

Thermal Printer

# **MPU-L465**

Read this manual carefully before use.  
Keep this manual in a place where it can be  
accessed quickly.

Seiko Instruments Inc.

# MPU-L465 THERMAL PRINTER USER'S GUIDE

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## Applicable EC Directives and Standards

Product: Thermal Printer DPU-3445-10A

<u>Directives</u>	<u>Title</u>
89/336/EEC	EC Electromagnetic Compatibility Directive

### Standards

EMI: EN50081-1/1997  
EN55022/1994+Amd.1/1995 class B, EN61000-3-2/1995

EMS: EN50082-1/1997  
EN61000-4-2/1995, EN61000-4-3/1996, ENV50204/1995,  
EN61000-4-4/1995, EN61000-4-5/1995,  
EN61000-4-6/1996, EN61000-4-8/1993

Product : AC Adapter PW-3009-W2

<u>Directives</u>	<u>Title</u>
89/336/EEC	EC Electromagnetic Compatibility Directive
73/23/EEC	EC Low Voltage Directive

### Standards

EMI: EN55022/1995 class B

EMS: EN50082-1/1992  
IEC801-2/1984, IEC801-3/1984, IEC801-4/1988,  
IEC1000-4-5/1995, IEC1000-4-6/1996, IEC1000-4-11/1993

LVD: EN60950/1992 +Amd.1 +Amd.2 +Amd.3  
IEC950/1991+Amd.1/1992+Amd.2/1993+Amd.3/1995+Amd.4/1996

Product: Battery Charger BC-3008-W1

<u>Directives</u>	<u>Title</u>
89/336/EEC	EC Electromagnetic Compatibility Directive
73/23/EEC	EC Low Voltage Directive

### Standards

EMI: EN50081-1, EN55022/1995 class B, EN61000-3-2/1995, EN61000-3-3/1995

EMS: EN50082-1, IEC801-2/1984, IEC801-3/1984, IEC801-4/1988

LVD: EN60950 +Amd.1 +Amd.2, IEC950/1991 +Amd.1/1992 +Amd.2/1993

## Federal Communications Commission (FCC) compliance statement

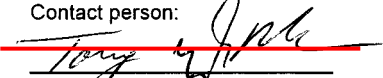

Your printer has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Your printer generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

It can be determined whether your printer is causing interference by turning it off. If the interference stops, your printer might cause it.

If your printer does cause interference, try to correct the interference by one or more of the following measures:

- Reorient or relocate the radio or television antenna.
- Increase the separation between your printer and the radio or television.
- Connect your printer to an outlet on a different circuit from the radio or television.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes in this certified device could void your legal right to operate it.

<b>FCC DECLARATION OF CONFORMITY</b>	
TRADE NAME:	SII ●
MODEL NAME:	<del>DPU-3445-10A</del>
RESPONSIBLE PARTIES:	Seiko Instruments U.S.A., Inc. 2990 West Lomita Boulevard Torrance, California 90505, U.S.A Phone : (310)517-8111 Contact person:  Tony DiMarco Division General Manager Micro Printer Division
	Seiko Instruments Inc. 8, Nakase 1-chome, Mihama-ku Chiba-shi, Chiba 261-8507, Japan Phone : +81-43-211-7659 Contact person:  Hiroyuki Funamoto Division Manager Print System Division
<p>This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</p>	

## Industry Canada (IC) compliance statement

This device complies with the requirements of RSS-210. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

# INTRODUCTION

This manual describes the functions of the MPU-L465 thermal printer.

Read through the safety and operating precautions on pages 2 to 15 carefully before using the printer. Also read the instruction manuals of the optional devices that you purchased together with the printer.

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For more details, please ask your dealer for a copy of the *MPU-L465 Technical Reference*.

# SAFETY PRECAUTIONS


The following symbols are used in this manual in order to make proper use of the printer and avoid incidental damages.

Follow the instructions marked with each individual symbol.


 <b>WARNING</b>	Failure to follow the guidelines marked with this symbol could result in severe personal injury or death.
 <b>CAUTION</b>	Failure to follow the guidelines marked with this symbol could result in minor personal injury or product and/or peripheral damage.

## Symbol Examples




The symbol  indicates caution (including danger and warning).  
This example indicates warning or caution.



The symbol  indicates prohibition.  
This example indicates prohibition of disassembling.



The symbol  indicates requirements or what must be done.  
This example asks you to unplug the power cable.

# WARNING



If you find any of the following abnormalities in the printer, power off the printer, unplug the AC cable, and remove the battery pack from the printer.

- ◆ When an unusual state was not recovered to the normal's.
- ◆ When the printer gave out a nasty smell or smoke, or emitted abnormal sound.
- ◆ When metallic powders, water or other foreign substances entered the printer.
- ◆ When the printer case was broken.

If not, it might cause a fire or an electricshock. Please ask your dealer for repair.



Never put metallic powders, water and other foreign substances into the printer from its opening.

If not, it might cause a fire or an electricshock.



Never disassemble or remodel the printer. Do not try to repair the printer yourself.

If not, it might cause a fire, accident or failure.



Do not use other power supplies than our specified AC adapter and battery pack.

If not, there is fear of a burst, ignition, or generation of heat that might cause a fire or an accident.



Power off the printer, when you detach and attach the battery pack from and to the printer.

If not, it might cause an electricshock.

# CAUTION



When not in use for long periods of time, power off the printer, unplug the AC cable, and remove the battery pack from the printer.

If not, it might cause a fire or an electricshock.



When you clean the printer, power off the printer, unplug AC cable, and remove the battery pack from the printer.

If not, it might cause a fire or an electricshock.



Keep the printer away from children.

If not, it might cause injury.



Keep the printer away from direct sun and high temperature. If not, it might cause a fire or a failure.



Keep the printer away from high humidity and dust.

If not, it might cause a fire or a failure.



While using the printer, never cover cloth etc. over it.

If not, it might cause a fire or a failure.



Install the printer in a vibration-free place.

Keep the printer away from unstable, shaky, unsteady and slanting environment.

If not, it might cause an injury or a failure.



The thermal printhead might reach a high temperature just after printing. Never touch the printhead. Remove paper jam and clean the printhead after making sure that the printhead has cooled down.

If not, it might cause an injury.



The printer is designed so that you can directly touch the thermal head, the paper sensor, and the platen roller due to improvement of paper insertion mechanism. Never touch those directly.

If not, it might cause an injury or a failure.



Do not touch the cutter.

If not, it might cause an injury.



When attaching the battery pack in the printer, secure the battery cover.

If not, the battery cover is turned over, the battery jumps out, and an injury or a failure may happen.

## When AC adapter is used

# WARNING



If you find any of the following abnormalities in the AC adapter, unplug the AC cable.

- ◆ When the AC adapter differs from usual [ smoke has come out from the AC adapter / strange smell comes out from the AC adapter / the AC adapter is unusually hot]
- ◆ When the printer case was broken.

It becomes the cause of a fire and an electricshock. Request repair from a selling agency.



Do not disassemble or remodel the AC adapter. It becomes the cause of a fire, an accident, and failure.



Do not use other AC code than the our specified one.  
It becomes the cause of a fire, an accident, and failure.



Do not use AC adapter on any voltage other than the specified power supply voltage.

It becomes the cause of a fire, an accident, and failure.



Do not touch the metal part of AC adapter or the connector, to avoid short-circuit absolutely.

It becomes the cause of a fire, an accident, and failure.



Do not place the AC adapter at the place which possibly moisten or water it. It becomes the cause of a fire, an accident, and failure.



# CAUTION



Pull out AC plug from a wall socket in the case of care of the AC adapter.  
It becomes the cause of an electricshock.



Put the AC adapter on the place which infants' hand does not reach.  
It becomes causes, such as an injury.



Do not put the AC adapter on the place where direct sun light hits, and the place which becomes high temperature. It becomes the cause of a fire and failure.



Do not put the AC adapter on a place where is humid and dusty.  
It becomes the cause of a fire and failure.



Do not touch the AC adapter by the wet hand.  
It becomes the cause of an electricshock.



While using the AC adapter, do not put cloth etc. on it.  
It becomes the cause of a fire and failure.



Do not put the printer on unstable places, such as a shaky palce, an unsteady stand top, and a leaning place.  
It becomes the cause of an injury or failure.

## When a battery pack is used

# WARNING



When the battery pack is as follows, remove the battery pack from the printer and stop using, and keep away from fire.

- When there is a strange smell, or the battery pack is unusually hot
- When the case breaks
- When liquid has leaked

There is fear of liquid leakage, generation of heat, a burst, and ignition, and it becomes the cause of a fire and an injury.



Do not disassemble, remodel, and solder the battery pack by any means.

There is fear of liquid leakage, generation of heat, a burst, and ignition, and it becomes the cause of a fire and an injury.



Do not recharge the battery pack except by the exclusive battery charger.

There is fear of liquid leakage, generation of heat, a burst, and ignition, and it becomes the cause of a fire and an injury.



Do not touch the metal part of the battery pack to avoid short-circuit absolutely.

There is a fear of heat generation, a fire or an electric shock, and it becomes the cause of a fire and an injury.



Do not throw in the battery pack into fire or do not heat it. There is fear of liquid leakage, generation of heat, a burst, and ignition, and it becomes the cause of a fire and an injury.



Do not recharge the battery pack in a hot place (35 °C or more) such as under burning sun or near fire.

There is fear of liquid leakage, generation of heat, a burst, and ignition, and it becomes the cause of a fire and an injury.



Do not give a strong shock which strikes a battery pack with a hammer, such as stabbing with a nail, and crushing.

There is fear of liquid leakage, generation of heat, a burst, and ignition, and it becomes the cause of a fire and an injury.



Do not put the battery pack into water, or do not put it on the place which possibly wet. There is fear of liquid leakage, generation of heat, a burst, and ignition, and it becomes the cause of a fire and an injury.

# CAUTION



When the liquid which came out of the battery pack goes into eyes, wash away with clean water immediately and take a doctor's medical treatment. It becomes the cause of loss of eyesight.



Put the battery pack on the place which infants' hand does not reach. It becomes causes, such as an injury.



Do not leave the battery pack in the place where direct sun light hits, such as in the car, and the place which becomes high temperature. There is fear of liquid leakage, generation of heat, a burst, and ignition, and it becomes the cause of a fire and an injury.



Do not use or strage the battery pack in a place where is humid and dusty. There is fear of liquid leakage, generation of heat, a burst, and ignition, and it becomes the cause of a fire and an injury.



Do not touch the battery pack by the wet hand.



It becomes the cause of an electricshock and failure.



Do not put the printer on unstable places, such as a shaky palce, an unsteady stand top, and a leaning place.

It becomes the cause of an injury or failure.

## When the charger is used

# WARNING



Pull out AC plug of AC cable from a wall socket, when the charger is in the status as follows.

- When there is a strange smell, or the battery pack is unusually hot
- When the case breaks
- When liquid has leaked

It becomes the cause of a fire and an electricshock. Request repair from a selling agency.



When the battery pack differs from usual [smoke has come from the battery pack under charge / there is strange smell / the battery pack is unusually hot], pull out AC plug of the AC cable from a wall socket.

There is fear of liquid leakage, generation of heat, a burst, and ignition, and it becomes the cause of a fire and an injury.



Put neither water nor a foreign substance into the inside of the charger.

It becomes the cause of a fire and an electricshock.



Do not disassemble or remodel the charger by any means. It becomes the cause of a fire and an electricshock.



Do not connect other battery pack than our specified one with the charger. There is fear of a burst, ignition, and generation of heat, and it becomes the cause of a fire and an injury.



Do not use other AC code than our specified one with the charger. It generates heat and ignites and becomes the cause of a fire or the accident.



Do not use a charger on any voltage other than the specified power supply voltage.

It becomes the cause of a fire, an electricshock, or failure.



Do not touch the output terminals of the charger to avoid short-circuit absolutely.

It becomes the cause of a fire, an electricshock, or failure.



Do not wet the charger, or do not put it on the place which possibly wet. It becomes the cause of a fire, an electricshock, or failure.

# CAUTION



Pull out the AC plug of the charger from a wall socket except the time of use. Even when having not equipped with the battery pack, the charger is operating.



Pull out the AC plug from a wall socket in the case of care of the charger. It becomes the cause of an electricshock.



Put the charger on the place which infants' hand does not reach. It becomes causes, such as an injury.



Do not put the charger on the place where direct sun light hits, and the place which becomes high temperature. It becomes the cause of a fire and failure.



Do not put the charger on a place where is humid and dusty. It becomes the cause of a fire and failure.



Do not touch the charger by the wet hand. It becomes the cause of an electricshock.



While using the charger, do not put cloth etc. on it. It becomes the cause of a fire and failure.



Do not put the charger on unstable places, such as a shaky place, an unsteady stand top, and a leaning place. It becomes the cause of an injury or failure.

## When AC and an interface cable are used

# WARNING



When AC cable of the AC adapter or the charger is damaged, pull out the AC plug from a wall socket.

It becomes the cause of a fire, an electricshock, or failure.



Do not let dust or a metal adhere to AC plug of the AC adapter or the charger.

It becomes the cause of a fire and an electricshock.



Do not use in the state with the imperfect plug of AC plug of the AC adapter or the charger.

It becomes the cause of a fire and an electricshock.



Do not damage AC cable or AC plug of the AC adapter or the charger. Do not bent the AC cable forcibly, do not place heavy thing on it, do not pull it, do not twist it.

It becomes the cause of a fire, an electricshock, or failure.



Only the specified AC cable should surely be used for AC cable of AC adapter or a charger. Moreover, AC cables differ for every use area as follows.

For Japan : Model CB-JP01-18A

For North America : Model CB-US01-18A

For EU : Model CB-CE01-18A

# CAUTION



When you pull out the AC cable of the AC adapter or the charger from a wall socket or pull out the interface cable from the connector, remove them holding the connector portion.

Wires of the cable is exposed, or is disconnected and it becomes the cause of a fire and an electricshock.

# OPERATING PRECAUTIONS

Please follow the precautions shown below to ensure full functionality of the printer.

## ■ Using the Printer

- ◆ Switch the power off when not in use.
- ◆ The printer has the structure which can stand for drop from 1.2m height to concrete surface (1 time drop for each 6 face side). However, it may be damaged according to the surface situation of a fall place, a fall angle or the degradation situation of a printer, etc.
- ◆ Take care about a surrounding temperature and surrounding humidity in the case of use of the printer. Suitable environment for the use of the printer is as follows:  
Ambient temperature: -20°C to 50°C  
Relative humidity: 10 to 85% (noncondensing)
- ◆ DO NOT install the printer near devices that generate strong electromagnetic fields such as a copy machine.
- ◆ DO NOT connect the AC cables of the AC adapter and the battery charger to the same outlet with devices that generate noise.
- ◆ DO NOT open the paper cover during printing.
- ◆ DO NOT remove or reinstall the interface cable during printing or transmission. DO NOT touch the connectors of the interface cable during printing.
- ◆ Do not close the paper outlet or do not press down the paper which came out. It becomes the cause of a paper jam.
- (◆ DO NOT cut any sheets of thick paper or label paper with the paper cutter installed in the paper outlet. Failure to follow this instruction may cause a cutting error or make the cutting edge dull due to label paper adhesive sticking to the cutter.
- ◆ Remove the battery pack, when you do not use a printer for a long time. It becomes superfluous electric discharge, and even if it charges, it becomes impossible to use it.
- ◆ Clean the printer using soft, lint-free cloth. Do not use alcohol or other solvent.
- ◆ Before use, always clean the terminals using a dry, soft, lint-free cloth. If the terminals are dirty, it may not be possible to obtain proper contact.
- ◆ Be sure to wipe the head with a soft swab etc. at head cleaning.
- ◆ Pull out the AC plug of the AC adapter from a wall socket except the time of use.



- ◆ Keep the battery pack in a cool place in the case of long-term storage. Moreover, if possible, avoid long-term storage in the fully charged state. It affect a bad influence on the battery life.
- ◆ Clean the terminal of the battery pack regularly (wipe them with a dry cloth).
- ◆ In order to fully demonstrate the performance of a battery pack, charge in the state where circumference temperature and the temperature of the battery pack are 10 °C - 35 °C.
- ◆ Clean the terminal of the exclusive charger regularly (Wipes with the dry cloth).
- ◆ Do not connect the AC cable of the AC adapter or the charger to the same power supply wall socket as the equipment which generates a noise.

When printing at the rate of high printing, disorder may arise in printing or printing sound may become large. However, this is a phenomenon generated on the character of the paper, and is not failure of the printer.

## ■ Thermal Paper Handling

- ◆ Store the thermal paper in a cool, dry, and dark place.
- ◆ Do not rub the paper with hard objects.
- ◆ Do not leave the paper near organic solvents.
- ◆ Do not allow plastic film, erasers, or adhesive tape to touch the paper for long periods.
- ◆ Do not stack the thermal paper with diazo copies immediately after copying or wet-type copies.
- ◆ Do not use chemical glue.
- ◆ Always use the specified thermal paper. See Section 13, Optional units and Consumable Parts, for details.

## ■ Notations Used in this Manual

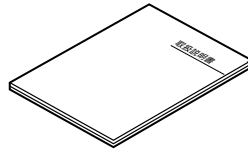
The following two types of notations are used throughout this Manual to denote items of caution and items to remember:

<p style="margin: 0;">HINT</p> <ul style="list-style-type: none"> <li>• Items To Remember</li> </ul>
--

This box contains helpful hints to remember when using the printer.

# 1. PREPARATION

Once you have opened the carton, make sure it contains the printer and its User's Guide. Printer functions and package contents differ depending on the printer model.



Printer

User's Guide (this document)

The following are available as optional units:

- (1) AC cables  
AC cables for an optional AC adapter and a battery charger are not contained in this carton. Purchase them.
- (2) AC adapter
- (3) Battery pack
- (4) Battery charger  
Quickly-chargeable and collectively-chargeable chargers are available.
- (5) Interface cable  
USB cable and serial cable are available.
- (6) Rain-proof cover  
This cover meets level II rain-resistant requirement for carrying.
- (7) Belt clip and strap  
The belt clip allows you to attach the printer to your belt; and the strap allows you to put it on your shoulder.

Keep the carton and packing materials safe for future transport or long-term storage.

## 2. NAMES OF PARTS

### **(1) POWER button**

---

The POWER button turns the printer ON or OFF. To power the printer on, hold down the POWER button until the POWER lamp lights. To turn the printer off, hold down the POWER button until the POWER lamp goes off.

### **(2) FEED button**

---

The FEED button feeds the paper. Once this button has been pressed when using the marked paper, the paper is fed to the start of the next paper.

Once this button has been pressed when not using the marked paper, the paper is fed slightly and gradually. Continuing pressing this button advances paper feeding.

### **(3) REPRINT button**

---

The REPRINT button prints the previous print again. A reprint is available when the REPRINT lamp lights.

### **(4) POWER lamp**

---

The POWER lamp lights when the printer is turned on. See the Power Lamp Display on the next page for details.

### **(5) REPRINT lamp**

---

The REPRINT lamp lights when the previous print is printed again.

### **(6) Interface cover**

---

Open the rubber cover to connect the interface cable and the AC adapter, and insert the connector.

**(7) Battery rubber cover**

---

Mounts and secures the battery pack. Open the rubber cover to detach and attach the battery pack.

**(8) Battery release button**

---

Removes the battery pack from the printer.

**(9) Paper cover open lever**

---

Opens the paper cover to install the paper.

**(10) Paper outlet**

---

Paper port equipped with a paper cutter.

**(11) Pincher unit**

---

Installs paper. Paper with various width can be installed.

**(12) Paper guide**

---

Changes the right and left paper guide width depending on the paper widths. Changes the paper roll adapter for various paper roll diameters.

**(13) Paper guide lock lever**

---

Changes or locks the position of the left and right paper guides.

**(14) Thermal head**

---

Prints characters on the paper. It reaches a high temperature just after printing.

**(15) Paper sensor**

---

Detects "no paper" and "eye-mark."

[POWER Lamp Display]

The POWER LAMP display comes in three colors - -green, red, and yellow.

Lamp display	POWER lamp
Power OFF	Off
Power ON (print ready)	Green On
Standby status	Dark Green On
Charging	Yellow On
Power voltage failure	Red On
No paper, platen cover open	Green blinks
Battery voltage low	Yellow blinks
Error	Red blinks

## 3. POWER CONNECTING

The printer can be powered by either battery pack or AC adapter.

### ■Attaching and Detaching the Battery Pack

The battery pack should be fully charged. See Section 9, Charging the Battery Pack, for details on the charging method.

#### **Attaching the battery pack**

---

Open the battery cover and press the battery release lever with your fingers to the arrow direction. Then, place the electrode side of the battery pack upward, and push the battery pack into the battery cover. Release your fingers from the battery release lever to mount and lock the battery cover. The battery cover has lever pins on left and right sides and a hook on the lower part. The printer has a projection for hooking the battery cover. After hooking the hook of the battery pack on the projection of the printer, push the lever pins into the printer while pressing both sides of the battery cover.

## **Detaching the battery pack**

---

Power the printer off.

Remove the hook located on the lower part of the battery cover from the projection of the printer and open the battery cover. When the battery release lever is released to the arrow direction, the battery pack is taken off due to its spring force.

### **HINT**

- If the battery pack starts to run out soon, the battery life has expired. Purchase a new's..
- When the battery pack is used at low temperature, the usable operation period of the printer may be shortened.
- Enabling auto-power off function allows the printer to be automatically turned off after set hours with no operation. This prevents unnecessary battery consumption.
- Do not dispose of the disused battery pack yourself. Bring it to the nearest recycle shop.

## ■Connecting the AC Adapter (Optional Part)

- (1) Connect the AC cable to the AC adapter.
- (2) Open the interface cover and insert the DC jack of the AC adapter into the power connector of the printer.
- (3) Insert the AC plug of the AC cable into the electric outlet.
- (4) The printer turns on automatically.

### HINT

- The AC adapter may be heated to some extent during operation. There is no problem.

## 4. PAPER SETUP

This printer supports both thermal paper roll and thermal label roll. The printer function setting differs depending on paper you use. See Section 7, Function Settings, for details.

### ■ Mounting/Removing the Paper Roll Adapter

The printer supports paper roll whose internal diameter is a  $\varnothing 8$  mm,  $\varnothing 12.0$  mm, and  $\varnothing 25.4$  mm. Mount the paper roll adapter according to the internal diameter of the paper roll to be used. Two types of paper roll adapters mounted on the printer prior to shipping are available.

- (1) When using the paper roll of a  $\varnothing 8.0$  mm internal diameter:
  - Remove both paper roll adapters of a  $\varnothing 12$  mm and  $\varnothing 25.4$  mm internal diameters.
  - Push the outer lever pin of the paper guide toward the inside to remove two types of the paper roll adapters.
- (2) When using the paper roll of a  $\varnothing 12$  mm internal diameter:
  - Mount only the paper roll adapter of a  $\varnothing 12$  mm internal diameter.
  - Secure the paper roll adapter to the guide via the lever pins of the adapter.
  - Push the lever pin into the paper guide completely.
- (3) When using the paper roll of a  $\varnothing 25.4$  mm internal diameter:
  - Mount both paper roll adapters of a  $\varnothing 12.0$  mm and  $\varnothing 25.4$  mm internal diameters.
  - Assemble both paper roll adapters so that the projection and depression parts are engaged each other and secure both paper roll adapters to the paper guide in the same manner as (2).



## ■Installing Paper to the Pincher Unit

- (1) Press the paper cover open lever to the arrow direction and open the paper guide.
- (2) Widen the paper guide space while pressing the paper guide lock lever to the arrow direction.
- (3) Position the control projection part of the paper guide (paper roll adapter) so that it can be accommodated in the paper roll tube. Then, narrow the paper guide until the paper guide touches the paper roll.
- (4) Release the paper guide lock lever to lock the paper guide.

## ■Installing Paper

- (1) Pull out the paper so that paper end is fed out from the paper outlet port when the paper cover is closed.
- (2) Close the paper cover while supporting the paper so that the paper does not deviate right and left. Close the paper cover tightly so that the paper does not float.
- (3) When using the marked paper, perform the paper print positioning after pressing FEED button once.

## HINT

- The printer function setting for the marked paper is different from that for non-marked paper.  
See Section7, Function Settings, for details.
- This printer also supports the paper roll of max 58 mm external diameter. When the internal diameter of the paper roll is different from that of the paper roll adapter, it is necessary to, reduce the external diameter of the paper roll to protect it against its loose-fitting.
- When using paper with an unspecified paper width, remove the paper powder from the platen roller before use.  
See Section10, Print Head/Platen Roller Maintenance, for cleaning the platen roller.
- Using paper with an unspecified paper width for long periods of time may affect print quality due to wearing.

## 5. Attaching and Detaching the Belt Clip and Strap

The belt clip is provided with the grooves to attach the strap. When using the strap, it is necessary to attach the belt clip to the printer.

### ■Attaching and Detaching the Belt Clip

Attach/Detach the belt clip using screws (3 positions).

The belt clip is already attached to the printer prior to shipping.

### ■Attaching and Detaching the Strap

- (1) Put the strap through the groove located on the left and right sides of the belt clip.
- (2) Put the strap through the clip protection ring by turning over. Then put the strap through the buckle in the same manner as another

## 6. TEST PRINTING

After loading the printer with paper, proceed to test printing. During test printing, the printer function setting data and character strings for testing are printed.

- (1) Make sure that the paper is loaded and the printer is off. If the paper is not loaded, load the paper as instructed in Section 4, Paper Setup, and turn the printer off.
- (2) Press the POWER and FEED buttons simultaneously. When the POWER lamp lights, release the POWER button, then the FEED button.
- (3) Several dozens of lines are printed as follows:

```
"Mobile Label Printer"  
"MPU-L465 [Ver.*]**"  
" ** ** ** **"  
"Copyright (C) : SII"  
"*****"  
  
.  
.  
.
```

- (4) After test printing is completed, the printer goes into the STANDBY mode.

# 7. FUNCTION SETTINGS

This printer allows for numerous function settings according to the operating conditions and applications.

The settings are saved in the software DIP switches (non-volatile memory) mounted on the printer. The setting can be controlled by the buttons or commands.

This manual describes how to set functions by using buttons.

## HINT

- See the Technical Reference for details on function settings with commands.

## ■Function Setting Mode

The printer must be in the function setting mode to set functions with buttons.

Follow steps (1) through (3) to enter the function setting mode:

- (1) Make sure that the paper is loaded and the printer is off. If the paper is not loaded, load the paper as described in Section 4, Paper Setup, and then turn the printer off.

## HINT

- If an error occurs in the function setting mode, the POWER lamp blinks 3 to 4 times and the power is turned off.

- (2) Press the POWER and REPRINT buttons simultaneously. When the POWER lamp lights, release the POWER button, then the REPRINT button.

- (3) If the message shown below is printed, press the FEED button.

```
Select Function
Setting Mode: FEED SW
HEX Dump Mode: REPRINT SW
```

## HINT

- If you press the REPRINT button, the printer enters the HEX Dump mode. This mode enables you to see the printer's transmission status. See the Technical Reference for details.
- If you do not press any button within 30 seconds after the message is printed, the printer turns off.

(4) If the message shown below is printed, press the FEED button.

[SETTING MODE]

Yes: FEED/No: REPRINT

HINT

- If you press the REPRINT button, the printer leaves the function setting mode and turns off.
- If you do not press any button within 30 seconds after the message is printed, the printer turns off.

The printer is now in the function setting mode. You can set functions by pressing buttons.

## ■ Changing Settings

In the function setting mode, you can initialize or modify settings. To initialize the settings to defaults, follow step (1) shown below. To change settings, follow step (2) shown below.

### (1) Initializing software DIP switch settings

1. When the message shown below is printed in the function setting mode, press the FEED button.

Load Default Setting?  
Yes: FEED/No: REPRINT

2. When the message shown below is printed, the printer turns off. The settings are set to defaults. Initialization is completed.

Default Setting Saved.  
Setting Mode Finished.

### (2) Changing software DIP switch settings

When the message shown below is printed in the function setting mode, press the REPRINT button.

Load Default Setting?  
Yes: FEED/No: REPRINT

#### HINT

- When the REPRINT or FEED button is pressed in the function setting mode, the POWER lamp blinks once. Verify that the POWER lamp blinks.

## Operation 1: Transmission selection

When the FEED button is pressed in the status where the following message is printed, the printer moves to the transmissions selection mode. When REPRINT button is pressed, the printer moves to the paper selection mode without changing the setting.

```
DIP Switch setting mode.  
I/F=***** Change Setting?  
Yes: FEED/No: REPRINT
```

- (1) Input bit7 (MSB) through bit0 (LSB) in sequential order in the status where the following message is printed.

```
Input 8 bits.  
1: FEED/0: REPRINT
```

When input [1] : Press FEED button.

When input [0] : Press REPRINT button.

For example, when setting "10101110," continuously press the FEED, REPRINT, FEED, REPRINT, FEED, FEED, FEED, and REPRINT buttons in order.

- (2) When the FEED or REPRINT button is pressed eight times (for 8 bits), the printer outputs the following message.

```
I/F=***** Save Setting?  
Yes: FEED/No: REPRINT
```

When the FEED button is pressed, the printer outputs the following message and the setting is saved.

```
I/F Setting=***** Saved.
```

When the REPRINT button is pressed instead of the FEED button, the printer outputs the following message and the setting is not changed.

```
I/F Setting Not Changed.
```

### HINT

- "\*\*\*\*\*" shows a DIP switch setting. The left side digit shows the MSB (bit7) and the right side digit shows the LSB (bit0).



## Operation 2: Paper selection

---

When the FEED button is pressed in the status where the following message is printed, the printer moves to the paper selection mode. When the REPRINT button is pressed, the printer moves to the function selection mode without changing the setting.

```
DIP Switch setting mode.  
Paper=***** Change Setting?  
Yes: FEED/No: REPRINT
```

- (1) Input bit7 (MSB) through bit0 (LSB) in order in the status where the following message is printed.

```
Input 8 bits.  
1: FEED/0: REPRINT
```

When input [1] : Press FEED button.

When input [0] : Press REPRINT button.

For example, when setting "10101110," continuously press the FEED, REPRINT, FEED, REPRINT, FEED, FEED, FEED, and REPRINT in order.

- (2) When the FEED or REPRINT button is pressed eight times (for 8 bits), the printer outputs the following message.

```
Paper=***** Save Setting?  
Yes: FEED/No: REPRINT
```

When FEED button is pressed, the printer outputs the following message and the setting is saved.

```
Paper Setting=***** Saved.
```

When the REPRINT button is pressed instead of FEED button, the printer outputs the following message and the setting is not changed.

```
Paper Setting Not Changed.
```

### HINT

- "\*\*\*\*\*" shows a DIP switch setting. The left side digit shows the MSB (bit7) and the right side digit shows the LSB (bit0).

### **Operation 3: Exit function setting mode**

---

If you press the FEED button when the message shown below is printed, you can return to operation (1) and set DIP switch 1 again.

DIP Switch setting mode.

Continue: Feed SW/Quit: Power SW

If you press the REPRINT button, the message shown below is printed. The printer leaves the function setting mode and turns off. The function setting is now completed.

Setting Mode Finished.

#### **HINT**

- You can confirm the settings by performing test printing after the function setting.

## ■ Software DIP Switch Setting List

: Factory settings

### DIP switch 1

Position	Function	Setting							
Bit7	Not used	1							
Bit6	Parity	1	Even			0	Odd		
Bit5		1	No			0	Yes		
Bit4	Flow control	1	Hardware			0			
Bit3	Baud rate	1	115200	1	57600	0	38400	0	19200
Bit2		1		0		1		0	
Bit1	Transmission selection	1	AUTO	1	Bluetooth	0	USB	0	Serial
Bit0		1		0		1		0	

\* If a setting pattern not listed in the table is used, the baud rate is 9600 bps.

#### HINT

- When “AUTO” is selected for transmission selection, the printer recognizes and selects the connected transmission method.  
Depending upon the host computer, the transmission method may not be recognized by the printer.  
In this case, manually set the transmission method to be used.
- When “AUTO” is selected for transmission selection, serial transmission is recognized by DSR signal of the host computer.  
Accordingly, serial transmission of the host computer which does not use the DSR signal cannot be recognized automatically.  
In this case, manually set the transmission method to be used.

### Paper selection DIP switch

Position	Function	Setting															
Bit7	Marked	1	Normal paper							0	Marked paper						
Bit6	Print speed	1	High speed							0	High quality						
Bit5	Print density	1	No	1	No	1	120 %	1	110 %	0	100 %	0	90 %	0	80 %	0	70 %
Bit4		1		0		0		0		1		1		0		1	
Bit3		1		0		1		0		1		0		1		0	
Bit2	Paper type	See the following table.															
Bit1																	
Bit0																	

### Paper type

Bit2	Bit1	Bit0	Paper type
1	1	1	Reserved
1	1	0	Reserved
1	0	1	Reserved
1	0	0	Reserved
0	1	1	Reserved
0	1	0	KL470-ST95
0	0	1	TL69KS-HD75
0	0	0	AFP235

## 8. CONNECTING TO THE HOST COMPUTER

The printer supports serial and USB transmissions via an interface cable. The Bluetooth-mounted printer supports Bluetooth (Ver.1.1, Serial port profile)-compliant wireless transmission.

The printer function setting differs depending upon a transmission method to be used. See Section 7, Function Settings, for details.

An interface cable is needed for serial or USB transmission. An interface cable that fits into the host computer must be selected. See Section 12, Specifications, for details of interface specifications.

### ■ Serial/USB Transmission via an Interface Cable

Follow the steps shown below:

- (1) Turn the printer off.
- (2) Select a transmission method to be used. See Section 7, Function Settings, for details.
- (3) Open the interface connector cover and connect the interface cable.  
The interface cable connector for serial transmission has a lock. Push the connector in until the connector is locked.
- (4) Power the printer on and send data from the host computer to the printer.
- (5) Verify that the data is correctly printed.
- (6) The interface cable connector for serial transmission has a lock. To disconnect the cable, pull it out, while holding the connector hook.

## ■ Bluetooth-based Wireless Transmission (Bluetooth-mounted Printer)

- (1) Power the printer off.
- (2) Select a transmission method to be used. See Section 7, Function Settings, for details.
- (3) Power the printer on and send data from the host computer to the printer.
- (4) Verify that the data is correctly printed.

### HINT

- The maximum distance of transmission is approx. 10 m.  
The maximum distance of transmission may differ depending upon the radio interference and environment.



### WARNING

- ◆ The printer may affect medical devices and electronic devices. Obtain information and data concerning influence due to radio interference from manufacturers or dealers.
- ◆ When using the printer in medical institutions, follow their instructions.
- ◆ Do not use the printer in an air plane for safety.
- ◆ Do not use the printer in the area or district where its use is prohibited.

### Certification

---

This printer is certified as specified wireless equipment that complies with technical standard for 2.4 GHz band power saving data transmission system pursuant to the Radio Law.

Do not perform the following act. If not, you may be punished according to the law.

- To disassemble or remodel the printer.
- To unglue the evidence seal from the printer.

## 9. CHARGING THE BATTERY PACK

Immediately after purchasing or leaving the printer unused status for long periods of time, charge the battery pack before use.

The battery pack is charged prior to shipping, and provides power enough to check the printer operation. To use the printer for long periods of time, fully charge the battery pack.

This battery pack does not need to be used up or discharged before charging.

The battery pack can be charged when it is installed in the printer connected with an AC adapter. The battery pack can also be charged by a dedicated battery charger.

### ■ Charging the Battery Pack in the Printer

An AC adapter and an AC cable are needed to charge the battery pack in the printer.

- (1) Remove the interface cable from the connector and turn the printer off.
- (2) Install the battery pack in the printer.
- (3) Connect the AC adapter to the printer.
- (4) Connect the AC cable to the AC adapter and insert the AC plug of the AC cable into a wall outlet.
- (5) The printer turns on automatically and starts charging the battery.
- (6) The POWER lamp will continue to light yellow while charging. When charging is completed, the POWER lamp lights green. The charging time depends on the ambient temperature and the voltage level of the battery pack.

#### HINT

- The printer cannot print or receive data while it is charging the battery pack. For best results, you can purchase a dedicated battery charger or another battery pack.
- To stop charging, press the POWER button. The printer will turn off. To recharge the battery pack, power the printer on.

## ■Charging by a Dedicated Battery Charger (Optional Unit)

The following two types of dedicated battery chargers are available:

- Battery charger for only one pack.
- Battery charger for 5 packs.

Follow the steps shown below to charge the battery pack:

- (1) Connect the AC cable to the battery charger.
- (2) Put the AC cable plug into the inlet.
- (3) Mount the battery pack on the battery charger so that the electrodes of the battery pack are aligned with the metallic terminals of the battery charger.
- (4) The CHARGE lamp on the battery charger lights red to start charging.
- (5) The CHARGE lamp changes to green at full charge.
- (6) Remove the battery pack after charging is completed.
- (7) Unplug the AC cable from the inlet.

### CHARGE lamp (Recharge status indication)

---

Battery status	CHARGE lamp
Not connected	Off
During charging	Red on
Recharge completion	Green on
Error	Red blinks

#### HINT

- If the CHARGE lamp does not light for a few minutes during charging, the battery pack is out of order.  
Stop using the battery pack.
- If an error is detected in the battery pack, the CHARGE lamp blinks.  
Replace the battery pack with a new's.
- The battery pack and battery charger may be heated to a very slight extent during charging. There is no problem.



## 10. THERMAL HEAD/PLATEN ROLLER MAINTENANCE

If paper dust accumulates, wipe and clean the thermal printhead as well as the platen roller to ensure the maximum print quality for long periods of time.

### ■ Cleaning the Thermal Printhead and the Platen Roller

- (1) Power the printer off.
- (2) Open the paper cover.
- (3) Wipe gently the thermal printhead with a cotton swab that has been dampened with a small amount of ethyl alcohol.
- (4) Close the paper cover after verifying that ethyl alcohol remaining on the printhead and the platen roller disappears into thin air.

# 11. TROUBLESHOOTING

Please check the following points before asking for repair.

## ■ Power does not turn on:

- Make sure the recommended AC adapter or battery pack is used.
- Make sure the AC cable and AC adapter are correctly connected.
- Make sure the AC adapter is correctly connected to the printer.
- Make sure the battery pack is fully charged.

## ■ Printer does not print:

- Make sure the interface cable is correctly connected.
- Make sure the interface cable that meets the Interface Specifications listed on page 28 is used.
- Make sure the transmission conditions for the printer and the host computer are correct.
- Make sure the recommended paper is used and the paper orientation (top/bottom) is correct.

## ■ POWER lamp blinks:

- See the Lamp Display on page 14.

## ■ Battery pack is not installed:

- Make sure the battery pack is correctly aligned.
- Make sure the correct battery pack is used.

## ■ Battery runs out soon after charging:

- Make sure the battery has been correctly charged.
- If the battery does not recover to its full charge, it is almost dead. Replace it with a new one.

# 12. SPECIFICATIONS

## ■ Printer Specifications

Item	Specification
Printing method	Thermal
Print speed	85 mm/s maximum
Dots available	1280 dots
Dot density	300 dpi
Paper type	Paper roll
Paper width	70 to 115mm
External diameter	Max.φ58 mm
Interface	USB Ver.1.1 RS-232C Bluetooth Ver.1.1 SPP <sup>*1</sup>
Operating temperature	-20°C to 50°C
Relative humidity	10% to 85% (no condensation)
Character size	
(H × W) Standard size:	36 dots × 18 dots/24 dots × 12 dots
(H × W) Kanji size:	36 dots × 36 dots/24 dots × 24 dots
Dimensions (W × D × H)	168 × 155 × 87 mm <sup>*2</sup>
Weight	Approx. 800 g

<sup>\*1</sup> Only bluetooth model

<sup>\*2</sup> Excluding projections

<sup>\*3</sup> Excluding paper

## ■ Battery Pack (BP-L0718-A1) Specifications (Optional unit)

Item	Specification
Battery	Lithium ion
Rated voltage	7.4 VDC
Rated capacity	1800 mAh
Operating temperature range:	-20°C to 50°C (discharge) 0°C to 35°C (charge)
Weight	Approx.99 g

## ■ AC Adapter (PW-0904-W1) Specifications (Optional unit)

Item	Specification
Input voltage	100 - 240 VAC, 50/60 Hz
Output capacity	9.3 VDC, 4A
Operating temperature	0°C to 40°
Related humidity	20 % to 85 % (no condensation)
Dimensions (W × D × H)	110 × 62 × 31mm <sup>*1</sup>
Weight	Approx. 300g <sup>*1</sup>

<sup>\*1</sup> Excluding power cable

## ■ Battery Charger (PWC-L07A1-W1) Specifications (Optional unit)

Item	Specification
Input voltage	100 - 240 VAC, 50/60 Hz
Output capacity	DC8.4V,1.0A
Specified battery	BP-L0718-A1
Operating temperature	0°C to 35°C
Related humidity	20 % to 85 % (no condensation)
Dimensions (W × D × H)	70 × 120 × 41mm <sup>*1</sup>
Weight	Approx. 140g <sup>*1</sup>

<sup>\*1</sup> Excluding power cable

## 13. OPTIONAL UNITS AND CONSUMABLES

### ■Optional units

Name	Model
Battery pack	BP-L0718-A1
AC adapter	PW-3009-W1
Battery charger	PWC-L07A1-W1
AC cable <sup>*1</sup>	for Japan: CB-JP01-18A for USA CB-US01-18A for Europe CB-CE01-18A
Belt clip	BLT-A01-1
Strap	STR-A01-1
Rain-proof cover	CVR-A01-1
Serial cable	IFC-S01-1
USB cable	IFC-U01-1

<sup>\*1</sup> The shape of the power outlet differs from country to country. Please confirm it before use.

The AC cable can be used both for the AC adapter and dedicated battery charger

### ■Paper

Name	Model (Manufacturer)
Normal paper	AFP235 (MITSUBISHI PAPER)
Label paper	TL69KS-HD75 (JAPAN PAPER)
Label paper	KL470-ST95 (KSP (KANZAKI))

If the recommended paper is not used, the print quality or the thermal head life may be out of specifications.



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(Specifications are subject to change without notice.)