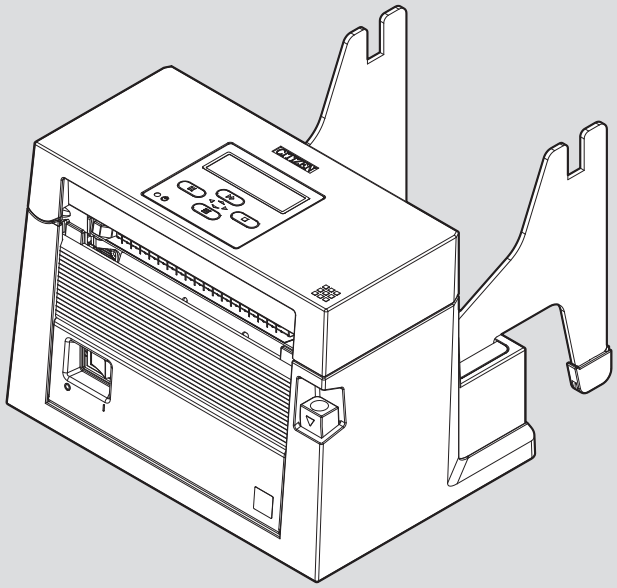
CITIZEN

Thermal Label & Barcode Printer

CL-S400DT II / CL-S403DT II

USER'S MANUAL



WEEE MARK

En If you want to dispose this product, do not mix with general household waste. There is a separate collection systems for used electronics products in accordance with legislation under the WEEE Directive 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 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 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 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, 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 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, 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, 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 obowiązującej w Unii Europejskiej dla używanych produktów elektronicznych należy stosować oddzielne sposoby utylizacji.



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Before Operation

INTRODUCTION

Thank you very much for purchasing Citizen's compact direct thermal label & barcode printer Model CL-S400DTII/CL-S403DTII that offers high performance printing at 8 inches per second on 4.1 inch media at very low cost.

Main Features

- High-performance and high-quality printing thanks to 32-bit RISC CPU and history control IC
- Compact design with small footprint facilitates space saving
- Operation panel and power switch are placed in easy-to-operate positions
- LCD with backlight is employed on the operation panel to provide text display of the printer status
- Full-open mechanism enables easy media loading and head cleaning
- Mechanisms are included to allow you to make head balance, head offset, and media sensor adjustments easily
- Adjustable sensors that allow the sensor position to be adjusted in the media width direction are provided as standard for media position detection
- In addition to USB, an Ethernet interface is provided as standard.
- RS-232C parallel, wired/wireless LAN, and Bluetooth optional interfaces are available
- Easily replaceable auto cutter unit and peeling unit
- Large diameter roll paper holder allows you to use high-capacity media
- Added a function that prevents the waste of paper by enabling printing from the first label of the set labels
- Added an automatic paper feeding function that allows paper to be set even while the cover is closed
- Enabled changing and saving of settings to a USB flash drive and updating of the firmware

COMPLIANCE STATEMENT FOR EUROPEAN USERS

CE marking shows conformity to the following criteria and provisions:
Low Voltage Directive (2014/35/EU), EMC Directive (2014/30/EU), and RoHS directive
(2011/65/EU)
Full text of the EU declaration of conformity is available at the following internet address:
http://www.citizen-systems.co.jp/en/printer/download/eu_doc.html

FCC COMPLIANCE STATEMENT FOR AMERICAN USERS

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

EMI COMPLIANCE STATEMENT FOR CANADIAN USERS

This Class A digital apparatus complies with Canadian ICES-003.
This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications. This equipment is designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Use shielded cables to connect this device to computers. Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

ETAT DE CONFORMITE EMI A L'USAGE DES UTILISATEURS CANADIENS

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.
Cet équipment produit et utilise l'énergie à radiofréquences et s'iln'est pas installé et utilisé correctment, c'esst à dire en accord strict avec les instructions du fabricant, il risque de provoquer des intérferences avec la réception de la radio et de latélévision.

Le présent appareil numérique n'émet pas de bruite radio électriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Réglement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Cet équipment est conçu pour fournir une protection satisfaisante contre de telles interférences dans une installation résidentielle. Cependant, il n'y a pas de garantie contre les interférences avec les réceptions radio ou télévision,

provoquées par la mise en et hors circuit de l'équipment; aussi, il est demandé a l'utilisateur d'essayer de corriger l'interférence par l'une ou plus des mesures suivantes:

- Réorienter l'antenne de réception.
- Installer l'ordinateur autre part, par égard pour le récepteur.
- Brancher l'ordinateur dans une prise de courant différente de façon à ce que l'ordinateur et le récepteur soient branchés sur des circuits différents.

IMPORTANT SAFETY INSTRUCTIONS

- Read all of these instructions and save them for later reference.
- Follow all warnings and instructions marked on the product.
- Unplug this product from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- Do not use this product near water.
- Do not place this product on an unstable cart, stand or table. The product may fall, causing serious damage to the product.
- Slots and openings on the cabinet and the back or bottom are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, do not block or cover these openings. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
- This product should be operated from the type of power source indicated on the marking label.
  If you are not sure of the type of power available, consult your dealer or local power company.
- This product is equipped with a three-pronged plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
- Do not allow anything to rest on the power cord. Do not locate this product where the cord will be walked on.
- If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord ampere rating. Also, make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes for 120V outlet and 7.5 amperes for 220V-240V outlet.
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.
- Except as explained elsewhere in this manual, don't attempt to service this product yourself. Opening and removing those covers that are marked "Do Not Remove" may expose you to dangerous voltage points or other risks. Refer all servicing on those compartments to service personnel.

- The mains plug on this equipment must be used to disconnect mains power. Please ensure that the socket outlet is installed near the equipment and shall be easily accessible.
- Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  A. When the power cord or plug is damaged or frayed.
  B. If liquid has been spilled into the product.
  C. If the product has been exposed to rain or water.
  D. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
  E. If the product has been dropped or the cabinet has been damaged.
  F. If the product exhibits a distinct change in performance, indicating a need for service.

NOTICE

- Before use, be sure to read this manual. And keep it handy for reference when needed.
- The contents of this manual may change without prior notice.
- Reproduction, transfer, or transmission of the contents of this manual without prior consent is strictly prohibited.
- We are not liable for any damage resulting from the use of the information contained herein, regardless of errors, omissions, or misprints.
- We are not liable for any problems resulting from the use of optional products and consumable supplies other than the designated products contained herein.
- Do not handle, disassemble or repair the parts other than those specified in this manual.
- We are not liable for any damage caused by user's erroneous use of the printer and inadequate environment.
- Data residing in the printer is temporary. Therefore, all data will be lost if power is lost. We are not liable for any damage or loss of profits caused by data loss due to failures, repairs, inspections, etc.
- Please contact us if there are any mistakes or ambiguities within this manual.
- If there are missing or incorrectly collated pages in this manual, contact us to obtain a new manual.

Use of the Made for Apple badge means that an accessory has been designed to connect specifically to the Apple product(s) identified in the badge and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with an Apple product may affect wireless performance.

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SAFETY INSTRUCTIONS
which must be strictly observed !

- **To prevent personal injury or property damage, the following shall be strictly observed.**
- **The degree of possible injury and damage due to incorrect use or improperly following instructions is described below.**

Warning	**Indicates a situation which, if not observed and handled properly, could result in death or serious injury.**
Caution	**Indicates a situation which, if not observed and handled properly, could result in injury.**
Caution	**The parts near the mark become hot. Do not touch them during or immediately after operation. Doing so may result in burns.**
Warning	**There is a cutter at the paper ejection port. Do not put your fingers in this area, as touching it may cause injury.**

: This is a mark to call attention to the reader.

⚠ Warning

Never perform the following. If not avoided, these may cause damage or trouble to the printer or cause the printer to overheat and release smoke and cause burns or an electrical shock. If the printer is damaged or is malfunctioning, be sure to turn the printer off immediately and remove the power cord from the outlet, then consult our service personnel.

- Do not jolt or impact to the printer by stepping on, dropping or hitting the printer.
- Do not place the printer in a poorly ventilated area, or shut off the air vent of the printer.
- Do not place the printer where chemical reactions occur, such as in laboratories or where air is mixed with salt or gas.
- Do not use a power voltage or frequency other than those specified.
- Do not plug/unplug the power cord or attach/detach the interface cable by simply grabbing the power cord or interface cable. Do not pull or carry the printer when the tension of the power cord or interface cable is increased.
- Do not drop or put foreign matter such as clips and pins into the printer. This may cause problems.
- Do not plug the power cord into an outlet with many loads.
- Do not spill drinks such as tea, coffee and juice on the printer or spray insecticide on the printer. If drink or water is spilled, first be sure to turn the power off and remove the power cord from the outlet, then consult our service personnel.
- Do not disassemble or modify the printer.

Discard or safely store the plastic packing bag. This bag should be kept away from children. If the bag is pulled over a child's head, it may cause suffocation.

General Precautions

⚠ Caution

- Prior to operation, read the safety instructions carefully and observe them.
- Do not drop or put foreign matter such as clips and pins into the printer. This may cause problems.
- Be careful when moving or carrying the printer. Dropping the printer may cause injury or property damage.
- Make sure if you open the top cover, it is opened all the way. If only partially open, the cover could slam shut, possibly causing injury.
- When the cover is open, be careful of the corners of the cover. They could cause injury.
- Do not open the printer during printing.
- When cleaning the surface of the printer case, do not use the cloth that is soaked in thinner, trichloroethylene, benzine, ketone or similar chemicals.
- Do not use the printer where there is a lot of oil, iron particles, or dust.
- Do not spill liquids or spray insecticide on the printer.
- Do not jolt or impact to the printer by stepping on, dropping or hitting the printer.
- Operate the control panel properly. A careless, rough handling may cause problems or malfunction. Do not use such sharp-edged tool as a ballpoint pen for operation.
- Be careful of the edges of the plates so injury or property damage is possible.
- If a problem occurs during printing, stop the printer immediately and unplug the power cord from the outlet.
- When printer trouble occurs, do not try to dissemble it. Instead, consult our service personnel.

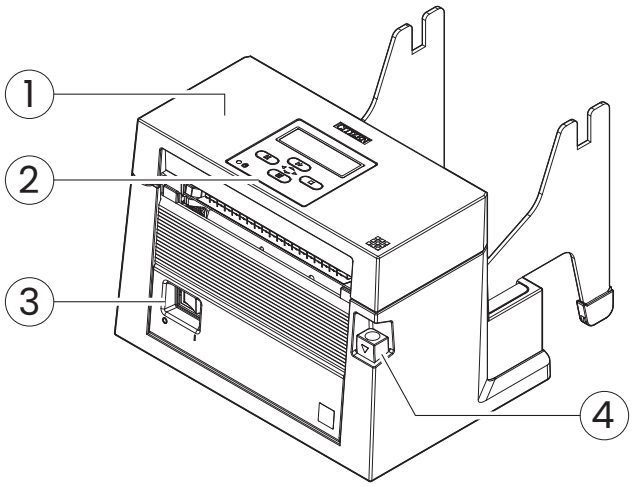
Precautions When Installing the Printer

⚠ Caution

- Prior to operation, read the safety instructions carefully and observe them.
- Do not use or store the printer near fire, excessive moisture, in direct sunlight, near an air conditioner or heater or other source of unusually high or low temperature or humidity or excessive dust.
- Do not place the printer where chemical reactions occur, such as in a laboratory.
- Do not place the printer where air is mixed with salt or gas.
- The printer must sit on a firm, level surface where there is ample ventilation. Never allow the printer's air vent to be blocked by a wall or other object.
- Do not put anything on the top of printer.
- Do not place the printer near a radio or television, and do not use the same wall outlet for the printer and radio or television. Radio or television reception could be adversely affected.
- Do not use a power voltage or frequency other than those specified.
- Do not put anything on the power cord or step on it.
- Do not drag or carry the printer with the power cord or interface cable.
- Avoid plugging the power cord into an outlet with many loads.
- Do not bundle the power cord when inserting the plug.
- Always grip the plug housing, not the cord, to plug/unplug the power cord.
- Make certain the power is turned off before connecting/disconnecting the interface cable.
- Avoid lengthening the signal cable or connecting it to any noise-producing device. If it is unavoidable, use the shielded cable or twisted pair for each signal.
- Place the printer near the outlet where the power cord can be unplugged easily to shut off power.
- Use the AC outlet that accepts a three-pronged plug. Otherwise, static electricity may be generated and there will be danger of electric shock.

Part Names and Functions

Front View



① **Printer cover**
Is opened vertically to place or replace media.

Operation Panel (p.16)

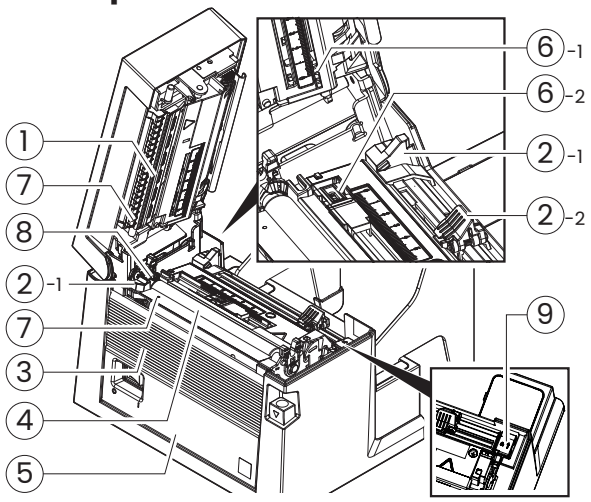
② **Operation panel**
This is used to make changes and adjustments to the printer and its configuration.

Power ON/OFF (p.21)

③ **Power switch**
This is the power switch for the printer.

④ **Cover open lever**
The printer cover can be raised to install media by pushing this lever.
It locks the head unit during printing

Inside the printer



① **Thermal printhead**
This is the printhead. Avoid touching this with your fingertips and leaving grease or dirt on the printhead surface.

Setting roll paper (p.26)

② **Media guides(Left fixed media guide (②-1) and right movable media guide (②-2))**
The end of the media is matched to the left fixed media guide, then the right side movable media guide is moved horizontally to match it to the media size.

③ **Front cover**
It is removed to install optional units such as the peeler or cutter.

④ **Platen**
Interlocked with the thermal printhead, it feeds media backwards or forwards.

⑤ **Switch cover**
It is opened when the cables of the cutter unit and the peeler unit are connected. Do not remove during normal use.

Setting sensor positions (p.26)
Sensor Adjustments (p.60)

⑥ **Upper sensor (⑥-1) and bottom sensor (⑥-2)**
When used as a label detection sensor (transparent sensor), it is used by matching the sensor markings of the upper sensor and the bottom sensor. When used as a black mark detection sensor (reflective sensor), it is used by matching the sensor marking on the bottom sensor with the position of the black mark on the liner or media backing.
When used as a continuous media detection sensor (reflective sensor), move the bottom sensor close to the center of the width of the media.

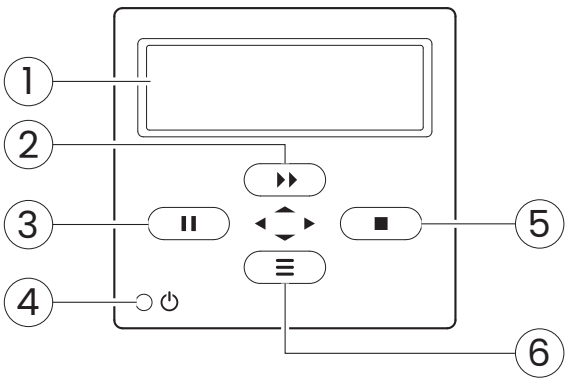
Part Names and Functions

⑦ **Top of form sensor**
Detects the edge of the media.

⑧ **Platen knob**
This is operated to attach/remove the platen.

⑨ **Variable paper guide lock lever**
This lever locks the movable media guide.

Operation Panel



LED Functions (p.23)

① **LCD display**
This displays the operational status of the printer.

② **FEED key**
This key feeds the media to the top of the next label or form.

Normal Operating Mode (p.22)

③ **PAUSE key**
This temporarily stops printing.

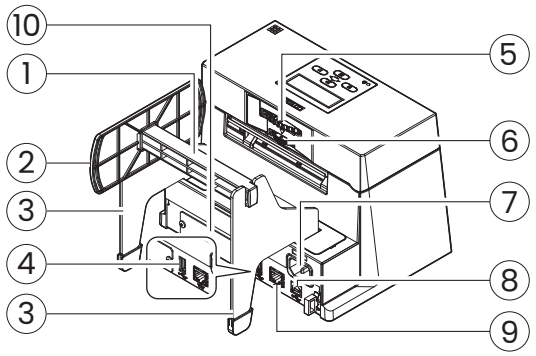
LED Functions (p.23)

④ **POWER LED**
This is lit when the printer power is on. (green)
This is lit when the printer is in an alarm or error status. (red)

⑤ **STOP key**
This stops printing or cancels the alarm.

⑥ **MENU key**
This key exits current status in the menu setup mode and performs re-printing.

Rear View



① **Media holder bar**
Insert it into the core of the paper roll.

② **Media holder guide**
This guide is moved horizontally to match the media size. The guide can be sliding it from the holder bar.

③ **Media holder stand**
It is a base to mount the media holder bar.

USB Interface (p.77)

④ **USB host interface (Type-A connector)**
This is used to connect a USB memory.

Media Width Adjustment (p.66)

⑤ **Media width adjustment dial**
It is adjusted to match the width of the media.

Media Thickness Adjustment (p.65)

⑥ **Media thickness adjustment dial**
It is adjusted to match the thickness of the media.

Connection to Power (p.19)

⑦ **Power cord inlet**
The connector of the enclosed power cord is connected here.

USB Interface (p.77)

⑧ **USB interface (Type-B connector)**
This is used to connect to the host terminal using a USB cable.

Wired LAN interface (p.78)

⑨ **Wired LAN interface**
This is used to connect to the network using a wired LAN cable.

⑩ **Option interface**
Optional interface board can be installed by removing the interface cover. Con-tact your retailer if you want to use the option interface.

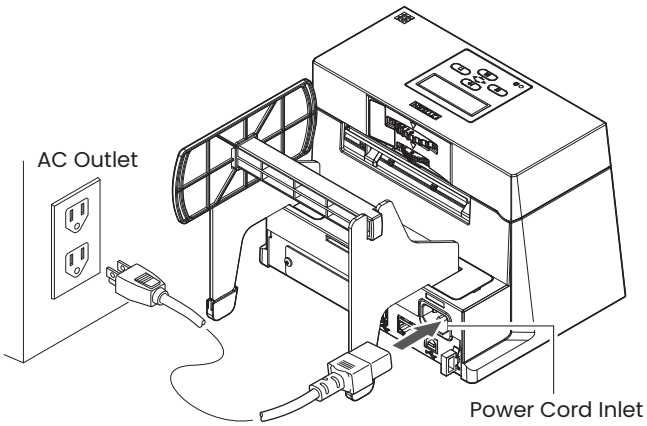
Part Names and Functions

⚠ Caution

Please do not touch the mounting screws on the media holder stand. By factory default, the media holder stand is adjusted at the optimum printing position. If the media holder stand needs to be replaced, please contact the retailer where you purchased the product.

Connection to Power

1. **Check that the power switch to the printer is turned OFF.**
2. **Connect the connector of the power cord to the power cord inlet on the printer.**
3. **Insert the plug of the power cord in the AC outlet.**



⚠ Caution

Use an AC outlet that accepts a three-pronged plug. Otherwise, static electricity may be generated and there will be danger of electric shock.

Driver Installation

Install the printer driver onto the host computer. Printer drivers are available for download from the Citizen Systems support website.
The latest documentation, drivers, utilities, and other support information are also available from this website.

https://www.citizen-systems.co.jp/en/printer/download/

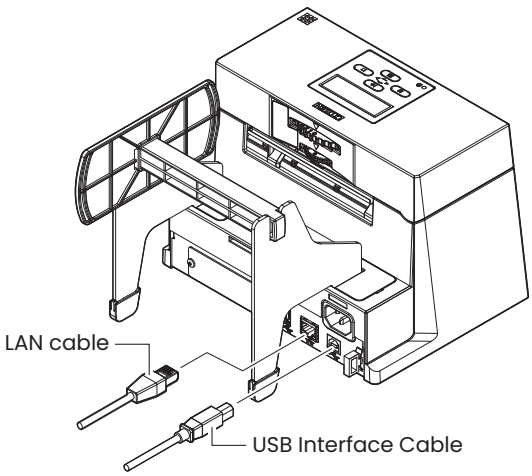
Once a printer driver has been downloaded, follow the on-screen instructions to install the driver

Connection to a Computer

1. **Turn OFF both power switches of the printer and the computer.**
2. **Insert the cable into the appropriate interface port at the rear of the printer.**
   Tighten any locking screws to secure the cable.
3. **Insert the other end of the cable into the appropriate interface port in the host computer.**
   Tighten any locking screws to secure the cable.

Wired LAN interface (p.78)

USB Interface (p.77)



Note: If the optional interface port is used, contact your Citizen Systems dealer.

⚠ Caution

Do not connect a USB cable to the wired LAN interface. Doing so may damage connectors.

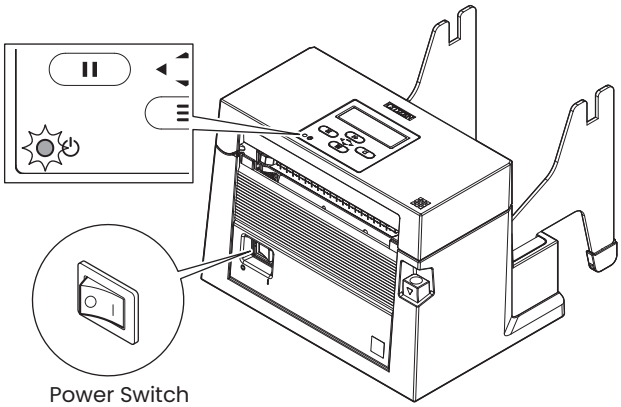
Memo

Do not connect multiple interfaces at the same time.

Power ON/OFF

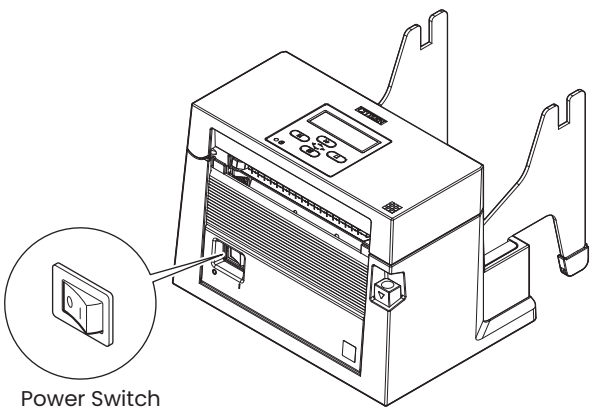
Turning on the power

1. The power switch is conveniently located at the front of the printer for easy access during normal operation. It is in the recess underneath the control panel so it cannot be accidentally operated by mistake.
2. The POWER LED lights up.



Turning off the power

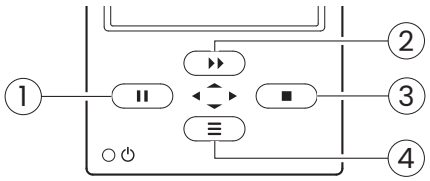
1. Turn off the power switch of the printer.
2. The POWER LED goes off.



Normal Operating Mode

Menu Setup Mode (p.40)

When the power is turned on, the printer enters normal operating mode.
The control keys activate the following functions.



① **PAUSE key: Temporarily pauses printing**

- When this key is pushed once, the LCD indicates "Pause" and the printer temporarily pauses.
- When it is pushed during printing, the printer pauses after the label currently being printed is issued. Pressing the key a second time restarts printing and the remaining number of designated labels are printed.
- Press the PAUSE key for at least 4 seconds while printing is enabled to switch the auto loading setting.

② **FEED key: Feeds media**

- Pressing this key feeds media to the print start position. The distance it is fed is determined by automatically detecting the front end of the media when using label media, and when continuous media has been designated, a fixed quantity is fed, then feeding stops.
- When the TEAR OFF setting is effective, feeding stops when the media has been fed to the TEAR OFF location.
- When the optional cutter unit is installed, the media is fed to the cut position then it is cut.
- If the optional peeler unit is installed, the media is fed to the peeling location. When the media is pausing at the peeling position, feeding does not occur, even if the FEED key is pushed.
- Press the FEED key for at least 4 seconds while printing is enabled to pull back the media.

③ **STOP key: It stops printing and cancels the alarm**

- Pushing this key once during printing puts the printer in pause mode after the label is issued. It is possible to cancel 1 batch of label issuing data by pressing the STOP key for 4 seconds or longer in pause status. (The LCD indicates "Job Clear" during cancel.)
- Pushing this key once cancels the abnormal head resistance alarm.

④ **MENU key:**

- In normal operation, this key will enter the Menu Setup Mode. It can be configured to repeat the previous label, if preferred.

LED Functions

In addition to normal operating mode, when an abnormal condition is detected in the printer, an alarm sounds and the POWER LED lights up (red) to indicate the type of error. The LCD indicates the error message.

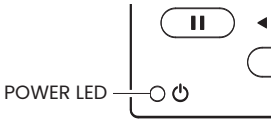


Table of Alarm and Error Indications

Item	POWER LED	LCD
Printing possible (no error)	Lights up (green)	Ready
STOP or PAUSE key on operation panel pressed	Lights up (green)	Pause
Head temperature - high temperature abnormality	Lights up (red)	Alarm Head Hot
Head temperature - low temperature abnormality	Lights up (red)	Error Head Cold
Cutter motor temperature abnormality	Lights up (red)	Alarm Cutter Hot
USB host power supply abnormality	Lights up (red)	Alarm USB Host Fail
Cover open	Lights up (red)	Error Cover Open
Paper end	Lights up (red)	Error Paper End
Paper out (paper position undetectable)	Lights up (red)	Error Paper Load
Paper jam	Lights up (red)	Error Paper Jam
Head low resistance value abnormality *	Lights up (red)	Alarm Head Check
Communication error (receiving buffer overrun)	Lights up (red)	Error Serial Over Run
Communication error (parity)	Lights up (red)	Error Serial Parity
Communication error (framing)	Lights up (red)	Error Serial Framing
Bluetooth communication error (sending/receiving timeout)**	Lights up (red)	Error BT Time Out
Bluetooth communication error (framing)**	Lights up (red)	Error BT framing
System error	Lights up (red)	Error System Fail
Auto-cutter abnormality (foreign object etc.)***	Lights up (red)	Error Cutter Fail

* Pushing the STOP key once cancels the alarm

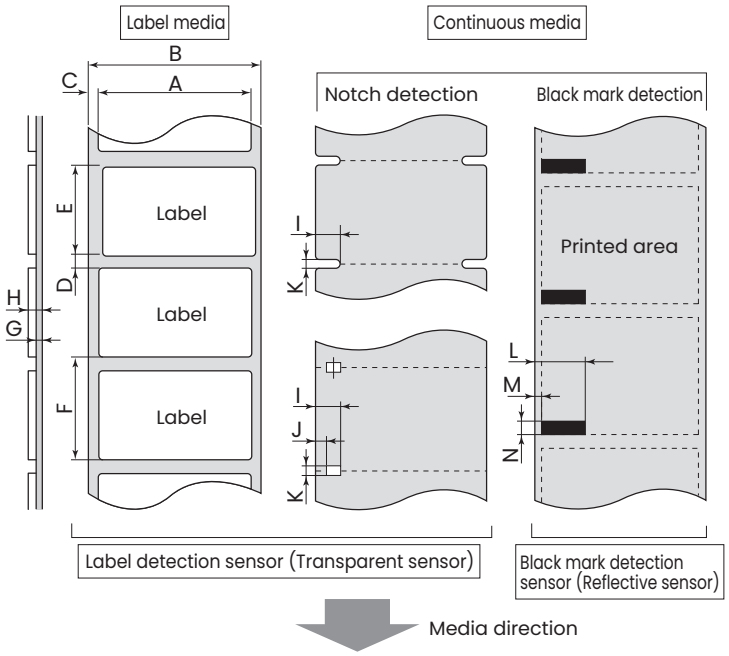
** Supported by Bluetooth interface model only

***Applicable only when using the optional auto cutter

Setting the Media

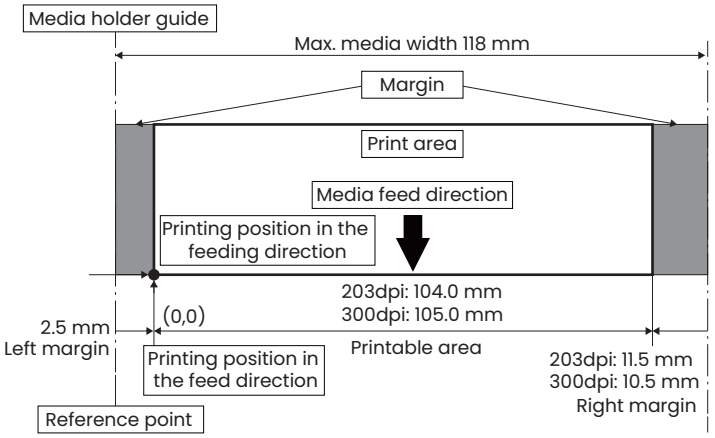
Media Sizes

The position of label and tag media is sensed by either a label detection sensor (Transparent sensor) or a black mark detection sensor (Reflective sensor).
Label detection sensor (Transparent sensor):
Detects the gaps between label media and notches of tag media
Black mark detection sensor (Reflective sensor) :
Detects the black mark



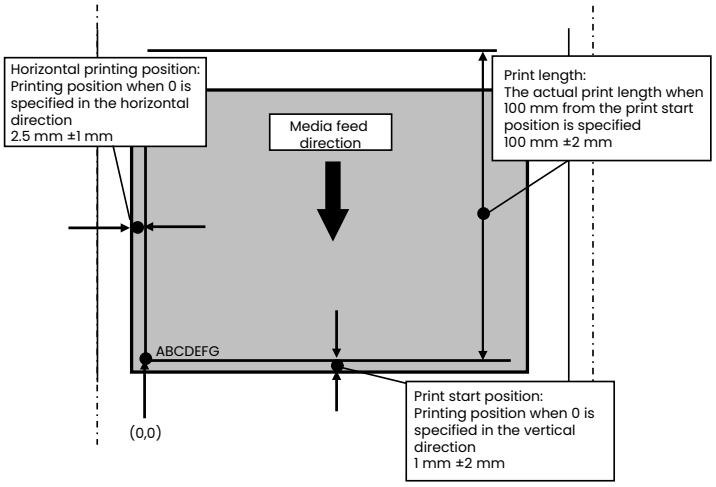
Printable area

Printing starts at a point 2.5 mm from the media guide during printing in the horizontal direction.



Print Positioning Accuracy

Print positioning accuracy of the head position



		Min. value mm (inches)	Max. value mm (inches)
A	Label width	19.50 (0.77)	118.00 (4.65)
B	Liner width	19.50 (0.77)	118.00 (4.65)
C	Label left edge position	0 (0)	2.54 (0.10)
D	Length of gap between labels	2.54 (0.10)	2539.70* (99.99*)
E	Label length	6.35 (0.25)	2539.70* (99.99*)
F	Label pitch	6.35 (0.25)	2539.70* (99.99*)
G	Liner thickness	0.06 (0.0025)	0.125 (0.0049)
H	Total media thickness	0.06 (0.0025)	0.25 (0.01)
I	Position of right edge of notch	3.60 (0.14)	60.80 (2.39)
J	Position of left edge of notch	0 (0)	57.20 (2.25)
K	Notch length	2.54 (0.10)	17.80 (0.70)
L	Right edge of black mark	15.00 (0.59)	66.50 (2.62)
M	Left edge of black mark	0 (0)	51.5 (2.02)
N	Black mark width	3.18 (0.125)	17.80 (0.70)

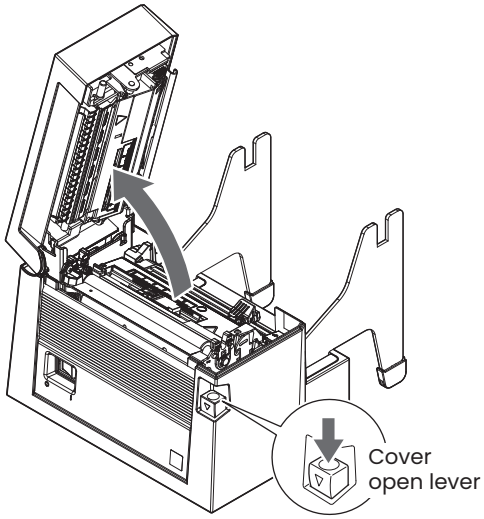
Menu Setup Mode (p.40)

- Use a label detection sensor (Transparent sensor) for label media gaps and media with black marks.
- Use the continuous media detection sensor (reflective sensor) for continuous media with no notches or black marks.
- Use a label detection sensor (Transparent sensor) for fan fold media.
- If the label pitch is 1 inch or less, set the Small Media Adjustment menu to ON and match it to the label that uses the value of the Small Media Length menu.
- Media with perforated lines cannot be used when using a peeler. (Including fanfold media)
- When using media with perforated lines, perforated lines with an interval of at least 40 mm are recommended.
- The media specifications do not guarantee all combinations of media. Please contact us in advance.

* For CL-S403DTII, the value is 1625.60 mm (64.00 inch).

Setting roll paper

1. **Push the cover open lever to release the printer cover. It can be opened to the position shown below by lifting the printer cover by hand.**

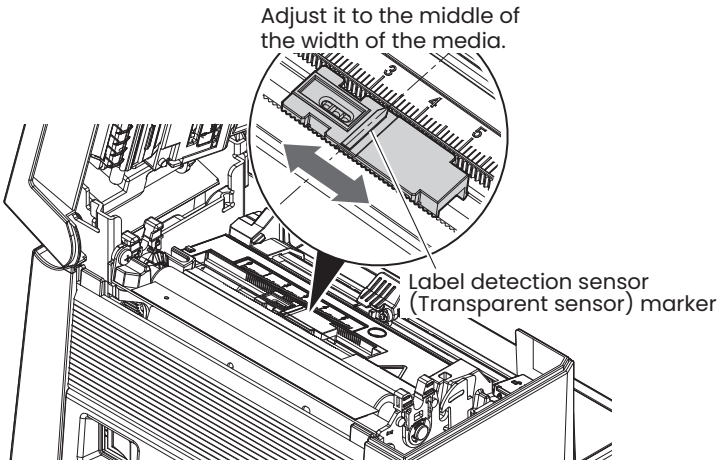


2. **Setting sensor positions.**

Sensor Selection Method (p.60)
Adjusting the label detection sensor (Transparent sensor) (p.61)

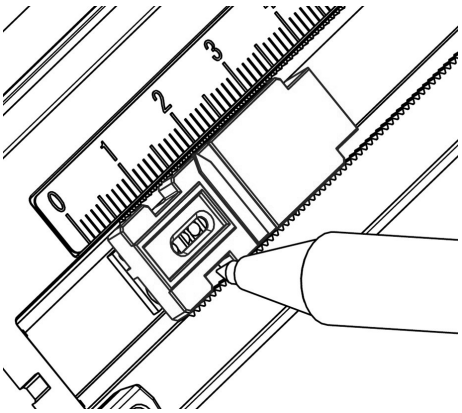
■ **When using a label detection sensor (transparent sensor)**

① Move the bottom sensor to the middle of the width of the media.

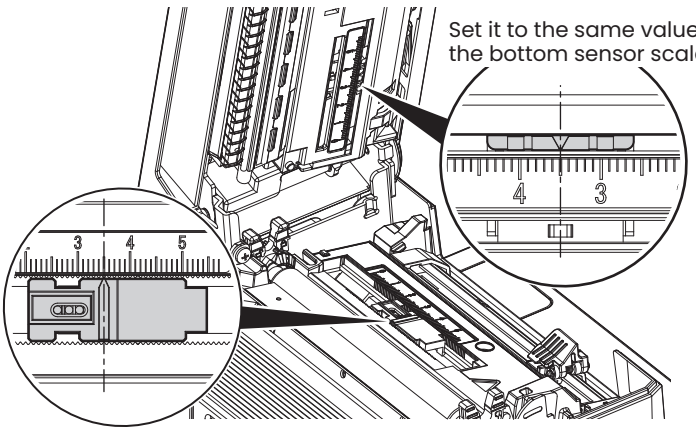


Be careful that media with black marks does not pass the media sensor.

* When moving the bottom sensor, insert the tip of a pen or something similar into the groove on the bottom sensor as shown in the figure below then move the sensor.



② Then, regulate the position of the upper sensor so that the upper sensor marker scale indicates the same value as the scale of the bottom sensor scale.



<In case the position of the bottom sensor scale is 3.5>

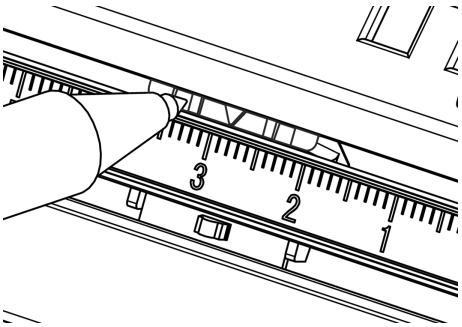
When using media that is 4 inches wide, position the upper sensor and the bottom sensor all the way to the right (cover open lever side).

⚠ Caution

The bottom sensor and upper sensor must be in alignment with each other.

Setting the Media

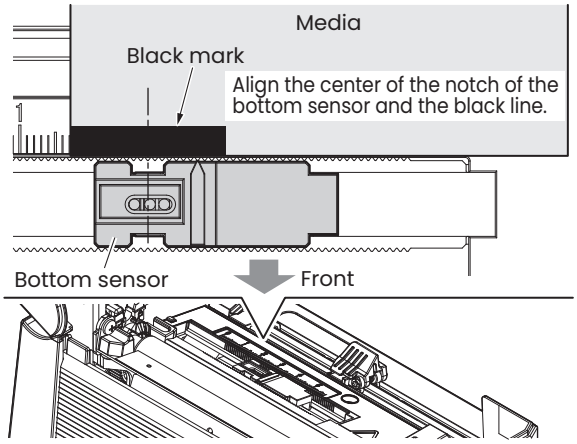
* When moving the upper sensor, insert the tip of a pen or something similar into the groove on the upper sensor as shown in the figure below then move the sensor.



Adjusting the black mark detection sensor (Reflective sensor) (p.62)

■ When using a black mark detection sensor (Reflective sensor)

Adjust the position of the sensor so that the black mark detection sensor (reflective sensor) marker of the bottom sensor is at the center of the black mark of the media as shown below.



⚠ Caution

Do not install the upper sensor directly above the bottom sensor. Normal operation may not be possible.

Adjusting the continuous media detection sensor (reflective sensor) (p.64)

■ **When using the continuous media detection sensor (reflective sensor)**

Move the bottom sensor close to the center of the width of the media.
Be careful that media with black marks does not pass the media sensor.
When using media that is 4 inches wide, position the bottom sensor all the way to the right (large blue-head open lever side).

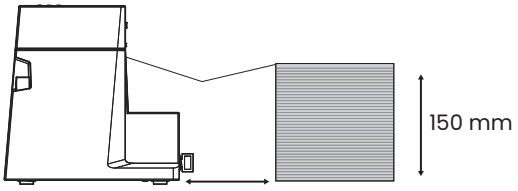
⚠ Caution

Do not install the upper sensor directly above the bottom sensor. Normal operation may not be possible.

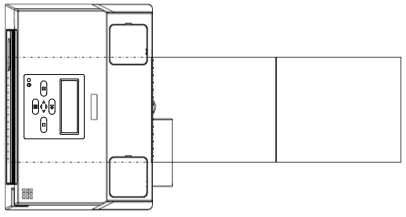
3. **Set the media on the printer.**
   Align the media with the left fixed media guides (2 places), and align the right movable media guide with the media width.

   ■ **When using fanfold media**

   Set the media in the rear of the printer.
   Leaving the specified gap from the printer, place the fanfold paper so that it is at the same height as the printer and becomes parallel with the printer as shown in the figures below.



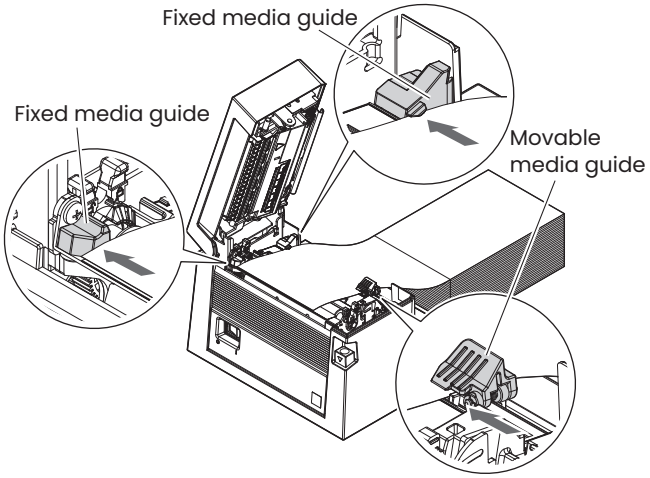
Label length + 50 mm or more



Place the fanfold media so that it is parallel with the printer.

Setting the Media

Media Sizes (p.24)

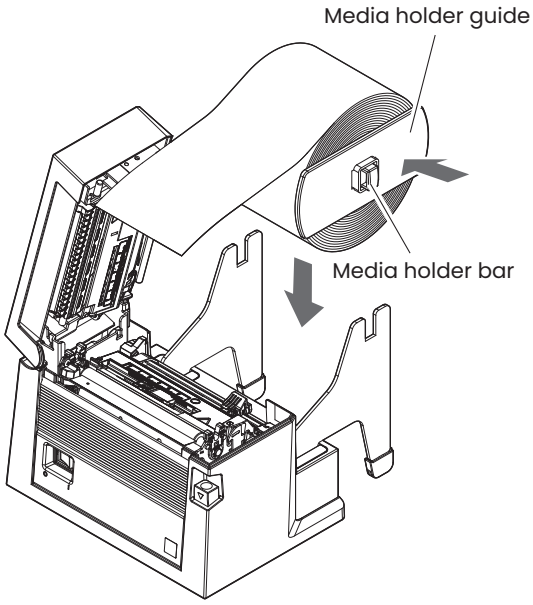


Note: Make sure to set the media following the specified procedure. If not, it may jam.

■ When using roll paper

① Firstly, slide the two black plastic parts of the media holder assembly together. Ensure correct alignment of the guide with the bar as it can only be installed in one direction.

② Insert the media holder assembled in ① into the core of the paper roll. Set the media holder guide on the right side of the paper when viewing the printer from the front.

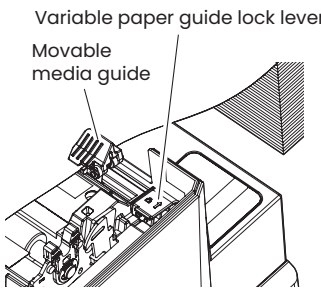


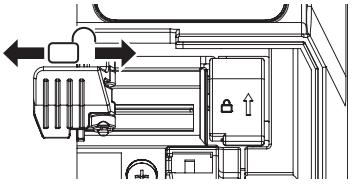
③ Set the media roll and media holder in to the printer as shown above. It is advisable to pull a length of media forwards and through the mechanism ready for later positioning.

④ Move the media roll so it is touching the left side of the housing. Then slide the black media guide so it is touching the media on the right side.

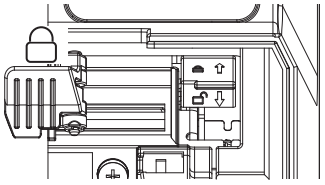
Note: Do not try to hold the media too tightly with these guides as it will cause the printer to jam during printing.

4. Fix the movable media guide.
Turn the Variable paper guide lock lever to fix the movable media guide.





The movable media guide can be slid horizontally.

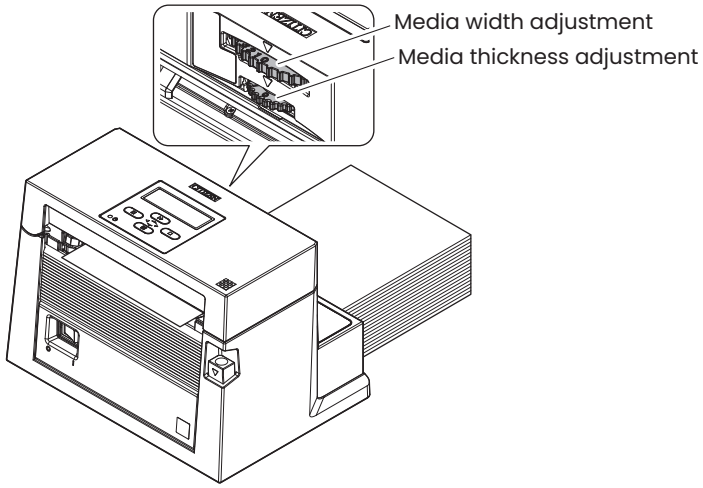


Fix the movable media guide.

Media Thickness Adjustment (p.65)

Media Width Adjustment (p.66)

5. Lower and lock the printer cover.
Align it with the width of the media that has been set, then set the media width and media thickness adjustment dials.
See "Chapter 3 Printer Adjustments".



6. **Selecting the sensor**
   With the power turned on, press the STOP key for at least 4 seconds while holding the MENU key. Each time the key is pressed, a buzzer sounds and the setting switches between the label detection sensor (transparent sensor), the black mark detection sensor (reflective sensor), and the continuous media detection sensor (reflective sensor). When the label detection sensor (transparent sensor) is selected, the buzzer sounds once, and "See Through" is displayed. When the black mark sensor (reflective sensor) is selected, the buzzer sounds twice, and "Reflect" is displayed. When the continuous media detection sensor (reflective sensor) is selected, the buzzer sounds thrice and "Continuous media" is displayed on the LCD.
7. **Push the FEED key to feed the media. It will halt at the next print start position.**

Cut position of media with a perforated line

When tearing manually, the media can be torn at the position of the perforated line.
When adjusting the paper stop position, set the vertical printing position to a value larger than the media stop position. Otherwise, the media may come off the platen during back feeding.
Adjust each setting using the printer driver or LabelPrinterUtility.

Anti-Media Waste Function/ Auto Feed Function

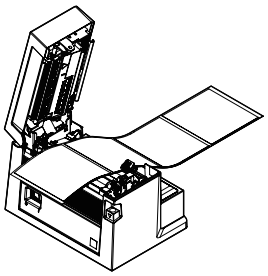
From the [Page Setup] menu, set “Auto Loading” to “On” to enable the “anti-media waste function” and “auto feed function”.

Anti-media waste function

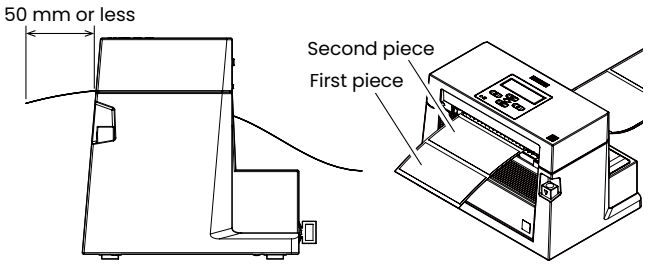
On the first sheet after the printer is turned on, or when the printer cover is closed while the power is on, a blank label is fed so that the media will be detected.
By setting “Auto Loading” to “On”, you can print from the first sheet of the set labels without wasting media.

■ How to set media when using the anti-media waste function

1. **1Set the labels with their edge protruding from the front of the printer.**

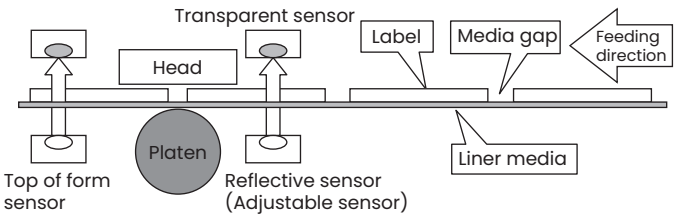


At this time, the length of the label protruding from the front of the printer should be 50 mm or less, and only one label should be protruding from the printer.
If the label protruding from the front of the printer is too long, the edge of the label cannot be detected even when it is backfeed, resulting in a “media detection error”.
In addition, as the end of the first label when backfeed is detected, printing cannot be performed on the first sheet if there are two or more labels protruding.
If it is difficult to intentionally place only one label at the front of the printer while using short-pitch labels, see “Forcibly printing from the first sheet”. When the command set setting is set to “ZPI2,” set the continuous media paper length setting to the label length in order to print the first label at the correct position.

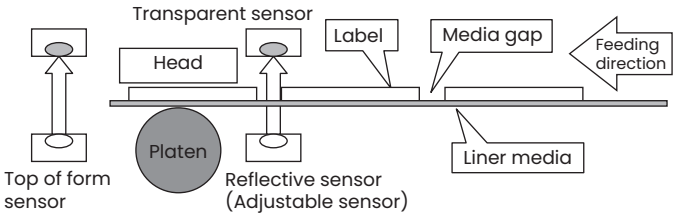


Anti-Media Waste Function/Auto Feed Function

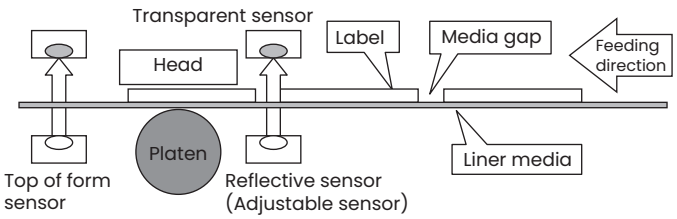
Set the label so that it is detected by the Top of form sensor.



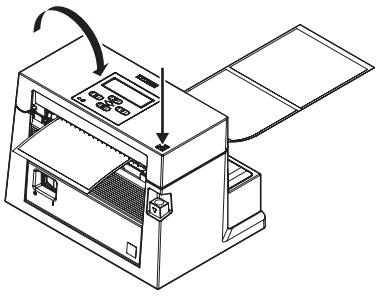
This function cannot be used if the labels are not detected by the Top of form sensor or when only the liner media is detected by the Top of form sensor.



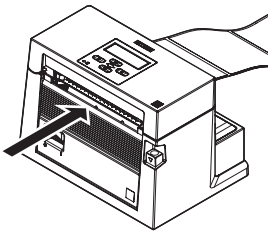
- The label is not detected by the Top of form sensor.
- Only the liner media is detected by the Top of form sensor.



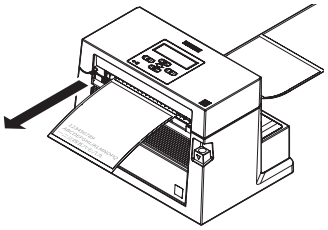
2. Close the printer cover.



3. **Backfeed until the Top of form sensor detects the edge of the media.**
   During the backfeed, "Auto Loading" is displayed on the LCD.



4. **When you perform printing, the content can be printed starting with the first sheet of the media.**

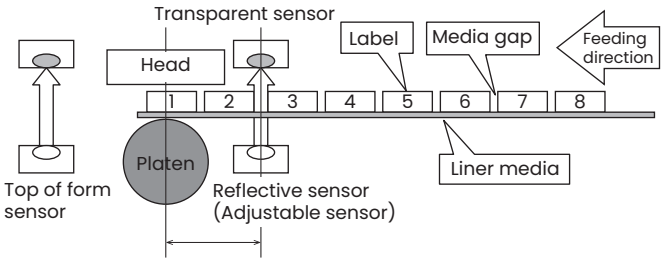


■ When using the anti-media waste function with short-pitch labels

When using labels with a label pitch of 30 mm or less, set "Auto Small Media Measurement" in [Page Setup] to "Power On/ Head Down" or "Power On".
If "Auto Small Media Measurement" is set to "Off", the labels that are positioned between the thermal print head and the adjustable sensor will be skipped.

When the first sheet is detected by the media detection sensor and printing is performed from the first sheet, the beginning of the second sheet is detected by the adjustable sensor and printing is performed.
Therefore, if there are multiple labels between the thermal print head and the adjustable sensor, the second label will be skipped and printing will be performed on the third label in the example below.

Anti-Media Waste Function/Auto Feed Function



Between the thermal print head and adjustable sensor

If "Auto Small Media Measurement" is set to "Power On/Head Down" or "Power On", the label pitch is measured before the media detection sensor detects the edge of the first label. The label is fed in the feeding direction, and the distance from the edge of the label to the edge of the next label (label pitch) is measured.
Measuring the label pitch enables to calculate how many labels exist between the thermal print head and adjustable sensor as well as to print without skipping labels.

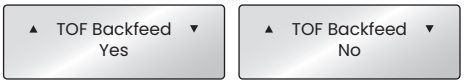
Power On/Head Down: The length is measured when the power of the printer is turned on and when the printer cover is closed.

Power On: The length is measured when the power of the printer is turned on.

During length measurement, [Label being measured] is displayed on the LCD. When the measurement is complete, [Auto Loading] will be displayed, and the process will transition to the detection of the edge of the first label.

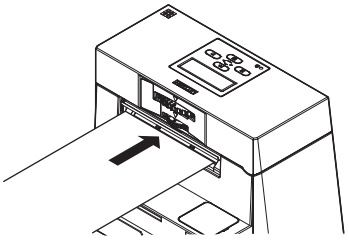
■ Forcibly printing from the first sheet

When it is difficult to intentionally take out only a single label in front of the printer while using the anti-media waste function for short-pitch labels, set "TOF Backfeed" in [Page Setup] to "On".
If you set labels and close the printer cover while "TOF Backfeed" is set to "On", [TOF Backfeed] [Yes] will be displayed on the LCD.
You can switch between "Yes" and "No" by pressing the Feed key or the Menu Key.
If you want to forcibly print from the first sheet, press the Cancel key while [Yes] is displayed.
Backfeed to detect the edge of the first sheet and stop backfeeding.
During the backfeed, [Auto Loading] is displayed.
If you press the Cancel key while [No] is displayed, nothing will happen.



Auto Feed Function

By inserting media from the rear of the printer, you can set the media without opening the printer cover.
In addition, when media is set using this function, printing will start from the edge of the media (the first sheet in the case of labels).



⚠ Caution

When using the auto feed function, use fanfold media or sheet paper.
Curled media such as rolls of paper cannot be used.

Mode Settings

Turning on the power while pressing keys in the following combinations starts various functions.

Operation Panel (p.16)

Mode	Key operation
HEX dump mode	Turning power on while pushing the STOP key.
Self print mode	Turning power on while pushing the FEED key.
Menu list print mode and Menu setup mode	Turning power on while pushing the MENU key.

HEX Dump Mode

- **When using label media**

  Turn on printer power while pushing the STOP key. If the POWER LED lights up and the LCD indicates “Hex Dump Mode” and “Label Media”, release the STOP key, and then the printer enters HEX DUMP mode.

- **When using continuous media**

  Turn on printer power while pushing the STOP key. If the POWER LED lights up and the LCD indicates “Hex Dump Mode” and “Label Media”, and then changed to “Hex Dump Mode” and “Cont. Media”, release the STOP key, and then the printer enters HEX dump mode.

```
DUMP LIST

02 40 30 31 30 30 0D 02 60 30 30 32 30 0D 02 4C  .M0100..c0020..L
44 31 31 0D 31 30 30 30 30 30 30 30 30 31 30  D11.100000000010
30 30 31 30 31 32 33 34 35 36 37 38 39 3A 3B 3C  0010123456789:;<
```

DUMP LIST

* To exit HEX Dump Mode, turn off the power to the printer then turn the power on again (restart).

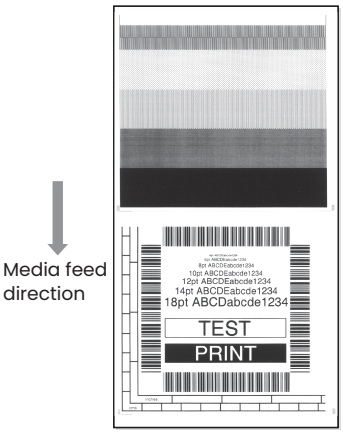
Self Print Mode

This mode is used to perform Self Test Print. By performing Self Test Print, the configuration state and the image quality state of the printer can be easily known. Install the media as explained in "Installing the Media" and then operate the printer as follows.

Setting roll paper (p.26)

- **Case of label media**

  Turn on printer power while pushing the FEED key. When the LCD indicates "Self Print Mode" and "Label Media", release the FEED key. After it enters TEST MODE and media has fed, two labels print then printing stops.
  To restart printing, press the FEED key once more.



Self print pattern

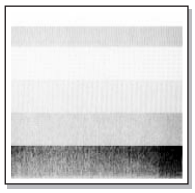
- **Case of continuous media**

  Turn on printer power while pushing the FEED key. When the LCD indicates "Self Print Mode" and "Label Media", and then changed to "Self Print Mode" and "Cont. Media", release the FEED key. After it enters TEST MODE and it prints then printing stops.
  To restart printing, press the FEED key once more.

Media Adjustments

Using the Self Test Print shown above, you can make adjustments to the printer settings such as media width and media thickness (printhead pressure). The location of these two adjustments is explained in "Chapter 3 Printer Adjustments".

Media Thickness Adjustment (p.65)



The sample on the left is an example for the case when the "Media Thickness Adjustment" is not appropriate.
For standard label media, it is recommended you set the blue dial to the "1" position.

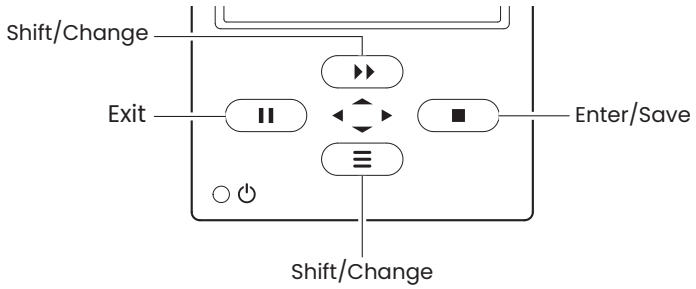
Media Width Adjustment (p.66)



The sample on the left is an example for the case when the "Media Width Adjustment" is not appropriate.
For 4-inch or 102 mm wide media, the adjuster should be set to the "9" position on the blue dial.
The settings shown above are for general label media and may not apply to specialist media.

Menu Setup Mode

If the MENU key is pressed while the printer is in the On Line Ready state, the printer enters menu setup mode. In this mode, the printer's configuration can be changed using the operation panel. During menu setting mode, the LCD indicates the current menu settings and the key function.



■ Functions of the keys

When you enter Menu Setup Mode, the LCD displays "Main Menu" on the top line and Page Setup below.
In the menu setup mode, the four keys become "cursor keys" to navigate the menu. Refer to the four small arrows in the center of the keypad rather than the names of the keys.

FEED key (Shift/Change):
The ▲ key (FEED key) goes up the menu system or selects a higher value

MENU key (Shift/Change):
The ▼ key (MENU key) goes down the menu system or selects a lower value

STOP key (Enter/Save):
The ► key (STOP key) selects or saves the item or enters a menu

PAUSE key (Exit):
The ◄ key (PAUSE key) exits the current item (goes back) and eventually exits the menu system

The menu settings are stored temporarily in the printer's memory. They are only permanently stored in the printer setup when you exit the menu system and say "Yes" to the "Save Settings" question.

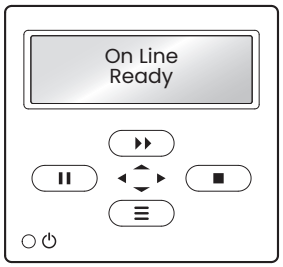
⚠ Caution

Turning the power off while the printer is performing the "Save Settings" function could cause a mis-save. Do not do this! If the power is accidentally turned off, first reset the printer to factory defaults.

Example of changing a menu

This is an explanation of the method of changing the set value of print darkness from "12" to "14" in a case where the main menu is "Page Setup" and the sub menu is "Print Darkness".

1. Entering Menu Setup Mode.
Ensure LCD displays "On Line Ready". Then press the MENU key to enter 'menu setup mode' where the printers settings can be changed or confirmed.

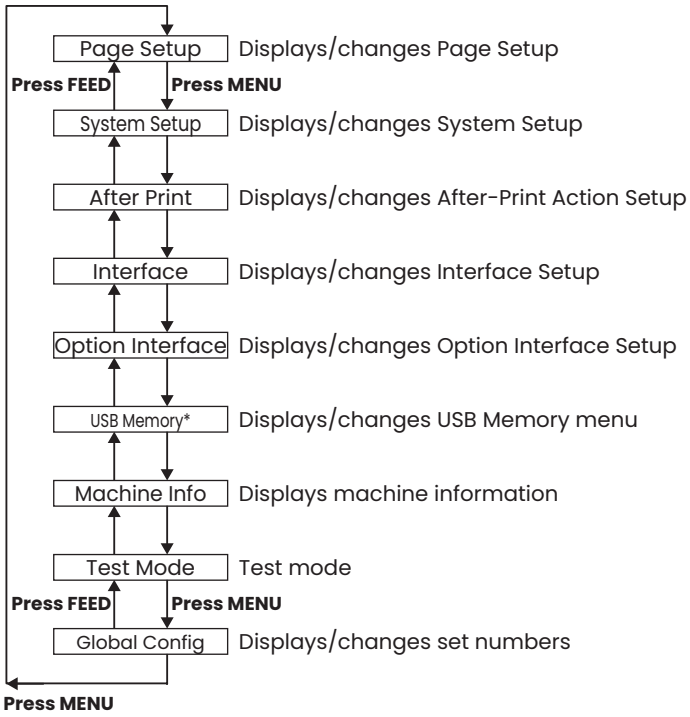




The current main menu is displayed.

The following are the functions of each key.
▲key: displays the previous menu item
▼key: displays the next menu item
▶key: enters the Page Setup menu
◀key: enters the Save Settings section

<Main menu item flow>



* The menu can be displayed by attaching a usable USB memory to the USB host connector while the USB host setting is "ON" or "Auto" during USB host mode.

Mode Settings

Example of changing a menu (p.41)

2. Entering Sub menu.
Press the ► key. The currently set item, "Print Speed", is displayed.



The following are the functions of each key.
▲ key: displays the previous sub menu
▼ key: displays the next sub menu
► key: displays the values set by the selected sub menu
◄ key: returns to the main menu

3. Selecting "Print Darkness" from the sub menu.
Press the ▼ key one time to display "Print Darkness".
It is the second item within "Page Setup".



4. Displaying the set value of "Print Darkness".
Press the ► key and the value "12" - the currently set value - is displayed.



The following are the functions of each key.
▲ key: displays the higher value (13, in this case)
▼ key: displays the lower value (11, in this case)
► key: the current value is temporarily saved
◄ key: exits "Print Darkness" and ignores any value changes

5. To change the value of Print Darkness to 14.
Press the ▲ key two times to display "14" on the screen.
Then press the ► key to temporarily save the value into the printer RAM.



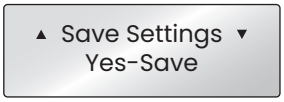
6. Save Changes to Settings.
Unless you save your settings, your changes will be lost when you turn off the printer.

To Save Changes

① Press the ◄ key twice to display the message "Save Settings No-Discard".



② Press the ▲ key or the ▼ key to display the message "Save Settings Yes-Save".

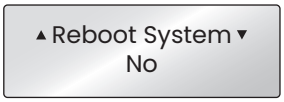


③ Press the ► key.
The new settings will be saved and the printer will return to the "On Line Ready" screen.

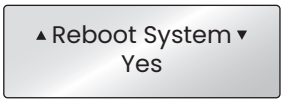


■ Changing the Interface and Emulation Settings
Changes to interface or emulation settings require a printer restart (or reboot) to take effect. The printer will offer to do this when needed by displaying the following message after saving the settings:

④ The screen shown on the right will be displayed when "Save Settings Yes-Save" is selected.



⑤ Press the ▲ key or the ▼ key to display the message "Reboot System Yes".



⑥ Press the ► key and reboot the printer.

To Discard Changes

① Press the ◄ key twice to display the message "Save Settings No-Discard".



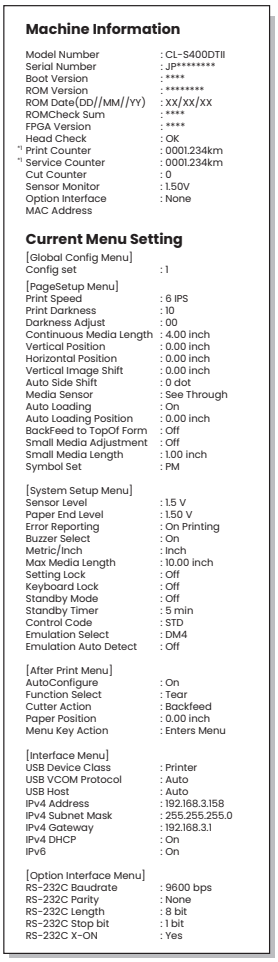
② Press the ► key.
The printer will return to the "On Line Ready" screen.
The new settings will be lost when the printer is turned off.



Printing a List of Settings

You can get a list of the configuration settings in two ways:

- Press MENU key whilst turning the printer on. The POWER LED lights up and “Print Settings” is displayed on the LCD. After printing, the printer will enter Menu Setup Mode.
- You can access the configuration print via the “Test Mode, Print Pattern, Current Config” from the setup menu.



Machine Information

Model Number	: CL-S400DTII
Serial Number	: JP********
Boot Version	: ****
ROM Version	: ********
ROM Date(DD//MM//YY)	: XX/XX/XX
ROMCheck Sum	: ****
FPGA Version	: ****
Head Check	: OK
*1 Print Counter	: 0001.234km
*1 Service Counter	: 0001.234km
Cut Counter	: 0
Sensor Monitor	: 1.50V
Option Interface	: None
MAC Address	

Current Menu Setting

[Global Config Menu]	
Config set	: 1
[PageSetup Menu]	
Print Speed	: 6 IPS
Print Darkness	: 10
Darkness Adjust	: 00
Continuous Media Length	: 4.00 inch
Vertical Position	: 0.00 inch
Horizontal Position	: 0.00 inch
Vertical Image Shift	: 0.00 inch
Auto Side Shift	: 0 dot
Media Sensor	: See Through
Auto Loading	: On
Auto Loading Position	: 0.00 inch
BackFeed to TopOf Form	: Off
Small Media Adjustment	: Off
Small Media Length	: 1.00 inch
Symbol Set	: PM
[System Setup Menu]	
Sensor Level	: 1.5 V
Paper End Level	: 1.50 V
Error Reporting	: On Printing
Buzzer Select	: On
Metric/Inch	: Inch
Max Media Length	: 10.00 inch
Setting Lock	: Off
Keyboard Lock	: Off
Standby Mode	: Off
Standby Timer	: 5 min
Control Code	: STD
Emulation Select	: DM4
Emulation Auto Detect	: Off
[After Print Menu]	
AutoConfigure	: On
Function Select	: Tear
Cutter Action	: Backfeed
Paper Position	: 0.00 inch
Menu Key Action	: Enters Menu
[Interface Menu]	
USB Device Class	: Printer
USB VCOM Protocol	: Auto
USB Host	: Auto
IPv4 Address	: 192.168.3.158
IPv4 Subnet Mask	: 255.255.255.0
IPv4 Gateway	: 192.168.3.1
IPv4 DHCP	: On
IPv6	: On
[Option Interface Menu]	
RS-232C Baudrate	: 9600 bps
RS-232C Parity	: None
RS-232C Length	: 8 bit
RS-232C Stop bit	: 1 bit
RS-232C X-ON	: Yes

<Example of Datamax emulation selected>

*1 If the double heat function is enabled, the value doubles. This function reduces print fading. To enable this function, configure the setting via Windows driver properties or LabelPrinterUtility. See the respective manual for how to configure the setting.

Note: Citizen continually enhances its printers with new options and settings based on our customer’s requests. Extra or changed menu items may appear on the above print out in some cases.

Global Configuration Sets

The printer can store three sets of configuration settings that can be recalled quickly and easily.
Each "Config Set" (1, 2 or 3) can contain completely different configuration settings for all menu parameters. For example, "Config Set 1" could be configured for 4 ips print speed, print darkness 18.
"Config Set 2" next could be 5 ips continuous card media with black mark, print darkness 12.
The ability of having three sets of settings is ideal for someone who prints on different media types regularly, for example in a label printing bureau.
Global config settings can be printed using the "Test Mode, Print Pattern, Global Config" menu option. It will also display the currently active "Config Set":

Global Menu Settings

	Active Configuration Setting		
	Config 1	Config 2	Config 3
[PageSetup Menu]			
Print Speed	6	5	4
Print Darkness	10	12	12
Darkness Adjust	+00	+00	+00
Continuous Media Length	04.00inch	04.00inch	04.00inch
Vertical Position	+0.00inch	+0.00inch	+0.00inch
Horizontal Position	+0.00inch	+0.00inch	+0.00inch
Vertical Image Shift	+0.00inch	+0.00inch	+0.00inch
Auto Side Shift	00dots	00dots	00dots
Media Sensor	See Through	Reflect	See Through
Small Media Adjustment	Off	Off	Off
Small Media Length	1.00inch	1.00inch	1.00inch
Symbol Set	PM	PM	PM
[System Setup Menu]			
Sensor Level	1.4V	1.4V	1.4V
Paper End Level	2.80V	2.80V	2.80V
Error Reporting	On Printing	On Printing	On Printing
Buzzer Select	On	On	On
Metric/Inch	Inch	Inch	Inch
Max Media Length	10.00inch	10.00inch	10.00inch
Settings Lock	Off	Off	Off
Keyboard Lock	Off	Off	Off
Standby Mode	Off	Off	Off
Standby Timer	5 min	5 min	5 min
Control Code	STD	STD	STD
Emulation Select	DM4	DM4	DM4
[After Print Menu]			
AutoConfigure	On	On	On
Function Select	Tear	Tear	Tear
Paper Pe...		+0.00inch	+0.00inch

<Example of Datamax emulation selected>

Mode Settings

Menu Setting Table

Page Setup Menu - allows you to change settings related to the media or print quality.
System Setup Menu - allows you to change settings for the printer hardware and basic control systems.
After Print Menu - changes how the printer reacts after the label has been printed.
Interfaces - changes interface parameters such as baud rate.
Machine Information, Test Mode - allows you to check and/or print test pages and information about the printer.
Global Config menu - allows you to switch between 3 complete 'config sets' contained within the printer.

Menu Setting

Press the MENU key in print possible status to enter Menu Setup Mode. Use the keys on the operation panel according to the LCD display to setup the printer. The contents that can be setup on the printer are shown below.

Top Menu	Sub Menu	Default	Menu	Remarks
Page Setup	Print Speed	6 IPS	2 to 8 IPS	Printing speed setting.
	Print Darkness	DM4: 10 DMI: 10 DPP: 10 ZPI2: 10 EPI2: 7	DM4: 00 to 30 DMI: 00 to 30 DPP: 00 to 20 ZPI2: 00 to 30 EPI2: 00 to 15	Adjusting print darkness.
	Darkness Adjust	00	-10 to 10	Fine adjustment of darkness commands.
	Continuous Media Length	4.00 inch 101.6 mm	0.25 to 99.99 inch 6.4 to 2539.7 mm	Setting media length of continuous media. (CL-S400DTII) Lower level = during mm mode.
		4.00 inch 101.6 mm	0.25 to 64.00 inch 6.4 to 1625.6 mm	Setting media length of continuous media. (CL-S403DTII) Lower level = during mm mode.
	Vertical Position	0.00 inch 0.0 mm	-1.00 to 1.00 inch -25.4 to 25.4 mm	Adjusting printing start position.
	Horizontal Position	0.00 inch 0.0 mm	-1.00 to 1.00 inch -25.4 to 25.4 mm	Adjusting horizontal image position.
	Vertical Image Shift	(Datamax) 0.00 inch 0.0 mm	0.00 to 32.00 inch 0.0 to 812.8 mm	Adjusts the start position for creating images.
		(Zebra/EPI2) 000 dots	-120 to 120 dots	
	Auto Side Shift	00 dots	00 to 15 dots	Allows horizontal shifting of printing position by specified number of dots per page. Effective when load is applied to a specific head area, like vertical lines.
	Media Sensor	See Through	See Through Reflect None	Selecting media sensor.
	Auto Loading	On	On Off	Setting for auto Loading. When using the cutter or peeler, turn OFF auto loading.

Top Menu	Sub Menu	Default	Menu	Remarks
	Auto Loading Position	0 inch 0 mm	-0.50 to 0.50inch -12.7 to 12.7mm	Adjust the print start position for the first piece during auto loading Enabled when the auto loading setting is On
	BackFeed to Top Of Form	Off	On Off	Setting to backfeed until the edge of the media reaches the position of the Top of form sensor Enabled when the auto loading setting is On
	Auto Small Media Measurement	Off	Off PwrOn/HdDown Power On	Setting to measure the length of short-pitch labels before performing auto loading Enabled when the auto loading setting is On
	Small Media Adjustment	Off	On Off	Setting for small media.
	Small Media Length	1.00 inch 25.4 mm	0.25 to 1.00 inch 6.4 to 25.4 mm	Setting media length for small media.
	Symbol Set	PM	50 symbols	Setting symbol set.
System Setup	Sensor Monitor	–	–	Displays level of sensor that is currently selected.
	Sensor Level	1.5 V	0.0 V to 3.3 V	Selects threshold of the sensor.
	Paper End Level	3.00 V	0.01 to 3.30 V	Sets the paper end level.
	Error Reporting	On Printing	On Printing Immediate	Setting for error report.
	Buzzer Select	Exec/Err	Exec/Err All Error Key None	Setting buzzer sounding conditions.
	Metric/Inch	Inch	Inch mm	Sets the units.
	Max Media Length	10.00 inch 254.0 mm	1.00 to 99.99 inch 25.4 to 2539.7 mm	Sets the maximum media length.
	Settings Lock	Off	On Off	Prevents a command changing the set value.
	Keyboard Lock	Off	On Off	Prevents a change by a key operation. Hold down the Menu Key for at least 4 seconds to enter the Menu Setup Mode when setting the “On” menu.
	Standby Mode	Off	On Off	Choose the Standby Mode. If you switch on the Standby Mode, the printer will go into power-saving mode after the elapse of the time set by the Standby Timer.
	Standby Timer	5 min	1 to 99 min	You can set the time it takes for the machine to go into Standby Mode.

Mode Settings

Top Menu	Sub Menu	Default	Menu	Remarks
	Control Code	STD	STD ALT ALT-2	Switches command mode of DMX mode. (Only when Datamax emulation is selected)
	Media Power Up	Off	On Off	Selects whether or not to initiate media measurement when the power in ON. (Only when Zebra® emulation is selected)
	CI Lock	Off	On Off	Activates/deactivates the CI command. (Only when Zebra® emulation is selected)
	Emulation Select	DM4 (Datamax) ZPI2 (Zebra®)	DM4 DMI DPP ZPI2 ZPI2 EPI2	Selects Datamax/Zebra® compatibility DM4: Datamax 400 DMI: Datamax IClass DPP: Datamax Prodigy Plus ZPI2 Zebra® ZPL2™ EPI2 Zebra® EPL2™
	Emulation Auto Detect	Full Auto	On Off Full Auto	Setting emulation (as above) auto detection.
After Print	AutoConfigure	On	On Off	Automatically configures optional devices. On..... AutoConfigure enabled (Regardless of whether Function Select is set, if a peeler or cutter is installed, each mode is set automatically.) Off..... AutoConfigure disabled (A peeler of cutter is installed, but to not operate the peeler or cutter, turn it Off and the operation is selected by Function Select.)
	Function Select	Tear	Off Tear Peel On* Cut On**	Selects the operation when the AutoConfigure is set to Off. Designates the paper position based on each option. The operation of this device is enabled during selection. The setting of the feed amount is different for each option.
	Cutter Action**	Backfeed	Backfeed Through	Sets the cutter action. With the optional AutoConfigure On, printing is executed only when the cutter is installed or only when Cut is selected by Function Select. Backfeed is always set after cutting. Through is set at the rear end of sheets 1 to n-1 when the number of copies = n, and the rear end of the final page of single sheet and the copy is backfeed.

Top Menu	Sub Menu	Default	Menu	Remarks
	Peel Wait Delay*	0.1 sec	0.1 to 2.0 sec	Sets the Peel Wait Delay. Displays only machines with a peeler installed.
	Paper Position	0.00 inch 0.0 mm	When the function selection is set to "Off" (Printing start position (platen-centered)) 0.00 to 2.00 inch 0.0 to 50.8 mm When the function selection is set to "Tear/Peal On/Cut On" (Tear position/Peal On position/Cut On position) -1.00 to 1.00 inch -25.4 to 25.4 mm	Adjusts the stop position. It is based on the inch/millimeter setting. There are initial values of the stop position for each device set by "Function Select", and later, relative values are set.
	Menu Key Action	Enters Menu	Enters Menu Repeat Last Set Repeat Last One	Sets the menu key action. Enters Menu: Enters the menu setup mode. Repeat Last Set: Repeats the number of copies. Repeat Last One: Last one is issued only for the final page. In the case of a count, afterwards, only last one is issued. (This function is disabled in Zebra® emulation.) Note: Hold down the MENU key for at least 4 seconds in order to enter the Menu Setup Mode when setting the "Repeat Last Set" or "Repeat Last One" menus.
Interfaces	USB Device Class	Printer	Printer VCOM	Setting the USB device class. When the LAN option interface board is installed, VCOM will not function.
	VCOM Protocol	Auto	Auto DTR X-ON	Setting the protocol (flow control) when operating VCOM.
	USB Host	Auto	Auto On Off	Setting the USB Host
	IPv4 Address	0.0.0.0	0.0.0.0 to 255.255.255.255	Setting the network address of IPv4
	IPv4 Subnet Mask	0.0.0.0	0.0.0.0 to 255.255.255.255	Setting the subnet mask of IPv4
	IPv4 Gateway	0.0.0.0	0.0.0.0 to 255.255.255.255	Setting the gateway of IPv4
	IPv4 DHCP	On	On Off	Setting the DHCP of IPv4
	IPv6	On	On Off	Setting the DHCP of IPv6

* Only when peeling option is mounted.
**Only when cutter is mounted.

Mode Settings

Top Menu	Sub Menu	Default	Menu	Remarks
Option interfaces	RS-232C Baud	9600	115200 57600 38400 19200 9600 4800 2400	Setting the baud rate of the serial interface.
	RS-232C Parity	None	None Odd Even	Setting the communication parity for the serial interface.
	RS-232C Length	8 bits	8 bits 7 bits	Setting the character length for the serial interface.
	RS-232C Stop bit	1 bit	1 bit 2 bits	Setting the stop bit for the serial interface.
	RS-232C X-ON	On	On Off	Selectively setting the X-ON flow control of the serial interface.
	IEEE 1284	On	On Off	Setting both direction of the Centro Interface.
	Web Monitor	Auto	Auto On Off	Selecting the web monitor function. (When a high-end LAN board is installed)
	Network Address	0.0.0.0	0.0.0.0 to 255.255.255.255	Setting fixed IP address of the LAN board. (When a high-end LAN board is installed and a web monitor is operating)
	Subnet Mask	0.0.0.0	0.0.0.0 to 255.255.255.255	Setting fixed subnet mask value of the LAN board. (When a high-end LAN board is installed and a web monitor is operating)
	Gateway Address	0.0.0.0	0.0.0.0 to 255.255.255.255	Setting fixed default gateway address of the LAN board. (When a high-end LAN board is installed and a web monitor is operating)
	BOOTP	Off	On Off	Setting the BOOTP of the LAN board. (When a high-end LAN board is installed and a web monitor is operating)

* For each setting related to the interface, the setting becomes enabled after turning on the power again or after restarting.

Top Menu	Sub Menu	Default	Menu	Remarks
	DHCP	Off	On Off	Setting the DHCP of the LAN board. (When a high-end LAN board is installed and a web monitor is operating)
	WLAN Mode	–	Auto Ad-Hoc Infrastructure	Sets the wireless LAN mode (When a high-end LAN board is installed and a web monitor is operating)
	WLAN SSID	–	Max. 32 characters	Sets the wireless LAN SSID (When a high-end LAN board is installed and a web monitor is operating)
	Bluetooth Security	Middle	Middle High	Sets the Bluetooth interface security level
	BT Connection	All Devices	All Devices Authenticated Devices	Sets the connection destination of the Bluetooth interface.
	BT Discoverable	On	On Off	Sets the connection destination of the Bluetooth interface.
	BT iOSreConnect	On	On Off	Sets the reconnect request made to iOS by the Bluetooth interface.
	Bluetooth Connection Update	–	Renew Discover Renew Pair Info Clear	When “Device Discovery” is selected, the printer transitions to the discoverable state, and when “Clear Connection Information” is selected, the saved pairing information is deleted and then the printer transitions to the discoverable state. ** This has the same function as a switch on the Bluetooth interface board.
	BT PIN Code	–	****	PIN code of the Bluetooth interface. The initial value is the last 4 digits of the 12-digit address. (Excludes :)
	BT Address	–	**********	Address of the Bluetooth interface. (Excludes :)
	BT Device Name	–	CL-S400DTII_**	Device name of the Bluetooth interface.
	BT FW Version	–	*****_*.**	Firmware version of the Bluetooth interface.
	BT Profile	–	SPP, iAP	Profile of Bluetooth interface

Mode Settings

Top Menu	Sub Menu	Default	Menu	Remarks
USB Memory	Save Setting	–	–	Saves the printer settings as a setting file.
	Load Setting	–	–	Restores the printer settings using a setting file.
	Update Firmware	–	–	Updates the printer firmware.
Machine Information	Model Number	–	CL-S***	Displays the model name.
	Serial Number	–	JP********	Display the Serial Number.
	Boot Version	–	*.*	Displays the boot version.
	ROM Version	–	********	Displays the ROM version.
	ROM Date	–	**/**/**	Displays the date the ROM was prepared.
	ROM CheckSum	–	****	Displays the check sum of the ROM.
	FPGA Version	–	****.****	Displays the FPGA version.
	Head Check	–	OK NG	Displays the results of the head check.
	Print Counter *	–	****.*** km	Displays the print counter.
	Service Counter *	–	****.*** km	Displays the service counter.
	Cut Counter	–	*******	Displays the cut count.
	Sensor Monitor	–	*.* V	Displays the sensor level.
	Option Interface	–	None RS-232C* LAN IEEE1284 Bluetooth	Displays the presence/absence of the optional interface. * If DIP switch 1 is ON in an RS-232C interface, RS-232C (DIP SW) will be displayed.
	RS-232C Baud			If DIP switch 1 on the RS-232C interface board is ON, the communication conditions set for other DIP switches will be displayed.
	RS-232C Parity			
	RS-232C Length			
	RS-232C Stop bit			
	RS-232C X-ON			
	MAC Address		xxxxxxxxxxxx	Displays the MAC address

Top Menu	Sub Menu	Default	Menu	Remarks
Test Mode	Print Pattern	Current Config	Current Config Global Config Sample	Executes the test pattern.
	Head Check	No	Yes No	Executes head check.
	Factory Default	All	All Built-in LAN	All ... The settings of the currently selected Config. Set are set to factory default. Built-in LAN ... Only the built-in LAN settings of the currently selected Config. Set are set to factory default.
	Hex Dump	No	Yes No	Sets the hex dump mode.
	Serial Monitor	–	–	Displays the state of the serial interface.
	Auto Calibration	See Through	See Through Reflect	Executes the calibration of the sensor.
	Sensor Monitor	See Through	See Through Reflect	Displays the level of the sensor.
Global configuration	–	Config Set 1	Config Set 1 Config Set 2 Config Set 3	Sets the Config Set.

* If the double heat function is enabled, the value doubles. This function reduces print fading. To enable this function, configure the setting via Windows driver properties or LabelPrinterUtility. See the respective manual for how to configure the setting.

Note: To restore factory default settings, turn on printer power while pushing the MENU and PAUSE keys simultaneously, then press the FEED key and the STOP key sequentially.

USB host function

The following functions are provided by connecting a USB memory to the USB host connector (type-A connector) on the rear of the printer.

- Updating of printer firmware using a USB memory
- Saving printer settings to a USB memory and restoring them

<Precautions for USB devices overall>

This printer does not support the following.

- USB memory whose file format is something other than FAT32 (exFAT is not supported yet)
- USB memory with security function
- USB memory card reader
- USB device connection via an extension cable or USB hub

<Precautions for USB memory>

Do not remove the USB memory from the printer during the process of saving/restoring printer settings.
In particular, if you remove the USB memory from the printer during the process to save a file to the USB memory, it may damage the data in the USB memory.
If the operation related to the USB memory function from the printer fails, connect the USB memory to the PC and format the USB memory (erase all data) before starting to use it.

USB host setting

From the [Interface] menu, set "USB host" to "Auto" or "On" to enable the "USB host function".

Auto: When the power to the printer is turned on, the USB mode is automatically determined according to the connection of the USB device.
On: The printer will start up in USB host mode.
Off: The printer will start up with the USB host mode turned off.

When the printer starts up in USB host mode, "USBH" will be displayed in the upper left corner on the LCD.

⚠ Caution

The following interfaces cannot be used in USB host mode.

- USB interface (type-B connector)
- IF1-EFX2, IF1-EFX3, IF1-ES04, IF1-WFX4, IF1-WFX6

How to connect USB memory

"How to connect USB memory" can be used when "USB host setting" is "On" or "Auto".

<When "Auto" is set>

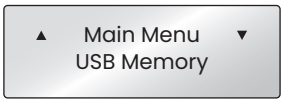
1. **Connect a USB memory to the USB host interface (type-A connector) on the rear of the printer.**
2. **Turn on the printer. When the printer starts up, "USBH" is displayed on the upper left corner on the LCD.**

<When "On" is set>

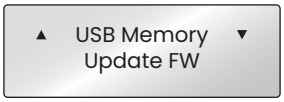
1. **Turn on the printer. When the printer starts up, "USBH" is displayed on the upper left corner on the LCD.**
   If no USB memory is connected at this time, "USBH" blinks.
2. **Connect a USB memory to the USB host interface (type-A connector) on the rear of the printer.**

Updating of firmware using a USB memory

1. **Preparation**
   Create a folder named "JP" on a USB memory and prepare the update file "UPDATE.bin" in the folder.
2. **When a USB memory is connected to the printer while the USB host setting is On or Auto and the host is enabled, the "USB Memory" menu is added to the menu.**



3. **Select "USB Memory", press the ▶ key, select "Update FW", then press the ▶ key.**



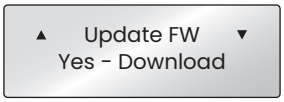
4. **Acquire update information, switch the display using the ▲ key or ▼ key to check each piece of information.**







5. **Press the ▶ key, select "Yes", then press the ▶ key to start the update process.**



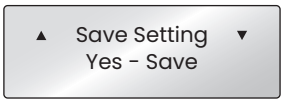
USB host function

Saving printer settings to a USB memory

1. **Preparation**
   When a USB memory is connected to the printer while the USB host setting is On or Auto and the host is enabled, the "USB Memory" menu is added to the menu. Next, select "Save Setting" and press the ▶ key.



2. **Select the destination for saving the settings**
   Select "Yes" and press the ▶ key to save the current printer settings to the USB memory as a file.



The printer settings saved to the USB memory are as follows. In addition, the following settings included in Global Configuration and the selection number of the Global Configuration settings are included in the settings saved.

List of printer settings saved to USB memory

Page Setup			
• Print Speed	• Print Darkness	• Darkness Adjust	• Double Heat
• Continuous Media Length	• Vertical Position	• Horizontal Shift	• Vertical Image Shift
• Auto Side Shift	• Media Sensor	• Auto Loading	• Auto Loading Position
• BackFeed to Top Of Form	• Auto Small Media Measure.	• Small Media Adjustment	• Small Media Length
• Symbol Set			
System Setup			
• Error Reporting	• Buzzer Select	• Metric/Inch	• Max Media Length
• Settings Lock	• Keyboard Lock	• Standby Mode	• Standby Timer
• Control Code	• Media Power Up	• CI Lock	• Emulation Select
• Emulation Auto Detect			
After Print			
• Auto Configure	• Function Select	• Cutter Action	• Peel Wait Delay
• Paper Position	• Menu Key Action		
Interface			
• USB Device Class	• USB VCOM Protocol		
Option Interface			
• RS-232C Baud rat	• RS-232C Parity	• RS-232C Length	• RS-232C Stop bit
• RS-232C X-ON			

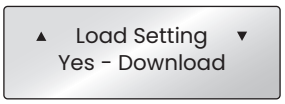
<Precautions>
The setting information is saved in the USB memory "CLS" folder in a file with extension .CFG. The setting file is in a unique format for the printer, so do not edit it, etc.

Restoring printer settings from a USB memory

1. **Preparation**
   When a USB memory is connected to the printer while the USB host setting is On or Auto and the host is enabled, the "USB Memory" menu is added to the menu. Next, select "Load Setting" and press the ▶ key.



2. **Restoring settings**
   Select "Yes" and press the ▶ key to restore the printer settings from the file.



For the printer setting items to be restored, refer to the "List of printer settings saved to USB memory".

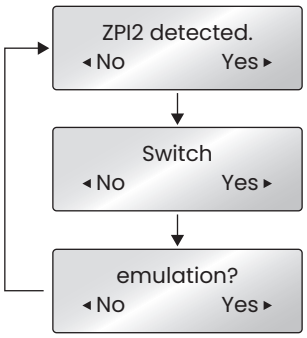
Emulation Auto Detect: Cross-Emulation™

Menu Setting Table (p.46)

If a control language different from the emulation when operating with the Emulation Auto Detect setting in System Setup set to "On" or "Full Auto" is received, the emulation is automatically switched.
Note that the Eltron language will not be detected.

When the Emulation Auto Detect setting is set to "Full Auto"
During startup, the saved emulation is started by "Emulation Select." Then, operation is continued with the emulation of the initially-received control language. New emulations are saved to the Emulation Select setting. At this time, automatic restart is not carried out.
If the printer is manually restarted later on, it will start up with the newly saved emulation setting. When a different control language is received without restarting, the emulation of the last received control language is saved in the command settings, and automatic restart is carried out. Note that the data received before restarting is ignored.

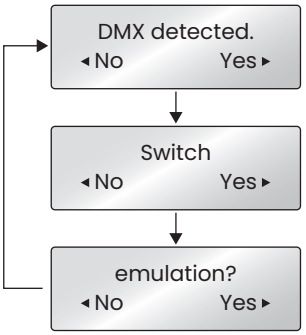
When the Emulation Auto Detect setting is set to "On"
The following message is displayed on the LCD when the Zebra® emulation (ZPI2) command is detected during Datamax emulation.



By selecting "Yes" the printer will reboot and automatically switch to Zebra® emulation (ZPI2).
The printer will return to the On Line Ready status if "No" is selected.
Note that the data received is ignored.
Note that any Zebra® emulation (ZPI2) commands received after this will be ignored.

Emulation Auto Detect: Cross-Emulation™

The following message is displayed in the LCD when the Datamax emulation (DM4/DMI/DPP) command is detected during Zebra® emulation.



By selecting "Yes" the printer will reboot and automatically switch to Datamax emulation (DM4/DMI/DPP).
The printer will return to the On Line Ready status if "No" is selected.
Note that the data received is ignored.
Note that any Datamax emulation (DM4/DMI/DPP) commands received after this will be ignored.

⚠ Caution

- The Emulation Auto-Detection function will not work if the "Emulation Auto Detect" command in the Sub Menu in the "System Setup" in the Top Menu is set to "Off ".
- After the Emulation Auto-Detection function is activated, this function will not work unless the printer is turned Off and then turned On again.

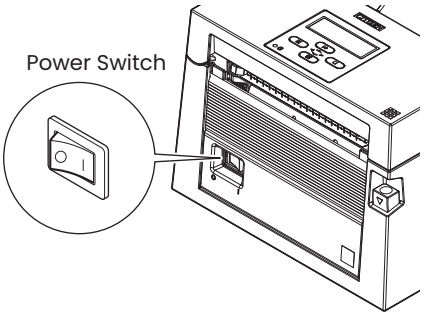
Sensor Adjustments

The sensing level of the label detection sensor (transparent sensor), black mark detection sensor (reflective sensor), and continuous media detection sensor (reflective sensor) are adjusted separately and independently. Firstly, the sensor type must be selected either using the Menu Setup Mode or the Sensor Method Selection shown below. Then the adjustment and calibration of the sensor can be made.

Entering Sensor Adjustment Mode

1. **Turn on the power while pushing the PAUSE key, FEED key, and STOP key simultaneously.**





2. **After "Sensor Cal Mode" lights up, release the keys to change the printer to sensor adjustment setting mode.**



Setting roll paper (p.26)

Sensor Selection Method

To switch from transparent to reflective sensor, hold down the MENU key and then press the STOP key. Each time the key is pressed, a buzzer sounds and the setting switches between the label detection sensor (transparent sensor) and the black mark detection sensor (reflective sensor). If the key is pressed for at least 4 seconds, the setting switches to the continuous media detection sensor (reflective sensor).



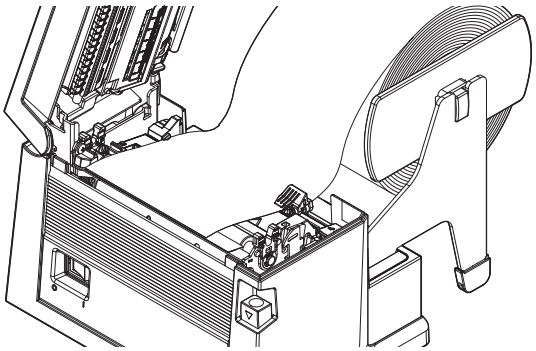
When the label detection sensor (transparent sensor) is selected, the buzzer sounds once, and "See Through" is displayed.
When the black mark sensor (reflective sensor) is selected, the buzzer sounds twice, and "Reflect" is displayed.
When the continuous media detection sensor (reflective sensor) is selected, the buzzer sounds thrice, and "None" is displayed.

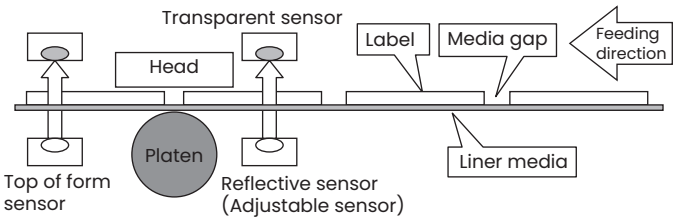
Adjusting the label detection sensor (Transparent sensor)

Setting roll paper (p.26)

Sensor Selection Method (p.60)

1. **The label detection sensor (Transparent sensor) is selected.**
2. **Install only the liner media (label backing paper) with the label media removed so that it will pass between the platen roller, upper sensor, bottom sensor and Top of form sensor. (Be careful that media with black marks does not pass the media sensor.) Then close the printer cover.**





3. **If the PAUSE Key is pressed then released while the MENU key is continually pressed, the sensor is automatically adjusted.**



4. **When automatic adjustment stops normally, "Succeeded" is displayed by the LCD. If it stops abnormally (adjustment is impossible), the POWER LED lights up red and "Failed" is displayed on the LCD.**



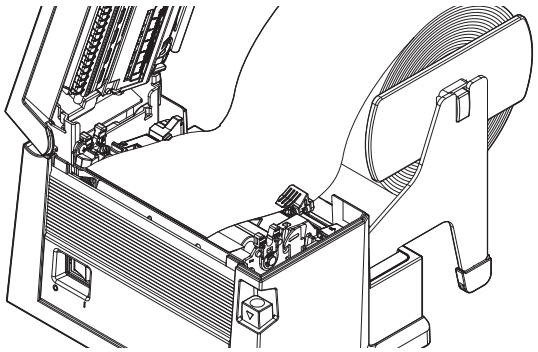
5. **To save the setting, push the STOP key. The buzzer sounds once and the printer restarts.**

Adjusting the black mark detection sensor (Reflective sensor)

Setting roll paper (p.26)

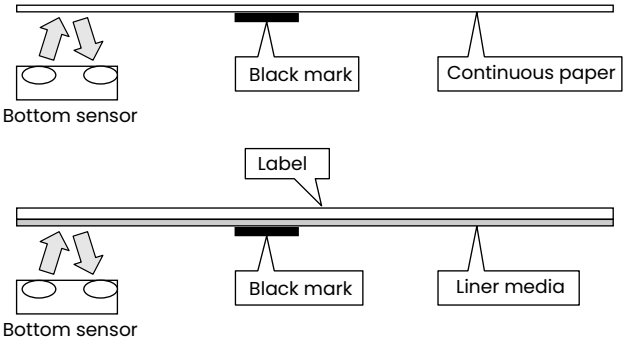
Sensor Selection Method (p.60)

1. **The black mark detection sensor (Reflective sensor) is selected.**
2. **With the reflective sensor selected, install the label media so that it is between the platen roller and the media sensor. Be careful that black mark and media gap do not pass the media sensor. Then close the printer cover.**



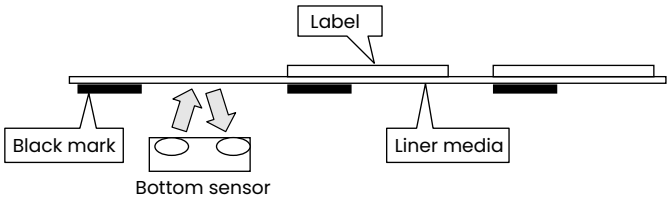
- **Using continuous media and label media without gaps between labels**

Set the media so that a section without a black line (or label face stock for label media) does cover the platen roller and media sensor.



- **Using label media with gaps**

Peel a label and set the media so that only the backing paper (glassine paper) reaches the platen roller and media sensor.



3. **If the PAUSE Key is pressed then released while the MENU key is continually pressed, the sensor is automatically adjusted.**



4. **When automatic adjustment stops normally, "Succeeded" is displayed by the LCD. If it stops abnormally (adjustment is impossible), the POWER LED lights up red and "Failed" is displayed on the LCD.**



5. **To save the setting, push the STOP key.**
   The buzzer sounds once and the printer restarts.

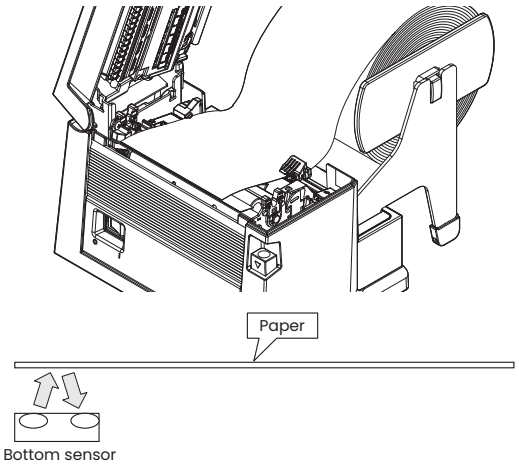
Sensor Adjustments

Adjusting the continuous media detection sensor (reflective sensor)

Setting roll paper (p.26)

Sensor Selection Method (p.60)

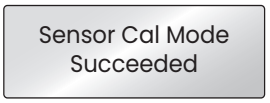
1. **The continuous media detection sensor (reflective sensor) is selected.**
2. **Install the media so that it will pass between the platen roller and the media sensor, and lock the head unit. (Be careful that media with black marks do not pass the media sensor.)**



3. **If the PAUSE Key is pressed then released while the MENU key is continually pressed, the sensor is automatically adjusted.**



4. **When automatic adjustment stops normally, "Succeeded" is displayed by the LCD. If it stops abnormally (adjustment is impossible), the POWER LED lights up red and "Failed" is displayed on the LCD.**



5. **To save the setting, push the STOP key.**
   The buzzer sounds once and the printer restarts.

Media Thickness Adjustment

Setting roll paper (p.26)

It may be necessary to adjust the printer according to the thickness of the media being used. This can be done easily by rotating the media adjustment dial to improve the print quality.

- Poor print quality across the complete printout means wrongly set media thickness. See this section.
- Poor print quality on one side of a printout means wrongly set media width. See next section.

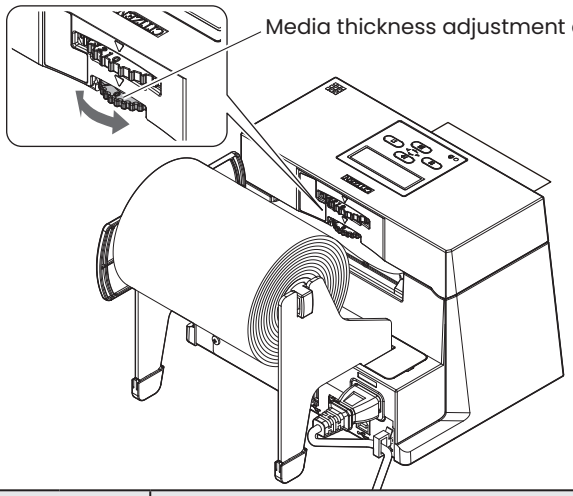
Self Print Mode (p.39)

When using recommended direct thermal label media, high quality direct thermal media, or standard direct thermal media

Adjust while performing test printing by turning the dial from the smallest number on the dial to the largest number on the dial one step at a time.

When using thicker media (direct thermal tags, etc.)

Adjust while performing test printing by turning the dial from the smallest number on the dial to the largest number on the dial one step at a time.



Dial Position		Suggested media type
203dpi	300dpi	
0	0	Direct thermal media (thin media)
1	1	Direct thermal label media, standard direct thermal media
3-5	2-3	Thicker media such as high quality direct thermal media
6-9	4-6	Cards, tags, thicker media stock.

These values are guidelines. The exact media being used must be matched with the correct media thickness adjustment position.

- When shipped from the factory, it is set at dial 1.
- The offset adjustment varies according to the thickness and the hardness of the media.

Media Width Adjustment

Setting roll paper (p.26)

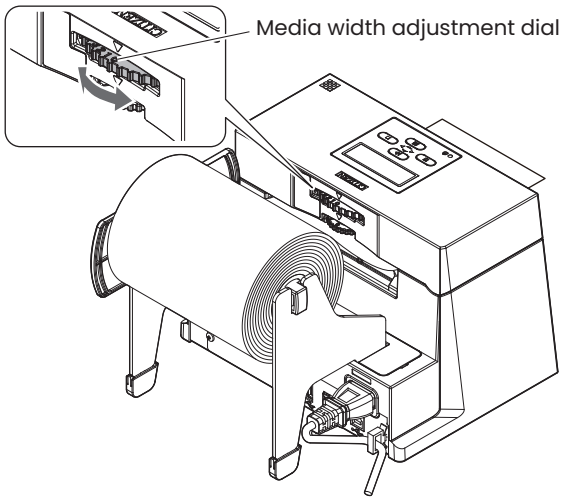
The head pressure varies according to the width of the media being printed. The head pressure balance must be adjusted according to media width so that constant head pressure is applied to the head. With this printer, it can be adjusted easily by turning the media width adjustment dial. If the printing is blurred or lightly printed on one side or the media moves in a zigzag pattern adjust the head pressure balance.

Self Print Mode (p.39)

After making an adjustment, confirm the output quality with a test print.

⚠ Caution

When using narrow media, be sure to MAKE this adjustment. (If you do not, the head may be damaged by jamming, etc.)



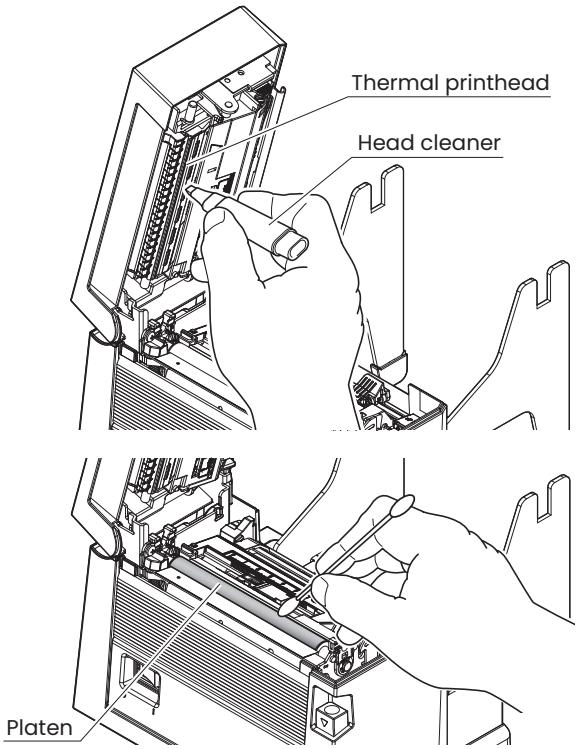
Dial position	Media width mm (inches)	Head pressure
	19.5 to 23.0 mm (0.77 to 0.90)	Low ↓ High
1	23.0 to 30.0 mm (0.90 to 1.18)	
2	30.0 to 39.0 mm (1.18 to 1.53)	
3	39.0 to 49.0 mm (1.53 to 1.92)	
4	49.0 to 62.0 mm (1.92 to 2.44)	
5	62.0 to 76.0 mm (2.44 to 2.99)	
6	76.0 to 88.0 mm (2.99 to 3.46)	
7	88.0 to 99.0 mm (3.46 to 3.89)	
8	99.0 to 108 mm (3.89 to 4.25)	
9	108 to 118 mm (4.25 to 4.65) (setting when shipped)	

The following values are criteria.

Cleaning

Wipe off any foreign matter such as media dust, dirt and adhesive substances built up around the printhead with the head cleaning pen (head cleaner) sold separately, and use a soft cloth soaked in ethyl alcohol for the platen etc.
It is particularly important to clean the thermal printhead after printing on thermal media for long periods, which will guarantee the print quality and extend the life of the thermal printhead.

Note: Always use the head cleaner when cleaning the thermal printhead. For the purchase of separately sold items, please contact the shop where you bought this product.



⚠ Caution

Do not use any solvent other than ethyl alcohol.
Solvents such as benzene, acetone and thinner will dissolve plastic parts and destroy the thermal printhead, platen and much of the printer!
Try to avoid using “excessive amounts” of ethyl alcohol to clean the platen. Excessive use will harden the platen surface prematurely.

Troubleshooting

This section explains corrective actions taken when the printer malfunctions or when an error message is displayed.

Items to check when a malfunction occurs

When the printer malfunctions during operation, take corrective action with reference to the following table. If the corrective action does not solve the problem, consult with the service personnel at the dealer where you purchased the printer.

Connection to Power (p.19)

Indication	Check	Corrective action
The LED does not light up when printer power is connected.	1) Is the plug of the power cord correctly inserted into the electric outlet?	1) Insert the plug of the power cord correctly in the electric outlet.
	2) Is the connector of the power cord correctly inserted into the power inlet of the printer?	2) Insert the connector of the power cord correctly into the power inlet of the printer.
	3) Is the power cord damaged?	3) Replace the power cord. Consult with the dealer where the printer was purchased to make sure you obtain a cord made especially for the printer. Note: Do not use any power cord except one made especially for the printer.
	4) Is power supplied to the electric outlet the printer is connected to?	4) Check to make sure power is supplied to the outlet. If there are any problems, make sure power is supplied to the building. Or find out if a power failure has occurred.
	5) Is the main fuse in the building's fuse box burnt out?	5) If necessary, replace the main fuse in the building's fuse box, and reset the main breaker. Ask a qualified serviceman to carry out the replacement.

Cleaning (p.67)

Indication	Check	Corrective action
Paper is feeding, but nothing is printed.	1) Is the thermal printhead dirty? Is a label stuck to the head?	1) If it is dirty, remove the dirt with the separately sold head cleaner. If a label is stuck to the thermal printhead remove it. Note: Do not use a metal object to remove a label stuck to the inside of the printer. (This may damage the thermal printhead .) If adhesive label material is stuck to the thermal printhead , remove it with a soft cloth soaked in ethyl alcohol.
	2) Is the correct thermal paper or plain paper selected?	2) To distinguish between thermal paper and plain paper, place your fingernail on the surface of the paper and quickly scratch sideways to make sure that a line is made. The paper on which the line is made is the thermal paper.
The printer is not printing neatly.	1) Is the printing density too high or too low?	1) Set the appropriate printing density using the menu or control software.
	2) Is the platen dirty? Is it deformed?	2) If it is dirty, clean it with ethyl alcohol. If it is deformed, replace it. Note: Consult with the dealer that supplied the printer concerning the replacement.
	3) Is the thermal printhead dirty? Is a label stuck to the head.	3) If it is dirty, remove the dirt with the separately sold head cleaner. If a label is stuck to the head, remove it. Note: Do not use a metal object to remove a label stuck to the inside of the printer. (This may damage the printhead.) If adhesive label material is stuck to the thermal printhead, remove it with a soft cloth soaked in ethyl alcohol.

Menu Setting Table (p.46)

Cleaning (p.67)

Troubleshooting

Media Thickness Adjustment (p.65)

Media Width Adjustment (p.66)

Setting roll paper (p.26)

Cleaning (p.67)

LED Functions (p.23)

Menu Setting Table (p.46)

Indication	Check	Corrective action
	4) Is the thermal printhead in the correct position for the media that is used?	4) Adjust the offset of the thermal printhead with the media thickness adjustment dial.
The printer is not printing neatly.	5) Is the printer's head pressure balance correct for the width of the media that is used?	5) Adjust the thermal printhead pressure with the media width adjustment dial.
The printing position changes.	1) Is the media properly installed?	1) Correctly install the media.
	2) Is the platen dirty? Is it deformed?	2) If it is dirty, clean it with ethyl alcohol. If it is deformed, replace it. Note: Consult with the dealer that supplied the printer concerning the replacement.
	3) Are the data contents and the command signals from the host appropriate?	3) If an error message is displayed, check the content of the software and the communication status set by the host computer.
	4) Are the menu values set appropriately?	4) Set the correct menu values using the operating panel or the host computer.
	5) Are the sensitivities of the media sensors appropriate for the media that is used?	5) Set the media sensitivity to appropriate values. If this does not solve the problem, change the "Sensor level" that is set in the "System setup."

Specifications

Item		Description	
Printing	Printing method	Direct thermal	
	Resolution	Main scanning line density: 203 dot/inch (8 dot/mm) (CL-S400DTII) 300 dot/inch (11.8 dot/mm) (CL-S403DTII)	
		Sub- scanning line density: 203 dot/inch (8 dot/mm) (CL-S400DTII) 300 dot/inch (11.8 dot/mm) (CL-S403DTII)	
		Head 864 dots (effective dots: 832 dot) (CL-S400DTII) Head 1248 dots (effective dots: 1240 dot) (CL-S403DTII)	
	Max. print width	104 mm (CL-S400DTII) 105 mm (CL-S403DTII)	4.1 inch (CL-S400DTII) 4.1 inch (CL-S403DTII)
	Max. print length	2539.7 mm (CL-S400DTII) 1625.6 mm (CL-S403DTII)	99.99 inch (CL-S400DTII) 64.00 inch (CL-S403DTII)
	Print density	Print density is adjustable with software	
Printing speed	Printing speed setting	8, 7, 6, 5, 4, 3 or 2 inches per second. For media with the print surface on the inner side, 2 to 6 inches/sec is recommended.	
Print mode	Batch mode	Normal printing (single or multiple sheets)	
	Tear off mode	Feeds back media to the tear-off position after printing is completed.	
	Cut mode[*1]	Prints while cutting at designated sheet units. The following two kinds of cut mode operations are done. • Backfeed • Cut through (Cut through refers to stopping present printing to cut the previous label when it reaches the cut position. After cutting, printing restarts but a gap may be created at the seam of the printing at this time.)	
	Peel mode[*1]	Peels labels from the liners after printing them.	
Media[*2]	Types of media	Roll, fanfold (continuous thermal media, thermal die-cut media, continuous thermal tags, continuous thermal tickets)	
	Kinds of media	Thermal-transfer media	
	Recommended media[*2]	Heat-transfer media: label media (150LA-1 Ricoh), tag media (130LHB Ricoh)	
	Max. media width	118.0 mm	4.65 inch
	Min. media width	19.5 mm	0.77 inch
	Min. label width	19.5 mm	0.77 inch
	Min. label pitch[*3]	6.35 mm	0.25 inch
	Max. media thickness	0.254 mm	0.01 inch
	Max. media length	2539.7 mm (CL-S400DTII) 1625.6 mm (CL-S403DTII)	99.99 inch (CL-S400DTII) 64.00 inch (CL-S403DTII)

Appendixes

Specifications

Item		Description	
Media[*2]	Min. media length	6.35 mm	0.25 inch
	Min. media thickness	0.0635 mm	0.0025 inch
	On-board roll media diameter	Max. external diameter: 127 mm	5 inch
		Media core: 25.4 to 76 mm Min. media core external diameter (when using label media): 50 mm	1 to 3 inch
Bar code (for Datamax emulation)	One-dimension	• Code 3 of 9 • UPC-A • UPC-E • EAN-13 (JAN-13) • EAN-8 (JAN-8) • Interleaved 2 of 5 • Code 128 • HIBC (Modulus 43-used code 3 of 9) • Codabar (NW-7) • Int 2 of 5 (Modulus10-used Interleaved 2 of 5) • Plessey • Case Code • UPC 2DIG ADD • UPC 5DIG ADD • Code 93 • Telepen • ZIP • UCC/EAN128 • UCC/EAN128 (for K-MART) • UCC/EAN128 Random Weight • FIM	
	Two-dimension	• MaxiCode • PDF-417 • Data Matrix • QR Code • Aztec • micro QR • GS1 QR • rMQR • GS1 Databar Omnidirectional (RSS-14) • GS1 Databar Truncated (RSS-14 Truncated) • GS1 Databar Stacked (RSS-14 Stacked) • GS1 Databar Stacked Omnidirectional (RSS-14 Stacked Omnidirectional) • GS1 Databar Limited (RSS Limited) • GS1 Databar Expanded (RSS Expanded)	
Bar code (for Zebra® emulation)	One-dimension	• Code 11 • Interleaved 2 of 5 • Code 39 • EAN-8 • UPC-E • Code 93 • Code 128 • EAN-13 • Industrial 2 of 5 • Standard 2 of 5 • ANSI CODABAR • LOGMARS • MSI • Plessey • UPC/EAN Extensions • UPC-A • POSTNET • Planet	
	Two-dimension	• Code49 • PDF-417 • CODABLOCK • MaxiCode • Micro PDF-417 • Data Matrix • QR Code • TLC39 • Aztec • micro QR • GS1 QR • rMQR • GS1 Databar Omnidirectional (RSS-14) • GS1 Databar Truncated (RSS-14 Truncated) • GS1 Databar Stacked (RSS-14 Stacked) • GS1 Databar Stacked Omnidirectional (RSS-14 Stacked Omnidirectional) • GS1 Databar Limited (RSS Limited) • GS1 Databar Expanded (RSS Expanded)	
Bar code (for Eltron® emulation)	One-dimension	• Code39 • Code93 • Code128 • Codabar • EAN-8 • EAN-13 • German Postal Code • Interleaved2of5 • POSTNET • Planet • Japanese Postnet • UCC/EAN-128 • UPC-A • UPC-E • UPC-Interleaved2of5 • Plessey(MSI-1) • MSI-3	
	Two-dimension	• Aztec • Data Matrix • MaxiCode • PDF-417 • micro QR • GS1 QR • rMQR • GS1 Databar Omnidirectional(RSS-14) • GS1 Databar Truncated (RSS-14 Truncated) • GS1 Databar Stacked (RSS-14 Stacked) • GS1 Databar Limited (RSS Limited)	

Specifications

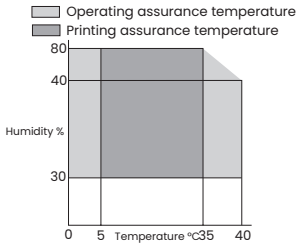
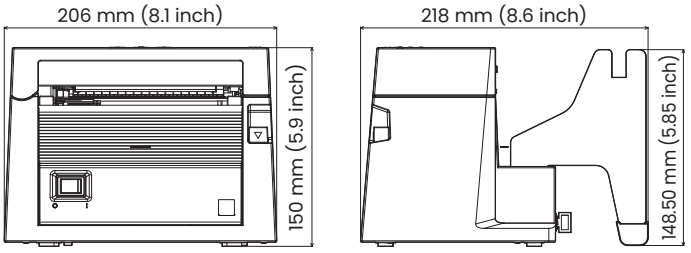
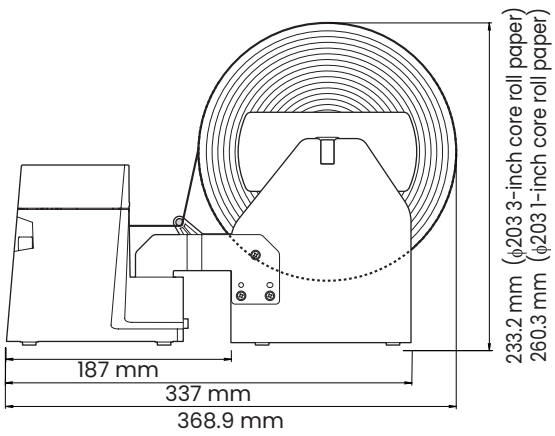
Item		Description
Font (for Datamax emulation)		1. Seven kinds of fixed pitch font • Overseas, English fonts and European fonts 2. OCR fonts OCR-A[*4], OCR-B[*4] 3. Proportional fonts CG Triumvirate smooth font CG Triumvirate Bold smooth font 203dpi (6, 8, 10, 12, 14, 18, 24, 30, 36, 48 points: CL-S400DTII) 300dpi (4, 5, 6, 8, 10, 12, 14, 18, 24, 30, 36, 48 points: CL-S403DTII) • Character set: Conforms with code page 850 standards 4. True type™ rasterizer[*5]
Font (for Zebra® emulation)		1. Five kinds of fixed pitch font • Overseas, English fonts and European fonts 2. OCR fonts OCR-A[*4], OCR-B[*4] 3. Proportional font CG Triumvirate Condensed Bold 4. True type™ rasterizer[*5]
Font (for Eltron® emulation)		1. Five kinds of fixed pitch font • Overseas, English fonts and European fonts 2. Two kinds of fixed pitch font • Numbers only
Symbol set Single-Byte sets (Datamax, Zebra® Emulation)		PC866U Ukrainian[*6], PC Cyrillic, ISO 60 Danish/Norwegian, Desk Top, ISO 8859/1 Latin 1, ISO 8859/2 Latin 2, ISO 8859/9 Latin 5, ISO 8859/10 Latin 6, ISO 8859/7 Latin/Greek, ISO 8859/15 Latin 9, ISO 8859/5 Latin/Cyrillic, ISO 69: French, ISO 21: German, ISO 15: Italian, Legal, Math-8, Macintosh, Math, PC-858 Multilingual, Microsoft Publishing, PC-8, PC-437 USA, PC-8 D/N, PC-437N, PC-852 Latin/Greek, PC-862 Latin/Hebrew, Pi Font, PC-850 Multilingual, PC-864, Latin/Arabic, PC-8 TK, PC-437T, PC-1004, PC-775 Baltic, Non-UGL, Generic Pi Font, Roman-8, Roman-9, ISO 17: Spanish, ISO 11: Swedish, Symbol, PS Text, ISO 4: United Kingdom, ISO 6: ASCII, Ventura International, Ventura Math, Ventura US, Windows 3.1 Latin 1, Wingdings, Windows 3.1 Latin 2, Windows 3.1 Baltic (Latv, Lith), Windows 3.0 Latin 1, Windows Latin/Cyrillic, Windows 3.1 Latin 5
Symbol set Double-byte sets (Datamax Emulation)		EUC, JIS, Shift JIS, Unicode, KS Code, GB Code
Control language		Conforms to Datamax programming language[*7], Zebra® programming language[*8] and Eltron® programming language
Outline of electronic devices	CPU	32Bit RISC CPU
	ROM	Standard equipment: FLASH ROM 32 MBbytes (User area: 8 MByte)
	RAM	Standard equipment: SDRAM 64 MBytes (User area: 4 MByte)

Appendixes

Specifications

Item		Description	
Media detection sensors	Transparent sensor	Detects media gap between labels, notches on tags, and media out	
	Reflective sensor	Detects reflective mark on back of media and media out	
	Top of form sensor (transparent type)	Detects media edge (anti-media waste function, auto feed function)	
	Label peeling sensor[*1]		
Communication interfaces	LAN	Wired LAN (100BASE-TX/10BASE-T)	
	USB Type B	USB2.0 compatible Full Speed (12Mbps)	
	USB host (Type A)	USB2.0 compatible Full Speed (12Mbps)	
Communication interface options	Serial	2400 4800 9600 19200 38400 57600 115200 bps	
	Parallel	IEEE1284 (compatible, Nibble, ECP mode)	
	Wired LAN	IF1-EFX3	Ethernet (100BASE-TX / 10BASE-T)
		IF1-EFX2	Ethernet (100BASE-TX / 10BASE-T) + USB2.0 compatible High-speed ×2
		IF1-ES04	IEEE802.11b, IEEE802.11g, IEEE802.11n, IEEE802.11a, IEEE802.11ac + Ethernet (1000BASE-T / 100BASE-TX / 10BASE-T)
	Wired LAN / Wireless LAN	IF1-WFX4	IEEE802.11n, IEEE802.11a, IEEE802.11g, IEEE802.11b + Ethernet (100BASE-TX / 10BASE-T) + USB2.0 compatible High-speed
		IF1-WFX6	IEEE802.11n, IEEE802.11a, IEEE802.11g, IEEE802.11b + Ethernet (100BASE-TX / 10BASE-T) + USB2.0 compatible High-speed ×2
	Bluetooth	Bluetooth5.0 (BR+EDR)	
Indications and switches	LED	POWER, ERROR	
	Buzzer	Alarms, errors, etc.	
	Operating panel keys	PAUSE, FEED, STOP, MENU	
	Head-up detection sensor	Detects head open	
	Power switch	Turns power on and off	
Power		AC100-240V, 50/60Hz	

Specifications

Item		Description
Environment	Operating temperature conditions:	Operating temp. 0 to 40°C (32 to 104°F), humidity 30 to 80%, condensation free (Conditions: ventilation, and natural convection)
		 Conditions assuring operation and printing
	Storage temperature conditions:	Temp. –20 to 60 °C (-4°F to 140°F), humidity 5 to 85 % (Conditions: ventilation, and natural convection) *However, for storage at high temperature and humid environments, the combination of 40°C (104°F) and 85% RH (no condensation) is taken as the worst value.
External dimensions		Approx. 206 (W) × 218 (D) × 150 (H) mm 8.1 (W) × 8.6 (D) × 5.9 (H) inch
		
		When high-capacity roll paper holder specifications
		

Appendixes

Specifications

Item	Description
Weight	Weight Approx. 3.2 kg (7.0 lb.)
Option	• Auto-cutter unit • Peeler unit • Serial interface board • IEEE1284 Parallel interface board • Wired LAN interface board (standard specifications / multifunction specifications) • Wired / Wireless LAN board (standard specifications / multifunction specifications), Bluetooth board • High-capacity roll paper holder

*1: Options can be separately purchased.
*2: If you wish to use other media than those recommended, please contact the shop where you bought this item.
*3: When a media pitch of less than 1 inch is used, activate the “Small Media Adjustment” setting in the “Page Setup.”
*4: The OCR font may have a low recognition rate according to the reader.
*5: UFST™ and TrueType™ rasterizer are licensed from Monotype Imaging, Inc.
*6: "PC866U Ukraina" is available for Datamax emulation only.

Interfaces

This printer is connected to a computer and prints according to commands sent from the computer.
There are two types of computer interfaces, and these are connected to devices suited to each type of interface. The printer can also be connected to a computer by the optional RS-232C, parallel, wired/wireless LAN and Bluetooth.

USB Interface

Specifications

Standards	Complies with Universal Serial Bus Specification
Transmission speed	Compatible with 12Mbps (full speed) transmission
Receive buffer	16 kbytes
Connector	USB Type B

Signal line and pin arrangement

Pin No.	Signal code	Signal	Function
1	VBUS	USB power	USB power (+5V)
2	D–	Signal line –	– signal line
3	D+	Signal line +	+ signal line
4	GND	GND	GND

Interfaces

Wired LAN interface

Support protocol

Network layer	ARP, IP, TCP
Transport layer	TCP, UDP
Application layer	DHCP, HTTP, SNMP, Raw Socket Port

Raw Socket Port

Perform two-way communication of print data and printer status.

Port No.	9100 (user-configurable)
Port communication direction	Two-way
Socket max. connections	8
Printable connections	1 (other sockets are reserved)
Timeout	Default value: 60 sec Can be set between 0 and 300. No timeout when "0" is set.

HTTP Server

Settings of printer unit and network are done by LinkServer Web Interface.
For details, see "Configuring Printer Settings Using LinkServer"(P.79).

Port No.	80
Max. simultaneous connections	4
HTTP version	HTTP/1.1

DHCP

IP address is automatically obtained from DHCP server within 60 seconds after power is connected.
If the address cannot be obtained automatically, fixed IP address (default value: 169.254.1.10) is applied.

SNMP Agent

By using the SNMP agent function, responses are provided to requests from the SNMP manager.

SNMP Version	SNMPv2 (Trap function is not supported)
Port No.	161
Supported MIB	HOST-RESOURCES-MIB, Citizen-MIB (Private)
Community name	public

Connector Connections

- Compatible connectors
  Printer: RJ-45 connector

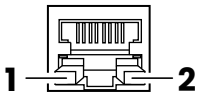
⚠ Caution

- Please do not insert the USB cable by mistake. Doing so may damage the cable and connector.
- With the wired LAN interface that is provided as standard, data in XML format cannot be printed.

Pin No.	Signal name	Function
1	TX+	Send (+)
2	TX-	Send (–)
3	RX+	Receive (+)
4	N.C	-
5	N.C	-
6	RX-	Receive (–)
7	N.C	-
8	N.C	-

Function of LED

The indications by LED are given below.



1: Network communication speed display

Communication speed	LED (green)
100 Mbps	ON
10 Mbps/disconnected	OFF

2: Network status display

Display description	LED (yellow)
Connected	ON
Disconnected	OFF
Communicating data	Blink

Configuring Printer Settings Using LinkServer

Printer and network settings can be configured using a Web browser or Android app via the printer's built-in LinkServer function.

Memo

- For Android, you need to download the app and provide a USB cable yourself.

The Android app can be downloaded from Google Play.
https://play.google.com/store/apps/details?id=com.citizen.app.linkserver

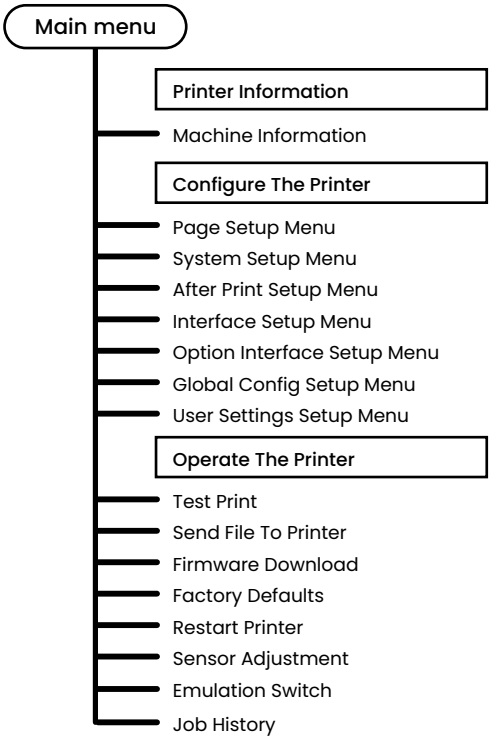
LinkServer user roles

LinkServer has the following three user roles available: User, Operator, and Administrator. The menus that appear for each user role can be changed to restrict operational access to LinkServer.
The Home screen for the user role appears when first connecting.

Interfaces

LinkServer menu configuration

The following figure illustrates the LinkServer menu configuration.



- Printer Information: Used to display printer information.
- Configure The Printer: Used to change printer settings.
- Operate The Printer: Used to operate the printer.

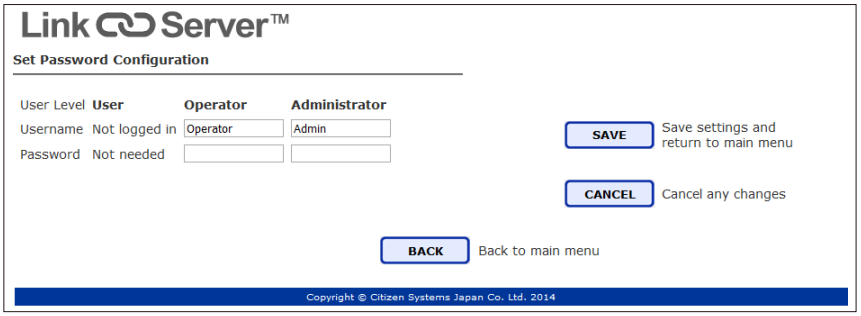
LinkServer connection procedure

Wired LAN

1. **Open a Web browser and enter the IP address of the desired printer into the address bar (area circled in red).**
   The example illustrates the entry of “http://192.168.0.3”.



2. **Press the [LOG IN] button to display the authentication screen.**
   In the factory default state, the authentication password setting screen is displayed.



There are three types of user privileges for the Web Monitor: User, Operator, and Administrator. Press the [SAVE] button after entering the user names and passwords for the Operator and Administrator privileges to save the authentication information to the printer. Thereafter, if you press the [LOG IN] button, the authentication screen will be displayed. Enter the set authentication information.

Interfaces

Memo

- Be sure to specify 1 to 20 single-byte alphanumeric characters and symbols.
- You cannot specify “Operator” in the user name and password for the Operator privilege.
- You cannot specify “Admin” in the user name and password for the Administrator privilege.

3. The Home screen is displayed.
After successful authentication, the Home screen for the Operator or Administrator privilege appears.

Administrator Home Screen



The menus that appear for the User and Operator roles can be changed from the User Settings menu.

Memo

- If you forget the set user name and password, select “Built-in LAN” from “Factory Default (Sub Menu)” under [Test Mode (Top Menu)] in the menu setup mode, and set built-in LAN to factory default. Then, set the authentication information again.

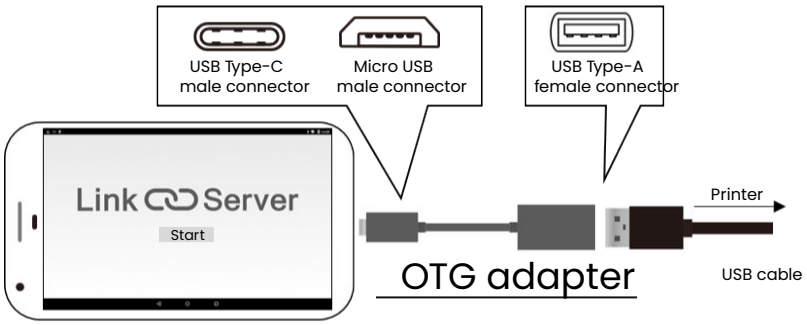
4. Press the Menu button on the Home screen to perform printer operations.

- You can use setting mode to read factory settings.
- Printer Information: Displays printer information.
- Configure The Printer: Provides access to the same settings as configured with LabelPrinterUtility.
- Operate The Printer: Used to operate the printer.

5. **Once you are finished, press the [LOG OUT] button to log out.**
   The Home screen for the User role appears again after logging out.

USB (Android device)

1. **Preparation**
   You will need a so-called USB OTG (On-The-Go) adapter.
   Which has a micro USB or Type-C male connecter on the Android side (depending on your Android device) and a Type-A female connecter on the other side. Then you can connect a regular USB cable for printer which has a Type-A male and Type-B male to connect to a printer.



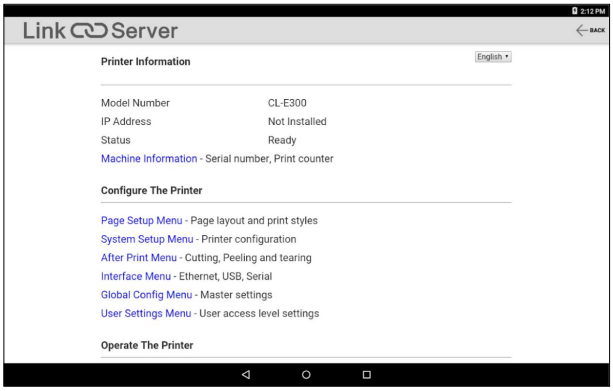
2. **Usage**
   The LinkServer app automatically starts up when a supported printer model is connected by USB to your Android device.



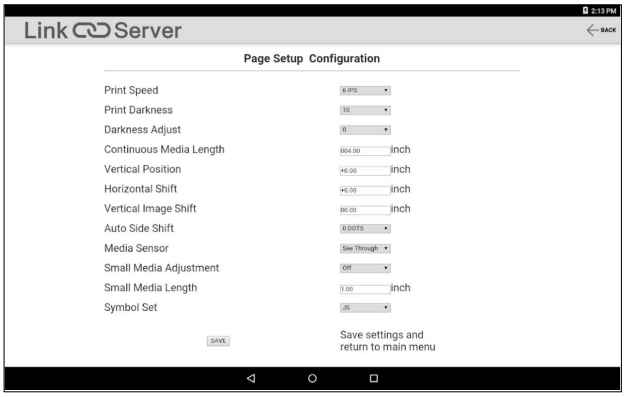
Appendixes

Interfaces

The app shows you the printer information or lets you set up the printer.



Press “SAVE” to apply changes.
The printer will automatically restart and save the new settings.
Wait until the printer starts up completely if you wish for further operations.



Serial Interface (Option)

Specifications

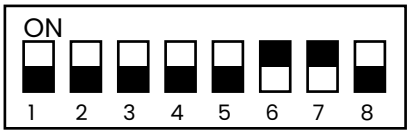
System	Start/stop asynchronous duplex communication
Signal level	RS-232C
Baud rate	2400, 4800, 9600, 19200, 38400,57600, 115200 bps
Bit length	7 Bit, 8 Bit
Stop bit	1 Bit, 2 Bit
Parity	Odd, even, none
Connector	D-SUB 25 PIN

Signal line and pin arrangement

Pin No.	Signal code	Signal name	Function
1	FG	Protective grounding	Protective grounding
2	TXD	Transmitted data	Signal line that transmits data from the printer to other devices
3	RXD	Received data	Signal line that transmits data from other devices to the printer
4	RTS	Transmission request	Signal line that becomes active when the printer can receive data
5	CTS	Able to transfer data	Signal line that becomes active when other devices can receive data from the printer
6	DSR	Data set relay	Signal line used by external devices to notify printer that they are ready to communicate
7	SGND	Signal line ground	Shows the ground level of the signal line
8-13	NC	-	Not used
14	VCC	+3.3V	(FACTORY USE ONLY)
15-19	NC	-	Not used
20	DTR	Data terminal relay	Signal line used by printer to notify external devices that printer is ready to communicate
21-25	NC	-	Not used

DIP switch

Communication conditions settings can be changed by using the dip switch available on the interface board.



DIP switch

Appendixes

Interfaces

Respective functions of the switches are as follows.

Switch No.	Function	ON	OFF (Factory setting)
1	Selection of communication conditions setting	According to setting of DIP switch	According to setting in printer unit
2	Handshake	XON / XOFF	DTR / DSR
3	Bit length	7-bit	8-bit
4	Parity check	Yes	No
5	Parity selection	Even	Odd
6	Selection of baud rate	See below	
7			
8	Reservation	-	-

Baud rate selection

Switch No.		Baud rate (bps)
6	7	
OFF	OFF	2400
ON	OFF	4800
OFF	ON	9600
ON	ON	19200 (factory setting)

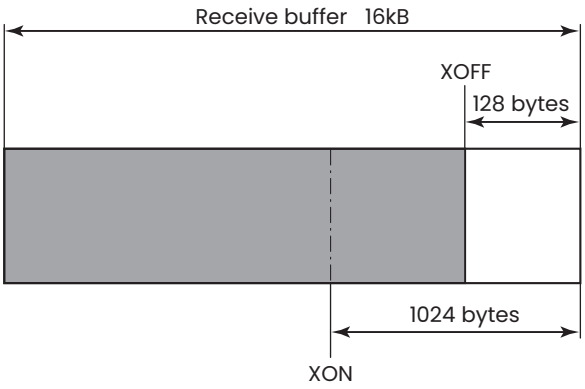
XON/XOFF Protocol

Requirements to output X-ON code

- Communication is possible when the power is on.
- When the receive buffer has less than 128 bytes available, XOFF code is output, then the receive buffer has at least 1024 bytes available.

Requirements to output the X-OFF code

- When the receive buffer has less than 128 bytes available



DTR Protocol

Conditions when the DTR signal is “Ready (High)”

All the following conditions are satisfied.

- The receive buffer is 128 bytes or more available capacity.
  * When the receive buffer has less than 128 bytes available and the DTR signal has changed to BUSY (Low) status, BUSY status is maintained until the capacity of the receive buffer has reached 1024 bytes or more.

Conditions when DTR signal is “Busy (Low)”

- When the receive buffer has fallen to less than 128 bytes available.

Interfaces

Parallel Interface (Option)

Specifications

Transmission mode	8-bit parallel data
Receive buffer size	16 kbytes
Transmission modes	**Compatible mode:** It is an asynchronous forward direction of the byte width (from host to printer) channel, and the interface line of the data is operated in accordance with signal line definitions of Centronics. **NIBBLE mode:** Nibble mode is asynchronous reverse channel communication with data transmission controlled by the host computer. In reverse channel transmission, the data is nibble transmitted in two parts using four status lines (Fault, Select, PE, and Busy). And nibble mode can be used along with compatible mode to send data in two directions. **ECP mode:** ECP mode permits bi-directional asynchronous data transmission, and thanks to its interlock handshake, it does not require the timing necessary with compatible mode.
Signal level	IEEE1284 standard

Signal line and pin assignment table

Pin No.	Signal name	I/O	Function
1	*STROBE	Input	Strobe signal to read in 8-bit data
2-9	DATA1-8	Input	8-bit parallel signal
10	*ACKNLG	Output	8-bit data request signal
11	BUSY	Output	Signal specifying printer busy
12	PERROR	Output	Signal specifying media out
13	SELECT	Output	Signal specifying if the printer is on-line (printing enabled) or off-line (pausing)
14	*AUTOFD	Input	Invalid (ignored)
15	NC	-	Not used
16	GND	-	Signal ground
17	FGND	-	Frame ground
18	P.L.H	Output	Peripheral logic high (pull up to +5 V at 10 kΩ)
19-30	GND	-	Ground for twisted pair return
31	*INIT	Input	Printer reset
32	*FAULT	Output	Signal specifying printer error
33-35	NC	-	Not used
36	*SELECTIN	Input	Invalid (ignored)

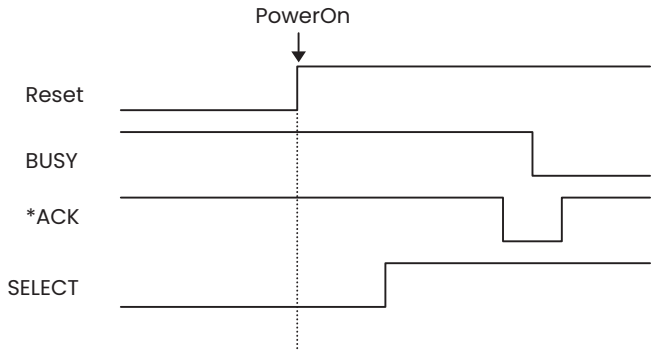
Parallel port status signals when an error occurs

The status of a signal line will not be changed in bi-directional mode such as nibble or ECP mode.

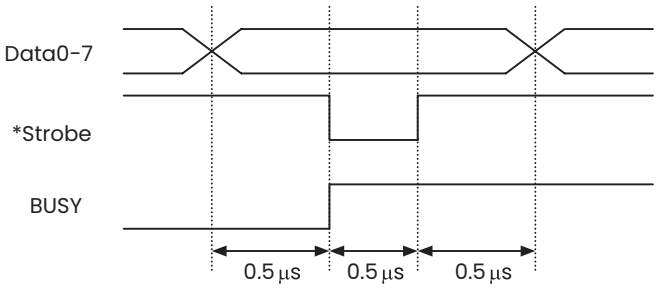
Error	Change in the status of a signal line in compatible mode
Paper end	Busy : L → H PError : L → H Select : H → L nFault : H → L
Error other than paper end • Head open • Other	Busy : L → H PError : L → unchanged Select : H → L nFault : H → L
Conditions for Busy	• Receive buffer full • Data being read • Error

Compatible timing specification

[When power is on] (Time it goes off-line)



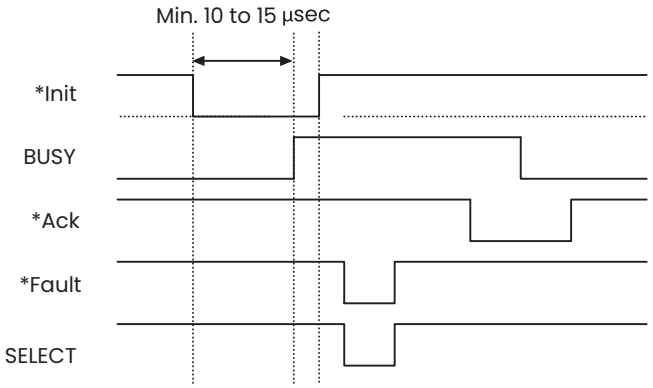
[While receiving data]



Note: Busy rises when *Strobe signal starts, and data is latched with *Strobe signal starts.

Interfaces

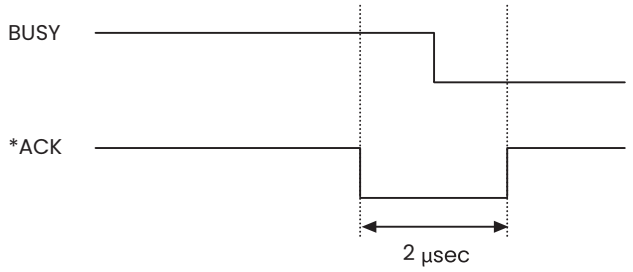
[While receiving INIT signal]



Note: If the *Init signal does not have width of 10 to 15µsec or more, it cannot act as an Init signal. If it is lower, the *Init signal is ignored. BUSY starts up when the *Init signal is perceived.

Relation of the timing of the BUSY signal and the *ACK signal

[Center – ACK]

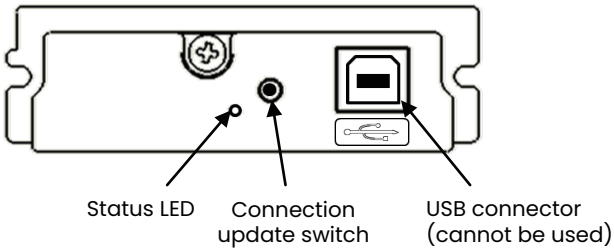


Bluetooth Interface (Option)

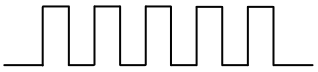
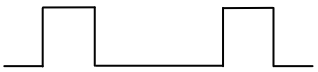
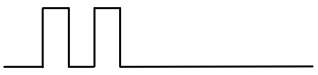
Specifications

Version	Bluetooth5.0 (BR+EDR)
Profile	Serial Port Profile (SPP) iAP2 (Interface Accessory Protocol)
Power class	Class 2 (10 m line of sight)
Frequency band	2.400 to 2.483 GHz
Electrical specifications	Approx. 2.3 mA (average 14.2 mA during communication, maximum 52 mA)
Device name	"CL-S400DTII_XX" (XX is the last two digits of the serial number, default setting)

Part Names



Bluetooth Status LED

Status	Description	Status LED (green)
Waiting to be discovered	Waiting for discovery or connection from other party	 Flashing (lit: 125 ms, off: 125 ms)
Waiting for connection	Waiting for connection from other party	 Flashing (lit: 250 ms, off: 750 ms)
iAP connection	Waiting for data session to be opened from iOS device	 Repeats sequence of 3 flashes and 1 long off
Communication possible	(SPP/iAP) Data transfer is possible	 Repeats sequence of 2 flashes and 1 long off
Error	Error or setting Bluetooth	Off

Interfaces

Pairing Operation

To enable Bluetooth communication, perform the following operation when establishing a Bluetooth connection for the first time.

1) Search for Bluetooth devices
   Check that Bluetooth is enabled on the host and then perform a Bluetooth device search.
   This product will be indicated as "CL-S400DTII_XX" (XX is the last 2 digits of the unique serial number) when detected in the device search.
   Select this product from among the detected devices.
2) Perform pairing
   Normally, when the printer is selected in the device search, the process transitions to pairing setting.

Note: The process may not transition to pairing setting depending on the settings and type of host.

Function

1) Communication status display by LED
2) Security settings available (authentication, encryption, and device search restriction)
   This product is provided with the two security levels of high and medium, which can be selected in the menu settings.
   The difference between the security levels is whether or not there are authentication and encryption requests.
   An authentication request is required when starting a service search or iAP/SPP connection, and there is the following relationship for the authentication and encryption requests of the two security levels, including whether or not there is support for SSP on the device.

<Device without support for SSP>

Security setting	Service search authentication request	PIN code connection authentication	SPP connection authentication request	Encryption request
Medium	No	Yes	Yes	Yes
High	Yes	Yes	Yes	Yes

<Device with support for SSP>

Security setting	Service search authentication request	PIN code connection authentication	SPP connection authentication request	Encryption request
Medium	No	No	Yes	Yes
High	Yes	No	Yes	Yes

Note:
   Even when "No" is indicated for a request, do as requested if there is a request from the other party.
   Encryption for the security medium setting is enabled only for an authenticated iAP/SPP connection.

3) Pairing information retention function (maximum 8; most recent 8 are saved if 8 is exceeded)

4) Connection is approved by means of secure simple pairing (SSP) or a PIN code.
   The initial value of the PIN code is the last 4 digits of the 12-digit address (excluding the colon [:]) that is printed by a self test print, and if the PIN code contains any alphabet letters (A to F), specify them in uppercase.
   (Example: When 01:23:45:67:89:AB, the initial PIN code is 89AB.)
   For a host with the SSP function, pairing is achieved without any additional operation.
   For a host without the SSP function, you will be asked for a PIN code so enter the PIN code.
5) Connection update switch
   Pressing this switch once transitions to the discoverable state. Also, pressing it for at least 2 seconds deletes the saved pairing information and transitions to a discoverable state.
   If the pairing information on the host is deleted, the device may not be displayed when you perform a device search again unless you also delete the pairing information on the printer. If that happens, delete the pairing information with the connection update switch to transition to the discoverable state.
6) iOS reconnect request function
   For Bluetooth communication with an iOS device, communication between the paired iOS device and printer is not automatically restored if interrupted. However, if the reconnect request function is enabled, the printer tries to reconnect to the iOS device to restore communication automatically when both devices become able to communicate again.
   Note 1: This function is enabled in the factory default state.
   Note 2: Connection using this function can take some time when the host is not an iOS device.
   Note 3: Even if the other party is an iOS device, the reconnect request function may interfere with communication in the following cases.
   - When you wish Bluetooth communication to disconnect each time printing finishes
   - When there are multiple iOS devices which print with that printer in the above cases, disable the reconnect request function.

<**Notes**>

*1: Since processes such as the initial setup of the Bluetooth module are performed when the power is turned on, startup may take several seconds.
*2: When large amounts of data will be transferred from a host, perform control such as transfer time and transfer data amount adjustment on the user side so that the transfer data buffers on both the printer and host do not become full.
*3: The USB connector cannot be used for communication with a host.

Interfaces

Middle-range optional wired LAN/wireless LAN interface (IF1-EFXx, IF1-WFXx)

Middle-range optional wired LAN/wireless LAN interface compatible with XML web applications.
For details on this board, refer to a separate manual.

High-end optional wired LAN/wireless LAN interface (IF1-ESxx)

High-end optional wired LAN/wireless LAN interface compatible with various protocols.
For details on this board, refer to a separate manual.

- MEMO -

CL-S40XDTII_UM_110_EN
PMC-2607