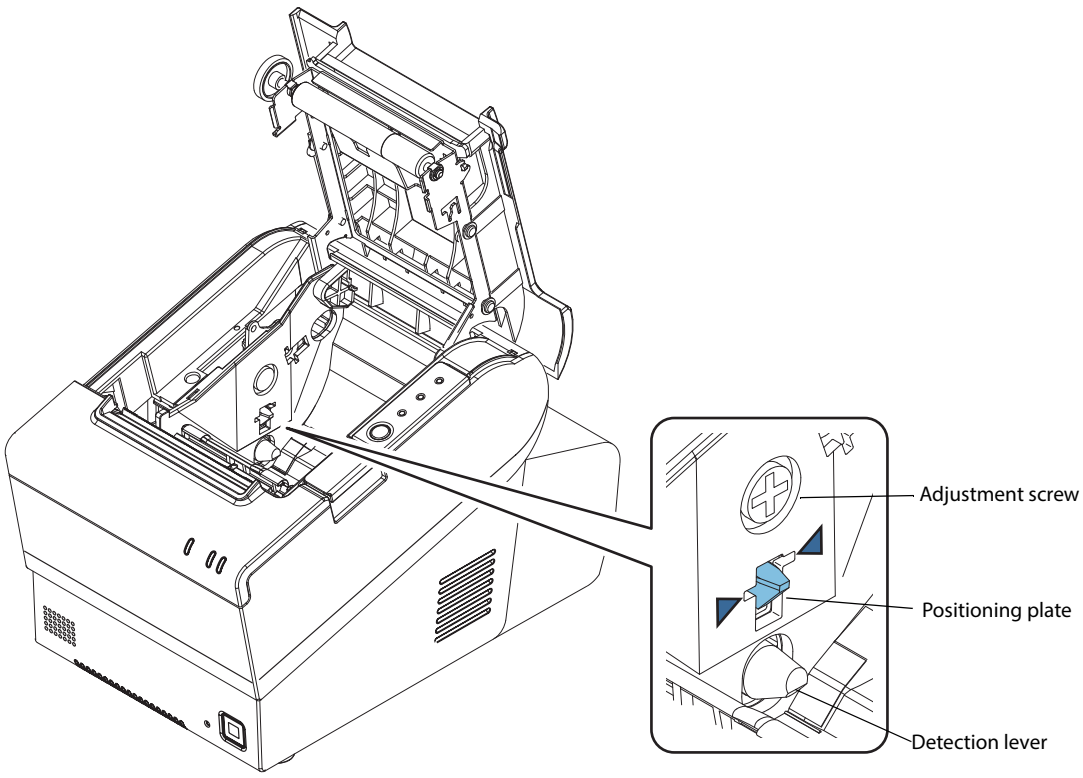
1 **Open the roll paper cover, and remove the roll paper.**

2 **Loosen the adjustment screw fastening the sensor, and align the upper edge of the positioning plate with the adjustment position.**

Adjustment position	Remaining amount of paper (outer diameter: mm)
Upper	Approx. 27 {1.06"}
Lower (Initial setting)	Approx. 23 {0.97"}

3 **Tighten the adjustment screw.**

4 **After adjustment, make sure that the detection lever operates smoothly.**

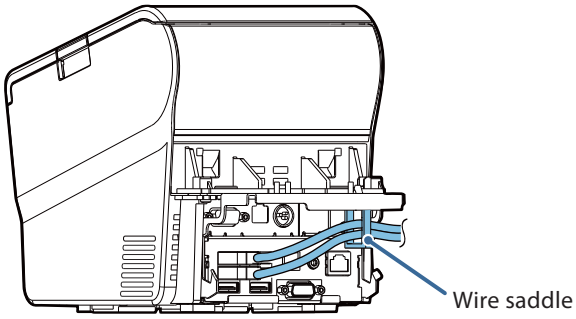


Attaching and Setting Peripherals

Connect the peripheral cables to each connector.

CAUTION	When attaching and detaching peripherals, be sure to turn this product power off and remove the power cord. Doing so without detaching the power cord could lead to failure.

When connecting USB cable, DisplayPort cable, line output cable, and other connector-less cables to this product, fix the interface cables with wire saddles to prevent detachment.



Keyboard / Mouse

Connect when you want to operate from Windows or applications.

Connect a USB keyboard and USB mouse to the USB connectors.

CAUTION	Fix the USB cables with wire saddles to prevent detachment.

Display

Connect when you want to display Windows and operate from applications.

Connect the display to the VGA connector or DisplayPort. If this product is compatible with touch panel inputting or audio outputting, connect to the respective ports.

CAUTION	• Connect the display when power to this product is off. If you connect the display while power is on, it may not display properly. • Fix the DisplayPort cable, USB cables, and line output cable with wire saddles to prevent detachment.
NOTE	Conduct display settings with the Windows function.

USB Interface Printer

Connect the USB interface TM printer to a USB connector. For printer settings, see the "Technical Reference Guide" of each TM printer.

- PC-POS System
  Set the driver, etc. according to each system of use. For details, see "PC-POS System Development" on page 130.

Systems that use TM-DT software cannot be used.

> **CAUTION** Fix the USB cables with wire saddles to prevent detachment.

Network Printer

Network printers are connected to the same network as this product. For printer settings, see the "Technical Reference Guide" of each TM printer.

- PC-POS System
  Set the driver, etc. according to each system of use. For details, see "PC-POS System Development" on page 130.
- Systems that use TM-DT software
  Set the device ID, IP address, printer model, and other settings with EPSON TMNet WebConfig. For details, see "Settings - Web service settings - Printer" on page 102.

Customer Display

Connect the customer display (optional) to a USB connector.

For how to connect the customer display and make dip switch settings, etc., see the "Technical Reference Guide" of each customer display.

- PC-POS System
  This product is installed with a customer display COM-USB conversion driver, so it is recognized as a virtual COM port.
  Set the driver, etc. according to each system of use. For details, see "PC-POS System Development" on page 130.
- Systems that use TM-DT software
  Set whether or not to use the customer display, communication speed and so on with EPSON TMNet WebConfig. For details, see "Settings - Web service settings - Customer Display" on page 103.

> **CAUTION** Fix the USB cables with wire saddles to prevent detachment.

Operation

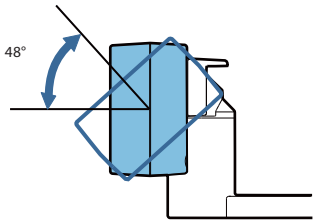
When changing the direction and angle of the customer display, move the display section and L-shaped support while holding this product down by hand. When the movement stops, do not move it any more.

CAUTION

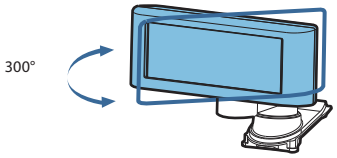
Do not rotate the display with excessive force. Doing so may break it.

The mobile range of the display is as follows.

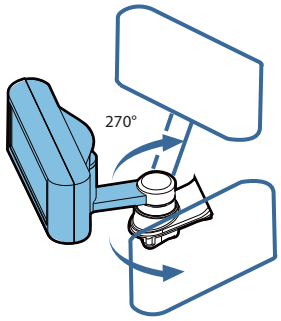
- Display tilt: Maximum angle of 48° (5 levels)



- Display rotation: Maximum angle of 300°



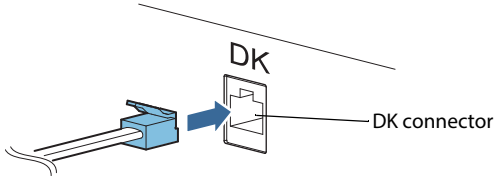
- Arm rotation: Maximum angle of 270°



Cash Drawer

Connect the connector of the drawer kick-out cable to the printer.

Push the connector of the drawer kick-out cable into the product until you hear a click.

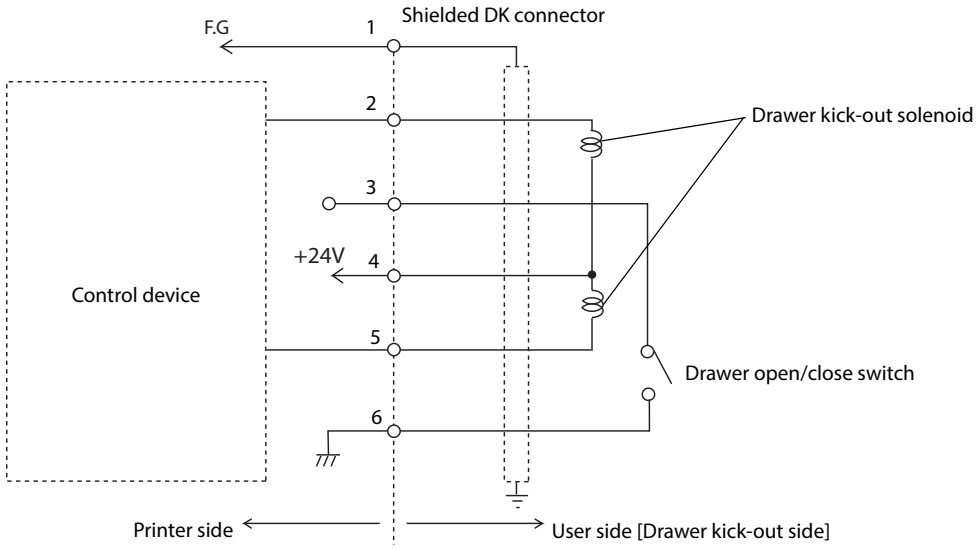


WARNING

- Specifications of drawers differ a great deal, depending on makers or models. When you use a drawer other than the specified, make sure its specifications meet the following conditions. Otherwise, devices may be damaged.
  - ∗ The load, such as a drawer kick-out solenoid, must be connected between pins 4 and 2 or pins 4 and 5 of the drawer kick-out connector.
  - ∗ When the drawer open/close signal is used, a switch must be provided between drawer kick-out connector pins 3 and 6.
  - ∗ The resistance of the load, such as a drawer kick-out solenoid, must be 24 Ω or more or the input current must be 1A or less.
  - ∗ Be sure to use the 24V power output on drawer-kick out connector pin 4 for driving the equipment.
- Use a shield cable for the drawer connector cable.
- Two driver transistors cannot be energized simultaneously.
- Leave intervals longer than 4 times the drawer driving pulse when sending it continuously.
- Be sure to use the printer power supply (connector pin 4) for the drawer power source.
- Do not insert a telephone line into the DK connector.
  Doing so may damage the telephone line or printer.

- PC-POS System
  The cash drawer is controlled from this product's printer. There is no dedicated driver for the cash drawer - you can use the printer driver.
- Systems that use TM-DT software
  The cash drawer is controlled from this product's printer. Configure the printer to use.

DK Connection Circuitry



Key Input Device

Connect the key input device to a USB connector. For how to set barcode scanners and so on, see the respective product manuals.

- PC-POS System
  Since it is recognized as a HID device, setting is not required.
- Systems that use TM-DT software
  Set the device ID, control script and so on with EPSON TMNet WebConfig. For details, see "Settings - Web service settings - Key input device" on page 104.

CAUTION	Fix the USB cables with wire saddles to prevent detachment.

Serial Communication Device

Connect the serial communication device to a COM connector. For how to set the device, install the driver and so on, see the respective product manuals.

- PC-POS System
  Align communication conditions between this product and the device.
- Systems that use TM-DT software
  Align communication conditions between EPSON TMNet WebConfig and the device.
  Set the device ID, communication conditions, control script and so on with EPSON TMNet WebConfig. For details, see "Settings - Web Service settings - Serial communication Device" on page 105.

Powered USB Hub Unit

Attach the powered USB hub unit to the base of this product, and connect the cables to this product's DC connector and USB connector.

For details on the powered USB hub unit, see "OT-PH10 Installation Guide".

Network Settings

Connect to Wired LAN

LAN Cable Connections

CAUTION

- When LAN cables are installed outdoors, make sure devices without proper surge protection are cushioned by being connected through devices that do have surge protection. Otherwise, the devices can be damaged by lightning.
- Never attempt to connect the customer display cable, drawer kick-out cable, or a telephone line cable to the Ethernet connector.

Push the 10BASE-T/100BASE-TX LAN cable into the LAN connector until you hear a click.

Network Settings

Set the IP address and other network settings. Settings can be made as follows.

- Setting on Windows
  Perform the same settings as with the Windows PC.
- Setting on EPSON TMNet WebConfig (page 113)

Connect to Wireless LAN

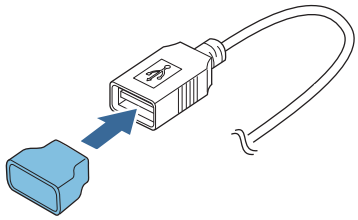
You can use the optional wireless LAN cable set (OT-WL01) to connect this product to a wireless LAN.

Wireless LAN Cable Set Connections

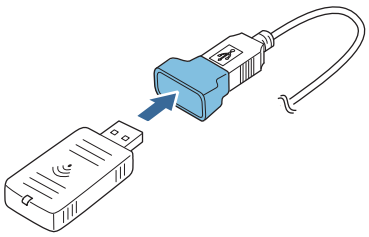
Connect the wireless LAN cable set to a USB connector.

Connect the wireless LAN cable set by the following procedure.

1 Attach the included rubber cover to the connector of the USB extension cable into which the wireless LAN unit will be inserted, to prevent the unit from coming off.



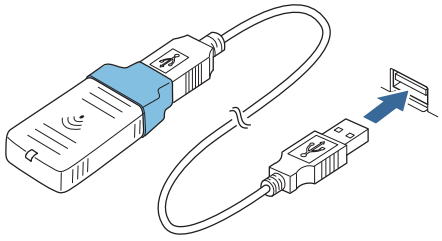
2 Insert the wireless LAN unit into the connector of the cable.



CAUTION

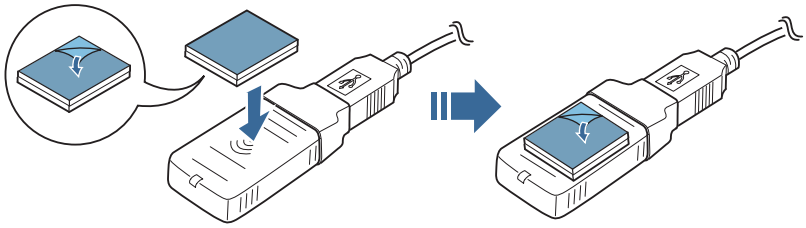
Adjust the position of the rubber cover so that the description on the label on the back side of the wireless LAN unit is not covered.

3 Connect the USB extension cable to the USB connector of the printer.



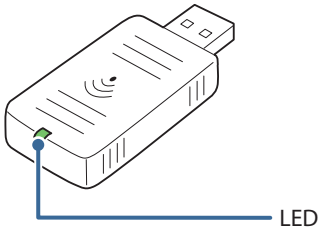
NOTE

If you want to fix the wireless LAN unit, cut the included affixing tape to fit and put on the unit, and fix the unit in a place with good communication.



Wireless LAN cable set's indicator

With the LED on the wireless LAN unit, you can check the communication status of the product.



LED	Description
Off	The wireless LAN unit is not connected to the product. Or the product power is Off.
Flashing	This wireless LAN unit is in operation.
Flashing rapidly	This unit is communicating on a wireless LAN.

Network Settings

Set the IP address and other network settings. Settings can be made as follows.

- Setting on Windows
  Perform the same settings as with the Windows PC.
- Setting on EPSON TMNet WebConfig (page 114, page 115)

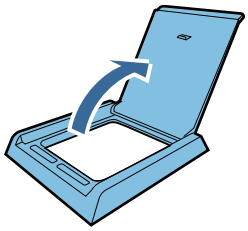
Attaching Accessories

Power Button Cover

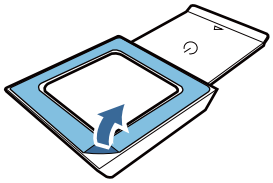
The power button cover supplied with this product can be attached to prevent accidental operation of the power button.

NOTE	If the area around the power button is dirty, Epson recommends wiping clean before attaching the cover.

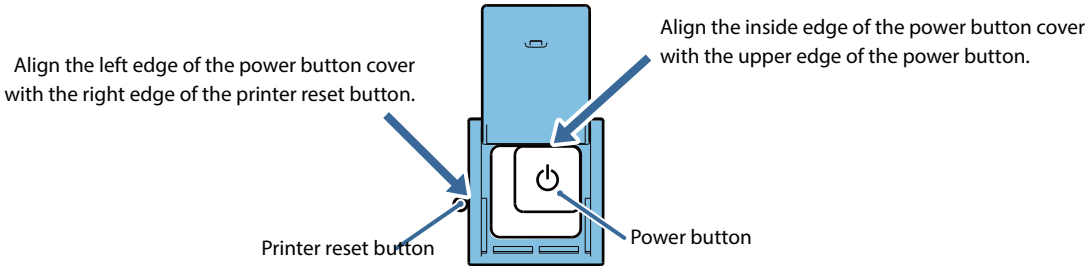
1 Open the power button cover.



2 Peel off the backing paper.



3 Attach the power button cover as shown in the illustration.



Connector Cover

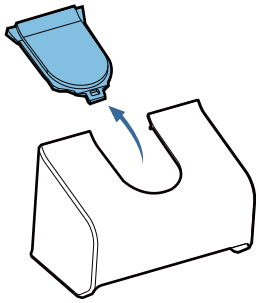
Attaching the Connector Cover

The connector cover can be attached to protect cables that are connected to this product.

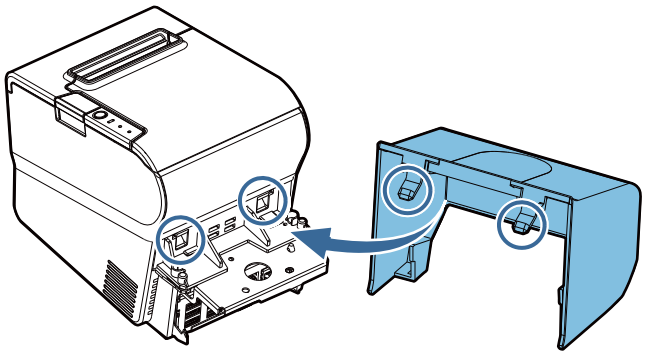
> **CAUTION**
>
> When attaching the connector cover, always hold both sides. Otherwise the connector cover could break.

Attach the connector cover by the following procedure.

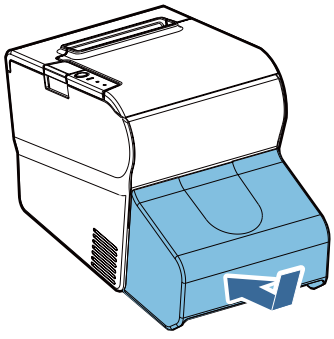
1 **When attaching the customer display (optional) to this product, remove the U-shaped component from the connector cover.**



2 **Align the hooks on the connector cover with the dents on the main body.**



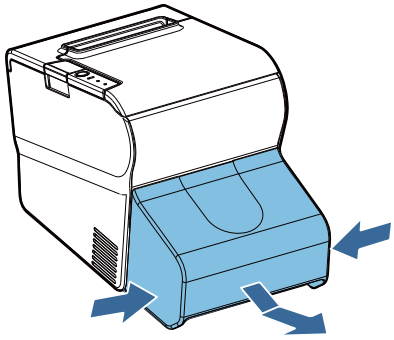
3 **Push the connector cover to click onto the main body.**



4 **Make sure the cables are not pinched.**

Detaching the Connector Cover

Detach the hooks from this product while pushing the bottom parts on both sides of the connector cover inwards.



Affixing Tape (Optional)

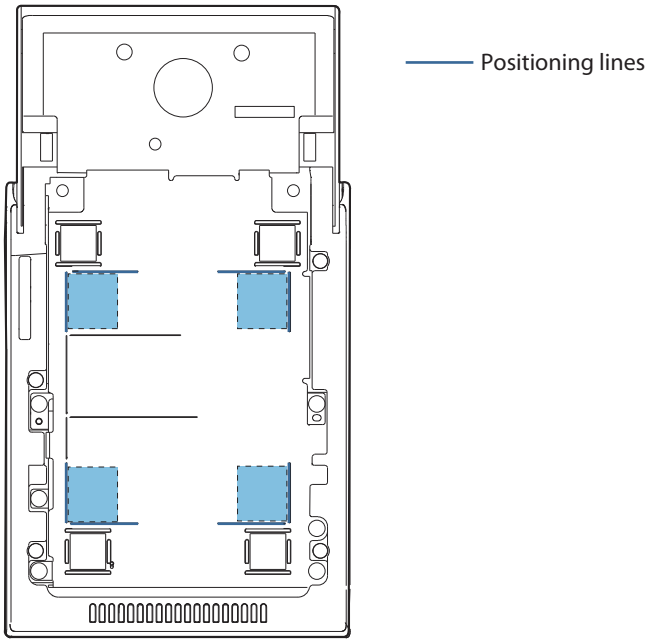
When fixing this product onto a mounting surface using the optional affixing tape (model number: DF-10), follow the procedure below.

1 **Turn over the product so that you can see its bottom.**

2 **With two pieces of the affixing tape combined, peel off the backing paper of a pair on one side, and paste it to one of the specified positions on the bottom of the product.**

3 **In the same way, paste other three pairs of tape in the specified positions.**

4 **Peel off the backing paper of each pair on the other side of the affixing tape, turn over the product back on its bottom, and place and secure it firmly to the installation surface.**



Cleaning

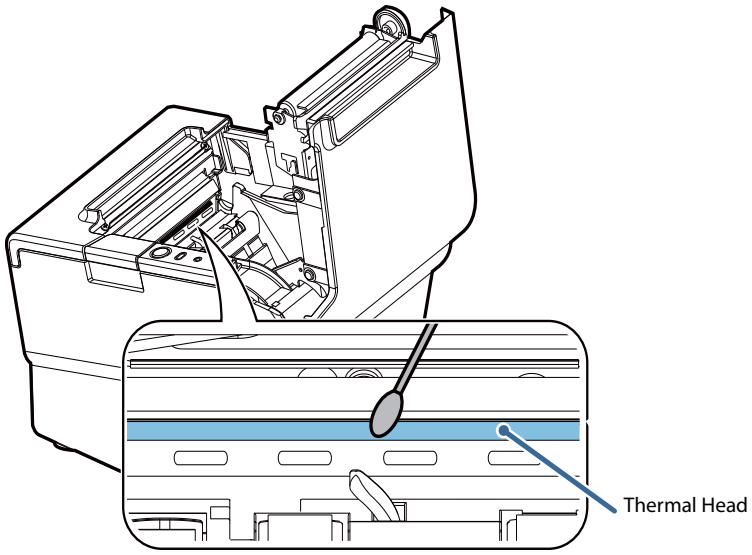
Thermal Head

Epson recommends cleaning the thermal head periodically (every 3 months or so) to maintain the receipt print quality.

CAUTION

- After printing, the thermal head and the surrounding frame can be very hot. Do not touch the thermal head right away. Wait for the thermal head to cool down sufficiently before cleaning.
- Do not damage the thermal head by touching it with your fingers or any hard object.

Open the roll paper cover, and clean the thermal elements of the thermal head with a cotton swab slightly moistened with an alcohol solvent (ethanol or isopropyl alcohol).



Depending on the roll paper used, paper dust may stick to the platen roller and roll paper end sensor. To remove the paper dust, clean the platen roller and roll paper end sensor with a cotton swab slightly moistened with water.

Case

Wipe the dirt off the case with a dry cloth or a cloth slightly damp with water. If it is very dirty, soak a cloth in a neutral liquid detergent, tightly wring it out, and wipe the dirt away. Always unplug the power cord from the socket at this time.

CAUTION

Never clean the product with alcohol, benzine, thinner, or other such solvents. Doing so may damage or break the parts made of plastic and rubber.

Preparing for Transport

Follow the steps below to transport the product.

1. **Turn off the product.**
2. **Remove the peripherals and the AC adapter.**
3. **Remove the roll paper.**
4. **Pack this product upright.**

Setting the Memory Switches

This product contains memory switches (customized value). The memory switch settings determine the operations of the built-in printer.

To change the memory switch settings, use the software setting mode or the TM-T88V Utility.

The settings that can be changed with each of these are shown below.

Function	Software Setting Mode	TM-T88V Utility
Paper width	-	-
Print density	✔	✔
Multi-tone print density	✔	✔
Print speed	✔	✔
Font **Code page** **International character set** **Font A/B replacement**	✔	✔
Optional Buzzer	-	-
Number of head energizing parts	✔	-
Power supply unit capacity	✔	✔
Automatic paper cut	✔	✔
Paper reduction **Upper space reduction** **Lower space reduction** **Line space reduction rate** **Line feed reduction rate** **Barcode height reduction rate**	✔	✔

NOTE

- Concerning TM-T88V Utility, see the User's Manual included in TM-T88V Utility.
- To directly configure the product in the software setting mode, see "Software Setting Mode" on page 61.

Functions

Paper width

Be sure to install the roll paper guide when you select the 58 mm paper width.

- 80 mm (initial setting)
- 58 mm

CAUTION	Once you change the paper width from 80 mm to 58 mm, you cannot change it back to 80 mm.

Print density

Selectable from “Depends On Dip Switch”, or levels 1 to 13 (70% ~ 130%)

CAUTION	When the print density setting is configured to "Depends On Dip Switch" (default setting), the print density will be standard. Use in this setting at normal times. Other settings can also be configured.

Multiple tone density

Selectable from levels 1 to 13 (70% ~ 130%) (initial setting: level 7)

CAUTION	• First change the print density, and then configure the multiple tone print density. • If you set the density too high, the contrast becomes lower. Select the density level checking the overall tone balance of your image.

Print speed

Selectable from levels 1 to 13 (Slow ~ Fast) (initial setting: level 13)

CAUTION	Depending on print conditions, such as print duty and print head temperature, print speed is automatically adjusted, which may cause white lines due to intermittent print (the motor sometimes stops). To avoid this, keep the print speed constant by setting it lower.

Font

- Code page: Selectable from 43 pages (initial setting: Page0:PC437 USA, Standard Europe)
- International character set: Selectable from 18 sets (initial setting: USA)
- Font A/B replacement (initial setting: No Replacement)

External optional buzzer settings

NOTE	Not used with this product.

Setting the number of head energizing parts

- One-part energizing (initial setting)
- Two-part energizing
- Four-part energizing

NOTE

- Usually, the number of head energizing parts does not need to be changed.
- The maximum print speed (300 m/s {11.81″/s}) can be performed only when one-part energizing is selected.

Power Supply unit capacity

Selectable from levels 1 to 3 (Low High) (initial setting: level 3) When a problem such as a low voltage error and power shutdown occurs due to the print pattern or the power supply environment, you might work around the problem by setting the power supply unit capacity.

If you cannot solve the problem by setting the power supply unit capacity to "level 1", you can try reducing the print speed, increasing the number of head energizing parts, or revising the print pattern (reducing the print volume).

Automatic paper cut

- Not use this function (initial setting)
- Cut paper when the cover is closed
- Print logo when paper is cut

NOTE

"Printing logo when paper is cut" is not available with software setting mode.

Setting the paper reduction

The paper feed (margin) part and bar code included in the print data can be reduced.

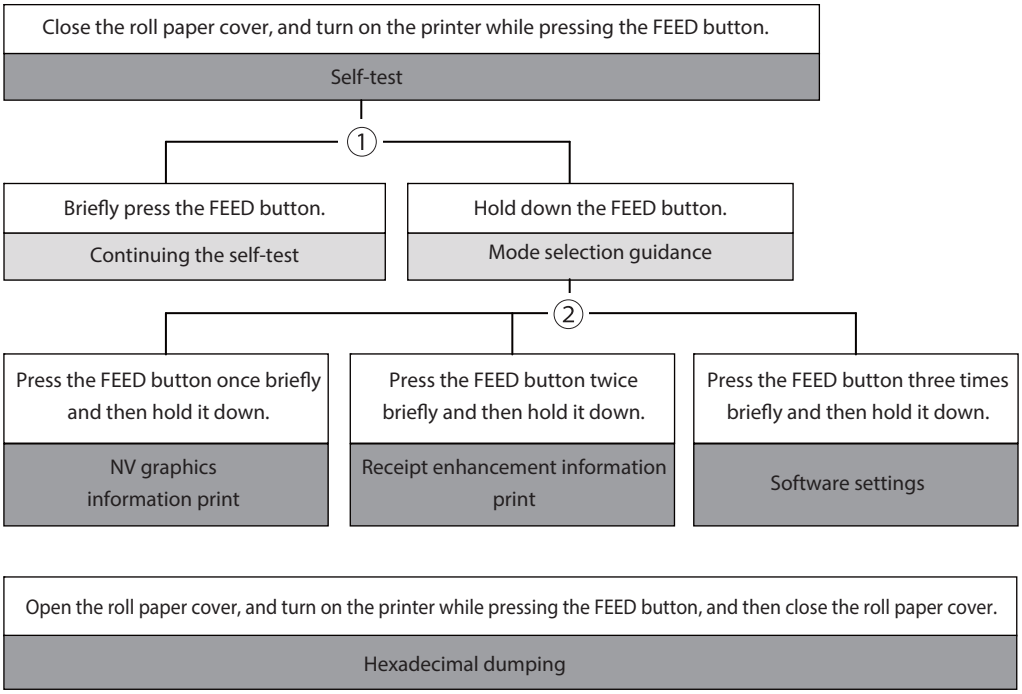
- Extra upper space reduction
- Extra lower space reduction
- Line space reduction rate
- Line feed reduction rate
- Barcode height reduction rate

Printer Setting / Checking Modes

Besides the ordinary print mode, the product has the following modes to set or check settings of the printer.

- Self-test Mode (page 58)
- NV Graphics Print Mode (page 59)
- Receipt Enhancement Information Print Mode (page 60)
- Software Setting Mode (page 61)
- Hexadecimal Dumping Mode (page 62)

Depending on the operation when turning power on, select either the Self-test Mode or the Hexadecimal Dumping Mode. The NV Graphics Print Mode, Receipt Enhancement Information Print Mode, and Software Setting Mode are selected by operating the Feed button during the self-test.



In 1 and 2, the following guidances are printed, the Paper LED flashes, and instructs the user's operations.

(1)Self-test continued guidance

"Select Modes by pressing Feed Button.
Continue SELF-TEST : Less than 1 second
Mode Selection : 1 second or more"

(2)Mode selection guidance

Mode Selection

Modes
0: Exit and Reboot Printer
1: NV Graphics Information
2: Receipt Enhancement Information
3: Customize Value Settings
4: or more: None

Select Modes by executing following procedure.
step 1. Press the Feed button less than 1 second as many times as the selected mode number.
step 2. Press Feed button for 1 second or more.

Self-test mode

You can confirm the following information by running the self-test mode.

- Printer firmware version
- Receive buffer size
- BUSY conditions
- Built-in character sets
- Print density
- Maintenance Information (Print head running length, count of auto-cutting)

Follow the steps below.

1 **Close the roll paper cover.**

2 **While pressing the Feed button, turn on the printer. (Keep pressing the Feed button until the printer starts printing.)**
After the printer status is printed, the self-test printing continuance guidance is printed and Paper LED flashes.

3 **Press the Feed button for less than 1 second to continue the self-test.**
Built-in characters are printed with rolling printing.
After printing "*** completed ***", the printer is initialized and enters the normal mode.

NV Graphics Information Print Mode

You can confirm the following information by running NV graphics print mode.

- Capacity of the NV graphics
- Used amount of the NV graphics
- Unused capacity of the NV graphics
- Number of NV graphics that are registered
- Key code, number of dots in X direction, number of dots in Y direction, number of colors to be defined.
- NV graphics data

Follow the steps below.

1 **After implementing the self-test, press the Feed button for an extended period (1 second or more) to select the mode.**
The mode selection guidance is printed, and the paper LED flashes.

2 **After pressing the Feed button for a short period (less than 1 second), press it for an extended period (1 second or more) to print the NV graphics information.**
After the NV graphics information is printed, the mode selection guidance will be printed again.

3 **In order to finish, either turn power off or select "Exit and Reboot Printer."**

Receipt Enhancement Information Print Mode

You can confirm the following information by running the receipt enhancement information mode.

- Automatic top logo setting
- Automatic bottom logo setting
- Extended settings for automatic top/bottom logo

Follow the steps below.

1 **After implementing the self-test, press the Feed button for an extended period (1 second or more) to select the mode.**
The mode selection guidance is printed, and the paper LED flashes.

2 **After pressing the Feed button twice (less than 1 second), press it for an extended period (1 second or more) to print the NV graphics information.**
After the receipt enhancement information is printed, the mode selection guidance will be printed again.

3 **In order to finish, either turn power off or select "Exit and Reboot Printer."**

Software Setting Mode

In the software setting mode, configure the printer memory switches. See "Functions" on page 55 for the setting items.

- Receipt print density
- Paper reduction
- Autocutting at roll paper cover close
- Printing width
- Character code page / International Character set
- Embedded font replacement
- Power supply output
- Print speed
- Other settings

Follow the steps below.

1 **After implementing the self-test, press the Feed button for an extended period (1 second or more) to select the mode.**
The mode selection guidance is printed, and the paper LED flashes.

2 **After pressing the Feed button for three times(less than 1 second), press it for an extended period (1 second or more) to print the NV graphics information.**
The Software setting mode guidance is printed.

3 **After pressing the Feed button for a short time (less than 1 second) for the number of times indicated in the printing results, press it for an extended period (1 second or more) to select the setting item.**

4 **After pressing the Feed button for a short time (less than 1 second) for the number of times indicated in the printing results, press it for an extended period (1 second or more) to select the setting value.**
The customized value will be saved, and the items that can be set in the software setting mode will be printed again.

5 **In order to finish, either turn power off or select "Exit and Reboot Printer."**

Hexadecimal Dumping Mode

In the hexadecimal dumping mode, the printer prints the data transmitted from a host computer in hexadecimal numbers and their corresponding characters.

NOTE

- If there is no character corresponding to print data, " . " is printed.
- If print data is less than one line, press the Feed button to print the line.
- Applications that confirm printer status may not work correctly during the hexadecimal dumping mode. The printer returns only the status for "Transmit real-time status."

Follow the steps below.

1 **Open the roll paper cover.**

2 **While pressing the Feed button, turn on the printer. (Keep pressing the Feed button until the Error LED is flashing.)**

3 **Close the roll paper cover.**
After this, all the data received by the printer is printed in hexadecimal numbers and their corresponding ASCII characters.

- Printing example:

4 **Turn off the printer or press the Feed button three times to return to the normal mode.**

Windows Settings

Windows Embedded POSReady 7

Windows Initial Settings

The following explains the procedures for the Windows initial settings when you turn on the power for this product for the first time.

1 **Making sure that this product power is off, connect the display and keyboard.**

2 **Turn on the product.**
The Windows setup screen is displayed.

3 **When the log-on screen appears, enter the password.**
For the initial settings, the user name is "EPSON-USER" and the password is "T88V-DT".

4 **The Windows desktop is displayed. Select [Start], then [Control Panel], and [Date and Time]. The "Date and Time Properties" window is displayed. Set the date, time, and the time zone.**

NOTE

Date, time, and time zone can be set later.

Starting Up and Shutting Down Windows

Starting Up Windows

Windows starts up when power to this product is turned on.

Shutting Down Windows

Power to this product is turned off when Windows is shut down.

Enabling or Disabling ePOS-Device

On this product, TM-DT software operates on Windows. If using this product with the PC-POS system or Thin-Client system, do not use this software.

If operation of this software is disabled, the useable memory can be increased by 100MB or more.

NOTE

ePOS-Device Service is set to [Enabled] in the default settings.

Enabling ePOS-Device Service

Run [ePOS-Device Enabled] from the shortcut on the desktop.

Disabling ePOS-Device Service

Run [ePOS-Device Disabled] from the shortcut on the desktop.

Speaker Volume Setting

Volume of the speakers equipped in this product can be adjusted using the speaker volume adjustment function in Windows.

Windows Hibernation

Windows can be entered into hibernate mode by pressing the power button of this product.

During hibernation, the current work contents are saved. On returning from hibernation, work can be resumed from the previous state.

Since Windows hibernation cannot be used in the initial settings, configure according to necessity.

NOTE

- This setting is effective in Windows Embedded POSReady 7.
- Conduct this setting with a user account that has administrator authority.
- When you use Windows hibernation, a system file with the same capacity as the main memory is created.

1 Making sure that this product power is off, connect the display and keyboard.

NOTE

For how to connect peripherals, see "Attaching and Setting Peripherals" on page 39.

2 Turn this product's power on and immediately press "Delete" key on the keyboard for a prolonged time to start up the BIOS menu.

3 Operating the keyboard direction keys, select "Advanced" tab and "ACPI Settings".

4 Press "Enter" key on the keyboard. The "ACPI Settings" sub-menu is displayed.

5 Operating the keyboard direction keys, select "Enable ACPI Configuration" and press "Enter" key.

6 Select "Enabled" and press "Enter" key.

"Enable ACPI Auto Configuration" is set to "Enabled".

7 Press "Esc" key on the keyboard to close the "ACPI Settings" sub-menu.

8 Operating the keyboard direction keys, select "Save & Exit" tab and "Save Changes and Reset".

9 Press "Enter" key on the keyboard to display the confirmation message. Select "Yes" and press "Enter" key.

The BIOS settings are saved and Windows is started.

10 The log-on screen is displayed. Log on to Windows.

The Windows desktop screen is displayed.

11 **From [Start]-[All Programs]-[Accessories], right-click "Command Prompt" and click "Execute as Administrator".**

12 **The "User Account Control" screen is displayed. Click [Yes].**

13 **Execute the following commands.**
powercfg /h on

It becomes possible to select Windows hibernation in the Windows power options.

Windows Recovery

Follow the steps below to perform the recovery and Windows initial setting.

CAUTION	When the recovery procedure is performed, all data will be deleted. Back up any necessary data before performing the procedure.
NOTE	• Recovery requires about 30 minutes. • A DVD drive with USB interface is required in order to perform Windows recovery.

1 Making sure that this product power is off, connect the display, keyboard, mouse, and DVD drive.

NOTE	For how to connect peripherals, see "Attaching and Setting Peripherals" on page 39.

2 Insert the recovery disk into the DVD drive.

3 Turn on the product, and "Press any key to boot from CD or DVD" is displayed. Press any key.

4 The system starts using the recovery disk. When a message that says "Do you want to recover?" is displayed. Click [Yes].

5 A confirmation message that says "All data on disc will be deleted. Do you really want to start recovery?" is displayed. Click [Yes].
Recovery is performed.

6 After the recovery procedure, the system automatically shuts down.
The system automatically restarts several times for Windows initialization.

NOTE	Do not enter any information until the Windows log-in screen appears.

7 When the log-on screen is displayed, enter the password.
The initial user name is “EPSON-USER”, and the initial password is "T88V-DT".

8 Select [Start]-[Control Panel]-[Date and Time], and the [Date and Time menu] is displayed. Set the date, time, and time zone.

9 Turn off the product. Then remove the display, keyboard, mouse, and DVD drive.

This brings the recovery and Windows initial settings to an end.

Specification

Preinstallation information

Item		Details
Storage format		
	File system	NTFS
	Volume label	TM-T88V-DT
Preinstalled software		
	OS	Windows® Embedded POSReady 7
	Additional Packages	.NET Framework2.0 SP2
		.NET Framework3.0 SP2
		.NET Framework3.5 SP1
	Driver	Intel® Atom™ Chipset Driver
		Intel® Graphics Media Accelerator 3600 Series Driver
		GPIO Driver
		Broadcom Network Driver
		Conexant Sound Driver
		EPSON Advanced Printer Driver
		EPSON TM printer Communication module
		Customer Display COM-USB Driver
		ePOS-Device and related software
	TM-DT Software	TM-DT Software *
	Tool	EPSON TMNet WebConfig
		WriteFilter Utility
		TM-T88V Utility
User information (Default)		
	User Name	EPSON-USER
	User Password	T88V-DT
EPSON TMNet WebConfig Information (Default)		
	User Name	epson
	User Password	epson

* Depending on the specifications of this product, the version will differ.

Windows Embedded POSReady 2009

Windows Initial Settings

The following explains the procedures for the Windows initial settings when you turn on the power for this product for the first time.

1 **Making sure that this product power is off, connect the display and keyboard.**

2 **Turn on the product.**
The Windows setup screen is displayed.

3 **When the log-on screen appears, enter the password.**
For the initial settings, the user name is "EPSON-USER" and the password is "T88V-DT".

4 **The Windows desktop is displayed. Select [Start], then [Control Panel], and [Date and Time]. The "Date and Time Properties" window is displayed. Set the date, time, and the time zone.**

NOTE

Date, time, and time zone can be set later.

Starting Up and Shutting Down Windows

Starting Up Windows

Windows starts up when power to this product is turned on.

Shutting Down Windows

Power to this product is turned off when Windows is shut down.

Enabling or Disabling ePOS-Device

On this product, TM-DT software operates on Windows. If using this product with the PC-POS system or Thin-Client system, do not use this software.

If operation of this software is disabled, the useable memory can be increased by 100MB or more.

NOTE

ePOS-Device Service is set to [Enabled] in the default settings.

Enabling ePOS-Device Service

Run [ePOS-Device Enabled] from the shortcut on the desktop.

Disabling ePOS-Device Service

Run [ePOS-Device Disabled] from the shortcut on the desktop.

Speaker Volume Setting

Volume of the speakers equipped in this product can be adjusted using the speaker volume adjustment function in Windows.

Windows Recovery

Follow the steps below to perform the recovery and Windows initial setting.

CAUTION	When the recovery procedure is performed, all data will be deleted. Back up any necessary data before performing the procedure.
NOTE	• Recovery requires about 40 minutes. • A DVD drive with USB interface is required in order to perform Windows recovery.

1 Making sure that this product power is off, connect the display, keyboard, mouse, and DVD drive.

NOTE	For how to connect peripherals, see "Attaching and Setting Peripherals" on page 39.

2 Insert the recovery disk into the DVD drive.

3 Turn on the product, and "Press any key to boot from CD or DVD" is displayed. Press any key.

4 The system starts using the recovery disk. When a message that says "Do you want to recover?" is displayed. Click [Yes].

5 A confirmation message that says "All data on disc will be deleted. Do you really want to start recovery?" is displayed. Click [Yes].
Recovery is performed.

6 After the recovery procedure, the system automatically shuts down.
The system automatically restarts several times for Windows initialization.

NOTE	Do not enter any information until the Windows log-in screen appears.

7 When the log-on screen is displayed, enter the password.
The initial user name is “EPSON-USER”, and the initial password is "T88V-DT".

8 Select [Start]-[Control Panel]-[Date and Time], and the [Date and Time menu] is displayed. Set the date, time, and time zone.

9 Turn off the product. Then remove the display, keyboard, mouse, and DVD drive.

Specification

Preinstallation information

Item		Details
Storage format		
	File system	NTFS
	Volume label	TM-T88V-DT
Preinstalled software		
	OS	Windows® Embedded POSReady 2009
	Additional Packages	.NET Framework2.0 SP2
		.NET Framework3.0 SP2
		.NET Framework3.5 SP1
	Driver	Intel® Atom™ Chipset Driver
		Intel® SATA AHCI Driver
		Intel® Embedded Media and Graphics Driver
		GPIO Driver
		Broadcom Network Driver
		Conexant Sound Driver
		EPSON Advanced Printer Driver
		EPSON TM printer Communication module
		Customer Display COM-USB Driver
		ePOS-Device and related software
	TM-DT Software	TM-DT Software *
	Tool	EPSON TMNet WebConfig
		WriteFilter Utility
		TM-T88V Utility
User information (Default)		
	User Name	administrator
	User Password	T88V-DT
EPSON TMNet WebConfig Information (Default)		
	User Name	epson
	User Password	epson

* Depending on the specifications of this product, the version will differ.

System Development Using TM-DT Software

This chapter describes the information needed to develop systems that use TM-DT software.

Systems that Use TM-DT software

Network Printer Control

A function for printing on printers on the same network and acquiring printer status is implemented in the TM-DT software. You can configure a system for controlling printers via smart device or a Web application.

You can perform control from a wide range of terminals and applications compatible with SOAP/HTTP communications.

Since a network printer can be controlled simply by designating the device ID from the customer's application, application development becomes easy.

For controllable network printers, see "TM-DT Software Specification" (page 128).

Setting Items

Setting	Items
Enabling / Disabling for ePOS-Device Service (page 64, page 70)	• Enabling ePOS-Device Service
Web service (page 101)	• Enabling the Device Control
Network printer (page 102)	• Printer model • Device ID • IP Address

Controlling for POS Peripherals

A function for controlling POS peripherals is implemented in the TM-DT software. Communication with peripherals is controlled by device control script files and device control program files.

Device control script files control specific peripherals.

Device control program files control OPOS-specification peripherals. This can be used in TM-DT software Ver.4.0 or later.

For controllable POS peripherals, device control script files, and device control program files, see the Epson ePOS SDK and ePOS-Device XML User's Manuals, and the TM-DT Series Peripheral Device Control Guide.

Device control script file

The following device control script files are registered to this product.

Device	Device type
Keyboard	Key input device
Barcode scanner	
Serial communication device	Serial communication device

Device control script files can be developed according to the devices that are used by the customer.

Device control program file

The following device control program files are registered to this product.

Device	Device type
POS keyboard	OposPOSKeyboardHandler.exe
Barcode scanner	OposScannerHandler.exe
MSR	OposMSRHandler.exe

Device control program files can be developed according to the devices that are used by the customer.

Setting Items

Setting	Items
Enabling / Disabling ePOS-Device Service (page 64, page 70)	• Enabling ePOS-Device Service
Web service (page 101)	• Enabling the Device Control
Customer display (page 103)	• Use / Do not use
Key input device (page 104)	• Device ID • Select the device control script
Serial communication device (page 105)	• Device ID • Select the device control script • Communication settings
Other device (page 106)	• Device ID • Select the device control script
Device control script - Add/delete (page 106)	• Registering the device control script
Device control program - Device registration (page 107)	• Device ID • Select the device control script
Device control program - Add/delete (page 107)	• Registering the device control program

Spooler and Forward Printing

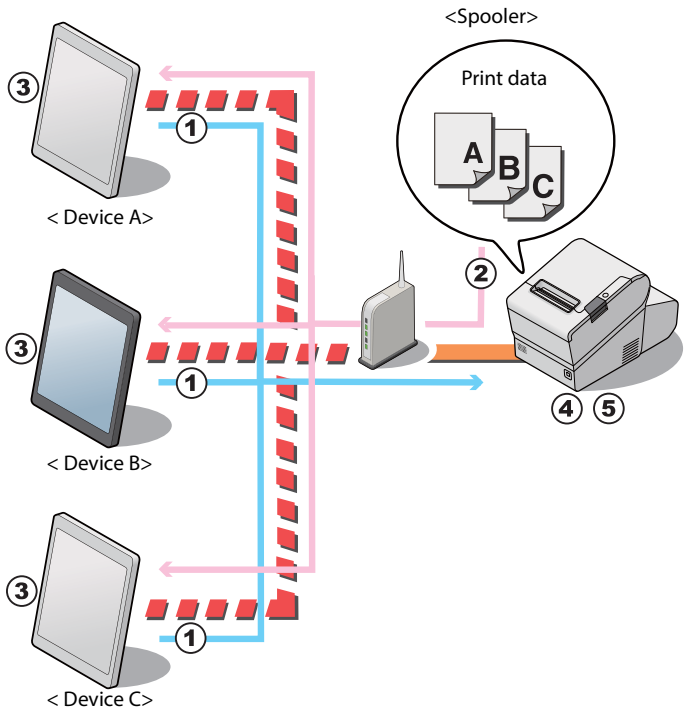
Spooler

A spooler for saving print data and conducting background printing is implemented in the TM-DT software. Even in systems where multiple print jobs are concentrated, an application system can be configured where response is not impeded.

This can be used in TM-DT software Ver.3.0 or later.

General printing applications finish transactions upon confirming the printing. Due to such waiting, response times deteriorate in systems where multiple print jobs are concentrated. The spooler application stores print data and immediately returns the printing results to the application. This allows the application to proceed to the next operation without waiting for the current printing job to be completed.

Processing Flow using the Spooler Function



1 **Devices A to C request printing of data A to C almost simultaneously.**

2 **The TM-DT software saves the print data in the spooler in the order it receives it, and returns the printing results (JobID, printing result = true) to each device.**

3 **Each device application completes the printing process and executes the next operation.**

4 **This product successively prints print data A to C.**

5 **The TM-DT software saves the printing results (JobID, printing result = true) in the log.**

CAUTION

- If the printer cannot print because it is offline or there is an error, print data cannot be printed even if spooled. Since printing results are logged, they can be confirmed from the application. For the confirmation method, see "Checking the print results" (page 79).
- When power to this product is turned off, the spooler saved fields are erased.
- If the print data exceeds the remaining capacity of the spooler and cannot be spooled, the print data is erased. Concerning the spooler capacity, see "TM-DT Software Specification" (page 128).

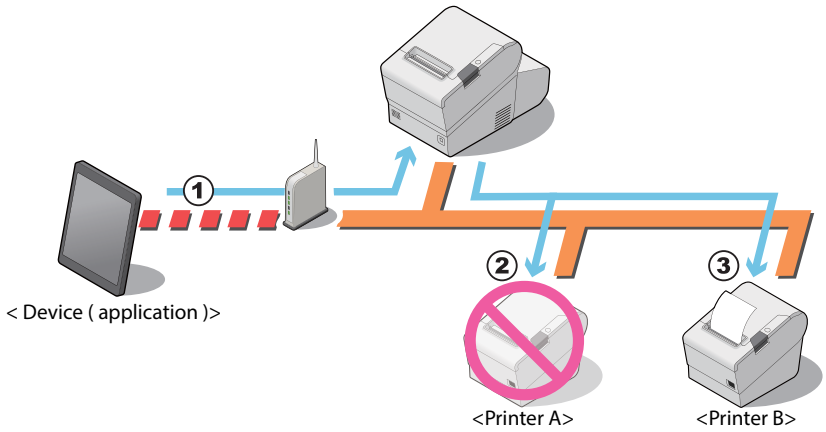
Print Forwarding

Print forwarding, which enables printing to be performed from a different printer if it cannot be performed on another one is implemented in the TM-DT software. You can configure a secure system that enables printing to be performed on a separate printer even if one printer cannot be used. All you need to do is specify the forwarded printer in the case where printing cannot be performed to EPSON TMNet WebConfig. There is no need to resend print data.

This can be used in TM-DT software Ver.3.0 or later.

Complicated processing is required in order to implement a function by a general application for printing from a separate printer when a printer cannot be printed. By using print forwarding, since the TM-DT software automatically conducts forward printing, the printing process on the customer's application can be simplified.

Processing Flow using the Spooler Function



1 **The device application sends the print data to the TM-DT software.**

2 **The TM-DT software tries to conduct printing process on printer A but cannot because the printer is offline. The TM-DT software retries the number of times that is set in the spooler function.**

3 **The TM-DT software prints with printer B.**

CAUTION

- If a printer that is set as a forwarding source or forwarding destination cannot print because it is offline or because of an error, printing is not performed even if forward printing is set. The printing results are logged and can be confirmed from the application. For the confirmation method, see "Checking the print results" (page 79).
- When power to this product is turned off, the forward printing data is erased. The forward printing settings are not erased.
- If the print data exceeds the remaining capacity of the spooler and cannot be spooled, the print data is erased. Concerning the spooler capacity, see "TM-DT Software Specification" (page 128).

Checking the print results

When the spooler is disabled

After printing, the job ID and print results are returned to the application. Also, when printing cannot be performed, the job ID, print results, and error code are returned.

When the spooler is enabled

- When print data cannot be spooled:
  [JobID, Print result = false, Error code = EX_SPOOLER (spooler stopped)] is returned to the application.
- When print data can be spooled:
  After spooling the print data, [JobID, Print result = true] is returned to the application. Printing is not performed at this point. Make an inquiry from the application to this product to confirm if printing was performed.

Checking the print results from the application

If inquired of print result from the application, the product returns the following information.

- Printing succeeded: [JobID, Print results = true]
- Printing succeeded: [JobID, Print result = false, Error code = Printer status]
- Printing or print forwarding: [JobID, Print result = false, Error code = Printing]

NOTE

- When this product is turned off, data in the spooler and the log storage area is cleared. For detail, see "TM-DT Software Specification" (page 128).
- When printing cannot be performed with this products spooler or print forwarding, the print data is cleared. If printing has not been completed when checking in the application, we recommend reprinting.

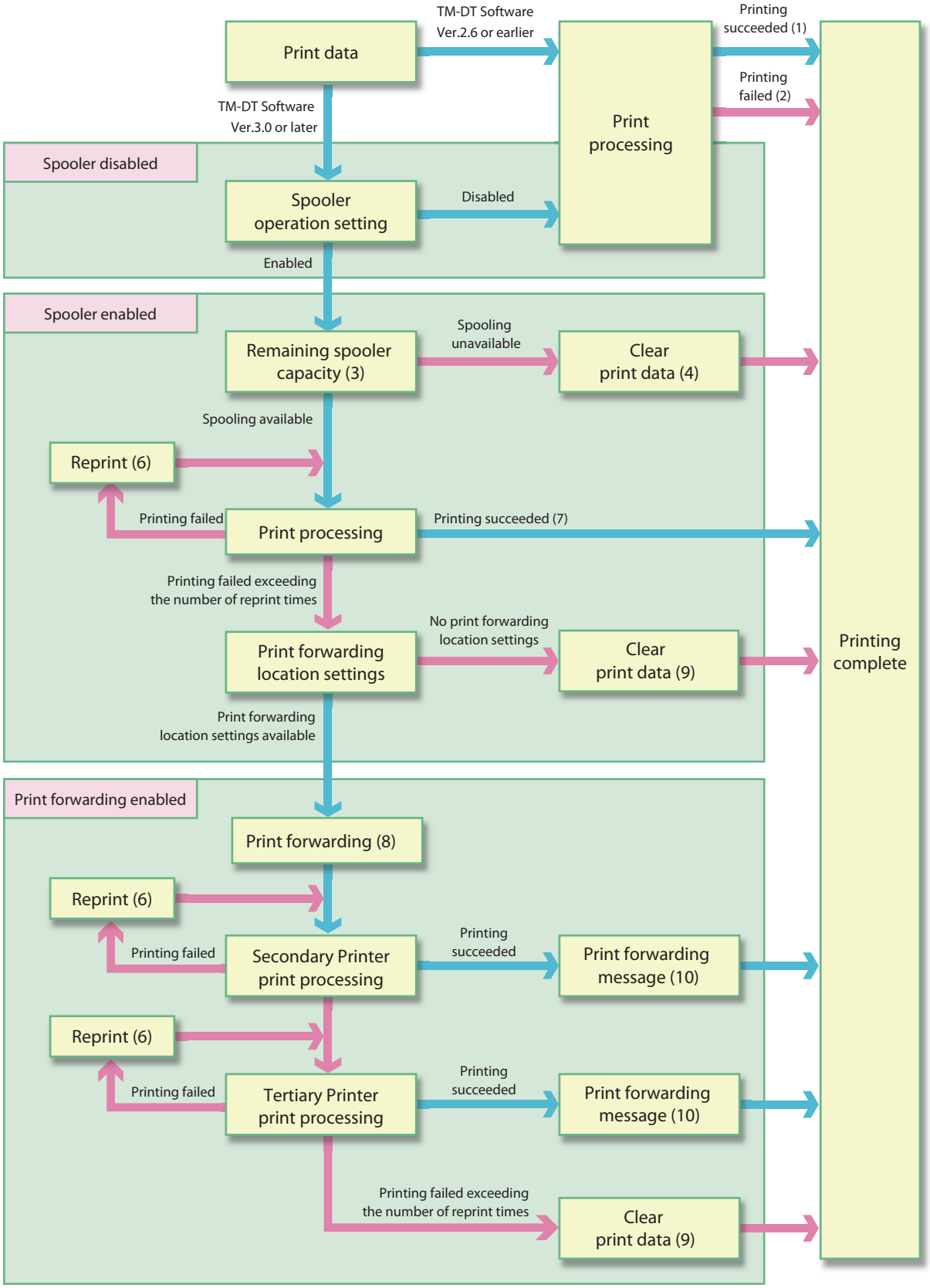
Setting Items

Spooler and forward printing are configured on the same page.

Setting	Items
Enabling / Disabling ePOS-Device Service (page 64, page 70)	• Enabling ePOS-Device Service
Web service (page 101)	• Enabling spooler
Print forwarding (page 108)	• Retry count • Forwarding message • Print forwarding route

Spooler and Print Forwarding

This section explains the print flow determined by whether or not the spooler or print forwarding is set for this product.



When spooler is disabled or TM-DT Software Ver.2.6 or earlier

1: Printing success
TM-DT Software Ver.2.6 or earlier: [Print result = true] is returned to the application.
TM-DT Software Ver.3.0 or later: [JobID, Print result = true] is returned to the application.

2: Printing failed
TM-DT Software Ver.2.6 or earlier: Settings[Print result = false, Error code = Printer status] is returned to the application.
TM-DT Software Ver.3.0 or later: [JobID, Print result = false, Error code = Printer status] is returned to the application.

When spooler is enabled

3: The remaining free space in the spooler and the size of the print data is checked, and the product determines whether or not the print data can be spooled.

4: If the print data cannot be spooled, the print data is cleared. [JobID, Print result = false, Error code = EX_SPOOLER (spooler stopped)] is returned to the application. This data is not stored in the product's spooler or the log storage area.

5: When print data can be spooled, [JobID, Print result = true] is stored in the spooler. [JobID, Print result = true] is also returned to the application.

6: Make the reprint settings (number of times and interval) in EPSON TMNet WebConfig. For detail, see "Settings - Web service settings - Print Settings - Spooler" (page 108).

7: When printing is successful, the spooler's print data and [JobID, Print result = true] are deleted. [JobID, Print result = true] are stored in the log storage area of this product.

When Print forwarding is enabled

8: Send print data to Secondary printer.

9: When printing fails, the spooler's print data and [JobID, Print result = true] are deleted. [JobID, Print result = false, Error code = Printer status] are stored in the log storage area of this product.

10:Print with secondary (tertiary) printer. For about settings for forwarding message, see "Settings - Web service settings - Print Settings - Spooler" (page 108).

Software Access Point

TM-DT software is equipped with a software access point that enables communication with a tablet terminal using the wireless LAN cable set (OT-WL01) as the access point. A smart device and this product can directly communicate by Wi-Fi® even in an environment where there is no router or network. You can construct a small POS system or a kitting system where no display or keyboard is connected to this product.

Communication Settings

1 **Turn the product power on and connect the wireless LAN cable set (OT-WL01).**

2 **The printer prints the SSID and password.**

3 **Configure Wi-Fi with the tablet terminal. Configure using the printed SSID and password. Communications will be established with this product in a few minutes.**
This product can be controlled on the following networks.

Setting Value (Cannot be changed)	Item
IP address	192.168.173.1
Subnet mask	255.255.255.0

Setting Items

Setting	Items
Enabling / Disabling ePOS-Device Service (page 64, page 70)	• Enabling ePOS-Device Service
Software Access Point (page 106)	• Enable • SSID • Password

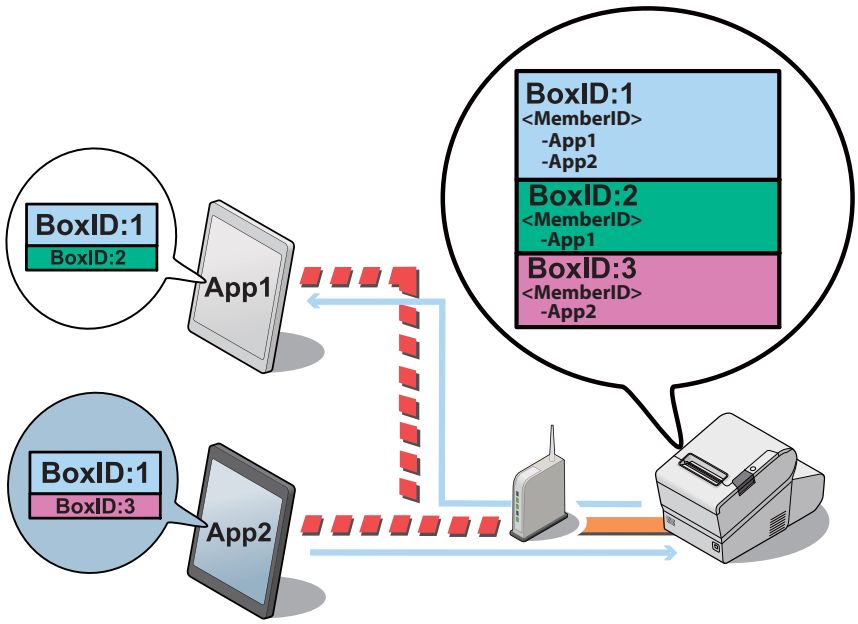
Communication Box

A communication box, which is a virtual space for exchanging data between applications, is implemented in the TM-DT software. The TM-DT software discloses the virtual data space, which is identified by box ID, to applications. The box ID can be used by multiple applications, making it possible to easily configure a system for exchanging data between applications.

The communication box can be set and used from applications compatible with Epson ePOS SDK and ePOS-Device XML.

This can be used in TM-DT software Ver.2.5 or later.

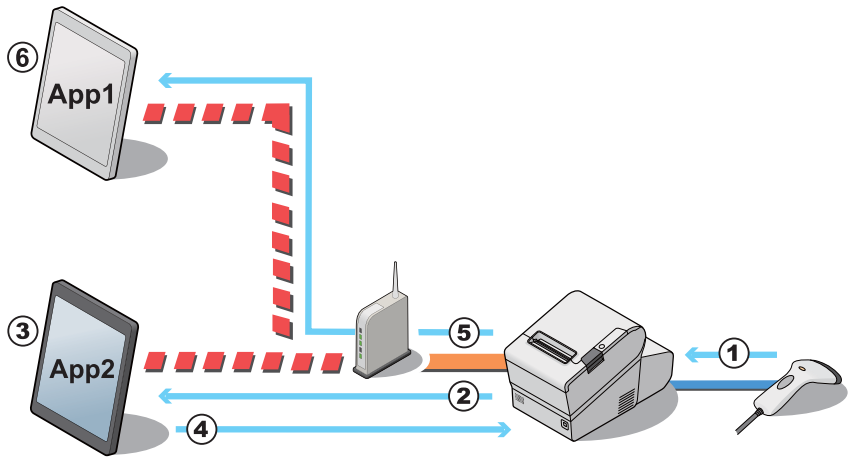
Communication Box Mechanism



The TM-DT software manages the communication box with a box ID (BoxID in the figure above). Data can be exchanged between applications that belong to the communication box.

In the figure, applications App1 and App2 exchange data using the communication box with BoxID:1.

An example for processing the data using communication box



1 The product receive a barcode data scanned from scanner.

2 TM-DT Software notify the barcode data to App2.

3 App2 acquire the barcode data, then convert to POS data.

4 App2 sends display data to communication box of TM-DT Software.

5 TM-DT Software notify the data is stored into communication box to App1.

6 App1 acquire the stored display data from communication box.

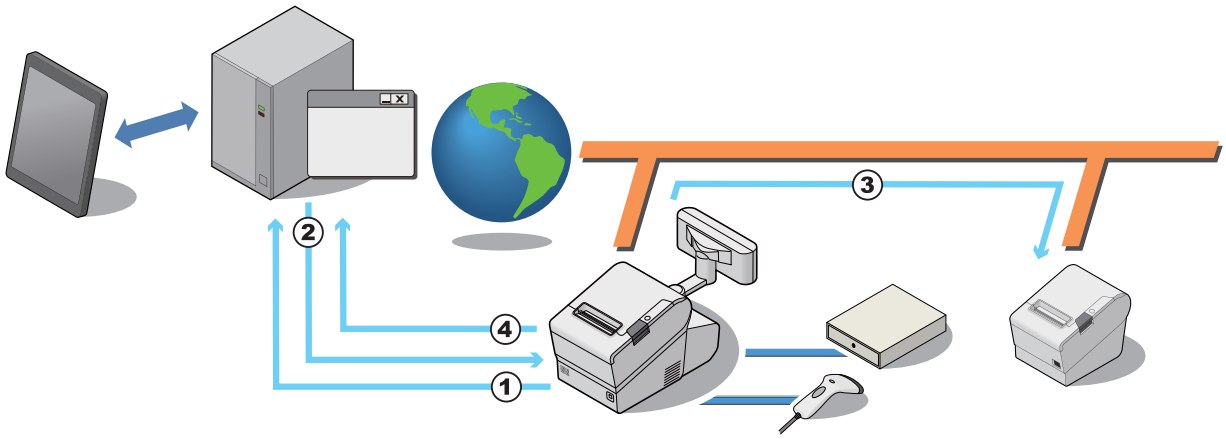
Server Direct Print

Server Direct Print is implemented in the TM-DT software. The function allows the TM-DT software to issue printing requests to Web server applications, conduct printing upon directly acquiring print data from the Web server, and notify the printing results to applications.

General printing system applications perform printing upon designating the printer. A function for including ePOS-Print XML print data in response to printing requests can be implemented in server direct print applications. Since the printer IP address is not specified from the application, printing can be performed via the Internet even in environments where printing is difficult because the IP address cannot be acquired on the Web server side or the device cannot be controlled via the Internet due to security policy settings.

Because the Web server application only includes print data in the response, printing can be performed without designating the printer.

Processing Flow Using the Server Direct Print Function



1 **The TM-DT software issues a print request to the Web server application.**

2 **The Web server application sends a response that includes print data to the TM-DT software.**

3 **The TM-DT software sends print data to the printer and performs printing.**

4 **The software notifies the printing results to the application.**

Items to be Prepared by the Customer

- Web server
- Application for including print data in the responses to requests from the TM-DT software

Setting Items

Setting	Items
Enabling / Disabling ePOS-Device Service (page 64, page 70)	• Enabling ePOS-Device Service
Web service (page 101)	• Enabling device control • Enabling server direct print • Enabling status notification
Server direct print (page 110)	• Application server settings
Status notification (page 111)	• Application server settings
Network printer (page 102)	• Printer model • Device ID • IP address
Proxy settings (page 116)	• Proxy server settings

Device Data Notification

A device data notification function for using input data from a barcode scanner, etc. connected to this product as a trigger to receive print data or other data for controlling a device directly from the Web server and notifying the control results to the application is implemented in the TM-DT software.

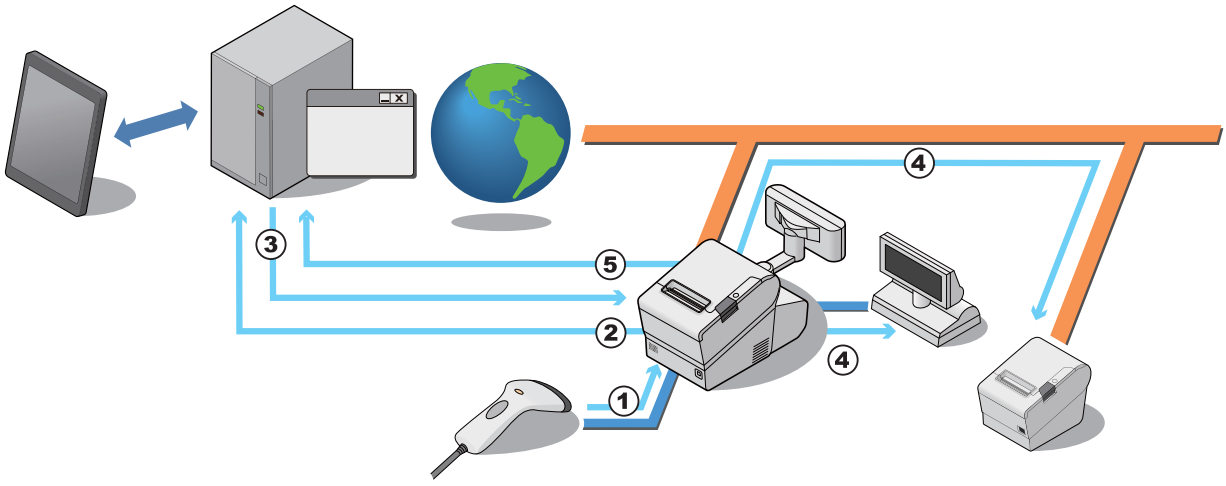
The Web server application can control the printer and device designated simply by including print data or device control data in the response.

You can configure a system for performing printing and controlling peripherals based on data notices from the device.

This can be used in TM-DT software Ver.3.0 or later.

General printing system applications commence printing from the application side. A function for including print data in responses to printing requests cab be implemented in the applications mounted on Web servers through device data notification. This function can be used to perform printing by using an ID number scanned by a barcode scanner as a trigger.

Processing Flow Using the Device Data Notification Function



1 **The operator scans the ID number, etc. with a barcode scanner.**

2 **Application for including device control data in response to requests from the TM-DT software**

3 **The Web server application sends a response that includes device control data to the TM-DT software.**

4 **The TM-DT software sends the control data to the target device, and processing is performed.**

5 **The TM-DT software notifies the device control results to the application.**

Items to be Prepared by the Customer

- Web server
- Application for including device control data in response to requests from the TM-DT software

Setting Items

Setting	Items
Enabling / Disabling ePOS-Device Service (page 64, page 70)	• Enabling ePOS-Device Service
Web service (page 101)	• Enabling device control • Enabling device data notification
Device data notification (page 111)	• Application server settings • Error settings
Network printer (page 102)	• Printer model • Device ID • IP address
Customer display (page 103)	• Use / Do not use
Key input device (page 104)	• Device ID • Select the device control script
Serial communication device (page 105)	• Device ID • Select the device control script • Communication settings
Other device (page 106)	• Device ID • Select the device control script
Device control script - Add/delete (page 106)	• Register the device control script file
Proxy settings (page 116)	• Proxy server settings

Web Server

You can configure a Web server system which mounts the server-side scripting (Perl or php) Web contents on the Apache HTTP Server, which is the operating environment for the TM-DT software. You can also use the SQLite database. Moreover, you can configure an automatic update system of Web contents for automatically updating Web contents from a separate Web server at regular intervals.

For the PHP and Perl versions, see "TM-DT Software Specification" (page 128).

Preparation of Web content

File format

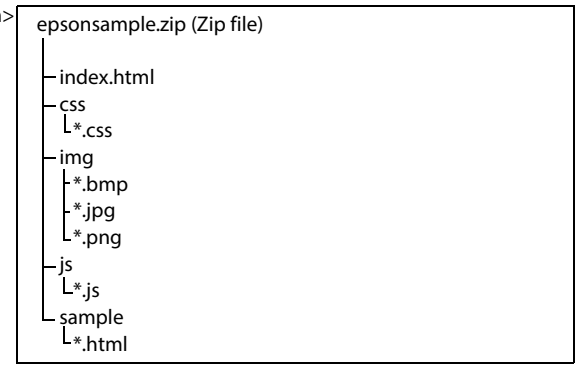
- HTML file
- CSS file
- JavaScript
- Image data
- Perl script (*.cgi)
- php script (*.php)

Package file (*.zip)

Zip the files to be registered all together. The zip file name is arbitrary.

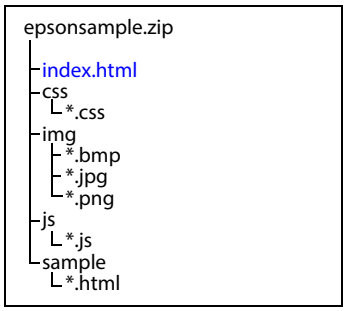
- Use one-byte alphanumeric characters (ASCII characters) for a zip file name and sub-folder name.
- The maximum size of the files before zipping is 100 MB. Otherwise, registering fails.
- Web contents cannot be registered additionally. All files are overwritten and registered. Zip web contents before registering.

<Example for sample program>

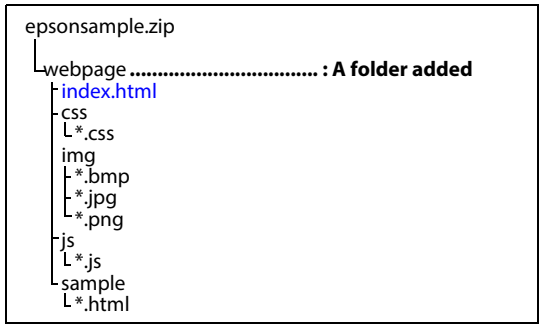


- When you access to registered web contents from an input terminal and so on, the URL differs depending on the folder structure of the zip file.
  ① http://[the product's IP address]/index.html
  ② http://[the product's IP address]/webpage/index.html

①



②



Register the prepared Web content file to TM-DT Software.

Setting Items

Setting	Items
Enabling / Disabling ePOS-Device Service (page 64, page 70)	• Enabling ePOS-Device Service
Web content update (page 110)	• Register the web content • Web server settings for automatically updating
Web service (page 101)	• Enabling automatic web content update

Method Used to Set multiple TM-DT devices

To install and operate multiple this products you will need to set IP addresses for each device and configure various printing control settings.

The following method is available in order to configure settings efficiently.

- Configure settings for each device separately using EPSON TMNet WebConfig
  Basic setup procedure. Connect a keyboard and a display to the TM-DT devices and have a worker setup each device individually.
  Save and register web content and certificate files to a USB memory stick or similar storage device.
  See "TM-DT Software Settings" on page 97 for more information on this method.
- Configure settings using a TM-DT software settings file saved to a USB memory stick
  This method is used to have the product automatically configure settings from the settings file on the USB memory stick. When doing so a user does not need to connect a keyboard and display to perform operations. This is the conventional Easy Setup method.
  Prepare a settings file (setting.ini) with TM-DT settings on a Windows computer. Then, put this settings file along with web content and the certificate file onto a USB memory stick.
  A separate USB memory stick for each TM-DT will need to be prepared when setting IP addresses for multiple TM-DT devices individually.
  See "Deployment Guide" for more information on this method.
- Configure settings by building a configuration server system
  This method automatically applies settings using the settings file downloaded by the TM-DT based on a request sent to the configuration server.
  This allows for a more efficient configuration system through the setting of functions used to configure individual settings, such as different IP addresses for each TM-DT, on the configuration server.
  First, build a configuration server system and prepare TM-DT settings data to include TM-DT settings, web content and the certificate file. You will need to configure settings for the TM-DT so that it sends the request to the configuration server.
  See "Deployment Guide" for more information on this method.

Features of each configuration method

The features of the configuration methods introduced below. Consider which configuration method best suits your circumstances.

Configuration method	Advantages	Disadvantages	Application
Configuring settings with the EPSON TMNet WebConfig	Preparations such as creating a settings file and building a system for use are unnecessary.	As users set one unit at a time this method can be inefficient and mistakes can be made when configuring settings.	This method is suited to relatively small system setups.
Configuring settings with a USB memory stick	Simplifies the configuration process by implementing settings just by turning on the TM-DT and inserting the USB memory stick.	The same USB memory stick cannot be used when changing settings between TM-DT devices.	This method is suited to a system where the same settings are applied to multiple products.
Configuring settings from a configuration server system	This allows for a system that changes settings for each TM-DT.	A long setup process is required, including the building of a configuration server system.	This method is suited to relatively large-scale system setups where settings change for each TM-DT.

Controlling POS Peripherals from Smart Devices

A function for controlling this product's POS peripherals and network printers from native applications of smart devices (iOS/Android™/Universal Windows Apps) is implemented in the TM-DT software.

Utilizing Epson ePOS SDK, you can easily configure an application system using API for controlling POS peripherals and printers.

Setting Items

Setting	Items
Enabling / Disabling ePOS-Device Service (page 64, page 70)	• Enabling ePOS-Device Service
Web service (page 101)	• Enabling the device control
Printer (page 102)	• Printer model • Device ID • IP address
Customer display (page 103)	• Use / Do not use
Key input device (page 104)	• Device ID • Select the device control script
Serial communication device (page 105)	• Device ID • Select the device control script • Communication settings
Other device (page 106)	• Device ID • Select the device control script
Device control script - Add/delete (page 106)	• Register the device control script

Controlling POS Peripherals from Web Applications

A function for controlling this product's POS peripherals and network printers from Web applications is implemented in the TM-DT software. You can also shut this product down from Web applications. Moreover, you can print images that are drawn on HTML5 Canvas from a HTML5-compatible Web browser.

Using the Epson ePOS SDK for JavaScript, you can easily construct an application system by utilizing APIs for controlling POS peripherals and printers.

You can implement Web applications in a Web server or this product and use them from HTML5-compatible browser-mounted terminals.

Setting Items

Setting	Items
Enabling / Disabling ePOS-Device Service (page 64, page 70)	• Enabling ePOS-Device Service
Web service (page 101)	• Enabling the device control
Network printer (page 102)	• Printer model • Device ID • IP address
Customer display (page 103)	• Use / Do not use
Key input device (page 104)	• Device ID • Select the device control script
Serial communication device (page 105)	• Device ID • Select the device control script • Communication settings
Other device (page 106)	• Device ID • Select the device control script
Device control script - Add/delete (page 106)	• Registering the device control script
Device control program - Device registration (page 107)	• Device ID • Select the device control script
Device control program - Add/delete (page 107)	• Registering the device control program
Product's shutdown (page 118)	• Shutdown settings

Printing from Web Service Compatible Applications

A function for controlling this product's POS peripherals and network printers from applications compatible with Web services is implemented in the TM-DT software.

Through using the ePOS-Print XML system, you can perform printing from various device applications compatible with SOAP/HTTP communications. You can configure a system for controlling printers without depending on the OS. Moreover, because there is no need to install drivers and plug-ins to terminals, you can perform printing from a wide range of devices and systems compatible with Web services.

Setting Items

Setting	Items
Enabling / Disabling ePOS-Device Service (page 64, page 70)	• Enabling ePOS-Device Service
Web service (page 101)	• Enabling the device control
Network printer (page 102)	• Printer model • Device ID • IP address

Controlling POS Peripherals from Socket Communication Compatible Applications

A function for controlling this product's POS peripherals and network printers from applications compatible with Web services is implemented in the TM-DT software.

There is no need to install drivers and plug-ins to terminals.

Through using the ePOS-Device XML system, you can perform printing from various device applications compatible with socket communications. You can configure a system for controlling printers without depending on the OS. Moreover, because there is no need to install drivers and plug-ins to terminals, you can perform control of POS peripherals from a wide range of devices and systems compatible with Web services.

Setting Items

Setting	Items
Enabling / Disabling ePOS-Device Service (page 64, page 70)	• Enabling ePOS-Device Service
Web service (page 101)	• Enabling the device control
Network printer (page 102)	• Printer model • Device ID • IP address
Customer display (page 103)	• Use / Do not use
Key input device (page 104)	• Device ID • Select the device control script
Serial communication device (page 105)	• Device ID • Select the device control script • Communication settings
Other device (page 106)	• Device ID • Select the device control script
Device control script - Add/delete (page 106)	• Registering the device control script
Device control program - Device registration (page 107)	• Device ID • Select the device control script
Device control program - Add/delete (page 107)	• Registering the device control program
Product's shutdown (page 118)	• Shutdown settings

TM-DT Software Settings

Use EPSON TMNet WebConfig to set the TM-DT software.

Each section describes the items that are displayed from [Information] and [Settings] of EPSON TMNet WebConfig.

Starting EPSON TMNet WebConfig

Start EPSON TMNet WebConfig by the following method.

If ePOS-Device Service is invalid, EPSON TMNet WebConfig will not start. For details, see "Enabling or Disabling ePOS-Device" (page 64).

1 **Connect a display and keyboard to this product.**
Login with a user account that has administrator authority.

2 **Start EPSON TMNet WebConfig from the desktop shortcut.**

3 **"Windows Security" screen appears, input the user name and password, then click [OK].**
For details, see "Settings - Admin settings - Admin information - Password" (page 127).

EPSON TMNet WebConfig starts.

NOTE	When setting from a PC connected to the network, enter the following into the Web browser URL entry field. http://<*product's IP address*>/webconfig/

Help Screen Display

Click [Help] to display the help screen for EPSON TMNet WebConfig.

Version Screen Display

Click [About] to display the version screen for EPSON TMNet WebConfig.

Updating TM-DT Software

When you update the TM-DT software, you can use its new functions. Download the following file from Epson's Web site to update.

File name: ePOS-Device System Update Package

For details on how to update, see the Readme file inside the ePOS-Device update package.

NOTE	You cannot downgrade the TM-DT software.

Information - Current status

You can check the basic settings for this product.

Item			Description
Admin information	Administrator name		Displays the administrator name for this product.
	Installation location		Displays the installation location for this product.
Web service function	Web service function		Displays whether the Web service function is enabled or not.
Status of Web content update	Automatic update for Web content		Displays the schedule for automatic updates for Web content.
	Date and time of Web content installed		Displays the date and time that the Web contents were installed.
	Date and time of last automatic update		Displays the date and time of the last automatic update performed.
	Result of automatic update		Displays the result of the automatic update.
Server direct print	Run state		Displays the run state of the server direct print.
	ID		Displays the web server ID acquiring print data of the server direct print.
	Server 1 Server 2 * Server 3 *	Interval (sec.)	Displays the interval for acquiring print data.
		Date and time last run	Displays the date and time last run of the server direct print.
		Final run results	Displays the final run results of the server direct print.
Status notification	Run state		Displays the run state of the status notification.
	ID		Displays the web server ID sending status notification.
	Interval (sec.)		Displays the interval for sending status notification.
	Date and time last run		Displays the date and time last run of the status notification.
	Final run results		Displays the final run results of the status notification.

* This is displayed with TM-DT software Ver.3.0 or later.

Information - System settings - Network

You can check the network settings for this product.

Item		Description
TCP/IP Information (Wired LAN)	IP address	Displays this product's IP address for a wired LAN network.
	Subnet Mask	Displays the subnet mask.
	Default Gateway	Displays the default gateway.
	Acquire DNS Server Address Automatically	Displays whether the Acquire DNS Server Address Automatically function is enabled or not.
	DNS Server Address (in order of use)	Displays automatically acquired DNS server addresses in the order they are used.
TCP/IP Information (Wireless LAN)	IP address	Displays this product's IP address for a wireless LAN network.
	Subnet Mask	Displays the subnet mask.
	Default Gateway	Displays the default gateway.
	Acquire DNS Server Address Automatically	Displays whether the Acquire DNS Server Address Automatically function is enabled or not.
	DNS Server Address (in order of use)	Displays automatically acquired DNS server addresses in the order they are used.
Wireless LAN Setting (Wireless LAN)	Network Mode	Displays this product's wireless LAN network mode.
	SSID	Displays the SSID for the registered wireless LAN network.
Security (SSL settings)	SSL	Displays whether the SSL is enable or disable.
	Domain of the certificate	Displays the domain of the certificate.
	Validity period of the certificate	Displays the validity period of the certificate.
Proxy settings	Web content update	Web contents automatic update, displaying whether or not proxy is used.
	Server Direct Print	Server direct print, displaying whether or not proxy is used.
	Status notification	Status notification, displaying whether or not proxy is used.
	Store/restore settings	Store / restore settings, displaying whether or not proxy is used.
	Update Web service functions	Update web service function, displaying whether or not proxy is used.
	Deployment	Deployment, displaying whether or not proxy is used.
	Device Data Notification	Device data notification, displaying whether or not proxy is used.
Certificate List		A list of the certificates issued in the SSL settings is displayed.

Information - System settings - Date and Time

You can check this product's time settings.

Item	Description
Date and Time	Displays the time and the time zone set for this product.
Automatically adjust clock for Daylight Saving Time	Displays whether the automatic daylight saving time adjustment function is enabled or not.
Use Time Server	Displays whether the function to use a time server is enabled or not.
Time Server	Displays the address set as a time server.

Settings - Web service settings - Startup settings

Enables or disables the Web services that are provided with the TM-DT software.

Item		Description
Web service function	Device control	Enables or disables device control functions that use Web service. Used for ePOS-Device.
	Automatic update of Web content	Enables or disables the automatic update function for Web content.
	Server direct print	Enables or disables the server direct print function.
	Status notification	Enables or disables the status notification function.
	Device Data Notification	Enables or disables the device data notification function.
	The automatic registration and deletion of the key input device	Enables or disables the automatic registration / deletion function of the key input device.
	Apply	Registers the settings to this product.
Print function	Spooler *	Enables or disables the spooler function.
	Apply	Registers the settings to this product.

* This can be used in TM-DT software Ver.3.0 or later.

Settings - Web service settings - Printer

Performs the settings for printers controlled by TM-DT Software.

You can set the printers when you have set [Enable] under [Device control] in the "Settings - Web service settings - Startup settings" (page 101)

Item	Description
Device ID	Set the ID for the controlled printer. (Any character string) The initial value for the device ID for the printer equipped in this product is "local_printer".
Type	Select the type for the controlled printer.
Model no.	Select the model number for the controlled printer.
IP address	Set the printer IP address for each device ID.
Retry interval	Set the timeout retry interval.
Add	Adds the printer on this product.
Registered printers	Displays a list of registered printers.
Test printing	Performs a test printing. "TEST_PRINT" is printed.
Operating test	Click [Operating test] to display the "Operating test" window. Perform an operating test for the hybrid printer. Fer details, refer to "Operating test" on page 102.
Delete	Deletes a registered printer.

Operating test

Item		Description
Receipt	Test printing	Performs a test printing. "TEST_PRINT" is printed.
Slip	Start printing	Performs a slip printing test. "TEST_PRINT" is printed.
	Cancel printing	Cancels printing.
Endorsement	Start printing	Performs an endorsement printing test. "TEST_PRINT" is printed.
	Cancel printing	Cancels printing.
MICR	pull-down menu	Select a reading format.
	start reading	Starts reading.
	Cancel reading	Cancels reading.
	Eject	Ejects paper.
Close		Close the window.

Settings - Web service settings - Customer Display

Performs the settings for the customer display controlled by TM-DT Software.

You can set the customer display when you have set [Enable] under [Device control] in the "Settings - Web service settings - Startup settings" (page 101)

Item		Description
Do not use		Do not use a customer display.
Use		Use a customer display.
Communication settings	Communication speed (bps)	Set the communication speed.
	Data bit	Set the data bit.
	Parity	Set the parity.
Brightness setting		Set the brightness of the customer display in percentages. You can set 20%, 40%, 60%, or 100%. The maximum brightness is 100%.
Display test		Check if the customer display operates properly. When [Display test] is clicked, characters appear on the customer display.
Apply		Registers the settings to this product.

Settings - Web service settings - Key input device

Performs the settings for the key input device controlled by TM-DT Software.

You can set the key input devices when you have set [Enable] under [Device control] in the "Settings - Web service settings - Startup settings" (page 101)

Item		Description
Device ID		Set the ID for the key input device.
Device name		Set the device name for the key input device.
Control script		Set the device control script to control the key input device. Register device control scripts as necessary. For details, refer to "Settings - Web service settings - Control script - Add/delete" (page 106).
Add		Registers the key input device.
Registered key input devices		Displays a list of registered key input devices.
	Operating test	Performs an operating test for a registered key input device. 1. Click to display the "Operating Test" window. 2. Operate the key input device. 3. Confirm that correct operation is performed.
	Delete	Deletes a registered key input device.

Settings - Web Service settings - Serial communication Device

Performs the settings for serial communication devices controlled by TM-DT Software.

You can set the serial communication devices when you have set [Enable] under [Device control] in the "Settings - Web service settings - Startup settings" (page 101)

Item			Description
Device ID			Set the device ID.
Device name	Model selection		Select the device model name.
	Port selection		Select the device port.
		Physical serial port	Serial port on the rear of this product.
		USB port 1 ~ 6	USB ports on the rear of this product. If connecting a serial device using the COM-USB cable, select the appropriate USB port. The USB port numbers can be confirmed on [Display port location].
	Display port location		Displays the window that shows this product's port positions.
Control script			Set the device control script for controlling the serial communication device. Register device control scripts as necessary. For details, refer to "Settings - Web service settings - Control script - Add/delete" (page 106).
Communication speed (bps)			Set the device communication speed.
Data bit			Set the data bit.
Parity			Set the parity.
Stop bit			Set the stop bit.
Flow control			Set the flow control.
Add			Registers the serial communication device on this product.
Registered serial communication devices			Displays a list of registered serial communication devices.
	Detailed display		Displays the device settings confirmation window.
	Operating test		Performs an operating test for a registered serial communication device. 1. Click to display the "Operating Test" window. 2. Enter a value and click [Send]. 3. Confirm that correct operation is performed.
	Delete		Deletes a registered serial communication device.

Settings - Web Service settings - Other Device

Performs settings for other devices controlled by TM-DT Software.

You can set the Other devices when you have set [Enable] under [Device control] in the "Settings - Web service settings - Startup settings" (page 101)

Item		Description
Device ID		Set the ID for the controlled device.
Control script		Set the device control script to control the device. Register device control scripts as necessary. For details, refer to "Settings - Web service settings - Control script - Add/delete" (page 106).
Add		Registers the device on this product.
Other registered devices		Displays other devices registered on this product.
	Delete	Deletes the corresponding device control script from this product.

Settings - Web service settings - Control script - Add/delete

Performs registration or deletion for device control scripts used by TM-DT Software.

Item		Description
Control script to be registered		Set the control script to be registered.
	Control script	Specifies the control script file of the device being registered.
	Add	Registers the device control script on this product.
Registered control scripts		Displays a list of device control scripts registered on this product based on the device type.
	Delete	Deletes the corresponding device control script from this product. You cannot delete it if the control script is being used.
	in use	The corresponding device control script is in use.

Settings - Web service settings - Control program - Device registration

Performs settings for devices controlled by TM-DT Software. You can set the devices when you have set [Enable] under [Device control] in the "Settings - Web service settings - Startup settings" on page 101.

Item		Description
Device ID		Set the ID for the controlled device.
Control program		Set the device control program to control the device. Register device control programs as necessary. For details, refer to "Settings - Web service settings - Control script - Add/delete" on page 106.
Add		Registers the device control program on this product.
Registered devices		Displays a list of device registered on this product based on the device type.
	Delete	Deletes the corresponding device control program from this product.

Settings - Web service settings - Control program - Add/delete

Performs registration or deletion for device control program used by TM-DT Software.

Item		Description
Control program to be registered		Set the control program to be registered.
	+	Adds a file selection box for control program files.
	Control program file	Specifies the control program file of the device being registered.
	Add	Registers the device control program on this product.
Registered control programs		Displays a list of device control programs registered on this product based on the device type.
	Detailed display	Displays the details of the control program.
	Delete	Deletes the corresponding device control program from this product. You cannot delete it if the control program is being used.

Settings - Web service settings - Print Settings - Spooler

Performs settings for spooler and print forwarding.

This can be used in TM-DT software Ver.3.0 or later.

You can set the spooler and print forwarding when you have set [Enable] under [Spooler] in the "Settings - Web service settings - Startup settings" (page 101)

Item			Description
Spooler Settings	Retry	Count	Sets the number of retries for when printing error occurs. When printing fails for the set number of times, printing is performed from the forwarded printer if the forwarding path is set.
		Interval (sec.)	Sets the interval between retries when printing error occurs.
Message Text	Message Text		Sets the character string of the notice message that is printed when forward processing takes place.
	Text Attributes		Sets the character decoration of the notice message.
	Position		Sets the printing position of the notice message.
	Cut		Sets whether or not to cut the paper after printing the notice message.
	Apply		Saves the notice message settings to this product.
Print forwarding route to be registered	Primary Printer		Sets the printer to be set for forwarding path.
	Secondary Printer		Sets the forwarded printer for cases where the primary printer fails to print.
	Tertiary Printer		Sets the forwarded printer for cases where the primary printer and the secondary printer fail to print.
	Register		Saves the forwarding path settings to this product.
Registered Print forwarding routes			A list of the registered forwarding paths is displayed.
	Delete		Deletes the settings of ticked forwarding paths.

Settings - Web Service settings - Web Content - Update settings

Performs settings for the installation method and update settings for the Web content registered on this product.

You can set the automatic update when you have set [Enable] under [Automatic update of web content] in the "Settings - Web service settings - Startup settings" (page 101) .

Item		Description
Automatic update settings	Update schedule	Set the schedule for automatic update of the Web content.
	ID	Sets ID for identifying this product at the Web server. This ID will be the user ID used for Digest authentication. This set value will also be passed as an ID parameter value for the form data posted to the server.
	Password	Sets password used for Digest authentication.
	File URL	Specify a URL for the file to automatically update. After designating it, click "Access test" and check if the URL is properly specified.
	Server Authentication	Sets whether or not to conduct server authentication based on the registered certificate when conducting access by https.
	Apply	Registers the automatic update settings on this product.
	After setting settings, update Web content immediately	After the automatic update settings are registered on this product, the Web content will be updated.
Manual update	Web content file (*.zip)	Specifies the registered Web content.
	Upload	Uploads the specified Web content.

* This can be used in TM-DT software Ver.3.0 or later.

Settings - Web service settings - Server access - Direct Print

Performs settings for server direct print.

You can set the server direct print when you have set [Enable] under [Server Direct Print] in the "Settings - Web service settings - Startup settings" (page 101) .

Item		Description
ID		Sets the ID for identifying this product on the Web server side. This ID becomes the user ID used for Digest authentication. The set value is also passed as the ID parameter value of the form data to be posted to the server.
Password		Specify the password to be used for Digest authentication for the server.
Server 1 Server 2 * Server 3 *	URL	Set the web server URL for acquiring print data. After designating it, click "Access test" and check if the URL is properly specified.
	Interval (sec.)	Set the request interval (printing request).
Server Authentication *		Sets whether or not to conduct server authentication based on the registered certificate when conducting access by https.
Apply		Registers the settings to this product.

* This can be used in TM-DT software Ver.3.0 or later.

Settings - Web Service settings - Server access - Status notification

Performs settings for status notification.

You can set the status notification when you have set [Enable] under [Status Notification] in the "Settings - Web service settings - Startup settings" (page 101) .

Item	Description
ID	Sets the ID for identifying this product on the Web server side. This ID becomes the user ID used for Digest authentication. The set value is also passed as the ID parameter value of the form data to be posted to the server.
Password	Specify the password to be used for Digest authentication for the server.
URL	Set the web server URL for sending status notifications. After designating it, click "Access test" and check if the URL is properly specified.
Interval (sec.)	Set the interval for sending status notifications.
Server Authentication *	Sets whether or not to conduct server authentication based on the registered certificate when conducting access by https.
Apply	Registers the settings to this product.

* This can be used in TM-DT software Ver.3.0 or later.

Settings - Web Service settings - Server access - Device Data Notification

Performs settings for device data notification.

This can be used in TM-DT software Ver.3.0 or later.

You can set the device data notification when you have set [Enable] under [Device Data Notification] in the "Settings - Web service settings - Startup settings" (page 101) .

Item			Description
Settings	Server access	ID	Sets the ID for identifying this product on the Web server side. This ID becomes the user ID used for Digest authentication. The set value is also passed as the ID parameter value of the form data to be posted to the server.
		Password	Specify the password to be used for Digest authentication for the server.
		URL	Set the web server URL and path to applications. Ex: After specifying http://[Web server IP address]/Test_device.php, click [Access Test] and confirm whether or not access is possible.
		Server Authentication	Sets whether or not to conduct server authentication based on the registered certificate when conducting access by https.
		Box ID	Specifies the BoxID of the communication box. Sets whether or not to print an error message when Post fails.
	POST Error	Print Message	Sets whether or not to print an error message when Post error occurs.
		Message Text	Sets the character string of the error message.
		Text Attributes	Sets the text decoration of the error message.
		Cut	Sets whether or not to cut the paper.
Capture Devices	Devices		Selects the device for using device data notification.
Apply			Registers the settings to this product.

Settings - System settings - Network - Wired LAN - TCP/IP

Sets the IP address, etc. of this product's cable LAN.

Item	Description
Get IP Address	Sets the method of getting the IP address.
IP Address	Sets the IP address when [Get IP Address] is set to [Manual].
Subnet Mask	Sets the subnet mask when [Get IP Address] is set to [Manual].
Default Gateway	Sets the default gateway when [Get IP Address] is set to [Manual].
Acquire DNS Server Address Automatically	Sets the method of getting the address of the DNS server when [Get IP Address] is set to [Manual].
DNS Server Address(in order of use)	Sets the addresses of the DNS server in order of usage when [Acquire DNS Server Address Automatically] is set to [Disable].
Print IP Address *	When this setting is [Enable], if [Get IP Address] is set to [Auto], the IP address is printed when it is acquired.
Apply	Registers the settings to this product.

* This can be used in TM-DT software Ver.3.0 or later.

Settings - System settings - Network - Wireless LAN

Performs settings for a wireless LAN network when the optional wireless LAN cable set (OT-WL01) is used.

Item	Description
SSID	Sets the SSID. If you want to set an optional SSID, select [Input directly] and set the optional SSID. ASCII characters including space characters can be used for the SSID. If using an existing SSID, select [Select from the list] and configure an optional SSID from the list.
Network mode	Sets this product's network mode.
Authentication Method	Sets the authentication algorithm. In the initial settings, the authentication system is set to Open System. For security reasons, use this product after first changing the setting.
Security Mode	Sets the encryption algorithm. In the initial settings, the encryption system is set to None. For security reasons, use this product after first changing the setting.
Default WEP Key	Sets the WEP key to use.
WEP key	Sets the WEP key. ASCII characters including space characters can be used for the WEP key.
WPA/WPA2 Pre-Shared Key	Enter the pass phrase of the pre-shared key when [Security mode] is set to "WPA" or "WPA2". ASCII characters including space characters can be used for the pre-shared key.
Apply	Registers the settings to this product.

Settings - System settings - Network - Wireless LAN - TCP/IP

Performs settings for a wireless LAN such as IP address when the optional wireless LAN cable set (OT-WL01) is used.

Item	Description
Get IP Address	Sets the method of getting the IP address.
IP Address	Sets the IP address when [Get IP Address] is set to [Manual].
Subnet Mask	Sets the subnet mask when [Get IP Address] is set to [Manual].
Default Gateway	Sets the default gateway when [Get IP Address] is set to [Manual].
Acquire DNS Server Address Automatically	Sets the method of getting the address of the DNS server when [Get IP Address] is set to [Auto].
DNS Server Address(in order of use)	Sets the addresses of the DNS server in order of usage when [Acquire DNS Server Address Automatically] is set to [Disable].
Print IP Address *	When this setting is [Enable], if [Get IP Address] is set to [Auto], the IP address is printed when it is acquired.
Apply	Registers the settings to this product.

* This can be used in TM-DT software Ver.3.0 or later.

Settings - System settings - Security - SSL

Performs SSL settings for this product.

Item		Description
Disable		Disables SSL authentication.
	Remove the certificate	Select this checkbox to delete the SSL certificate. It can only be selected when the SSL setting is [Disabled].
Enable		Enables SSL authentication.
	Create the self signed certificate	Create a self signed certificate to be registered to this product. It can only be selected when the SSL setting is [Enabled].
	Update the certificate	Renews certificates registered to this product. It can only be selected when the SSL setting is [Enabled].
	Private key file	Selects private key files registered to this product. It can only be selected when the SSL setting is [Enabled].
	Certificate file	Selects server certificate files registered to this product. It can only be selected when the SSL setting is [Enabled].
	Certificate chain file(Option)	Selects certificate chain files registered to this product. It can only be selected when the SSL setting is [Enabled].
Apply		Registers the settings to this product.

Settings - System settings - Web access - Proxy settings

Performs settings for this product's proxy and the services that use the proxy.

This can be used in TM-DT software Ver.3.0 or later.

Item		Description
Proxy URL		Input the URL for the proxy server in use.
Proxy port no.		Input the port number for the proxy server in use.
ID		Register the ID for proxy authentication.
Password		Register the password for proxy authentication.
Proxy settings	Wen content update	Sets whether or not to use proxy for automatic update of Web content.
	Server direct print	Sets whether or not to use proxy for server direct print.
	Status notification	Sets whether or not to use proxy for status notification.
	Store/restore settings	Sets whether or not to use proxy for store/restore settings.
	Update Web service function	Sets whether or not to use proxy for the update Web service function.
	Deployment	Sets whether or not to use proxy for deployment.
	Device Data Notification	Sets whether or not to use proxy for device data notification.
Apply		Registers the settings to this product.

Settings - System settings - Web access - Server authentication

Registers certificates to this product and sets or deletes registered certificates.

This can be used in TM-DT software Ver.3.0 or later.

Item		Description
Import Certificates	Certificate file	Specifies the certificate file to be registered to this product.
	Update	Registers the specified certificate file to this product.
Certificate List	Issuer	The list of certificate files and detailed information registered to this product is displayed. By applying a tick to the listed certificates, it becomes possible to use [Delete].
	Issuer to	Detailed information of certificates can be confirmed.
	Delete	Delete the ticked certificates.

Settings - System settings - Access Point - Software access point settings

These settings are performed when using the cable LAN cable set (OT-WL01) as the software access point.
This function can be used with Windows Embedded POSReady 7 OS and TM-DT software of Ver. 3.0 or later.

Item	Description
Disable	Renders the software access point invalid.
Enable	Validates the software access point.
SSID	Enter the software access point password. The initial setting is below. TM-DT-<*product's serial number*>
Password	Register the software access point password. This is not configured in the default settings. In this case, this product automatically generates and prints a password.
Apply	Registers the settings to this product.

Settings - System settings - Date and time - Time settings

Performs time settings for this product.

Item	Description
Date and time	Sets the time and date.
Time Zone	Sets the area. Sets the time difference from Coordinated Universal Time.
Automatically adjust clock for Daylight Saving Time	Selects whether to automatically adjust the clock for Daylight Saving Time.
Use Time Server	Selects whether to use a time server.
Time Server	Specifies the URL for the time server.
Apply	Registers the settings to this product.

Settings - System settings - Power - Shutdown settings

Performs shutdown settings for this product.

Item			Description
Shutdown settings	When the power button is pressed		Set the operation when you press the power button.
	ePOS-Device	Shutdown permission	Specify the permission settings for shutdown from Epson ePOS SDK for JavaScript or ePOS-Device XML.
		Password protection	Specifies whether to perform password authentication for shutdown from an application compatible with ePOS-Device XML or Epson ePOS SDK for JavaScript. It can be selected when "Shutdown permission" is "Permit".
	Apply		Registers the settings to this product.
Shutdown	Turn off the power		Shuts down the product.
Restart *	Execute Restart		Restarts this product.

* This can be used in TM-DT software Ver.3.0 or later.

Settings - Admin settings - Maintenance - Store restore settings

Stores and restores various settings for TM-DT Software.

Item		Description
Auto backup/ Auto restore settings *	Auto store settings *	Sets whether or not to automatically store the TM-DT software settings.
	Auto restore settings *	Sets whether or not to automatically restore the TM-DT software settings.
	Apply	Registers the settings to this product.
Storing settings	Acquire	Acquires this product's setting files.
Register user specified folder *	Folder path	Specifies the folder path for automatically saving the TM-DT software settings.
	Add	Saves the folder path settings to this product.
	Registered user specified folder	A list of the folder paths registered to this product is displayed. When a listed folder path is ticked, it becomes possible to use [Delete].
	Delete	Deletes the folder path that is ticked.

Item			Description
Restoring the settings	Specify a local file		Select this when recovering this product using locally saved setting files.
		Setting file	Specifies the setting files for restoring the TM-DT software settings. If you want to restore setting files on an optional file path, select [Input directly] and specify the optional file path. If you want to restore this product's settings using the setting files in the [User specified folder], select [Select from the list] and specify an optional setting file from the list.
	Specify a file URL		Select when restoring this product using a setting files stored on a Web server.
		ID *	Sets the ID for identifying the setting file for restoring the TM-DT software settings on the Web server side. This ID becomes the user ID used for Digest authentication. The set value is also passed as the ID parameter value of the form data to be posted to the server.
		Password *	Specify the password to be used for Digest authentication for the server.
		Setting file URL	Set the web server URL and path to applications. Ex: After specifying http://[Web server IP address]/Test_device.php, click [Access Test] and confirm whether or not access is possible.
		Server Authentication *	Sets whether or not to conduct server authentication based on the registered certificate when conducting access by https.
	Restore		Restores the product from the specified setting file.
	Save URL settings		Saves the setting file URL settings.

* This can be used in TM-DT software Ver.3.0 or later.

Restored items

Items to be restored in the [Restore the settings] are as follows.

Item			Availability
Startup settings		• Device control • Automatic update of Web content • Server direct print • Status notification • Device Data Notification • Automatic register / delete of key input device • Spooler	Available
Registered device	Printer	• Device ID • Type • Model no. • IP address • Retry interval	Available
	Customer display	• Do not use/use • Communication settings ∗ Communication speed ∗ Data bit ∗ Parity • Brightness setting	Available
	Kay input device	• Device ID • Device name • VID/PID • Control script	Available
	Serial communication device	• Device ID • Device name • VID/PID • Control script • Communication settings ∗ Communication speed ∗ Data bit ∗ Parity ∗ Stop bit ∗ Flow control	Available
	Other device	• Device ID • Control script	Available
Control script		• Registered control scripts	Available
Control program		• Registered devices • Registered control programs	Available
Print settings	Spooler	• Spooler settings • Forwarding message • Registered print forwarding route	Available

Item			Availability
Web content	Automatic update settings	• Update schedule • ID • Password • File URL • Server authentication	Available
Server access	Server direct print	• ID • Password • Server 1 ~ 3 ∗ URL ∗ Interval • Server authentication	Available
	Status notification	• ID • Password • URL • Interval • Server authentication	Available
	Device Data Notification	• Server access ∗ ID ∗ Password ∗ URL ∗ Server authentication ∗ BoxID • POST Error ∗ Message Enable/Disable ∗ Message ∗ Text attribute ∗ Cut Enable/Disable • Captured device	Available
Wired LAN	TCP/IP settings	• Get IP address • IP address • Subnet Mask • Default gateway • Acquire DNS server address automatically • DNS server address (in order of use)	Available

Item			Availability
Wireless LAN	Wireless settings	• SSID • Network mode • Authentication method • Security mode • Default WEP key • WEP key • WPA/WPA2 pre-shared key	Available
	TCP/IP settings	• Get IP address • IP address • Subnet mask • Default gateway • Acquire DNS server address automatically • DNS server address (in order of use)	Available
Security	SSL settings	• Disable / Enable • Private key file • Certificate file • Certificate chain file (option)	Available
Web access	Proxy settings	• Proxy URL • Proxy port no. • ID • Password • Proxy settings	Available
	Server authentication	• Certificate file	Available
Access point	Software access point settings	• Disable / Enable • SSID • Password	Available
Date and time	Time settings	• Date time	Not available
		• Time zone • Automatically adjust clock for daylight saving time • Use time server • Time server	Available
Power	Shutdown settings	• When the power button is pressed • Shutdown permission • Password protection	Available

Item			Availability
Maintenance	Store/restore settings	• Store / restore settings with automatically • Specify the local file to use / Specify the file URL to use • Setting file / setting file URL • ID • Password • Server authentication	Available
	Update web service function	• Specify the local file to use / Specify the file URL to use • Update file / Update file URL • ID • Password • Server authentication	Available
	Deployment	• ID • Password • URL • Parameter • Server authentication • Use deployment upon system start	Available
Admin information	Administrator information	• Administrator name • Installation location	Available
	Password	• Password	Not available

Settings - Admin settings - Maintenance - Initialization

Initializes the Web service settings for TM-DT Software.

Item	Description
Initialize	Initializes the Web service settings.

NOTE

If you initialize the Web service, the password for EPSON TMNet WebConfig will also be initialized. The initial values are below.

- User name: epson
- Password: epson

Settings - Admin settings - Maintenance - Log

Acquires TM-DT Software's log file.

Item	Description
Acquire a log file	Acquires TM-DT Software's log file.

Settings - Admin settings - Maintenance - Update Web service function

Updates and sets the Web service function of TM-DT Software.

The latest version TM-DT software can be used through renewing the Web service functions.

Item		Description
Specify a local file		Select when updating the Web service using a locally saved update file.
	Update file	Specify the URL of the file for updating.
Specify a file URL		Select when updating the Web service using an update file saved on the Web server.
	ID *	Sets the ID for identifying the renewal file on the Web server side. This ID becomes the user ID used for Digest authentication. The set value is also passed as the ID parameter value of the form data to be posted to the server.
	Password *	Sets the password used in Digest authentication.
	Update file URL	Specify the Web server URL and path to the application. Ex: Specify http://[Web server's IP address]/[For updating file name], then click [Access test] to confirm that access is possible.
	Server authentication *	Sets whether or not to conduct server authentication based on the registered certificate when conducting access by https.
Update		Updates the Web service functions using the specified update file.
Save URL settings		Saves the [Specify a file URL] setting to this product.

* This can be used in TM-DT software Ver.3.0 or later.

Settings - Admin settings - Maintenance - Deployment

Sets the deployment for downloading and updating the TM-DT software, etc. setting files from the HTTP server.

This can be used in TM-DT software Ver.3.0 or later.

Item	Description
ID	Sets the ID for identifying this product on the Web server side. This ID becomes the user ID used in Digest authentication. The set value is also passed as the ID parameter value of the form data to be posted to the server.
Password	Sets the password used in Digest authentication.
URL	Specify the Web server URL and path to the application. Ex: Specify http://[Web server's IP address]/[Setting file name], then click [Access test] to confirm that access is possible.
Parameter	Specifies the user specified information that is passed to the HTTP server.
Server authentication	Sets whether or not to conduct server authentication based on the registered certificate when conducting access by https.
Use deployment upon system start	Sets whether or not to conduct deployment when starting this product.
Apply	Save the deployment settings to this product.
After applying settings, start deployment immediately	After saving the deployment settings to this product, execute deployment.

Settings - Admin settings - Admin information - Admin information

Sets the administrator information for TM-DT Software.

Item	Description
Administrator name	Set the administrator name.
Installation location	Set the installation location.
Apply	Registers the settings to this product.

Settings - Admin settings - Admin information - Password

Sets the password for launch for EPSON TMNet Webconfig.

Item	Description
Old password	Input the current password.
New password	Input the new password.
New password (Reenter to confirm)	For confirmation, input the new password again.
Apply	Registers the set password on this product.

NOTE

- The initial setting of user name and password for EPSON TMNet Webconfig are following.
  User name: epson
  Password: epson
- Cannot change the user name

TM-DT Software Specification

TM-DT Software specification is following.

Item		Description
Web server		PHP Ver.5.4.5 Perl Ver.5.12.4
Communication box *1	Maximum number of communication boxes that can be created	20
	Maximum number of applications that can belong to one communication box	20
	Capacity for transmission histories that one communication box can hold	10,240 Byte
	Size of data that can be transmitted at once	1,024 Byte
Spooler capacity *2		8 MB
Maximum storage number of JobID *2		2,000

∗1: This can be used in TM-DT software Ver.2.5 or later.
∗2: This can be used in TM-DT software Ver.3.0 or later.

Controllable printer

Item	Description
Model	• Following TM printers with the UB-E02, UB-E03, UB-E04, UB-R03, or UB-R04 ∗ TM-T88V ∗ TM-T70 ∗ TM-T70II ∗ TM-T82II *1 ∗ TM-T90 ∗ TM-L90 ∗ TM-H6000IV ∗ TM-T20 ∗ TM-T20II *1 ∗ TM-U220 • Following TM printers (Wi-Fi model) ∗ TM-P20 *1 ∗ TM-P60II ∗ TM-P80 *1 • Following TM-Intelligent Printers *2 ∗ TM-T88V-DT ∗ TM-T70II-DT ∗ TM-H6000IV-DT
Number of printers	20 at maximum

∗1 This can be used in TM-DT software Ver.3.0 or later.
∗2 This can be used in TM-DT software Ver.4.0 or later.

Controllable customer display

Item	Description
Model	• DM-D110 for TM-T88V-DT • DM-D30 *

* This can be used in TM-DT software Ver.4.0 or later.

PC-POS System Development

This chapter describes the PC-POS System interface, the control method for devices, and system development using the Thin-Client environment.

PC-POS System Development

You can configure a simple POS System by installing POS applications and connecting a display with a touch panel and a barcode scanner to this product. You can also configure a system utilizing existing Windows POS applications.

Interface

The following table describes the interfaces of this product printer and connected peripherals that are recognized from Windows.

Device	Interface	Description
Product's printer	USB	Recognized as a USB-connection TM-T88V.
TM printer (USB interface)	USB	Recognized as a USB-connection TM printer.
TM printer (Wired LAN / Wireless LAN interface)	Network	Recognized as a network-connection TM printer.
Cash drawer	USB (same as the product's printer)	Connects to the DK (Drawer-kick) connector but the interface is the same as for this product printer.
Customer display	COM4*	Connects to a USB connector but is recognized as a virtual COM port by the COM-USB conversion driver.
HID standard device (Barcode scanner, etc)	Keyboard	Recognized as a keyboard device.
Serial communication device	COM1	Recognized as COM1 in the Windows system settings.

*: This setting is for cases when there is no connection by a USB-serial conversion device other than the customer display. If you connect a USB-serial conversion device, a COM port is assigned to that device for each connection. Refer to the Windows Device Manager for accurate information regarding ports.

How to Control Peripherals

Printer

This product's printer and the Epson TM printer are controlled by ESC/POS commands.

The user can control the printer by using the ESC/POS command or the following development kit and driver.

- EPSON OPOS ADK
- EPSON OPOS ADK for .NET
- EPSON JavaPOS ADK
- EPSON Advanced Printer Driver

Cash drawer

The cash drawer control commands are incorporated into the printer's ESC/POS commands. The functions are incorporated into the printer development kit and drivers.

Customer display

The customer display is controlled by ESC/POS commands.

The user can control the customer display by using the ESC/POS command or the following development kit and driver.

- EPSON OPOS ADK
- EPSON OPOS ADK for .NET
- EPSON JavaPOS ADK
- EPSON Advanced Printer Driver for DM-D

Other devices

HID Standard Device

This Windows standard driver is recognized as a keyboard device.

Serial Communication Device

This is recognized as a Windows serial communication device. When dedicated drivers are prepared for each device, they can be controlled by the drivers. For details, see each device manual.

Software and Manuals

The following software and manuals are prepared for developing applications.

Development kit

Software	Overview
EPSON OPOS ADK	This OCX driver can control POS peripherals using OLE technology *. Because controlling POS peripherals with original commands is not required on the application side, efficient system development is possible.
EPSON OPOS ADK for .NET	OPOS ADK for .NET allows you to develop applications that are compatible with Microsoft POS for .NET. When developing applications, use a separate development environment such as Microsoft Visual Studio .NET.
EPSON JavaPOS ADK	JavaPOS is the standard specification which defines an architecture and device interface (API) to access various POS devices from a Java based system. Using JavaPOS standard API allows control with Java based applications of func-tions inherent to each device. A flexible design with Java language and JavaPOS enables many different types of computer systems, such as stand alone or network configuration, to use a same application. You can use JavaPOS to build applications and drivers independently of platforms. This allows flexible configurations using thin clients to meet the system requirements.

* OLE technology developed by Microsoft divides software into part blocks. The OPOS driver is presupposed to be used with a development environment such as Visual Basic, unlike ordinary Windows drivers. It is not a driver to be used for printing from commercial applications.

Driver

Software	Overview
EPSON Advanced Printer Driver	This is a general Windows printer driver to which control of paper cutting and the cash drawer have been added, and it also has controls specific to POS. The Status API (Epson original DLL) that monitors printer status and sends ESC/POS commands is also attached to this driver. Use the package that supports the connected printer. That for TM-T70II is installed in this product.
EPSON Advanced Printer Driver for DM-D	This is the Windows printer driver for control and display of the customer display. A common customer display package is provided.

Utility

Software	Overview
TM-T88V Utility	This utility is for confirming and changing printer settings. It is already installed in this product.
TM-DT Thin-Client System Setup Tool	This tool supports configuration of the Thin-Client system.
IP Address Setting Tool	This tool is for setting the client's (this product's) IP address on the Thin-Client system server side.

ESC/POS command reference

Manual	Overview
ESC/POS Command Reference	ESC/POS is the command system for the Epson original printer and customer display. With ESC/POS commands, you can directly control all the TM printer functions, but detailed knowledge of printer specifications or combination of commands is required, compared to using a driver. For details, see ESC/POS Command Reference. TM printer https://reference.epson-biz.com/modules/ref_escpos/ Customer display https://reference.epson-biz.com/modules/ ref_escpos_dm_d_en/

System Development using the Thin-Client Environment

You can configure a Thin-Client system utilizing the Windows PC-POS System.
The Thin-Client solutions provided by each company are used in system configuration.
For details, see the "TM-DT Thin-Client System Setup Guide".

Desktop Virtualization

Desktop virtualization is a system that virtualizes the entire OS client desktop. The OS desktop screen executed on the server is transferred to the client, and the user operates the virtual desktop to execute applications.

Control of Peripherals

- Printer, cash drawer, customer display:
  Control is performed through communication between the Epson communication modules mounted on the guest OS and client.
- HID device:
  Client's Windows standard driver is recognized as a keyboard device.

Application Virtualization

Application virtualization refers to virtualized systems for each application. The user executes without installing applications in the client OS. There are two methods for application virtualization. The virtualized applications are distributed and executed by the client, or the application screen executed in the server is transferred to the client and operated.

Control of Peripherals

The control method differs according to the method of application virtualization.

Product Specifications

This chapter describes the TM-T88V-DT product specifications.

Computer Specifications

N2600 CPU model

Item		Specifications
CPU		Intel® Atom™ Processor N2600 (1MB Cache, 1.6 GHz)
Memory	Main memory	2 GB, DDR3-800, SO-DIMM slot
	BIOS	SPI Flash 4MB
Chipset		Intel® NM10
Video controller		Built-in CPU
Auxiliary storage		SATA SSD (16 GB or more)
Interface	Ethernet	10Base-T / 100Base-TX / 1000Base-T 1 port (RJ-45)
	USB	External: USB 2.0 x 6 (supports high/full/low speed)
	Serial	External x 1 (9-pin DSUB male)
	VGA	External x 1 (15-pin DSUB female)
	DisplayPort	None
	Drawer	External x 1 (RJ12 6-pin)
	Sound capability	Can output from internal speaker External x 1 (line output)
RTC/CMOS backup battery		RTC is backed up by lithium battery
Speaker		Internal monaural speaker
Product's printer		Thermal receipt printer (TM-T88V) Printing speed: 300 mm/s {11.81"/s}
Software	BIOS	AMI BIOS (Supports ACPI 2.0 / APM 1.2 / Plug & Play)
	OS	Windows Embedded POSReady 2009 Windows Embedded POSReady 7
	TM-DT Software	TM-DT Software

Item	Specifications
Power specifications (Dedicated AC adapter)	AC 100 - 240 V / 50 - 60 Hz
Product power consumption	12.2W (when standby)/ 54W (when printing)
Case color	White (ENN8.5), Black (EBCK)
Mass (roll paper excluded)	Approx. 2.8 kg {6.17 lb} (When DM-D110 for TM-T88V-DT is installed; 3.2 kg {7.1 lb})

N2800 CPU model

Item		Specifications
CPU		Intel® Atom™ Processor N2800 (1MB Cache, 1.86 GHz)
Memory	Main memory	4 GB, DDR3-1066, SO-DIMM slot
	BIOS	SPI Flash 4MB
Chipset		Intel® NM10
Video controller		Built-in CPU
Auxiliary storage		SATA SSD (32 GB or more)
Interface	Ethernet	10Base-T / 100Base-TX / 1000Base-T 1 port (RJ-45)
	USB	External: USB 2.0 x 6 (supports high/full/low speed)
	Serial	External x 1 (9-pin DSUB male)
	VGA	External x 1 (15-pin DSUB female)
	DisplayPort	External x 1 (standard DisplayPort connector 20-pin female)
	Drawer	External x 1 (RJ12 6-pin)
	Sound capability	Can output from internal speaker External x 1 (line output)
RTC/CMOS backup battery		RTC is backed up by lithium battery
Speaker		Internal monaural speaker
Product's printer		Thermal receipt printer (TM-T88V) Printing speed: 300 mm/s {11.81"/s}
Software	BIOS	AMI BIOS (Supports ACPI 2.0 / APM 1.2 / Plug & Play)
	OS	Windows Embedded POSReady 2009 Windows Embedded POSReady 7
	TM-DT Software	TM-DT Software
Power specifications (Dedicated AC adapter)		AC 100 - 240 V / 50 - 60 Hz
Product power consumption		12.2W (when standby)/ 54W (when printing)
Case color		White (ENN8.5), Black (EBCK)
Mass (roll paper excluded)		Approx. 2.8 kg {6.17 lb} (When DM-D110 for TM-T88V-DT is installed; 3.2 kg {7.1 lb})

D2550 CPU model

Item		Specifications
CPU		Intel® Atom™ D2550 (1MB Cache, 1.86 GHz)
Memory	Main memory	4 GB, DDR3-1066, SO-DIMM slot
	BIOS	SPI Flash 4MB
Chipset		Intel® NM10
Video controller		Built-in CPU
Auxiliary storage		SATA HDD (500GB or more) / SATA SSD (32 GB or more)
Interface	Ethernet	10Base-T / 100Base-TX / 1000Base-T 1 port (RJ-45)
	USB	External: USB 2.0 x 6 (supports high/full/low speed)
	Serial	External x 1 (9-pin DSUB male)
	VGA	External x 1 (15-pin DSUB female)
	DisplayPort	External x 1 (standard DisplayPort connector 20-pin female)
	Drawer	External x 1 (RJ12 6-pin)
	Sound capability	Can output from internal speaker External x 1 (line output)
RTC/CMOS backup battery		RTC is backed up by lithium battery
Speaker		Internal monaural speaker
Product's printer		Thermal receipt printer (TM-T88V) Printing speed: 300 mm/s {11.81"/s}
Software	BIOS	AMI BIOS (Supports ACPI 2.0 / APM 1.2 / Plug & Play)
	OS	Windows Embedded POSReady 2009 Windows Embedded POSReady 7
	TM-DT Software	TM-DT Software
Power specifications (Dedicated AC adapter)		AC 100 - 240 V / 50 - 60 Hz
Product power consumption		12.2W (when standby)/ 54W (when printing)
Case color		Black
Mass (roll paper excluded)		Approx. 2.8 kg {6.17 lb} (When DM-D110 for TM-T88V-DT is installed; 3.2 kg {7.1 lb})

Printer Specifications

Printing Specifications

Item		Specification
Printing method		Thermal line printing
Dot density		180 dpi x 180 dpi
Printing direction		Unidirectional with friction feed
Printing width		72 mm {2.83″} (512 dots)
Characters per line	Font A (12 x 24)	42
	Font B (9 x 17)	56
	Special font A (12 x 24)	42
	Special font B (9 x 24))	56
Maximum print speed		300 mm/s {11.81″/s} (When the printer prints with the standard print density level at 24V and 25°C {77°F}.)
Line spacing		4.23 mm {1/6″}

Character Specifications

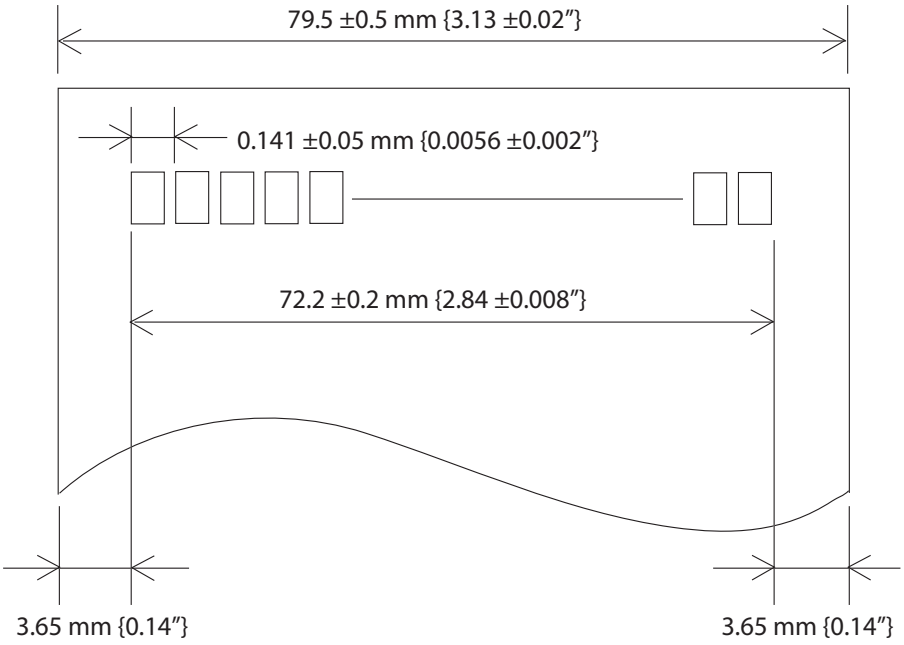
Item		Specification
Number of characters		Alphanumeric characters: 95 Extended graphics: 128 x 43 pages (including user-defined page) International characters: 18 sets
Character structure		Font A: 12 x 24 (including 2-dot spacing horizontally) Font B: 9 x 17 (including 2-dot spacing horizontally) Special font A: 12 x 24 (including 2-dot spacing horizontally) Special font B: 9 x 24 (including 2-dot spacing horizontally)
Character size (width x height) *1	Font A	Standard: 1.41 x 3.39 Double-height: 1.41 x 6.77 Double-width: 2.82 x 3.39 Double-width, double-height: 2.82 x 6.77
	Font B	Standard: 0.99 x 2.40 Double-height: 0.99 x 4.80 Double-width: 1.98 x 2.40 Double-width, double-height: 1.98 x 4.80
	Special font A *2	Standard: 1.41 x 3.39 Double-height: 1.41 x 6.77 Double-width: 2.82 x 3.39 Double-width, double-height: 2.82 x 6.77
	Special font B *2	Standard: 0.99 x 3.39 Double-height: 0.99 x 6.77 Double-width: 1.98 x 3.39 Double-width, double-height: 1.98 x 6.77

*1 Space between characters is not included. Characters can be scaled up to 64 times as large as the standard sizes.
*2 Only for South Asia model.

Printable Area

80 mm paper width printing

The printable area of paper with a width of 79.5 ± 0.5 mm {3.13 ± 0.02"} is 72.2 ± 0.2 mm {2.84 ± 0.008"} (512 dots), and the space on the right and left sides is approximately 3.65 mm {0.14"}.

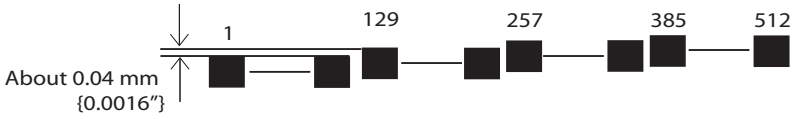


All the numeric values are typical.

NOTE

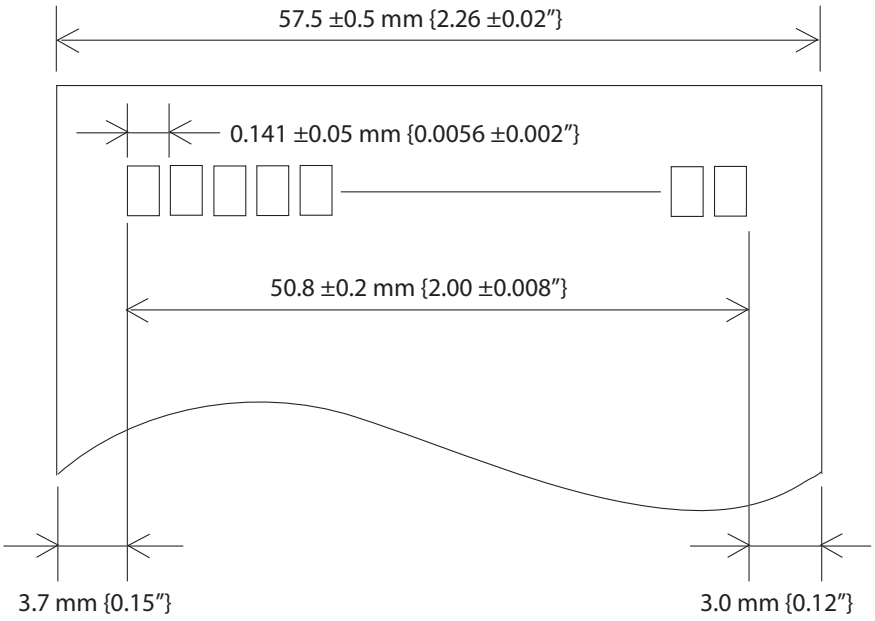
- In 2-divided energization, the print position within the printable area of the thermal elements for dots 1 to 256 and 257 to 512 is shifted approximately 0.07 mm {0.0028"} in the paper feed direction as shown in the figure below.

- In 4-divided energization, the print position within the printable area of the thermal elements for dots 1 to 128, 129 to 256, 257 to 384, and 385 to 512 is shifted approximately 0.04 mm {0.0016"} in the paper feed direction as shown in the figure below.



58 mm paper width printing

The printable area of paper with a width of 57.5 ± 0.5 mm {2.26 ± 0.02"} is 50.8 ± 0.2 mm {2.00 ± 0.008"} (360 dots), and the space on the left side is approximately 3.7 mm {0.15"} and the space on the right side is approximately 3.0 mm {0.12"}.

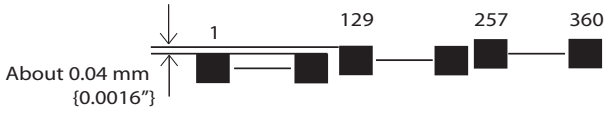


All the numeric values are typical.

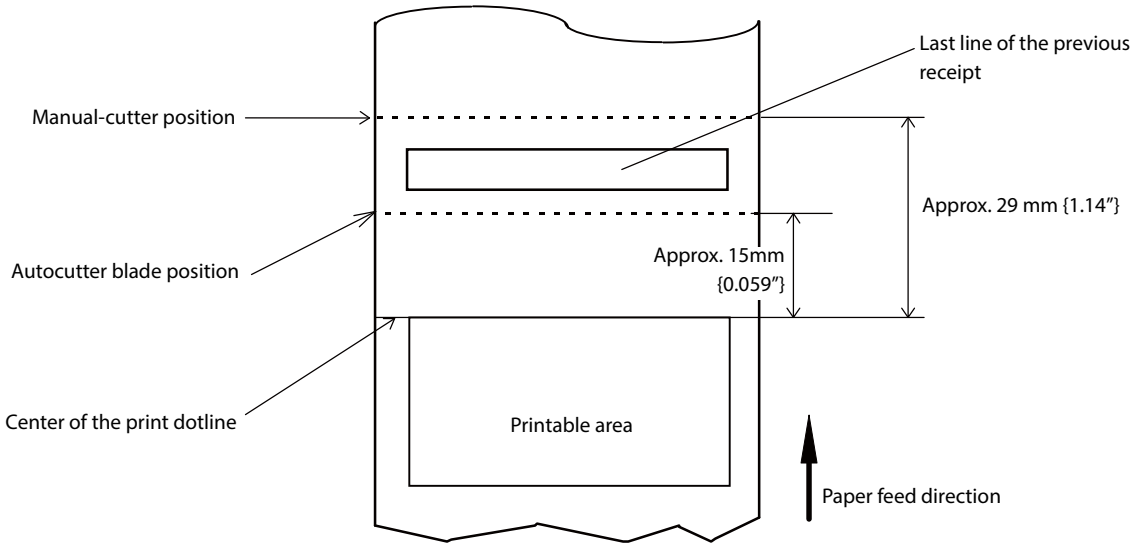
NOTE

- In 2-divided energization, the print position within the printable area of the thermal elements for dots 1 to 256 and 257 to 360 is shifted approximately 0.07 mm {0.0028"} in the paper feed direction as shown in the figure below.

- In 4-divided energization, the print position within the printable area of the thermal elements for dots 1 to 128, 129 to 256, and 257 to 360 is shifted approximately 0.04 mm {0.0016"} in the paper feed direction as shown in the figure below.



Printing and Cutting Positions



CAUTION The values above may vary slightly as a result of paper slack or variations in the paper. Take this into account when setting the cutting position of the autocutter.

Roll Paper Specifications

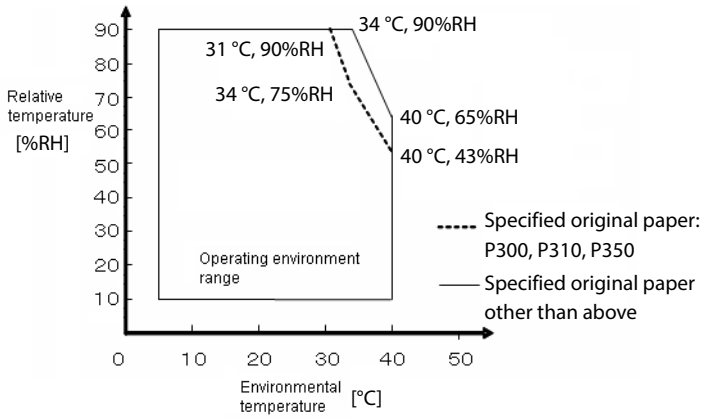
Item		Specification	
		80mm width	58 mm width
Paper type		Specified thermal paper	
Form		Roll paper The chromogenic side must face outside.	
Size	Roll paper diameter	83 mm {3.27"} maximum	
	Roll paper core *	Inside: 12 mm {0.47"} Outside: 18 mm {0.71"} Width: Same as the paper width or less than the paper width by 1 mm. {0.039"}	
	Take-up roll paper width	80 +0.5/-1.0 mm {3.15+0.02/-0.04"}	58 +0.5/-1.0 mm {2.28+0.02/-0.04"}
	Paper width	79.5 ± 0.5 mm {3.13 ± 0.02"}	57.5 ± 0.5 mm {2.26 ± 0.02"}
Specified roll paper		NTP080-80	NTP058-80
Specified original paper		P300, P310, P350 (Kanzaki Specialty Papers) AF50KS-E (Jujo Thermal Oy) F5041 (Mitsubishi HiTec Paper Flensburg GmbH) KT55F20, KT48F20 (Koehler Paper Group)	

* Paper must not be pasted to the roll paper core.

Power supply capacity for external devices

Item	Specification	
Port	**Power supply**	**Supply capacity**
USB	DC +5 V	500 mA each
Drawer	DC +24 V	1.0 A
DisplayPort	DC +3.3 V	500 mA

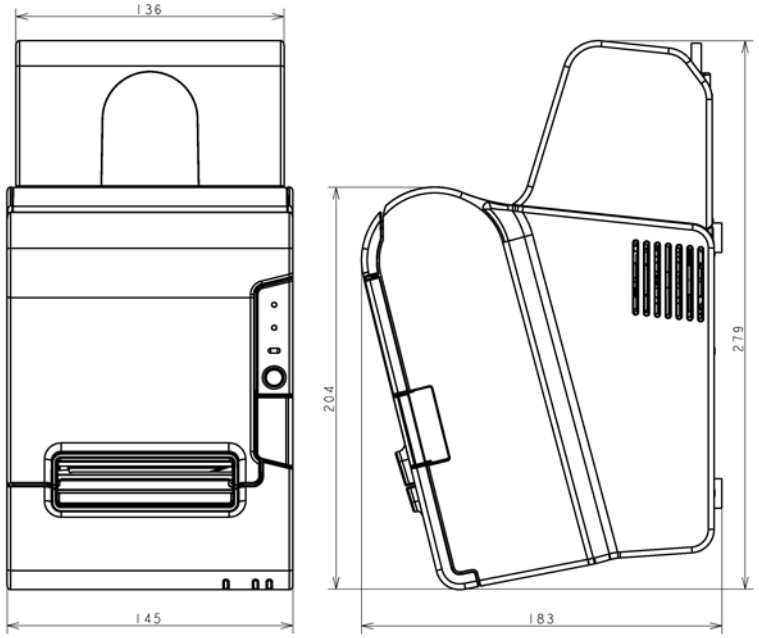
Environmental Conditions

Item		Specification
Temperature/ Humidity	Operating	5 to 40 °C {41 to 104 °F}, 10 to 90%RH (no condensation) 50%
	Storage (paper excluded)	-10 to 50 °C {14 to 122 °F}, 10 to 90%RH (no condensation)
		
Acoustic noise (operating)		Approximately 55 dB (bystander position) (The values above are measured in the Epson evaluation condition. The acoustic noise varies, depending on the paper used, printing contents, or the setting values, such as print speed or print density.)

External Dimensions

TM-T88V-DT (with connector cover)

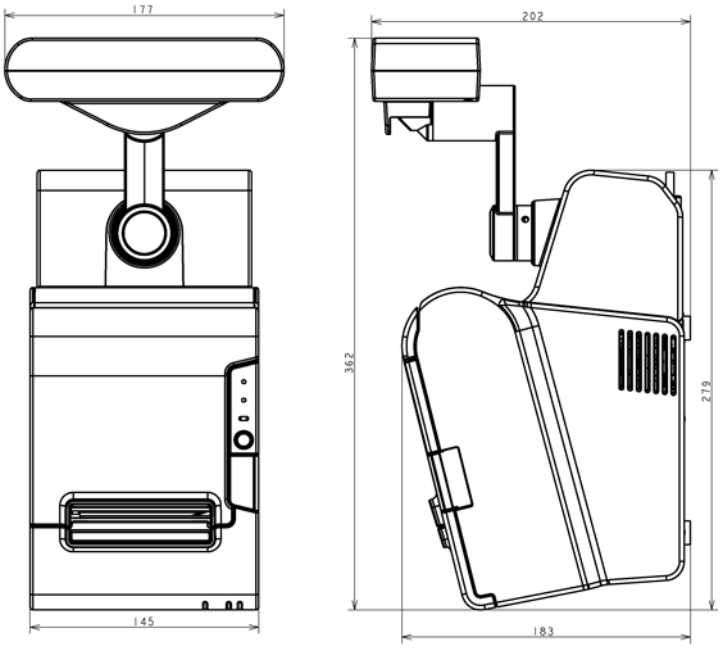
- Width: 145 mm {5.71"}
- Depth: 279 mm {10.98"} (including connector cover)
- Height: 183 mm {7.20"}



[Units: mm]

TM-T88V-DT (when the DM-D110 for TM-T88V-DT is installed)

- Width: 177 mm {6.97"}
- Depth: 362 mm {14.25"} (including connector cover)
- Height: 202 mm {7.95"}

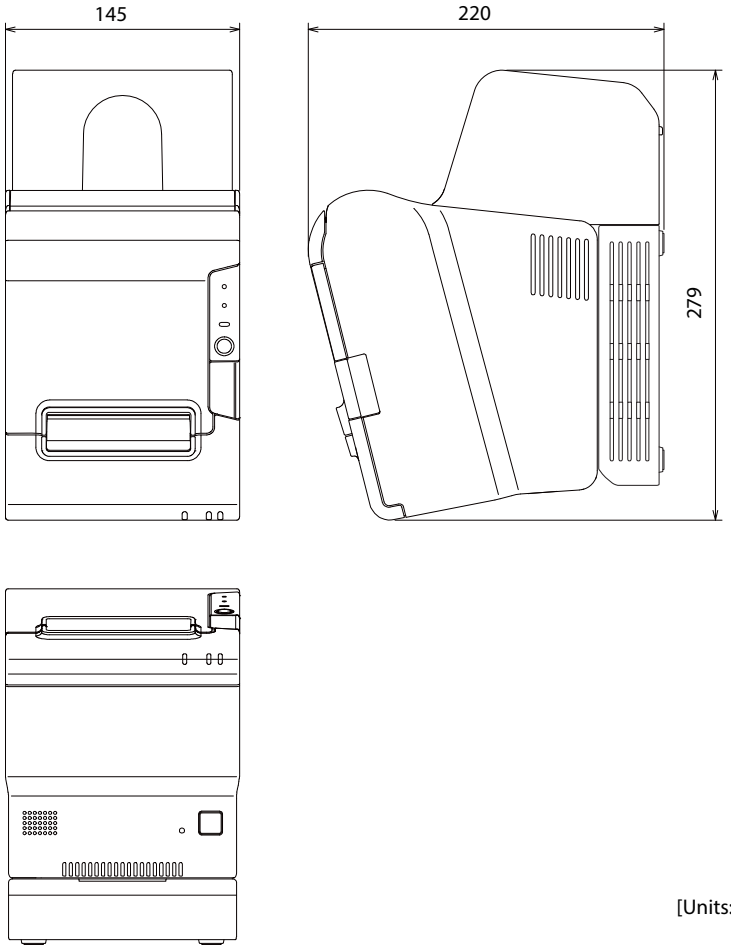


[Units: mm]

TM-T88V-DT (when the Powered USB hub unit is installed)

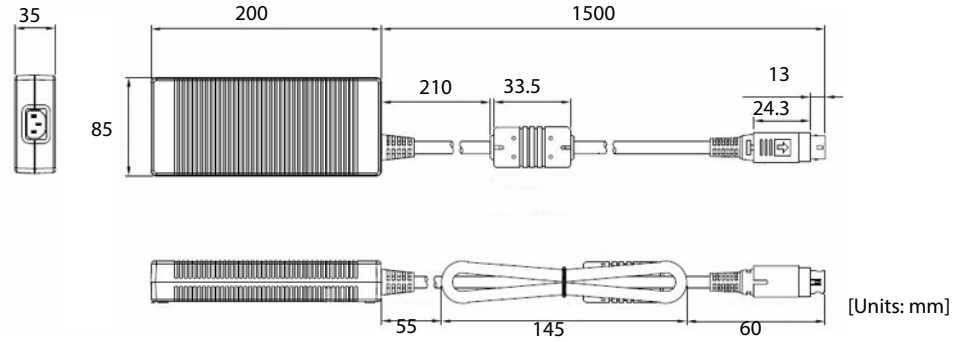
- Width: 145 mm {5.71"}
- Depth: 279 mm {10.98"} (including connector cover)

- Height: 220 mm {8.66"}



[Units: mm]

AC Adapter Specifications



Item		Specification
Input conditions	Input voltage	AC 100 V to 240 V
	Frequency	50/60 Hz
	Input current (rating)	2.4 A
Output conditions	Output voltage (rating)	DC 24 V ± 5 %
	Output current (rating)	4.2A

Option

For optional product specifications, see the product manuals.

- Dedicated customer display (Model: DM-D110 for TM-T88V-DT)
- Customer display (Model: DM-D30)
- Wireless LAN cable set (Model: OT-WL01)
- Powered USB Hub Unit (Model: OT-PH10)
- Affixing tape (Model: DF-10)

Setting Items for Software Setting Mode

For details about how to set the software setting mode, see "Software Setting Mode" on page 61.

Setting Item			Setting Values * Underlined values are the initial settings.
1st page	2nd page	3rd page	
1: Print Current Settings			-
2: Print Density	1: Monochrome		100%, 105%, 110%, 115%, 120%, 125%, 130%, 70%, 75%, 80%, 85%, 90%, 95%, Depends On Dip Switch
	2: Multi-Tone		100%, 105%, 110%, 115%, 120%, 125%, 130%, 70%, 75%, 80%, 85%, 90%, 95%
3: Baud Rate *1			2400bps, 4800bps, 9600bps, 19200bps, 38400bps, 57600bps, 115200bps
4: Automatic Paper Reduction	1: Upper Margin		Enable, Disable
	2: Lower Margin		Enable, Disable
	3: Blank Line Spacing		25%, 50%, 75%, Not Reduce
	4: Blank Space		25%, 50%, 75%, Not Reduce
	5: Barcode Height		25%, 50%, 75%, Not Reduce
5: Auto Paper Feed&Cut at cover close			Enable, Disable
6: Paper Width			80mm, 58mm
8: Default Character *1	1: Code Page	1: Western Europe, Southern Europe	Page0:PC437(USA,Standard Europe), Page3:PC860(Portuguese), Page11:PC851(Greek), Page14:PC737(Greek), Page15:ISO8859-7(Greek), Page16:WPC1252, Page18:PC852(Latin2), Page19:PC858, Page34:PC855(Cyrillic), Page38:PC869(Greek), Page39:ISO8859-2(Latin2), Page40:ISO8859-15(Latin9), Page45:WPC1250, Page47:WPC1253
		2: Eastern Europe, Northern Europe	Page5:PC865(Nordic), Page17:PC866(Cyrillic#2), Page33:WPC775, Page35:PC861(Icelandic), Page42:PC1118(Lithuanian), Page43:PC1119(Lithuanian), Page44:PC1125(Ukrainian), Page46:WPC1251, Page51:WPC1257
		3: USA, Canada	Page0:PC437(USA,Standard Europe), Page4:PC863(Canadian-French)
		4: Asia	Page1:Katakana, Page20:KU42, Page21:TIS11(Thai), Page26:TIS18(Thai), Page30:TCVN-3(Vietnamese), Page31:TCVN-3(Vietnamese), Page52:WPC1258, Page53:KZ-1048(Kazakhstan)

Setting Item			Setting Values * Underlined values are the initial settings.
1st page	**2nd page**	**3rd page**	
8: Default Character (Continued from the previous page)	1: Code Page (Continued from the previous page)	5: Turkey, Arabia, Israel	Page12:PC853(Turkish), Page13:PC857(Turkish), Page32:PC720, Page36:PC862(Hebrew), Page37:PC864(Arabic), Page41:PC1098(Farsi), Page48:WPC1254, Page49:WPC1255, Page50:WPC1256
		6: Others	Page2:PC850(Multilingual)
	2: International Character Set	1: The Americas, Europe	USA, France, Germany, Britain, Denmark I, Sweden, Italy, Spain I, Norway, Denmark II, Spain II, Latin America, Slovenia/Croatia
		2: Asia, Arabia	Japan, Korea, China, Vietnam, Arabia
9: Embedded Font Replacement	1: Font A Replacement		Font A(No Replacement), Font B
	2: Font B Replacement		Font A, Font B(No Replacement)
10: Interface Selection *2			UIB, Built-in USB, Auto
11: USB Interface Settings *2	1: Class		Vendor Class, Printer Class
12: Power Supply Output			Level 1(Low), Level 2, Level 3(High)
13: Printing Speed			Level 1(Slow), Level 2, Level 3, Level 4, Level 5, Level 6, Level 7, Level 8, Level 9, Level 10, Level 11, Level 12, Level 13(Fast)
14: Other Settings	1: Printer Model *2		TM-T88V, TM-T88IV
	2: Buzzer Control	1: Option Buzzer	Enable, Disable
		2: Buzzer Frequency (Error)	Continuous, 1 time, No Sound
		3: Sound Pattern (Autocut)	Pattern A, Pattern B, Pattern C, Pattern D, Pattern E
		4: Buzzer Frequency (Autocut)	1 time, No Sound
		5: Sound Pattern (Pulse 1)	Pattern A, Pattern B, Pattern C, Pattern D, Pattern E
		6: Buzzer Frequency (Pulse 1)	1 time, No Sound
		7: Sound Pattern (Pulse 2)	Pattern A, Pattern B, Pattern C, Pattern D, Pattern E
		8: Buzzer Frequency (Pulse 2)	1 time, No Sound

*1: No settings are required.
*2: Do not change the settings.

Character Code Tables

Refer to the following URL regarding the character code table.
http://www.epson-biz.com/pos/reference/charcode/