TM-T70-i (TM-i Firmware Ver.4.0 or later)
Technical Reference Guide

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Product Overview
Describes features for the product.

Setup
Describes setup and installation of the product and peripherals.
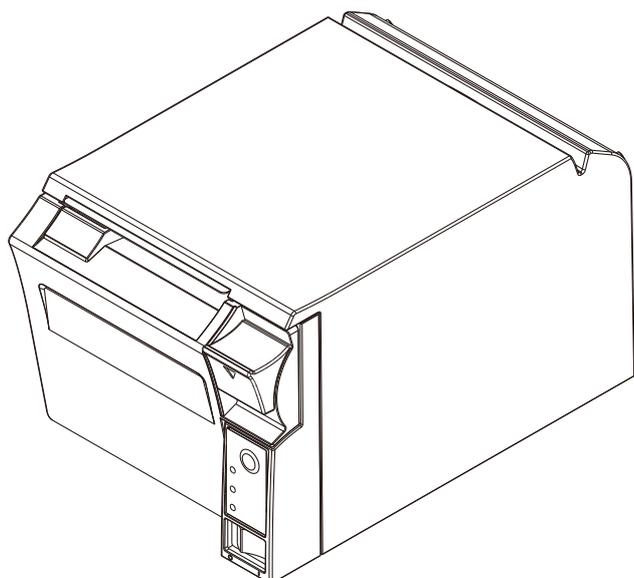
Application Development Information
Describes how to control the printer and necessary information when you develop applications.

Handling
Describes how to handle the product.

Appendix
Describes general specifications and character code tables.

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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.

For Safety

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

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

Warnings

⚠ **WARNING**	• **To avoid risk of electric shock, do not set up this product or handle cables during a thunderstorm**

- **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 electric 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 electric shock.
- **Do not place multiple loads on the power outlet.**
  Overloading the outlet may lead to fire.
- **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.
- **If you open the DIP switch cover, be sure to close the cover and tighten the screw after adjusting the DIP switch.**
  Using this product with the cover open may cause fire or electric shock.
- **Do not use aerosol sprayers containing flammable gas inside or around this product.**
  Doing so may cause fire.

Cautions

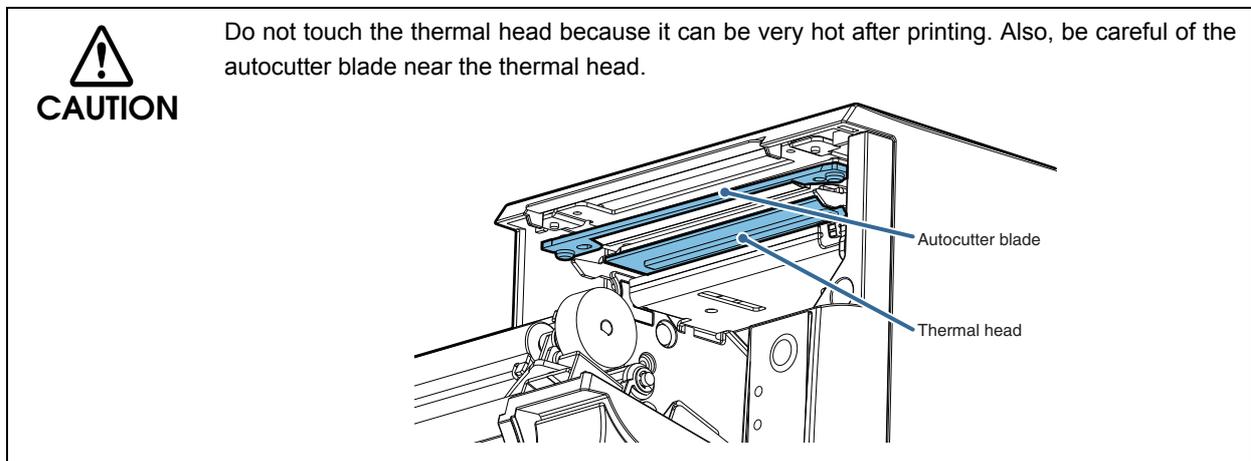|	
⚠ **CAUTION**	• **Do not connect cables in ways other than those mentioned in this manual.** Different connections may cause equipment damage or fire.

- **Do not connect cables in ways other than those mentioned in this manual.**
  Different connections may cause equipment damage or fire.
- **Be sure to set this equipment on a firm, stable, horizontal surface.**
  The product may break or cause injury if it falls.
- **Do not use this product in locations subject to high humidity or dust levels.**
  Excessive humidity and dust may cause equipment damage or fire.
- **Do not place heavy objects on top of this product. Never stand or lean on this product.**
  Equipment may fall or collapse, causing breakage and possible injury.
- **Take care not to injure your fingers on the manual cutter**
  ∗ When you remove printed paper
  ∗ When you perform other operations such as loading/replacing roll paper
- **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.**
- **Do not knock or strike the printer. This may cause defective print.**
- **Do not catch cables or place foreign matter under the printer.**
- **Use the UL-approved peripherals (only for North American users).**

Restriction of Use

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

Caution Labels

The caution label on the product indicates the following precautions.

⚠ CAUTION — Do not touch the thermal head because it can be very hot after printing. Also, be careful of the autocutter blade near the thermal head.

Autocutter blade

Thermal head

# *About this Manual*

Aim of the Manual

This manual aims to provide all the information necessary for the development, design, and installment of POS systems, order entry systems, and other receipt issuing systems that use TM-T70-i.

TM-T70-i provides different available functions depending on the product specification and TM-i Firmware version.

Refer to an appropriate Technical Reference Guide described in the following table.

TM-T70-i product specifications *1	TM-i Firmware Version *2	Technical Reference Guide to be used
TM-T70-i (with a Serial port)	Ver.4.0 or later	TM-T70-i (TM-i Firmware Ver.4.0 or later) Technical Reference Guide (This document)
TM-T70-i (without a Serial port)	Ver.4.0 or later	TM-T70-i (TM-i Firmware Ver.4.0 or later) Technical Reference Guide (This document)
	Ver.3.x or earlier	TM-T70-i Technical Reference Guide

*1: You can check the rear of the printer for the availability of serial ports.

TM-T70-i (with a Serial port)	TM-T70-i (without a Serial port)
9 pin connector (Male)	15 pin connector (Female) (Blue)
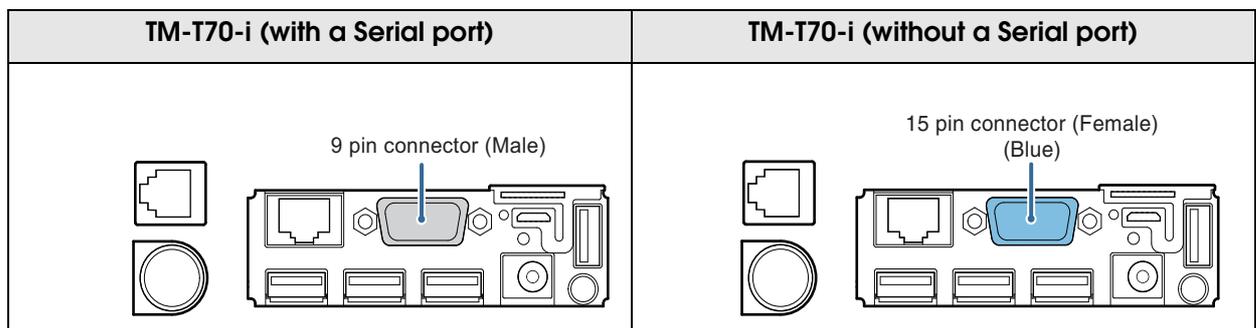
*2: For TM-T70-i (without Serial port), print a status sheet to confirm whether the version of TM-i Firmware is 4.0 or later. Make sure that this product is ready to print (the paper is set and the power is turned on), and hold down the push button at the rear of this product for at least 3 seconds before releasing it.

(See .)

TM-i Firmware Ver.4.0 or later	TM-i Firmware Ver.3.x or earlier

``
****
      EPSON Status Sheet
****
 	
<General Information>
Firmware
  X.XX
ePOS-Device
  X.XX
Model
  TM-T70-i
Time
``
	``
	*****************************
	      EPSON Status Sheet
	*****************************
	
	<General Information>
	Software
	  X.XX
	Model
	  TM-T70-i
	Time
	  yyyy-mm-dd hh:mm:ss
	``

"Firmware" (TM-i Firmware Version) is printed under <General Information>.	"Software" (TM-i Firmware Version) is printed under <General Information>.

Manual Content

The manual is made up of the following sections:

Chapter 1   Product Overview

Chapter 2   Setup

Chapter 3   Application Development Information

Chapter 4   Handling

Appendix   Product Specifications
                       Option Specifications
                       Character Code Tables

Contents

Product Overview

This chapter describes features of the product.

Features

TM-T70-i is a receipt printer which can print directly from a smart device application or Web application.

This product supports ePOS-Device [1] and ePOS-Print [2] and are capable of controlling POS peripherals or network compatible TM printers.

*1: ePOS-Device: Epson original technology to control TM printers or POS peripherals via a smart device application or Web application. This technology is realized by ePOS-Device Service running on the products.

*2: ePOS-Print: Epson original printing function that has a high compatibility with a variety of systems supported by XML and Web services. This technology is realized by the ePOS-Print Service running on the products.

Functions

- Enables connection to peripherals (customer displays, barcode scanners, etc) via a USB or serial [1] interface.

- The Epson ePOS SDK is provided for iOS, Android and Windows application, and Web application development.
  The Epson ePOS SDK is a software development kit that integrates the ePOS-Print SDK and the ePOS-Device SDK. It is recommended that application software developed with the ePOS-Device SDK is migrated to the Epson ePOS SDK. For detail, refer to the Migration Guide included with the Epson ePOS SDK.

- Uses the communication box [2] function to enable communications between applications. This function allows for communications, etc. between tablet terminals. (ePOS-Device SDK, ePOS-Device XML)

- Supports Server Direct Print that sends a request for print data from the product to the Web server at regular intervals. [3]

- Since print data can be saved in the spooler, applications can be released from processing print jobs regardless of the printer status. [3]

- When a network printer is registered, print forwarding process can be realized. Also, if the printer is not ready to print, you can print from another printer. [3]

- Device data notification function is realized, allowing for notifications to be sent from devices such as barcode scanners to Web servers to trigger applications. [3]

- Equipped with Web server that supports the scripting language "PHP" and database "SQLite3".

- Enables HTTPS [4] communication.

- Supports TLS1.2. SSL3.0 is not supported. [5]

*1: Not available for TM-T70-i (without a Serial port).

*2: For more information on the communication box, see the ePOS-Device SDK for iOS User's Manual, the ePOS-Device SDK for Android User's Manual, the ePOS-Device SDK for JavaScript User's Manual, and the ePOS-Device XML User's Manual.

*3: TM-i firmware Ver. 4.1 or later.

*4: TM-i firmware Ver. 4.3 or later.

*5: TM-i firmware Ver. 4.4 or later.

> NOTE
> For information on how to use these functions, see "Controlling the Printer" on page 63.

Product Configurations

Bundled items

- AC adapter,RA
- AC cable *
- Roll paper (for operation check)
- Power switch cover
- Two strips for the roll paper guide
- Screw for the roll paper guide
- Start Here
- Manual CD
- Warranty card *

* May not be included depending on the areas and models.

Options

- Affixing tape for fixing the printer (Model: DF-10)
- Wireless LAN cable set (Model: OT-WL01)
- Customer display (Model: DM-D110)
- Connector cover (Model: OT-CC70)

Part Names and Functions

Manual cutter

Roll paper cover

Power switch cover

Cover open lever

Control panel
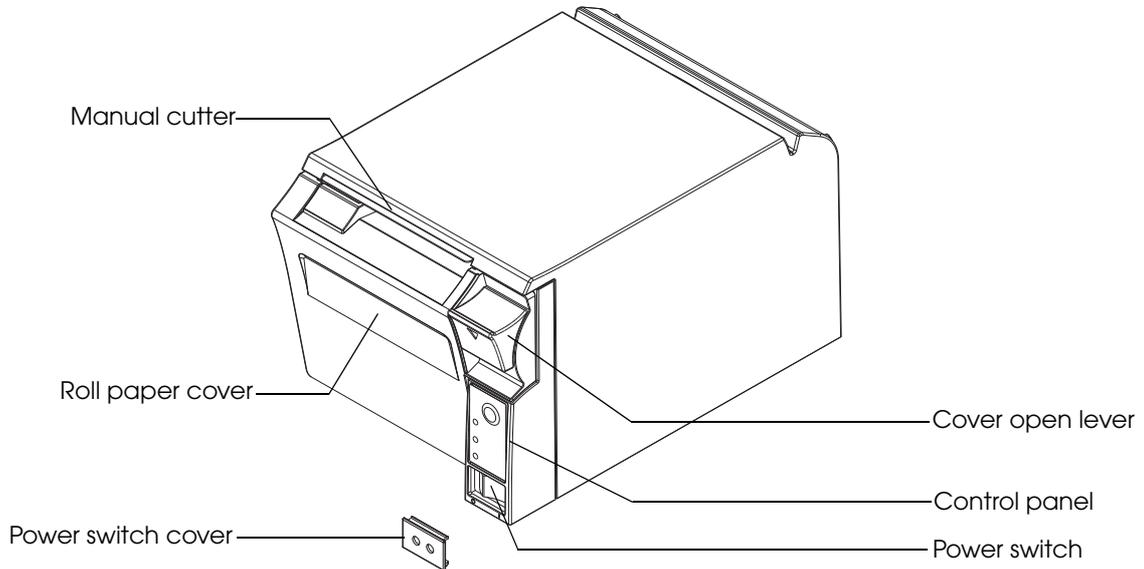
Power switch

Power Switch

Turns the printer on or off. The marks on the switch: ($\bigcirc$: OFF/ | : ON)

⚠ CAUTION	**Before turning on the product, be sure to check that the AC adapter is connected to the power supply.**
CAUTION	After the product is turned on, it requires about 30 seconds until it is ready to print.

Power Switch Cover

Install the power switch cover that comes with the TM-T70-i onto the printer to prevent inadvertent changing of the power switch, to prevent tampering, and to improve the appearance of the printer.

To operate the power switch, insert an object with a pointed tip such as a ballpoint pen into the hole on the power switch cover.

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

Roll paper cover / Cover open lever

When setting or replacing the roll paper, press the cover open lever to open the roll paper cover.

NOTE	Do not open the roll paper cover during printing or while the autocutter is operating.

Control Panel

FEED button

PAPER OUT LED

ERROR LED

(Power) LED

FEED

PAPER OUT

ERROR

Name	Status	Description
(Power) LED	On	Power is being supplied.
	Off	Power is not being supplied.
ERROR LED	Off	Normal operation (online)
	On	• 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 (For details about the flash codes, see "Error Status" on page 23.)
PAPER OUT LED	Off	There is a sufficient amount of roll paper remaining.
	On	There is little or no roll paper remaining.
	Flashing	A self-test printing standby state and macro execution standby state
FEED button		Pressing this button once feeds the roll paper by one line. Holding this button down feeds the roll paper continuously.

Interfaces

With a Serial port
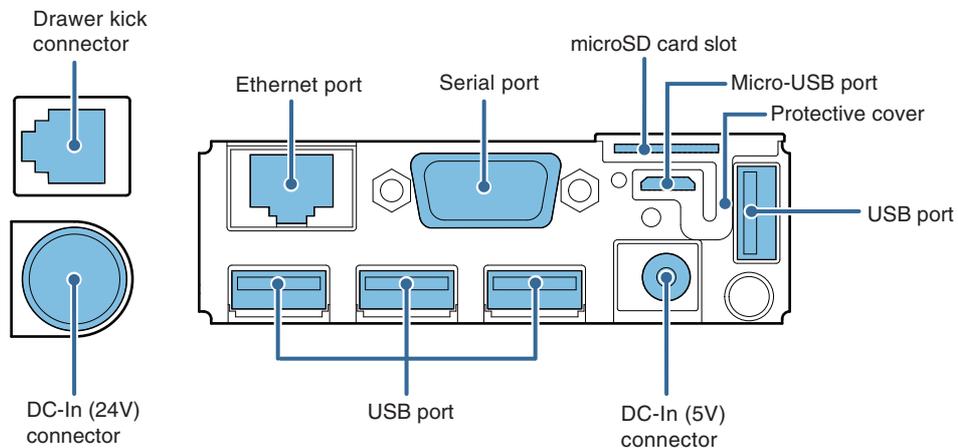
Name	Description
Drawer kick connector	Connects a cash drawer.
Ethernet port	Connect the LAN cable here to connect to the network.
USB port (Type A)	Connects peripherals via a USB interface.
Micro-USB port (Type Micro-AB)	Connects a computer when setting the product.
DC-In (5V) connector	Connects a AC adapter,RA.
DC-In (24V) connector	Connects a AC adapter,RA.
microSD card slot	When using the PHP function.
Serial port	Connects a serial communication device.

⚠ **CAUTION**

- **When connecting USB interface devices, make sure to check the devices or manuals, etc. for current consumption. The total value should be 2.0 A or less. Never use devices that provide no information on current consumption.**
- **Make sure that the protective cover is securely fit into place while the product is operating.**
- **For Ethernet ports, make sure that the outdoor aerial LAN cables are connected through a surge protector. Failure to do so may lead to device error resulting from indirect lightning.**

NOTE   For the Micro-USB port, use a Micro-USB (Type Micro-B) cable.

Without a Serial port
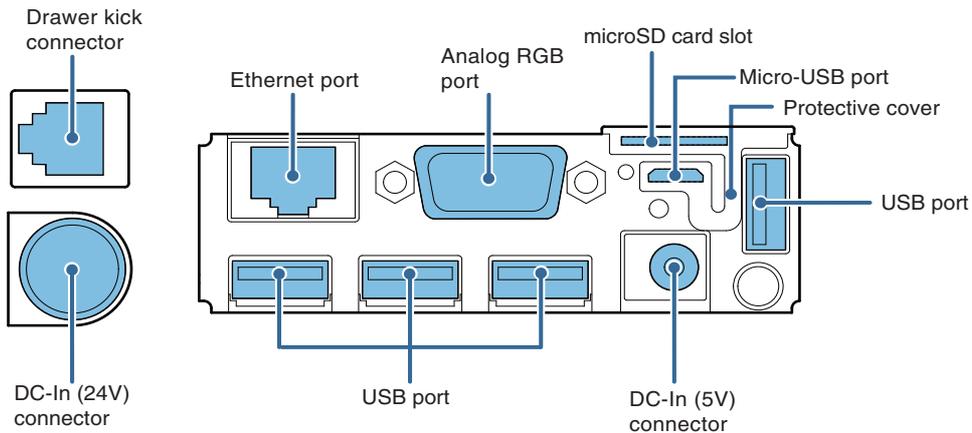
Name	Description
Drawer kick connector	Connects a cash drawer.
LAN connector	Connect the LAN cable here to connect to the network.
USB connector (for optional products)	Connects optional products.
Micro-USB connector (for optional products)	Connects the product to a computer to set up the product.
Power supply connector for DC 5V	Connects a AC adapter,RA.
Power supply connector for DC 24V	Connects a AC adapter,RA.
microSD card slot	When using the PHP function with the firmware version 2.0 or later.
Analog RGB port	Currently not available.

⚠ **CAUTION**

- **When connecting USB interface devices, make sure to check the devices or manuals, etc. for current consumption. The total value should be 2.0 A or less. Never use devices that provide no information on current consumption.**
- **Make sure that the protective cover is securely fit into place while the product is operating.**
- **For Ethernet ports, make sure that the outdoor aerial LAN cables are connected through a surge protector. Failure to do so may lead to device error resulting from indirect lightning.**

NOTE For the Micro-USB port, use a Micro-USB (Type Micro-B) cable.

Status LED

With the status LED on the rear of the product, you can check the interface board status.
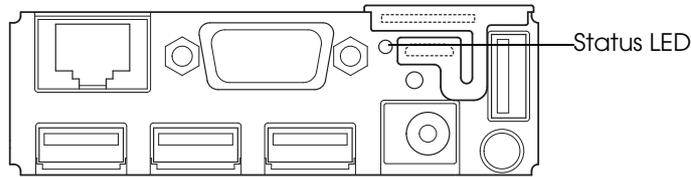
Status LED

LED	Description
On (Green)	Operating normally.
On (Orange)	Starting up. If the status LED is on in orange even after 30 seconds have passed since the printer is turned on, repair is required.
Off	Power is not turned on. If the status LED is off even if the printer is turned on, repair is required.

Push Button
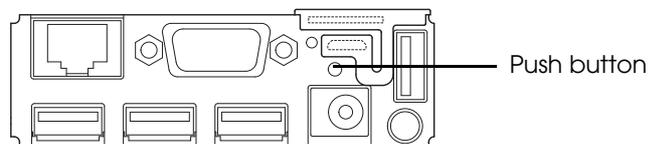
Push button

Press the push button with a thin object such as a tweezers.

The push button has the following functions:

- Status sheet printing:
  Make sure the product is turned on, press the push button for approximately 3 seconds. When you release the button, a status sheet on which network parameters are printed will be ejected. (See "Confirming with a status sheet" on page 47.)

- Initialization:
  Make sure the product is turned on, press the push button for approximately 10 seconds. When you release the button, network setting (Wired LAN/ Wireless LAN) will be initialized. (See "Initializing the Network Setting" on page 48.)

CAUTION	To print a status sheet, release the push button within 10 seconds. If the button is kept down for 10 seconds or more, the network setting will be initialized.
NOTE	• Press the push button after the status LED color has changed from orange to green. After the printer is turned on, it takes about 20 to 30 seconds until the status LED color changes to green. • Even if the button is pressed while the status LED is on in orange, the button will not operate.

Wired LAN Status LED

With the Wired LAN Status LED on the rear of the product, you can check the communication status of the product.

LED (Green)
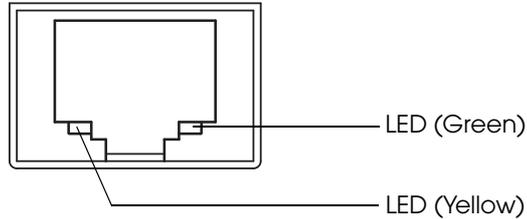
LED (Yellow)

LED	Status	Description
Green	On	Link established
	Flashing	Transmitting/receiving data
	Off	Link not established
Yellow	On	100BASE-TX
	Off	10BASE-T

Wireless LAN cable set (optional) LED

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

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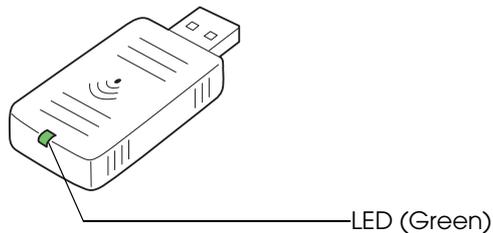
LED	Description
Off	The wireless LAN unit is not connected to the product. Or the product power is OFF.
Flashing	This wireless LAN unit is connected to the product and is in operation.
Flashing rapidly	This wireless LAN unit is connected to the product and is in operation. This unit is communicating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

Online and Offline

Online

When no events to go offline have occurred, the printer is online and ready for normal printing.

Offline

The printer automatically goes offline under the following conditions:

- During power on (including resetting with the interface) until the printer is ready
- During the self-test
- When the roll paper cover is open.
- While roll paper is fed using the FEED button.
- When printing stops due to end of paper.
  (When the roll paper end sensor detects the end of paper)
- Macro execution standby state
- When an error has occurred

Error Status

There are three possible error types: automatically recoverable errors, recoverable errors, and unrecoverable errors. Check the error LED flash code.

When connection to peripherals fails, check the status LEDs at the lower rear of the product.

Automatically Recoverable Errors

Printing is no longer possible when automatically recoverable errors occur. They can be recovered easily, as described below.

Error	Error description	Error LED flash code	Recovery measure
Roll paper cover open error	The roll paper cover was opened during printing.	LED ON / LED OFF Approx. 160 ms	Recovers automatically when the roll paper cover is closed.
Print head temperature error	A high temperature outside the head drive operating range was detected.	LED ON / LED OFF Approx. 160 ms	Recovers automatically when the print head cools.

Recoverable Errors

Printing is no longer possible when recoverable errors occur. They can be recovered easily by turning the power on again after eliminating the cause of the error.

Error	Error description	Error LED flash code	Recovery measure
Autocutter error	Autocutter does not work correctly.	LED ON / LED OFF Approx. 160 ms / Approx. 2560 ms	Remove the jammed paper or foreign matter in the printer, close the roll paper cover, and then turn the power on to recover.
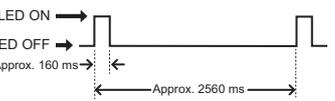
Unrecoverable Errors

If the same error occurs again even after turning the power back on, contact your dealer or a Epson service center.

⚠ CAUTION	**Turn off the power immediately when unrecoverable errors occur.**

Error	Error description	Error LED flash code
Memory R/W error	After R/W checking, the printer does not work correctly.	LED ON / LED OFF — Approx. 160 ms
High voltage error	The power supply voltage is extremely high.	LED ON / LED OFF — Approx. 160 ms
Low voltage error	The power supply voltage is extremely low.	LED ON / LED OFF — Approx. 160 ms
CPU execution error	The CPU is executing an incorrect address.	LED ON / LED OFF — Approx. 160 ms
Internal circuit connection error	Internal circuits are not connected correctly.	LED ON / LED OFF — Approx. 160 ms — Approx. 2560 ms

NV Memory

The product's NV memory (Non-Volatile Memory) stores data even after the product power is turned off. NV memory contains the following memory areas for the user:

- NV graphics memory
- Memory switches (customized value)

⚠ CAUTION	As a guide, NV memory rewriting should be 10 times or less a day when you program applications.

NV Graphics Memory

Graphics, such as shop logos to be printed on receipts, can be stored.

Use the TM Flash Logo Setup utility to register graphics.

Memory Switches (Customized Value)

With the memory switches (customized value), which are software switches for the printer, you can set print density, print speed, and number of head energization. For detail, see the memory switch setting utility User's Manual.

Setup

This chapter describes the installation and setup procedure of the product and peripherals required to use the product.

You can utilize "Easy Setup", which enables settings to the TM-i to be made in a simple manner using a USB memory that contains a file of EPSON TMNet WebConfig setting values.

For detail, refer the "TM-i series Easy Setup Guide".

Flow of Setup

The setting items are different depending on the system to be used. Check the items by referring to "Controlling the Printer" on page 63.

- Epson ePOS SDK, ePOS-Device XML, ePOS-Print XML (page 28)

- Server Direct Print (page 29)

- Device Data Notification (page 30)

- Using This Product as a Web Server (page 31)

This chapter consists of the following sections along with the setup flow of the product and peripherals.

NOTE	In this setup flow, necessary items are in a frame with a solid line. Optional items are explained in an frame with a dotted line.

Epson ePOS SDK, ePOS-Device XML, ePOS-Print XML

Settings for Printer

1. **Installing the Product (page 32)**

2. **Setting the DIP Switches (page 33)**

3. **Connecting the Peripherals (page 38)**

4. **Connecting the Product to the Network (page 36)**

5. **Connecting the AC Adapter (page 41)**

6. **Attaching the Connector Cover (page 42)**

7. **Attaching the Power Switch Cover (page 44)**

Settings for EPSON TMNet WebConfig

8. **Network Setting (page 45)**

9. **Enabling HTTPS Communication (page 51)**

10. **Settings for Connected Devices (page 53)**

11. **Settings for Spooler (page 60)**

12. **Settings for Print Forwarding (page 61)**

Server Direct Print

Settings for Printer

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    ↓

2. **Setting the DIP Switches (page 33)**

    ↓

3. **Connecting the Peripherals (page 38)**

    ↓

4. **Connecting the Product to the Network (page 36)**

    ↓

5. **Connecting the AC Adapter (page 41)**

    ↓

6. **Attaching the Connector Cover (page 42)**

    ↓

7. **Attaching the Power Switch Cover (page 44)**

    ↓

Settings for EPSON TMNet WebConfig

8. **Network Setting (page 45)**

    ↓

9. **Settings for Server Direct Print (page 52)**

    ↓

10. **Settings for Connected Devices (page 53)**

    ↓

11. **Settings for Spooler (page 60)**

    ↓

12. **Settings for Print Forwarding (page 61)**

Device Data Notification

Settings for Printer

1. **Installing the Product (page 32)**

2. **Setting the DIP Switches (page 33)**

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Settings for EPSON TMNet WebConfig

8. **Network Setting (page 45)**

9. **Settings for Connected Devices (page 53)**

10. **Settings for Device Data Notification (page 62)**

Using This Product as a Web Server

Settings for Printer

1. **Installing the Product (page 32)**

   ↓

2. **Setting the DIP Switches (page 33)**

   ↓

3. **Connecting the Peripherals (page 38)**

   ↓

4. **Installing the microSD Card (page 35)**

   Available when PHP is enabled.

   ↓

5. **Connecting the Product to the Network (page 36)**

   ↓

6. **Connecting the AC Adapter (page 41)**

   ↓

7. **Attaching the Connector Cover (page 42)**

   ↓

8. **Attaching the Power Switch Cover (page 44)**

↓

Settings for EPSON TMNet WebConfig

9. **Network Setting (page 45)**

   ↓

10. **Enabling HTTPS Communication (page 51)**

   ↓

11. **Enabling PHP (page 50)**

   ↓

12. **Registering Web Contents (page 55)**

Installing the Product

Important Notes

- The product must be installed horizontally on a flat surface (not tilted).

- Do not place the product in dusty locations.

- Do not catch cables or place foreign matter under the product.

Setting the DIP Switches

Follow the steps below to change the DIP switch settings.

Setting Procedure

Follow the steps below to change the DIP switch settings.

⚠ **CAUTION**	**Before you remove the DIP switch cover, turn the product off.** Otherwise, a short-circuit may cause the product to malfunction.
CAUTION	DIP switch settings are enabled only when the power is turned on or the product is reset via the interface. If the settings are changed after that, the functions will not change.

1   Make sure the power supply for the product is turned off.

2   Unscrew the screw to remove the DIP switch cover from the base of the product.

DIP switch bank 2
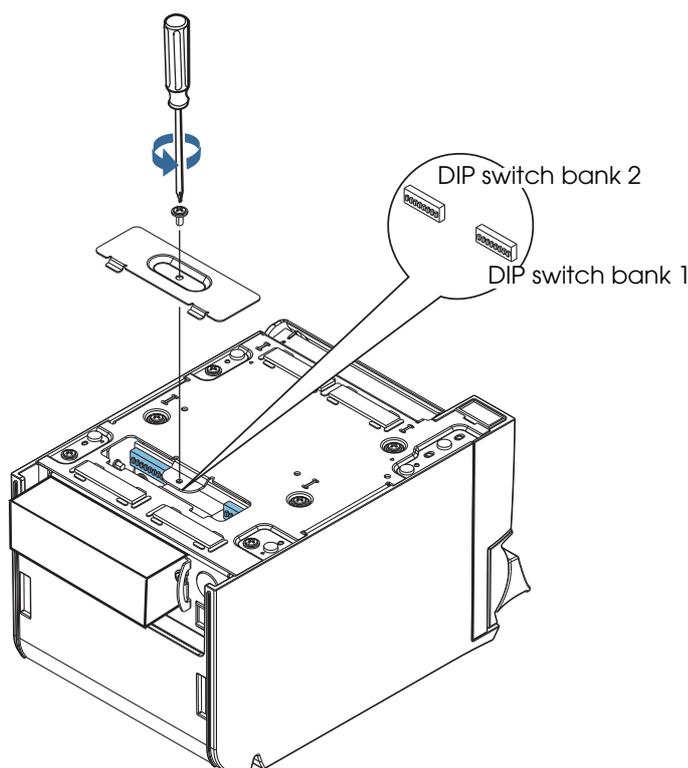
DIP switch bank 1

3   Set the DIP switches, using a thin instrument such as a pair of tweezers.

4   Replace the DIP switch cover, and screw it in place.

Functions

DIP Switch Bank 1

SW	Function	ON	OFF	Initial setting
1-1	Auto line feed	Always enabled	Always disabled	OFF
1-2	Receive buffer capacity	45 bytes	4 KB	OFF
1-3	Reserved	-		OFF
1-4	Error signal output	Disabled	Enabled	OFF
1-5 ~ 1-8	Undefined	-		OFF

DIP Switch Bank 2

SW	Function	Function	ON	OFF	Initial setting
2-1	Reserved (Do not change setting)		Fixed to ON		ON
2-2	Reserved (Do not change setting)		Fixed to OFF		OFF
2-3	Selects print density	Standard	2-3: OFF, 2-4: OFF		OFF
		Darker than standard	2-3: ON, 2-4: OFF		
2-4		Dark	2-3: OFF, 2-4: ON		OFF
	Forbidden		2-3: ON, 2-4: ON		
2-5	Reserved (Do not change settings)		Fixed to OFF		OFF
2-6 ~ 2-7	Reserved (Do not change settings)		Fixed to OFF		OFF
2-8	Reserved (Do not change settings)		Fixed to ON		ON

CAUTION
- Do not change the setting of DIP switches 2-1, 2-2, 2-6, 2-7, and 2-8. Otherwise, the printer may not operate normally.
- If the print density is set to "Darker than standard" or "Dark" level, printing speed may be reduced.

Installing the microSD Card

Install the microSD card into the microSD card slot on the rear of the product.

CAUTION	Use a microSD card that has wear leveling functions
NOTE	• The microSD card can only be used if the PHP function is enabled. • The spooler cannot be used if PHP is enabled.

Installing the microSD Card

1   Open the protective cover on this product. Check the insertion direction of the microSD card and insert it into the microSD card slot.

NOTE	• Insert the microSD card with its metal side facing down. • Push the microSD card to the bottom until it clicks.

2   Close the protective cover.

Removing the microSD Card

1   Open the protective cover on this product and gently push the microSD card into the slot.

NOTE	Push the microSD card to the bottom until it clicks.

2   When the microSD card is slightly ejected, pull it out carefully.

3   Close the protective cover.

Connecting the Product to the Network

For Wired LAN connection

Connect the product to a network by a LAN cable via a hub.

Insert a 10BASE-T/100BASE-TX LAN cable into the LAN connector until it clicks.

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

For Wireless LAN Interface

The optional wireless LAN cable set (OT-W01) enables you to use the product with a wireless LAN connection.

Be sure not to connect a LAN cable when you use the wireless LAN cable set.

CAUTION	This product cannot be used with the wired LAN connection and wireless LAN connection at the same time. When the product is set and installed for both of them, only the LAN connection works.

Check whether the following items are included.

- Wireless LAN unit
- USB extension cable
- Affixing tape (1 pair, 2 pieces)
- Rubber cover
- Caution label
- User's manual

To connect the wireless LAN unit to the product, you can connect directly or use the USB extension cable.

If connecting the wireless LAN unit directly causes interference with other cables or bad communication, use the included USB extension cable.

Connecting the unit directly with the product

Install the wireless LAN unit to a USB port of the product.

USB port
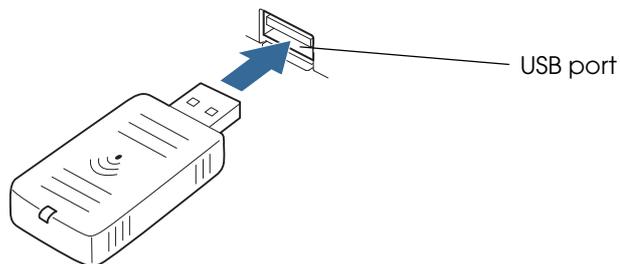
Using the USB extension cable

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.
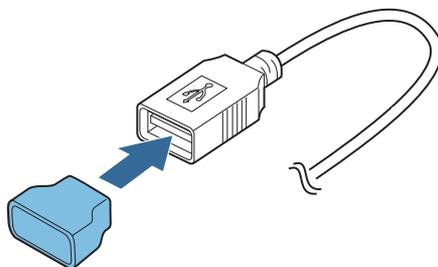
2   Insert the wireless LAN unit into the connector of the cable.
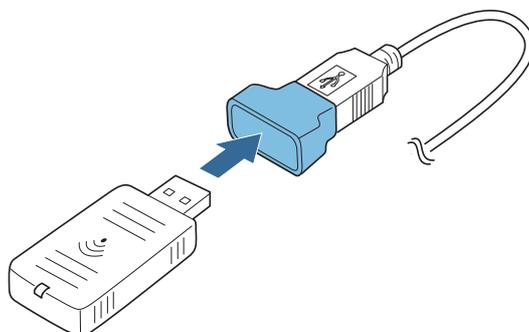
CAUTION	Adjust the position of the rubber cover so that the description on the label on the back side of the wireless LAN unit is not covered.

3 Connect the USB extension cable to the USB port of the product.
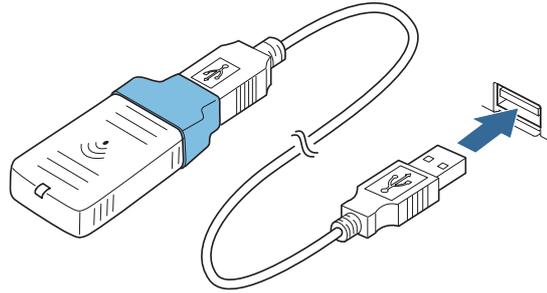
| NOTE | If you want to fix the wireless LAN unit, cut the included affixing tape to fit and put on the unit, and fix the unit in a place with good communication. |
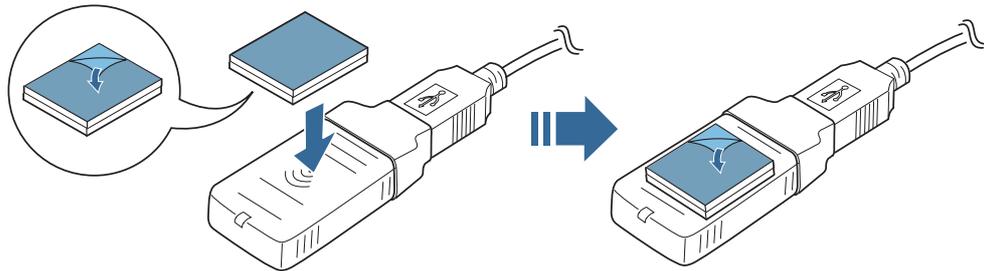
Connecting the Peripherals

Connect each cable of a peripheral to a port or connector at the rear of the product.

| ⚠ CAUTION | • When connecting USB interface devices, make sure to check the devices or manuals, etc. for current consumption. The total value should be 2.0 A or less. Never use devices that provide no information on current consumption.
• Make sure that the protective cover is securely fit into place while the product is operating. |

Connecting the Customer Display

For details on connecting the customer display, refer to the "DM-D110/DM-D210 Technical Reference Guide".

Use EPSON TMNet WebConfig to configure customer display settings and perform display tests.

For detail, refer to .

Connecting the Serial Communication Device

| CAUTION | It is not available for TM-T70-i (without a Serial port). |

Use a serial cable to connect a device to the serial port of this product.

To communicate with a serial communication device, communication conditions of the device should match those of this product.

Refer to the manual for the serial communication device to check the following conditions.

- Communication Speed
- Data bit
- Parity
- Stop bit
- Flow control

The communication conditions of this product are configured using EPSON TMNet WebConfig.

For detail, refer to "Settings for Connected Devices" on page 53.

Key Input Device via a USB Interface

For key input devices such as barcode scanners and keyboards, connect a USB cable of a device to the USB port at the rear of this product.

Use EPSON TMNet WebConfig to select a device control script and perform communication tests.

For detail, refer to "Settings for Connected Devices" on page 53.

Arranging the Cables

When connecting the cables whose connectors do not lock themselves (USB cable and DC 5 V cable), pass the cables through the cable band to prevent them from coming off.

Cable band
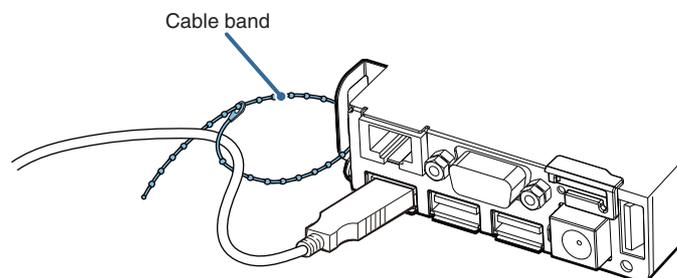
Connecting the Cash Drawer

When using a cash drawer, connect the cash drawer.

Using the optional product for TM printer is recommended.

⚠ **WARNING**	• **Specifications of drawers differ depending on makers or models. When you use a drawer other than specified, make sure its specification meets the following conditions.** Otherwise, devices may be damaged. ∗ The load, such as a drawer kick solenoid, must be connected between pins 4 and 2 or pins 4 and 5 of the drawer kick connector. ∗ When the drawer open/close signal is used, a switch must be provided between drawer kick connector pins 3 and 6. ∗ The resistance of the load, such as a drawer kick solenoid, must be 24 Ω or more or the input current must be 1A or less. ∗ Be sure to use the 24V power output on drawer kick connector pin 4 for driving the equipment. • **Use a shielded 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 product power supply (connector pin 4) for the drawer power source.** • **Do not insert a telephone line into the drawer kick connector.** Doing so may damage the telephone line or product.

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

Drawer kick connector
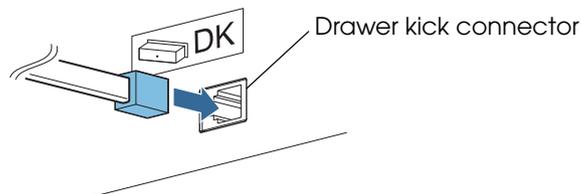
Drawer Connection Circuitry

F.G
Drawer kick connector
With shielded
Drawer kick solenoid
Control device
+24V
Drawer open/close switch
Printer side ← | → User side (Drawer kick side)
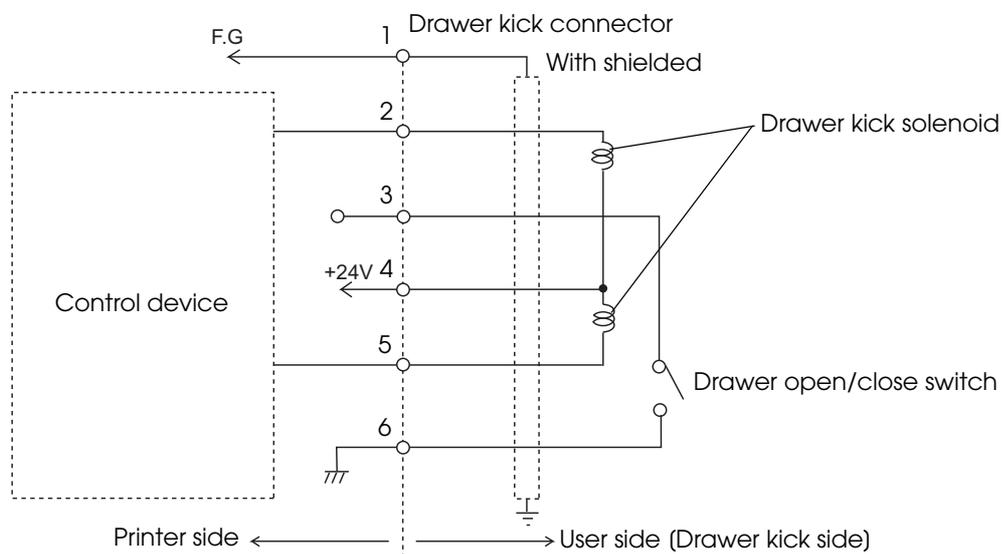
Connecting the AC Adapter

Use AC adapter,RA as the power supply unit for this product.

⚠ WARNING	• **Be sure to use the included AC adapter as the power supply unit.** Using a nonstandard power supply can result in electric shock and fire. • **Should a fault ever occur in the included AC adapter, immediately turn off the power to the product and unplug the power supply cable from the wall socket.** • **Be sure to unplug the power supply unit's cable from the wall socket whenever connecting or disconnecting the power supply unit to the product.** Failure to do so may result in damage to the power supply unit or the product. • **Make sure the wall socket power supply satisfies the rated voltage requirements of the power supply unit. Never insert the power supply cable plug into a socket that does not meet the rated voltage requirements of the power supply unit.** Doing so may result in damage to both the power supply and the product.
CAUTION	When installing the DC 5 V cable through the cable exits on the back, fix the cables with the cable band to prevent the cables from coming off. (See "Attaching the Connector Cover" on page 42.)

Make sure that the power is turned off, and connect the AC adapter,RA in the following steps.

1 Push the DC connectors of the AC adapter all the way into the DC-In connectors (5V and 24V) of the product.

DC-in(24V)   DC-in(5V)
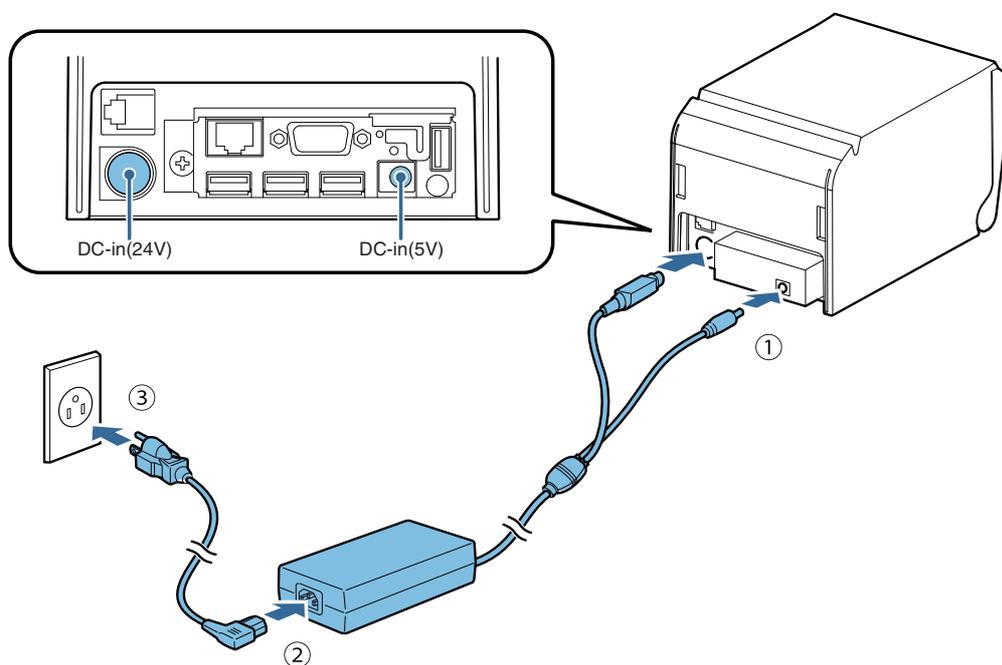
2 Push the connector of the power code all the way into the AC inlet of the AC adapter.

3 Push the power plug all the way into the grounded outlet.

4 Place the AC adapter with the label facing down.

Attaching the Connector Cover

Follow the steps below to attach the connector cover to protect cables.

1 Make sure the printer is turned off, connect all the cables.

> **NOTE**
>
> - The connector cover has a cable exit on both sides. You can also make an exit on the back of the connector cover by removing the tab by breaking it off with your fingers. If any protruding plastic remains after removing the tab, also remove it so that the edge is smooth and does not damage the cables.
>
> Tab
>
> - Once you remove the tab, you cannot replace it.
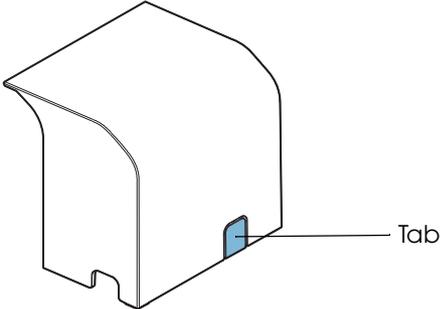
2 Position the two hooks on both sides of the connector cover so that they hook the printer case.
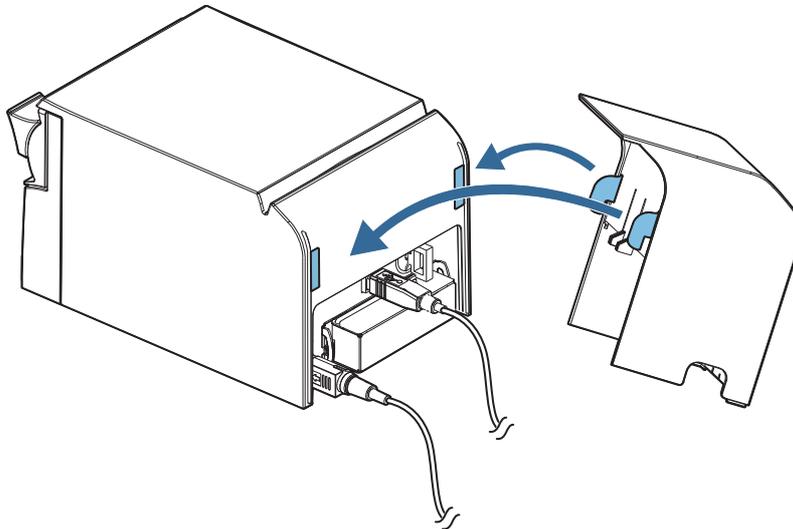
3   Push the connector cover down until it clicks and the upper surface of the printer case is even with the connector cover.

4   Pass the cables out through the exits so that the connector cover does not rest on the cable.
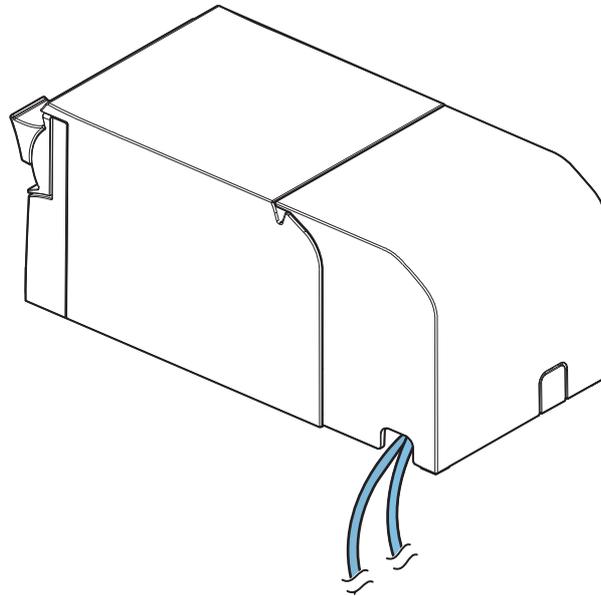
> **NOTE**   To remove the connector cover, while holding the printer case with one hand, hold both sides of the connector cover with the other hand and lift it up.
>
>
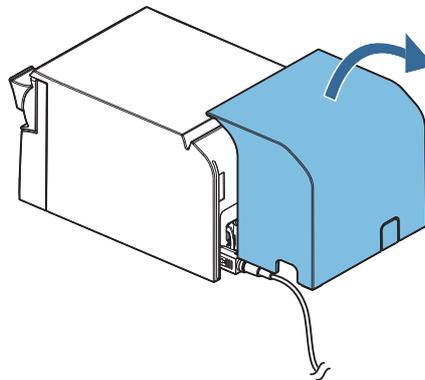
Attaching the Power Switch Cover

Install the power switch cover that comes with the TM-T70-i onto the product to prevent inadvertent changing of the power switch, to prevent tampering, and to improve the appearance of the product.

To operate the power switch, insert an object with a pointed tip such as a ballpoint pen into the hole on the power switch cover.

To detach the cover, also use a sharp-pointed object.
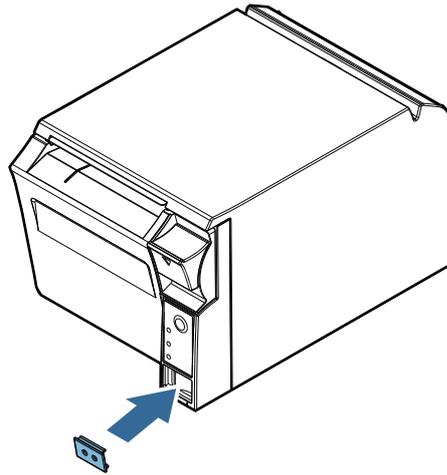
⚠ **WARNING**	**If an accident occurs with the power switch cover attached, unplug the power cord immediately.** Continued use of the product may cause fire or electric shock.

Network Setting

There are following methods for network settings.

- EPSON TMNet WebConfig: Set from the computer's web browser

- Easy Setup: Set from the USB memory where the configuration file is stored.
                                        (TM-i firmware Ver.3.0 or later)

This section briefly explains how to set from EPSON TMNet WebConfig.

NOTE	Though Easy Setup requires no network connection during setup, you must specify values for all the setting items available for EPSON TMNet WebConfig.

For about Easy Setup, refer to "TM-i Series Easy Setup Guide".

1. Connect via a wired LAN

Connect this product and a PC for setting via a wired LAN.

To use a wireless LAN, connect the wireless LAN unit to the USB port on this product.

2. Check the IP address of this product

When this product is turned on and becomes ready for printing, it prints out the automatically acquired IP address.

If no IP address is printed, print a status sheet and check the IP address.

3. Start EPSON TMNet WebConfig

Access the address bar of the Web browser on the PC for setting to start EPSON TMNet WebConfig.

When SSL is disabled: http://[This product's IP address]/webconfig

When SSL is enabled: https://[This product's IP address]/webconfig

For detail, see "Starting EPSON TMNet WebConfig" on page 76.

4. Set up TCP/IP

Select the [System Settings] menu and then [Wired] - [TCP/IP] or [Wireless] - [TCP/IP], and set TCP/IP.

After setting, click [Apply] at the bottom of the screen. Then the settings are written to the product. If [Apply] is not clicked, the settings are not applied.

For detail, see "System Settings - Network - Wired - TCP/IP" on page 89 or "System Settings - Network - Wireless - TCP/IP" on page 91.

5. Set up a wireless LAN

For a wireless LAN, select the [System Settings] menu and [Wireless], and set the items such as SSID and Security Mode.

After setting, click [Apply] at the bottom of the screen. Then the settings are written to the product. If [Apply] is not clicked, the settings are not applied.

For detail, see "System Settings - Network - Wireless" on page 90.

NOTE	• Be sure to change the SSID from the default value.
	• For security protection, encryption setting is strongly recommended.

6. Connect via a wireless LAN

To use a wireless LAN, disconnect the LAN cable from this product after setting is finished.

NOTE	This product cannot be used with the wired LAN connection and wireless LAN connection at the same time. The wired LAN connection has a priority.

Confirming Network Setting

You can confirm the network setting with a status sheet or EPSON TMNet WebConfig.

Confirming with a status sheet

Print a status sheet and check the following items.

- Wired TCP/IP
  - ∗ Get IP Address
  - ∗ Set using Automatic Private IP Addressing (APIPA)
  - ∗ IP Address
  - ∗ Subnet Mask
  - ∗ Default Gateway
- Wireless
  - ∗ Communication Standard
  - ∗ Network Mode
  - ∗ SSID
  - ∗ Wireless LAN Frequency Region
  - ∗ Ad-Hoc Channel
  - ∗ Authentication Method
  - ∗ Security Mode
- Wireless TCP/IP
  - ∗ Get IP Address
  - ∗ Set using Automatic Private IP Addressing (APIPA)
  - ∗ IP Address
  - ∗ Subnet Mask
  - ∗ Default Gateway

About how to print the status sheet, see .

Confirming with EPSON TMNet WebConfig

Refer to the followings.

-
-
-

Initializing the Network Setting

When network connection fails, follow the steps below to initialize the network setting to the default.

Details of initialization

When initialization is performed, the following EPSON TMNet WebConfig setting items are initialized. For details on EPSON TMNet WebConfig, refer to "EPSON TMNet WebConfig" on page 76.

- System Settings - Network - Wired - TCP/IP
  The IP address is set to DHCP.

- System Settings - Network - Wireless
  The wireless LAN connection mode is set to Infrastructure mode, and the SSID is initialized to the default value.

- System Settings - Network - Wireless - TCP/IP
  The IP address for the wireless LAN is set to "192.168.192.168".

- System Settings - Time - Time
  The time server is disabled and the time difference is initialized to the default value.

- Admin Settings - Administrator Information - Password
  The password required when starting up EPSON TMNet WebConfig is initialized to the default value.

NOTE	• EPSON TMNet WebConfig settings other than those listed above are not initialized. • Files registered to EPSON TMNet WebConfig are saved. (Certificate files, Web contents, PHP, etc.)

Initialization procedure

1　Load the paper on the product and turn on the product.

2　Push and hold the push button for 10 seconds or longer.
　　 The following initialization start message is printed.
　　 Press the push button with a thin object such as a tweezers.

Push button
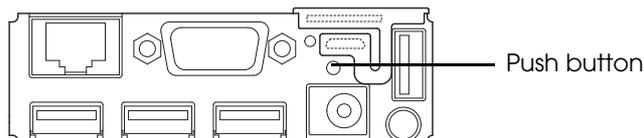
```
Resetting to Network Setting!
Please Wait...

WARNING: DO NOT
TURN OFF POWER
```

| CAUTION | Do not turn off the power until the initialization is completed. |

3　20 to 25 seconds later, the following message is printed, and a status sheet
　　 is printed out.

```
Reset to Network Setting Finished!

*****************************
      EPSON Status Sheet
*****************************
```

Enabling PHP

To use PHP on this product, enable PHP using EPSON TMNet WebConfig.

NOTE	The spooler cannot be used if PHP is enabled.

This section briefly explains the setup procedure.

1. Check the microSD card

Make sure that the microSD card is installed in the microSD card slot on this product.

2. Start EPSON TMNet WebConfig

Access the address bar of the Web browser on the PC for setting to start EPSON TMNet WebConfig.

When SSL is disabled: http://[This product's IP address]/webconfig/PHPSetting

When SSL is enabled: https://[This product's IP address]/webconfig/PHPSetting

3. Enable PHP

Select [Enable] from "PHP".

After setting, click [Apply] at the bottom of the screen. Then the settings are written to the product. If [Apply] is not clicked, the settings are not applied.

Enabling HTTPS Communication

To use HTTPS communication on this product, enable the SSL setting using EPSON TMNet WebConfig and register a certificate.

- To access the Web server (HTTPS server):
  Register the certificate issued by the certification authority (signature source for the Web server SSL certificate) to this product.

- To access the Web server (HTTPS server) or to use this product as a Web server (including PHP) :
  Make sure that the certificate issued by the certification authority (signature source for the SSL certificate to be imported to this product) has been imported to the device.

> **NOTE** You can use with TM-i firmware Ver.4.3 or later for this product.

This section briefly explains the setup procedure.

1. Connect this product to a network

Connect this product to a network and turn on the product.

2. Start EPSON TMNet WebConfig

Access the address bar of the Web browser on the PC for setting to start EPSON TMNet WebConfig.

When SSL is disabled: http://[This product's IP address]/webconfig

When SSL is enabled: https://[This product's IP address]/webconfig

For detail, see "Starting EPSON TMNet WebConfig" on page 76.

3. Set up SSL

Select the [System Settings] menu and then [Security] - [SSL], and set SSL settings.

After setting, click [Apply] at the bottom of the screen. Then the settings are written to the product. If [Apply] is not clicked, the settings are not applied.

For detail, see "System Settings - Security - SSL" on page 92.

Settings for Server Direct Print

Set up Server Direct Print using EPSON TMNet WebConfig.

This section briefly explains the setup procedure.

1. Connect this product to a network

Connect this product to a network and turn on the product.

2. Start EPSON TMNet WebConfig

Access the address bar of the Web browser on the PC for setting to start EPSON TMNet WebConfig.

When SSL is disabled: http://[This product's IP address]/webconfig

When SSL is enabled: https://[This product's IP address]/webconfig

For detail, see "Starting EPSON TMNet WebConfig" on page 76.

3. Set up Server Direct Print

Select the [Web Service Settings] menu and then [Direct Print], and set Server Direct Print settings.

After setting, click [Apply] at the bottom of the screen. Then the settings are written to the product. If [Apply] is not clicked, the settings are not applied.

For detail, see "Web Service Settings - Server Access - Direct Print" on page 86.

Settings for Connected Devices

The Epson ePOS SDK, ePOS-Device XML, ePOS-Print XML, Server Direct Print, and Device Data Notification systems identify controlled devices by the device ID. The device ID is registered in this product. Set the device ID using EPSON TMNet WebConfig.

This section briefly explains the setup procedure.

1. Connect the controlled devices

Physically connect (or connect via network) this product to all devices to be controlled by the product, and turn the power on.

For devices that can be controlled, see "Software Specifications" on page 110.

2. Check the information of the controlled devices

Check the type and IP address of devices to be controlled via this product.

In addition, check the device ID to be set for the controlled devices with the system administrator.

3. Start EPSON TMNet WebConfig

Access the address bar of the Web browser on the PC for setting to start EPSON TMNet WebConfig.

When SSL is disabled: http://[This product's IP address]/webconfig

When SSL is enabled: https://[This product's IP address]/webconfig

For detail, see "Starting EPSON TMNet WebConfig" on page 76.

4. Register the controlled devices

From [Printer], [Customer Display], [Key Input Device], or [Serial Communication Device] in the [Configuration] menu, register and set up the controlled devices.

After setting, click [Apply] or [Add] at the bottom of the screen. Then the settings are written to the product. If [Apply] or [Add] is not clicked, the settings are not applied.

For detail, see the following information.

- Printer: For setting this product and TM printer on the network device IDs and performing test prints. (page 80)

- Customer Display: For setting whether to use the Customer Display and performing test display. The communication settings of this product must be made to match the Customer Display's communication settings. The device ID is set to fixed, "local_display". (page 81)

- Key Input Device: For setting device IDs for barcode scanners and key input devices, selecting control scripts, and performing operational tests. (page 82)

- Serial Communication Device: For setting whether to use the Serial Communication Device, configuring communication settings, and performing communication tests. Communication settings of this product should match those of a serial communication device. The device ID is set to fixed, "local_serial". (page 82)

5. Check the controlled devices

Update the browser and confirm that the devices registered in the Device List are displayed.

Check if the registered devices operate properly.

Changing Device ID of This Product

To change the device ID of this product, select "local_printer" from "Model", and enter the device ID to be applied in "Device ID".

This section briefly explains the setup procedure.

1. Start EPSON TMNet WebConfig

Access the address bar of the Web browser on the PC for setting to start EPSON TMNet WebConfig.

When SSL is disabled: http://[This product's IP address]/webconfig

When SSL is enabled: https://[This product's IP address]/webconfig

For detail, see "Starting EPSON TMNet WebConfig" on page 76.

2. Change the device ID

From [Printer] in the [Web Service Settings] menu, change the device ID of this product.

Select [local_printer] from "Model" and enter the device ID to be applied in [Device ID].

After setting, click [Add] at the bottom of the screen. Then the settings are written to the product. If [Add] is not clicked, the settings are not applied.

For detail, see "Web Service Settings - Device Admin - Printer" on page 80.

3. Check the device ID

Update the browser and confirm that the device ID has been changed.

Registering Web Contents

Registering Web contents to this product allows the use of a Web server that is accessed from an input terminal for content distribution.

You can periodically update Web contents on this product by using a Web server for distributing Web contents that is separate from this product. You can update certificate files used by this product.

Creating Web Contents

This section explains the types of Web contents, and the folder configuration used.

Types of contents

- Web contents: HTML files, CSS files, JavaScript files, and Image data
- Certificate files: Server authentication certificate, SSL authentication certificate

File capacity

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

NOTE	• Use one-byte alphanumeric characters (ASCII characters) for a zip file name and sub-folder name. • The maximum size of the files before being zipped is 30 MB. Otherwise, registering fails. • Save crossdomain.xml and clientaccesspolicy.xml to the root folder if the user web application path is "/".

Folder configuration

Configure folders in the following manner.

<Example for sample program>

```
ePOS-Device_UM_E_Sample.zip .................: Zip file

├─index.html
├─css
│  └ *.css
├─img
│  ├ *.bmp
│  ├ *.jpg
│  └ *.png
├─js
│  └ *.js
├─sample
│  └ *.html
├─ssltrustedcerts.............................................: Server authentication certificate
│  └ example.pem
└─sslservercerts.............................................: SSL authentication certificate
   ├─ServerCrt.crt
   ├─ServerKey.key
   └ ChainCrt.crt
```

- To access the Web contents registered in this product from an input terminal or other device, the reference URL is different depending on the folder configuration of the zip file as shown below.

When SSL is disabled: ① http://[This product's IP address]/index.html
                        ② http://[This product's IP address]/webpage/index.php

When SSL is enabled: ① https://[This product's IP address]/index.html
                        ② https://[This product's IP address]/webpage/index.php

① epsonsample.zip
  ├ index.html
  ├ css
  │ └ *.css
  ├ img
  │ ├ *.bmp
  │ ├ *.jpg
  │ └ *.png
  ├ ssltrustedcerts
  │ └ certificate001.pem
  ├ js
  │ └ *.js
  └ sample
    └ *.html

② epsonsample.zip
  └ webpage .... : **A folder added**
    ├ index.php
    ├ css
    │ └ *.css
    ├ img
    │ ├ *.bmp
    │ ├ *.jpg
    │ └ *.png
    ├ js
    │ └ *.js
    └ sample
      └ *.html

Specifications for when PHP is enabled

The specifications for saving Web contents using PHP settings for this product are as follows.

Item	Specification	
	When enabling PHP:	When disabling PHP:
Content save location	microSD card	Inside this product
Registering Web contents	Overwrite [*1]	Replacement with existing file [*2]
Automatic updating of Web contents	Overwrite [*1]	Replacement with existing file [*2]
The maximum amount of Web content	Depends on the capacity of the microSD card	30 MB
The maximum amount of Web content that can be registered at once	30 MB	30 MB

*1: Overwrites the file with the same file name. Files are not deleted if file names differ.

*2: Saves a new file after deleting all existing files.

Verifying the integrity of Web contents with md5 files

You can verify the integrity of auto updating Web contents with md5 files. When this product acquires a Web content file, an md5 file is downloaded to the Web server, if available. The md5 value of the md5 file is compared to the md5 value calculated from the Web content file and, if the values match, the Web content file is unpacked and extracted. If these values are inconsistent, the file is not unpacked and extracted.

Preparation

- Create an md5 file with the same file name as the Web content file. Only write the md5 value of the Web content file (zip) in the file.

- Save the md5 file to the same folder as the Web content file.

Check Verification

You can check the results of running an automatic update from [Information] - [Web Contents] - [Status of Last Automatic Update] in the EPSON TMNet WebConfig.

For detail, refer to "Information - Web Contents" on page 79.

Certificate files

You can automatically update Server authentication certificates and SSL authentication certificates using the Web contents automatic update function.

You can download and use Server authentication certificates for this product. For detail, refer to "System Settings - Security - SSL" on page 92.

Make sure to update certificate files, including certificates in use.

CAUTION	Make sure to replace certificate files by deleting existing certificate files and saving new certificate files. You will be unable to connect if certificate files currently in use are not included. Make sure to include certificates currently in use in the Web content file each time.

File Specifications

Save certificate files to the following folders.

- Server authentication certificate: ssltrustedcerts
- SSL authentication certificate: sslsevercerts

Use the following file names for SSL authentication certificate files.

Type	File name
Certificate file	SeverCrt.crt
Private key file	ServerKey.key
Certificate chain file	ChanCrt.crt

Registering Web Contents

To register a web content in this product, the following methods are available:

- Manual Update: Web contents are registered manually by using EPSON TMNet WebConfig.
- Automatic Update: Web contents are saved in the Web server and automatically updated by the product referring to the files periodically.

CAUTION	You can access the web application even when a web content update is in progress. If you wish to ensure compatibility between programs when linking and running multiple PHP files, be sure to send a maintenance notification in advance or to choose a design that does not require you to stop the PHP application.

Manual Update

1. Connect this product to a network

Connect this product to a network and turn on the product.

2. Start EPSON TMNet WebConfig

Access the address bar of the Web browser on the PC for setting to start EPSON TMNet WebConfig.

When SSL is disabled: http://[This product's IP address]/webconfig

When SSL is enabled: https://[This product's IP address]/webconfig

For detail, see .

3. Register the Web contents

From [Update Settings] in the [Web Service Settings] menu, register the Web contents to this product.

Click [Browse...], specify the zip file to be registered, and then click [Upload].

For detail, see .

Automatic Update

1. Connect this product to a network

Connect this product to a network and turn on the product.

2. Start EPSON TMNet WebConfig

Access the address bar of the Web browser on the PC for setting to start EPSON TMNet WebConfig.

When SSL is disabled: http://[This product's IP address]/webconfig

When SSL is enabled: https://[This product's IP address]/webconfig

For detail, see "Starting EPSON TMNet WebConfig" on page 76.

3. Set automatic update of Web contents

From [Update Settings] in the [Web Service Settings] menu, set automatic update of Web contents.

Select [Enable] from "Automatic Update".

Configure the settings such as the update frequency and timing of Web contents and the URL of the server where the file to be obtained is stored.

After setting, click [Apply] at the bottom of the screen. Then the settings are written to the product. If [Apply] is not clicked, the settings are not applied.

For detail, see "Web Service Settings - Web Contents - Update Settings" on page 85.

2

Settings for Spooler

To use the spooler with this product, you need to enable the spooler using EPSON TMNet WebConfig.

NOTE	• PHP cannot be used if the spooler is enabled. • You can use with TM-i firmware Ver.4.1 or later for this product.

This section gives an overview of the setup procedure.

1. Connect this product to the network

Connect this product to the network and turn on the power.

2. Start EPSON TMNet WebConfig

On the setup computer, enter the following into the address bar of your Web browser to start EPSON TMNet WebConfig.

When SSL is disabled: http://[This product's IP address]/webconfig

When SSL is enabled: https://[This product's IP address]/webconfig

For details, see "Starting EPSON TMNet WebConfig" on page 76.

3. Set the Spooler

Make spooler operation settings from [Settings] on the [Web Service Settings] menu.

Select [Enable] from [Spooler].

Set the number of retry times and the retry interval when the printer is not ready to print in [Retry Settings].

After making settings, click [Apply] at the bottom of the screen. The settings are saved to this product. Settings are not enabled unless you click [Apply].

For details, see "Web Service Settings - Spooler - Settings" on page 83.

Settings for Print Forwarding

To use print forwarding on this product, you need to register the print forwarding route using EPSON TMNet WebConfig.

> **NOTE**
> - You can use with TM-i firmware Ver.4.1 or later for this product.
> - When using print forwarding, make sure you enable the spooler.

This section gives an overview of the setup procedure.

1. Connect this product to the network

Connect this product to the network and turn on the power.

2. Start EPSON TMNet WebConfig

On the setup computer, enter the following into the address bar of your Web browser to start EPSON TMNet WebConfig.

When SSL is disabled: http://[This product's IP address]/webconfig

When SSL is enabled: https://[This product's IP address]/webconfig

For details, see "Starting EPSON TMNet WebConfig" on page 76.

3. Set the Spooler

Enable the spooler settings, and then set the number of retry times and the retry interval. For details, see "Settings for Spooler" on page 60.

4. Set the Print Forwarding Route

Set the print forwarding route from [Print forwarding] on the [Web Service Settings] menu.

In [Message Text], set the notification message printed when print forwarding occurs, and then click [Apply]. The settings for the forwarding message are saved to this product.

From [Print forwarding route to be registered], set the printer and location used for the print forwarding route, and then click [Register]. The settings for the print forwarding route are saved to this product.

After making each setting, click [Apply] or [Register]. Settings are not enabled unless you click [Apply] or [Register].

For details, see "Web Service Settings - Spooler - Print forwarding" on page 84.

Settings for Device Data Notification

To use the device data notification function with this product, you need to make the following settings using EPSON TMNet WebConfig.

- Set the ID for the input device
- Set the target server
- Set the print message output when an error occurs

NOTE	You can use with TM-i firmware Ver.4.1 or later for this product.

This section gives an overview of the setup procedure.

1. Connect this product to the network

Connect this product to the network and turn on the power.

2. Start EPSON TMNet WebConfig

On the setup computer, enter the following into the address bar of your Web browser to start EPSON TMNet WebConfig.

When SSL is disabled: http://[This product's IP address]/webconfig

When SSL is enabled: https://[This product's IP address]/webconfig

For details, see "Starting EPSON TMNet WebConfig" on page 76.

3. Set the Device Data Notification

Make the necessary settings from [Device Data Notification] on the [Web Service Settings] menu.

After making settings, click [Apply] at the bottom of the screen. The settings are saved to this product. Settings are not enabled unless you click [Apply].

For details, see "Web Service Settings - Server Access - Device Data Notification" on page 88.

Application Development Information

This chapter describes how to control the product and gives information useful for product application development.

Controlling the Printer

The method for controlling the printer with your print application will depend on the system structure.

Controlling method	System	Page
Controlling printing and peripherals from iOS, Android and Windows applications, and Web applications.	Epson ePOS SDK The Epson ePOS SDK is a software development kit that integrates the ePOS-Print SDK and the ePOS-Device SDK.	page 64
Controlling printing and peripheral operations from computer, smartphone, tablet terminals, and other devices	ePOS-Device XML	page 65
Print from devices such as computers, smartphones, or tablets using a Web service	ePOS-Print XML	page 67
Notification for data from the device is sent to the Web server which triggers the application (TM-i firmware Ver. 4.1 or later)	Device Data Notification	page 69
Web server application prints by including print data in its responses to requests from the product	Server Direct Print	page 68
Web system using this product as a Web server	Web Server	page 70
Spooler and Print Forwarding (Supported by TM-i firmware Ver. 4.1 or later)	This function is available in combination with the following systems. • Epson ePOS SDK • ePOS-Device XML • ePOS-Print XML • Device Data Notification • Server Direct Print	page 71

Epson ePOS SDK

The Epson ePOS SDK is an SDK for developing iOS, Android and Windows applications, and Web applications. You can use the Epson ePOS SDK to control the printer with simple code.

Additionally, you can control customer displays, bar code scanners and other POS peripherals [1] connected to this product, and TM printers connected to the network. Further, you can also develop application software using proprietary TM-Intelligent printer functions, such as the spooler [2] function and the communication box.

*1: It is not available for TM-T70-i (without a Serial port).

*2: Supported by TM-i firmware Ver. 4.1 or later.
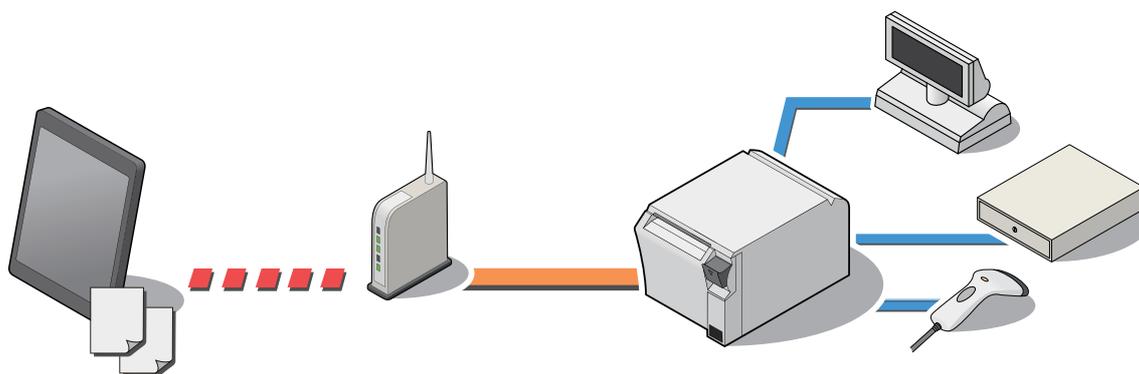
Operation environment

For more information on the recommended operation environment for application software, refer to the Epson ePOS SDK User's Manuals.

Package

The following packages are provided.

- Epson ePOS SDK for iOS
- Epson ePOS SDK for Android
- Epson ePOS SDK for Universal Windows apps
- Epson ePOS SDK for JavaScript

Web Contents

A Web reference is provided on the following web site.

https://reference.epson-biz.com/pos/reference/

How to obtain

Download from our web site.

ePOS-Device XML

ePOS-Device XML is a command system that uses XML to define functions to control various POS peripherals (including this product printer unit) connected to this product. An application creates a request message in XML format and sends it to this product using socket communications.

This product executes control on peripherals and returns a response.

This command system has the following features:

- It enables use of the following devices via this product:
  - Printing to TM printers on the network
  - Displaying to the customer display
  - Barcode scanner of USB interface, input via keyboard, etc.
  - Transmission/reception to/from serial communication device [1]
- Since print data can be saved in the spooler, the application can be released from print processing regardless of the printer status. [2]
- When a network printer is registered, forwarding process can be realized. Also when the printer is unavailable, you can print from another printer. [2]

*1: It is not available for TM-T70-i (without a Serial port).

*2: Supported by TM-i firmware Ver. 4.1 or later.
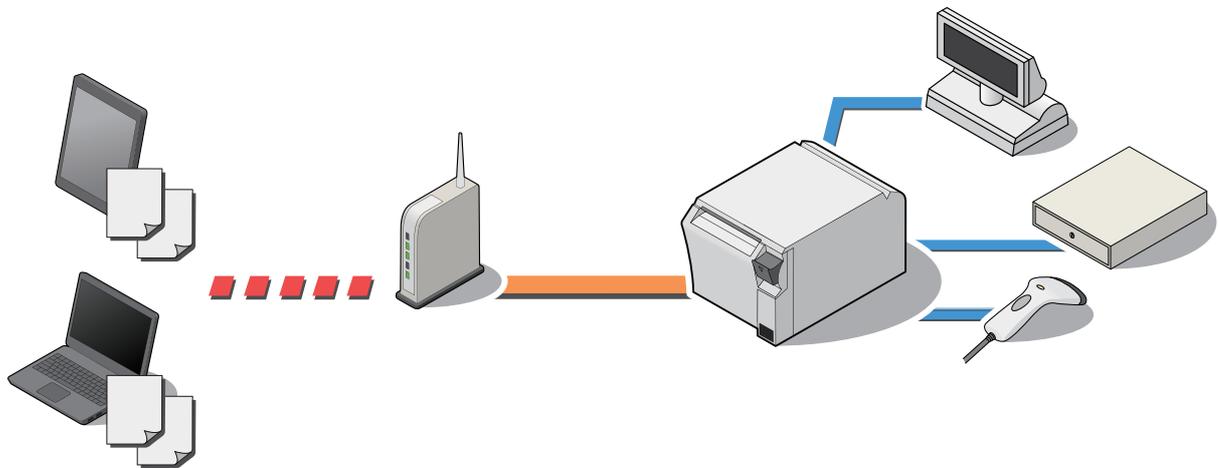
Operation environment

Application

Environment capable of performing socket communications and handling XML documents

OS

Example: iOS, Android, Windows, Linux, MacOS, etc.

Terminal

Environment connected to the network and capable of performing socket communications

Example: Smartphone, tablet devices, computer, etc.

The package includes:

- ePOS-Device XML User's Manual

- Sample program

How to obtain

Download from our web site.

ePOS-Print XML

ePOS-Print XML is a POS printer command system that uses XML to define the main functions for the ESC/POS command system. The application creates a request message in XML format and sends it to this product using HTTP.

You can print using this product as well as TM printers on a network.

This command system has the following features:

- Print in environments that allow HTTP/HTTPS communication.
- Print using this product as well as TM printers on a network.
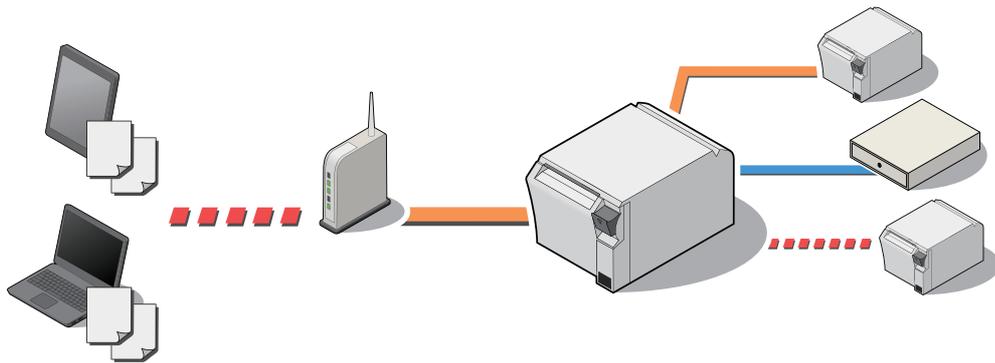
3

Operation environment

Application

Environment that allows HTTP/HTTPS communication and that can handle XML documents

OS

Example: iOS, Android, Windows, Linux, MacOS, and so on

Devices

Environment connected to a network and that allows HTTP/HTTPS communication
Examples: Smartphones, tablets, computers, and so on

The package includes:

The following is provided with the ePOS-Print XML User's Manual package.

- ePOS-Print XML User's Manual
- XML schema files
- Sample programs
- ePOS-Print Editor

How to obtain

Download from our web site.

Server Direct Print

The Server Direct Print function is used to print the print data acquired by this product from the Web server.

Enables a web server application to print to this product or a TM printer on the network by including print data in its responses to requests from the product.

This function has the following features:

- Can acquire print data from three different URLs. Print data can be used in ePOS-Print XML format.

- Printable to TM printers on the network via TM-T70-i.
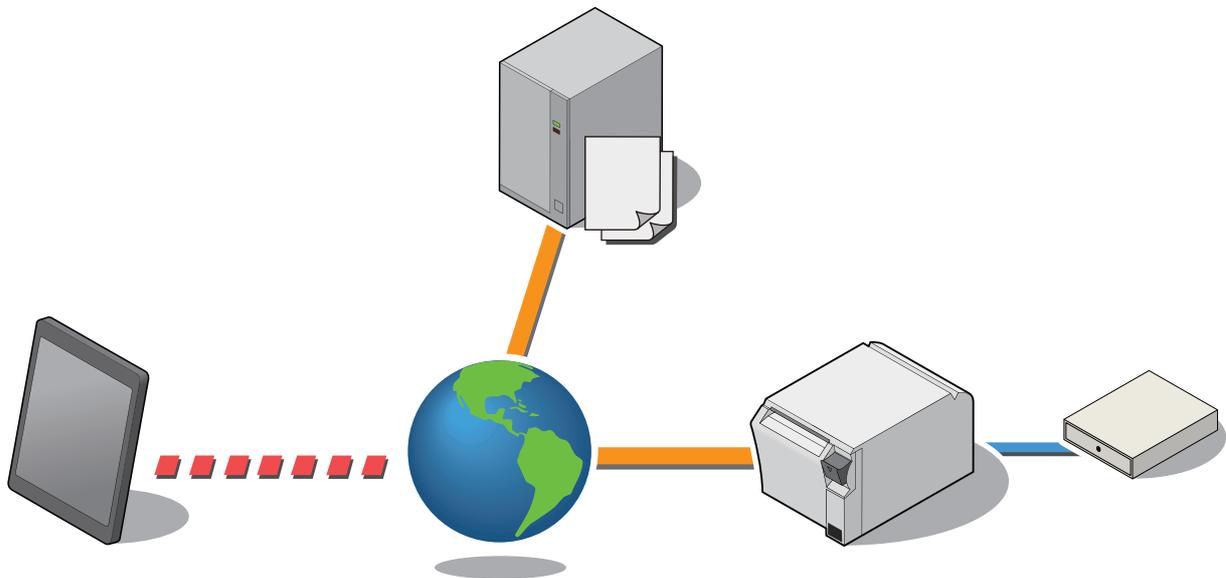
The package includes:

- Server Direct Print User's Manual
- Sample programs in ePOS-Print XML format

How to obtain

Download from our web site.

Device Data Notification

| NOTE | You can use with TM-i firmware Ver.4.1 or later for this product. |

Data from the device can be requested to the Web server to trigger the application.

The response generated by the request of this product can include print data in ePOS-Device XML format, device control, and communication box control.

This comes with the following features.

- Input devices: Key input devices such as barcode scanners, serial communication devices, communication boxes

- Devices that can be controlled by responses from a Web server: Printers, customer displays, serial communication devices, and communication boxes
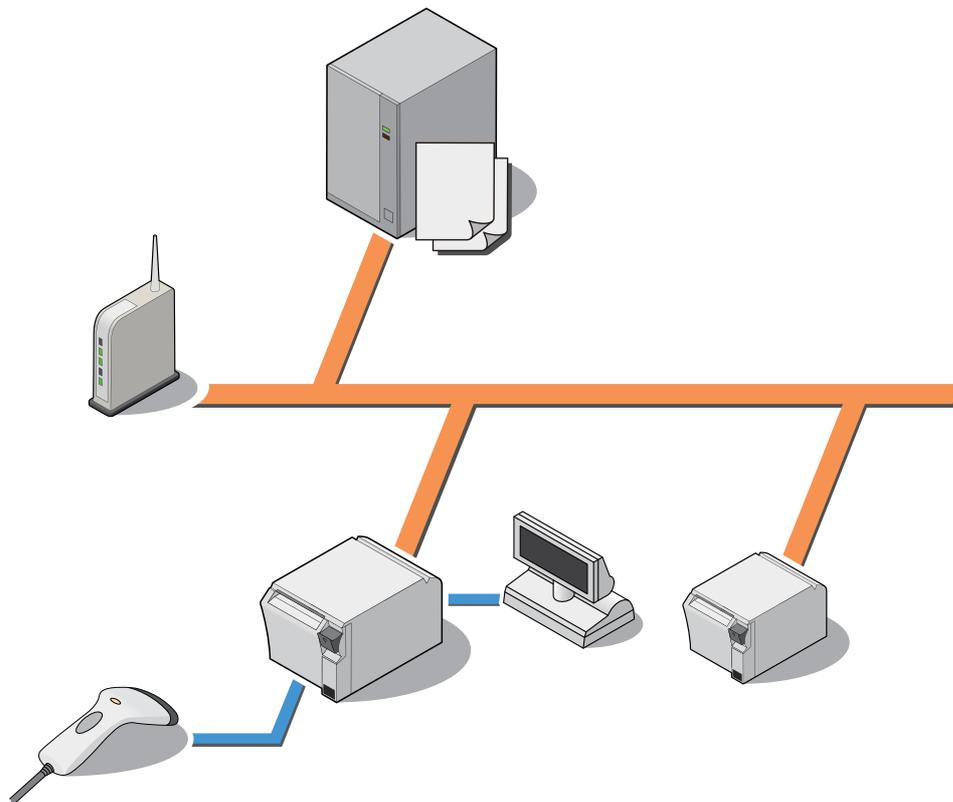
The package includes:

The following is provided with the Device Data Notification User's Manual package.

- Device Data Notification User's Manual

- Sample programs

How to obtain

Download from our web site.

Web Server

Equipped with Web server that supports the scripting language "PHP" and database "SQLite3".
Using contents created with PHP, you can:

• Create dynamic Web pages.

• Manage user data by saving files and operating database.

The Web contents registered on this product can be automatically obtained or updated from a specified URL.
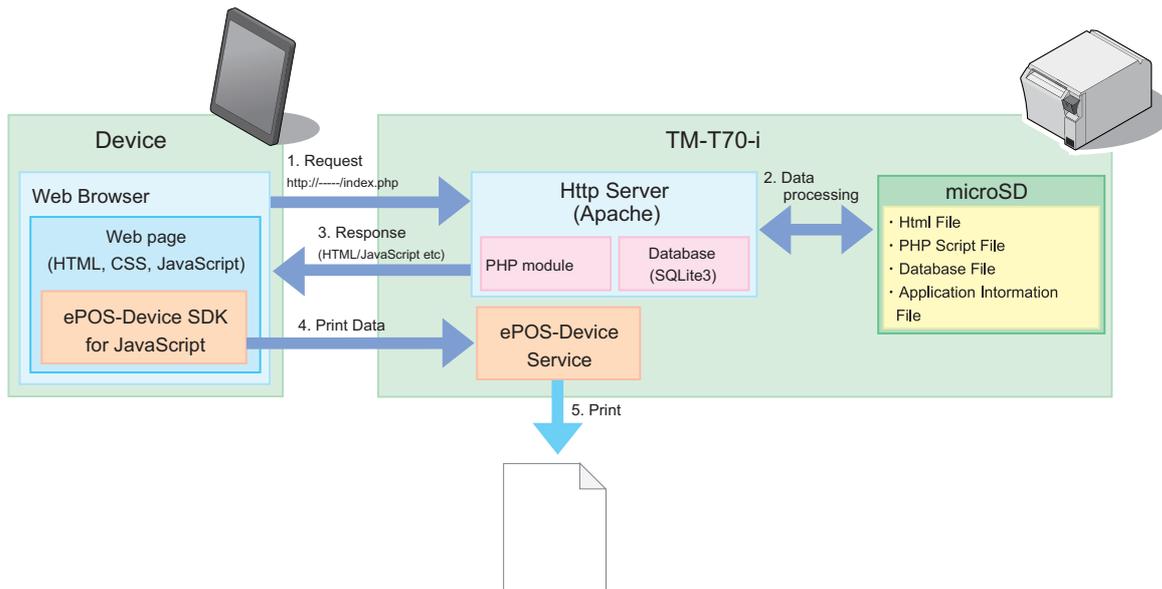
The package includes:

• PHP Setup Manual

• Sample program

How to obtain

Download from our web site.

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.

3
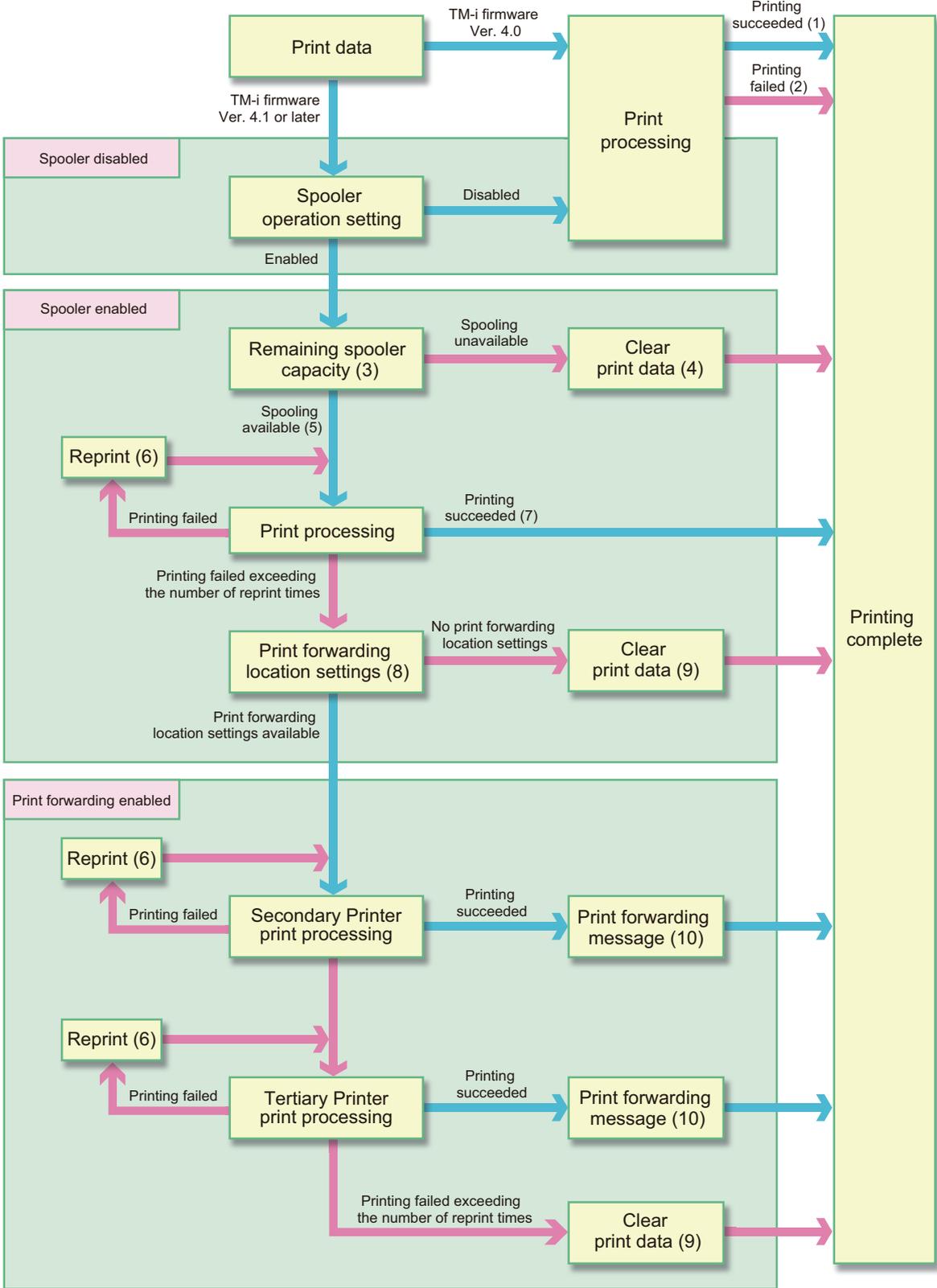
CAUTION	• When this product is turned off, data in the spooler and the log storage area is cleared.
	• When printing cannot be performed with this products spooler or print forwarding, the print data is cleared. If printing has not been completed when checking in the application, we recommend reprinting.
	• Print data that is too large for the remaining free space in the spooler is cleared. For the spooler capacity, see "Software Specifications" on page 110.
	• If the number of job IDs exceeds the maximum storage number, the IDs are overwritten starting with the oldest first. For the maximum storage number, see "Software Specifications" on page 110.
	• You cannot check the print results such as the spooler print data or job IDs from EPSON TMNet WebConfig.

- (1): TM-i firmware Ver. 4.0: [Print result = true] is returned to the application.
  TM-i firmware Ver. 4.1 or later: [JobID, Print result = true] is returned to the application.

- (2): TM-i firmware Ver. 4.0: [Print result = false, Error code = Printer status] is returned to the application.
  TM-i firmware Ver. 4.1 or later: [JobID, Print result = false, Error code = Printer status] is returned to the application.

- (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 "Web Service Settings - Spooler - Settings" on page 83.

- (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.

- (8): Make the print forwarding location settings in EPSON TMNet WebConfig. For details, see "Web Service Settings - Spooler - Print forwarding" on page 84.

- (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 "Web Service Settings - Spooler - Print forwarding" on page 84.

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

The method for checking the print results differs for each system.

- ePOS-Device XML and ePOS-Print XML:
  Request the empty print data specified for the job ID from the application.
  For details, see the ePOS-Device XML User's Manual or the ePOS-Print XML User's Manual.

- Epson ePOS SDK:
  Use an API that acquires job IDs to acquire the print results from the application.
  For more information on the recommended operation environment for application software, refer to the Epson ePOS SDK User's Manuals.

- Server direct print:
  Return the empty print data specified for the job ID as the response to the print request from this product.
  For details, see the Server Direct Print User's Manual.

- Device data notification:
  Request the empty print data specified for the job ID in ePOS-Device XML format.
  For details, see the Device Data Notification User's Manual.

When an inquiry is made from the application for the print results, this product returns the following information.

- Printing succeeded: [JobID, Print results = true]

- Printing failed: [JobID, Print result = false, Error code = Printer status]

- Printing or print forwarding: [JobID, Print result = false, Error code = Printing]

Software and Manuals

The following software and manuals are provided for application development.

CAUTION	• To use the Memory Switch Setting Utility or the Logo Registering Utility, connect the product with a PC for setting via the Micro-USB cable or LAN cable. Connecting the product with a PC via an wireless LAN is not possible. • After using the Memory Switch Setting Utility or the Logo Registering Utility, be sure to turn off the product, and then turn it on.

Software

Software	Description	Manual
Memory Switch Setting Utility	It is used when making changes to the printer's memory switches and customized value settings.	Memory Switch Setting Utility User's Manual
Epson Monitoring Tool	Use to check a list of status for the Epson printers connected to the network. You can also update certificates for multiple printers used for WPA-Enterprise in a batch.	Epson Monitoring Tool User's Manual
Logo Registering Utility	Utility for registering graphics such as logos. If use the utility, connect product to computer with the USB cable (Type A-micro B).	Install Manual
Epson ePOS SDK	The Epson ePOS SDK is a software development kit that integrates the ePOS-Print SDK and the ePOS-Device SDK. The ePOS-Device SDK does not support new products and functions released following the release of the Epson ePOS SDK. It is recommended that application software developed with the ePOS-Device SDK is migrated to the Epson ePOS SDK. For detail, refer to the Migration Guide included with the Epson ePOS SDK.	• Epson ePOS SDK for iOS User's Manual • Epson ePOS SDK for iOS Migration Guide • Epson ePOS SDK for Android User's Manual • Epson ePOS SDK for Android Migration Guide • Epson ePOS SDK for Universal Windows apps User's Manual • Epson ePOS SDK for JavaScript User's Manual • Epson ePOS SDK for JavaScript Migration Guide
ePOS-Device XML	Sample files are provided for ePOS-Device XML.	ePOS-Device XML User's Manual
Server Direct Print	Sample files are provided for Server Direct Print.	Server Direct Print User's Manual
ePOS-Print XML	Sample files are provided for ePOS-Print XML.	ePOS-Print XML User's Manual

Software	Description	Manual
Device Data Notification	Sample files are provided for Device Data Notification.	Device Data Notification User's Manual
TM-i Firmware Update Tool	Tool for updating the TM-i firmware.	-

Manual

Manual name	Description	Providing method
TM-T70-i User's Manual	Describes how to use and set up this product.	Included with the product
TM-T70-i Start Here	Describes points to be checked before using this product.	Included with the product
TM-T70-i Technical Reference Guide (TM-i Firmware Ver.4.0 or later)	This document. Describes how to handle and set up this product.	Web
DM-D110/DM-D210 Technical Reference Guide	Describes how to handle and set up the DM-D110/DM-D210.	Web
OT-WL01 User's Manual	Included in the wireless LAN cable set (OT-WL01).	Included with the product
TM-i series WebConfig API User's Manual	Packs an API for setting EPSON TMNet WebConfig for this product. Using this API, you can set and reference EPSON TMNet WebConfig values from your application.	Web
PHP Setup Manual	Describes how to establish the PHP environment with the this product.	Web
TM-i series Easy Setup Guide	Explains procedures that enable settings on the TM-i to be made in a simple manner. You make the settings using a USB memory that contains a file of EPSON TMNet WebConfig setting values.	Web

How to Get Manuals and the Utility

You can obtain manuals and utilities from one of the following URLs.

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

EPSON TMNet WebConfig

EPSON TMNet WebConfig is a Utility to set the product on a web browser.

This section describes EPSON TMNet WebConfig using Internet Explorer as a browser.

Starting EPSON TMNet WebConfig

Follow the steps below to start up EPSON TMNet WebConfig.

1 Start up a PC connected to the network.

2 Start up the web browser, and input the following.
When SSL is disabled: http://[This product's IP address]/webconfig
When SSL is enabled: https://[This product's IP address]/webconfig
EPSON TMNet WebConfig starts.

> **NOTE**
> - For the product's IP address, see the status sheet. For the status sheet, see "Confirming with a status sheet" on page 47.
> - A user name and a password will be required on the authentication screen. Enter "epson" for both the user name and the password. You can change the password on the [Password Setting] screen (see "Admin Settings - Administrator Information - Password" on page 94.).

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.

General Information

You can check the general information of the TM-T70-i.

Item		Description
Administrator Name		Displays the administrator name set by the user.
Location/Person		Displays the product's installation location set by the user.
Firmware Version		Shows the TM-i firmware version of the TM-T70-i.
ePOS-Device Version		Shows the ePOS-Device service version.
Printer Serial Number		Shows the serial number of the TM-T70-i.
Wired	MAC Address	Shows the MAC address for wired LAN.
Wireless	MAC Address	Shows the MAC address for wireless LAN.
	Hardware Version	Shows the hardware version for wireless LAN.
	Software Version	Shows the software version for wireless LAN.
	Communication Standard	Shows the communication standard.
	Network Mode	Shows the communication mode.
	SSID	Shows the SSID.
	Wireless LAN Frequency Region	Shows region codes.
	Ad-Hoc Channel	Shows the ad-hoc channel.
	Access Point (MAC Address)	Shows the MAC address for the access point.
	Signal Condition	Shows the signal strength.
SSL	SSL settings	Shows whether the SSL is enable or disable.
	Domain of the certificate	Shows the domain of the certificate.
	Validity period of the certificate	Shows the validity period of the certificate.
Time		Shows the date and the present time.
Refresh		Refreshes the information.

3

Information - Wired - TCP/IP

You can check the TCP/IP setting for a wired LAN.

Item	Description
Get IP Address	Shows the method of getting the IP address.
Set using Automatic Private IP Addressing (APIPA)	Shows the APIPA setting.
IP Address	Shows the IP address set with the wired LAN. Nothing is shown when the wireless LAN is enabled.
Subnet Mask	Shows the subnet mask set with the wired LAN. Nothing is shown when the wireless LAN is enabled.
Default Gateway	Shows the default gateway set with the wired LAN. Nothing is shown when the wireless LAN is enabled.
Acquire DNS Server Address Automatically	Shows the method of getting the address of the DNS server.
DNS Server Address	Shows the addresses of the DNS server in order of usage when (Acquire DNS Server Address Automatically) is set to (Enable).

Information - Wireless - TCP/IP

You can check the TCP/IP setting for a wireless LAN when the optional wireless LAN cable set (OT-WL01) is used.

Item	Description
Get IP Address	Shows the method of getting the IP address.
Set using Automatic Private IP Addressing (APIPA)	Shows the APIPA setting.
IP Address	Shows the IP address set with the wireless LAN. Nothing is shown when the wired LAN is enabled.
Subnet Mask	Shows the subnet mask set with the wireless LAN. Nothing is shown when the LAN is enabled.
Default Gateway	Shows the default gateway set with the wireless LAN. Nothing is shown when the wired LAN is enabled.
Acquire DNS Server Address Automatically	Shows the method of getting the address of the DNS server.
DNS Server Address	Shows the addresses of the DNS server in order of usage when (Acquire DNS Server Address Automatically) is set to (Enable).

Information - Web Contents

You can check the update setting for web contents.

Item	Description
Update Schedule	Shows whether to enable or disable automatic update of Web contents. Shows the automatic update schedule when automatic update is enabled.
File URL	Shows the URL for the web content file to update automatically.
Date of Installed Web Contents	When automatic update setting is enabled: 　　Shows the date and time when the registered web contents were created. When manual update setting is disabled: 　　Shows "-".
Date of Last Automatic Update	Shows the latest date and time when the web contents were installed on the TM-T70-i automatically.
Status of Last Automatic Update	Shows the result of the last update of web contents on the TM-T70-i.

Information - Time

You can check the time setting.

Item	Description
Time	Shows the date and the present time.
Use Time Server	Shows whether time server is used for time setting.
Get Time Server	Shows the method of getting time server.
Time Server	Shows the IP address or host name of the time server.
Time Server Status	Shows the result of communication with the time server.

Web Service Settings - Device Admin - Printer

You can set printers or check their operation.

CAUTION	- This product cannot be deleted from a device. - The "device ID" for this product can be changed. For detail, see to "Changing Device ID of This Product" on page 54.

Item		Description
Printer to be registered	Device ID	Sets the ID of a printer to register.
	Model	Selects the model of a printer to register.
	IP Address	Sets the IP address of a printer to register.
	Retry Interval (ms)	Sets the retry interval of a printer to register.
	Add	Adds a printer to the Device List.
Registered printers		Displays a list of registered printers.
	Test Print	Performs a test printing. When SSL is enabled on this product, make sure that the certificate issued by the signature source certification authority of the SSL certificate imported to this product is registered in the computer or device.
	Delete	Deletes a registered printer.

Web Service Settings - Device Admin - Customer Display

You can use this to set communication with the customer display and check its operation.

Item		Description
Customer Display		Set whether to use the Customer Display.
Communica-tions settings	Communications speed (bps)	Set the communication speed.
	Data bit	Set the data bit length.
	Parity	Set the parity.
Brightness settings		Set the brightness of the customer display. You can set 20%, 40%, 60%, or 100%. The maximum bright-ness is 100%.
Test display		Performs a test display to the customer display. When SSL is enabled on this product, make sure that the certificate issued by the signature source certification authority of the SSL certificate imported to this product is registered in the computer or device.
Apply		Saves settings to TM-T70-i.

NOTE

Communication speed and other items must be set for this product in order to control the customer display as an RS232C-compliant serial communication device. Set these items to match the communication conditions of the customer display connected to.
- There is no need to install a USB RS232 conversion driver.
- If you use the default settings unchanged, there will be no need to alter the communication settings.

Web Service Settings - Device Admin - Key Input Device

You can set the key input device or check their operation.

Item		Description
Key input device to be registered	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.
Add		Adds a device to the Device List.
Registered key input devices		Displays a list of registered key input devices.
	Operating test	Performs an operating test for a registered key input device. When SSL is enabled on this product, make sure that the certificate issued by the signature source certification authority of the SSL certificate imported to this product is registered in the computer or device.
	Delete	Deletes a registered key input device.

Web Service Settings - Device Admin - Serial Communication Device

You can use this to set communication with a serial communication device and check its operation.

CAUTION	It is not available for TM-T70-i (without a Serial port).

Item		Description
Serial communication device		Set whether to use the Serial communication device.
Communications settings	Communications speed (bps)	Set the communication speed.
	Data bit	Set the data bit length.
	Parity	Set the parity.
	Stop bit	Set the stop bit.
	Flow control	Set the flow control.
Communication test		Performs a communication test. When SSL is enabled on this product, make sure that the certificate issued by the signature source certification authority of the SSL certificate imported to this product is registered in the computer or device.
Apply		Saves settings to TM-T70-i.

Web Service Settings - Device Admin - Search Printer

You can search and configure printers connected to this product through the network.

Item		Description
List of detected printers	Printer	Lists the printers connected to the same subnet network as this product, and their information.
	TCP/IP Setting	For making the TCP/IP setting for printers detected.
	Wireless LAN Setting	For making the wireless LAN setting for printers detected.
Refresh		Updates information.

Web Service Settings - Spooler - Settings

You can set the spooler settings.

NOTE	• You can use with TM-i firmware Ver.4.1 or later for this product. • PHP cannot be used if the spooler is enabled.

Item			Description
Basic Settings	Spooler		Enable or disable the spooler function.
Retry Settings	Retry	Count	Set the number of retry times when a print error occurs. When print forwarding is set and an error occurs the set number of times, printing is performed using the print forwarding route.
		Interval(s)	Set the retry interval when a print error occurs.
Apply			Save settings to TM-T70-i.

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Web Service Settings - Spooler - Print forwarding

You can set the print forwarding route when using print forwarding with this product.

| NOTE | • You can use with TM-i firmware Ver.4.1 or later for this product.
• When using print forwarding, make sure you enable the spooler. |

Item		Description
Message Text	Message Text	Set the text printed on notification messages when print forwarding occurs. One-byte alphanumeric characters: within 255 characters
	Text Attributes	Set the text decorations for notification messages.
	Position	Set the print position for notification messages.
	Cut	Set whether or not to cut paper after printing a notification message.
Apply		Save the notification message settings for this product.
Print forwarding route to be registered	Primary Printer	Set the printer used for the print forwarding route.
	Secondary Printer	Set the printer for the print forwarding location when printing fails on the primary printer.
	Tertiary Printer	Set the printer for the print forwarding location when printing fails on primary printer and secondary printer.
Register		Save the settings for the print forwarding route to TM-T70-i.
Registered Print forwarding routes		Display a list of the registered print forwarding routes.
	Delete	Clears the settings for selected print forwarding routes.

Web Service Settings - Web Contents - Update Settings

You can use this to register web contents in this product and set updating for them.

See also "Registering Web Contents" on page 55.

Item		Description
Automatic Update Settings	Automatic Update	Selects the method of updating web contents. Selecting (Enable) enables "Automatic Update Settings". Selecting (Disable) enables "Web Contents Manual Update".
	Frequency	Sets the frequency of automatic update for web contents.
	Timing	Sets the timing of automatic update for web contents.
	Update Time	Sets the start time of automatic update for web contents.
	ID	Sets ID for identifying this product at the Web server when (Automatic Update) is set to (Enable). 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	Set the user ID and password used for Digest authentication. Make sure to set a password as Digest authentication cannot be performed for the user ID without a password.
	File URL	Specifies the URL for a file to update automatically. After specifying it, clicking (File Access Test) checks whether the URL is specified correctly.
	Authenticate Server	Sets whether the server authentication is performed with the registered certificate when accessed through https.
	Apply	Saves settings to TM-T70-i.
Web Contents Manual Update	Web Contents Archive File (*.zip)	Specifies the web content files to register.
	Upload	Registers the specified web contents on the TM-T70-i.

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Web Service Settings - Server Access - Direct Print

You can set server direct print for the TM-T70-i.

Item		Description
Server Direct Print		Sets whether to use the Server Direct Print function or not. Select (Enable) or (disable).
ID		Set ID for the server-side program to identify TM-T70-i when (Server Direct Print) is set to (Enable). This ID becomes the user ID used for Digest access authentication. The set value will also be passed as an ID parameter value for the form data posted to the server.
Password		Set the user ID and password used for Digest authentication. Make sure to set a password as Digest authentication cannot be performed for the user ID without a password.
Server1 to 3	URL	Specifies the Web server URL and the application path when (Server Direct Print) is set to (Enable). **Example: http://(IP address of Web server)/Test_print.php** Click the (Access Test) button to check if the address is accessible.
	Interval(s)	Set the request interval when (Server Direct Print) is set to (Enable).
Authenticate Server		Sets whether the server authentication is performed with the registered certificate when accessed through https.
Apply		Saves settings to TM-T70-i.

Web Service Settings - Server Access - Status Notification

You can set Status Notification for the TM-T70-i.

Item	Description
Status Notification	Sets whether to use the Status Notification function or not. Select (Enable) or (Disable).
ID	Set ID for the server-side program to identify TM-T70-i when (Status Notification) is set to (Enable). This ID becomes the user ID used for Digest access authentication. The set value will also be passed as an ID parameter value for the form data posted to the server.
Password	Set the user ID and password used for Digest authentication. Make sure to set a password as Digest authentication cannot be performed for the user ID without a password.
URL	Specify the Test_print.php address of the Web server when (Status Notification) is set to (Enable). **Example: http://(IP address of the Web Server)/Test_status.php** Click the (Access Test) button to check if the address is accessible.
Interval(s)	Set the request interval when (Status Notification) is set to (Enable).
Authenticate Server	Sets whether the server authentication is performed with the registered certificate when accessed through https.
Apply	Saves settings to TM-T70-i.

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Web Service Settings - Server Access - Device Data Notification

Set the device data notification for this product.

Item			Description
Settings	Device Data Notification		Sets whether to use the Device Data Nortification function or not. Select (Enable) or (Disable).
	Server Access	ID	Set ID for the server-side program to identify TM-T70-i when (Device Data Notification) is set to (Enable). This ID becomes the user ID used for Digest access authentication. The set value will also be passed as an ID parameter value for the form data posted to the server.
		Password	Set the user ID and password used for Digest authentication. Make sure to set a password as Digest authentication cannot be performed for the user ID without a password.
		URL	Specify the Test_print.php address of the Web server when (Device Data Notification) is set to (Enable). **Example: http://(IP address of the Web Server)/Test_status.php** Click the (Access Test) button to check if the address is accessible.
		Server Authentication	Sets whether the server authentication is performed with the registered certificate when accessed through https.
		Box ID	Set the Box ID for the communication device, when (Device Data Notification) is set to (Enable).
	POST Error	Print Message	Set whether or not to print an error message, if POST fails.
		Message Text	Set the text for the error messages.
		Text Attributes	Set the text decorations for the error messages.
		Cut	Set whether or not to cut paper after printing an error message.
Capture Devices	Devices		Select the devices that use device data notification.
Apply			Save settings to TM-T70-i.

System Settings - Network - Wired

You can make settings for a wired LAN network.

Item	Description
Link Speed & Duplex	Sets the speed of data link layer.
Apply	Saves settings to TM-T70-i.

System Settings - Network - Wired - TCP/IP

You can make settings for a wired LAN such as IP address.

Item	Description
Get IP Address	Sets the method of getting the IP address.
Set using Automatic Private IP Addressing (APIPA)	Enables or disables the APIPA setting when (Get IP address) is set to (Auto).
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.
DNS Server Address	Sets the addresses of the DNS server in order of usage when (Acquire DNS Server Address Automatically) is set to (Disable).
Apply	Saves settings to TM-T70-i.

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System Settings - Network - Wireless

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

Item	Description
Network Mode	Sets the communication mode.
SSID	Sets the SSID.
Ad-Hoc Channel	Sets the ad-hoc channel. (Available only in the ad-hoc mode)
Communication Standard	Sets the communication standard.
Authentication Method	Sets the authentication algorithm.
Security Mode	Sets the encryption algorithm.
Default WEP Key	Sets the WEP key to use.
WEP Key 1	Sets the WEP key 1 when (Security mode) is set to (WEP).
WEP Key 2	Sets the WEP key 2 when (Security mode) is set to (WEP).
WEP Key 3	Sets the WEP key 3 when (Security mode) is set to (WEP).
WEP Key 4	Sets the WEP key 4 when (Security mode) is set to (WEP).
WPA/WPA2 Pre-Shared Key	Enter the pass phrase of the pre-shared key when (Security mode) is set to "WPA" or "WPA2".
Apply	Saves settings to TM-T70-i.

CAUTION	• Initially, Authentication Method is set to Open System and Security Mode is set to None. To ensure security, be sure to change the settings before use. • The following character types can be used for the SSID, WP key and WPA/WPA2 pre-shared key: ∗ ASCII characters, including spaces

System Settings - Network - Wireless - TCP/IP

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

Item	Description
Get IP Address	Sets the method of getting the IP address.
Set using Automatic Private IP Addressing (APIPA)	Enables or disables the APIPA setting when (Get IP Address) is set to (Auto).
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	Sets the addresses of the DNS server in order of usage when (Acquire DNS Server Address Automatically) is set to (Disable).
Apply	Saves settings to TM-T70-i.

System Settings - Security - Authenticate Server

You can register certificates, configure the registered certificates, and delete them in this product.

Item		Description
Import Certificates	Certificate Format	Specifies the file format for root CA certificates to be registered in this product. You can only specify the PEM format.
	Certificate File	Specifies certificate files to be registered in this product.
	Upload	Registers the specified certificate files in this product. Up to 6 files can be registered.
Certificate List	Certificate	Displays a list of the certificate files registered in this product and detailed information. Place a check mark next to a certificate displayed in the list to allow for the "Delete" operation.
	Detail	For checking detailed information on the certificates.
	Delete	Deletes a checked certificate.

System Settings - Security - SSL

You can set the SSL communication settings.

Item		Description
Disable		Disables SSL authentication.
	Remove the certificate	Select this checkbox to delete the SSL certificate.
Enable		Enables SSL authentication.
	Update the certificate	Renews certificates registered to this product.
	Create the self signed certificate	Registers the self-signed certificate to this product.
	Private key file	Selects private key files registered to this product.
	Certificate file	Selects server certificate files registered to this product.
	Certificate chain file	Selects certificate chain files registered to this product
Apply		Saves settings to TM-T70-i.
Download		You can download certificate files (including self signed certificates) for this product.

NOTE	• This product only supports TLS. SSL3.0 is not supported. • HTTP communication is not available when SSL is enabled. • When SSL is enabled, it will take about 1 minute and 30 seconds after the printer is turned on for printing to be possible.

System Settings - Proxy - Proxy

You can change the proxy settings and service settings using proxy.

Item		Description
Proxy URL and Port Number		Enter the proxy server URL and port number in the following: "http://host name: port number". Example: **http://10.0.0.1:8008**
ID		Registers the authentication ID for using proxy authentication.
Password		Registers the authentication password for using proxy authentication.
Enable Proxy for following services:	Automatic Update	Sets whether the proxy is used for automatic update of Web contents.
	Direct Print	Sets whether the proxy is used for Server Direct Print.
	Status Notification	Sets whether the proxy is used for Status Notification.
	Device Data Notification	Sets whether the proxy is used for Device Data Notification.
Apply		Saves settings to TM-T70-i.

System Settings - Time - Time

You can set the time for the TM-T70-i.

Item		Description
Time		Sets the time. Clicking (Get Time) shows the present time.
Time Zone (Hour)		Sets the time zone.
Time Server Setting	Use Time Server	Sets whether to use the time server or not for time setting.
	Get Time Server	Sets the method of getting the IP address/host name for the time server.
	Time Server	Sets the IP address/host name for the time server when (Get Time Server) is set to (Manual).
	Time Server Status	Shows the result of last getting time from the time server.
Apply		Saves settings to TM-T70-i.

Admin Settings - Maintenance - Reset

You can reset the network functions and restore the settings for EPSON TMNet WebConfig to the factory default settings.

Item	Description
Reset	Restarts the network functions while retaining the network setting values such as IP address. The settings for EPSON TMNet WebConfig other than the network settings are retained.
Factory Default	Restores the settings for EPSON TMNet WebConfig to the factory default settings. All the settings except for the internal time are initialized. Self-signed certificates, Web contents, and PHP contents registered to this product are also deleted. If a microSD card is inserted in this product, only the files in the webapp folder are deleted. Other folders and files are not deleted.

Admin Settings - Administrator Information - Administrator

You can set the information for the administrator of the TM-T70-i.

Item	Description
Administrator Name	Sets the name of the administrator of the TM-T70-i.
Location/Person	Sets the location where the TM-T70-i is installed.
Apply	Saves settings to TM-T70-i.

Admin Settings - Administrator Information - Password

You can change a password of EPSON TMNet WebConfig.

Item	Description
Old Password	Enter the current password.
New Password	Enter the new password.
Re-input Password	Enter the new password for confirmation.
Apply	Saves settings to TM-T70-i.

CAUTION	A user name and a password will be required on the authentication screen when you start up this utility and when you change settings. Enter "epson" for the user name and the password you set for the password.

PHP settings

Opening PHP Setting Screen

Follow the steps below to open the PHP Setting screen of EPSON TMNet WebConfig.

1 Start up a PC connected to the network.

2 Start up the Web browser, and input the following in the address bar.
When SSL is disabled: http://[This product's IP address]/webconfig/PHPSetting
When SSL is enabled: https://[This product's IP address]/webconfig/PHPSetting

PHP settings

You can configure the PHP settings for this product.

Item		Description
PHP		Enables/disables PHP function.
Web Contents Save Storage		Shows the storage to save the Web contents.
microSD	Status	Displays whether microSD card can be used.
	Free Space / Total Size	Shows the free space and total size of the microSD card.
Apply		Saves settings to TM-T70-i.

NOTE	The spooler cannot be used if PHP is enabled.

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Status sheet

Make sure the product is turned on, press the push button at the interface part for approximately 3 seconds. When you release the button, a status sheet on which network parameters are printed will be ejected. With the status sheet, you can check the network settings.

Press the push button with a thin object such as a tweezers.

CAUTION	If you keep pressing the button for more than 10 seconds, the network settings are initialized.

Information on a status sheet

```
******************************
        EPSON Status Sheet
******************************

<General Information>
Firmware
  X.XX
ePOS-Device
  X.XX
Model
  TM-T70-i
Time
  yyyy-mm-dd hh:mm:ss
  GMT+hh:mm
              ⋮

<Server Direct Print>
Use
  Disable
<Status Notification>
Status Notification
  Disable
<Syslog Storage>
Use microSD
No
<SSL>
Use
  Disable
```

Item	Description
General Information	Shows the product's TM-i firmware version, ePOS-Device version, product's name, and time.
Firmware	Shows the product's TM-i Firmware version.
ePOS-Device	Shows ePOS-Device service version.
Model	Shows "TM-T70-i".
Time	Shows the date, the present time, and the time difference.
Administrator Name	Shows the administrator name.
Location/Person	Shows the location and the user name.
Wired	Shows wired LAN settings.
MAC Address	Shows the MAC address.
Link Speed & Duplex	Shows the speed of data link layer.
Wired TCP/IP	Shows TCP/IP settings for wired LAN.
Get IP Address	Shows the method of getting the IP address.
Set using Automatic Private IP Addressing (APIPA)	Shows the APIPA setting.
IP Address	Shows the IP address.
Subnet Mask	Shows the subnet mask.
Default Gateway	Shows the default gateway.
Acquire DNS Server Address Automatically	Shows the method of getting the address of the DNS server.
DNS Server Address	Shows the address of the DNS server.
Wireless	Shows wireless LAN settings.
MAC Address	Shows the MAC address.
Hardware Version	Shows the hardware version of the wireless LAN cable set (OT-WL01).
Software Version	Shows the software version of the wireless LAN cable set (OT-WL01).
Communication Standard	Shows the wireless LAN communication standard.
Network Mode	Shows the network mode.
SSID	Shows the SSID.
Wireless LAN Frequency Region	Shows the frequency range.
Ad-Hoc Channel	Shows the ad-hoc channel.
Authentication Method	Sets the authentication method.

3

Item	Description
Security Mode	Shows the encryption scheme.
Wireless TCP/IP	Shows TCP/IP settings for wireless LAN.
Get IP Address	Shows the method of getting the IP address.
Set using Automatic Private IP Addressing (APIPA)	Shows the APIPA setting.
IP Address	Shows the IP address.
Subnet Mask	Shows the subnet mask.
Default Gateway	Shows the default gateway.
Acquire DNS Server Address Automatically	Shows the method of getting the address of the DNS server.
DNS Server Address	Shows the address of the DNS server.
Time Server Setting	Shows time settings.
Use Time Server	Shows whether to use the time server or not.
Get Time Server	Shows the method of getting the time server's IP address and host name.
Time Server	Shows the IP address of the time server's IP address and host name.
Time Server Status	Shows the result of communication with the time server.
Proxy Configuration	Shows proxy settings.
Proxy URL	Shows the proxy server URL.
ID	Shows the proxy authentication ID to be registered.
Web Contents Update UseProxy	Shows whether the proxy is used when automatic updating for Web contents.
Server Direct Print UseProxy	Shows whether the proxy is used for Server Direct Print.
Status Notification UseProxy	Shows whether the proxy is used for Status Notification.
Device Data Notification UseProxy	Shows whether to use a proxy for device data notification.
Device	Shows the following information of the devices registered for ePOS-Device. • Device ID • Model number • IP address • Connection status

Item	Description
Customer Display	Shows the device ID [*1] and the following customer display information that is registered in ePOS-Device.
Use	Shows whether using the customer display.
Communications speed [*1]	Shows the communication speed.
Data bit [*1]	Shows the data bit.
Parity [*1]	Shows the parity.
Brightness setting [*1]	Shows the brightness of the customer display.
KeyInput Device	Displays, for each device ID [*2], the information below on key input devices registered in ePOS-Device.
Device name [*2]	Shows the device name and VID/PID.
Control script [*2]	Shows the control script of the key input device.
Serial Communication Device	Shows the device ID [*3] and following serial communication device information that is registered in ePOS-Device.
Use	Shows whether using the serial communication device.
Communications speed (bps) [*3]	Shows the communication speed.
Data bit [*3]	Shows the data bit.
Parity [*3]	Shows the parity.
Stop bit [*3]	Shows the stop bit.
Flow Control [*3]	Shows the flow control.
Web Contents Update	Shows update settings for web contents.
Use Automatic Update	Shows whether automatic updating of web contents is enabled or disabled.
Date of Installed Web Contents [*4]	Automatic update setting: Shows time and date the Web contents (zip file) are created. Manual update setting: Shows time and date the Web contents are uploaded.
Date of Last Automatic Update [*4]	Shows last automatically updated time and date.
Status of Last Automatic Update [*4]	Shows last automatically updated results.
Server Direct Print	Shows Server Direct Print settings.
Use	Shows Enable or Disable of Server Direct Print.
ID [*5]	Shows ID for the server-side program to identify TM-T70-i.

3

Item	Description
Authenticate Server [*5]	Shows whether the server authentication is performed with the registered certificate when accessed through https.
Server1 to 3 [*5]	Shows the information of the registered web server.
URL [*5]	Shows the URL of the registered web server.
Access Test [*5]	To perform the test access to the Web server, and shows the results.
Interval(s) [*5]	Shows the request interval.
Status Notification	Shows Status Notification settings.
Status Notification	Shows Enable or Disable of Status Notification.
ID [*6]	Shows ID for the server-side program to identify TM-T70-i.
URL [*6]	Shows the URL of the registered web server and path to the application.
Authenticate Server [*6]	Shows whether the server authentication is performed with the registered certificate when accessed through https.
Access Test [*6]	To perform the test access to the Web server, and shows the results.
Interval(s) [*6]	Shows the request interval.
Device Data Notification	Shows the device data notification.
Use	Shows enable/disable for the device data notification.
ID [*7]	Shows the ID used to identify this product on the Web server.
URL [*7]	Shows the set IP address information or host name.
Server Authentication [*7]	When performing https access, shows whether or not to perform server authentication using a registered certificate.
Access Test [*7]	Perform an access test to the Web server and show the results.
Box ID [*7]	Shows the Box ID for the communication box.
Print Message [*7]	When a data notification error occurs, shows whether or not an error message is printed.
Device name [*7]	Shows the device ID for devices that use device data notification.
Spooler	Shows spooler settings.

Item	Description
Use	Shows enable/disable for the spooler.
Count *8	Shows the number of retry times when printing from the spooler.
Interval(s) *8	Shows the retry interval when printing from the spooler.
Print forwarding	Shows the printer forwarding route settings for the spooler.
Print forwarding routes	Shows the route for print forwarding.
Syslog Storage	Reserved for system.
Use microSD	Reserved for system.
SSL *9	Shows the SSL settings.
Use	Shows enable/disable for the SSL.

*1: Printed only when the customer display is registered to ePOS-Device (see page 81).

*2: Printed only when the key input devices are registered to ePOS-Device (see page 82).

*3: Printed only when the serial communication device is registered to ePOS-Device (see page 82).

*4: Printed only when the automatic update setting for web contents is enabled (see page 85).

*5: Printed only when the server direct print is enabled (see page 86).

*6: Printed only when the status notification is enabled (see page 87).

*7: Printed only when the device data notification is enabled (see page 88).

*8: Printed only when the spooler settings are enabled (see page 83).

*9: TM-i firmware Ver. 4.3 or later.

3

Setting/Checking Modes

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

- Self-test Mode
- Hexadecimal Dumping Mode (See)

Self-test Mode

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

- Control circuit functions
- Printer mechanism
- Print quality
- ROM version
- DIP switch settings

Follow the steps below.

1 Close the roll paper cover.

2 While pressing the FEED button, turn on the printer. (Keep pressing the FEED button until the printer starts printing.)
After the printer status is printed, the self-test printing continuance guidance is printed and Paper LED flashes.
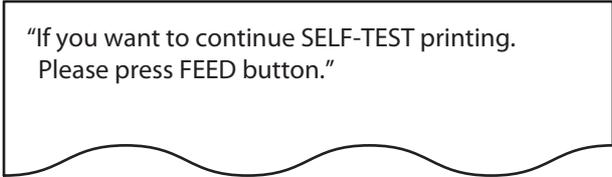
> "If you want to continue SELF-TEST printing.
>   Please press FEED button."

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

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.

Follow the steps below to run this mode.

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

Follow the steps below.

1   Open the roll paper cover.

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

3   Close the roll paper cover.
After this, all the data received by the printer is printed in hexadecimal numbers and their corresponding ASCII characters.
Turn off the printer or press the FEED button three times to return to the normal mode.

Printing example of 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  ***
```

Easy Setup

Easy setup is a function that allows you to set the EPSON TMNet WebConfig by simply inserting a USB memory stick and turning on the power. The USB memory stick should contain a file (setting.ini) with the setting values for EPSON TMNet WebConfig and a file with web content. When a TM printer connected from TM-i via the network is used, it is also possible to configure the network settings such as the IP address for the TM printer at the same time.

For detail, refer to "TM-i series Easy Setup Guide".
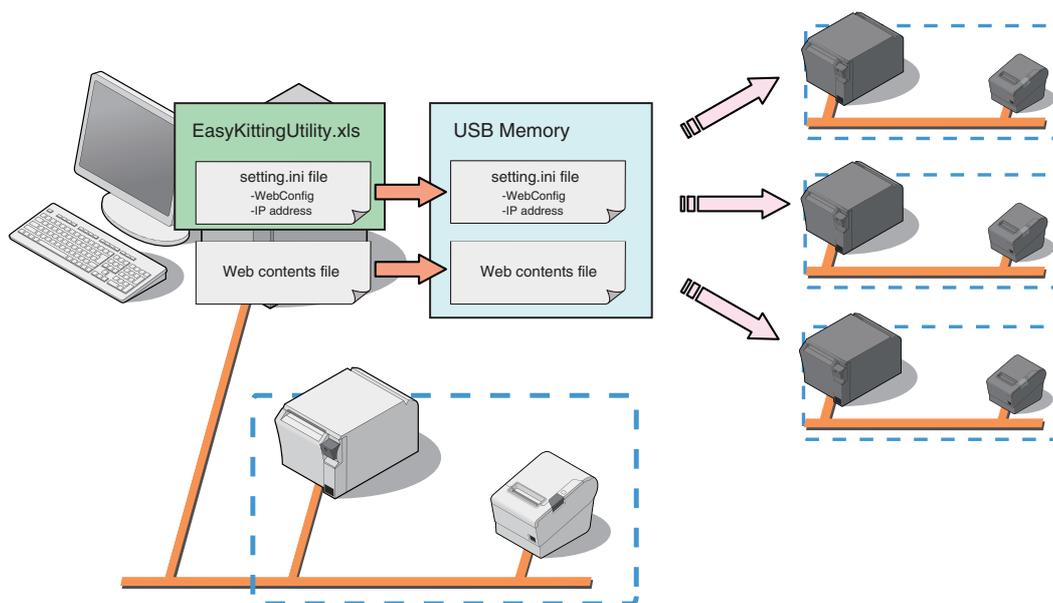
Checking/Updating TM-i Firmware

Checking the TM-i Firmware Version

- Use "Software" in the status sheet (page 47)
- Use "General" in EPSON TMNet WebConfig (page 77)

Updating TM-i Firmware

You can use the TM-i Firmware Update Tool to do the update.

For detail, see "Software" on page 74.

Handling

This chapter describes basic handling of the product.

Installing and Replacing Roll Paper

| ⚠ **WARNING**	• **Do not open the roll paper cover during printing.** The product may be damaged. • **Do not touch the manual cutter with your hands when installing or replacing the roll paper.** Otherwise, you may be injured because the manual cutter blade is sharp.
CAUTION	• Use roll paper that meets the product specification. For details about paper specification, see "Paper Specifications" on page 116. • Paper must not be pasted to the roll paper core.

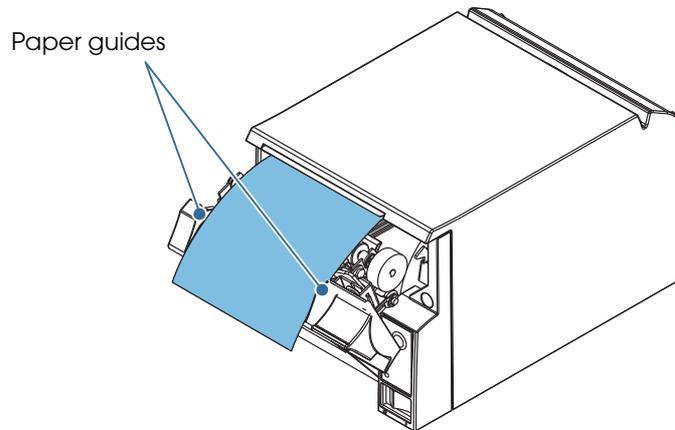**1**　Press the cover open lever to open the roll paper cover.
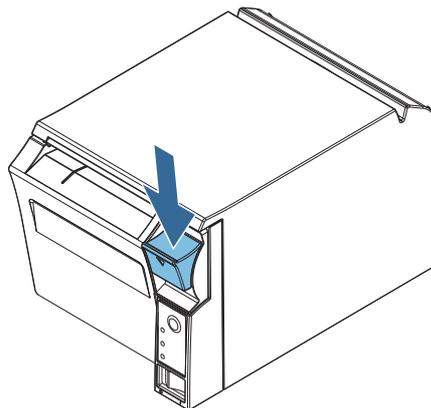
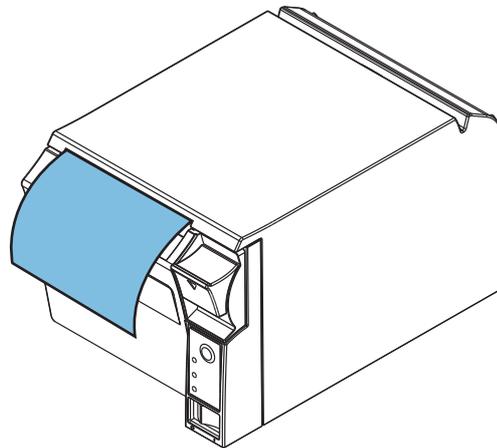| **CAUTION**	When the roll paper cover cannot be opened, see "Removing Jammed Paper" on page 107.

2　Remove the used roll paper core, if any.

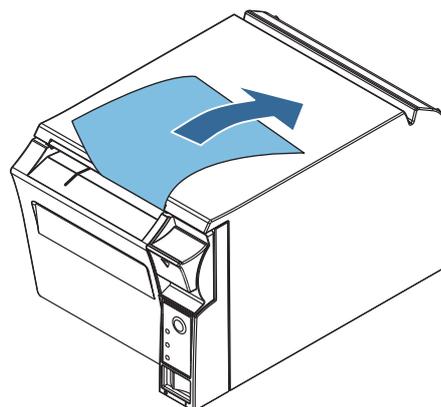**3**　Install the roll paper in the correct direction.

4
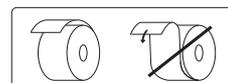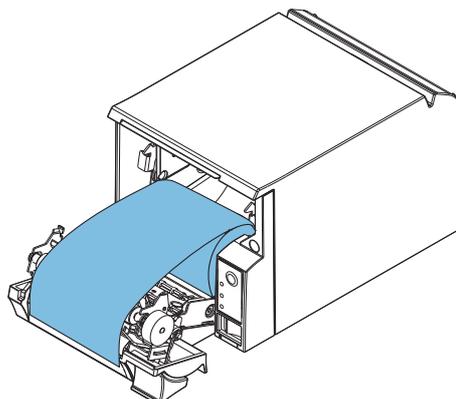
4 Pull out some roll paper, and make sure that the roll paper is set between the paper guides.

Paper guides

5 Close the roll paper cover.

6 Tear off the roll paper.

Removing Jammed Paper

⚠️ **CAUTION**

Do not touch the thermal head (See "Cleaning the Thermal Head" on page 107.)
because it can be very hot after printing.

1   Turn off the printer and press the cover open lever to open the roll paper cover.

2   Remove the jammed paper, reinstall the roll, and close the roll paper cover.

Cleaning the Printer

Cleaning the Printer Case

Be sure to turn off the printer, and wipe the dirt off the printer case with a dry cloth or a damp cloth.

⚠️ **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.

## Cleaning the Thermal Head

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

⚠️ **CAUTION**

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

Turn off the product, open the roll paper cover, and clean the thermal elements of the thermal head with a cotton swab moistened with an alcohol solvent (ethanol or isopropyl alcohol).
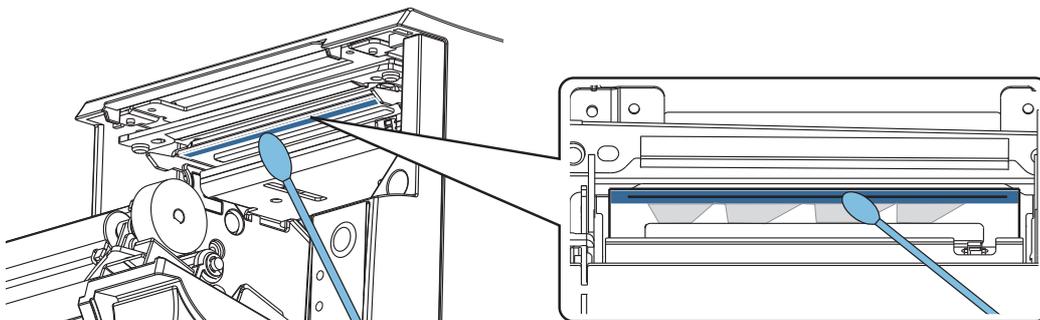
Preparing for Transport

Follow the steps below to transport the product.

1 Turn off the product.

2 Remove the AC adapter.

3 Remove the roll paper.

4 Pack the product upright.

Appendix

Product Specifications

	80 mm width paper printing	58 mm width paper printing
Printing method	Thermal line printing	
Cutting method	Partial cut (cutting with one point in left edge left uncut)	
Roll paper (single-ply) width	79.5 ± 0.5 mm (3.13 ± 0.02")	57.5 ± 0.5 mm (2.26 ± 0.02")
Interfaces — USB host port	• Standards: USB2.0 (High/Full/Low speed) • No. of ports: 5 ports • Connector: Type A x 4, Micro-USB (Type Micro-AB) x 1	
USB device port	• Standards: USB2.0 (High/Full/Low speed) • No. of ports: 1 port (shared with the host port) • Connector: Micro-AB	
Serial [1]	• Flow control: XON/XOFF control or DTR/DSR control • Baud late: Maximum 115200 bps (bps: bits per second) • Parity: Odd, Even, None • Connector: D-sub 9 pin (Male)	
microSD card	• No. of slots: 1 slot • Connector: Make sure that the product power is turned off before inserting or removing a microSD card. Use a microSD card with wear leveling.	
Ethernet	10Base-T/100Base-TX	
Wireless LAN [2]	IEEE802.11b/g/n	
Drawer kick	• Pin: 6 pin • Connector: Modular (only for cash drawer)	
Buffers — Receive buffer	4 KB/45 bytes (selectable using DIP switch 1-2)	
Downloaded buffer	12 KB (downloaded images)	
NV graphics data	256 KB	
Barcode/two-dimensional symbol/ printing	JAN 8 (EAN 8), JAN 13 (EAN 13), UPC-A, UPC-E, CODE 39, ITF, CODABAR (NW-7), CODE 93, CODE 128, QR CODE, PDF417	
Power supply	AC adapter,RA (Model: M266A)	

		80 mm width paper printing	58 mm width paper printing
Life	Mechanism	15 million lines	
	Thermal head	100 million pulses 100 km	
	Autocutter	1,500,000 cuts	
	MTBF	360,000 hours	
	MCBF	52,000,000 lines	
Temperature/humidity		Operating: 5 to 45 °C {41 to 113 °F}, 10 to 90 %RH Storage: -10 to 50 °C {14 to 122 °F}, 10 to 90 %RH	
Overall dimensions		114 × 125 × 194 mm {4.49 × 4.92 × 7.64"} (W × D × H)	
Weight (mass)		Approx. 1.8 kg {3.96 lb} (roll paper excluded)	

*1: Not available for TM-T70-i (without a Serial port).

*2: When the optional wireless LAN cable set (OT-WL01) is used.

Software Specifications

Print control	Epson ePOS SDK, ePOS-Device XML, ePOS-Print XML, Server Direct Print, Device Data Notification

Utility	• EPSON TMNet WebConfig *
	  * Network setting (Ethernet/Wireless LAN)
	  * Web contents registration
	  * ePOS-Device setting
	  * Server Direct Print/Status Notification setting
	  * Printer's Device ID settings
	  * Spooler and Print Forwarding settings
	  * Device Data Notification settings
	• Easy Setup
	  * EPSON TMNet WebConfig settings
	*: Settings can be changed or viewed through a Web browser on your computer or tablet terminal.

Spooler capacity	8 MB
Maximum number of JobID	2,000

Controllable Peripherals

Network Printer

Network printers\TM-i model	ANK models	Traditional Chinese models	South Asia models	Simplified Chinese models
The following product's printers of TM-i				
TM-T70-i (TM-i Firmware Ver.4.0 or later)	✔	✔	✔	✔
TM-T88V-i (TM-i Firmware Ver.4.0 or later)	✔	✔	✔	✔
TM-T20II-i	✔	-	-	-
TM-T82II-i	✔	✔	✔	✔
TM-U220-i	✔	-	-	-
The following printers with the UB-E02, UB-E03, UB-R03, or UB-R04 embedded				
TM-T88V [1]	✔	✔	✔	-
TM-T88IV	✔	✔	✔	✔
TM-T70	✔	✔	✔	✔
TM-T70II	✔	✔	✔	✔
TM-T90	✔	✔	✔	-
TM-L90	✔	✔	✔	✔
TM-T20	✔	-	-	-
TM-T20II	✔	-	-	-
TM-T82II	✔	✔	✔	✔
TM-U220	✔	✔	✔	✔
The following TM printers (Wi-Fi® model)				
TM-P60II (Including Peeler model)	✔	-	-	-
TM-P80	✔	-	-	-
TM-P20 [2]	✔	✔	✔	-

[1]: TM-T88IV Compatible mode is not supported.

[2]: You can use with TM-i firmware Ver.4.1 or later for this product.

Other Device

Customer Display	DM-D110
Key Input Device	Barcode scanner, Keyboard
Serial Communication Device *	Device that has a serial interface, such as a scale, cash recycler or CAT terminal. ePOS-Device SDK provides only an API that sends/receives commands. For control of a serial communication device, you will have to use an application of your own.
Cash drawer	Cash drawer

*: Not available for TM-T70-i (without a Serial port).

Printing Specifications

		80 mm width paper printing	58 mm width paper printing
Printing method		Thermal line printing	
Dot density		203 × 203 dpi	
Printing direction		Unidirectional with friction feed (Reverse feed is not supported.)	
Printing width		72.0 mm (2.83"), 512 dots	52.0 mm (2.05"), 416 dots
Characters per line	Font A (12 × 24)	48	34
	Font B (8 × 16)	72	52
Maximum print speed *		170 mm/s for Simplified Chinese and Korean model 200 mm/s Other model	
Line spacing		3.75 mm {0.15"} (Initial setting)	

dpi: dots per inch

*: When printing with the default print density level at 24V and 25°C {77°F}.

Character Specifications

Number of characters		Alphanumeric characters: 95 Extended graphics: 128 × 11 pages International characters: 48 characters
Character structure		Font A (default): 12 × 24 (including 2-dot horizontal spacing) Font B: 8 × 16 (including 2-dot horizontal spacing)
Character size	Font A	Standard: 1.5 × 3.0 mm Double-height: 1.5 × 6.0 mm Double-width: 3.0 × 3.0 mm Double-width, double-height: 3.0 × 6.0 mm
	Font B	Standard: 1.0 × 2.0 mm Double-height: 1.0 × 4.0 mm Double-width: 2.0 × 2.0 mm Double-width, double-height: 2.0 × 4.0 mm

Note:

1. Space between characters is not included.

2. Characters can be scaled up to 64 times as large as the standard size.

3. Character size not including the horizontal spacing in the standard scale is as follows:
   Font A (12 × 24): 1.41 (W) × 3.384 (H) mm
   Font B (9 × 17): 0.987 (W) × 2.397 (H) mm

80 mm paper width printing
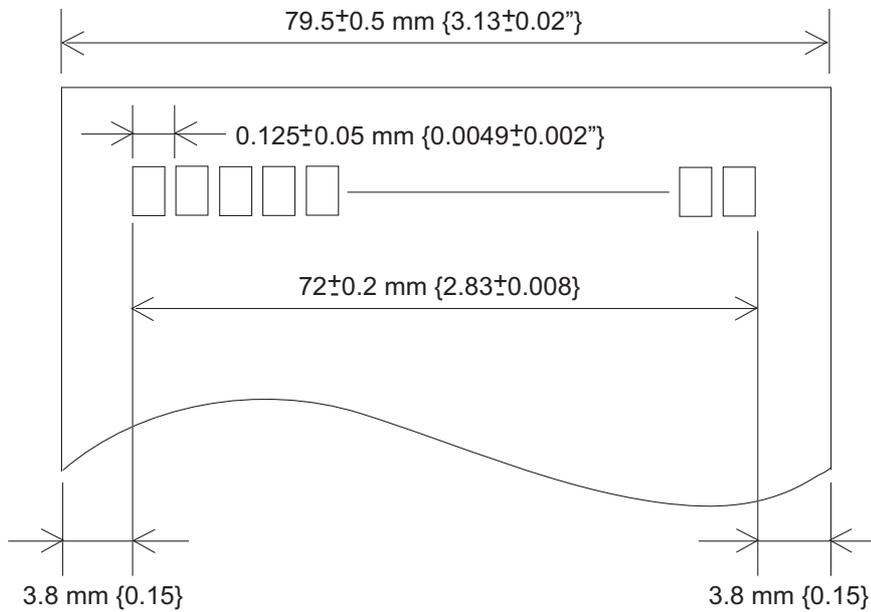
79.5⁺0.5 mm {3.13⁺0.02"}

0.125⁺0.05 mm {0.0049⁺0.002"}

72⁺0.2 mm {2.83⁺0.008}
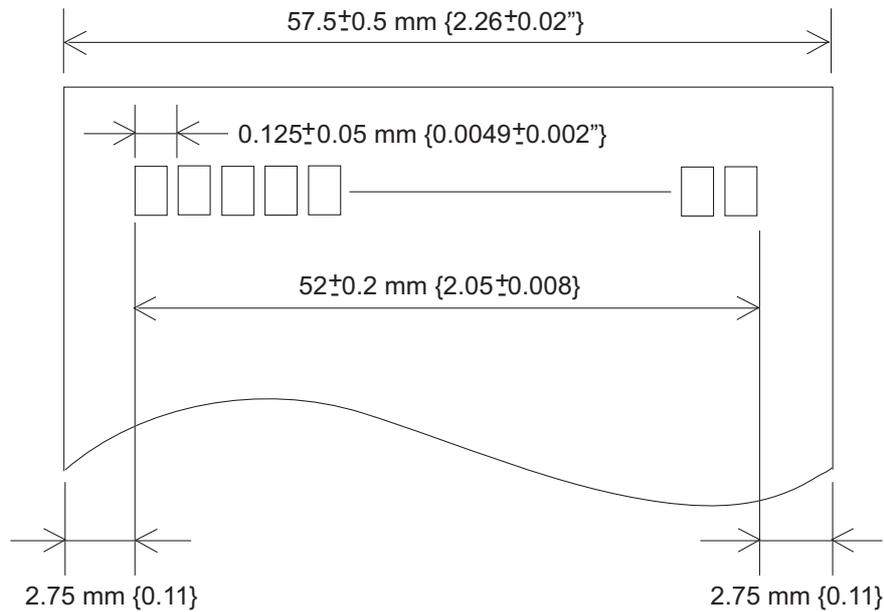
3.8 mm {0.15}

3.8 mm {0.15}

All the numeric values are typical.

CAUTION

In 2-divided energizing, the print position within the printable area of the thermal elements for dots 1 to 288 and 289 to 576 is shifted approximately 0.06 mm {0.0024"} in the paper feed direction as shown in the figure below.

1　　　　288

289　　　576

About 0.06 mm

58 mm paper width printing

57.5±0.5 mm {2.26±0.02"}

0.125±0.05 mm {0.0049±0.002"}

52±0.2 mm {2.05±0.008}

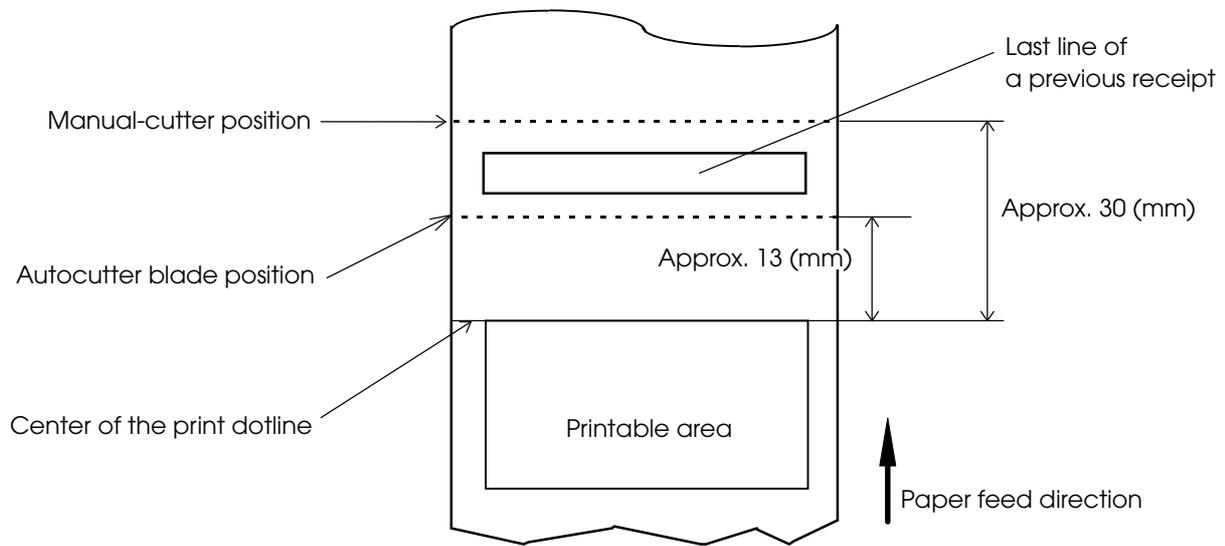2.75 mm {0.11}   2.75 mm {0.11}

All the numeric values are typical.

CAUTION

- In 2-divided energizing, the print position within the printable area of the thermal elements for dots 1 to 224 and 225 to 416 is shifted approximately 0.06 mm {0.0024"} in the paper feed direction as shown in the figure below.

1   224

225   416

About 0.06 mm

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. |

Paper Specifications

		80 mm width paper printing	58 mm width paper printing
Paper types		Specified 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"}	
	Roll width when taken up	80 + 0.5/-1.0 mm	58 + 0.5/-1.0 mm
	Paper width	79.5 ± 0.5 mm	57.5 ± 0.5 mm
Specified roll paper type		NTP080-80	NTP058-80
Specified original paper type		P300, P310, P350 (Kanzaki Specialty Papers) AF50KS-E (Jujo Thermal Oy) F5041 (Mitsubishi HiTec Paper Flensburg GmbH)	

| CAUTION | • Paper must not be pasted to the roll paper core. • The remaining amount of the roll paper when a roll paper near-end is detected differs depending on the core type. |

Electrical Characteristics

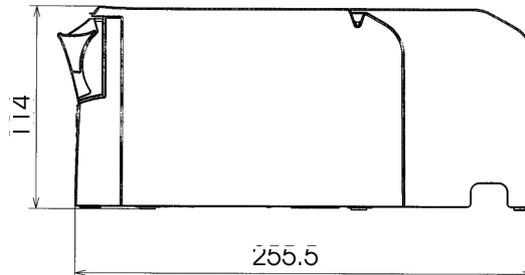| AC adapter,RA	Input voltage	AC 90 V to 264 V (AC 100 V to 240 V)
	Output voltage	DC 24 V / DC 5 V (2 outputs)
Supply current from the product	USB	5 V/2.0 A Maximum supply current of per port: 500 mA
	microSD	3.3 V/80 mA
Consumed current (Rating)		24 V/1.8 A, 5 V/2.5 A
Consumed power		When operating: 39.1W (230V/50Hz), 39.2W (115V/60Hz) When standby: 3.2W (230V/50Hz), 3.1W (115V/60Hz) When off: 0.42W (230V/50Hz), 0.30W (115V/60Hz)
Power supply On/Off		Use the power switch on the product

Environmental Conditions

Temperature/ Humidity	Operating	5 to 45 °C {41 to 113 °F}, 10 to 90 %RH (See the operating temperature and humidity range below.)
	Storage (Factory packing)	-10 to 50 °C {14 to 122 °F}, 10 to 90 %RH (except for paper)
Acoustic noise (operating)		Approximately 55 dB (bystander position) Note: 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.

External Dimensions and Mass

- Width: Approximately 125 mm {4.92"}

- Depth: Approximately 194 mm {7.64"}

- Height: Approximately 114 mm {4.49"}

- Mass: Approximately 1.8 kg {3.96 lb} (except for roll paper)

<When the Optional OT-CC70 is installed>
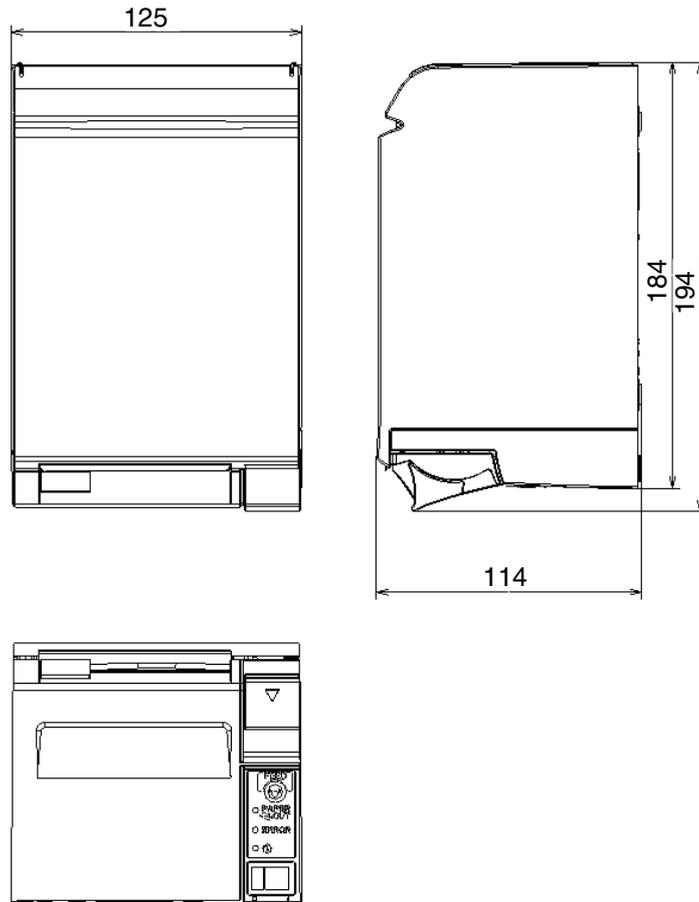
(Units: mm)

AC Adapter,RA

Input conditions	Input voltage (rating) : AC 100V to 240V
	Frequency (rating) : 50 to 60 Hz
	Input current (rating): 1.8A
Output conditions	Output voltage: DC24 V/2.1A DC5V/3A

Option Specifications

Wireless LAN Cable Set (OT-WL01)

Wireless module	ELPAP07: 802. 11b/g/n wireless LAN Module (EPSON)
Standard	IEEE802.11b/g/n (Wi-Fi certificated)
SSID	1 to 32 one-byte alphanumeric and numbers
Connection mode	Ad hoc mode, Infrastructure mode
Authentic method, Encryption algorithm	Open+WEP, Shared+WEP, WPA-PSK+TKIP, WPA-PSK+AES, WPA2-PSK+AES, WEP64, WEP128, TKIP, AES
Power voltage	DC 4.5V to 5.5V
Current consumption	300 mA at maximum
Frequency range	2.4 GHz band
Potential interference range	40 m
Overall dimensions	Wireless LAN unit: Approx. 24 × 51 × 10 (W × D × H) USB extension cable: 1 m (length)

Customer Display (DM-D110)

For details on the specifications of the DM-D110, refer to the "DM-D110/DM-D210 Technical Reference Guide".

Character Code Tables

For character code tables, refer to "Character Code Tables for TM printers", which can be accessed from the following URL.

https://reference.epson-biz.com/pos/reference/