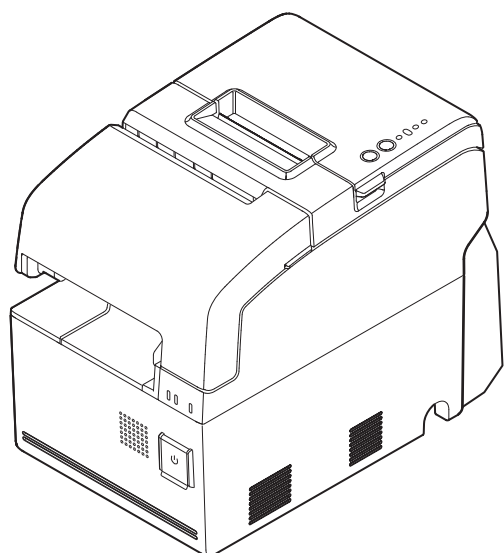


# TM-H6000IV-DT

## Technical Reference Guide

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### Product Overview

Describes features for this product.

### Printer Functions and Settings

Describes the printer functions and setting methods.

### Windows Settings

Describes the pre-installed Windows 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<sup>®</sup> Command System

EPSON ESC/POS is a proprietary POS printer command system that includes patented or patent-pending commands. ESC/POS is compatible with most EPSON POS printers and displays.



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 and also offers the flexibility to easily make future upgrades.

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# 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.

 <b>WARNING</b>	You must follow warnings carefully to avoid serious bodily injury.
 <b>CAUTION</b>	Provides information that must be observed to prevent damage to the equipment or loss of data. <ul style="list-style-type: none"><li>• Possibility of sustaining physical injuries.</li><li>• Possibility of causing physical damage.</li><li>• Possibility of causing information loss.</li></ul>
<b>CAUTION</b>	Provides information that must be observed to avoid damage to your equipment or a malfunction.
<b>NOTE</b>	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.
- To avoid injury, do not insert fingers or any part of the hand in the roll paper opening where the manual cutter is installed.
- 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.

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# Product Overview

This chapter describes features of this product.

## Features

The TM-H6000IV-DT is a highly-functional hybrid printer used in tandem with a Windows computer. A number of modules that operate on Windows 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 71](#).

- Windows printer driver

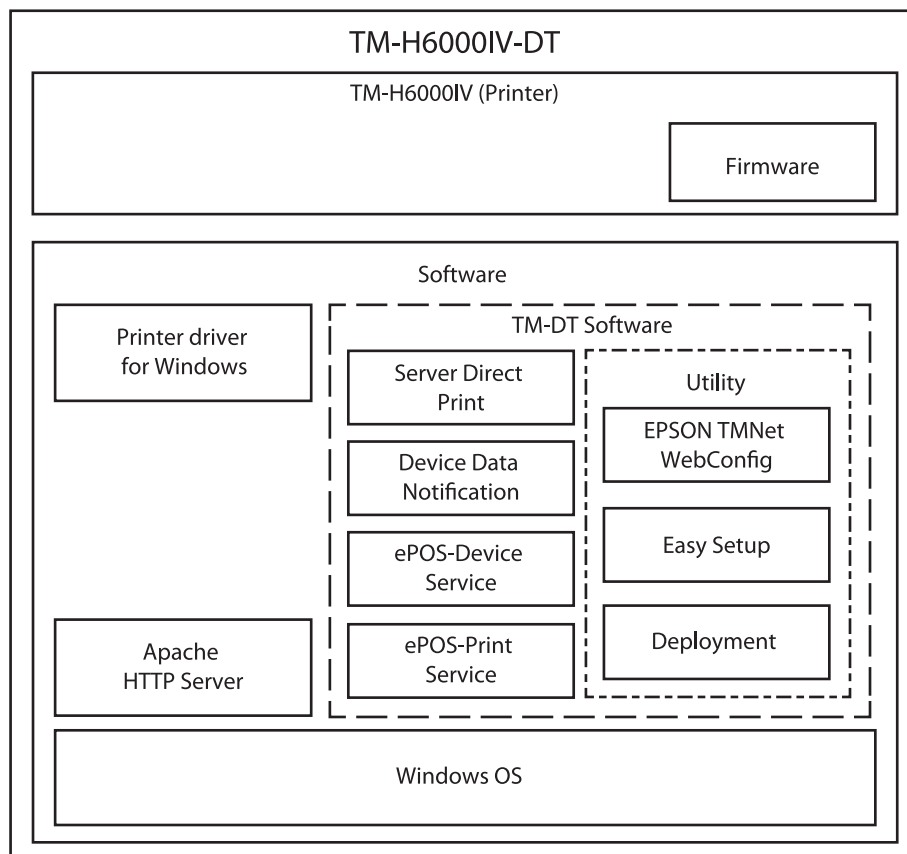
You can also conduct Windows POS application development using the Windows EPSON Advanced Printer Driver or OPOS ADK, and system development utilizing existing Windows POS applications.

For details, see ["PC-POS System Development" on page 126](#).

- Apache HTTP Server

You can use this product as a Web server. You can execute Web applications for server-side scripting (Perl or php).

For details, see ["Web Server" on page 87](#).



The product has the following features.

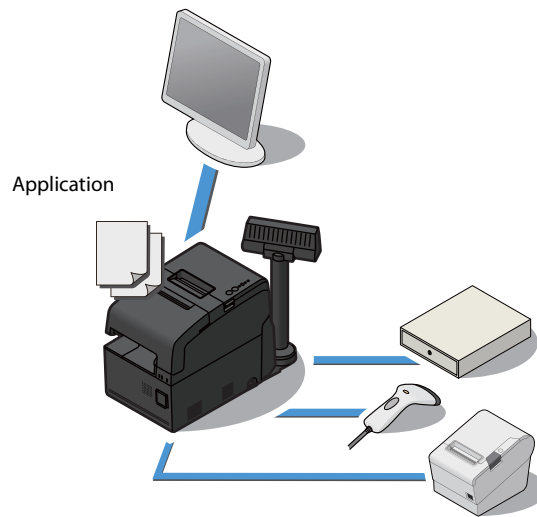
- Space-saving design through integrating PC with printer.
- The printer includes a Magnetic Ink Character Recognition (MICR) reader and an endorsement printer (E/P).
- Interfaces for connecting with peripherals  
(USB x 3, Powered USB x 3, Serial x1, DisplayPort x 1, VGA x 1)
- Equipped with Powered USB 12 V x 3 ports as standard.
- Printing and control of peripherals from Web applications or smart device applications <sup>\*2</sup>.
- 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.

\* TM-DT Software Ver.3.0 or later

# System Outline

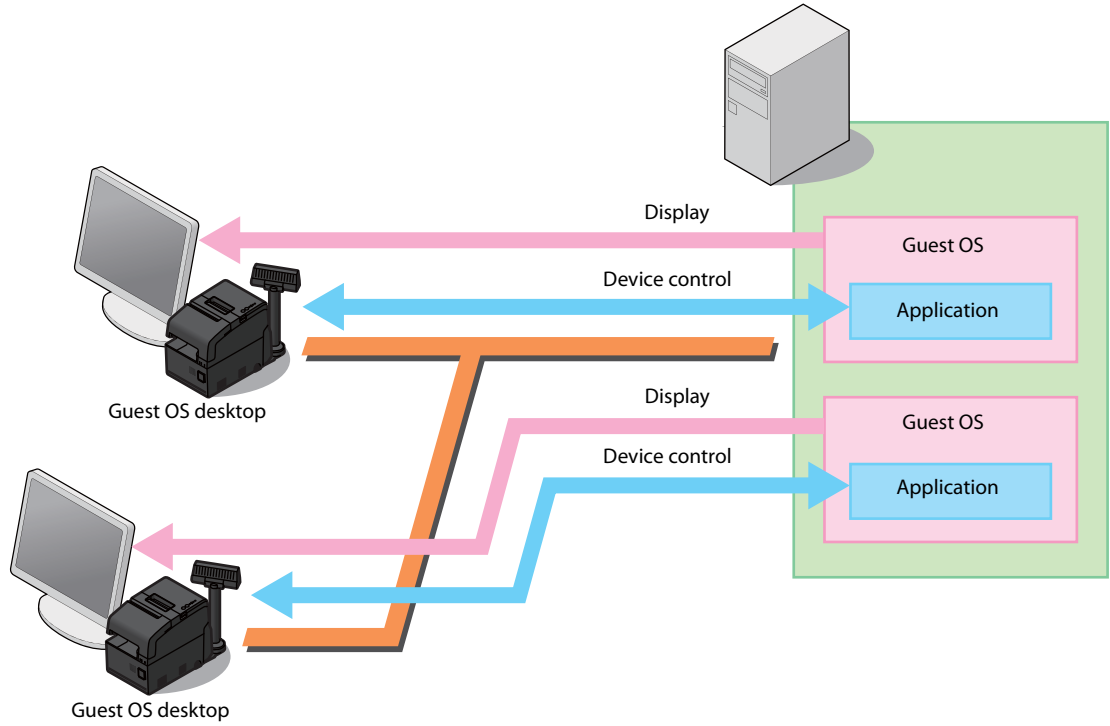
As shown below, you can configure various systems using this product.

## PC-POS system

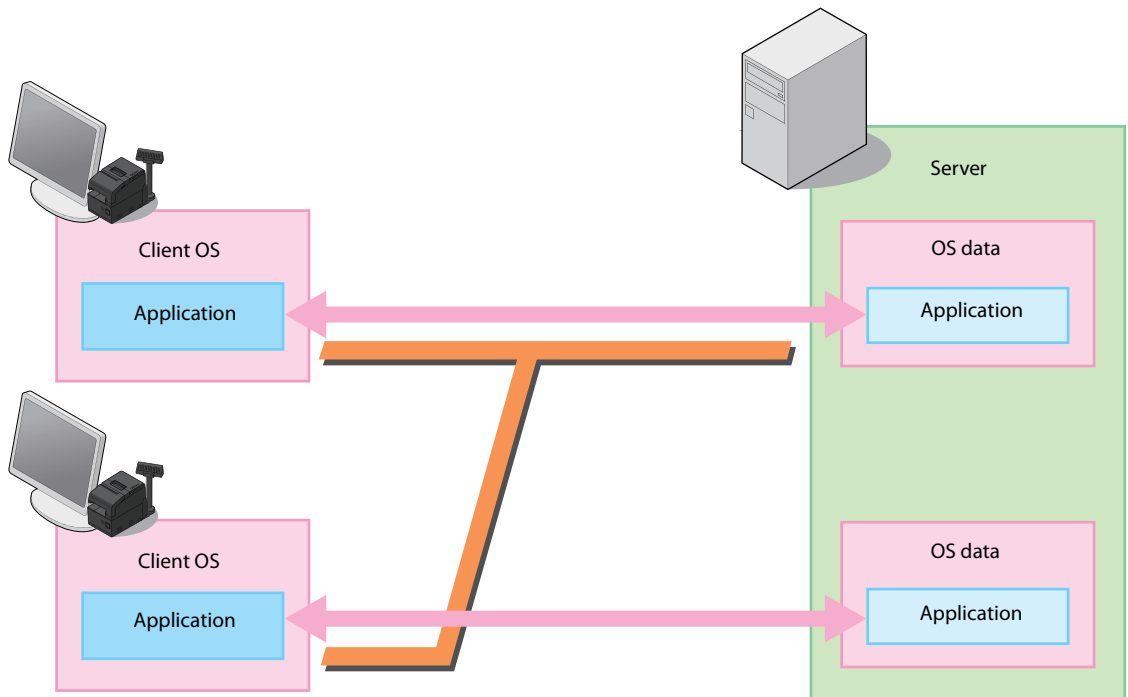


## Thin-Client system

- Virtual Desktop Infrastructure (VDI)

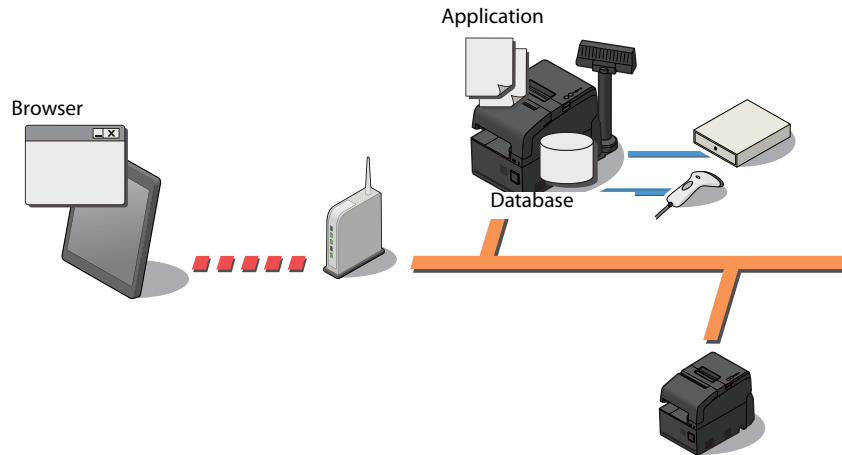


- Application virtualization system

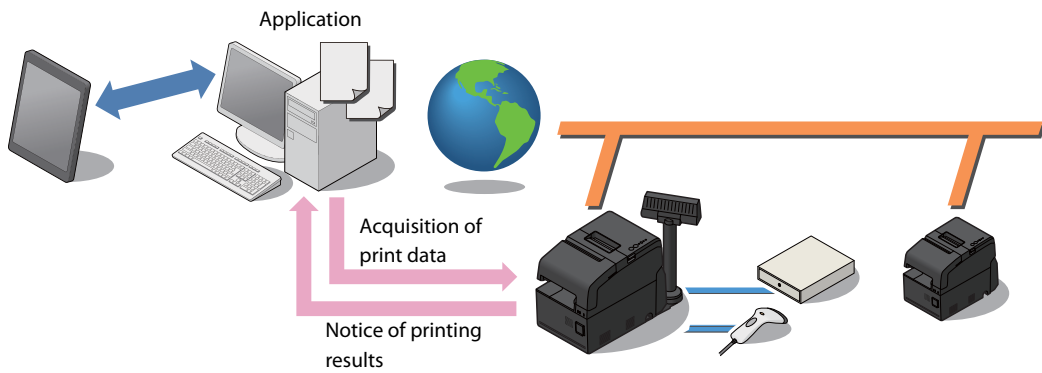


## Systems that Use TM-DT software

- 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

Item	Description	How to Obtain	
		Web site	Other
TM-H6000IV-DT Technical Reference Guide	This document.	✓	-
TM-H6000IV Utility	This utility is for confirming and changing printer settings. It is already installed in this product.	✓	-

### PC-POS system

Item	Description	How to Obtain	
		Web site	Other
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.	✓	-
OPOS ADK	Driver with UPOS (UnifiedPOS) specifications for use with Win32 API compatible applications.	✓	-
OPOS for .NET	Driver with UPOS (UnifiedPOS) specifications for use with .Net compatible applications.	✓	-
JavaPOS	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 Reference
DM-D110/DM-D210 Technical Reference Guide	Provides information necessary for system development using the DM-D110 (customer display).	✓	-



## Thin-Client system

Item	Description	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

Item	Description	How to Obtain	
		Web site	Other
Epson ePOS SDK for iOS *1 for Android *1 for Universal Windows apps *2 for JavaScript	Software development kit for controlling the printer and peripherals from Web applications and smart device applications.	✓	Web Reference
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.

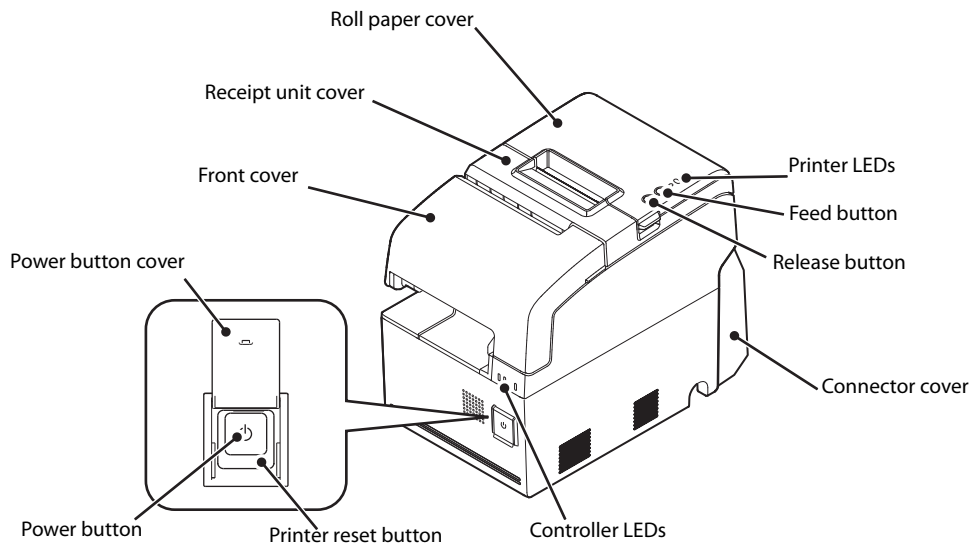
\*2 TM-DT Software Ver.3.0 or later.

# Printer Functions and Settings

This chapter describes the printer functions and setting methods.

## Part Names and Functions

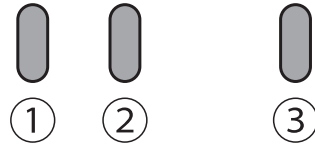
### Main Unit Front



Name	Description
Power button	Turns this product power on or off.
Power button cover	Open this cover to operate the power button and the printer reset button.
Printer reset button	Resets this product's printer. This product's computer is not reset.
Release button	Press this button to release the retained slip paper.
Feed button	Press this button to feed the roll paper.
Front cover	Open this cover to install/replace the ribbon cartridge for front slip printing.
Receipt unit cover	Open this cover to install/replace the ribbon cartridge for endorsement printing.
Roll paper cover	Open this cover to load/ replace the roll paper.
Connector cover	Attach this cover to protect cables.

### Controller LEDs

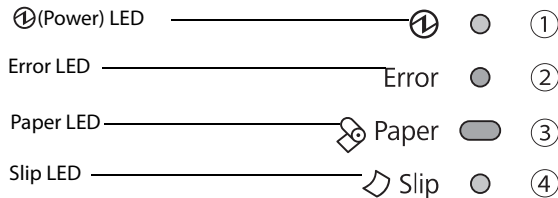
These display the computer status.



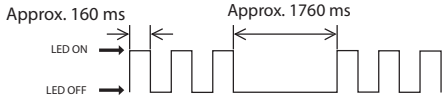
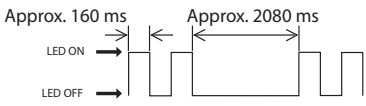
Name	Status	Description
① Status LED (Green)	On	Power is on
	Flashing (Approx. 1 second intervals)	Stand-by mode
	Off	Power is off
② Status LED (Orange)	Flashing (Approx. 1 second intervals)	OS start-up sequence Accessing storage; Do not turn the power off. Doing so may result in data loss.
	Flashing (Approx. 160 millisecond intervals)	CPU high-temperature warning An error has occurred. Contact the Epson customer service.
③ Storage access LED (Green)	On	Accessing storage.

### Printer LEDs

These display the printer status.



Name	Status	Description
① (Power) LED (Green)	On	Power is being supplied
	Off	Power is not being supplied
② Error LED (Orange)	On	Offline Immediately after the power is turned on or immediately after a reset (offline). Automatically goes off after a while to indicate that the printer is ready. The end of the roll paper is detected, and when printing has stopped (offline). If this happens, replace the roll paper.
	Flashing	An error has occurred
	Off	Normal operation (online)

Name	Status	Description
③ Paper LED (Orange)	On	Roll paper near-end.
	Flashing	Waiting for the self-test printing to be continued.
	Off	There is a sufficient amount of roll paper remaining.
④ Slip LED (Green)	On	Slip paper mode.
	Flashing	Waiting for slip paper to be inserted/removed. Waiting to insert slip  Waiting to remove slip 
	Off	Roll paper mode.

## 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 pattern	Recovery measure
Print head temperature error	A high temperature outside the head drive operating range was detected.		Recovers automatically when the print head cools.


### Recoverable Errors


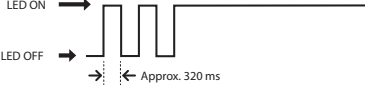
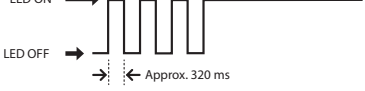


After removing the cause of error, online status can be restored by pressing the printer reset button.

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, send the error recovery command, or turn the power on again.
Carriage detection error in front slip printing	The carriage is malfunctioning due to a paper jam.		Remove the jammed paper or foreign matter in the printer, send the error recovery command, or turn the power on again.
Carriage detection error in endorsement printing	The carriage is malfunctioning due to a paper jam.		
Slip ejection error	The slip is not ejected after feeding a specified amount of paper, or the slip eject sensor does not detect paper.		Send the error recovery command or turn the power on again.
Mechanical operation error	The position of the platen/roller open and close mechanism cannot be detected.		Close the roll paper cover, and then send the error recovery command or turn the power on again.
Roll paper cover open error	The roll paper cover or receipt unit was opened during printing on roll paper.		
Receipt unit open error *	The receipt unit was opened during printing.		

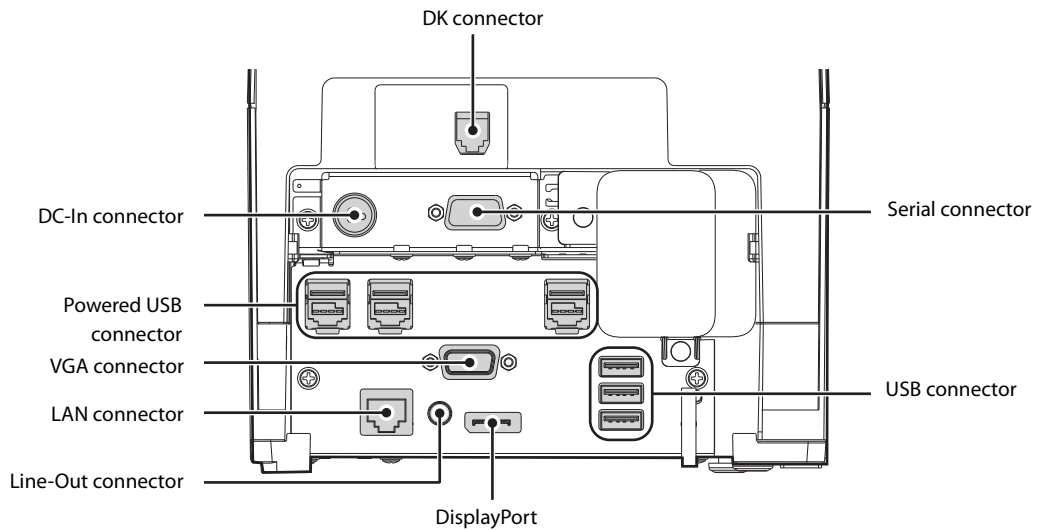
### Unrecoverable Errors

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.

 <b>CAUTION</b>	If an unrecoverable error occurs after resetting the printer, immediately turn the printer power off.
---	---

Error	Error description	Error LED flash code
R/W error in memory or gate array	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.	
Circuit error	A circuit error is detected.	

## Product Rear

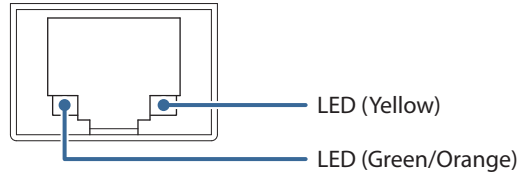


Name	Description
DK connector	Connect the cash drawer here.
DC-In connector	Connect the AC adapter, T here.
Powered USB connector	Connect external devices with Powered USB interface here.
VGA connector	Connect the display here.
LAN connector	Connect the printer to the network.
Line-Out connector	Connect an external speaker here.
DisplayPort	Connect the display here.
USB connector	Connect external devices with USB interface here.
Serial connector	Connect a serial communication device with serial interface here.



## 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.

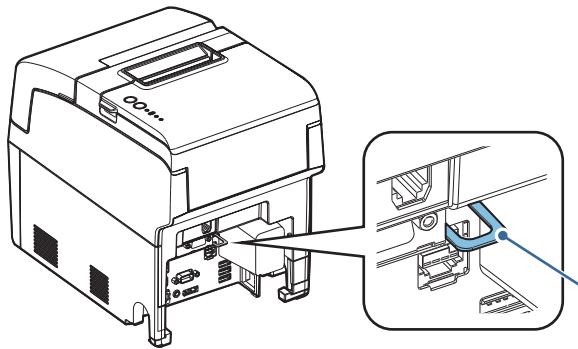
## Installing the Product

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.

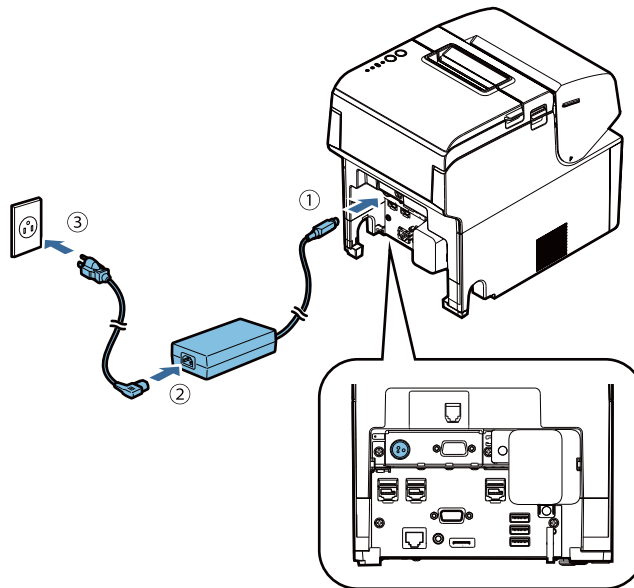


## Connecting the AC Adapter

 <b>WARNING</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• If an abnormality arises despite using this product's attachments, immediately turn the power off and remove the power cord from the wall socket.</li> <li>• 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.</li> </ul>
 <b>CAUTION</b>	<p>Use the AC adapter separated from the main unit.</p>

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

- 1** Make sure that the power to the printer is turned off and that the AC adapter power cord is unplugged from the wall socket.
- 2** Connect the DC cable of the AC adapter to the DC-In connector on the product.



- 3** Firmly insert the connector of the AC cable all the way into the AC inlet on the AC adapter.
- 4** Firmly insert the plug all the way into the grounded wall outlet.
- 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 cable DC connector from this product.

## Turning Power On/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 65.

### 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 115](#)).
- 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 67.

## Return from Standby / Hibernation

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

## Forced Termination

If you cannot turn the product off using applications or the operating system, you can execute forced termination as a last resort by pressing the power button for approximately 4 seconds.

### CAUTION

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

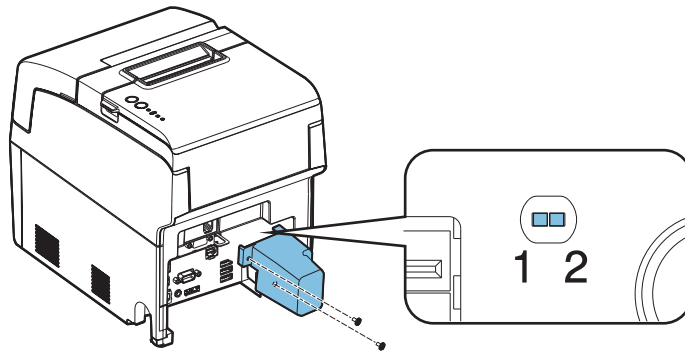
## Powered USB mode setting

The product has 2 powered USB modes and is initially set to Mode 1.

Mode	Description
Mode 1	Enables interlock with power supply to TM-H6000IV-DT (Set at factory shipment). Power is supplied when TM-H6000IV-DT is ON and no power is supplied when TM-H6000IV-DT is OFF.
Mode 2	Disables interlock with power supply to TM-H6000IV-DT. Power is constantly supplied to the USB device regardless of whether TM-H6000IV-DT is ON/OFF.

Use the following procedure to change the switch's setting.

- 1** Make sure that the product is turned off.
- 2** Remove the 2 screws to remove the cover.



- 3** Use tweezers to change the position of the switch.
- 4** Fix the cover with the 2 screws.

## 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.

**NOTE**

The printer goes offline only if an ink ribbon cartridge is mounted on the slip printer unit. Otherwise, the printer cannot print on slip paper and prints on roll paper.

### 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, the receipt unit cover, or the front 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 printing stops due to end of paper. (When the roll paper end sensor detects the end of paper, no slip paper is set, or the printer is set so that printing stops upon detection of roll paper near-end.)
- When the power-supply voltage is temporarily abnormal
- When an error has occurred (For detail, see "[Error Status](#)" on page 22.)



# Handling the Receipt Printer Unit

## Loading the Roll Paper

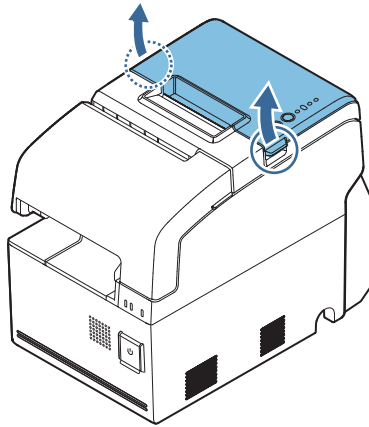


- Do not open the roll paper cover during printing. The product may be damaged.
- Do not touch the manual cutter with your hands when installing or replacing the roll paper. Otherwise, you may be injured because the manual cutter blade is sharp.



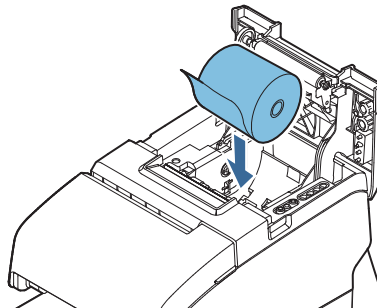
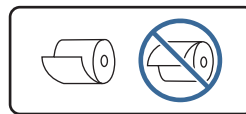
- Use roll paper that meets the product specification. For details about paper specification, see "[Roll Paper Specifications](#)" on page 137.
- Paper must not be pasted to the roll paper core.

- 1 Open the roll paper cover.

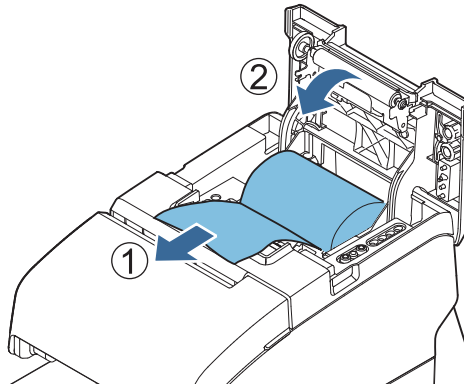


- 2 Remove the used roll paper core, if there is one.

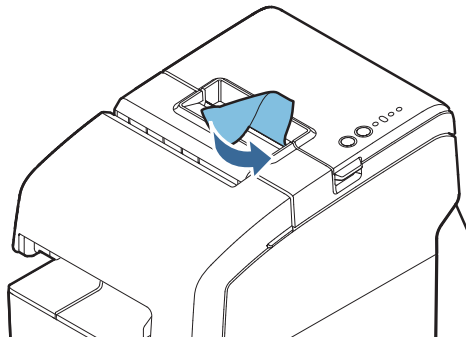
- 3 Insert the roll paper in the correct direction.



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



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



## Removing Jammed Paper

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



### CAUTION

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

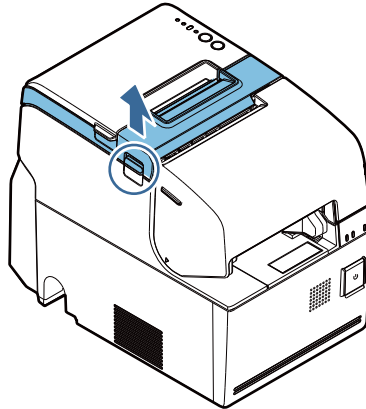
- 1** Open the roll paper cover.
- 2** Remove the jammed paper.
- 3** Press the printer reset button to reset the printer.

## 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.

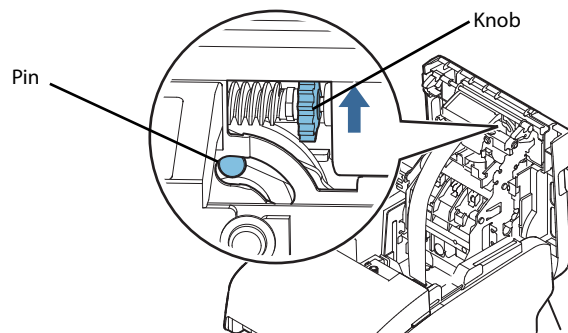
Restore the auto cutter blade to its normal position and remove the jammed paper by the following procedure.

- 1** Turn off the product.
- 2** Lift up the lever on the left side of the receipt unit cover to open it.



- 3** Turn the knob of the autocutter blade in the direction of the arrow until you see a pin in the opening of the frame.

There is a label near the cutter to assist you.



- 4** Close the receipt unit cover.
- 5** Open the roll paper cover.
- 6** Remove the jammed paper.
- 7** Turn on the product.

## Adjusting the Paper Roll Near-End (NE) Sensor

Below are two situations where a roll paper NE 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 the remaining amount of roll paper.

### CAUTION

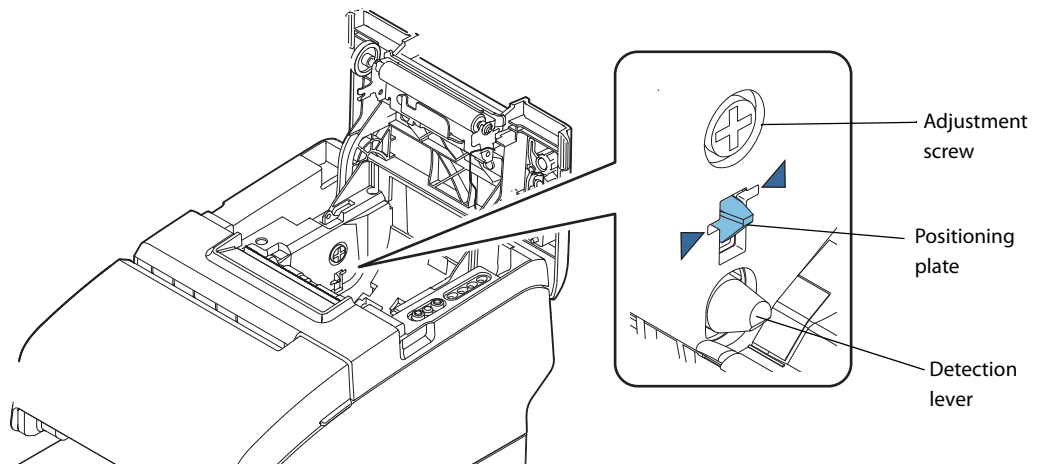
- Since roll paper cores vary slightly in shape, depending on paper roll design and manufacturing tolerances, it is impossible to detect the remaining paper exactly.
- Use roll paper with a core inner diameter of 12 mm {0.47"} and outer diameter of 18 mm {0.71"} so that the NE sensor can detect the remaining 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)
Upper	Approx. 27 mm {1.06"}
Lower (Initial setting)	Approx. 23 mm {0.91"}

- 3** Tighten the adjustment screw.
- 4** Make sure that the detection lever operates smoothly.

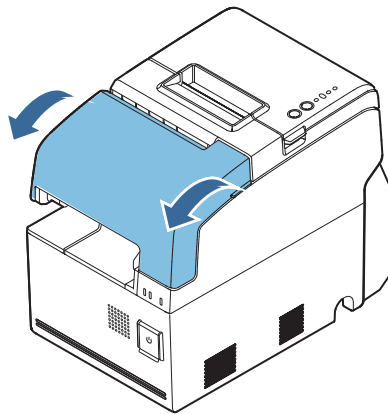


## Handling the Slip Printer Unit

### Installing/Replacing the Ribbon Cartridges (for Front Slip Printing)

Follow the steps below to install/replace the ribbon cartridge for front slip printing (ERC-32).

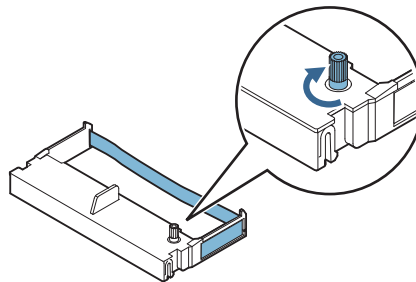
- 1** Turn on the product.
- 2** Open the front cover.



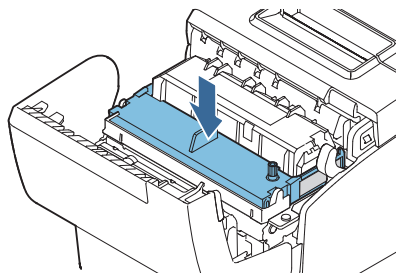
- 3** Remove the used ribbon cartridge, if there is one.
- 4** Turn the knob on the ribbon cartridge a little in the direction of the arrow marked on the cartridge to remove any slack in the ribbon.

#### CAUTION

Make sure to note the direction of the arrow marked on the ribbon cartridge when turning the knob. If it is turned in the reverse direction, the cartridge may be damaged.



- 5** Insert a new ribbon cartridge until it clicks into place.

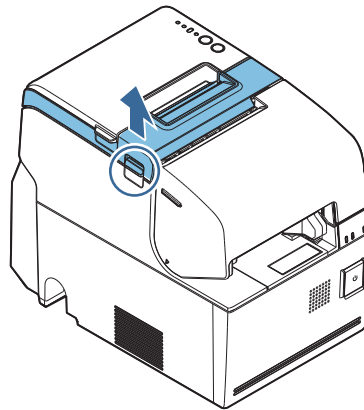


- 6 Turn the knob on the cartridge in the marked direction again to remove any slack in the ribbon.
- 7 Close the front cover.

## Installing/Replacing the Ribbon Cartridges (for Endorsement Printing)

Follow the steps below to install/replace the ribbon cartridge for endorsement printing (ERC-43).

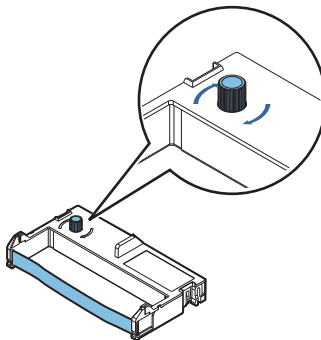
- 1 Turn on the product.
- 2 Open the receipt unit cover.



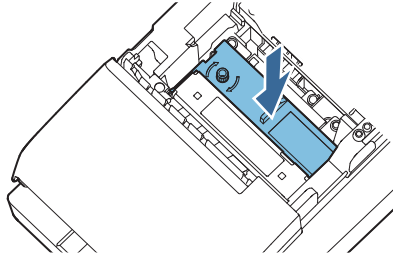
- 3 Remove the used ribbon cartridge, if there is one.
- 4 Turn the knob on the ribbon cartridge a little in the direction of the arrow marked on the cartridge to remove any slack in the ribbon.

### CAUTION

Make sure to note the direction of the arrow marked on the ribbon cartridge when turning the knob. If it is turned in the reverse direction, the cartridge may be damaged.



- 5** Insert a new ribbon cartridge until it clicks into place.



- 6** Turn the knob on the cartridge in the marked direction again to remove any slack in the ribbon.
- 7** Close the receipt unit cover.



## Inserting the Slip Paper

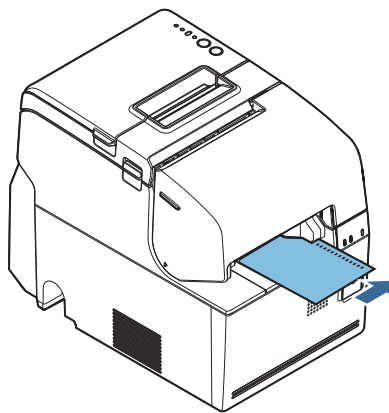
When printing on the slip paper, follow the steps below to insert the slip paper.

MICR reading is available by inserting the paper so that the MICR characters on the paper are on the right side.

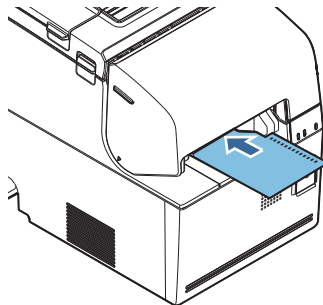
### CAUTION

- Do not insert any paper that has clips or staples. This may cause paper jams and damage.
- Make sure the slip paper is flat, without curls, folds, or wrinkles.
- For MICR reading, use the slip paper of 12 cm {4.72"} long or more.

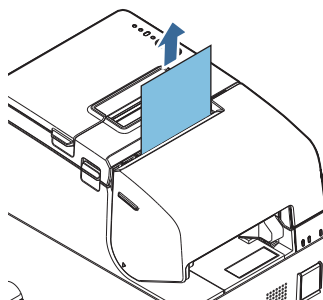
- 1** Turn on the product.
- 2** Insert the slip paper face up with the right paper edge against the right side of the paper guide, and insert it as far as it will go.



- 3** Insert the paper straight until the top edge of the paper touches the stopper.



- 4** When the product starts feeding the paper, release it immediately.
- 5** Remove the ejected paper by pulling it straight up out of the product.



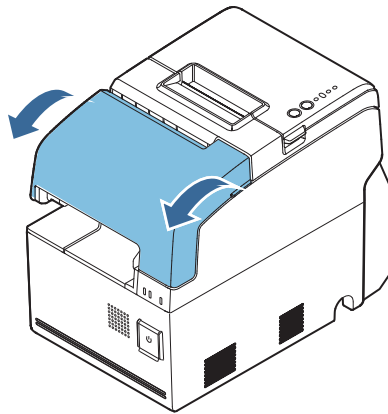
## Removing Jammed Paper



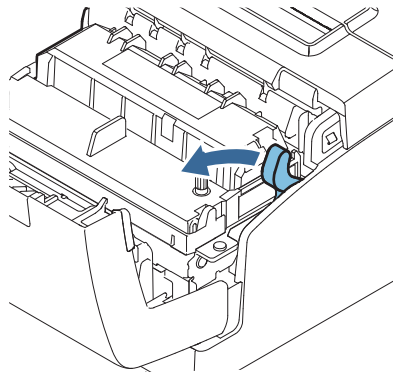
Do not touch the thermal head because it can be very hot after printing.

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

- 1** Open the front cover.



- 2** Open the front carriage unit using the lever at the right of it.



- 3** Remove the jammed paper.
- 4** Close the front carriage unit.
- 5** Press the printer reset button to reset the printer.

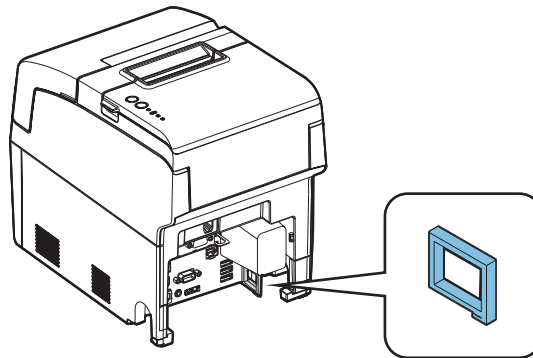
## Attaching and Setting Peripherals

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 126](#).

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 126](#).
- 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 99](#).

## 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 126](#).
- Systems that use TM-DT software  
Set whether or not to use the customer display, communication speed and so on with EPSON TMNet Web-Config. For details, see ["Settings - Web service settings - Customer Display" on page 100](#).

### CAUTION

Fix the USB cables with wire saddles to prevent detachment.

## Cash drawer

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

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



- 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 DK connector.
  - \* When the drawer open/close signal is used, a switch must be provided between DK connector pins 3 and 6.
  - \* The resistance of the load, such as a drawer kick-out solenoid, must be  $24\ \Omega$  or more or the input current must be 1A or less.
  - \* Be sure to use the 24V power output on DK 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 a telephone line or printer.

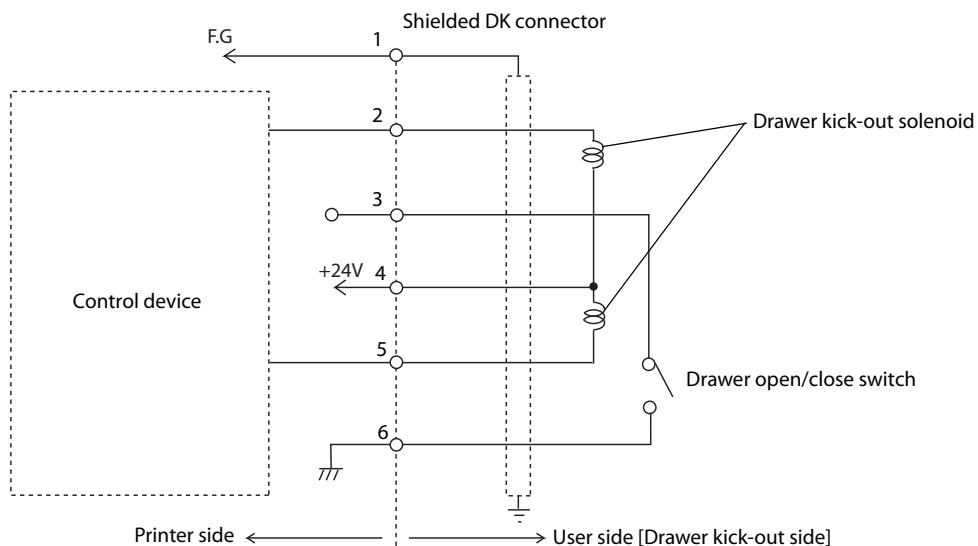
- **PC-POS System**

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 101.

**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 102.

# Network Settings

## Connect to the Wired LAN

### LAN Cable Connections



- 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 110](#))

## Connect to the Wireless LAN

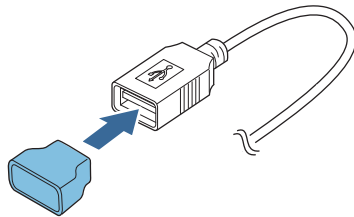
You can use the optional wireless LAN cable set (OT-WL01) to connect this product to a wireless LAN.

### Wireless LAN Cable Set Connections

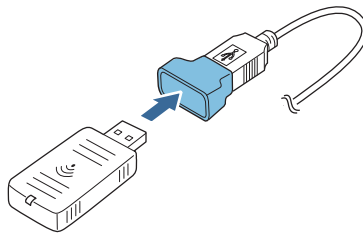
Connect the wireless LAN cable set to a USB connector.

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.



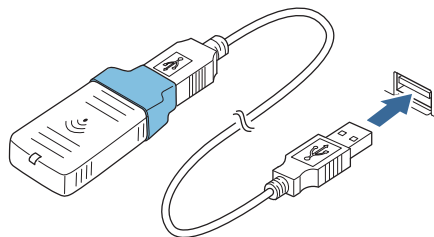
- 2 Insert the wireless LAN unit into the connector of the cable.



#### CAUTION

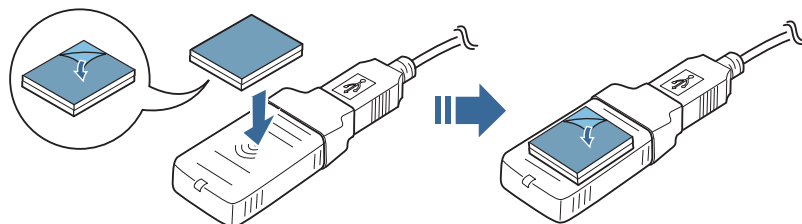
Adjust the position of the rubber cover so that the description on the label on the back side of the wireless LAN unit is not covered.

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



#### NOTE

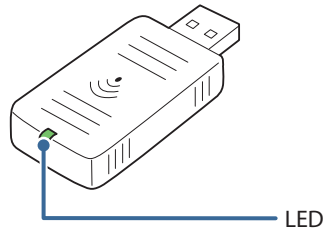
If you want to fix the wireless LAN unit, cut the included affixing tape to fit and put on the unit, and fix the unit in a place with good communication.





## 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.

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 111](#), [page 112](#))

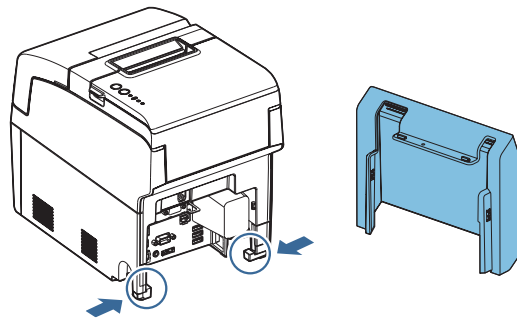
# Attaching Accessories

## Connector Cover

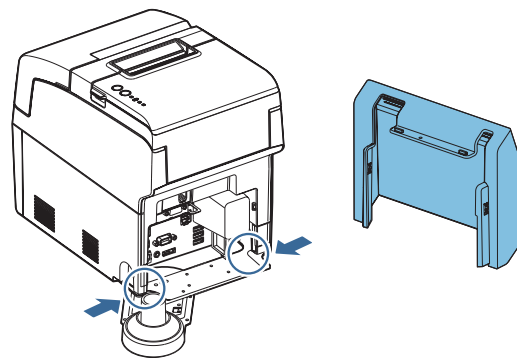
### Attaching the Connector Cover

The connector cover can be attached to protect cables that are connected to this product. Attach the connector cover by the following procedure.

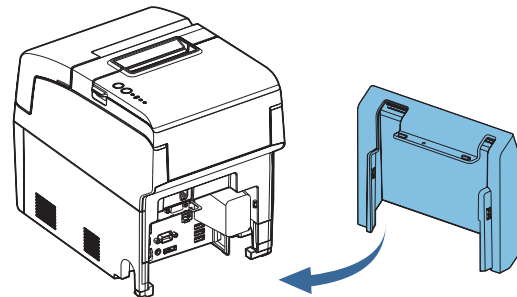
- 1 Put the connector cover on the feet of the main body.



If the DP-502 pole kit is used to mount DM-D110 to the main body, place the connector cover over the plate.



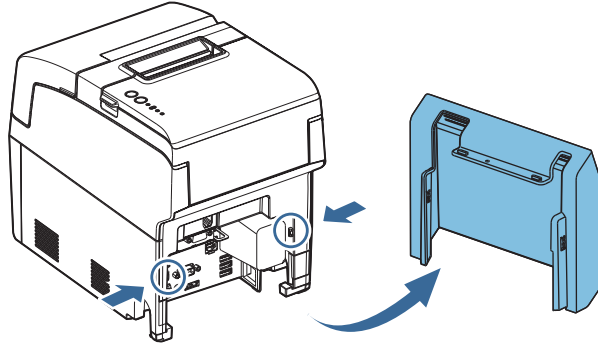
- 2 Push the connector cover to click onto the main body.



- 3 Make sure the cables are not pinched.

## Removing the Connector Cover

To remove the connector cover, push both sides of the cover inward to remove the projections of the product from the holes in both sides of the cover.



## Cleaning

### 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.

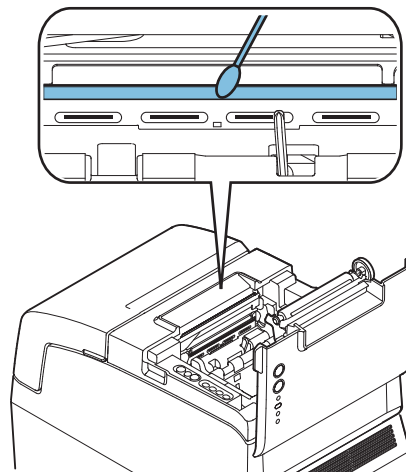
### Thermal Head

To maintain receipt print quality, Epson recommends cleaning the thermal head periodically (generally every 3 months) by following the steps below.



- **The thermal head can be very hot after printing. Be careful not to touch it and to let it cool before you clean it.**
- **Do not damage the thermal head by touching it with your fingers or any hard object.**

- 1** Turn off the product.
- 2** Open the roll paper cover.
- 3** Clean the thermal elements of the thermal head with a cotton swab 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. Turn on the printer power only after the water has completely dried.

## Cleaning the MICR Head

When the MICR head becomes dirty, the printer cannot read MICR characters normally. Approximately every year, clean the MICR head with the following or an equivalent commercially available cleaning sheet:

KIC Products “Waffletechnology® MICR cleaning card”

### CAUTION

- Be sure not to use an adhesive cleaning sheet.
- Be sure that the cleaning sheet is inserted with the correct side up and in the correct direction.
- Use a cleaning sheet only one time; then discard it.

### NOTE

You can also perform MICR head cleaning with the TM-H6000IV Utility. For detailed information about the TM-H6000IV Utility, see the TM-H6000IV Utility User’s Manual.

- 1** Make sure the roll paper is installed correctly and the product is turned off.
- 2** Open the roll paper cover.
- 3** While holding down the Release button, turn on the printer.
- 4** Press the release button 7 times; then close the roll paper cover.
- 5** After the product prints “\*\*\*RECOGNITION MODE\*\*\* Please set check.” on the roll paper and the slip LED flashes, insert the cleaning sheet like standard slip paper.  
See ["Inserting the Slip Paper" on page 41](#).
- 6** Remove the ejected paper by pulling it straight up out of the product.
- 7** Turn off the product to exit the cleaning mode.

2

## Preparing for Transport

Follow the steps below to transport the product.

- 1** Turn off the product.
- 2** Remove the peripherals and the power connector.
- 3** Remove the roll paper.
- 4** Pack the product upright.

## Setting the Memory Switches/Receipt Enhancement

With the memory switch and R/E (receipt enhancement) function, which are software settings for this printer, you can set the various functions.

TM-H6000IV Utility or Software Setting Mode, to set the memory switches and R/E functions.

For an outline of the functions, see the following section. Use the methods shown in the table below.

Settings\Setting Methods		TM-H6000IV Utility	Software setting mode	
Memory Switches	Power on notice		✓	
	Slip paper jam detection		✓	
	Receipt unit open during printing		✓	
	Customized Values	User NV memory capacity		✓
		NV graphics memory capacity		✓
		Roll paper width	✓	✓
		Receipt print density	✓	✓
		Receipt print speed	✓	✓
		Command execution during offline	✓	✓
		Power supply unit capacity	✓	✓
		Autocutting at roll paper cover close	✓	✓
		Automatic paper reduction	✓	✓
Print density in multi-tone printing	✓	✓		
Receipt Enhancement	Automatic top logo printing	✓		
	Automatic bottom logo printing	✓		
	Top logo printing at cover close	✓		
	Top logo printing at power on	✓		

**NOTE**

- Concerning TM-H6000IV Utility, see the User's Manual included in TM-H6000IV Utility.
- For information about how to use the memory switch setting mode, see "[Software Setting Mode](#)" on page 63.

## Functions

---

### Power on notice

- Transmits (initial setting)
- Does not transmit

---

### Slip paper jam detection

- Enabled (initial setting)
- Disabled

---

### Receipt unit open during printing

- Offline (initial setting)
- Recoverable error

---

### User NV memory capacity

- 1 KB (initial setting)
- 64 KB
- 128 KB
- 192 KB

---

### NV graphics memory capacity

- None
- 64 KB
- 128 KB
- 192 KB
- 256 KB
- 320 KB
- 384 KB (initial setting)

---

### Roll paper width

- 80 mm (initial setting)

## Receipt print density

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

Depending on the paper type, it is recommended to set the print density as shown in the table below for the best print quality.

Original Paper	Type Density Level
AF50KS-E	4 (85%)
P350	6 (95%)
KT48F20, KT55F20,F5041	7 (100%)
P300, P310	8 (105%)

### CAUTION

- If the print density is set to a darker level, printing speed may be reduced.
- If the print density is set to a darker level, paper dust accumulates on the print head and print may be faint. For information on how to clean the thermal head, see ["Thermal Head" on page 52](#).

## Receipt print speed

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

### NOTE

Depending on print conditions, such as print duty, print head temperature, and data transmission speed, 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.

## Command execution during offline

When this function is enabled, you can execute specified commands even if the printer is offline due to specified causes.

- Enabled
- Disabled (initial setting)

### NOTE

For the combination of the offline causes and executable commands, see the ESC/POS Application Programming Guide.

## Power supply unit capacity

Selectable from levels 1 to 3 (Low ~ High) (initial setting: level 3)

## Autocutting at roll paper cover close

- Cuts
- Does not cut (initial setting)



---

## Automatic paper reduction

- Extra upper space reduction: disabled (initial setting) or enabled
- Extra lower space reduction: disabled (initial setting) or enabled
- Line space reduction rate: not reduced (initial setting), 25%, 50%, or 75%
- Line feed reduction rate: not reduced (initial setting), 25%, 50%, or 75%
- Barcode height reduction rate: not reduced (initial setting), 25%, 50%, or 75%

---

## Print density in multi-tone printing

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

Depending on the paper type, it is recommended to set the print density for the best print quality.

---

## Automatic top logo printing

### Key code

Selectable from key codes of registered logos

### Alignment

- Left
- Center
- Right

---

## Automatic bottom logo printing

### Key code

Selectable from key codes of registered logos

### Alignment

- Left
- Center
- Right

---

## Top logo printing at cover close

- Enabled (initial setting)
- Disabled

---

## Top logo printing at power on

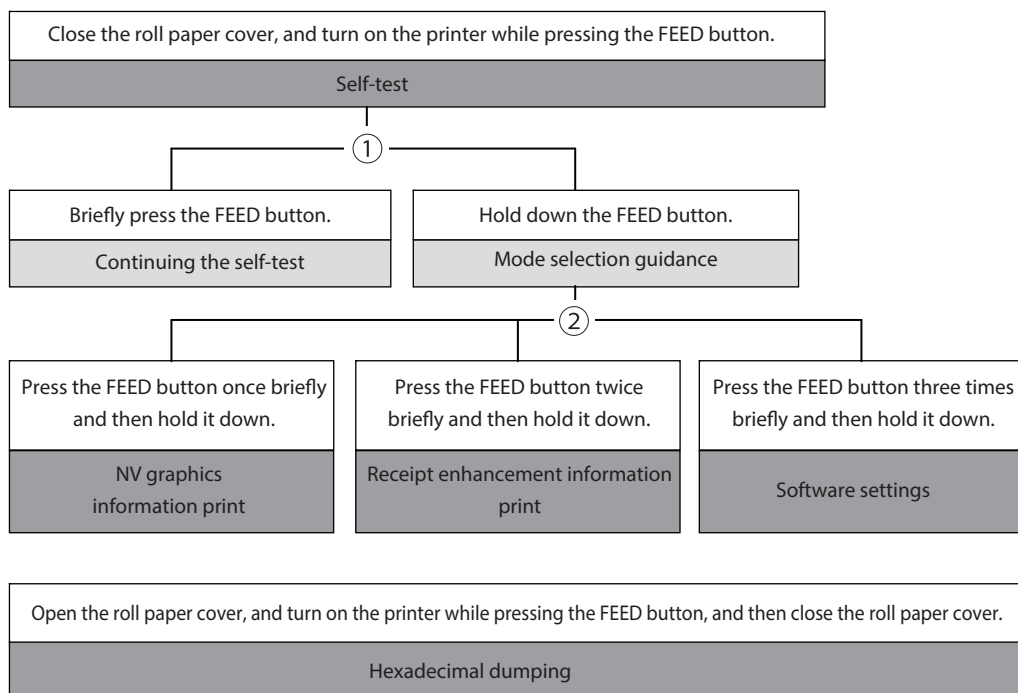
- Enabled
- Disabled (initial setting)

# Setting/Checking Modes of the Printer

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

- Self-test Mode (page 59)
- NV Graphics Print Mode (page 61)
- Receipt Enhancement Information Print Mode (page 62)
- Software Setting Mode (page 63)
- Hexadecimal Dumping Mode (page 64)

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	(2)Mode selection guidance
<p>"Select Modes by pressing Feed Button.                      Continue SELF-TEST : Less than 1 second                      Mode Selection : 1 second or more"</p>	<p style="text-align: center;">Mode Selection</p> <p>Modes                      0: Exit and Reboot Printer                      1: NV Graphics Information                      2: Receipt Enhancement Information                      3: Customize Value Settings                      4: or more: None</p> <p>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.</p>

## Self-test Mode

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

- ROM version
- Interface setting
- Buffer capacity setting
- Busy condition setting
- Automatic line feed setting
- Customer display connection
- Resident character set
- Print density setting
- Installed devices (MICR unit, endorsement printer unit)
- Maintenance information (thermal head, autocutter, impact head, MICR head)

2

---

### Starting the status print and test print on the roll paper

Follow the steps below.

- 1** Install the roll paper.
- 2** Close all covers and the receipt unit.
- 3** Turn on the product while pressing the Feed button. (Keep pressing the button until the printer starts printing.)  
After the printer status is printed, the self-test printing continuance guidance is printed and Paper LED flashes.
- 4** To start the test print, press the Feed button (less than 1 second).  
The printer prints a rolling pattern on the roll paper, using only the built-in character set. After printing "\*\*\* completed \*\*\*", the printer is initialized and enters the normal mode.

---

## Starting the test print on slip paper

Follow the steps below.

- 1** Close all covers and the receipt unit.
- 2** Turn on the product while pressing the Release button. (Keep pressing the button until the Slip LED starts flashing.)  
The product goes into the slip insertion waiting status.
- 3** Insert slip paper.  
The printer prints a rolling pattern on the slip paper, using only the built-in character set. After printing "\*\*\* completed \*\*\*", the printer is initialized and enters the normal mode.

## NV Graphics 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 twice 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 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
- Transmission speed for serial interface
- Automatic paper reduction
- Autocutting at roll paper cover close
- Roll paper width
- Interface selection
- Power supply unit capacity
- Receipt print speed
- Error control
- Power on notice
- NV capacity (User NV memory, NV graphics memory)
- Command execution during offline

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 Turn on the product while pressing the Feed button. (Keep pressing the Feed button until the Error LED is flashing.)**
- 3 Close the roll paper cover.**  
The printer starts printing data received from then on in hexadecimal numbers and their corresponding characters.

- Print example Hexadecimal Dumping Mode

```
Hexadecimal Dump
To terminate hexadecimal dump,
press Feed button three times.

1B 21 00 1B 26 02 40 40 1B 69 . ! . . & . @ @ . i
1B 25 01 1B 63 34 00 1B 30 31 . % . . c 4 . . 0 1
41 42 43 44 45 46 47 48 49 4A A B C D E F G H I J

*** completed ***
```

- 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 Make sure that the product is turned off, and connect the display and keyboard.**
- 2 Turn on the product.**  
The Windows setup screen is displayed.
- 3 The log-on screen is displayed. Enter the password.**  
For the initial settings, the user name is "EPSON-USER" and the password is "H6000IV-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 Service

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.



## Adjusting the Speaker Volume

You can adjust the speaker volume with the speaker volume adjustment function of the 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 a function enabled only for Windows Embedded POSReady 7.
- Perform these settings using a user account with administrator privileges.
- When you use Windows hibernation, a system file with the same capacity as the main memory is created.

### 1 Make sure that the product is turned off, and connect the display and keyboard.

### NOTE

For how to connect peripherals, see ["Attaching and Setting Peripherals"](#) on page 43.

### 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** Click [Start] - [All programs], then right click [Accessories] - [Command Prompt]. Click [Run as administrator] on the displayed list.
- 12** The "User Account Control" screen is displayed. Click [Yes].
- 13** Execute the following command.  
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 initial settings of Windows.

### 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 Make sure that the product is turned off, and connect the display, keyboard, mouse, and DVD drive.**

### NOTE

For how to connect peripherals, see "[Attaching and Setting Peripherals](#)" on page 43.

- 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 "H6000IV-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-H6000IV-DT
Preinstalled software		
	OS	Windows Embedded POSReady 7
	Additional Packages	.NET Framework2.0 SP2
		.NET Framework3.0 SP2
		.NET Framework3.5 SP1
	Driver	Atom N2xx INF File Update Utility
		D2xxx Chipset 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
	TM-DT Software	TM-DT Software *
	Tool	EPSON TMNet WebConfig
		TM-H6000IV Utility
User information (Default)		
	User Name	EPSON-USER
	User Password	H6000IV-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 124).

### Setting Items

Setting	Items
Enabling /Disabling ePOS-Device Service ( <a href="#">page 66</a> )	<ul style="list-style-type: none"> <li>• Enabling ePOS-Device Service</li> </ul>
Web service ( <a href="#">page 98</a> )	<ul style="list-style-type: none"> <li>• Enabling the device control</li> </ul>
Network printer ( <a href="#">page 99</a> )	<ul style="list-style-type: none"> <li>• Printer model</li> <li>• Device ID</li> <li>• IP Address</li> </ul>

## 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 ( <a href="#">page 66</a> )	<ul style="list-style-type: none"> <li>• Enabling ePOS-Device Service</li> </ul>
Web service ( <a href="#">page 98</a> )	<ul style="list-style-type: none"> <li>• Enabling the device control</li> </ul>
Printer ( <a href="#">page 99</a> )	<ul style="list-style-type: none"> <li>• Printer model (for network printer only)</li> <li>• Device ID</li> <li>• IP address (for network printer only)</li> </ul>
Customer display ( <a href="#">page 100</a> )	<ul style="list-style-type: none"> <li>• Use/Do not use</li> </ul>
Key input device ( <a href="#">page 101</a> )	<ul style="list-style-type: none"> <li>• Device ID</li> <li>• Select the device control script</li> </ul>
Serial communication device ( <a href="#">page 102</a> )	<ul style="list-style-type: none"> <li>• Device ID</li> <li>• Select the device control script</li> <li>• Communication setting</li> </ul>
Other device ( <a href="#">page 103</a> )	<ul style="list-style-type: none"> <li>• Device ID</li> <li>• Select the device control script</li> </ul>
Device control script - Add/delete ( <a href="#">page 103</a> )	<ul style="list-style-type: none"> <li>• Registering the device control script</li> </ul>
Device control program - Device registration ( <a href="#">page 104</a> )	<ul style="list-style-type: none"> <li>• Device ID</li> <li>• Select the device control script</li> </ul>
Device control program - Add/delete ( <a href="#">page 104</a> )	<ul style="list-style-type: none"> <li>• Registering the device control program</li> </ul>

## Spooler and Print Forwarding

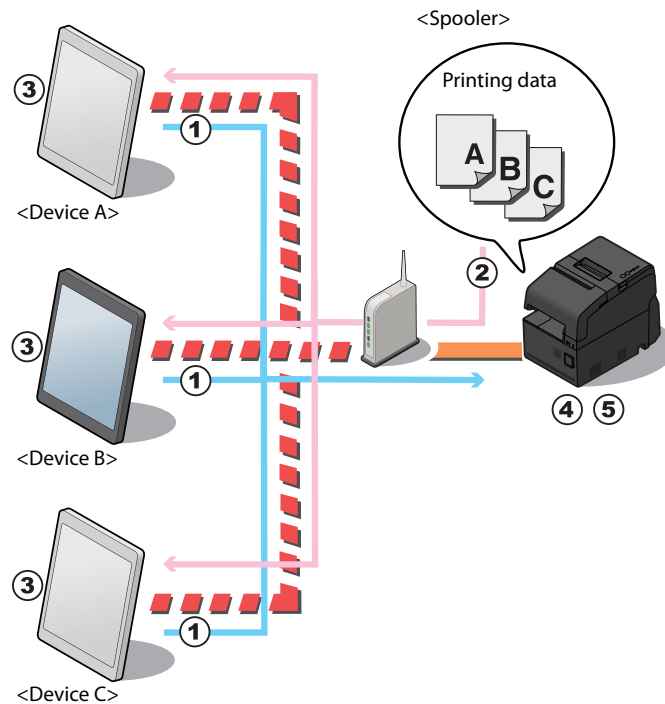
### Spooler

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 77).
- 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 124).

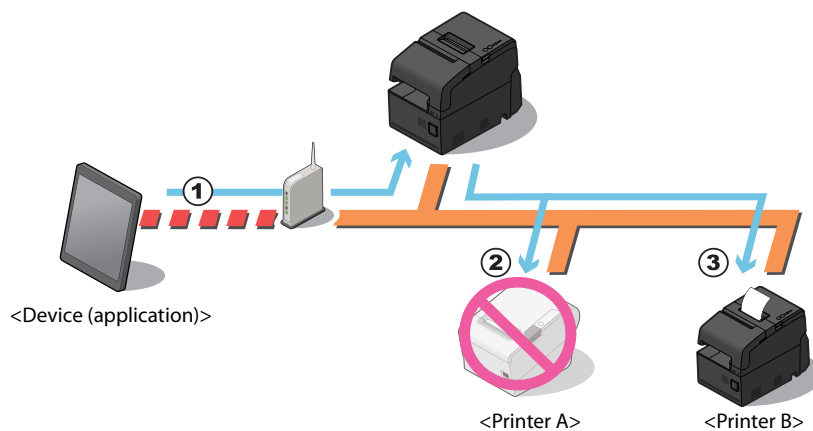
## Print Forwarding

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" \(page 77\)](#).
- 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" \(page 124\)](#).

## 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 124).
- 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.

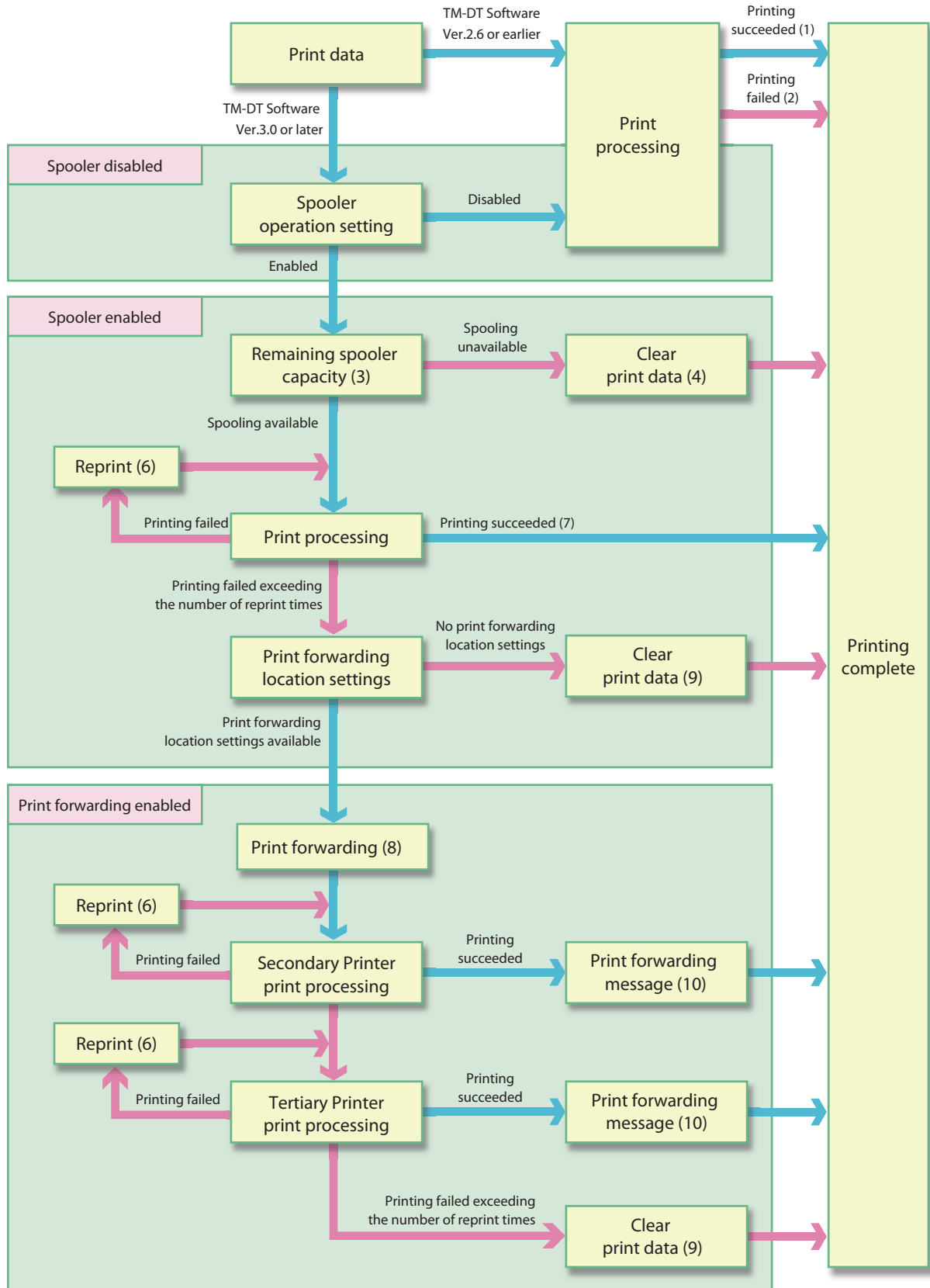
## Setting Items

Spooler and forward printing are configured on the same page.

Setting	Items
Enabling /Disabling ePOS-Device Service (page 66)	<ul style="list-style-type: none"> <li>• Enabling ePOS-Device Service</li> </ul>
Web service (page 98)	<ul style="list-style-type: none"> <li>• Enabling the device control</li> </ul>
Printer (page 99)	<ul style="list-style-type: none"> <li>• Printer model (for network printer only)</li> <li>• Device ID</li> <li>• IP address (for network printer only)</li> </ul>
Print forwarding (page 105)	<ul style="list-style-type: none"> <li>• Retry count</li> <li>• Forwarding message</li> <li>• Print forwarding route</li> </ul>

## 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 succeeded

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: [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 details, see "[Settings - Web service settings - Print Settings - Spooler](#)" (page 105).

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: Make the forwarding message settings in EPSON TMNet WebConfig. For details, see "[Settings - Web service settings - Print Settings - Spooler](#)" (page 105).

## 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-WLO1) 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-WLO1).
- 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 ( <a href="#">page 66</a> )	<ul style="list-style-type: none"> <li>• Enabling ePOS-Device Service</li> </ul>
Software Access Point ( <a href="#">page 114</a> )	<ul style="list-style-type: none"> <li>• Enable</li> <li>• SSID</li> <li>• Password</li> </ul>



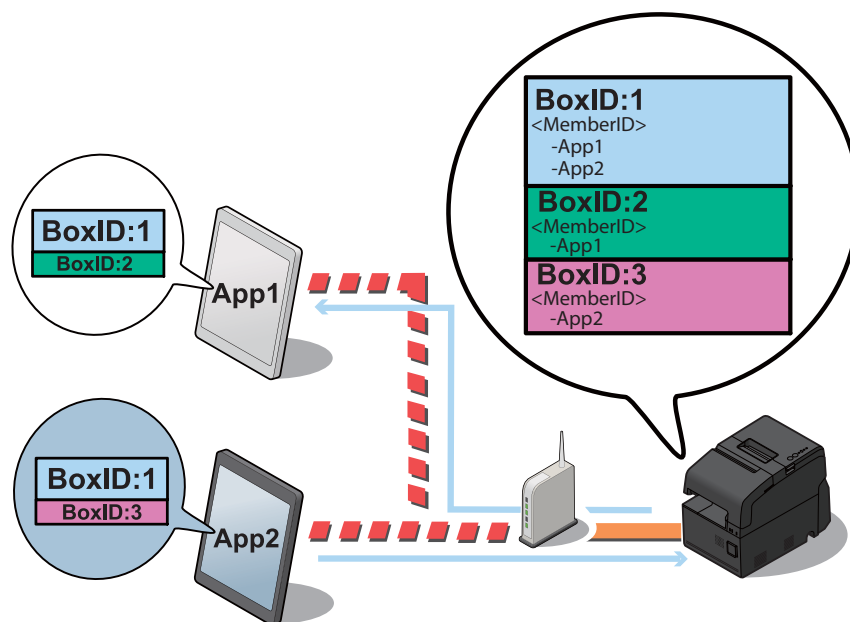
## Communication Box

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.

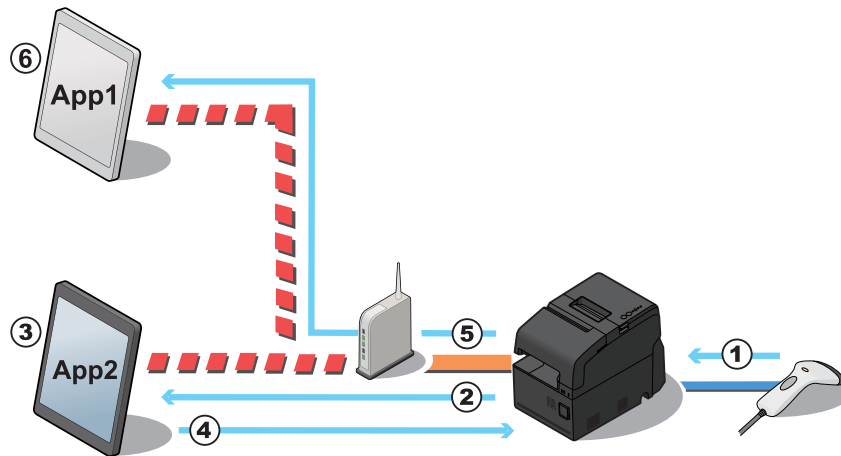
This can be used in TM-DT software Ver.2.5 or later.

## 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.

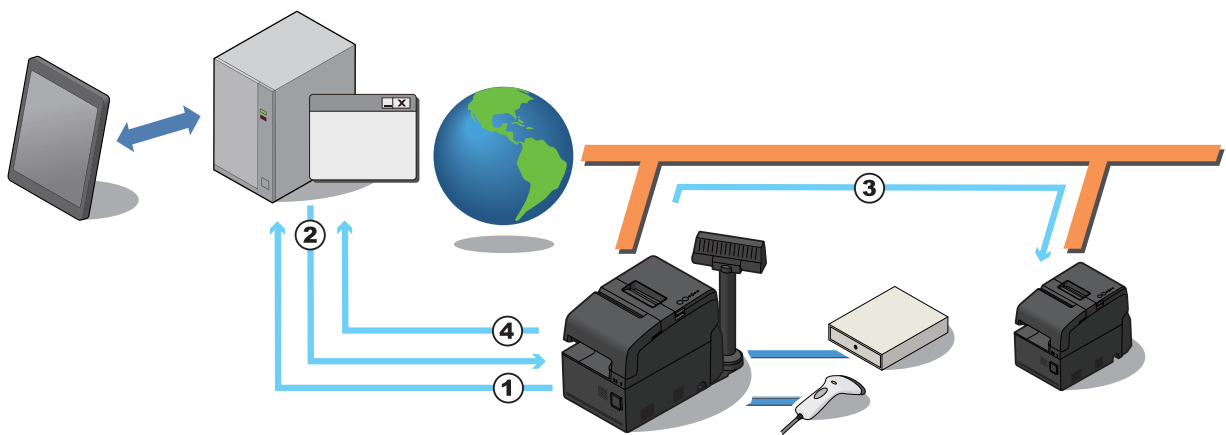
## Server Direct Print

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 ( <a href="#">page 66</a> )	<ul style="list-style-type: none"> <li>• Enabling ePOS-Device Service</li> </ul>
Web service ( <a href="#">page 98</a> )	<ul style="list-style-type: none"> <li>• Enabling the device control</li> <li>• Enabling the Server Direct Print</li> <li>• Enabling the Status Notification</li> </ul>
Server direct print ( <a href="#">page 107</a> )	<ul style="list-style-type: none"> <li>• Application server settings</li> </ul>
Status notification ( <a href="#">page 108</a> )	<ul style="list-style-type: none"> <li>• Application server settings</li> </ul>
Printer ( <a href="#">page 99</a> )	<ul style="list-style-type: none"> <li>• Printer model (for network printer only)</li> <li>• Device ID</li> <li>• IP address (for network printer only)</li> </ul>
Proxy settings ( <a href="#">page 113</a> )	<ul style="list-style-type: none"> <li>• Proxy server settings</li> </ul>

## 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.

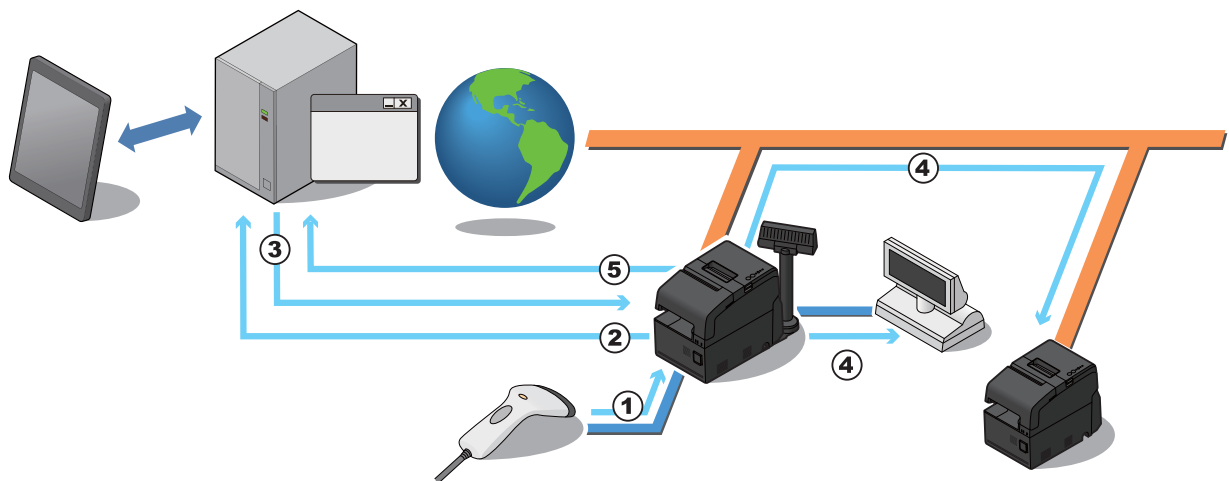
The Web server application can control the printer and device designated simply by including print data or device control data in the response.

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 can 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 ( <a href="#">page 66</a> )	<ul style="list-style-type: none"> <li>• Enabling ePOS-Device Service</li> </ul>
Web service ( <a href="#">page 98</a> )	<ul style="list-style-type: none"> <li>• Enabling the device control</li> <li>• Enabling the Device Data Notification</li> </ul>
Device data notification ( <a href="#">page 108</a> )	<ul style="list-style-type: none"> <li>• Application server settings</li> <li>• Error settings</li> </ul>
Printer ( <a href="#">page 99</a> )	<ul style="list-style-type: none"> <li>• Printer model (for network printer only)</li> <li>• Device ID</li> <li>• IP address (for network printer only)</li> </ul>
Customer display ( <a href="#">page 100</a> )	<ul style="list-style-type: none"> <li>• Use / Do not use</li> </ul>
Key input device ( <a href="#">page 101</a> )	<ul style="list-style-type: none"> <li>• Device ID</li> <li>• Select the device control script</li> </ul>
Serial communication device ( <a href="#">page 102</a> )	<ul style="list-style-type: none"> <li>• Device ID</li> <li>• Select the device control script</li> <li>• Communication settings</li> </ul>
Other devices ( <a href="#">page 103</a> )	<ul style="list-style-type: none"> <li>• Device ID</li> <li>• Select the device control script</li> </ul>
Device control script - Add/delete ( <a href="#">page 103</a> )	<ul style="list-style-type: none"> <li>• Register the device control script files</li> </ul>
Proxy settings ( <a href="#">page 113</a> )	<ul style="list-style-type: none"> <li>• Proxy server settings</li> </ul>

## 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" \(page 124\)](#).

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## Preparation of Web content

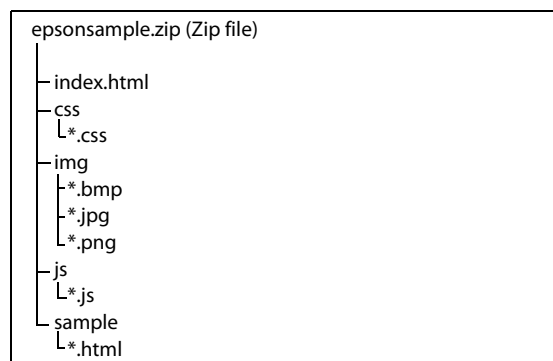
### File format

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

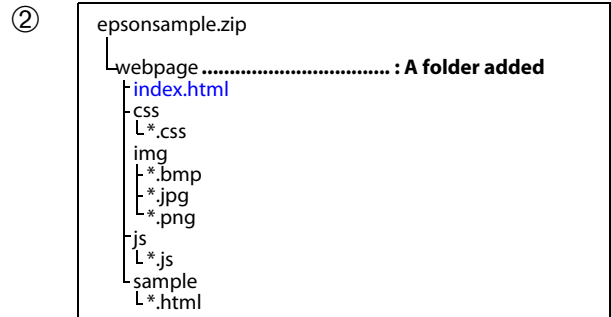
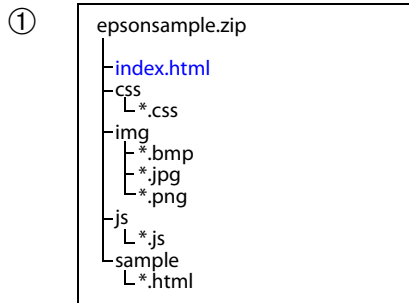
### Package file (\*.zip)

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.



- 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](http://[the product's IP address]/index.html)
  - ② [http://\[the product's IP address\]/webpage/index.html](http://[the product's IP address]/webpage/index.html)



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

## Setting Items

Setting	Items
Enabling /Disabling ePOS-Device Service ( <a href="#">page 66</a> )	<ul style="list-style-type: none"> <li>• Enabling ePOS-Device Service</li> </ul>
Updating the web contents ( <a href="#">page 107</a> )	<ul style="list-style-type: none"> <li>• Register the web content</li> <li>• Web server settings for automatically updating</li> </ul>
Web service ( <a href="#">page 98</a> )	<ul style="list-style-type: none"> <li>• Enabling automatic web content update</li> </ul>



## 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 95 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 set-ups.
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.

**CAUTION**

This function does not support printing on the slip printer or the endorsement printer of this product.

### Setting Items

Setting	Items
Enabling /Disabling ePOS-Device Service ( <a href="#">page 66</a> )	<ul style="list-style-type: none"> <li>Enabling ePOS-Device Service</li> </ul>
Web service ( <a href="#">page 98</a> )	<ul style="list-style-type: none"> <li>Enabling the device control</li> </ul>
Printer ( <a href="#">page 99</a> )	<ul style="list-style-type: none"> <li>Printer model (for network printer only)</li> <li>Device ID</li> <li>IP address (for network printer only)</li> </ul>
Customer display ( <a href="#">page 100</a> )	<ul style="list-style-type: none"> <li>Use/Do not use</li> </ul>
Key input device ( <a href="#">page 101</a> )	<ul style="list-style-type: none"> <li>Device ID</li> <li>Select the device control script</li> </ul>
Serial communication device ( <a href="#">page 102</a> )	<ul style="list-style-type: none"> <li>Device ID</li> <li>Select the device control script</li> <li>Communication settings</li> </ul>
Other devices ( <a href="#">page 103</a> )	<ul style="list-style-type: none"> <li>Device ID</li> <li>Select the device control script</li> </ul>
Device control script - Add/delete ( <a href="#">page 103</a> )	<ul style="list-style-type: none"> <li>Register the device control script</li> </ul>

## Controlling POS Peripherals from Web Applications

The TM-DT software implements a function allowing Web applications to control the printers of this product, POS peripherals, and network printers.

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

### Setting Items

Setting	Items
Enabling /Disabling ePOS-Device Service ( <a href="#">page 66</a> )	<ul style="list-style-type: none"> <li>Enabling ePOS-Device Service</li> </ul>
Web service ( <a href="#">page 98</a> )	<ul style="list-style-type: none"> <li>Enabling the device control</li> </ul>
Printer ( <a href="#">page 99</a> )	<ul style="list-style-type: none"> <li>Printer model (for network printer only)</li> <li>Device ID</li> <li>IP address (for network printer only)</li> </ul>
Customer display ( <a href="#">page 100</a> )	<ul style="list-style-type: none"> <li>Use/Do not use</li> </ul>
Key input device ( <a href="#">page 101</a> )	<ul style="list-style-type: none"> <li>Device ID</li> <li>Select the device control script</li> </ul>
Serial communication device ( <a href="#">page 102</a> )	<ul style="list-style-type: none"> <li>Device ID</li> <li>Select the device control script</li> <li>Communication settings</li> </ul>
Other devices ( <a href="#">page 103</a> )	<ul style="list-style-type: none"> <li>Device ID</li> <li>Select the device control script</li> </ul>
Device control script - Add/delete ( <a href="#">page 103</a> )	<ul style="list-style-type: none"> <li>Registering the device control script</li> </ul>
Device control program - Device registration ( <a href="#">page 104</a> )	<ul style="list-style-type: none"> <li>Device ID</li> <li>Select the device control script</li> </ul>
Device control program - Add/delete ( <a href="#">page 104</a> )	<ul style="list-style-type: none"> <li>Registering the device control program</li> </ul>
Product's shutdown ( <a href="#">page 115</a> )	<ul style="list-style-type: none"> <li>Shutdown settings</li> </ul>

## Printing from Web Service Compatible Applications

A function for controlling this product's receipt printer, 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.

### CAUTION

This function does not support printing on the slip printer or the endorsement printer of this product.

## Setting Items

Setting	Items
Enabling /Disabling ePOS-Device Service ( <a href="#">page 66</a> )	<ul style="list-style-type: none"> <li>• Enabling ePOS-Device Service</li> </ul>
Web service ( <a href="#">page 98</a> )	<ul style="list-style-type: none"> <li>• Enabling the device control</li> </ul>
Printer ( <a href="#">page 99</a> )	<ul style="list-style-type: none"> <li>• Printer model (for network printer only)</li> <li>• Device ID</li> <li>• IP address (for network printer only)</li> </ul>

## 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 ( <a href="#">page 66</a> )	<ul style="list-style-type: none"> <li>Enabling ePOS-Device Service</li> </ul>
Web service ( <a href="#">page 98</a> )	<ul style="list-style-type: none"> <li>Enabling the device control</li> </ul>
Printer ( <a href="#">page 99</a> )	<ul style="list-style-type: none"> <li>Printer model (for network printer only)</li> <li>Device ID</li> <li>IP address (for network printer only)</li> </ul>
Customer display ( <a href="#">page 100</a> )	<ul style="list-style-type: none"> <li>Use/Do not use</li> </ul>
Key input device ( <a href="#">page 101</a> )	<ul style="list-style-type: none"> <li>Device ID</li> <li>Select the device control script</li> </ul>
Serial communication device ( <a href="#">page 102</a> )	<ul style="list-style-type: none"> <li>Device ID</li> <li>Select the device control script</li> <li>Communication settings</li> </ul>
Other devices ( <a href="#">page 103</a> )	<ul style="list-style-type: none"> <li>Device ID</li> <li>Select the device control script</li> </ul>
Device control script - Add/delete ( <a href="#">page 103</a> )	<ul style="list-style-type: none"> <li>Registering the device control script</li> </ul>
Device control program - Device registration ( <a href="#">page 104</a> )	<ul style="list-style-type: none"> <li>Device ID</li> <li>Select the device control script</li> </ul>
Device control program - Add/delete ( <a href="#">page 104</a> )	<ul style="list-style-type: none"> <li>Registering the device control program</li> </ul>
Product's shutdown ( <a href="#">page 115</a> )	<ul style="list-style-type: none"> <li>Shutdown settings</li> </ul>

# 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 using the method below.

If ePOS-Device Service is invalid, EPSON TMNet WebConfig will not start. For details, see "[Enabling or Disabling ePOS-Device Service](#)" (page 66).

- 1 Connect a display and a mouse to the product.**  
Log in as the Administrator.
- 2 Start TMNet WebConfig from the shortcut on the desktop.**
- 3 "Windows Security" screen appears, input the user name and password, then click [OK].**  
For detail, see "[Settings - Admin settings - Admin information - Password](#)" (page 123).

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/`

4

## 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

Performs the settings for 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.
		Network disconnection detection (sec.) *1: Set the time to detect network disconnection. You can set 5, 15, 30, or 45 seconds. The initial setting is 45 seconds.
	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 *2	Enables or disables the spooler function.
	Apply	Registers the settings to this product.

\*1 This can be used in TM-DT software Ver.4.1 or later. In the earlier version, the time is fixed to 45 seconds.

\*2 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 98)

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. For details, refer to <a href="#">"Operating Test"</a> (page 99).
Delete	Deletes a registered printer.

## Operating Test

Item	Description	
Receipt	Test Printing	Perform a test printing. "TEST_PRINT" is printed.
Slip	Start printing	Perform 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		Closes 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 98)

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 98)

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 " <a href="#">Settings - Web service settings - Control script - Add/delete</a> " (page 103).
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 98)

Item		Description	
Device ID		Set the device ID.	
Device name	Model selection	Select the device model name.	
	Port selection	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 " <a href="#">Settings - Web service settings - Control script - Add/delete</a> " (page 103).	
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 98)

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 " <a href="#">Settings - Web service settings - Control script - Add/delete</a> " (page 103).
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 98.

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 " <a href="#">Settings - Web service settings - Control script - Add/delete</a> " on page 103.
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 98)

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 98) .

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 98) .

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 98) .

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 98) .

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	<p>Sets the SSID.</p> <p>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.</p> <p>If using an existing SSID, select [ Select from the list ] and configure an optional SSID from the list.</p>
Network mode	Sets this product's network mode.
Authentication Method	<p>Sets the authentication algorithm.</p> <p>In the initial settings, the authentication system is set to Open System. For security reasons, use this product after first changing the setting.</p>
Security Mode	<p>Sets the encryption algorithm.</p> <p>In the initial settings, the encryption system is set to None. For security reasons, use this product after first changing the setting.</p>
Default WEP Key	Sets the WEP key to use.
WEP key	<p>Sets the WEP key.</p> <p>ASCII characters including space characters can be used for the WEP key.</p>
WPA/WPA2 Pre-Shared Key	<p>Enter the pass phrase of the pre-shared key when [Security mode] is set to "WPA" or "WPA2".</p> <p>ASCII characters including space characters can be used for the pre-shared key.</p>
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 (OTWL01) 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(Optional)	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-WLO1) 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	
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		Available	
Registered device	Printer	<ul style="list-style-type: none"> <li>• Device ID</li> <li>• Type</li> <li>• Model no.</li> <li>• IP address</li> <li>• Retry interval</li> </ul>	Available
	Customer display	<ul style="list-style-type: none"> <li>• Do not use/use</li> <li>• Communication settings               <ul style="list-style-type: none"> <li>* Communication speed</li> <li>* Data bit</li> <li>* Parity</li> </ul> </li> <li>• Brightness setting</li> </ul>	Available
	Kay input device	<ul style="list-style-type: none"> <li>• Device ID</li> <li>• Device name</li> <li>• VID/PID</li> <li>• Control script</li> </ul>	Available
	Serial communication device	<ul style="list-style-type: none"> <li>• Device ID</li> <li>• Device name</li> <li>• VID/PID</li> <li>• Control script</li> <li>• Communication settings               <ul style="list-style-type: none"> <li>* Communication speed</li> <li>* Data bit</li> <li>* Parity</li> <li>* Stop bit</li> <li>* Flow control</li> </ul> </li> </ul>	Available
	Other device	<ul style="list-style-type: none"> <li>• Device ID</li> <li>• Control script</li> </ul>	Available
Control script		<ul style="list-style-type: none"> <li>• Registered control scripts</li> </ul>	Available
Control program		<ul style="list-style-type: none"> <li>• Registered devices</li> <li>• Registered control programs</li> </ul>	Available
Print settings	Spooler	<ul style="list-style-type: none"> <li>• Spooler settings</li> <li>• Forwarding message</li> <li>• Registered print forwarding route</li> </ul>	Available

Item		Availability	
Web content	Automatic update settings	<ul style="list-style-type: none"> <li>• Update schedule</li> <li>• ID</li> <li>• Password</li> <li>• File URL</li> <li>• Server authentication</li> </ul>	Available
Server access	Server direct print	<ul style="list-style-type: none"> <li>• ID</li> <li>• Password</li> <li>• Server 1 ~ 3               <ul style="list-style-type: none"> <li>* URL</li> <li>* Interval</li> </ul> </li> <li>• Server authentication</li> </ul>	Available
	Status notification	<ul style="list-style-type: none"> <li>• ID</li> <li>• Password</li> <li>• URL</li> <li>• Interval</li> <li>• Server authentication</li> </ul>	Available
	Device Data Notification	<ul style="list-style-type: none"> <li>• Server access               <ul style="list-style-type: none"> <li>* ID</li> <li>* Password</li> <li>* URL</li> <li>* Server authentication</li> <li>* BoxID</li> </ul> </li> <li>• POST Error               <ul style="list-style-type: none"> <li>* Message Enable/Disable</li> <li>* Message</li> <li>* Text attribute</li> <li>* Cut Enable/Disable</li> </ul> </li> <li>• Captured device</li> </ul>	Available
Wired LAN	TCP/IP settings	<ul style="list-style-type: none"> <li>• Get IP address</li> <li>• IP address</li> <li>• Subnet Mask</li> <li>• Default gateway</li> <li>• Acquire DNS server address automatically</li> <li>• DNS server address (in order of use)</li> </ul>	Available

Item			Availability
Wireless LAN	Wireless settings	<ul style="list-style-type: none"> <li>• SSID</li> <li>• Network mode</li> <li>• Authentication method</li> <li>• Security mode</li> <li>• Default WEP key</li> <li>• WEP key</li> <li>• WPA/WPA2 pre-shared key</li> </ul>	Available
	TCP/IP settings	<ul style="list-style-type: none"> <li>• Get IP address</li> <li>• IP address</li> <li>• Subnet mask</li> <li>• Default gateway</li> <li>• Acquire DNS server address automatically</li> <li>• DNS server address (in order of use)</li> </ul>	Available
Security	SSL settings	<ul style="list-style-type: none"> <li>• Disable / Enable</li> <li>• Private key file</li> <li>• Certificate file</li> <li>• Certificate chain file (option)</li> </ul>	Available
Web access	Proxy settings	<ul style="list-style-type: none"> <li>• Proxy URL</li> <li>• Proxy port no.</li> <li>• ID</li> <li>• Password</li> <li>• Proxy settings</li> </ul>	Available
	Server authentication	<ul style="list-style-type: none"> <li>• Certificate file</li> </ul>	Available
Access point	Software access point settings	<ul style="list-style-type: none"> <li>• Disable / Enable</li> <li>• SSID</li> <li>• Password</li> </ul>	Available
Date and time	Time settings	<ul style="list-style-type: none"> <li>• Date time</li> </ul>	Not available
		<ul style="list-style-type: none"> <li>• Time zone</li> <li>• Automatically adjust clock for daylight saving time</li> <li>• Use time server</li> <li>• Time server</li> </ul>	Available
Power	Shutdown settings	<ul style="list-style-type: none"> <li>• When the power button is pressed</li> <li>• Shutdown permission</li> <li>• Password protection</li> </ul>	Available

Item		Availability	
Maintenance	Store/restore settings	<ul style="list-style-type: none"> <li>• Store / restore settings with automatically</li> <li>• Specify the local file to use / Specify the file URL to use</li> <li>• Setting file / setting file URL</li> <li>• ID</li> <li>• Password</li> <li>• Server authentication</li> </ul>	Available
	Update web service function	<ul style="list-style-type: none"> <li>• Specify the local file to use / Specify the file URL to use</li> <li>• Update file / Update file URL</li> <li>• ID</li> <li>• Password</li> <li>• Server authentication</li> </ul>	Available
	Deployment	<ul style="list-style-type: none"> <li>• ID</li> <li>• Password</li> <li>• URL</li> <li>• Parameter</li> <li>• Server authentication</li> <li>• Use deployment upon system start</li> </ul>	Available
Admin information	Administrator information	<ul style="list-style-type: none"> <li>• Administrator name</li> <li>• Installation location</li> </ul>	Available
	Password	<ul style="list-style-type: none"> <li>• Password</li> </ul>	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	<ul style="list-style-type: none"> <li>• Following TM printers with the UB-E02, UB-E03, UB-E04, UB-R03, or UB-R04               <ul style="list-style-type: none"> <li>* TM-T88V</li> <li>* TM-T70</li> <li>* TM-T70II</li> <li>* TM-T82II *1</li> <li>* TM-T90</li> <li>* TM-L90</li> <li>* TM-H6000IV</li> <li>* TM-T20</li> <li>* TM-T20II *1</li> <li>* TM-U220</li> </ul> </li> <li>• Following TM printers (Wi-Fi model)               <ul style="list-style-type: none"> <li>* TM-P20 *1</li> <li>* TM-P60II</li> <li>* TM-P80 *1</li> </ul> </li> <li>• Following TM-Intelligent Printers *2               <ul style="list-style-type: none"> <li>* TM-T88V-DT</li> <li>* TM-T70II-DT</li> <li>* TM-H6000IV-DT</li> </ul> </li> </ul>
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

# 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-H6000IV.
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 is a setting for when another USB-serial conversion device is not connected. 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.

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

## Other devices

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### HID standard device

This Windows standard driver is recognized as a keyboard device.

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### 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 Manual

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 <sup>*1</sup> . 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 is a Microsoft POS for .NET compliant business standard driver that allows you to develop applications that are compatible with UPOS (UnifiedPOS). 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 functions 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-H6000IV 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	<p>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.</p> <p>For details, see ESC/POS Command Reference.</p> <p>TM printer  <a href="https://reference.epson-biz.com/modules/ref_escpos/">https://reference.epson-biz.com/modules/ref_escpos/</a></p> <p>Customer display  <a href="https://reference.epson-biz.com/modules/ref_escpos_d-m_d_en/">https://reference.epson-biz.com/modules/ref_escpos_d-m_d_en/</a></p>

## 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.

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### 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.

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### Control of Peripherals

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

# Product Specifications

This chapter describes the TM-H6000IV-DT product specifications.

## Computer Specifications

- N2800 CPU model ([Page 131](#))
- D2550 CPU model ([Page 133](#))

### 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		On built-in CPU
Auxiliary storage		SATA HDD (More than 500 GB)
Interface	Ethernet	10Base-T / 100Base-TX / 1000Base-T 1 port (RJ-45)
	Powered USB	3 ports
	USB	3 ports USB 2.0
	Serial	D-sub 9 pin male
	VGA	D-sub 15 pin female, Analog RGB
	DisplayPort	1 DP1.1 (Female 16.1 mm x 4.76 mm)
	Drawer	RJ12 6 pin (24V 1A)
	Line-out	3.5 mm Mini-jack
Power supply interlock switch	Mode 1	Power is supplied to the USB device when the power supply to TM-H6000IV-DT is on, and is not supplied to the USB device when the power supply is off. (Set at factory shipment)
	Mode 2	Power is constantly supplied to the USB device, regardless of whether TM-H6000IV-DT is on or off.
RTC/CMOS backup battery		RTC is backed up by lithium primary battery
Speaker		Internal monaural speaker (No output when an external speaker is connected to the Line-out jack)

Item		Specifications
Software	BIOS	AMI BIOS (Supports ACPI 2.0 / APM 1.2 / Plug & Play)
	OS	Windows Embedded POSReady 7
	TM-DT Software	TM-DT Software
	Device control software	Software required for connecting to Thin-Client
Power specifications (Dedicated AC adapter)		AC 100 - 240 V / 50 - 60 Hz
Product power consumption		15.7W(when in standby)/ 84.3W(when slip printing)/ 94.1W(when receipt printing)
External dimensions		186 mm {7.32"} x 290 mm {11.42"} x 246 mm {9.69"} (W x D x H) (including connector cover)
Case color		Black (EBCK)
Mass (roll paper excluded)		Approximately 6.2 kg {13.7 lb} (including ribbon cartridges, not including paper)

## 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		On built-in CPU
Auxiliary storage		SATA HDD (500 GB or more) / SATA SSD (16 GB or more)
Interface	Ethernet	10Base-T / 100Base-TX / 1000Base-T 1 port (RJ-45)
	Powered USB	3 ports
	USB	3 ports USB 2.0
	Serial	D-sub 9 pin male
	VGA	D-sub 15 pin female, Analog RGB
	DisplayPort	1 DP1.1 (Female 16.1 mm x 4.76 mm)
	Drawer	RJ12 6 pin (24V 1A)
	Line-out	3.5 mm Mini-jack
Power supply interlock switch	Mode 1	Power is supplied to the USB device when the power supply to TM-H6000IV-DT is on, and is not supplied to the USB device when the power supply is off. (Set at factory shipment)
	Mode 2	Power is constantly supplied to the USB device, regardless of whether TM-H6000IV-DT is on or off.
RTC/CMOS backup battery		RTC is backed up by lithium primary battery
Speaker		Internal monaural speaker (No output when an external speaker is connected to the Line-out jack)
Software	BIOS	AMI BIOS (Supports ACPI 2.0 / APM 1.2 / Plug & Play)
	OS	Windows Embedded POSReady 7
	TM-DT Software	TM-DT Software
	Device control software	Software required for connecting to Thin-Client
Power specifications (Dedicated AC adapter)		AC 100 - 240 V / 50 - 60 Hz
Product power consumption		15.7W(when in standby)/ 84.3W(when slip printing)/ 94.1W(when receipt printing)
External dimensions		186 mm {7.32"} x 290 mm {11.42"} x 246 mm {9.69"} (W x D x H) (including connector cover)

Item	Specifications
Case color	Black (EBCK)
Mass (roll paper excluded)	Approximately 6.2 kg {13.7 lb} (including ribbon cartridges, not including paper)

# Receipt Printer Specifications

## Printing Specifications

Item		Specification
Base Printer		TM-H6000IV
Printing method		Thermal line printing (thermal method)
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
Characters spacing <sup>*1</sup>	Font A (12 x 24)	0.28 mm {0.01"} (2 dots)
	Font B (9 x 17)	0.28 mm {0.01"} (2 dots)
Maximum print speed <sup>*2</sup>		300 mm/s {11.81"/s} (When the printer prints with the standard print density level at 24V and 25°C {77°F}.)
Paper feed speed		Approx. 200 m/s {7.87"/s} (during continuous printing)
Line spacing <sup>*1</sup>		Approx. 4.23 mm {1/6"}

\*1: Initial setting. Programmable by commands.

\*2: Printing speed may be slower, depending on such items as the data transmission speed.

## Character Specifications

Item		Specification
Number of characters		Alphanumeric characters: 95 Extended graphics: 128 x 11 pages (including user-defined page) International characters: 37 character types
Character structure		Font A: 12 x 24 (including 2-dot horizontal spacing) Font B: 9 x 17 (including 2-dot horizontal spacing)
Character size (width x height) *	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

\*: Space between characters is not included. Characters can be scaled up to 64 times as large as the standard sizes.

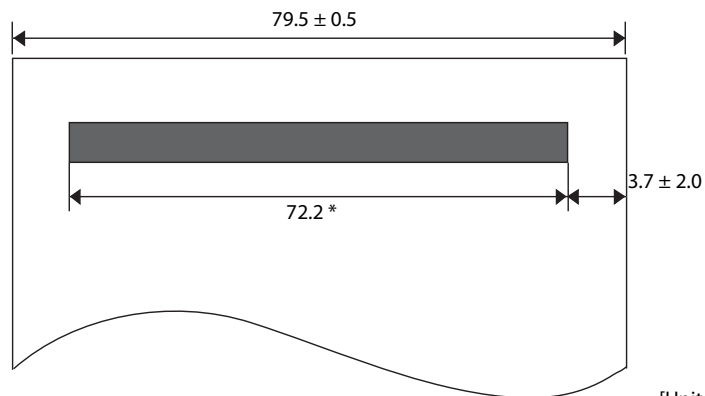


## Roll Paper Specifications

Item		Specification
Paper type		Thermal paper
Form		Roll paper
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.
	Take-up roll paper width	80 +0.5/-1.0 mm {3.15+0.02/-0.04"}
	Paper width	79.5 ± 0.5 mm {3.13 ± 0.02"}
Specified roll paper		NTP080-80
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)

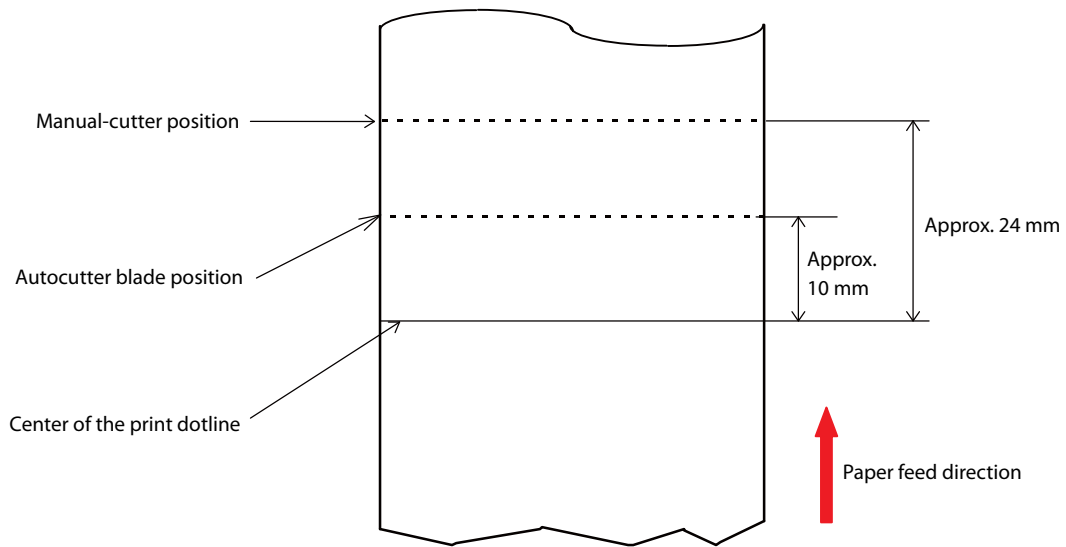
\* Paper must not be pasted to the roll paper core.

## Printable Area



[Units: mm (\*: typical)]

## 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.

## Reliability

Item		Specification
Life	Printer mechanism	20,000,000 lines (when repeatedly printing 10 lines with 4.23 mm line spacing and feeding 5 lines)
	Print head	150 million pulses, 150 km
	Autocutter	2,000,000 cuts (when using the specified original paper types, or PD160R)
MTBF		360,000 hours
MCBF		96,000,000 lines

# Slip Printer Specifications

## Printing Specifications

Item		Specification	
Base Printer		TM-H6000IV	
Printing method		Serial impact dot matrix	
Head wire configuration		9-pin vertical line, wire pitch approximately 0.353 mm {1/72"}	
Printing direction		Bidirectional, minimum distance printing	
Printing speed	Front	Approx. 5.7 lps (printing 40 columns per line with 17.8 cpi)	
	Endorsement	Approx. 4.0 lps (printing 40 columns per line with 21.2 cpi)	
Characters per line	Front	Font A (5 x 9) (initial setting)	45
		Font B (7 x 9)	60
	Endorsement	Font A (5 x 9) (initial setting)	25
		Font B (7 x 9)	33
		Endorsement font (initial setting)	40
	Character dot spacing	Front	Font A (5 x 9) (initial setting)
Font B (7 x 9)			2 half dots
Endorsement		Font A (5 x 9) (initial setting)	1 dot
		Font B (7 x 9)	2 half dots
		Endorsement font (initial setting)	1 dot

## Character Specifications

Item		Specification
Number of characters		Alphanumeric characters: 95 Extended graphics: 128 x 12 pages (including user-defined page) International characters: 37
Character structure	FontA	5 x 9
	Font B	7 x 9
	Endorsement	5 x 7
Character size (width x height)	FontA	1.56 x 3.11 mm
	Font B	1.24 x 3.11 mm
	Endorsement	1.09 x 2.41 mm

## Paper Specifications

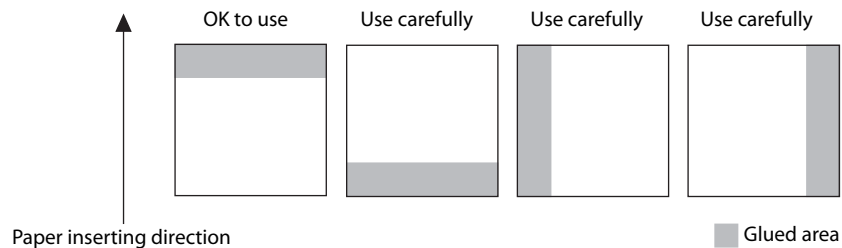
Item		Specification
Paper type		Normal paper, pressure sensitive paper, carbon copy paper
Form		Cut sheet
Size (W x L)		68 to 230 mm x 68 to 297 mm {2.68 to 9.06" x 2.68 to 11.69"}
Thickness	Normal paper (single-ply)	0.09 to 0.22 mm {0.0035 to 0.0087"}
	Copy paper (front)	Backing paper: 0.07 to 0.12 mm {0.0028 to 0.0047"} Copy paper, original paper: 0.04 to 0.07 mm {0.0016 to 0.0028"} Carbon copy paper: Approx. 0.035 mm {0.0014"} Total thickness: 0.09 to 0.47 mm {0.0035 to 0.0185"} However, total number of sheets must be 4 or fewer and the head energizing time must be set to copy mode.
	Copy paper (endorsement)	Backing paper: 0.07 to 0.12 mm {0.0028 to 0.0047"} Copy paper, original paper: 0.04 to 0.07 mm {0.0016 to 0.0028"} Copy carbon paper: Approx. 0.035 mm {0.0014"} Total thickness: 0.09 to 0.31 mm {0.0035 to 0.0122"} However, total number of sheets must be 3 or fewer.

**CAUTION**

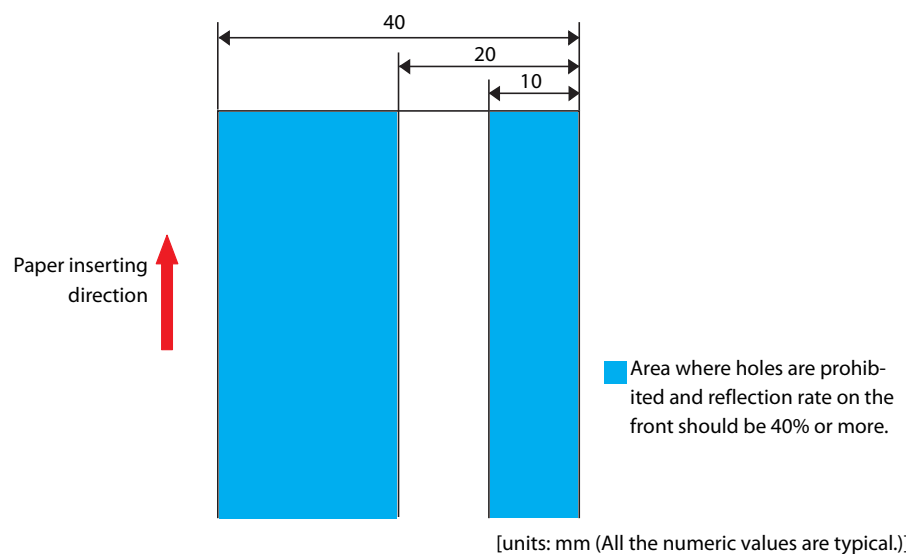
- Copy capability is greatly influenced by the ambient temperature, so printing must be performed under the conditions described below.

	Number of copies	Total thickness	Ambient temperature
Copy paper (front)	Original + 3 copies	0.31 mm or less	10 to 40 °C {50 to 104 °F}
	Original + 2 copies	0.31 mm or less	5 to 45 °C {41 to 113 °F}
	Original + 2 copies	0.47 mm or less	10 to 40 °C {50 to 104 °F}
Copy paper (endorsement)	Original + 2 copies	0.31 mm or less	10 to 40 °C {50 to 104 °F}

- The slip paper must be flat, without curls or wrinkles, especially at the top edges.
- When using slip paper with a glued area, choose it carefully, since paper feeding is affected by gluing conditions, such as position and dimension.

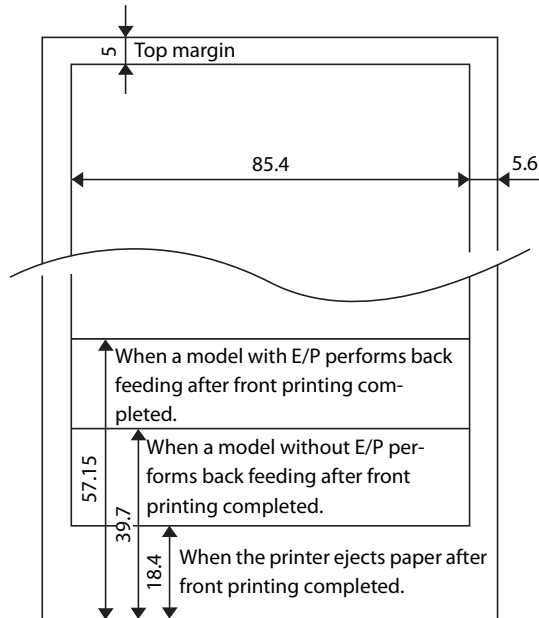


- Use thinner paper (N30 or equivalent) between the top and bottom sheets of multi-ply paper. If thick paper is used, the copy capability is lowered.
- Do not use paper that has holes, or is translucent at the BOF sensor position.
- Do not use paper that has holes or dark positions with low reflection (less than 40% reflection) on the front at the TOF sensor position.



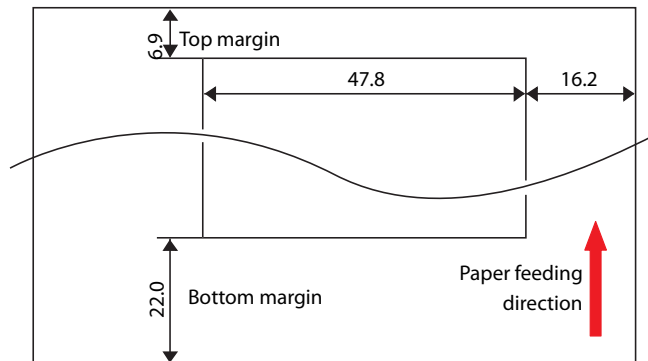
Printable Area

Front



[units: mm (All the numeric values are typical.)]

Endorsement



[units: mm (All the numeric values are typical.)]

## Ribbon cartridge

Item		Specification
Model	Front	ERC-32
	Endorsement	ERC-43
Color		Black
Life *	ERC-32	4,000,000 characters
	ERC-43	3,000,000 characters

\*: At 25°C {77°F} with continuous printing

## Reliability

Item		Specification
Life	Number of carriage driving times	1,200,000 times for each section
	Number of paper feeds	Total for the sections: 27,000,000 lines
	Print head	200 million characters (when printing with Font B only)
MTBF		180,000 hours
MCBF	Number of carriage driving times	29,000,000 times for each section
	Number of paper feeds	Total for the sections: 65,000,000 lines

## MICR Reader Specifications

### Reading Specifications

Item	Specification
Reading method	Magnetic bias
Supported fonts	E13B, CMC7 (Alphabets are not supported.)
Recognition rate *	Recognition rate: 99% or more Recognition error rate: 0.1% or less

\*: When using ANSI/ISO specified paper at 25°C {77°F}

#### CAUTION

For reading MICR characters, paper length must be 120 mm {4.72"} or more.

### Reliability

Item	Specification
Life	240,000 passes (for US personal checks)

## Power supply capacity for external devices

Item		Specification
Port	Power supply	Supply capacity
USB	DC +5 V	500 mA each *
Powered USB	DC +12 V/ +5 V	1.5 A each *
Drawer	DC +24 V	1.0 A
DisplayPort	DC +3.3 V	500 mA

\* Total power consumption of Powered USB and standard USB ports must be 30 W or less.



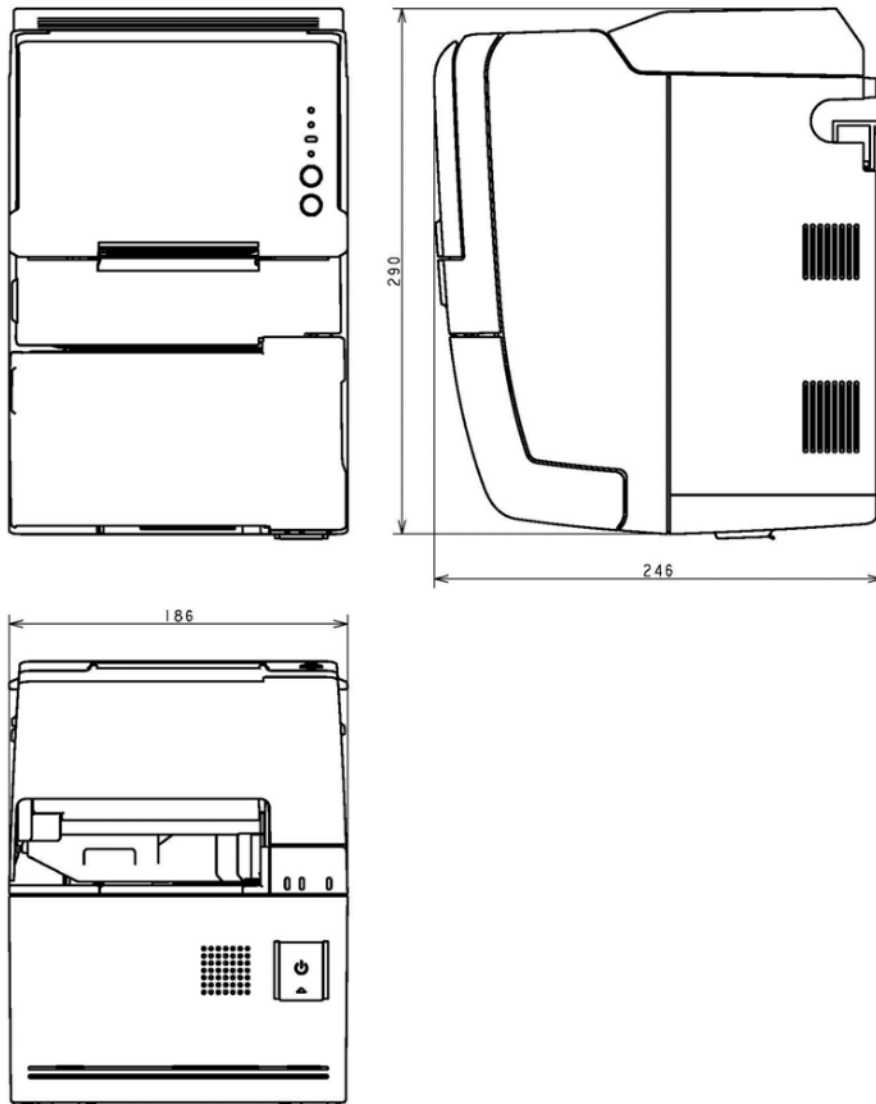
## Environmental Conditions

Item		Specification
Temperature/ Humidity	Operating	5 to 40 °C {41 to 113 °F}, 10 to 90%RH (See the operating temperature and humidity range below.)
	Storage (paper excluded)	-10 to 50 °C {14 to 122 °F}, 10 to 90%RH
		<p>31 °C, 90%RH    34 °C, 90%RH 34 °C, 75%RH    40 °C, 65%RH 40 °C, 43%RH</p> <p>Relative temperature [%RH]</p> <p>Operating environment range</p> <p>Environmental temperature [°C]</p> <p>----- Specified original paper: P300, P310, P350 —— Specified original paper other than above</p>
Acoustic noise (operating)	<p>Receipt printing (max.): approximately 55 dB (Standing Operator position)</p> <p>Check paper printing (max.): approximately 63 dB (Standing Operator position)</p> <p>(The values above are measured in the Epson evaluation condition. Acoustic noise differs depending on the paper used, printing contents, and the setting values, such as print speed or print density.)</p>	

## External Dimensions

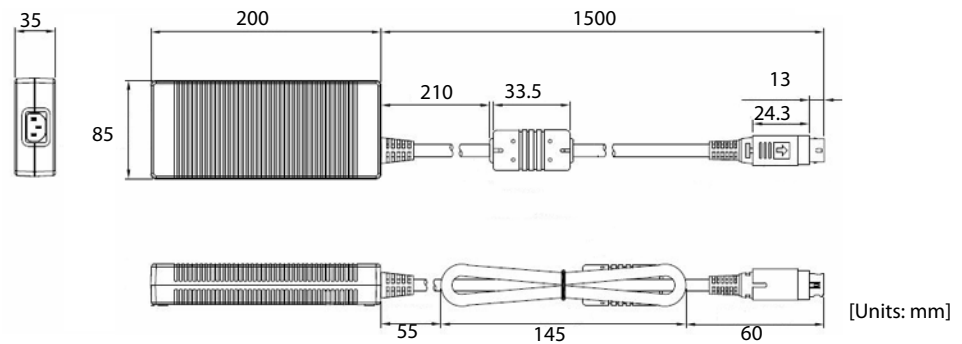
### TM-H6000IV-DT (with connector cover)

- Width: 186 mm {7.32"}
- Depth: 290 mm {11.42"} (including connector cover)
- Height: 246 mm {9.69"}
- Mass: Approximately 6.2 kg {13.7 lb} (including ribbon cartridges, not including paper)



[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 $\pm$ 5 %
	Output current (rating)	4.2A

### Option

For optional product specifications, see the product manuals.

- Customer display (Model: DM-D110)
- Wireless LAN cable set (Model: OT-WL01)

## Setting Items for Software Setting Mode

For details about how to set the software setting mode, see "Software Setting Mode" on page 63.

Setting Item			Setting Values
1st page	2nd page	3rd page	* Underlined values are the initial settings.
1: Print Current Settings			-
2: Print Density	1: Monochrome		100%, 105%, 110%, 115%, 120%, 125%, 130%, 70%, 75%, 80%, 85%, 90%, 95%, <u>Depends On Dip Switch</u>
	2: Multi-tone		<u>100%</u> , 105%, 110%, 115%, 120%, 125%, 130%, 70%, 75%, 80%, 85%, 90%, 95%
3: Baud Rate *1			2400bps, 4800bps, 9600bps, 19200bps, <u>38400bps</u> , 57600bps, 115200bps
4: Automatic Paper Reduction	1: Upper Margin		Enable, <u>Disable</u>
	2: Lower Margin		Enable, <u>Disable</u>
	3: Blank Line Spacing		25%, 50%, 75%, <u>Not Reduce</u>
	4: Blank Space		25%, 50%, 75%, <u>NotReduce</u>
	5: Barcode Height		25%, 50%, 75%, <u>NotReduce</u>
5: Auto Paper Feed&Cut at cover close			Enable, <u>Disable</u>
6: Paper width *2			<u>80mm</u> , 58mm
7: Interface Selection *2			UIB, Built-in USB, <u>Auto</u>
8: Power Supply Output			Level 1(Low), Level 2, <u>Level 3(High)</u>
9: 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, <u>Level 13(Fast)</u>
10: Error Control	1: Error Signal Output		<u>Enable</u> , Disable
	2: Paper Jam Detection		<u>Enable</u> , Disable
	3: Receipt Unit Open		<u>Offline</u> , Recoverable Error
11: Power On Notice			<u>Enable</u> , Disable
12: NV Capacity	1: User NV Memory		<u>1KB</u> , 64KB, 128KB, 192KB
	2: NV Graphics Memory		None(0KB), 64KB, 128KB, 192KB, 256KB, 320KB, 384KB
13: Command Execution			Enable, <u>Disable</u>
14: Other Settings	1: Printer Model *2		<u>TM-H6000IV</u> , TM-H6000III

\*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/>