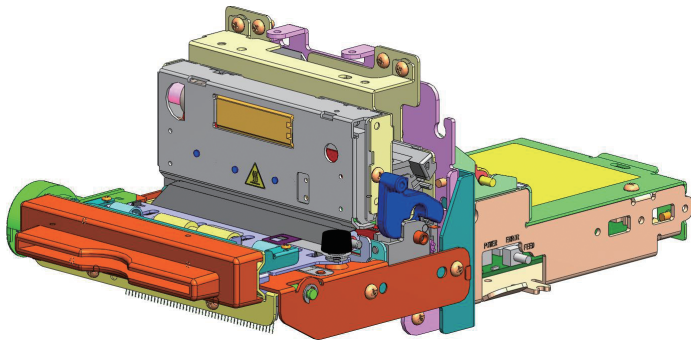# PRINTER PRESENTER UNIT
MODEL PMU2300III
User's Manual

WEEE MARK

En If you want to dispose of this product, do not mix it with general household waste. There is a separate collection systems for used electronics products in accordance with legislation under the WEEE Directive (Directive 2002/96/EC) and is effective only within European Union.

Ge Wenn Sie dieses Produkt entsorgen wollen, dann tun Sie dies bitte nicht zusammen mit dem Haushaltsmüll. Es gibt im Rahmen der WEEE-Direktive innerhalb der Europäischen Union (Direktive 2002/96/EC) gesetzliche Bestimmungen für separate Sammelsysteme für gebrauchte elektronische Geräte und Produkte.

Fr Si vous souhaitez vous débarrasser de cet appareil, ne le mettez pas à la poubelle avec vos ordures ménagères. Il existe un système de récupération distinct pour les vieux appareils électroniques conformément à la législation WEEE sur le recyclage des déchets des équipements électriques et électroniques (Directive 2002/96/EC) qui est uniquement valable dans les pays de l'Union européenne.
Les appareils et les machines électriques et électroniques contiennent souvent des matières dangereuses pour l'homme et l'environnement si vous les utilisez et vous vous en débarrassez de façon inappropriée.

Sp Si desea deshacerse de este producto, no lo mezcle con residuos domésticos de carácter general. Existe un sistema de recogida selectiva de aparatos electrónicos usados, según establece la legislación prevista por la Directiva 2002/96/CE sobre residuos de aparatos eléctricos y electrónicos (RAEE), vigente únicamente en la Unión Europea.

It Se desiderate gettare via questo prodotto, non mescolatelo ai rifiuti generici di casa. Esiste un sistema di raccolta separato per i prodotti elettronici usati in conformità alla legislazione RAEE (Direttiva 2002/96/CE), valida solo all'interno dell'Unione Europea.

Du Deponeer dit product niet bij het gewone huishoudelijk afval wanneer u het wilt verwijderen. Er bestaat ingevolge de WEEE-richtlijn (Richtlijn 2002/96/EG) een speciaal wettelijk voorgeschreven verzamelsysteem voor gebruikte elektronische producten, welk alleen geldt binnen de Europese Unie.

Da Hvis du vil skille dig af med dette produkt, må du ikke smide det ud sammen med dit almindelige husholdningsaffald. Der findes et separat indsamlingssystem for udtjente elektroniske produkter i overensstemmelse med lovgivningen under WEEE-direktivet (direktiv 2002/96/EC), som kun er gældende i den Europæiske Union.

Por Se quiser deitar fora este produto, não o misture com o lixo comum. De acordo com a legislação que decorre da Directiva REEE – Resíduos de Equipamentos Eléctricos e Electrónicos (2002/96/CE), existe um sistema de recolha separado para os equipamentos electrónicos fora de uso, em vigor apenas na União Europeia.

Pol Jeżeli zamierzasz pozbyć się tego produktu, nie wyrzucaj go razem ze zwykłymi domowymi odpadkami. Według dyrektywy WEEE (Dyrektywa 2002/96/EC) obowiązującej w Unii Europejskiej dla używanych produktów elektronicznych należy stosować oddzielne sposoby utylizacji.

Declaration of Conformity

This printer conforms to the following Standards:

The Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC, the RoHS Directive 2002/95/EC, and the WEEE Directive 2002/96/EC.

LVD : EN60950-1

EMC: EN55022   Class A
      EN61000-3-2
      EN61000-3-3
      EN55024

This declaration applies only to the 230-V model.

IMPORTANT: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.
CAUTION: Use shielded cable for this equipment.

Sicherheitshinweis
Die Steckdose zum Anschluß dieses Druckers muß nahe dem Gerät angebracht und leicht zugänglich sein.

For Uses in Canada
This Class A digital apparatus complies with Canadian ICES-003.
This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus, as set out in the radio interference regulations of the Canadian department of communications.

Pour L'utilisateurs Canadiens
Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.
Cet appareil numérique ne dépasse pas les limites de carégorie a pour les émissions de bruit radio émanant d'appareils numériques, tel que prévu dans les réglements sur l'interférence radio du départment Canadien des communications.

GENERAL PRECAUTIONS

- Before using this product, be sure to read through this manual. After having read this manual, keep it in a safe, readily accessible place for future reference.
- The information contained herein is subject to change without prior notice.
- Reproduction or transfer of part or all of this document in any means is prohibited without permission from Citizen Systems.
- Note that Citizen Systems is not responsible for any operation results regardless of omissions, errors, or misprints in this manual.
- Note that Citizen Systems is not responsible for any trouble caused as a result of using options or consumables that are not specified in this manual.
- Except explained elsewhere in this manual, do not attempt to service, disassemble, or repair this product.
- Note that Citizen Systems is not responsible for any damage attributable to incorrect operation/handling or improper operating environments that are not specified in this manual.
- Data is basically for temporary use and not stored for an extended period of time or permanently. Please note that Citizen Systems is not responsible for damage or lost profit resulting from the loss of data caused by accidents, repairs, tests or other occurrences.
- If you find omissions, errors, or have questions, please contact your Citizen Systems dealer.
- If you find any pages missing or out of order, contact your Citizen Systems dealer for a replacement.

SAFETY PRECAUTIONS ...WHICH SHOULD BE STRICTLY OBSERVED

Before using this product for the first time, carefully read these SAFETY PRECAUTIONS. Improper handling may result in accidents (fire, electric shock or injury).
In order to prevent injury to operators, third parties, or damage to property, special warning symbols are used in the User's Manual to indicate important items to be strictly observed.

● After having read this Manual, keep it in a safe, readily accessible place for future reference.
● Some of the descriptions contained in this manual may not be relevant to some printer models.

The following describes the degree of hazard and damage that could occur if the printer is improperly operated by ignoring the instructions indicated by the warning symbols.

⚠ **WARNING**

Neglecting precautions indicated by this symbol may result in fatal or serious injury.

⚠ **CAUTION**

Neglecting precautions indicated by this symbol may result in injury or damage to property.

⚠ This symbol is used to alert your attention to important items.

⚡ This symbol is used to alert you to the danger of electric shock or electrostatic damage.

🔌 This symbol denotes a request to unplug the printer from the wall outlet.

⏚ This symbol is used to indicate that the power supply must be grounded.

ⓘ This symbol is used to indicate useful information, such as procedures, instructions or the like.

🚫 This symbol is used to indicate prohibited actions.

PRECAUTIONS ON PRINTER INSTALLATION

⚠ WARNING

■ Do not use or store this product in a place where it will be exposed to:
  * Flames or moist air.
  * Direct sunlight.
  * Hot airflow or radiation from a heating device.
  * Salty air or corrosive gases.
  * Ill-ventilated atmosphere.
  * Chemical reactions in a laboratory.
  * Airborne oil, steel particles, or dust.
  * Static electricity or strong magnetic fields.
• **Neglecting these warnings may result in printer failure, overheating, emission of smoke, fire, or electric shock.**

■ Do not drop any foreign object nor spill liquid into the printer. Do not place any object on the printer either.
■ Do not drop any metallic object such as paper clips, pins or screws into the printer.
■ Do not place a flower vase, pot, or anything containing water on the printer.
■ Do not spill coffee, soft drinks, or any other liquid into the printer.
■ Do not spray insecticide or any other chemical liquid over the printer.
• **Dropping a metallic foreign object into the printer, may cause printer failure, fire, or electric shock. Should it occur, immediately turn the printer off, unplug it from the supply outlet, and call your local Citizen Systems dealer.**

Do not handle the printer in the following ways:
■ Do not subject the printer to strong impacts or hard jolts (e.g., being stepped on, dropped or struck).
■ Never attempt to disassemble or modify the printer.
• **Neglecting to handle properly may result in printer failure, overheating, emission of smoke, fire, or electric shock.**

■ Install, use, or store the printer out of the reach of children.
• **Electric appliances could cause an unexpected injury or accident if they are handled or used improperly.**
• **The plastic bag the printer came in must be disposed of properly or kept away from children. Wearing it over the head may lead to suffocation.**

⚠ CAUTION

Do not use the printer under the following conditions.
■ Avoid locations subject to vibration or instability.
■ Avoid locations where the printer is not level.
● **The printer may fall and cause an injury.**
● **The quality of printing may deteriorate**.
■ Do not place anything on the printer.
■ Do not cover or wrap the printer in cloth or blankets.
● **Doing so could cause heat to build up and deform the case or start a fire**.
■ Avoid using the printer with a device that is a strong source of noise.
● **The printer may have an adverse effect on nearby radio or TV transmissions. There may also be cases when nearby electrical appliances adversely influence the printer, causing data errors or malfunction.**
■ Installed in any orientation other than those specified.
● **Malfunction, failure, or electric shock may result.**

■ Connect the printer to a ground.
● **Electric leakage may cause an electric shock.**

■ Before connecting or disconnecting the grounding lead to or from the printer, always unplug it from the electric outlet.

PRECAUTIONS IN HANDLING THE PRINTER

⚠ WARNING

Please observe the following precautions for power source and power cord:
- Use the printer only at the specified supply voltage and frequency.
- Check to make sure that the supply outlet from which the printer is powered has a sufficient capacity.
- Do not use a deformed or damaged power cord.
- Do not attempt to modify the power cord unnecessarily.

⚠ CAUTION

To prevent possible malfunction or failure observe the following.
- Avoid operating the printer without paper properly loaded.
- Avoid the use of paper not complying with specifications.
- **May result in poor print quality.**
- Avoid using torn pieces of paper or paper spliced with plastic adhesive tape.
- Avoid forcibly pulling already loaded paper by hand.

- Be sure to firmly insert the cable plugs into their mating sockets.
- **A cross connection may damage the printer's internal electronics or the host system's hardware.**

⚠ CAUTION

To prevent injury and printer failures from worsening, observe the following:
- Do not touch the printing surface of the thermal head.
- Do not touch any of the moving parts (e.g., paper cutter, gears, active electric parts) while the printer is working.
- In case of trouble do not attempt to repair the printer. Ask Citizen Systems service for repair.
- Be careful of the sharp edges on the printer. Do not allow them to injure you or damage property.
- **May result in electric shock, burn, or injury.**

> **If the printer emits smoke, an odd smell, or unusual noise while printing, immediately abort the current print session and unplug the printer from the electric outlet.**

ⓘ **DAILY MAINTENANCE**

Observe the following precautions for daily maintenance.
- When cleaning the printer, always turn it off and unplug it from the electric outlet.
- Use a soft, dry cloth for cleaning the surface of the printer case.
  For severe stains, use a soft cloth slightly dampened with water.
  Never use organic cleaning solvent, paint thinner, trichloroethylene, benzene, or ketone. Never use a chemically processed cleaning cloth.
  For cleaning the presenter and platen, wet a towel with a small amount of ethanol and wipe the dirt on the roller.
- To remove paper dust, use a soft brush.

⚠ CAUTION
- **The thermal head is at a dangerously high temperature immediately after printing. Allow it to cool off before starting maintenance work.**

Visit the following site to get documentation, drivers, utilities, and other information.
http://www.citizen-systems.co.jp/english/support/index.html

THE TABLE OF CONTENTS

1.　GENERAL OUTLINE

The PMU2300III is a printer designed for use with a broad array of terminal equipment including data, measuring instruments, outdoor information, or as a presenter for issuing various kinds of tickets and coupon tickets.
With extensive features, it can be used in a wide range of applications.
To obtain the best results from the PMU2300III printers, please read the instructions in this manual thoroughly.

1.1　Features

(1)　The down-sizing is realized.
(2)　High-speed 150mm/s printing
(3)　High resolution printing with 8 dots/mm
(4)　Supports paper width of 80mm
(5)　Supports long life printer head, highly-reliable simple mechanism
(6)　Operating temperature range -10°C to +60°C
(7)　Simple head / paper maintenance by adopting the new head open mechanism.
(8)　Interface serial, parallel, USB (printer class, virtual COM).
(9)　OEM available
(10) Black mark (factory option)
(11) Equipped with presenter function that enables the discharge / recovery of printed or cut paper.
(12) Lights up printing paper discharge port by bezel LED display.
(13) Supports paper holder with a large diameter (ø203mm)

1.2 Unpacking

Make sure the following items are included with your printer.
- Printer 1
- Installation Manual 1
- Power cord 1
- Parallel cable 1
  (For Parallel I/F model only)
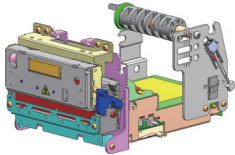
Printer   Power cord   Parallel cable   Installation
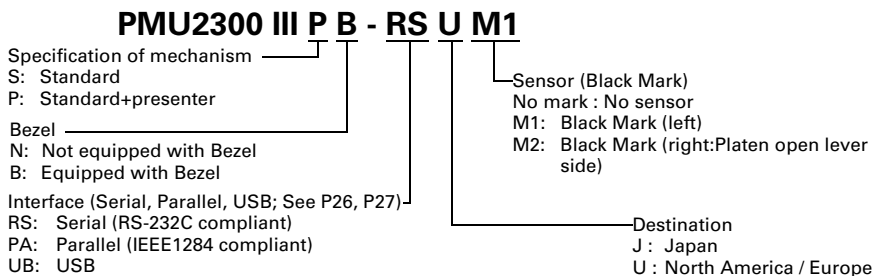   Manual

⚠ CAUTION

■ Use the printer under stable condition without any vibration.
■ Do not set the printer close to a heater or in location under direct sunlight.
■ Do not print in the state where moisture is present on the head surface due to condensation, etc.
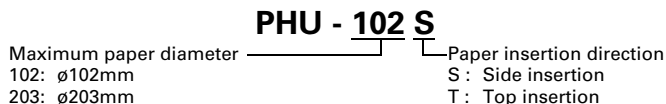■ Avoid condensation. Do not turn on the power until condensation is clear.

1.3 Model Classification

Model numbers indicate printer features according to the following system.

1.3.1 Model Name

PMU2300 III P B - RS U M1

Specification of mechanism
S: Standard
P: Standard+presenter

Bezel
N: Not equipped with Bezel
B: Equipped with Bezel

Interface (Serial, Parallel, USB; See P26, P27)
RS: Serial (RS-232C compliant)
PA: Parallel (IEEE1284 compliant)
UB: USB

Sensor (Black Mark)
No mark : No sensor
M1: Black Mark (left)
M2: Black Mark (right:Platen open lever side)

Destination
J : Japan
U : North America / Europe

1.3.2 Optional (Paper holder)

PHU - 102 S

Maximum paper diameter
102: ø102mm
203: ø203mm

Paper insertion direction
S : Side insertion
T : Top insertion

1.3.3 Precautions

–Registration in the printer main unit–
Following items has been registered in the printer main unit as a factory option depending on the model and they cannot be changed by a user.
- Model name of self printing (See page 40)
- ROM version of self printing (See page 40)
- Initial value when it is shipped from factory (initial value of command "reset all contents set by GS (E function: 255 printer function setting mode) to the factory-setting status", varies depending on the model)

* It is possible to change the setting to the same setting as that of other model by memory switch setting.

1.4 Basic Specifications

Items	PMU2300III Series			
	PMU2300IIISN	PMU2300IIISB	PMU2300IIIPN	PMU2300IIIPB
Printing Method	Line thermal (thermal printing method)			
Dot configuration (Max.)	72mm/576 dots			
Dot density	8 dots / mm			
Printing speed *1	MAX 150mm/sec. (1200 dot line / sec.)			
Paper feed	0.125mm			
Printing line columns (Max.)	FontA : 48 digits FontB : 64 digits FontC : 72 digits			
	Kanji FontA : 24 digits Kanji FontC : 36 digits			
Printing size	FontA : 12 × 24 dots 1.50 × 3.00mm FontB : 9 × 24 dots 1.13 × 3.00mm FontC : 8 × 16 dots 1.00 × 2.00mm Kanji Font A : 24 × 24 dots 3.00 × 3.00mm Kanji Font C : 16 × 16 dots 2.00 × 2.00mm As the space in the character font is included, the actual character is smaller than the size shown above.			
Character type	Alphanumeic,International Characters (12 characters × 16 countries), Code 437, 850(858), 852, 857, 858, 860, 863, 864, 865, 866 WPC1252, Katakana, Thai code18 Kanji (JIS Category 1, 2), kana, JIS C 6226-1983			
User memory	256KB(User generated character, created logo can be registered)			
Bar codes	UPC-A/E, JAN(EAN)13digits/8digits, ITF, CODE39, CODE128, CODABAR, CODE93 PDF417, QR code			
Line feed rate	4.25mm (approx.1/6 inch) can be set with command			
Printing paper	Paper width : 80mm			
	Paper thickness PMU2300III : 60 to 87μm			
Interface	Serial (RS-232 C compliant) Parallel (IEEE 1284 C compliant) USB (Printer class, Virtual COM)			

Presenter	—	—	Minimum length of ticket :
			    75mm (Valid at setting MSW11-6)
			Number of paper discharge:
			    1 million times (65μm)	

Input buffer	4K / 45 byte (only 4K for parallel)			
Power source	Input voltage DC24V±10% power consumption 1.9A (9A at peak) *Optional AC Adapter 36AD1 compliant			
Weight	0.9kg	1.0kg	1.2kg	1.2kg
Operating temperature	-10 to 60°C (*36AD1 0 to 45°C when in operation) 10 to 80% (no condensation)			
Storage temperature	-25 to 65°C 10 to 90% (no condensation)			

Machine reliability	Printer head life : 100km, 100 million pulse (normal temperature, normal
	                                   humidity, recommended paper)
	Auto cutter life : 1 million cut (normal temperature, normal humidity,
	                                thickness 65μm when full cut)			

Safety standard *2	VCCI Class A			
	UL, C-UL, FCC Class A			
	TUV-Bauart, CE Marking			

Notes:
*1: - The printing speed above should be under the conditions of voltage at 24.0V, 25°C, printing
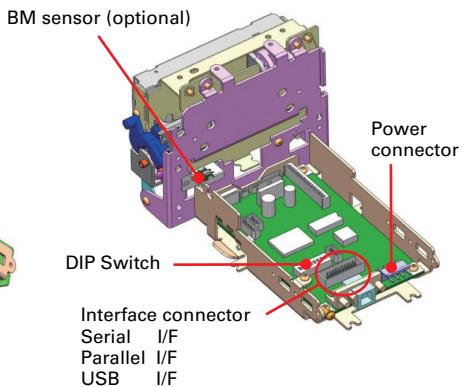   Duty12.5%
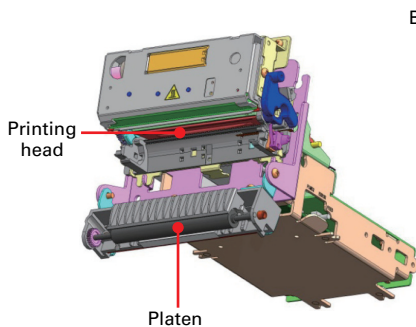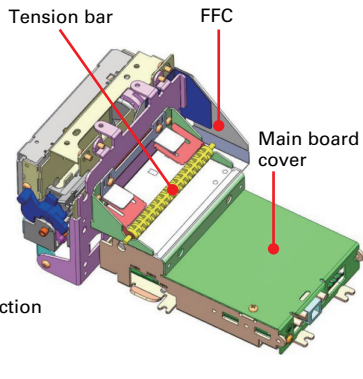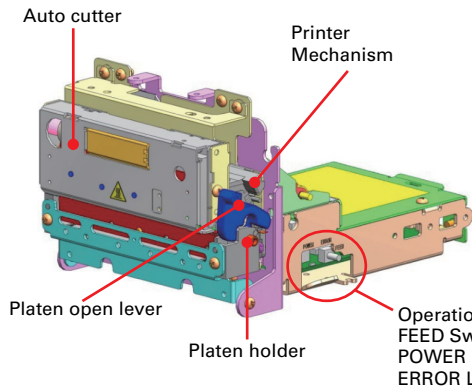   - The printing speed may be slow depending on the setting of printing condition or combination
       of commands.
*2: - The above specification applies exclusively when using dedicated AC adapter (36AD1)

2. EXPLANATION OF PRINTER PARTS

2.1 Printer Appearance

Names of parts

Auto cutter

Printer Mechanism

Tension bar

FFC

Main board cover

Platen open lever

Platen holder

Operation section
FEED Switch
POWER LED
ERROR LED

Printing head

Platen

BM sensor (optional)

Power connector

DIP Switch

Interface connector
Serial   I/F
Parallel I/F
USB   I/F

- Main board cover
  The main board can be exposed by unscrewing one screw that fixes the main board cover and removing it by sliding it.

- Auto cutter
  Automatically cuts the paper when printing is finished.

- Platen open lever
  Used in an instance of cutter error or paper jam.

- Tension bar
  Absorbs the shock at the rotation of paper roll.

- Printing head
  Prints characters and graphic data on paper (paper rolls).

- Interface connector (3 types)
  Serial, Parallel, USB cable are connected to the interface connector. The serial interface board is equipped with a DIP switch.

- Power connector (Input voltage : DC24V±10%)

Refer to 4.2 How to Release Cutter Lock (Cutter Error)

Operation Section

POWER LED   ERROR LED   FEED Switch
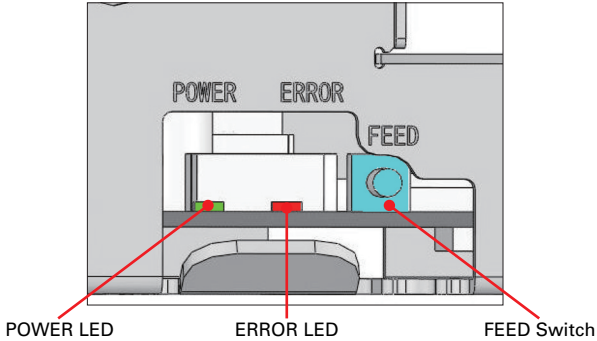
● POWER LED
  Lights when the power is on, turns off when the power is off.
  Flashes when data is incoming or a memory error has occurred.

● ERROR LED
  Flashes if the print head is hot, the paper cover is open, a cutter lock occurs, and so forth.

● FEED Switch
  Press this switch to feed paper.
  In case of a cutter lock, remove the cause of the lock, close the platen cover, and then press the FEED switch.
  The printer enters the mode for setting memory switches and running self-printing.

2.2 PMU2300III Series

This printer is equipped with a function for controlling the bezel LED during standby / printing / discharge. This function can be switched to valid / invalid using the memory switch.
- For the bezel, two types; for main unit and for presenter are available. For the bezel for the main unit, the bezel paper detection sensor is attached in the bezel and the paper can be detected.
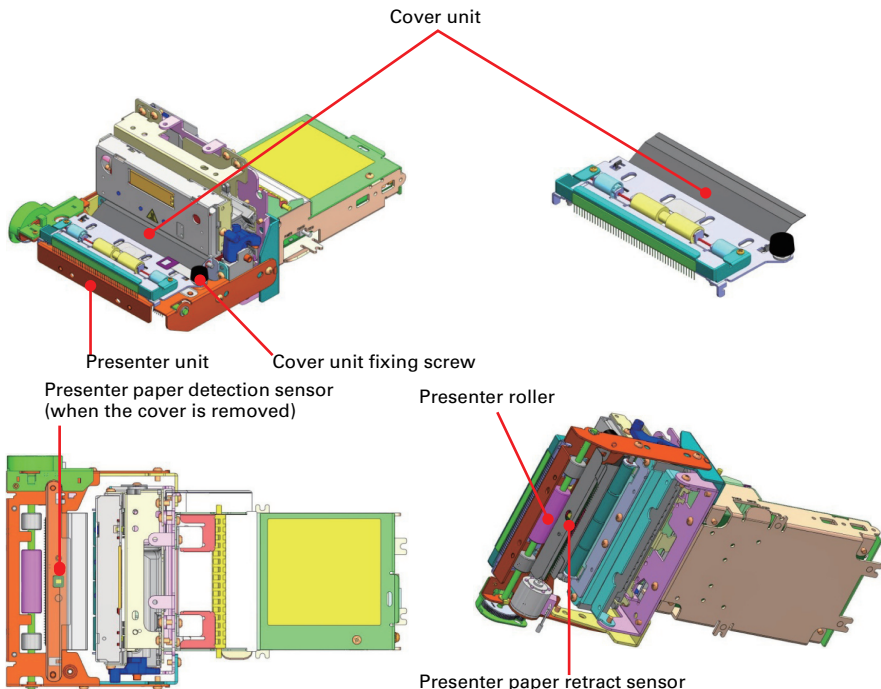 * For details on each command, refer to the command reference.

● When the bezel is attached
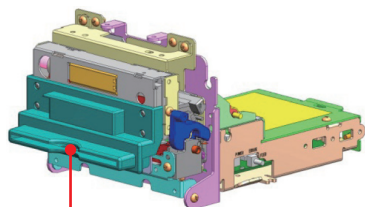
Bezel
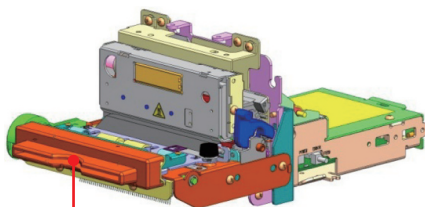
Bezel (for Presenter)

● Presenter section

Cover unit

Presenter unit

Cover unit fixing screw

Presenter paper detection sensor
(when the cover is removed)

Presenter roller

Presenter paper retract sensor

2.2.1 Memory switch setting (Presenter function)

The presenter function can be set with MSW11.

1. **MSW11-1: Presenter**
    Function : Validity/invalidity of presenter function is selected.

    Operation at OFF (Invalid): The presenter function is disabled.
    The setting of MSW11-2~MSW11-6 is disabled.
    Operation at ON (Valid): The Presenter function is enabled.
    The setting of MSW11-2~MSW11-6 is enabled.

2. **MSW11-2: Retract Function**
    Function : Validity/invalidity of recovery operation is selected.

    Operation at OFF (Invalid): The recovery operation is disabled.
    Operation at ON (Valid): The recovery operation is enabled.
    After ejecting paper, the function performs paper recovery either in forward ejection or rear side recovery after a certain time passed with the setting of MSW11-3 (Retract Direction).
    By the execution of Retracting receipt immediately Command GS R 0, conducts instant recovery operation.

    - The recovery time can be set with the Setting Command, GS (E, of customized value. Also, the recovery time until power being OFF is changeable with the setting command, GS R 1, of the Receipt Recovery Timer value.
    Initial Value of Recovery Time: 5s

3. **MSW11-3: Retract Direction**
    Function : Selects recovery direction at Retract Function Valid (MSW11-2 = ON)

    Operation at OFF (Rear): Recovers paper from rear side.
    Operation at ON (Forward): Ejects paper forward.

4. **MSW11-4: Store and eject**
    Function : Selects valid/invalid of ejection after accumulation.

    Operation at OFF (Invalid): When paper is reached to Presenter Roller, synchronizes with printing line-feed without paper sagging and conducts paper ejection.
    Operation at ON (Valid): Paper ejection does not occur even when the paper reaches to the Presenter Roller and conducts paper ejection after paper sagging of maximum 220 mm.

5. **MSW11-5: No print with paper**
    Function : When recovery sensor is detecting paper, selects valid/invalid of the next printing/ejecting operation.

    Operation at OFF (Invalid): Even when the recovery sensor detects paper, conducts the next printing/ejection operation.
    Operation at ON (Valid): When the recovery sensor is detecting paper, waits the next printing/ejection operation until the sensor fails to detect paper.

6. **MSW11-6: Min Receipt Length**
    Function : Selects minimum receipt length.

    Operation at OFF (75mm): Sets the minimum length at 75mm.
    Operation at ON (120mm): Sets the minimum length at 120mm.
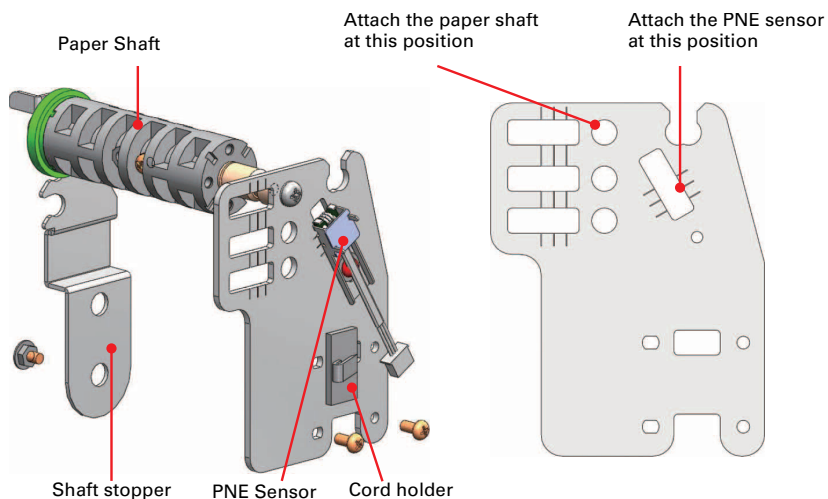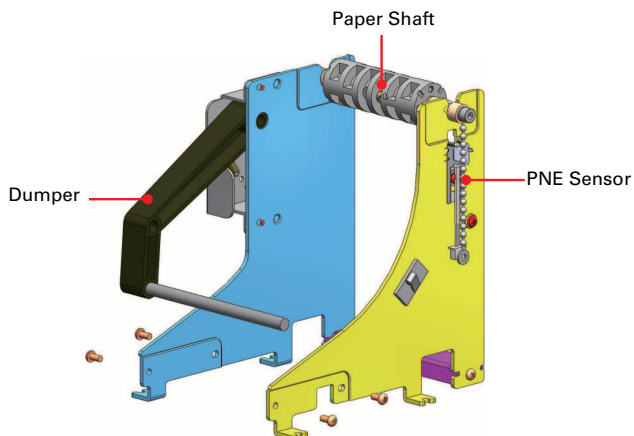
2.2.2 Memory switch setting (Bezel function)

The bezel function can be set by MSW12.

1. **MSW12-1: Bezel Function**
   Function : Validity / invalidity of bezel function is selected.

   OFF operation at (invalid) : The bezel function is disabled
             Setting of MSW12-2 to MSW12-6 is disabled.
   ON operation at (valid) : The bezel function is enabled.
             Setting of MSW12-2 to MSW12-6 is enabled.

2. **MSW12-2: LED Control**
   Function : Validity / invalidity of bezel LED control (during standby / during printing / during discharge) is selected.

   OFF operation at (invalid): The bezel LED control is disabled.
   ON operation at (valid) : The bezel LED control is enabled.

   - The bezel LED display status, bezel lighting time during standby, and bezel blinking time can be set by setting of customized value GS (E Command.
   Initial value of bezel LED display   During standby : OFF
                                 During printing : lights up
                                 During discharge : blinks
   Initial value of bezel lighting time during standby
                                 0: continuously lights up
   Initial value of bezel blinking ON/OFF time
                                 5: 500ms
   - The bezel LED display can be changed by controlling bezel LED command GS R 2 regardless of setting of MSW12-2.

3. **MSW12-5: Show Error by LED**
   Function : Validity / invalidity of LED abnormal display is selected.
   When an error is generated, the bezel LED is displayed by synchronizing it with the error LED

   OFF operation at (invalid): LED abnormal display is disabled.
   ON operation at (valid):   LED abnormal display is enabled.

4. **MSW12-6: No print with paper**
   Function : When the bezel paper detection sensor detects the paper, validity / invalidity of next printing / discharge operation is selected.
   This function becomes effective only when the bezel for the main unit is attached.

   OFF operation at (invalid): Even if the bezel paper detection sensor detects the paper, the next printing / discharge operation is carried out.
   ON operation at (valid):   If the bezel paper detection sensor detects the paper, the next printing / discharge operation is carried out after the sensor does not detect the paper.

2.3 Options

Paper holder (optional)

● Paper holder unit / kit: option
   - There are two types of paper holder as shown below.
   - The selectable paper insertion direction varies depending on the type of paper holder.

1. **Horizontal paper insertion holder kit for maximum paper diameter ø102mm: PHU-102S (part number: ZF98901)**

Paper Shaft

Attach the paper shaft at this position

Attach the PNE sensor at this position

Shaft stopper   PNE Sensor   Cord holder

2. **Vertical paper insertion holder kit for maximum paper diameter ø203mm: PHU-203T (part number: ZF98903)**

Paper Shaft

Dumper

PNE Sensor

3. SETUP

3.1 Paper Holder Attachment Position

The paper holder attachment position to the printer main unit varies depending
on the paper diameter / insertion direction as shown in the table below.
* The paper holder is attached in the direction of figure in the table below for
Paper holder attachment position.

Left side   Right side

Paper holder attachment
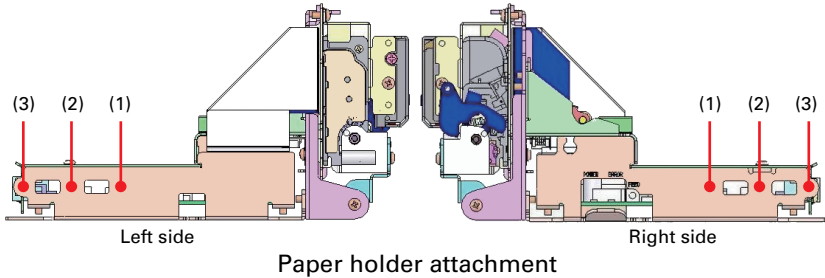
Paper holder attachment position

Paper diameter/ Insertion direction	Left side			Right side		
	(3)	(2)	(1)	(1)	(2)	(3)
1: ø102mm/Left	—			—		
2: ø102mm/Right			—		—	—

Paper diameter/ Insertion direction	Left side		Right side		
		(3)	(1)	(1)	(3)
3: ø203mm/Upper					

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3.2 How to set the paper holder

Paper holder ø203mm/Upper insertion
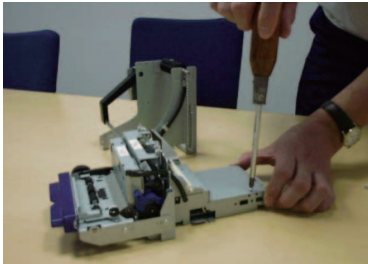
1. Turned the power OFF and open the main board cover with a driver.
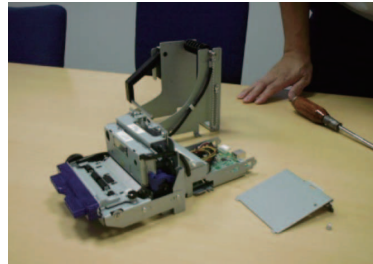
2. Insert the PNE sensor cable through the outlet in the main unit and plug in to the socket.
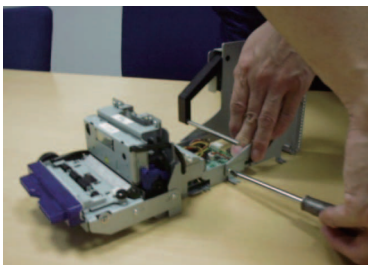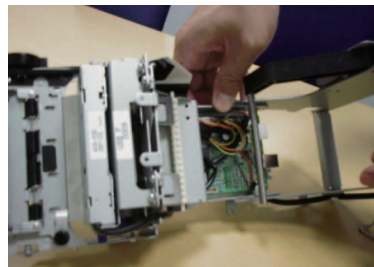
3. Attach the paper holder into the hole (1) & (3) with M3 screws.
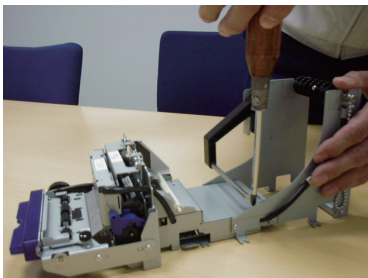
4. Close the main board with the M3 screws.

Paper holder ø102mm/Left insertion
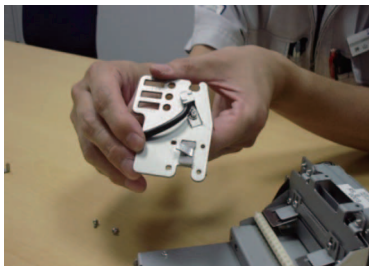
1. Attach the cord holder on the outer side of paper holder. Adjust the cable at ▼ mark indicated on the holder.
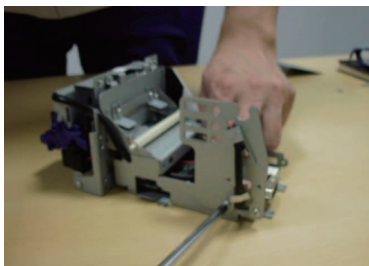
2. After opening the main board cover, insert the PNE sensor cable through the outlet in the main board and plug in to the connector. Attach the paper holder into the hole (2) & (3) with M3 screws.
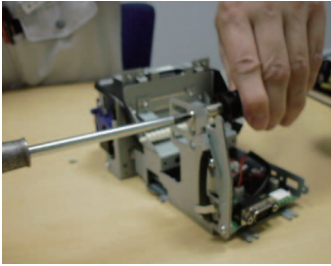
3. Place the paper shaft onto the holder hole and attach it in the uppermost hole with M4 screw.
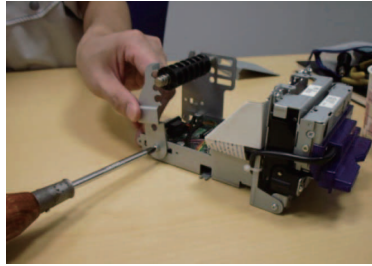
4. Attach the shaft stopper through (2) hole in the main unit with M3 screw.

5. Close the main board with the M3 screws.

Paper holder ø102mm/Right insertion
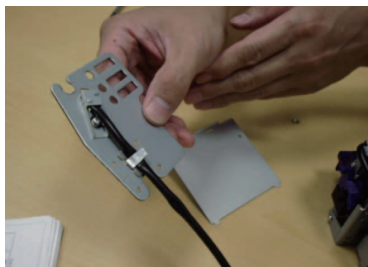
1. Attach the cord holder on the outer side of paper holder. Fix it with M3 screw.
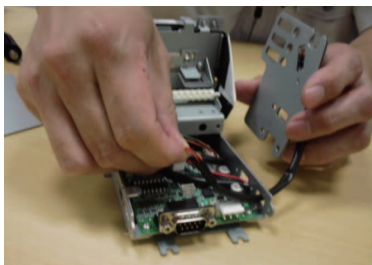
2. Insert the PNE sensor cable through the outlet in the main unit and plug in to the connector.
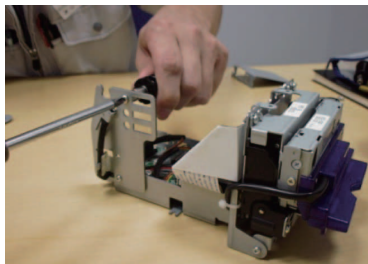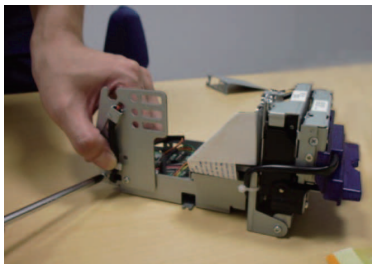
3. Attach the paper holder into the hole (2) & (3) with M3 screws. Place the paper shaft onto the holder hole and attach it in the uppermost hole with M4 screw.
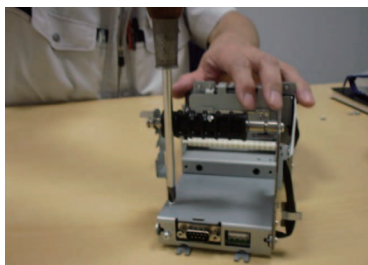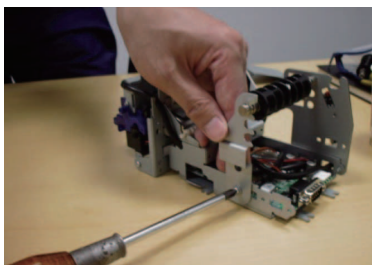
4. Attach the shaft stopper through (1) hole in the main unit with M3 screw. Close the main board with the M3 screws.

3.3 Connecting Interface Cables

1. **Turn off the power.**
2. **Orient the interface cable correctly and insert it into the interface connector.**

⚠ CAUTION

- Be sure to carry out the work after pulling out the paper, interface, and the power supply connector.
- If you make a connection to the connector other than above, check the status of each signal and connect it correctly. Failure to do so may damage the host PC.
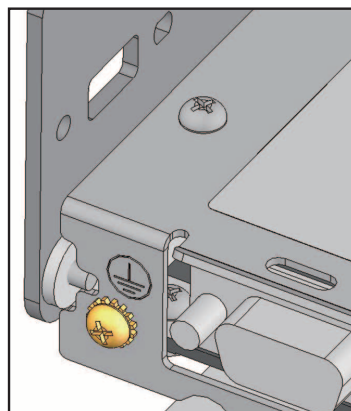- When disconnecting the cable, always hold the connector. Wiring disconnection fault may occur if you hold the cable.
- To connect more than one printer to a single computer via a USB interface you must change the serial number of the USB interface.
- Do not use CN401 for any purposes other than communication. The wrong use may damage the printer and negatively affect the human body and the peripheral equipment etc.
- Place the interface cable so people do not trip on it.

Use a serial interface cable with the connection layout shown below.

Printer CN301		Host 9pin Serial I/F
2	RD ———— TD	3
3	TD ———— RD	2
4	DTR ———— DSR	6
5	GND ———— GND	5
6	DSR ———— DTR	4
7	RTS ———— CTS	8

Printer CN301		Host 25pin Serial I/F
2	RD ———— TD	2
3	TD ———— RD	3
4	DTR ———— DSR	6
5	GND ———— GND	7
6	DSR ———— DTR	20
7	RTS ———— CTS	5

CN401 exists on the main board. The main board can be exposed by unscrewing one screw that fixes the main board cover and removing it by sliding it.
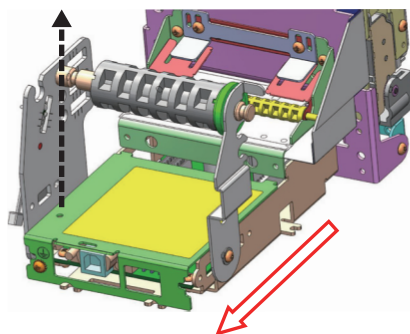
Use a parallel cable with the connection layout shown below.

Printer CN401		Host 36pin Parallel I/F	Printer CN401		Host 25pin Parallel I/F
1	STB	1	1	STB	1
2	DATA0	2	2	DATA0	2
3	DATA1	3	3	DATA1	3
4	DATA2	4	4	DATA2	4
5	DATA3	5	5	DATA3	5
6	DATA4	6	6	DATA4	6
7	DATA5	7	7	DATA5	7
8	DATA6	8	8	DATA6	8
9	DATA7	9	9	DATA7	9
10	ACK	10	10	ACK	10
11	BUSY	11	11	BUSY	11
12	PE	12	12	PE	12
13	SELECT	13	13	SELECT	13
14	AUTOFD	14	14	AUTOFD	14
15	INIT		15	INIT	
16	FAULT	19-30	16	FAULT	15
17	SELSECT IN		17	SELSECT IN	16
18(19)	GND		18(19)	GND	17
20	N.C	31	20	N.C	18-25
		32			
		36			

②

①

⚠ **CAUTION**

■ Pull out the wiring external using the space ①.
■ After the wiring, fix the cable with a cord keeper etc. using the hole ② preventing the cable from being pulled from external.
■ Take care not to clip cables etc. when the main board cover is closed.
■ After the work, be sure to close the main board cover and do not use the product when it is exposed.
■ If you make a connection to the connector other than above, check the status of each signal and connect it correctly.

3.4 Precautions for Installing the Printer

- The printer should be installed on the flat surface (flatness 0.3 or less) with a sufficient strength.
- Take care not to be injured by an edge of plate when you install the printer.
- Do not move the printer by holding a weak part such as harness because it may cause an unexpected accident.
- This printer should be secured by four screws (M3x6 to 10mm) at the position shown below.
- If the printer main unit does not contact the metallic part when you install it, make the ground connection using the FG connection screw shown below.
- When you install to the wall (position A indicated Fig page 30), the wall inside should be smooth and flat face so as not to be caught by the edge of paper.
- Under lower temperature environment, paper jam may occur while rear paper collection as well as minimum length of ticket is set at 75mm. Set accordingly at 120mm. (Refer to 2.2.1 Memory switch setting (Presenter function))

Installation example
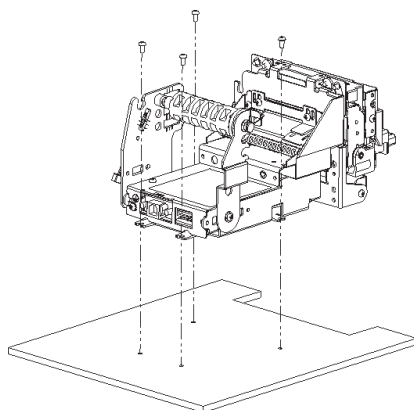
PMU with Paper holder: PHU-102S

FG fixing screw position

PMU with Paper holder: PHU-203T

Allow a space for removal in the
upper section of the cover unit.

A

Allow a space accordingly as
indicated below (unit: mm)

Center of paper

62.90

90 min. (*)

A

120 min.

95 min.

3.20
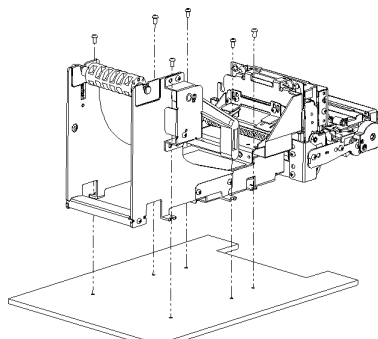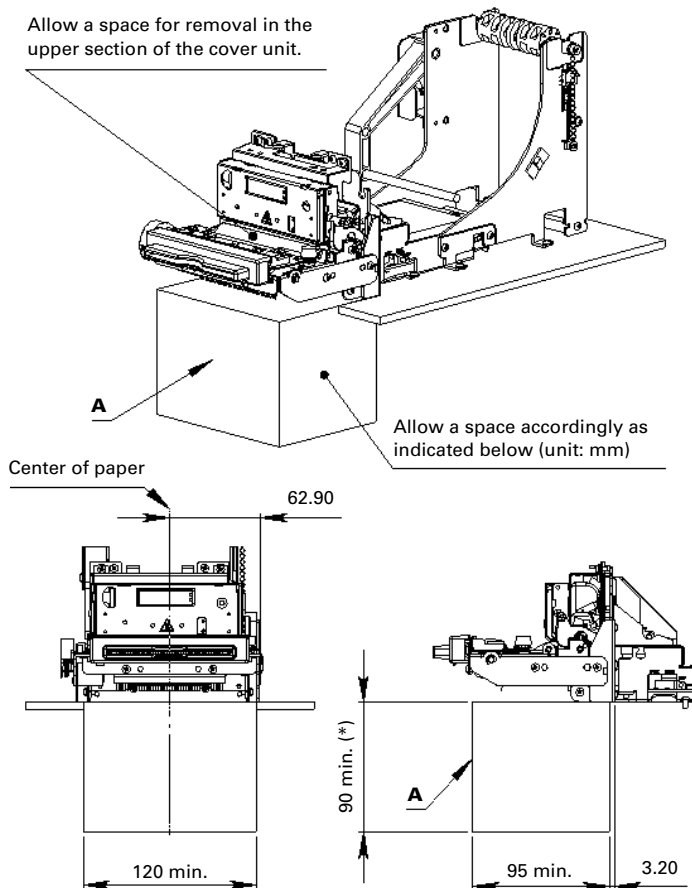
(*) The dimension indicate paper retract forward mode.
At Rear retract mode, keep height enough so as not to
hinder the dropping paper.
Also consider the accumulation of the dropping paper.

⚠ CAUTION

Do not use the printer under the following conditions.
■ Locations subject to vibration or instability.
■ Locations that are very dirty or dusty
■ Locations where the printer is not level.
• **The printer may fall and cause an injury.**
• **The quality of printing may deteriorate.**
■ Oriented other than as specified.
• **The printer may malfunction, be damaged, or cause an electric shock.**
Precautions for model with no Presenter
■ Do not set cutting to full cut. Doing so may cause cutter jams.

3.5 Setting the DIP Switch on the Serial Interface Board

1. **Turn off the printer and unplug the power cord from the electric outlet.**
2. **Remove the mounting screw of the main board cover. (Be sure not to have the screw lost)**
3. **Slide the main board cover and remove it from the printer.**
4. **Set the DIP switch according to the following table.**

DIP switch (SW301)
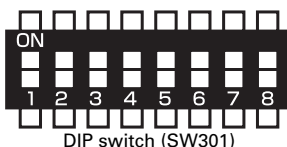
⚠ CAUTION

■ Use care in handling the edged part (especially cutter blade) of the components of the printer.
■ When setting the DIP switch, do not remove any screws except the serial interface board mounting screws.
■ Turn the power OFF when changing the DIP switch setting.
■ Do not use any pointed object for setting.
■ Do not leave the interface board open when using.

The function of each switch is shown below. (Shaded values are factory settings. However, factory settings differ depending on the destination market.)

DIP Switch

Switch no.	Function	ON	OFF
1	Communication condition setting	According to DIP switch settings	**According to memory switch settings**
2	Hand shake	XON/XOFF	**DTR/DSR**
3	Bit length	7 bits	**8 bits**
4	Parity check	Yes	**No**
5	Parity selection	Even parity	**Odd parity**
6	Baud rate selection	Refer to table below.	
7			
8	INIT	Reset	**Invalid**

Baud rate selection

Baud rate (bps)	Switch no.	
	6	7
2400	**OFF**	**OFF**
4800	ON	OFF
9600	OFF	ON
19200	ON	ON

When switch no. 1 is set to OFF, you can use a command or a memory switch to select 1200, 38400, 57600, or 115200 bps.

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3.6 Adjusting the Paper Near-end Sensor

3.6.1 Adjustment method

As the position of PNE sensor can be set at an arbitrary position, use the product by setting it to the optimum position.
Loosen the screw slightly, and then slide the position of the PNE sensor (use △ mark and scale as a guide). If you decide the detection position, tighten the screw.
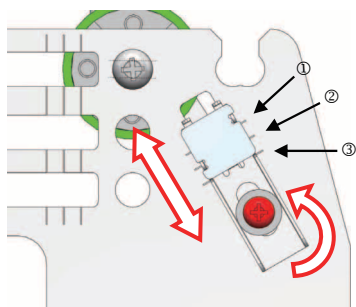
PHU-102S scale position / adjustment method   PHU-203T scale position / adjustment method
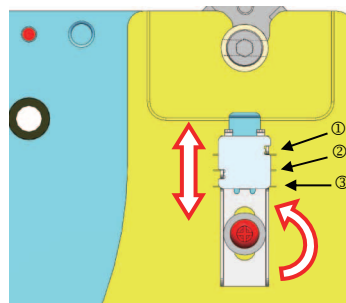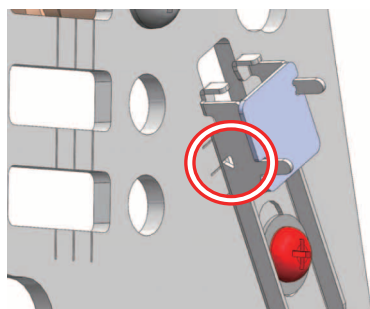
△ mark
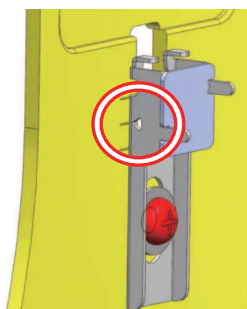
Scale position		External diameter of paper remaining amount when it is detected by PNE sensor (reference)
①	Scale that is 1st closest to shaft	ø32
②	Scale that is 2nd closest to shaft	ø37
③	Scale that is 3rd closest to shaft	ø42

3.6.2 Precautions

- The PNE sensor may malfunction due to ambient light, so when you use the PNE sensor, consider the installation of light shielding cover etc. for preventing the ambient light from entering.
- The value of "external diameter of roll paper when it is detected by PNE sensor" varies depending on the model and the type of roll paper, so use it as a referential value.
- Do not use the PNE sensor other than that is made by our company. The wrong use may damage the printer and negatively affect the human body and peripheral equipment etc.

4.   MAINTENANCE AND TROUBLESHOOTING

4.1 How to Set Paper (Replacement)

Follow the steps below to replace paper

4.1.1 Paper Holder: PHU-102S
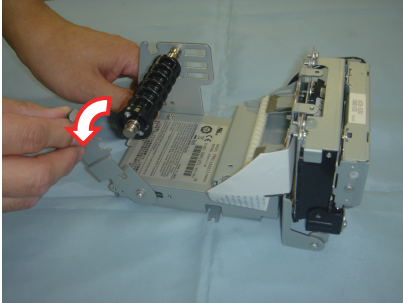
1. Remove shaft stopper. If paper core is remained, pull out the core.
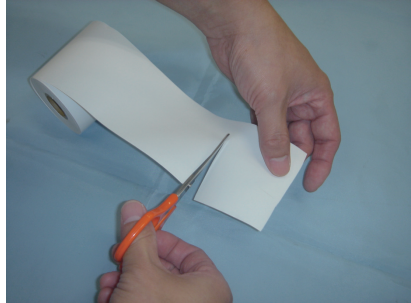
2. In case if the end of paper for replacement is not aligned, cut straight cleanly with scissors, etc.
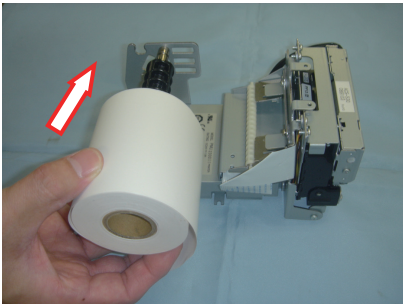
3. After confirming the winding direction of paper, insert the core into the paper shaft to the position getting over a guard and press-in shaft stopper securely until it is locked.
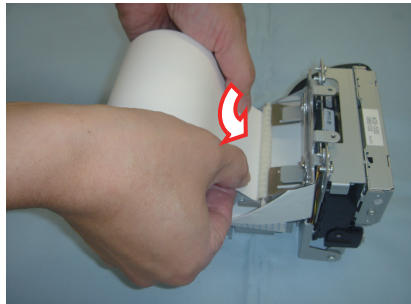
4. Insert the paper end into paper inlet. Automatic loading is started. (Automatic loading does not start when MSW4-2 is OFF)

⚠ CAUTION

■ Be sure to use designated paper
■ If you use paper other than designated, there may be the case of printing quality and life, etc, are not guaranteed.
■ Set paper straight without any slackness

4.1.2 Paper Holder: PHU-203T
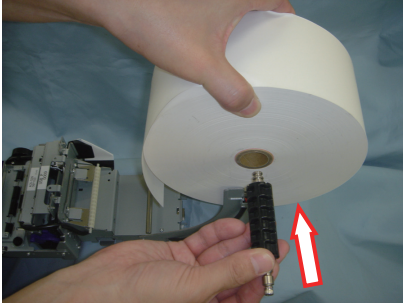
1. After confirming the winding direction of paper, insert the paper core into the paper shaft and set the paper shaft to the U-shaped gutter of paper holder.
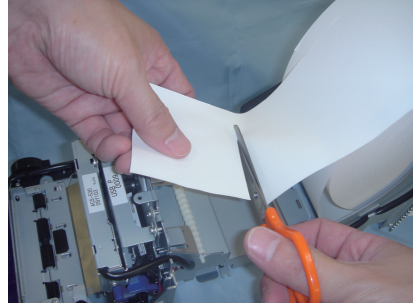
2. In case if the end of paper for replacement is not aligned, cut straight cleanly with scissors, etc.
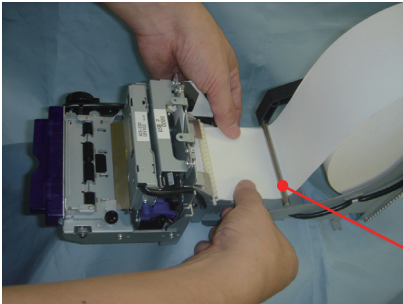
Tension Bar

3. Insert the paper end into paper inlet after slipping through underneath of tension bar. Automatic loading starts. (Automatic loading does not start when MSW4-2 is OFF)

⚠ CAUTION

- Be sure to use designated paper
- If you use paper other than designated, there may be the case of printing quality and life, etc, are not guaranteed.
- Set paper straight without any slackness.

4.2 How to Release Cutter Lock (Cutter Error)

Follow the steps below to release cutter lock (cutter error).
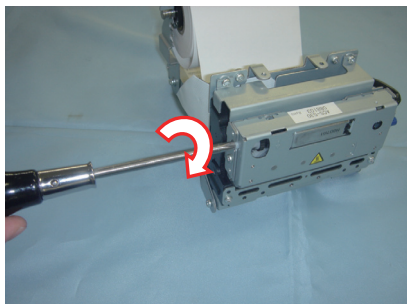
1. Turn the power OFF, rotate the cutter motor with driver and store the cutter blade.
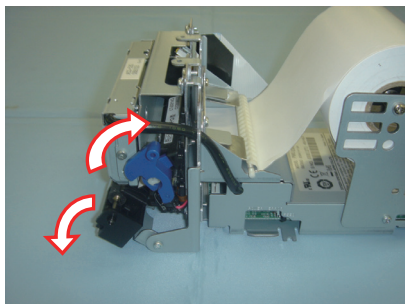
2. Open platen holder. Pay attention not to place fingers underneath to avoid nipping.
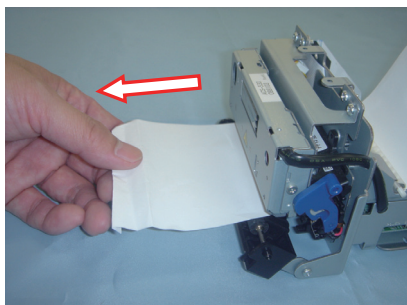
3. Remove the cause of cutter lock such as paper jam.
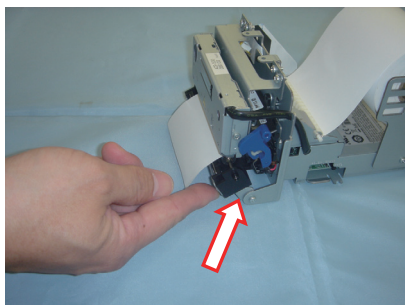
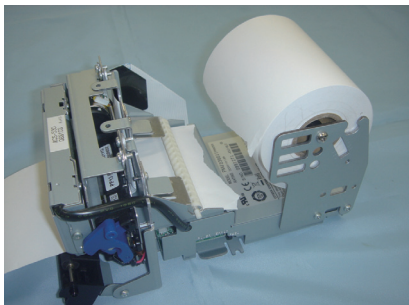4. Close the platen holder. Securely press until it locks, then turn the power ON and set the paper again.

⚠ CAUTION

- Pay sufficient attention not to touch the blade part of cutter because there is the case of moving blade of cutter being jumped out.
- Pay attention not to touch the print head with hands because the head becomes high temperature just after printing.
- Do not touch the surface of print head heating element with bare hands, metal, etc.
- If the above procedure does not retract the auto cutter, contact your Citizen Systems dealer.
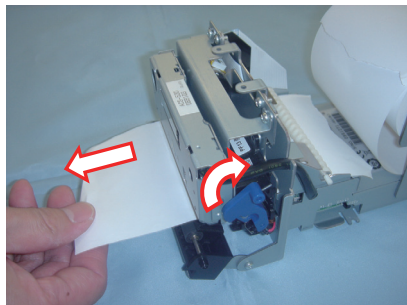
4.3 How to Remove Paper Jam

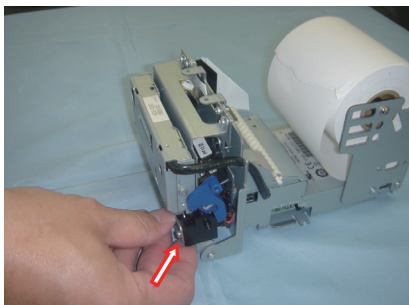Follow the steps below to remove paper jam.
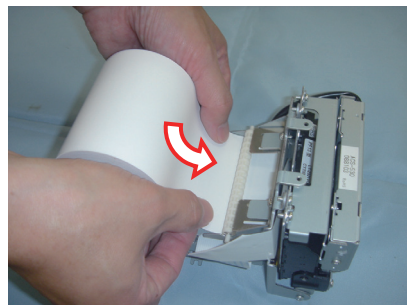
4.3.1 When Presenter is not installed

1. Turn the power OFF and cut the paper

2. Open platen holder and remove the cause of paper jam.

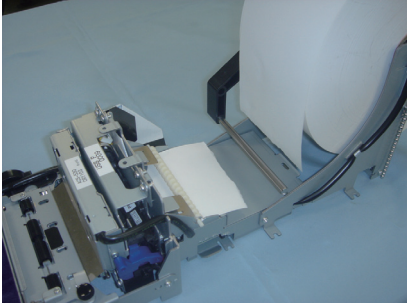3. Close the platen holder. Press the holder securely until it locks.
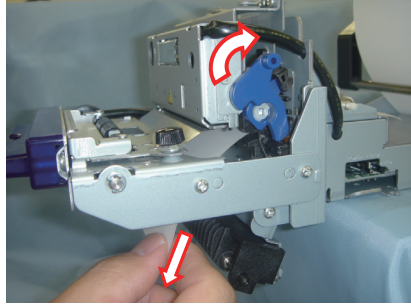

4. Turn the power ON and set the paper again

⚠ CAUTION

■ Be sure to conduct paper jam removal after the power being OFF.
■ Pay attention not to touch the print head with hand because the head becomes high temperature just after printing.
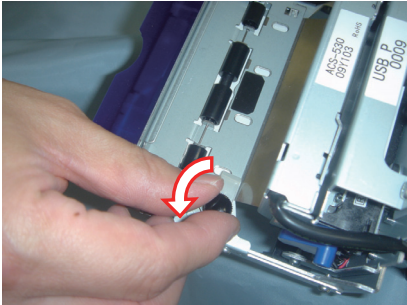■ Do not touch the surface of print head heating element with bare hands, metal, etc.
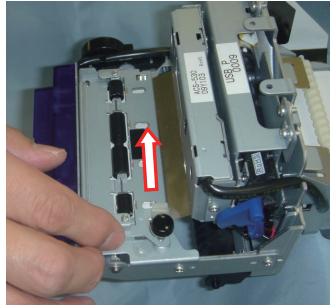
4.3.2 Presenter Installed

1. Turn the power OFF and cut the paper

2. Open platen holder and remove the cause of paper jam.

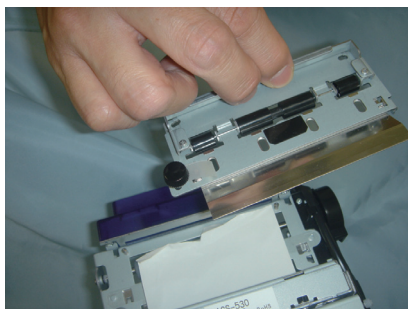3. Remove locking screw for cover unit by turning the screw.

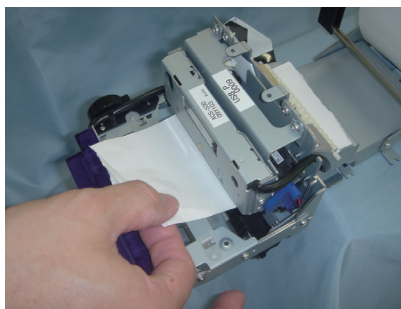4. Slide the cover unit to the arrow mark direction and release the lock.

⚠ CAUTION

■ Be sure to conduct paper jam removal after the power being OFF.
■ Pay attention not to touch the print head with hand because the head becomes high temperature just after printing.
■ Do not touch the surface of print head heating element with bare hands, metal, etc.

5. Remove the cover unit.

6. Remove the cause of paper jam.

7. Close the platen holder. Press-in securely until it locks.
8. Load the cover unit by sliding with the opposite procedures of removing and fix the cover unit by turning the locking screw.

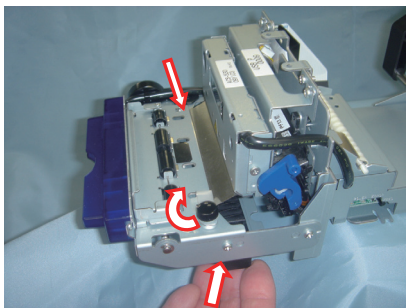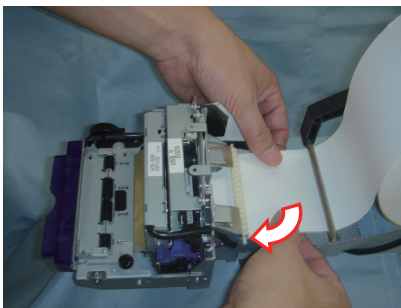9. Turn the power ON and set the paper again.

⚠ CAUTION

■ Be sure to conduct paper jam removal after the power being OFF.
■ Pay attention not to touch the print head with hand because the head becomes high temperature just after printing.
■ Do not touch the surface of print head heating element with bare hands, metal, etc.
■ Before starting to do maintenance work, be sure to turn off the printer and unplug the power cord from the electric outlet.
■ The print head is hot immediately after printing. Do not touch it.
■ Do not touch the print head with bare hands or metal objects.

4.4 Self-printing

While paper is loaded, press and hold the FEED switch while turning the power on. Hold the FEED switch down for about one second and then release it to start self-printing. The printer prints its model name, version, DIP switch settings, memory switch settings, and a list of built-in fonts.

Note:
*: Only serial interface specification are equipped with DIP switches, so DIP switches do not appear in the self-printing printout.

```
PMU2300IIIPB
-RSJ                        ─── Model
DC20-XXXX
BOOT : XXX.XX               ─── Firmware version
FONT : XXX XX

Serial Interface
  Baud rate   : 9600 bps    ─── I/F condition
  Data bit    : 8 bits          (Serial interface model
  Parity      : None            only)
  Handshaking : DTR/DSR

Buffer Size                 ─── Buffer size
  4K Bytes

Dip switches
       DS1
    1 2 3 4 5 6 7 8          ─── DIP switch setting
 ON
OFF 0 0 0 0 0 0 0 0

Memory switches
       SW1
    1 2 3 4 5 6 7 8          ─── Memory switch setting
 ON
OFF 0 0 0 0 0 0 0 0
```

```
       SW2
    1 2 3 4 5 6 7 8
 ON 0 0           0
OFF     0 0 0 0 0

       SW3
    1 2 3 4 5 6 7 8
 ON
OFF 0 0 0 0 0 0 0 0

       SW4
    1 2 3 4 5 6 7 8
 ON 0 0 0
OFF       0 0 0 0 0

       SW5
    1 2 3 4 5 6 7 8
 ON    0
OFF 0 0   0 0 0 0 0

       SW11
    1 2 3 4 5 6 7 8
 ON 0 0 0 0 0
OFF         0 0 0
```

Memory switch setting

4.5 Hexadecimal Dump Printing

Print received data in hexadecimal. If problems such as missing or duplicated data occur, this function allows you to check whether or not the printer is receiving data correctly.

How to do hexadecimal dump printing

1. **Load paper.**
2. **While the platen holder is open, press and hold the FEED switch while turning the power on, and then close the platen holder.**
3. **The printer prints "HEX DUMP PRINT MODE" followed by the received data printed in hexadecimal numbers and some characters.**

How to stop hexadecimal dump printing

Do one of the following to stop printing.
● Press the FEED switch three times in a row. In this case, it prints out as "completed" and enters into standby mode after initialization.
● Turn off the power
● Receive a reset command from an interface

⚠ CAUTION

■ The printer prints "." if there is no character corresponding to the data.
■ None of the commands function during hexadecimal dump printing.
■ If print data does not cover a complete line, press the FEED switch to advance the paper.

Print example
HEX DUMP PRINT MODE
```
61 62 63 64 65 66 67 0A 0D 0D 0D 0D abcdefg.....
0D 0D 0D                             .....
```

4.6 Error Messages

● Paper-end
The end of the roll of paper is detected at two stages, paper near-end and paper-end.

● Paper near-end
When paper near-end is detected, the POWER LED lights. Prepare a new paper roll.

● Platen open
Do not open the platen cover during platen feeding or printing. If the platen cover is opened, the ERROR LED lights or flashes.

● Cutter locked
If the auto cutter cannot move because of a paper jam or something else, the ERROR LED flashes. Remove the cause of the trouble and press the FEED switch. If the auto cutter still does not operate and the paper cover does not open, refer to "4.2 How to Release Cutter Lock (Cutter Error)".
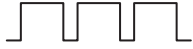
● Presenter error
This error occurs when the presenter cannot eject paper or it cannot collect the ejected paper.

● Print head hot
When you print dense characters, dark images, or for an extended time in a hot environment, the print head temperature increases. If the print head exceeds a specified temperature, the printer stops printing and waits for the print head to cool. When this happens, the ERROR LED flashes. Printing resumes automatically when the print head cools.

The status display for various messages is shown below.

Description		POWER LED (Green)	ERROR LED (Red)
1) Error to recover automatically	1. Head overheat error	ON	⎍⎍⎍⎍
	2. Platen open error (MSW3-8 OFF: Recover automatically)	ON	⎍⎍⎍⎍
2) Restorable error	1. Platen open error (MSW3-8 ON: At the setting of recoverable feature)	ON	⎍⎍⎍
	2. Cutter lock error	ON	⎍⎍⎍⎍
	3. Presenter error	ON	⎍⎍⎍⎍
3) Error impossible to restore	1. Memory check error	⎍⎍⎍⎍⎍	ON
	2. Low voltage error	ON	⎍⎍⎍⎍
	3. High voltage error	ON	⎍⎍⎍⎍⎍
4) Other conditions	1. Paper near- end	ON	ON
	2. Paper-end	ON	ON
	3. Platen open	ON	ON
	4. Waiting for a macro execution	ON	⎍
5) Black mark specification	1. Black mark paper detection error	ON	⎍⎍⎍⎍

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5. OTHER

5.1 External Views and Dimensions

5.1.1 PMU2300IIISN Outline Drawings

1. **Size (mm)** : **W113 × H98 × D182**
2. **Weight: Approx.** : **0.9kg**
3. **Outline drawing**
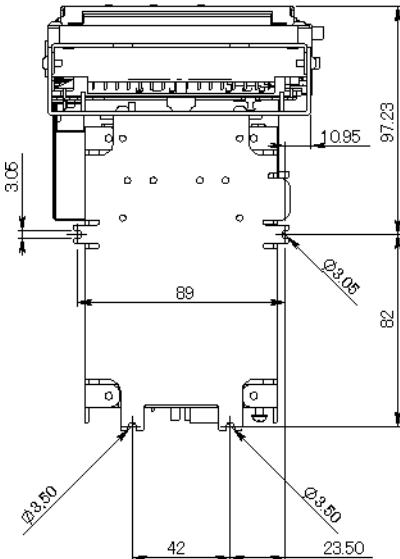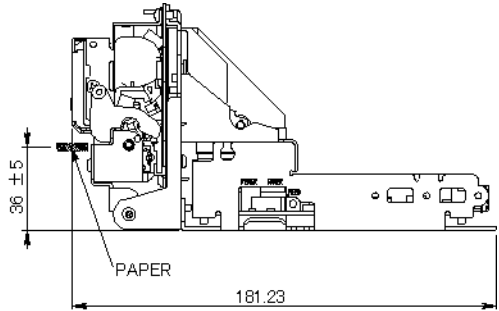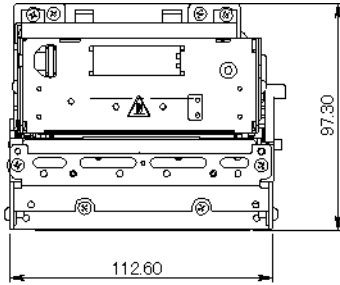
(Unit: mm)

5.1.2 PMU2300IIISB Outline Drawings (Bezel equipped model)

1. **Size (mm)** : **W113 × H98 × D208**
2. **Weight** : **Approx.1.0kg**
3. **Outline drawing**
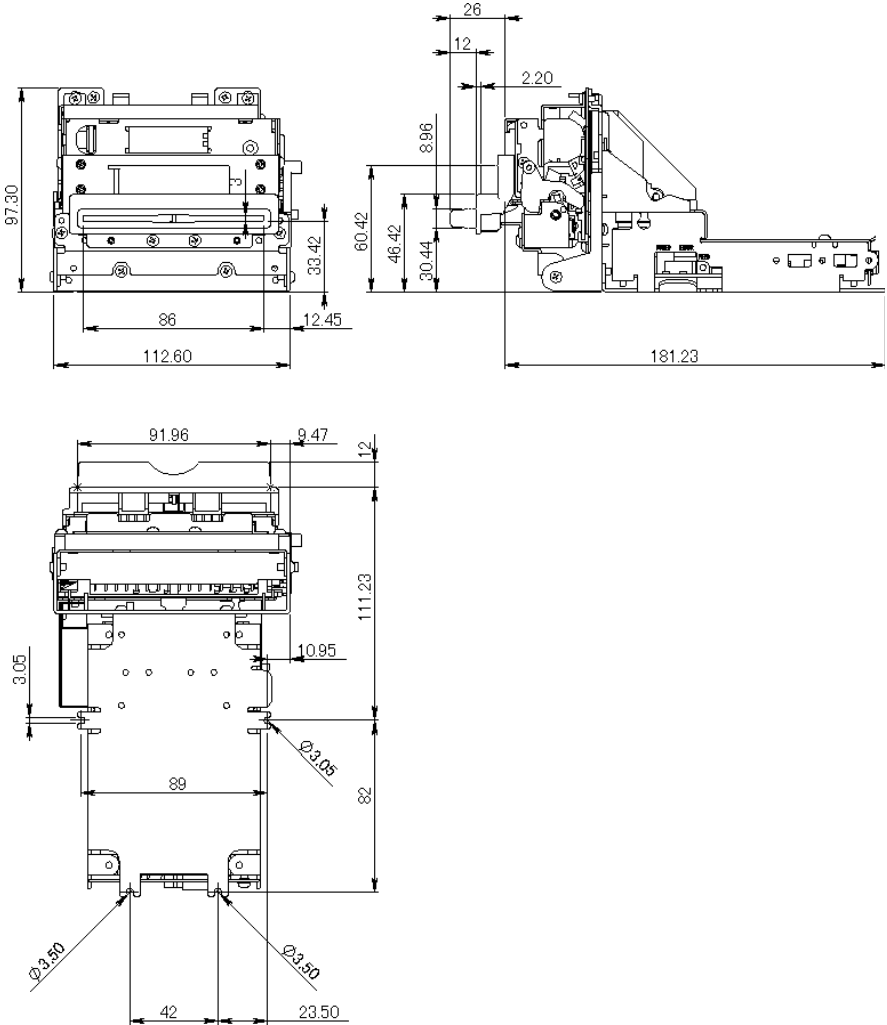
(Unit: mm)

5.1.3 PMU2300IIIPN Outline Drawings (Presenter equipped model)

1. **Size (mm)**   **:W139 × H98 × D234**
2. **Weight**   **:Approx.1.2kg**
3. **Outline drawing**

(Unit: mm)

5.1.4 PMU2300IIIPB Outline Drawings (Bezel/Presenter equipped model)

1. **Size(mm)** :W139 × H98 × D260
2. **Weight** : Approx.1.2kg
3. **Outline drawing**

(Unit: mm)

5.1.5 PMU2300IIISB Outline Drawings (Bezel equipped)Holder PHU-102S attached

(Unit: mm)
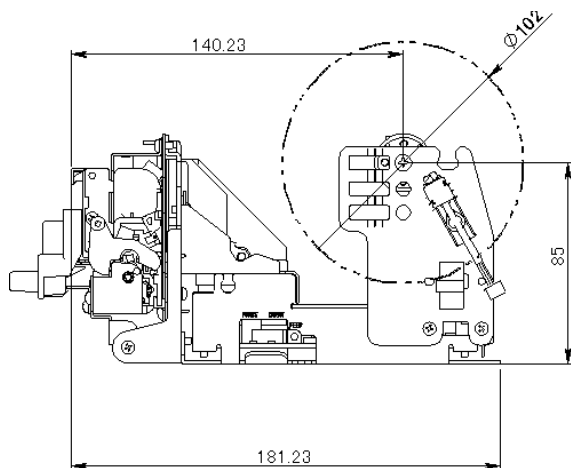
5.1.6 PMU2300IIIPB Outline Drawings (Bezel/Presenter equipped) Holder PHU-203T attached

(Unit: mm)
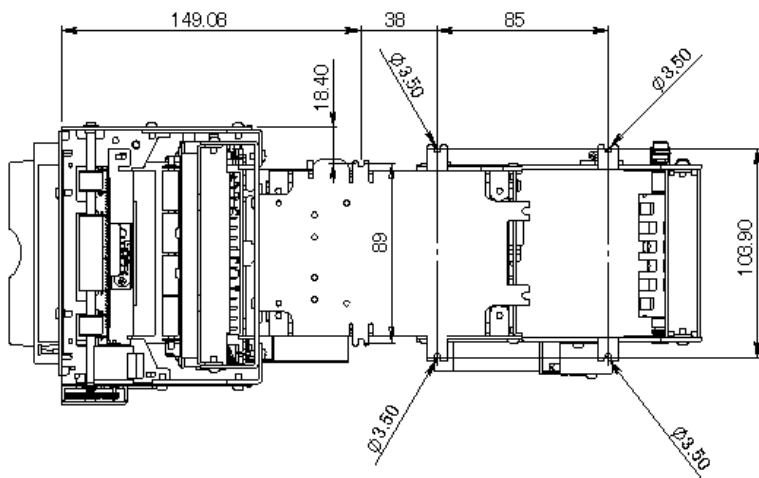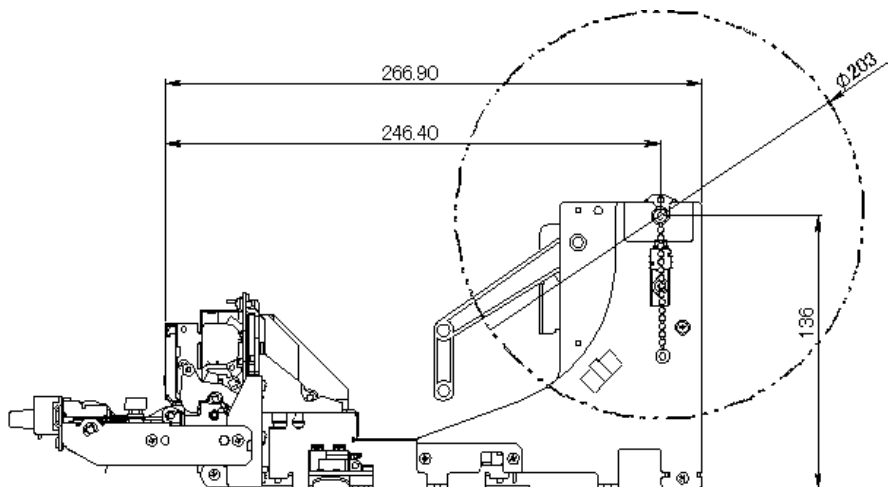
5.2 Printing Paper

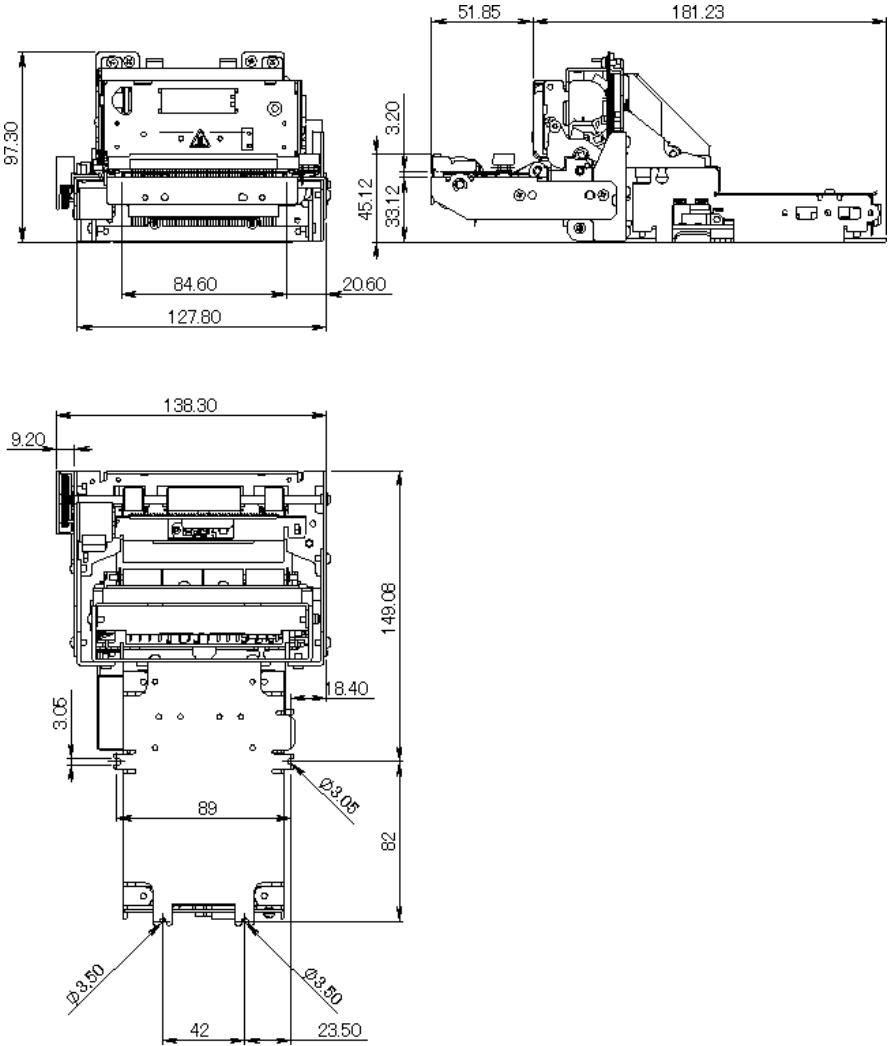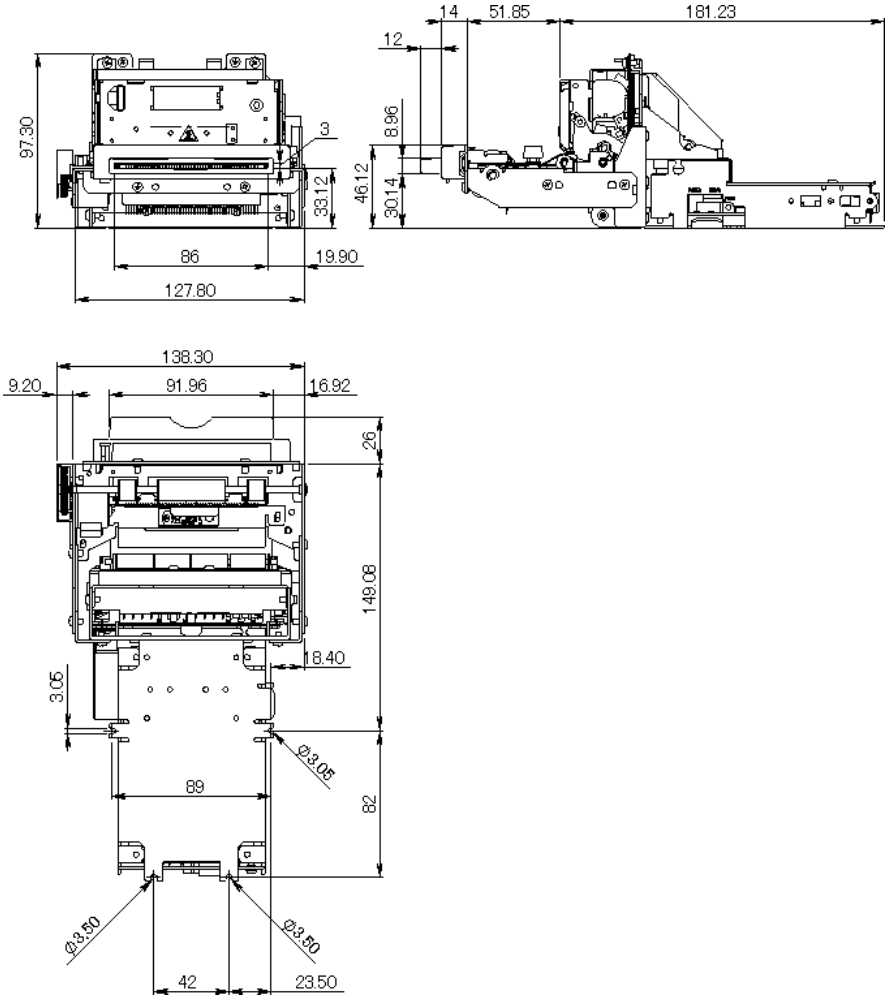Use the paper shown in the following table or paper of the same quality.

Paper size
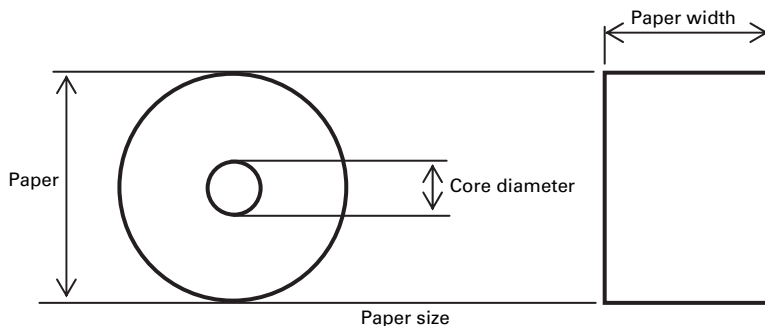
Item		Description
Max. paper diameter		ø203mm:diameter, Holder PHU-203T
		ø102mm:diameter, Holder PHU-102S (applicable for Holder 203)
Paper width		80 +0/-1 mm
Core diameter	Inner	ø25.4±1 mm
	Exterior	ø31.4±1 mm

⚠ CAUTION

Use paper material for the core. Do not use any plastic materials.

Manufacturer	Product name	Features	Paper thickness (µm)	Remarks
Nippon Paper	TF50-KS-E2D	normal type	67	
Mitsubishi Paper	HP220AB-1	high quality preservation type	75	
Nippon Paper	TF62KS-E	normal type	87	

⚠ CAUTION

Use paper that is wound as follows:
■ Not creased and fits tight to the core.
■ Not folded.
■ Not glued to the core.
■ Rolled with the printable side out.

5.3 Setting of Memory Switches

Memory switches are used to set various printer settings. The memory switches can be set manually (set by hand on the printer) or by commands. This section explains how to perform manual settings.
For information on how to set the memory switches using commands, please refer to the Command Reference.

Entering the memory switch setting mode

Set the memory switches individually.
Do the settings while confirming the memory switch function and settings on the printout.

1. **Load paper**.
2. **While the platen holder is open, press and hold the FEED switch while turning the power on.**
3. **Press the FEED switch twice and close the platen holder**.
   The printer enters the mode for setting memory switches individually.
   The printer prints "Memory SW (1)" and the current setting, 0 (off) or 1 (on).

Memory SW（1）00000000

Current memory switch

Current setting
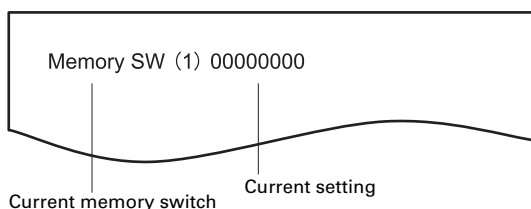
4. **Press the FEED switch.**
   The list of memory switches cycles through in order from "Memory SW (1)" → "Memory SW (2)" → ... "Memory SW (12)" → "Save To Memory" → "Memory SW (1)" → each time the FEED switch is pressed.
   Press the FEED switch until the number for the memory switch you want to change is printed.

   Moreover, by detecting the paper by applying the paper to the recovery sensor and pressing the FEED switch short in a same way, the memory switches to be set shift in the reverse order of order shown below. At that time, the status of the selected memory switch is printed. When "Save To Memory" is selected, the confirmation of flash memory writing is printed.

5. **Press the FEED switch for at least two seconds.**
   A setting for the memory switch is printed, through the cycle, each time the FEED switch is pressed for at least two seconds.
   Press the FEED switch for at least two seconds to cycle through the list until the function of the memory switch you want to change is printed.

```
┌──────────────────────────────────────────┐
│                                            │
│   Power ON Info        (Valid        )     │
│             │                  │           │
│             │                  │           │
└─────────────┼──────────────────┼───────────┘
              │                  Current setting
   Memory switch function
```
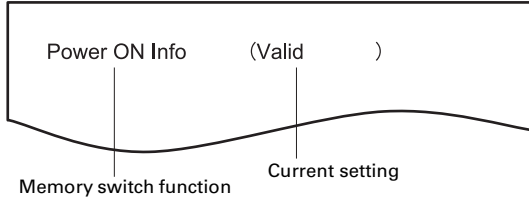
6. **Press the FEED switch.**
   A setting is printed each time the FEED switch is pressed in order through the cycle.
   When the current settings are printed, the ERROR LED lights.
   Press the FEED switch until the setting you want is printed.
7. **Press the FEED switch for at least two seconds.**
   The selected settings are set.
   The next memory switch function and settings are printed.
8. **Repeat steps 5 to 7 to change different functions for the current memory switch number.**
9. **Open the platen holder and close it.**
   The changed memory switch settings are printed.
10. **Repeat steps 4 to 9 to change functions for a different memory switch number.**
11. **Press the FEED switch until "Save To Memory" is printed.**
12. **Press the FEED switch for at least two seconds.**
    The changed memory switch settings are saved and a list of them is printed.
    The printer exits memory switch setting mode when printing is finished.

Memory switch initialization

Set all the memory switches to the factory settings.

1. **Do steps 1 through 3 of the procedure to enter individual setting mode.**
2. **Press the FEED switch until "Save To Memory" is printed.**
3. **Open the platen holder.**
4. **Press the FEED switch for at least two seconds.**
   All memory switches change to the factory settings.
5. **Close the platen holder.**

The function of each memory switch is shown in the following table. (Shaded values are factory settings.)

No.	Function	OFF	ON
MSW1-1	Power ON Info	Valid	Not Send
MSW1-2	Buffer Size	4K bytes	45 bytes
MSW1-3	Busy Condition	Full/Err	Full
MSW1-4	Receive Error	Print "?"	No Print
MSW1-5	CR Mode	Ignored	LF
MSW1-6	Reserved	Fixed	—
MSW1-7	DSR Signal	Invalid	Valid
MSW1-8	Reserved	Fixed	—
MSW2-1	Reserved	—	Fixed
MSW2-2	Auto Cutter *1	Invalid	Valid
MSW2-3	Spool Print	Invalid	Valid
MSW2-4	Full Col Print	Line Feed	Wait Data
MSW2-5	Resume aft PE	Next	Top
MSW2-6	Reserved	Fixed	—
MSW2-7	Reserved	Fixed	—
MSW2-8	PNE Sensor	Valid	Invalid
MSW3-1	Resume Cttr Err	Valid	Invalid
MSW3-2	Reserved	Fixed	—
MSW3-3	Parallel 31 Pin	Valid	Invalid
MSW3-4	Paper Select *2	Thermal	Black MK
MSW3-5	Column Number	48 col	42 col
MSW3-6	Reserved	Fixed	—
MSW3-7	CBM1000 Mode	Invalid	Valid
MSW3-8	Resume Open Err	Close	Command
MSW4-1	Auto Length	Invalid	Valid
MSW4-2	Auto Loading	Invalid	Valid
MSW4-3	Feed & Cut at TOF	Invalid	Valid
MSW4-4	Reserved	—	—
MSW4-5	Reserved	Fixed	—
MSW4-6	Reserved	Fixed	—
MSW4-7	Reserved	Fixed	—
MSW4-8	Partial Only *3	Invalid	Valid
MSW5-1	Reserved	Fixed	—
MSW5-2	Reserved	Fixed	—
MSW5-3	USB Mode	Virtual COM	Printer Class
MSW5-4	Reserved	Fixed	—
MSW5-5	Reserved	Fixed	—
MSW5-6	Speed / Quality	Speed	Quality
MSW5-7	Reserved	Fixed	—
MSW5-8	Reserved	Fixed	—

No.	Function	OFF	ON
MSW11-1	Presenter *4	Invalid	Valid
MSW11-2	Retract Function	Invalid	Valid
MSW11-3	Retract Direction	Rear	Front
MSW11-4	Store and eject	Invalid	Valid
MSW11-5	No print with paper	Invalid	Valid
MSW11-6	Min Receipt Length	75mm	120mm
MSW11-7	Reserved	Fixed	–
MSW11-8	Reserved	Fixed	–
MSW12-1	Bezel Function *5	Invalid	Valid
MSW12-2	LED Control	Invalid	Valid
MSW12-3	Reserved	Fixed	–
MSW12-4	Reserved	Fixed	–
MSW12-5	Show Error by LED	Invalid	Valid
MSW12-6	No print with paper	Invalid	Valid
MSW12-7	Reserved	Fixed	–
MSW12-8	Reserved	Fixed	–

▮…Default(factory setting)

Notes:
*1: When the presenter function is set to valid (MSW11-1=ON), the full cut operation is carried out regardless of the setting of auto cutter operation (MSW2-2).
*2: The default setting of the paper selection varies depending on the model.
   Standard: OFF (Thermal)   black mark specification: ON (Black MK)
*3: When the presenter function is set to valid (MSW11-1=ON), the full cut operation is carried out regardless of the setting of forcible partial (MSW4-8).
*4: The default setting of the presenter function varies depending on the model.
   presenter is not attached: OFF (invalid)   presenter is attached: ON (valid)
*5: The default setting of the bezel function varies depending on the model.
   bezel is not attached: OFF (invalid)   bezel is attached: ON (valid)

Customize value

Customize value can be set by the GS (E command.

No.	Function	Value	
MSW7-1	Baud Rate	1200bps	2400bps
		4800bps	9600bps
		19200bps	38400bps
		57600bps	115200bps
MSW7-2	Data Length	7 bits	8 bits
MSW7-3	Stop Bit	1 bit	2 bit
MSW7-4	Parity	NONE	EVEN
		ODD	–
MSW7-5	Flow Control	DTR/DSR	XON/XOFF
MSW7-6	Reserved	–	
MSW7-7	VCom Protocol	PC Setting	DTR/DSR
		XON/XOFF	–

No.	Function	Value	
MSW9-1	Code Page	PC437	Katakana
		PC850,858	PC860
		PC863	PC865
		PC852	PC866
		PC857	WPC1252
		Spacepage	PC864
		Thai	
MSW9-2	Int'Char Set	U.S.A	France
		Germany	England
		Denmark	Sweden
		Italy	Spain
		Japan	Norway
		Denmark2	Spain2
		Latin America	Korea
		Croatia	China
MSW9-3	Kanji	ON	OFF
MSW9-4	JIS/ShiftJIS	JIS	ShiftJIS
MSW10-1	Print Density	70%	75%
		80%	85%
		90%	95%
		100%	105%
		110%	115%
		120%	125%
		130%	135%
		140%	
MSW10-2	Print Speed	Level 1	Level 2
		Level 3	Level 4
		Level 5	Level 6
		Level 7	Level 8
		Level 9	
MSW10-3	Reserved	—	

■...Default(factory setting)