

# **CLP-8301**

**Barcode Label Printer**

## **User's Manual**

**CITIZEN®**

## **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.

## **CE DECLARATION FOR EUROPEAN USERS**

CE marking shows conformity to the following criteria and provisions:

Low Voltage Directive (73/23/EEC)/EN60950

EMC Directive (89/336/EEC)/EN55022, EN55024, EN61000-3-2

& EN61000-3-3

## 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 équipement produit et utilise l'énergie à radiofréquences et s'il n'est pas installé et utilisé correctement, c'est à dire en accord strict avec les instructions du fabricant, il risque de provoquer des interférences avec la réception de la radio et de la télévision.

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

Cet équipement 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'équipement; aussi, il est demandé à 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

1. Read all of these instructions and save them for later reference.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand or table. The product may fall, causing serious damage to the product.
6. 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.
7. 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.
8. 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.
9. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be walked on.
10. 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 220–240V outlet.
11. 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.
12. 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.
13. 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.
14. 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

1. Before use, be sure to read this manual. And keep it handy for reference when needed.
2. The contents of this manual may change without prior notice.
3. Reproduction, transfer, or transmission of the contents of this manual without prior consent is strictly prohibited.
4. We are not liable for any damage resulting from the use of the information contained herein, regardless of errors, omissions, or misprints.
5. We are not liable for any problems resulting from the use of optional products and consumable supplies other than the designated products contained herein.
6. Do not handle, disassemble or repair the parts other than those specified in this manual.
7. We are not liable for any damage caused by user's erroneous use of the printer and inadequate environment.
8. 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.
9. Please contact us if there are any mistakes or ambiguities within this manual.
10. If there are missing or incorrectly collated pages in this manual, contact us to obtain a new manual.

### **Trademark Acknowledgement**

Contains UFST from Agfa Monotype Corporation

\* Trademarks or registered trademarks of other companies and products are included in this manual.

## Introduction

Thank you for purchasing a Citizen CLP series barcode label printer. This manual is designed to help you quickly understand the basic operations of this printer.

## Features

This printer accurately prints clear bar codes and various character fonts on media such as labels and tags at high speeds. Both direct thermal and thermal transfer printings are available.

- **Wide media, yet small installation space**

Wide media up to 8.64" (228.6 mm) are available for this printer, and yet only a small installation space is needed, thanks to smart interior and exterior design.

- **Easy operation control panel**

Printing operations such as printer setup, print position and interface configuration can be performed with the six keys on the control panel. Even an untrained operator can easily operate this printer by following the instructions on the LCD (Display).

- **Easy access to media and ribbon**

The wide-open printhead assembly is provided to have easy access to media and ribbon so loading is quite simple.

- **Minimum maintenance**

The printhead, platen, tear bar etc are thoughtfully designed to facilitate maintenance carrying out. The maintenance of the printer is minimized.

- **Interfacing to a computer**

The printer is equipped with the RS-232C serial and parallel interfaces as standard. Other interfaces such as USB, Ethernet and IEEE1284ECP are also optionally available.

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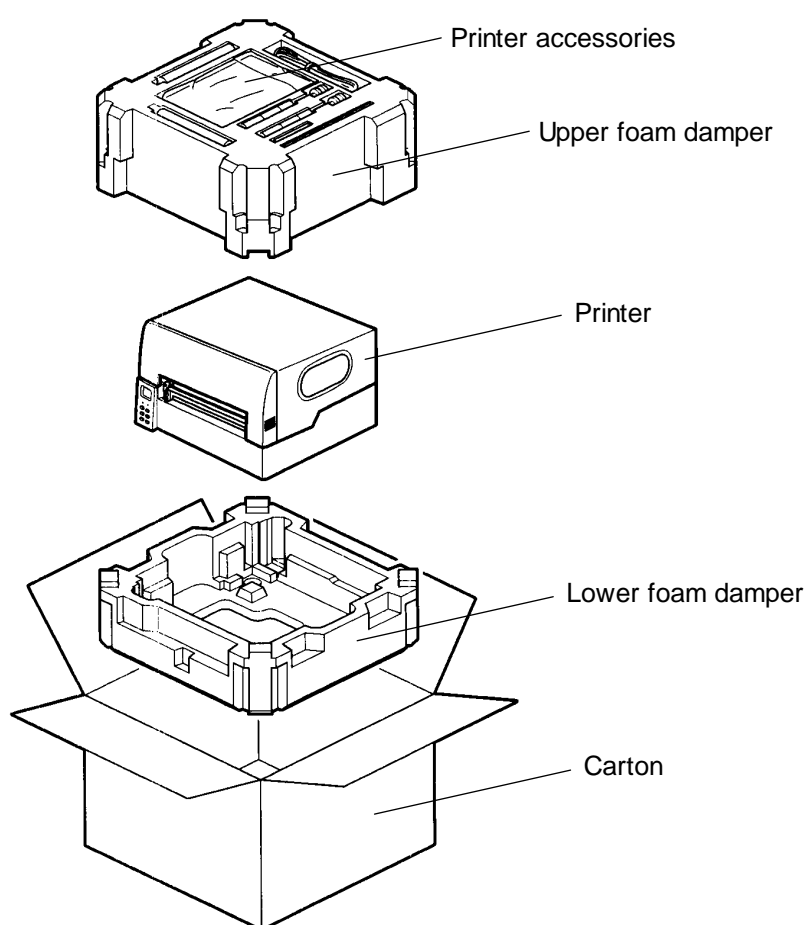


# Chapter 1

## Unpacking

First open the carton and take out the top foam damper, then lift the printer main body out of the carton, holding the bottom of the printer firmly.

Also keep the carton and packing materials as the printer must be packed with those materials for future shipment.



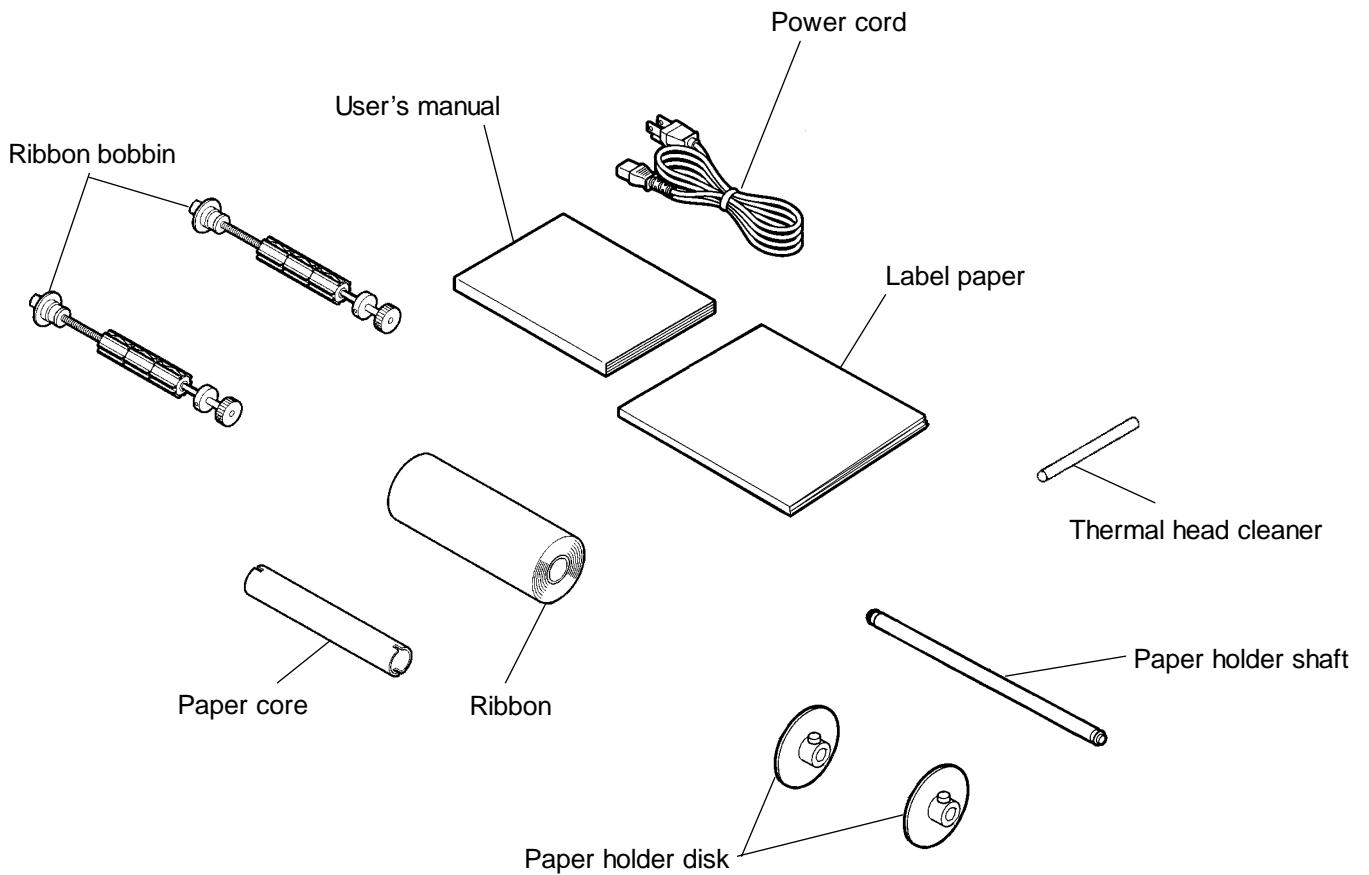
### CAUTION

- When taking the printer out of the carton, prepare ample space to set the printer down. To ensure safety, no fewer than two persons should lift the printer main body at this time.
- Do not hold the foam damper when lifting the printer main body.

## 1.1 Printer accessories

First, you should check that all of the following accessories are put in the carton. If any are missing, please contact your supplier.

- Power cord 1 piece
- Paper core 1 piece
- Paper holder shaft 1 piece
- Paper holder disks 2 pieces
- Label paper 1 piece
- Ribbon 1 piece
- Thermal head cleaner 1 piece
- Ribbon bobbin 2 pieces
- User's manual 1 copy



# Chapter 2

## Safety Precautions

This chapter describes safety precautions when using the printer. Please read and understand the precautions in this chapter before using the printer.

### ● Safety signs

The various safety signs included in this manual and pasted on the printer are intended to inform you of the correct and safe handling of this printer and protect against personal injury and property damage. Please familiarize yourselves with the following safety signs and their meanings.



**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 personal injury or property damage.

### Examples



Example: Attention! The actual warning is portrayed in the drawing (for example, the sign on the left indicates that electrical shock is prohibited).



Example: Operation prohibited. The prohibited operation is portrayed in the drawing (for example, the sign on the left indicates that disassembling is prohibited).



Example: Operation required. The required operation is portrayed in the drawing (for example, the sign on the left indicates that the plug must be removed from the outlet).



**WARNING**



***Avoid unsafe places***

Avoid unsafe places such as the top of a shaky desk, an uneven surface or any area subject to vibration. Failure to observe this precaution may cause the printer to fall or turn over, resulting in injury.



***Do not put water-filled containers nearby***

Do not put containers filled with water or chemical liquids such as vases and cups near the printer. If a liquid spills or enters the printer, turn off the power switch immediately, remove the plug of the power cord from the outlet, and contact our service personnel. Continued use without corrective action may result in fire or electrical shock.



***Do not allow any foreign matter to enter***

Do not allow any metallic objects or flammable material to enter or fall into the printer through the openings (such as the cable port and fanfold media insertion slot). If foreign matter enters, turn off the power switch immediately, remove the plug of the power cord from the outlet, and contact our service personnel. Continued use without corrective action may result in fire or electrical shock.



***Do not use an improper power voltage***

Do not use a power voltage other than the specified in the rating label on the rear of the printer. Failure to observe this precaution may result in fire or electrical shock.



***Connect the ground wire***

Make sure that the ground wire to the printer is properly connected to the earth. Failure to do so may result in electrical shock.

---



### ***Power cord***

Do not damage, break or modify the power cord. Putting heavy objects on the power cord or heating or pulling it may cause damages, leading to fire and electrical shock.



If the power cord is damaged (e.g., the core is exposed or the wire broken), contact our service personnel. Continued use without corrective action may result in fire or electrical shock.



When using, do not bend, twist, or pull the power cord. Failure to observe this precaution may result in fire or electrical shock.

---



### ***If the printer is dropped or damaged***

If you accidentally drop or damage the printer, turn off the power switch immediately, remove the plug of the power cord from the outlet, and contact our service personnel. Continued use without corrective action may result in fire or electrical shock.



### ***Avoid using the printer in abnormal conditions***

Do not use the printer in abnormal conditions, for example, when it is smoking or smells unpleasant. If you notice an abnormal condition, turn off the power switch immediately, remove the plug of the power cord from the outlet, and contact our service personnel. Failure to observe this precaution may result in fire or electrical shock. To avoid serious danger, never try to carry out repairs by yourself.



### ***Do not disassemble***

Do not disassemble or modify the printer. Failure to observe this precaution may result in fire or electrical shock. For checking, adjusting, or repairing parts inside the printer, contact our service personnel.



### ***Head cleaning pen***

The head cleaning pen is inflammable. Never heat it or throw it into the fire, and keep it away from children.



 **CAUTION**

---

***Avoid high-humidity areas***



Do not put the printer in areas with high-humidity or heavy condensation. If moisture has condensed on the printer, turn off the power switch immediately and leave the printer for a while until the moisture dries up. Using the printer when damp may result in electrical shock.

---

***Carrying***



Before carrying the printer, be sure to remove the plug from the outlet and the connecting cable to the outer equipment. If left connected, the power cord and connecting cable may be damaged, leading to fire and electrical shock.



Do not transport the printer while loaded with media. If media is loaded, it may drop out, leading to injury.



When placing the printer on a floor or desk, be careful not to catch your fingers and hands under the feet of the printer.

---

***Power***



Never operate the power switch or insert/remove the power or data cord with wet fingers. Failure to observe this precaution may result in electrical shock.

---

***Power cord***



Do not put a heater near the power cord. A nearby heater can melt the power cord casing, resulting in fire or electrical shock.



When removing the plug of the power cord from the outlet, be sure to grip the plug, not the cord, when pulling it out. Pulling the cord may expose the core or break the wire, leading to fire or electrical shock.

---



### ***Opening/closing the top cover***

When opening/closing the top cover, be careful not to catch your fingers between the cover and chassis.

---



### ***Printhead***

The printhead remains at a high temperature immediately after printing. Therefore, be careful to avoid contact with the printhead when replacing the ribbon or media or cleaning the printer immediately after printing. Failure to observe this precaution may result in burning.

The edge of the printhead can injure your bare hands and the printhead itself can give you an electrical shock. To replace the printhead, contact our service personnel. Never try replacement by yourself.

---



### ***Loading the media and ribbon***

When loading the media and ribbon, be careful not to catch your fingers in the mechanism.

---



### ***No use for long periods***

When the printer is not used for long periods, the plug of the power cord should be removed from the outlet to ensure safety.

---



### ***Printer care and cleaning***

Whilst performing maintenance and cleaning, the plug of the power cord should be removed from the outlet to ensure safety.



Do not use benzine, thinner, alcohol, etc. to wipe the dirt off the printer. Failure to do so may cause discoloration or deformation. If the dirt is too large, soak a cloth in a thin neutral detergent and squeeze out and wipe with it, and finally wipe with a dry, soft cloth.

---

## ● Installation precautions

After reading and understanding the safety signs, install the printer, observing the following precautions:



### ***Avoid dust***

Dust can stop the printer from cleanly printing a document. It can also cause breakdowns and shorten the printer life.



### ***Install away from high power-consuming equipment such as compressors and generators***

High power-consuming equipment such as compressors or generators can cause power voltage drops or generate power noises, resulting in printer malfunction or breakdown. Therefore, be sure to keep the printer away from this kind of equipment.



### ***Avoid direct sunlight***

This printer includes optical sensors that may malfunction if exposed to direct sunlight. When printing, close the cover firmly.

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# Chapter 3

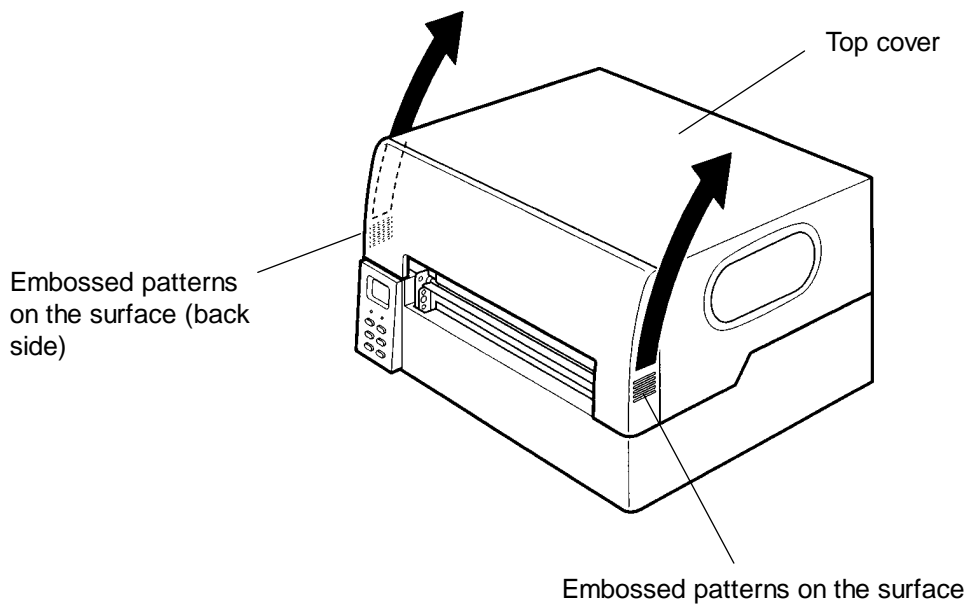
## Names and Functions of Printer Parts

This chapter describes the names and functions of each part of the printer.

### 3.1 Printer main body

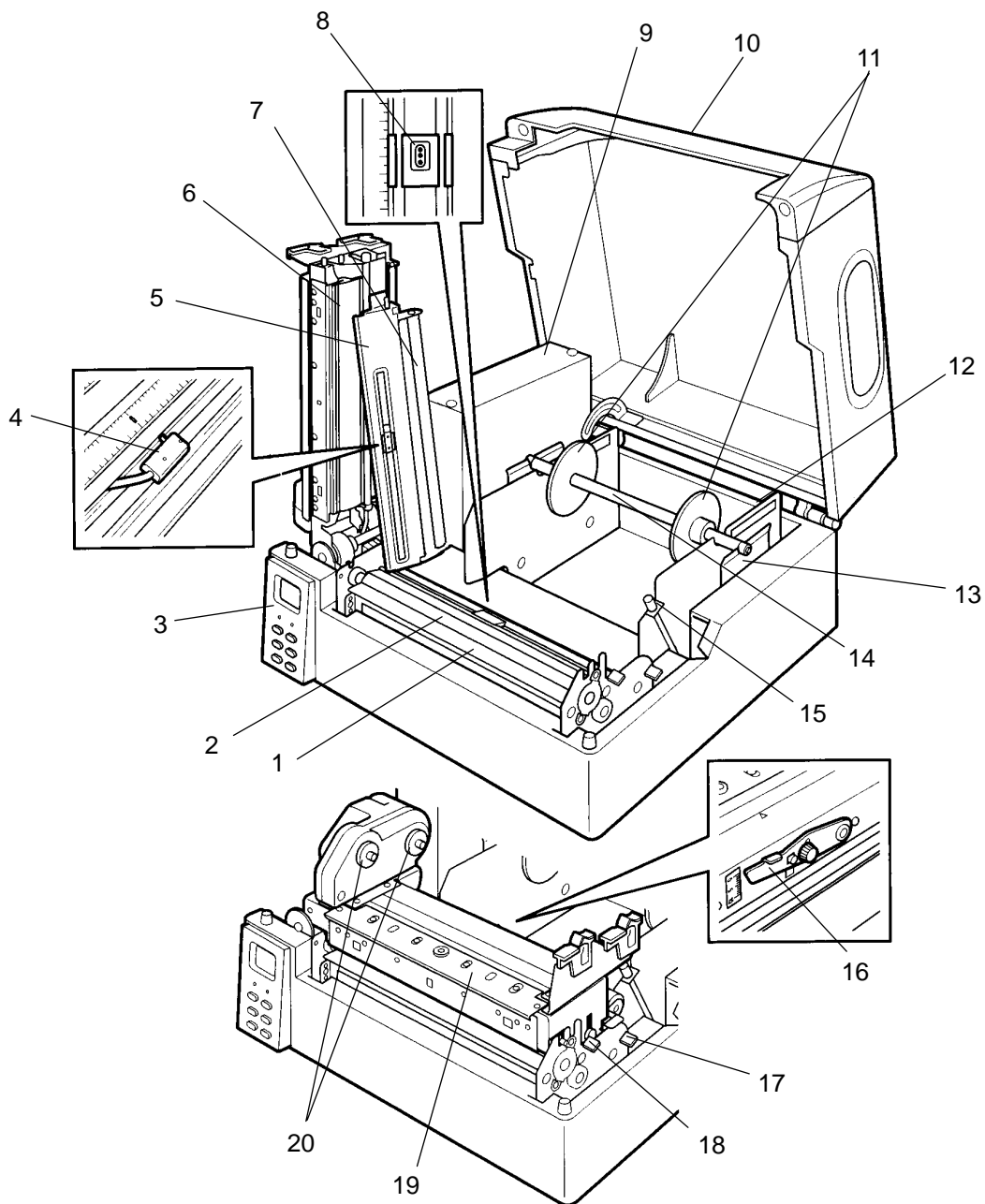
#### 1. Top cover

The top cover is an upper part of the whole cabinet of the printer. To open it, catch holds (embossed patterns on the surface) on both sides of the top cover with your fingers and open it all the way until it stops at hinges. To close it, just return slowly to the original position.

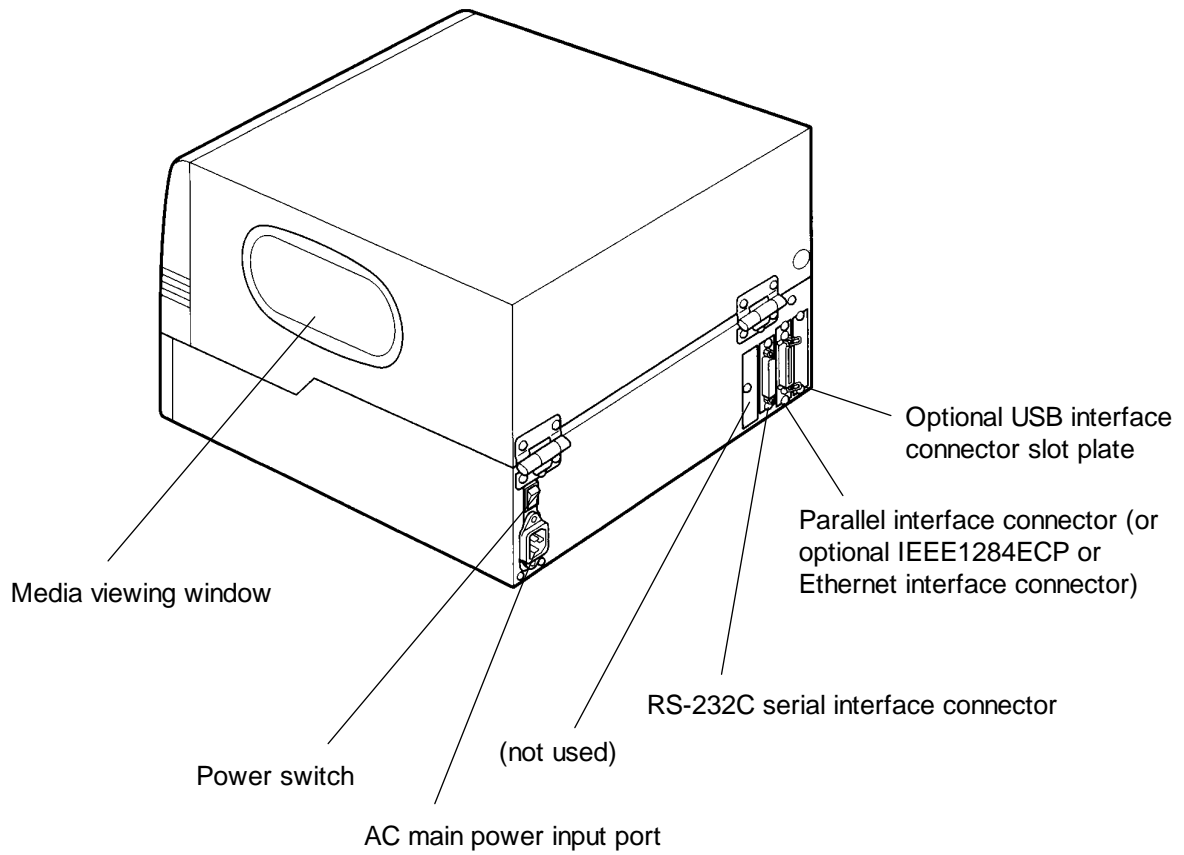


**2. Printer inside**

- |  |   |
|--|---|
| 1 Tear bar                                     | 11 Paper holder disk                      |
| 2 Platen                                       | 12 Paper guide (on both sides)            |
| 3 Control panel                                | 13 Paper holder supporting plate          |
| 4 Transparent sensor                           | 14 Paper holder shaft                     |
| 5 Transparent sensor guide                     | 15 Paper guide lock screw                 |
| 6 Printhead                                    | 16 Printhead adjustment lever             |
| 7 Paper guide roller                           | 17 Transparent sensor guide release lever |
| 8 Reflective sensor and light-emitting devices | 18 Printhead release lever                |
| 9 Interface box                                | 19 Ribbon guide plate                     |
| 10 Top cover                                   | 20 Ribbon bobbin holder                   |

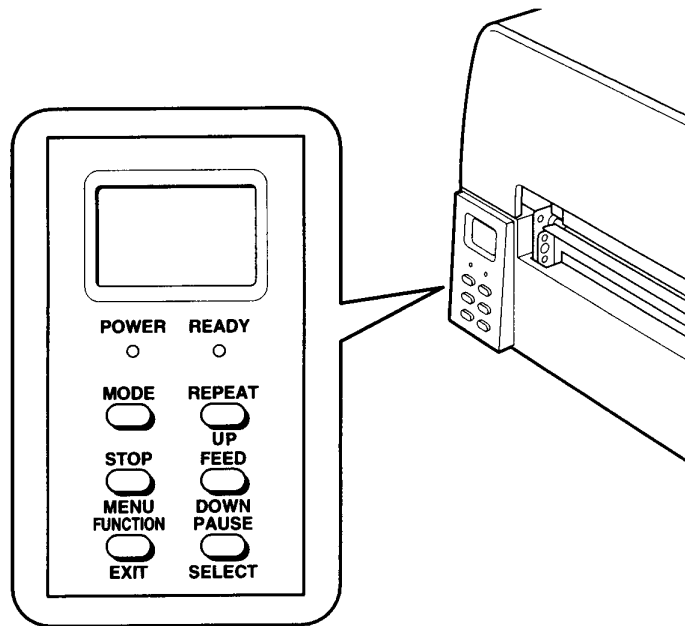


### 3. Rear and side of printer



## 3.2 Control panel

The control panel consists of an LCD displaying two lines of eight characters, two LEDs and six control keys. **Two functions** are assigned to **each key** except the MODE key.



### ● Indications

#### LCD (Display)

Shows the current printer status by a message on the display.

#### POWER LED

Lights up when the printer power is turned on.

#### READY LED

- Lights up when the printer is placed into the print ready state.  
When the PAUSE key is pressed, the READY LED goes out and "Pause" is shown on the LCD (Display). By pressing the PAUSE key again, the READY LED lights up.

## ● Control keys

On the control panel legend, in Ready mode, the text written ABOVE each key shows the key's function. In Menu mode, the text written BELOW each key shows the key's function.

### MODE key

When the MODE key is pressed, the printer is placed into the Ready mode. When the MODE key is pressed again, the printer is placed into the Menu mode. Each time the MODE key is pressed, the printer toggles between the **Ready mode** and **Menu mode**. (See P35)

## ■ Key functions in the Ready mode

### STOP key

- Shows "JobClear" on the LCD (Display) if data is stored in print buffer.
- Completes printing midway through the print job or data processing and shows "JobClear Yes/No" on the LCD (Display).
- Pressing STOP again changes the selection of "Yes/No" under the display of "Job Clear".

### FEED key

- Feeds one sheet of label when this key is pressed after TOF (top-of-form) positioning has been performed.
- Performs TOF (top-of-form) positioning if the printer is part way through a label or page.  
Note: Sometimes the media may be set at irregular position when it is being loaded or the power to the printer is turned on. If this occurs, press the FEED key to advance the media to the top of the next label or page.

### PAUSE key

- Completes current page printing midway through the print job and places the printer into paused status. To resume printing, press the PAUSE key again.
- Places the printer into paused state if it is waiting to receive data from the host computer.

### FUNCTION key

This is a reserved key; no operation is performed.

### REPEAT key

- Reprints one job of the last printed label each time this key is pressed if the last print data is stored in print buffer and is not printed yet.
- Performs no operation if no print data is stored in print buffer or printer is in printing state.

**MODE key**

Printer enters the Menu mode, and the '\* Page Setup' menu is shown on the LCD (Display).

■ **Key functions in the Menu mode**

**MENU key**

Selects the next Group Menu or Menu Item. (See P35-37)

**UP key**

- Selects the next Group Menu or Menu Item. (See P35-37)
- Selects the next Value of the Menu Item. (See P35-37)

**DOWN key**

- Selects the previous Group Menu or Menu Item. (See P35-37)
- Selects the previous Value of the Menu Item. (See P35-37)

**SELECT key**

- Enters the Menu Item from the Group Menu. (See P35-37)
- Enters or exits the Value from the Menu Item. (See P35-37)
- Executes current setting of the Value, for example, "Printing Sample" in Test mode.  
(See P39)

**EXIT key**

Return to the Menu Item or Group Menu. (See P35-37)

**MODE key**

Return to the Ready mode and the 'READY' is shown on the LCD (Display). (See P35, 36)

# Chapter 4

## Media (Paper) and Ribbon

This chapter describes all of the types of media available for this printer and how to load the media and ribbon. Unless otherwise specified, the term 'media,' 'paper,' 'page,' 'labels,' or 'tags' is referring to any media that is being printed using the printer.

### 4.1 Types of media

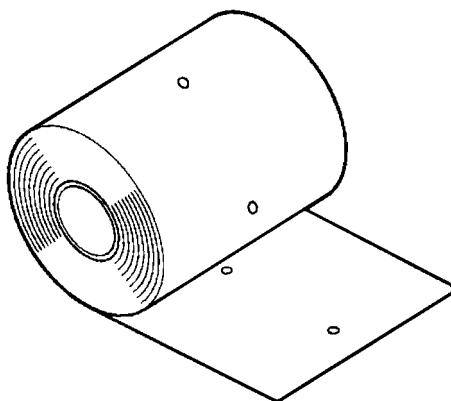
We recommend that you should use a genuine Citizen media (paper) or its equivalent.

Types of media available for this printer:

- Center-punched hole tag
- Black mark tag
- Corner-with-a-radius cut tag
- Labels with inter-label gap
- Black mark label

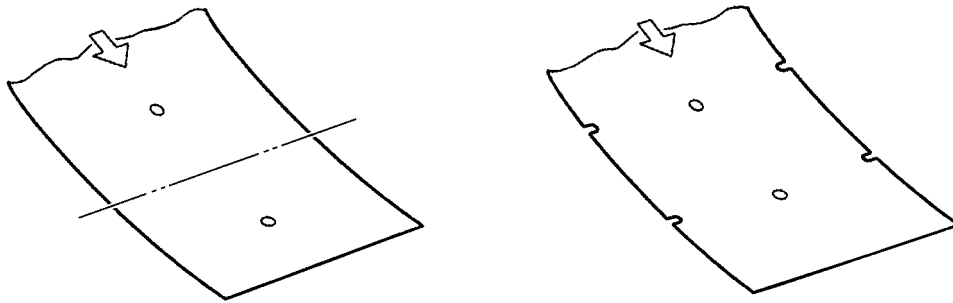
#### ● Tag

Media without adhesive material on the back are referred to as tags, which are often used by cutting pieces. The holes are usually arranged on the cut-off line.



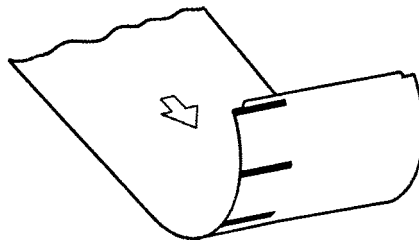
◆ **Center-punched hole tag**

Holes (2.5mm diameter) are perforated lengthwise along the central line of the tag.



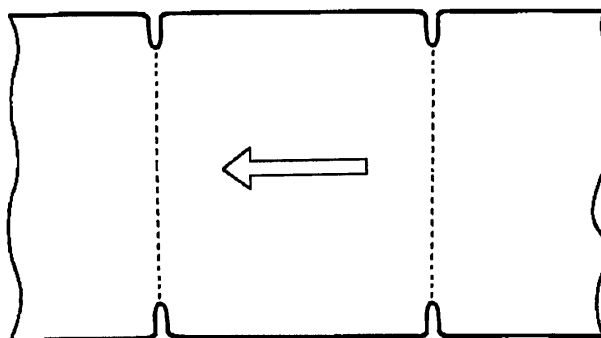
◆ **Black mark tag**

Black marks are printed on the back of the tag at the center or on the right side in the direction of feed.



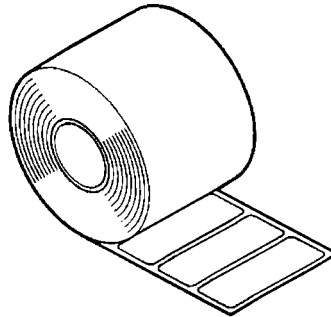
◆ **Corner-with-a-radius cut tag**

The cuts on the edge of this tag are deeper than the cuts on center-hole tag.

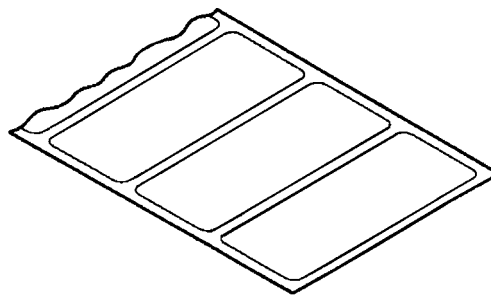


## ● Label

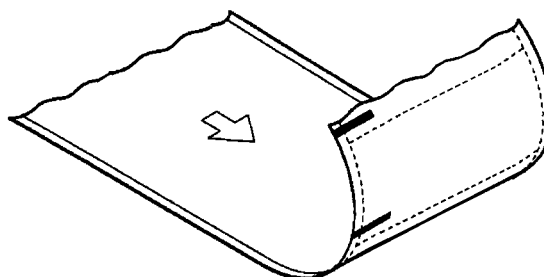
Media with adhesive material on the back are referred to as labels. Labels are peeled off the liner piece by piece and stuck to a product or item.



- ◆ Labels with inter-label gap  
There are gaps between labels.



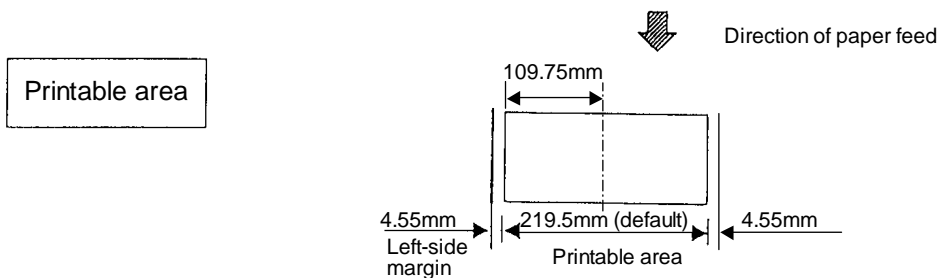
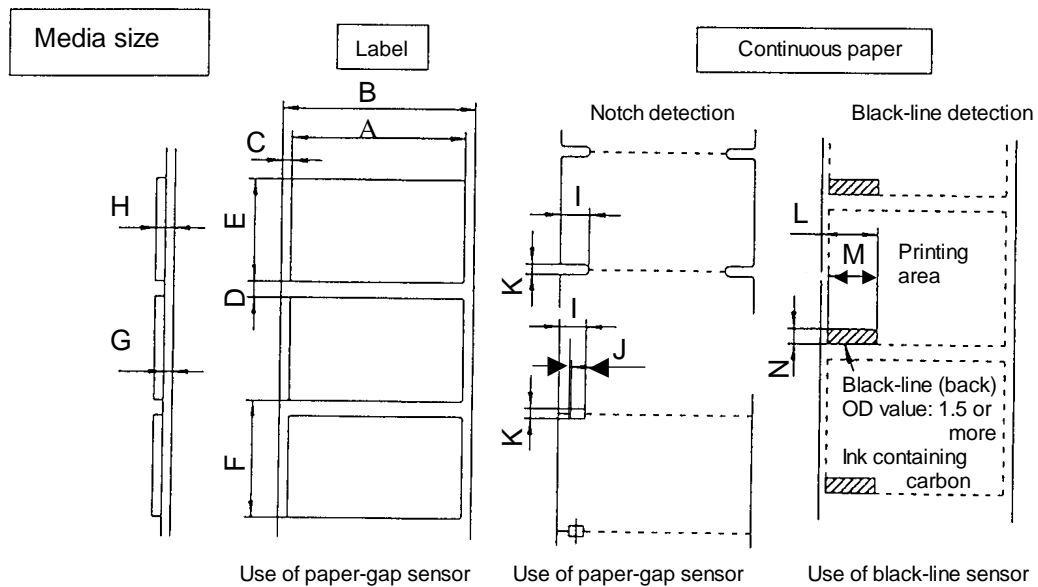
- ◆ **Black mark label**  
Black marks are printed on the back of the label line on the central line or right side in the direction of feed.



## 4.2 Media size

		Minimum value mm (in)	Maximum value mm (in)
A	Label width	76.2 (3)	228.6 (9)
B	Liner width	76.2 (3)	228.6 (9)
C	Label left edge position	0	2.54 (0.10)
D	Gap between labels	2 (0.079)	508 (20)
E	Label length	12.7 (0.5)*	508 (20)
F	Label pitch	12.7 (0.5)	508 (20)
G	Liner thickness	0.06 (0.0024)	0.089 (0.0035)
H	Paper total thickness	0.14 (0.0055)	0.254 (0.01)
I	Notch right end position	3.75 (0.148)	140 (5.51)
J	Notch length	3.75 (0.148)	—
K	Notch width	2 (0.079)	3 (0.118)
L	Black mark right end position	6 (0.236)	140 (5.51)
M	Black mark length	6 (0.236)	—
N	Black mark width	3 (0.118)	4 (0.157)

- Note**
- If media has both gap and black mark, use the transparent sensor.
  - For fanfold, use the transparent sensor.

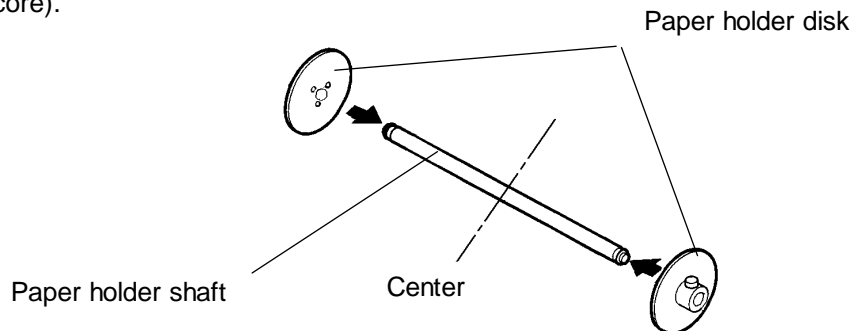


## 4.3 Loading media (paper)

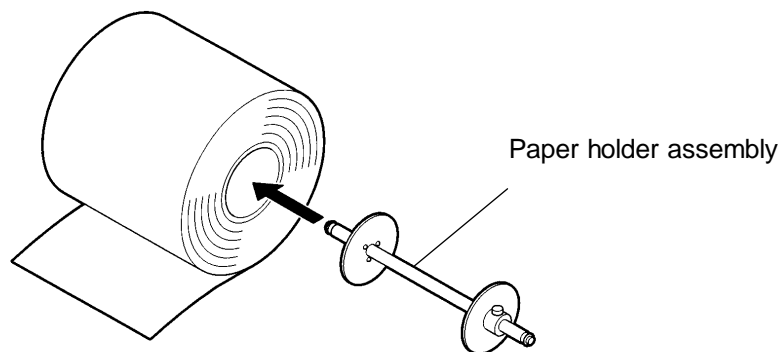
This printer is designed to align the center of the media (paper) with the center of the printhead, regardless of media (paper) width. Refer to the scale on the paper guide plate (see P30) for aligning media (paper) or ribbon. And for reference, the center of the gear of the paper guide drive mechanism, which is located on the bottom of the printer main body, is the center of the media (paper).

### Roll media

- 1 Put both paper holder disks on the paper holder shaft to make a paper holder assembly. At this time, adjust both disks according to the width of the roll media so that they can be same in length from the center of the paper holder shaft and inside the media core (they are not protruded from the media core).

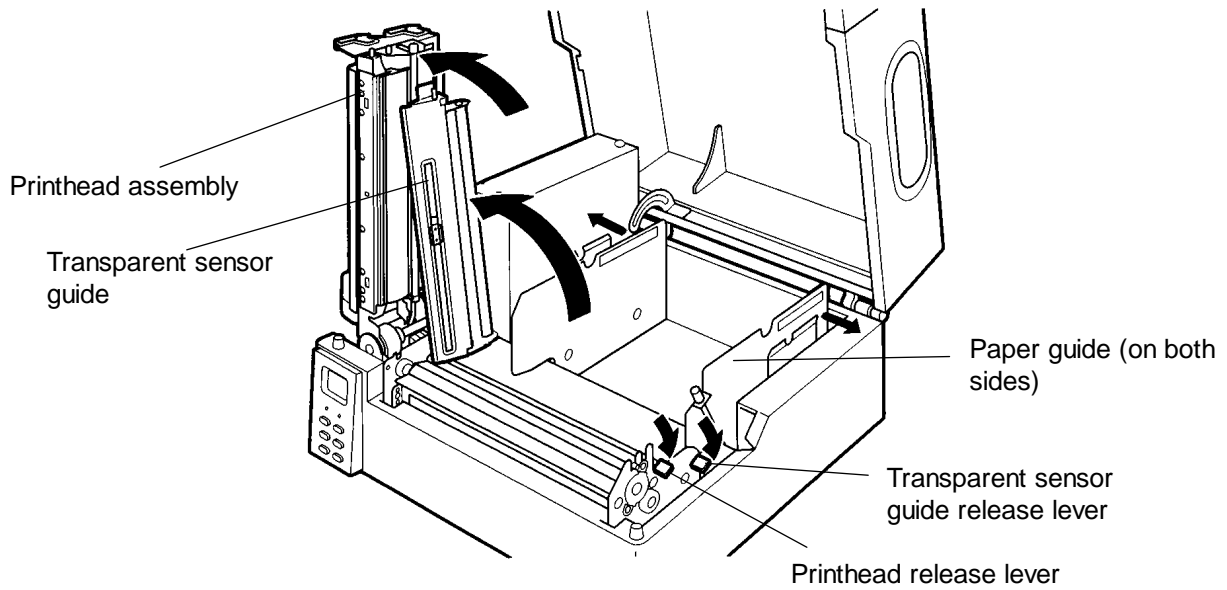


- 2 Insert the paper holder assembly into the media core



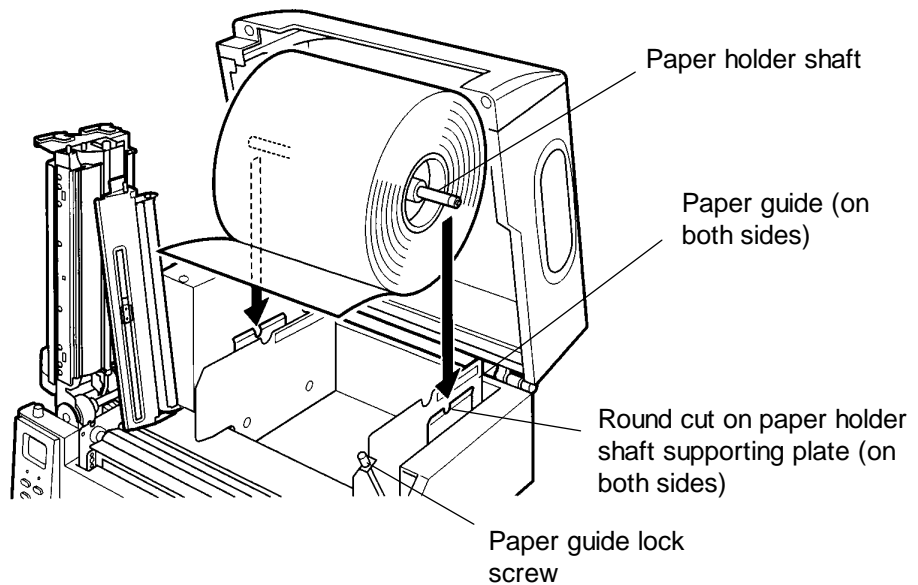
- 3 Perform the following sequence:
  - (1) Open the top cover all the way until it stops at hinges.
  - (2) Unlock the printhead assembly by pushing the lock lever and raise it until it stops and stands upright and at the same time unlock the transparent sensor guide by pushing the lock lever and raise it until it stops.

- (3) Make the maximum media loading space by moving both-side paper guides fully to their end.

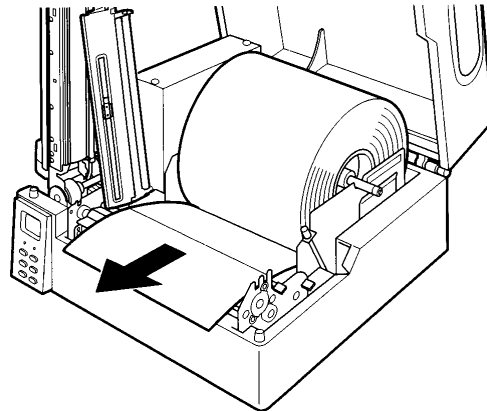


4 Install the inward-wound roll media as follows:

- (1) Place the paper holder shaft onto the round cuts on the paper guides and paper holder shaft supporting plates.
- (2) Move both paper guides by both hands so that they come into contact with the edges of the roll media (no clearance is made between paper guide and media).
- (3) Lock the paper guides with the paper guide lock screw turned clockwise.

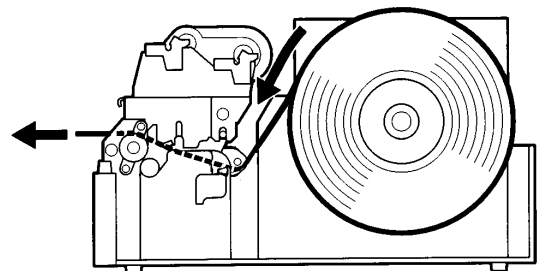
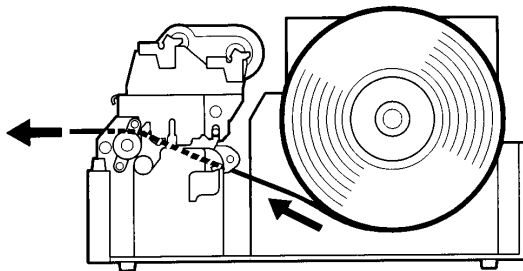


- 5 Route the roll media over the platen out to the front of the printer.



Path of inward-wound roll media

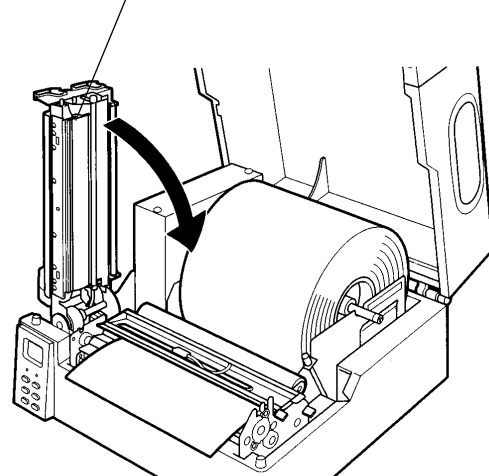
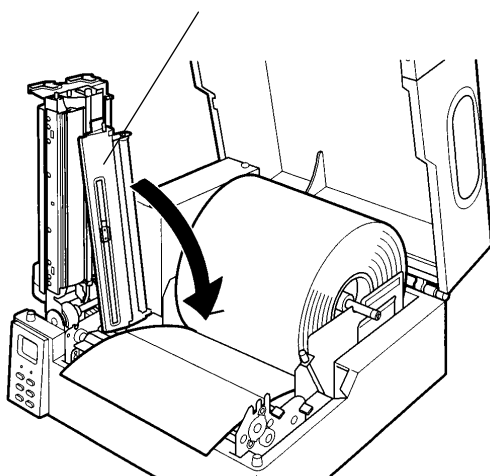
Path of outward-wound roll media



- 6 First lower the transparent sensor guide fully to the end and push it to lock, then lower the printhead assembly fully to the end and push it to lock.

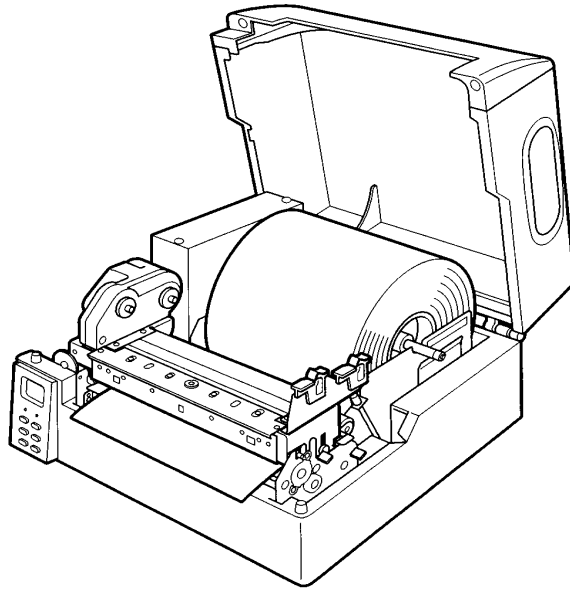
Transparent sensor guide

Printhead assembly



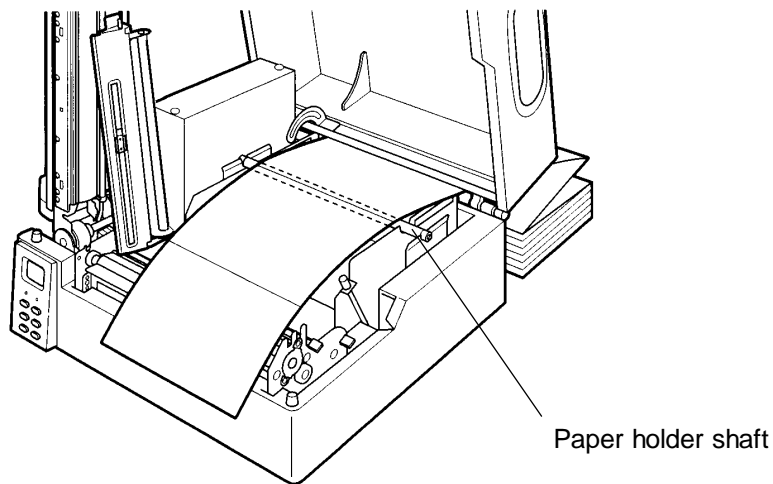
Note: For media sensor adjustments, see P29. For loading ribbon, see P23.

- 7 The roll media is now loaded. Lastly close the top cover.



### Fanfold media

- 1 Remove ribbon holder disks (two) from the ribbon holder assembly. Place the paper holder shaft onto the round cuts on the paper guides and paper holder shaft supporting plates on both sides.
- 2 Place the fanfold media on firm, level surface in the back of the printer and route it through the opening between top and lower bottom covers on the back of the printer, over the paper holder shaft and platen out to the top of the printer. Other loading procedures are same as for roll media (see P19-22).

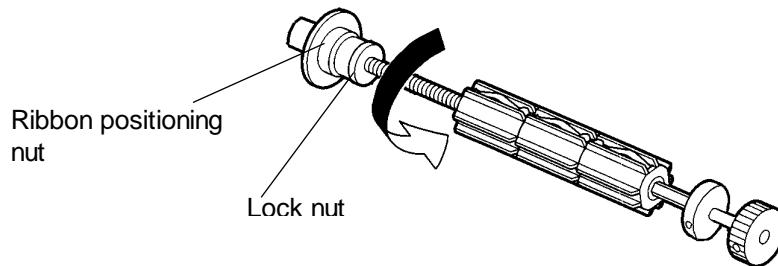


## 4.4 Loading ribbon

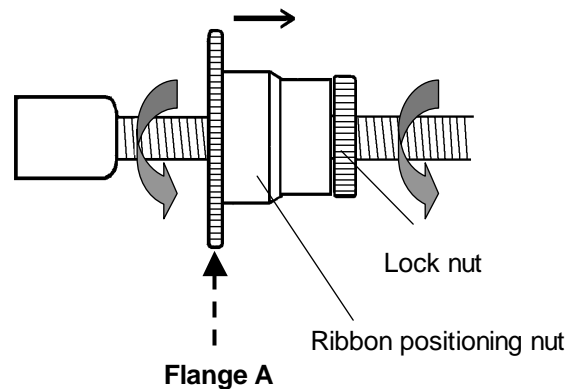
We recommend that you should use a genuine Citizen ribbon or its equivalent.

This printer is designed to align the center of the media (paper) with the center of the printhead, regardless of media width. Refer to the scale on the tear bar for aligning media (paper) or ribbon on page. And for reference, the center of the gear of the paper guide drive mechanism, which is located on the bottom of the printer main body, is the center of the media.

- 1 To align the ribbon with the media (paper) being used, adjust the ribbon positioning nut as follows:
  - 1) Turn a little counterclockwise the lock nut of the ribbon bobbin to release the lock.

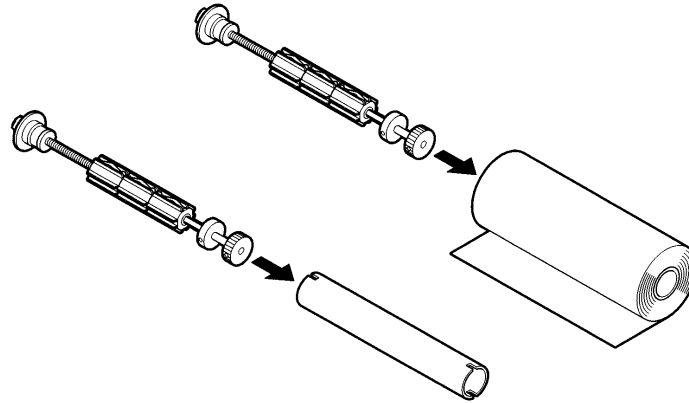


- 2) First turn counterclockwise the lock nut, then turn counterclockwise the ribbon positioning nut to move the flange A towards the center of the ribbon bobbin and to align it with the edge of the media being loaded.



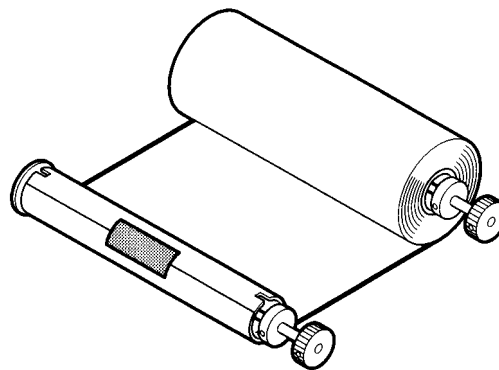
- 3) Check to see that the ribbon is positioned properly, and fix the ribbon positioning nut by turning the lock nut clockwise.

- Two ribbon bobbins are used for loading ribbon; one is inserted in the source (unused) ribbon core and the other is inserted in the destination ribbon core. And wind ribbons two or three times around the destination ribbon core by hand.



**NOTE**

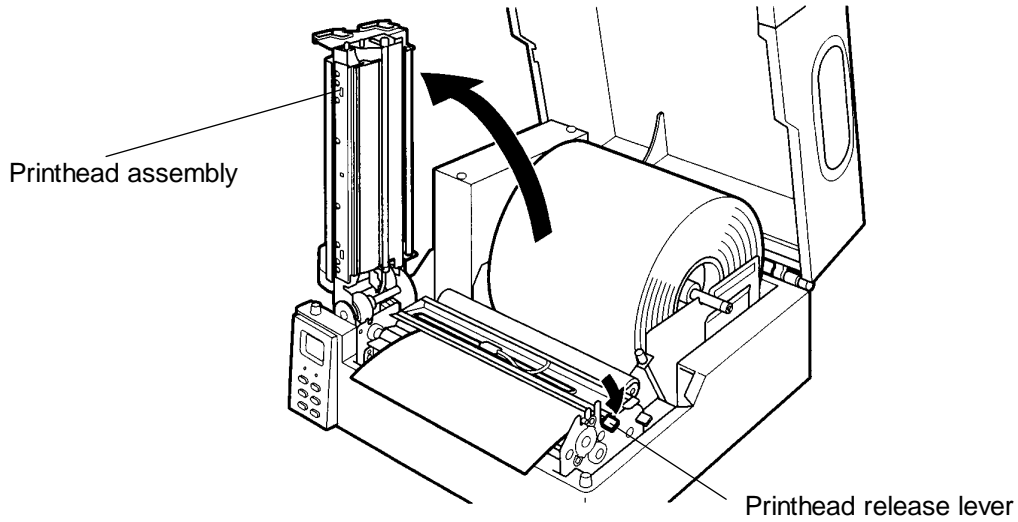
The following procedure may help you load the ribbon more easily. First insert the bobbins into the source and destination ribbon cores, affix the adhesive tape at the end of the ribbon and then wind the ribbon around the bobbin until the tape is hidden. Finally, set the ribbon by passing it through the lower side of the printhead assembly.



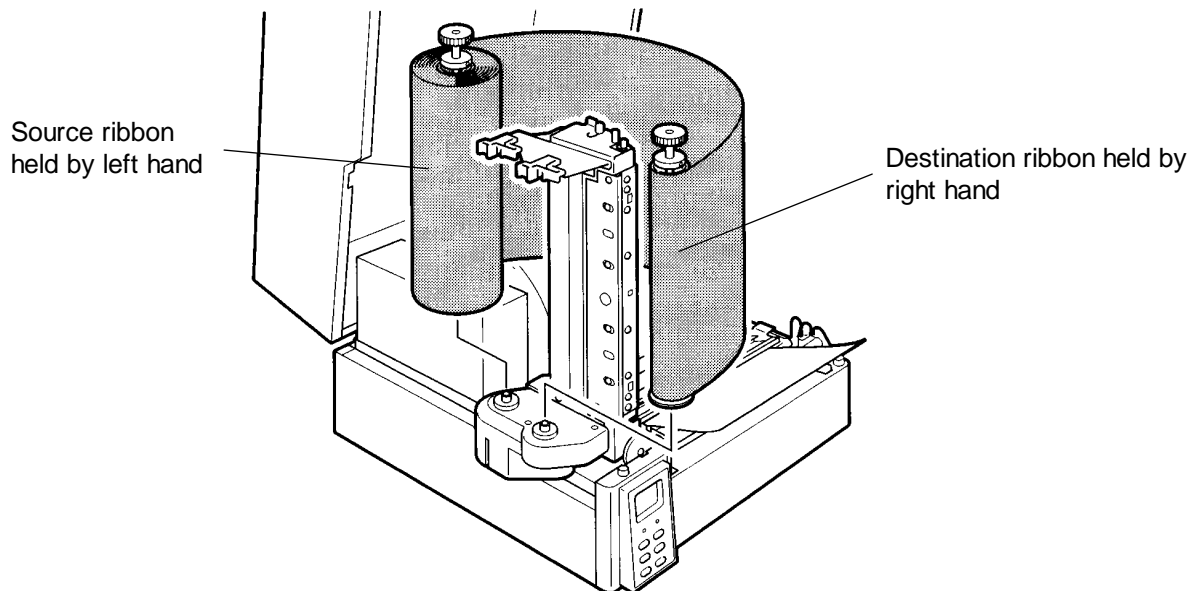
**CAUTION**

Be sure to wind the ribbon sufficiently over the adhesive clear tape fastened to the end of the ribbon.

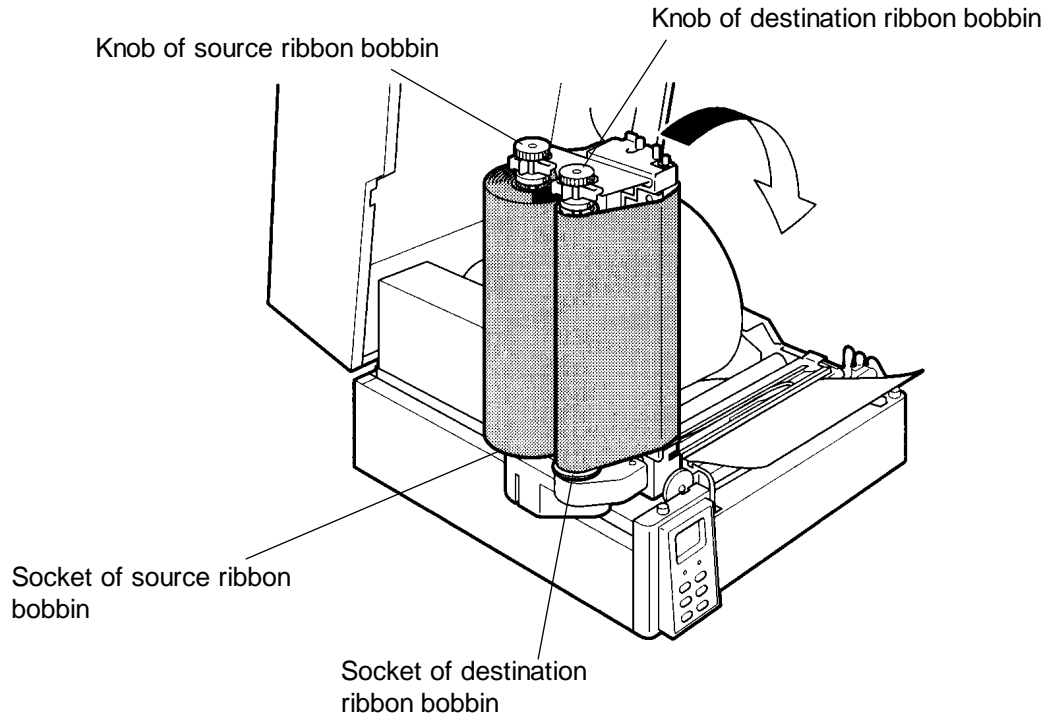
- 3 Perform the following sequence; open the top cover all the way until it stops at hinges, and unlock the printhead assembly by pushing the printhead release lever and raise it until it stops and stands upright.



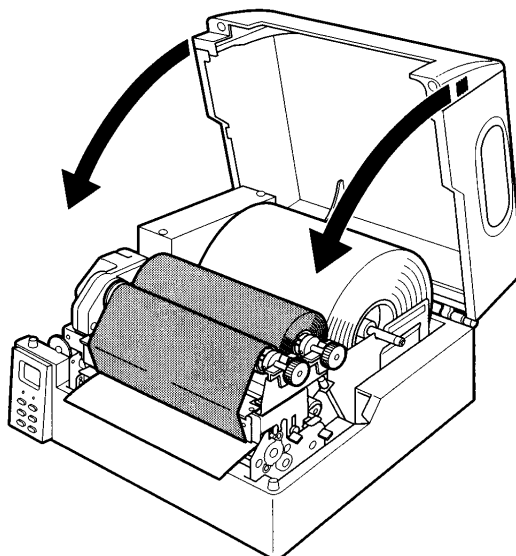
- 4 Hold by both hands the ribbon with a length of about 300 mm (1 ft) unwound between bobbins; the left hand grips the source ribbon and the right hand grips the destination ribbon.



- 5 Temporarily winding the ribbon with a length of about 300 mm (1 ft) unwound between bobbins around the lower, bottom side of the printhead assembly, first fit both sockets of the destination and source ribbon bobbins, then click into place both knobs of the destination and source ribbon bobbins.

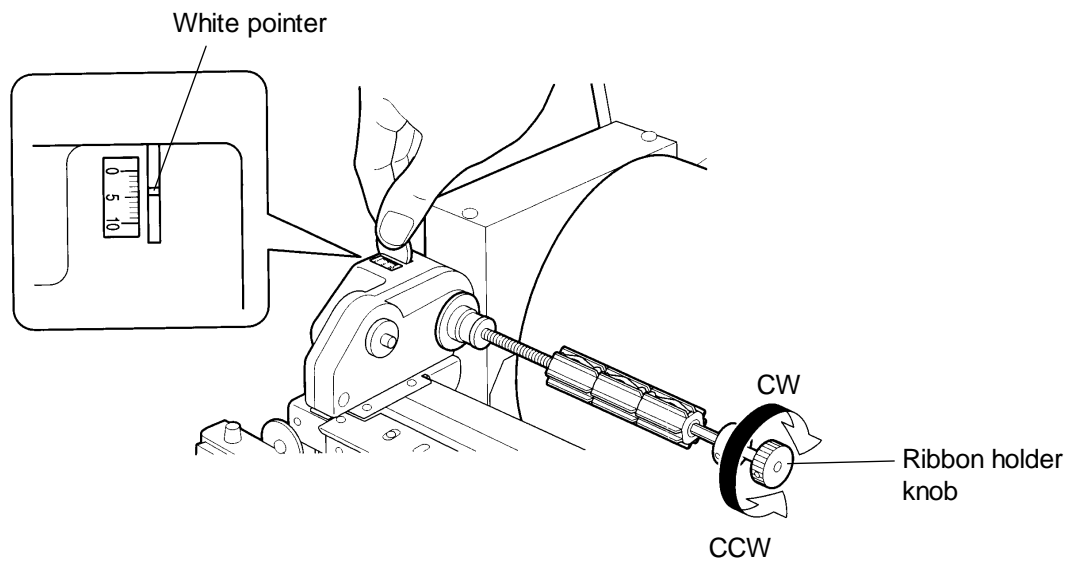


- 6 Remove any slackness and wrinkling of ribbon by turning the knob of the destination ribbon bobbin clockwise (and/or the knob of the source ribbon bobbin counterclockwise if necessary) and make sure that the ribbon is wound evenly between bobbins being installed.
- 7 Lower the printhead assembly with ribbon fully to the end and push it to lock. The ribbon is now loaded. Lastly close the top cover.



## Ribbon tension adjustments

The ribbon tension should be adjusted as needed according to the media (paper) width to prevent ribbon from slackening or wrinkling. To increase tension torque, turn the source ribbon bobbin (the deeper side viewed from the front of the printer) knob clockwise until the required number is obtained from the scale, while stopping the gear with a coin inserted in the slit on the ribbon bobbin support and held down. Generally, the wider the ribbon is, the larger the ribbon tension is. Always maintain a constant tension of the source ribbon bobbin.



Scale	Ribbon width	Knob turning direction
— 0	4 in	CCW
— 5	↕	↕
— 10	8 in	CW

## Ribbon torque adjustments

After the ribbon tension has been adjusted, set the ribbon winding torque from the control panel that is briefly set as follows:

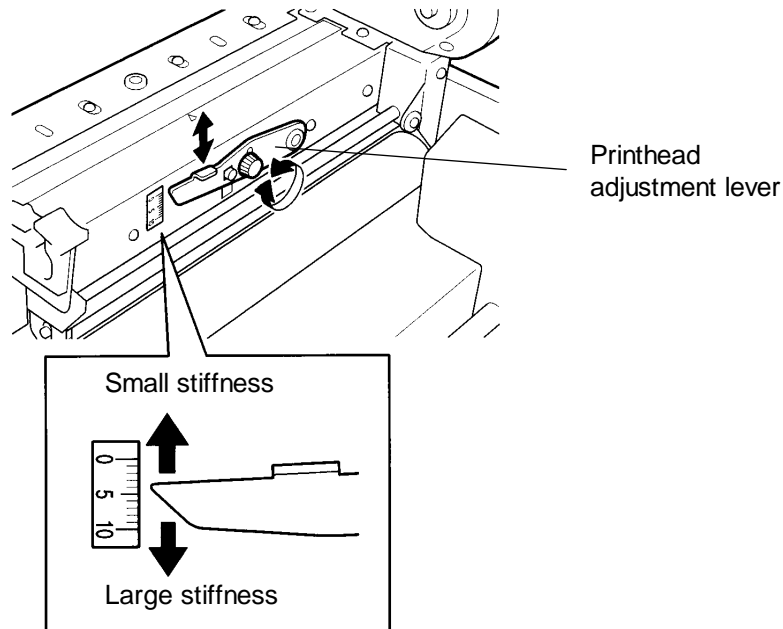
Ri bbon  
Torque

From the menu system, select the “\*Page Setup” of the Group Menu. Choose the “Ribbon Torque” from the list of menu items and select the required value from the possible values. To save the settings permanently after power off (if required) use the “Save Settings” of the Group Menu. (See P42)

## 4.5 Printhead adjustments

The printhead adjustments should be made according to the type of media (paper), using a printhead adjustment lever located on the back of the printhead assembly.

Generally, for the media with medium stiffness like labels, position the printhead adjustment lever to the middle of the range to put the printhead in middle position, and for the media with large stiffness like tags, lower the adjustment lever to the lower level to put the printhead in forward position, and for the media with small stiffness, raise the adjustment lever to the upper level to put the printhead in backward position so that an even, constant print quality can be obtained.



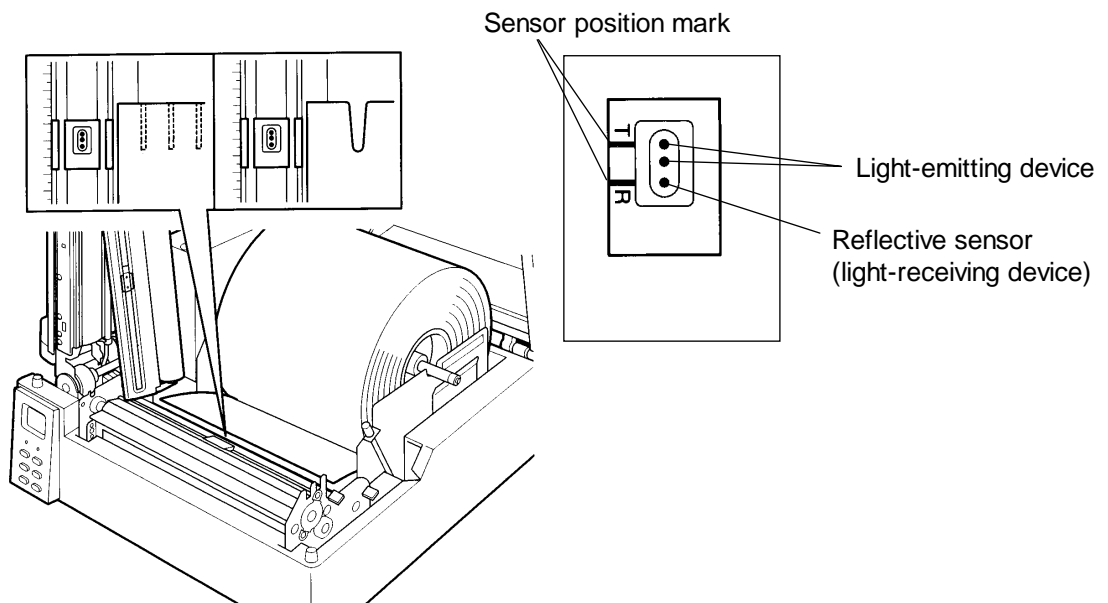
Scale	Tag	Label
— 0		↕
— 5	↕	↕
— 10		

## 4.6 Media sensor adjustments

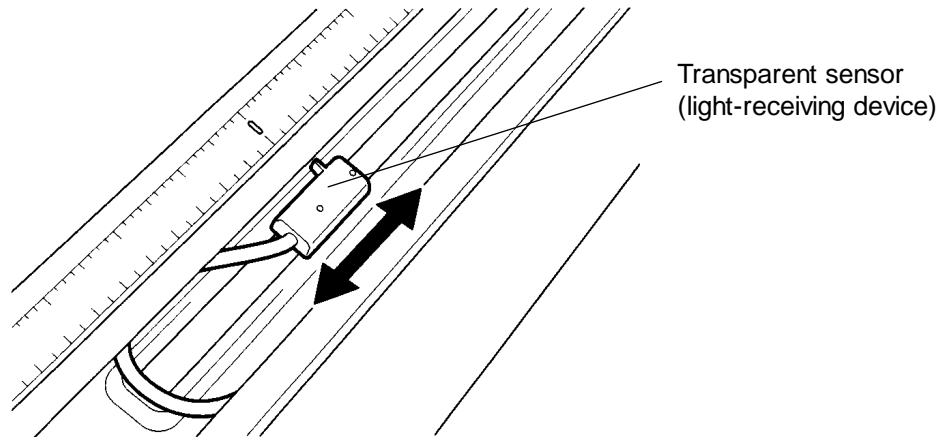
Laterally adjustable upper and lower media sensors are equipped; the upper media sensor, i.e. the transparent sensor (light-receiving device) detects the presence of gaps between labels, center-punched holes or corner-with-a-radius cuts on the tags, and the lower media sensors, i.e. one reflective sensor (light-receiving device) detects the presence of black marks on the labels or tags and other two light-emitting devices work for all light-receiving devices. Therefore, both upper and lower media sensors are used to detect gaps, holes or cuts on the media while the lower media sensor only is used to detect black marks on the media (no upper media sensor is used).

Adjust sensors as follows:

- 1 Perform the following sequence; open the top cover all the way until it stops at hinges, unlock the printhead assembly by pushing the printhead release lever and open it towards the left side of the printer all the way until it stops and stands upright and at the same time unlock the transparent sensor guide by pushing the transparent sensor guide release lever and open it towards the left side of the printer all the way until it stops.
- 2 When the media being used is a black mark tag or label, adjust the lower reflective sensor only (align the R mark) to the black marks on the tag or label. Then lower the transparent sensor guide fully to the end and push it to lock and route the media over the platen out to the front of the printer.



- 3 When the media being used is a center-punched hole or corner-with-a-radius cut tag, first align the T mark (in proximity to two light-emitting devices) with the holes or cuts on the tag (at this time, read the scale), then lower the transparent sensor guide fully to the end and push it to lock and move the transparent sensor to the scale same as read before.



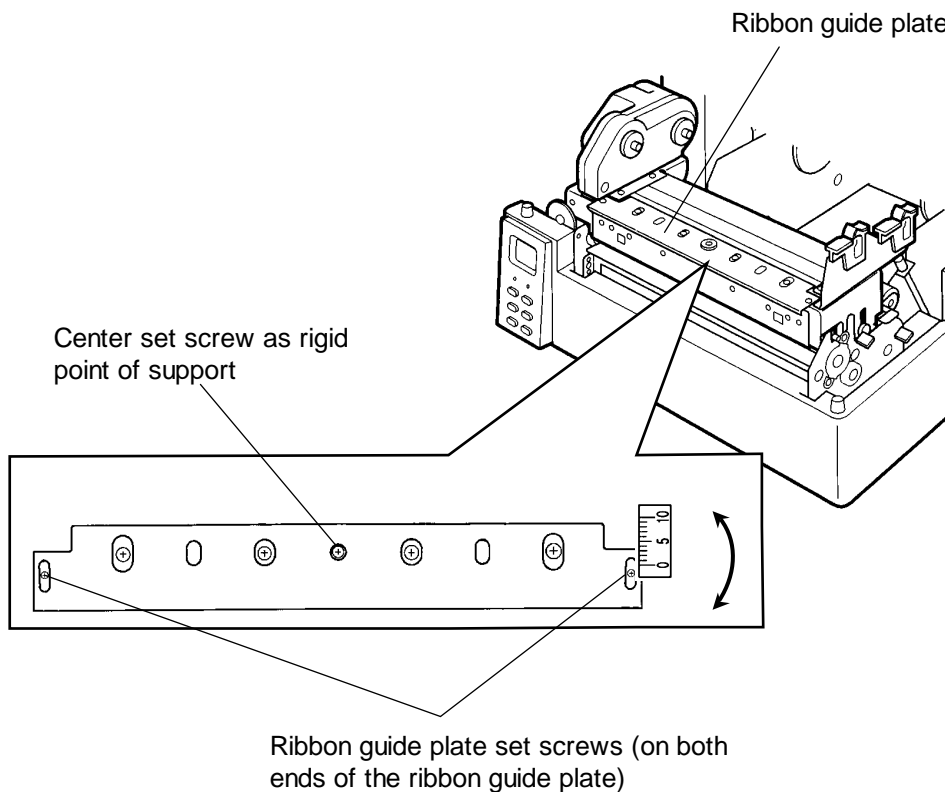
- 4 The media sensor adjustments are now completed. Lastly return the printhead assembly and top cover to their original position.

## 4.7 Ribbon guide plate adjustments

The ribbon guide plate may need adjusting to remove wrinkles on the ribbon.

Adjust ribbon guide plate as follows:

- 1 Open the top cover all the way until it stops at hinges and unlock the printhead assembly by pushing the printhead release lever and open it towards the left side of the printer all the way until it stops and stands upright.
- 2 Detach the ribbon bobbins from the ribbon bobbin holders.
- 3 Loosen ribbon guide plate set screws on both ends of the ribbon guide plate but never loosen screws other than those.
- 4 If the ribbon wrinkles on the right side of the ribbon guide plate, for example, move the right end of the ribbon guide plate towards you — the plate can turn on the center set screw as the rigid point of support. Refer to the scale on the right upper of the ribbon guide plate for the amount of movement.
- 5 Check to see that wrinkles on the ribbon are removed, and tighten the guide plate set screws on both ends.





# Chapter 5

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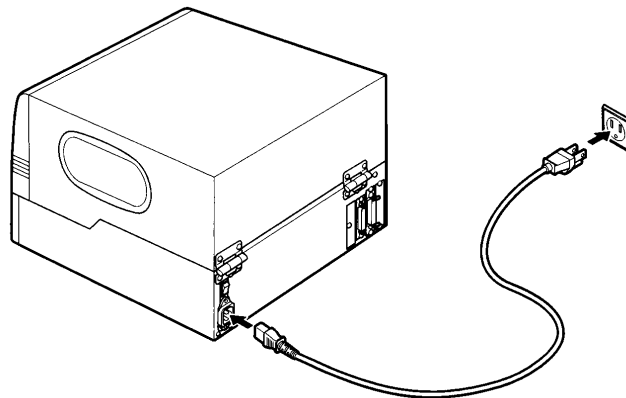
## Power ON and Using the Control Panel

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After loading the media and ribbon, connect the power cord and turn your printer on.

### 5.1 Connecting to a power outlet

First plug the power cord into the AC power input on the back of the printer, then plug the other end of the power cord into the AC power outlet.



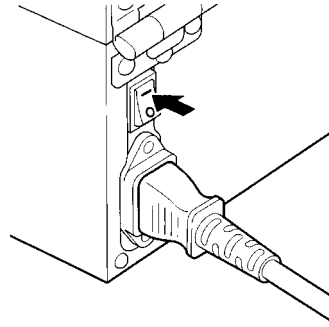
**CAUTION**

The specifications of the power cord may vary, depending on the rules of the destination.

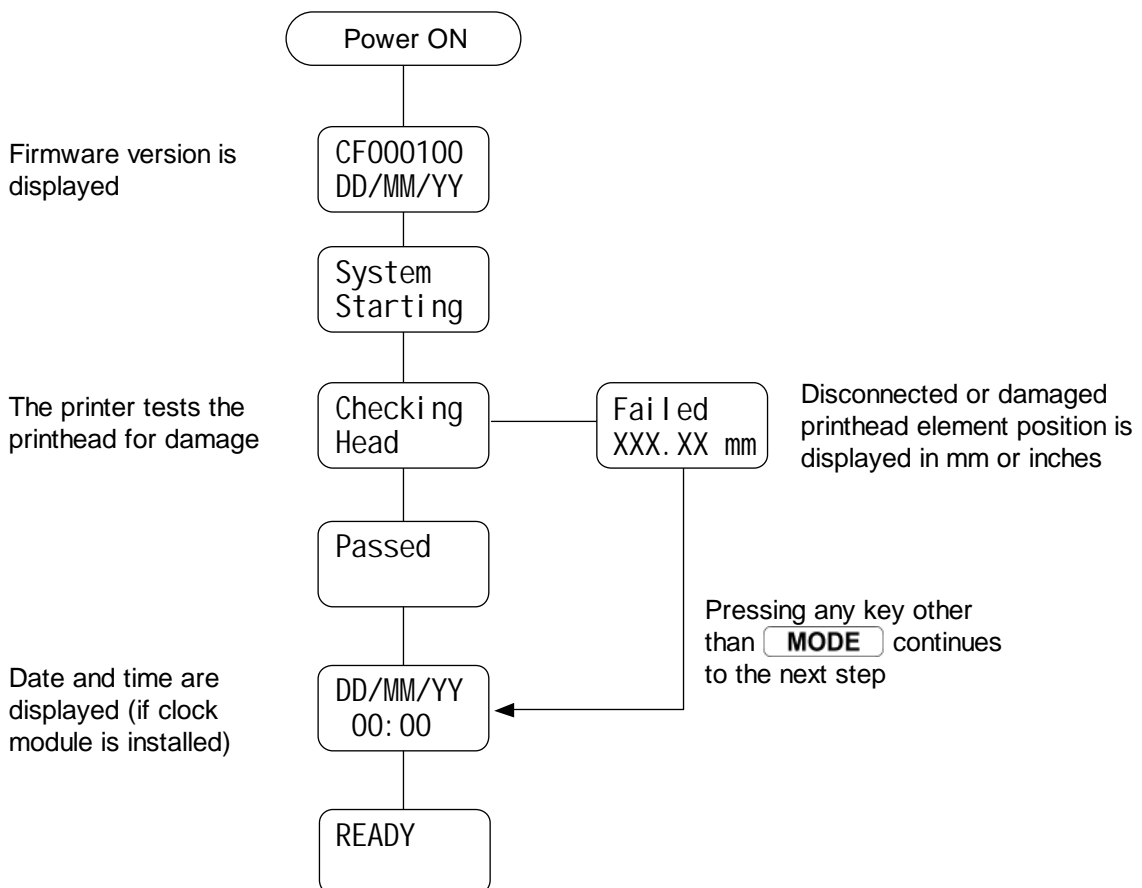
## 5.2 Turning the printer ON

Turn ON the power switch.

- Press “I” for ON.
- Press “O” to turn off the printer.

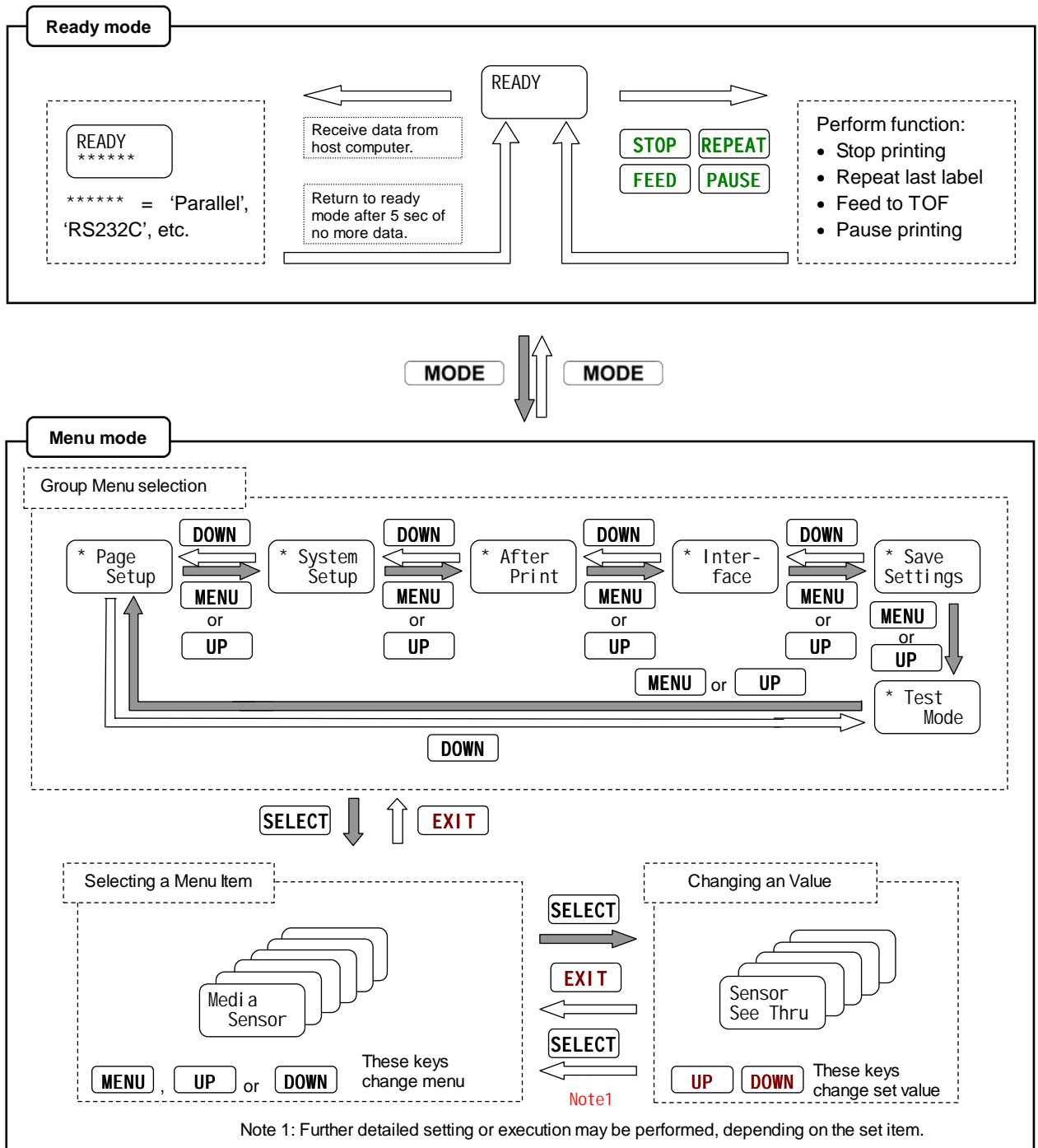


Once the power is turned ON, the following initial messages are displayed on the screen for about three seconds.



## 5.3 Ready Mode and Menu Mode

This section describes the operation flow of the **Ready mode** and **Menu mode**. This printer can be easily operated using the six keys on the control panel.



### Ready mode

READY

The printer is in Ready mode after power is switched on and the self-test is performed. The LCD (Display) shows “READY” and the READY LED is lit. In this state, you can perform the media feed, printing stop/restart etc using the keys on the control panel. (See P12)

READY Parallel

The display shows the name of the receiving interface when data is received from the host computer. In this state, the printer receives and processes the information accordingly.

READY RS-232C

If no data is received for 5 seconds, the printer returns to Ready mode with no interface selected and continues to scan all installed interfaces for incoming data.

### Menu mode

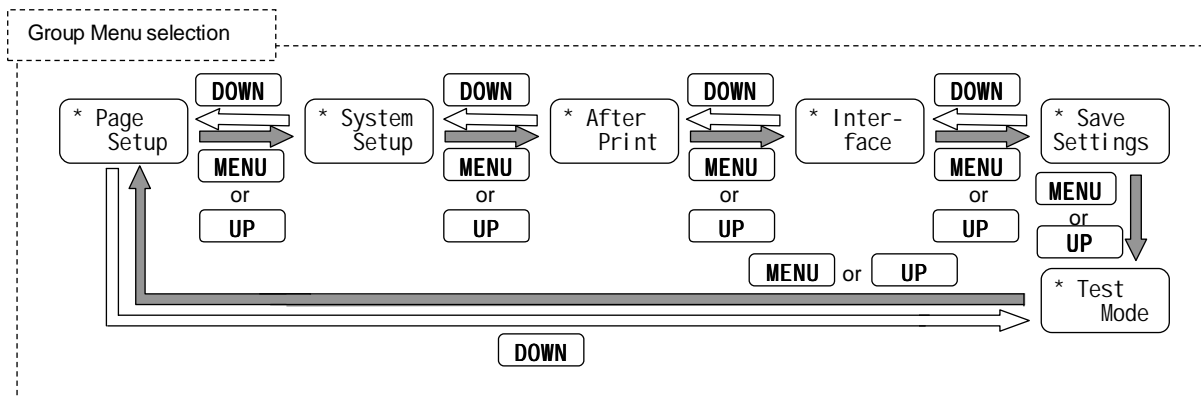
\* Page Setup

The printer enters the Menu mode when the **MODE** key is pressed. In this state, you can access the menu system and set the printer configuration and print attributes using the keys on the control panel. Pressing **MODE** again returns to Ready mode.

## 5.4 Navigating the Menu System

The printer uses the same operating procedure to set various print attributes and configuration settings. This section describes the relationship between the different menu levels as well as the functions of the **MENU**, **UP**, **DOWN**, **SELECT** and **EXIT** keys on the control panel.

The **Group Menu** is the highest level of the menu tree and consists of six options as shown in the diagram below. Beneath each **Group Menu** are a number of **Menu Items** from which a desired **Value** can be selected, increased or decreased.



Pressing the **MENU** key moves to the next **Group Menu** available. Pressing the **SELECT** key displays the first **Menu Item** within a Group Menu group. Pressing the **EXIT** key returns to the **Group Menu** selection.

## 5.5 Changing Menu Values

With a **Menu Item** displayed on the LCD (such as Print Speed, Darkness or Baud Rate), pressing the **SELECT** key allows you to adjust or select the **Value** of the **Menu Item**.

The **UP** and **DOWN** keys are used to increase or decrease a Value, such as the print speed or printing position. If the **Menu Item** is an option that has a fixed set of values, such as the type of media used, then pressing the **UP** and **DOWN** keys will cycle through the values in turn.

The action of the **SELECT** key while you are changing a **Value** depends on the particular **Menu Item**:

- If the **Menu Item** is a **Value** pressing the **SELECT** or **EXIT** key stores the value and returns to the previous Menu Item.
- If the Menu Item is an action, such as a test print or head check, pressing the **SELECT** key executes the action. Pressing the **EXIT** key returns to the previous Menu Item without executing the action.

### ● Example: changing the print density

The best way to learn how the menu system works is to go through an example. In the example given here, the print density is changed to 15. The print density has been factory-set to 10. Follow the procedure below to change this. For more about the print density, see Chapter 6.

Group Menu:      \*Page Setup  
 Menu Item:        Print Darkness  
 Value:            00 – 30 (Note: When language is DDP-N3, the maximum value is 20.)

Turn the power switch ON.

- The various system checks will be performed
- After the checks, the 'READY' display is shown on the LCD.

READY

Press **MODE** to bring up the first **Group Menu**.

- '\* Page Setup' will be displayed.

\* Page Setup

Show the Menu Items within the Page Setup menu.

- Press **SELECT** to bring up the first Menu Item of the Page Setup menu 'Printing Speed.'

Printing Speed

Select the Print Darkness Menu Item.

- Press **MENU** to bring up the Print Darkness function.

Print  
Darkness

Show the Print Darkness current value.

- Press **SELECT** to bring up the current Print Darkness value.

Darkness  
10

Change the setting to "15"

- Press and hold **UP** to increase the Value from "10" to "15"
- Press **SELECT** to save the new value and printer returns to the Menu Item.

Darkness  
15

When **EXIT** is pressed, the display goes back to '\* Page Setup.'

- Press the **MODE** key to return the printer to Ready Mode.

Ready

## 5.6 Permanently Saving Printer Settings

The menu and configuration settings will be lost when the power is switched off. However, to save them when the printer is switched off, you must use the 'Save Settings' function.

Press **MODE** to ensure you are in Menu Mode.

- Press **MENU** to select the '\* Save Settings' Group Menu.

\* Save  
Settings

Press **SELECT** to enter the Save Settings Menu.

- The display will show 'Save Yes/No.'

Save  
Yes/No

Press the **UP** or **DOWN** key to move the cursor under the 'Yes.'

- Press **SELECT** to save settings to the printer's memory.

Save  
Yes/No

Press **EXIT** once the settings have been saved.

- Press **MODE** to return to Ready Mode.

Settings  
Saved !

## 5.7 Producing a Test or Configuration Print

When the Test Mode is selected from the Group Menu, test and configuration prints, head element check and Hex Dump mode can be selected. The two test print patterns and two configuration printouts are available.

### ● Example: producing a test pattern print

Press the **MODE** key to display the **Group Menu** display.

\* Page  
Setup

Select the '\* Test Mode' menu from the Group Menu

- Press the **MENU** key to move the display to '\* Test Mode.'

\* Test  
Mode

Show the Menu Items within Test Mode menu

- Press **SELECT** to bring up the Test Mode Menu Items
- The display will show 'Print Pattern.'

Print  
Pattern

Show the values for the possible Test Patterns.

- Press **SELECT** to bring up the Test Pattern values.
- The display will move to 'Current Settings.'

Current  
Settings

Change Current Settings to Pattern Sample.

- Press **DOWN** to change from 'Current Settings' to 'Pattern Sample.'

Pattern  
Sample

To print the selected pattern.

- Press **SELECT** to 'execute' the request and print the pattern.
- When the sample has printed, press **EXIT** to return to the previous menu.

Printing

## 5.8 Turning the printer OFF

Do not turn the printer OFF suddenly. If the printer is printing, press the **STOP** or **PAUSE** key and wait for the printer to stop printing before turning the power switch OFF.

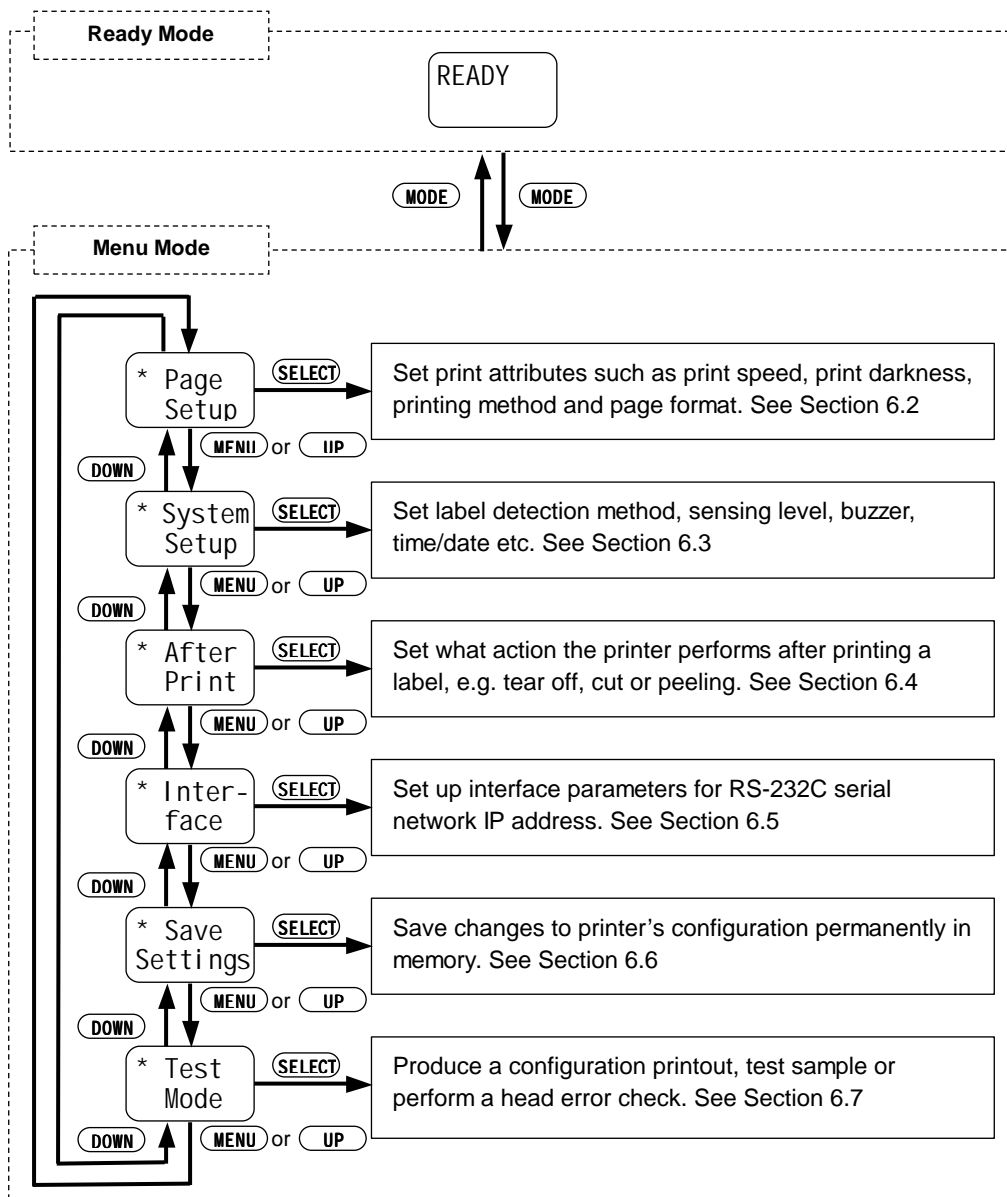
# Chapter 6

## Configuring Your Printer Using the Menus

This chapter explains all the possible menu options for configuring the barcode printer. Refer to Chapter 5 for information on the operation of the menus system and which keys perform which actions.

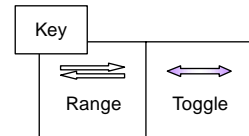
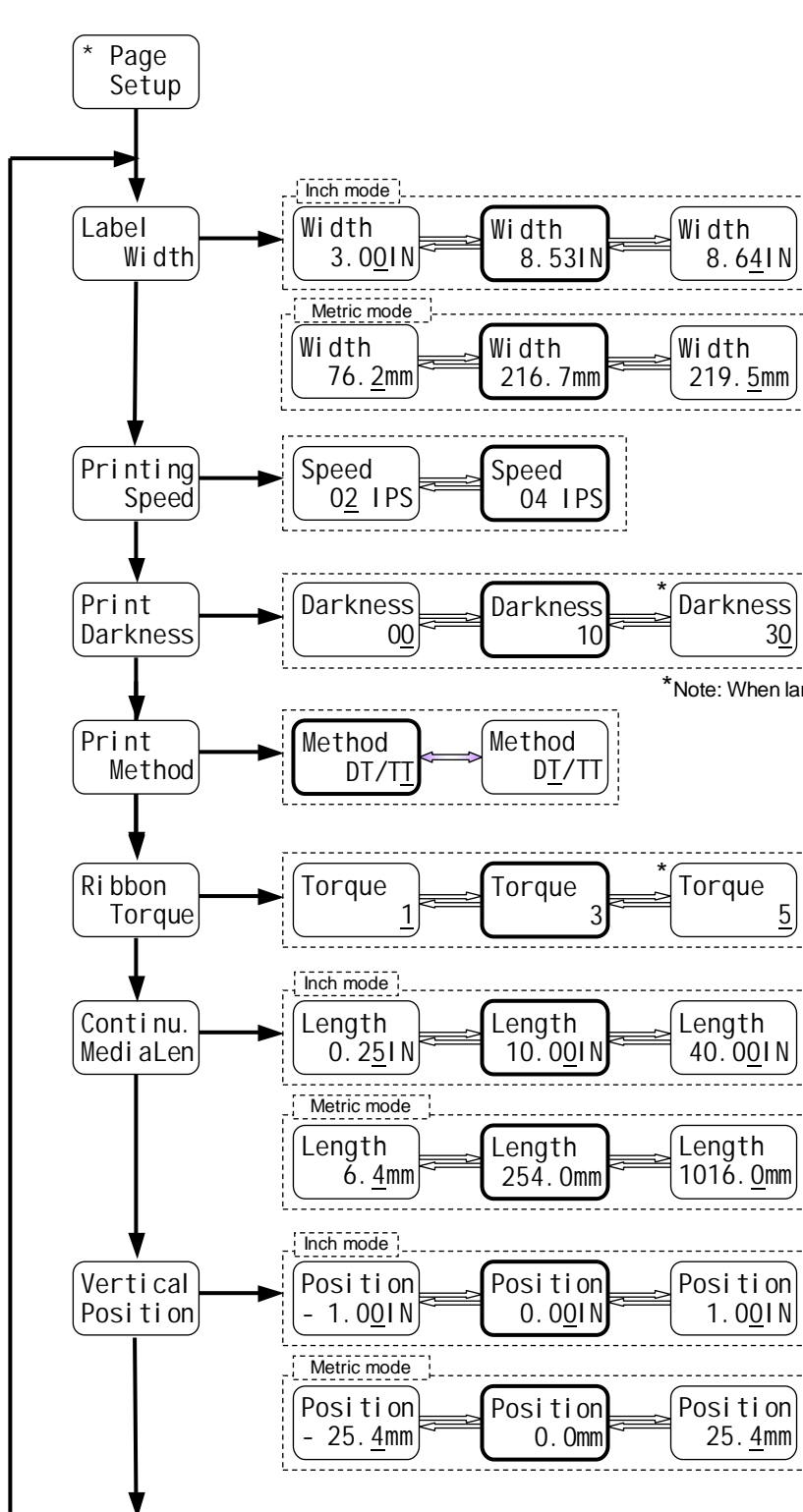
### 6.1 The Group Menu

The printer has two modes of operation: Ready mode and Menu mode. To switch between the modes, press the **MODE** key. The **Group Menu** is the first level of menus after entering the Menu Mode from Ready Mode. Each of the subsequent sections explains the individual menu options.



## 6.2 Page Setup Menu

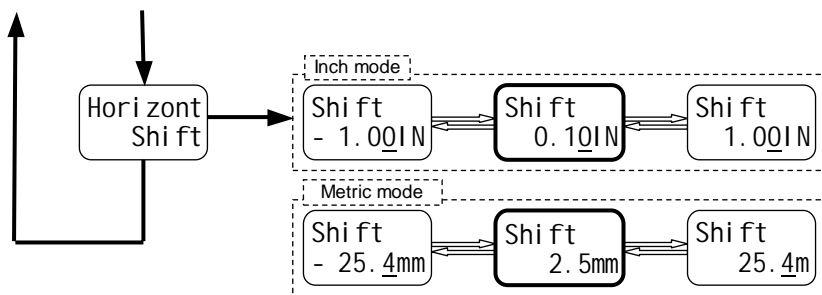
The Page Setup Menu allows the setting of items such as print speed, print darkness, direct or thermal transfer printing and horizontal and vertical position adjustments.



Note: Menu Item on LCD with bold line is default.

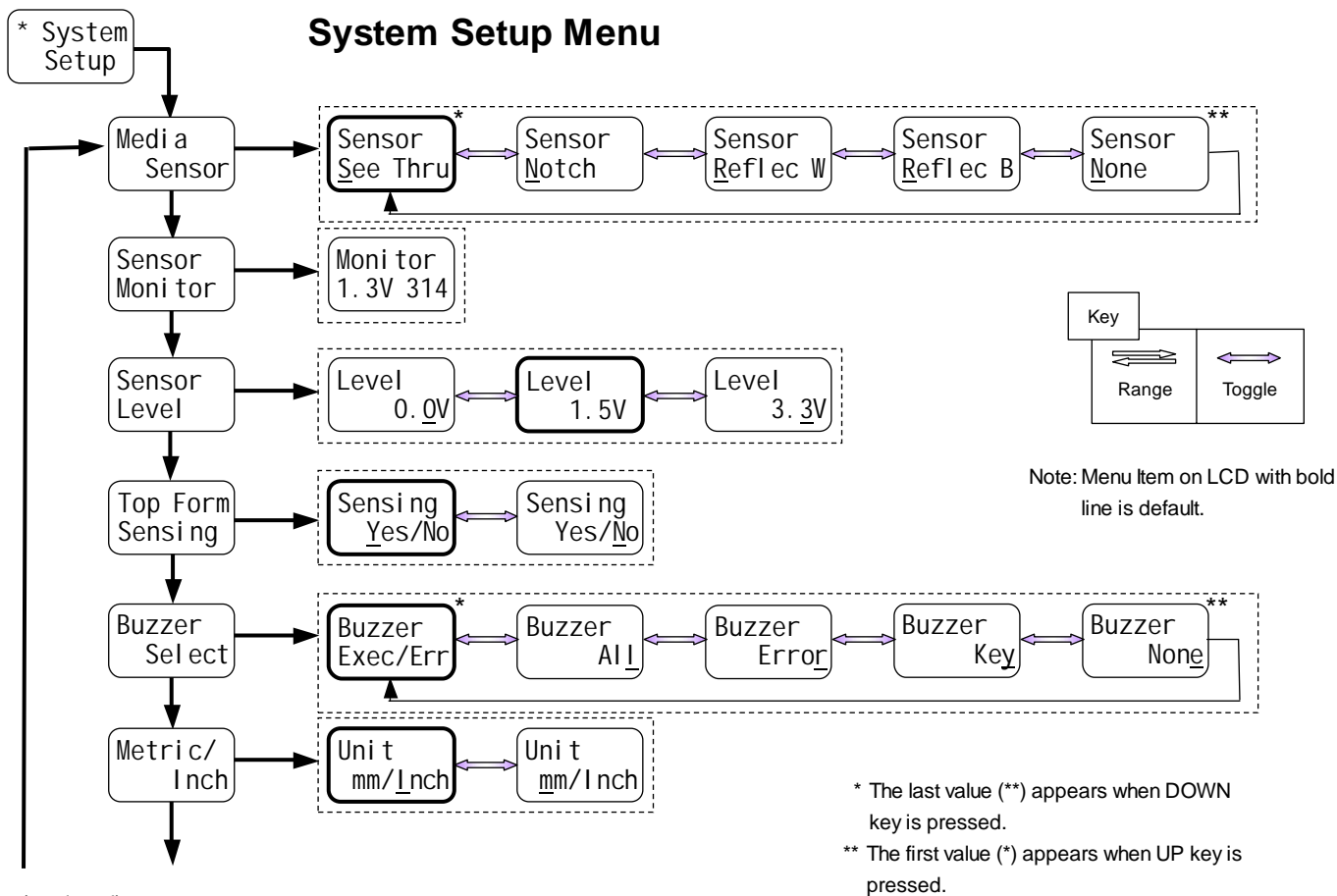
\*Note: When language DDP-N3 is used, the maximum value is 20.

(continued)

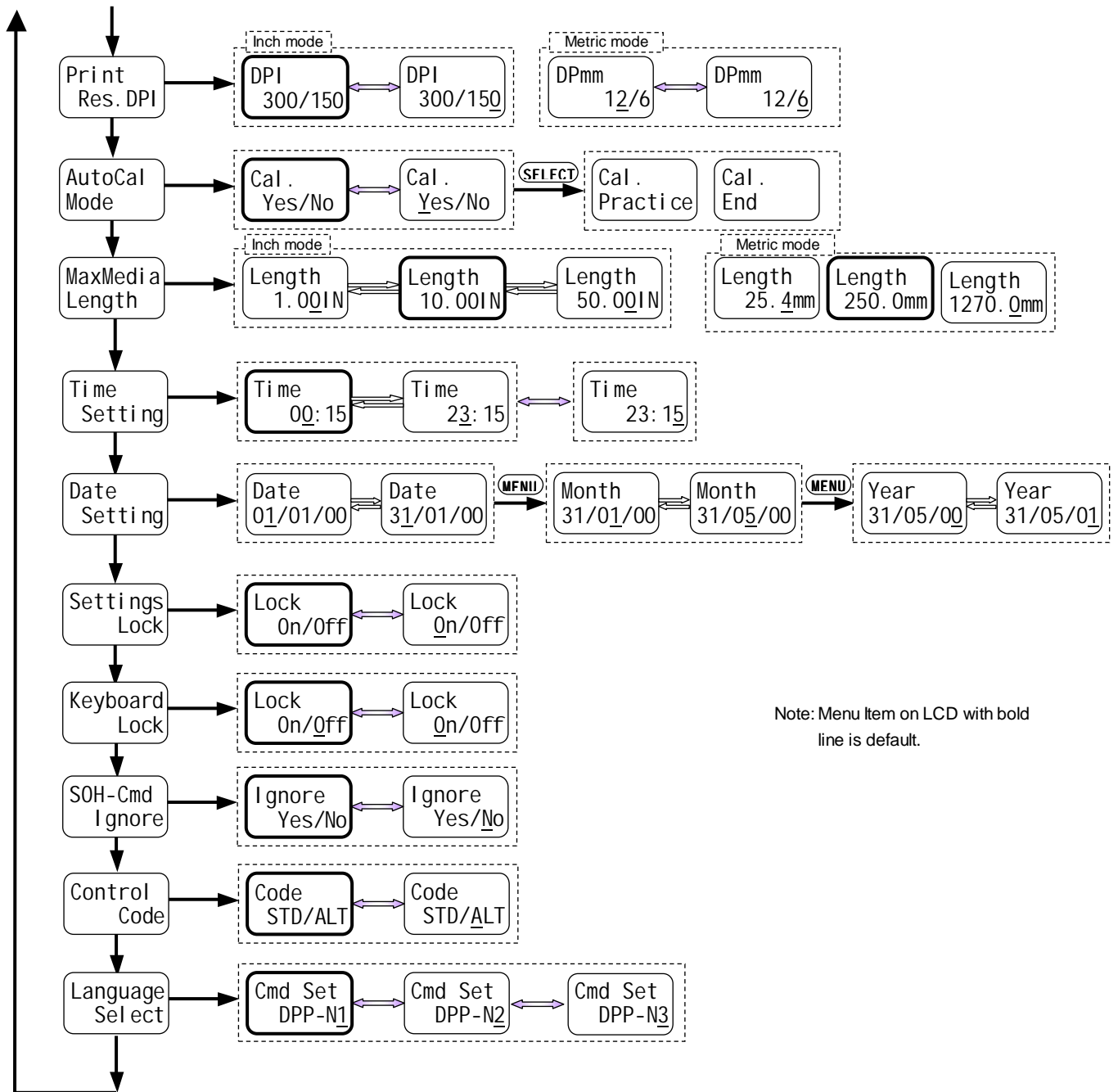


### 6.3 System Setup Menu

The System Setup Menu provides access to configure the hardware settings within the printer such as the type of media sensor used and the threshold for gap detection, metric or imperial (inches) selection, print resolution and time and date setting, if a clock module is installed. It also allows for user access to the control panel and settings to be locked out to avoid inadvertent changes.

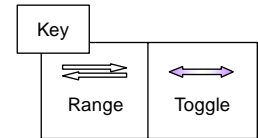
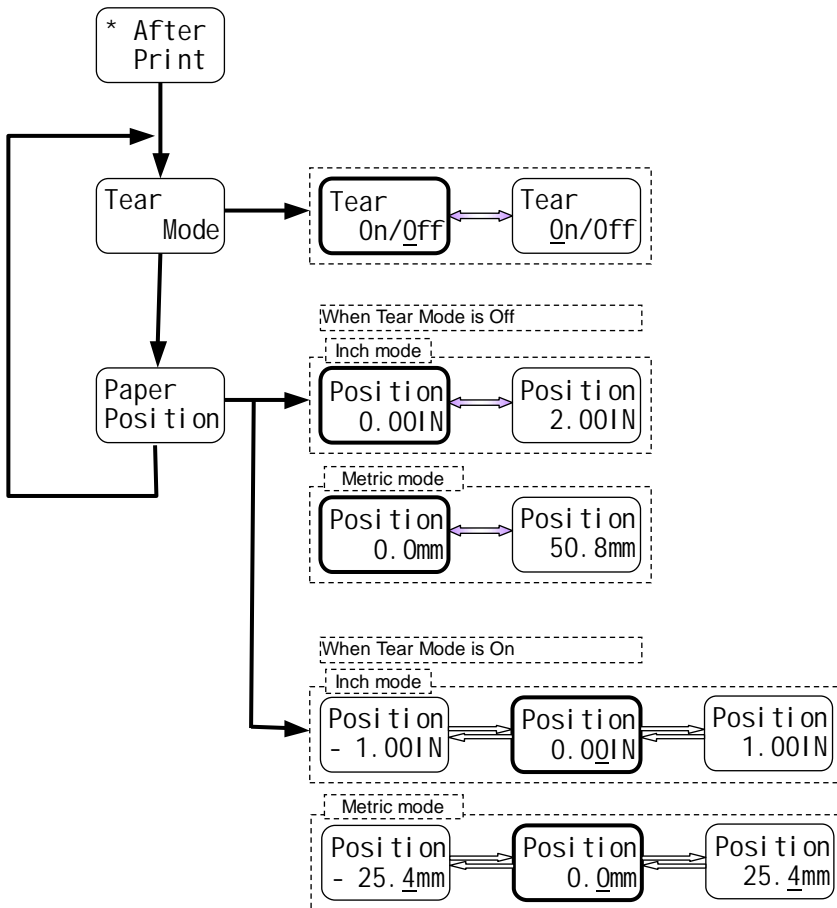


(continued)



## 6.4 After Print Menu

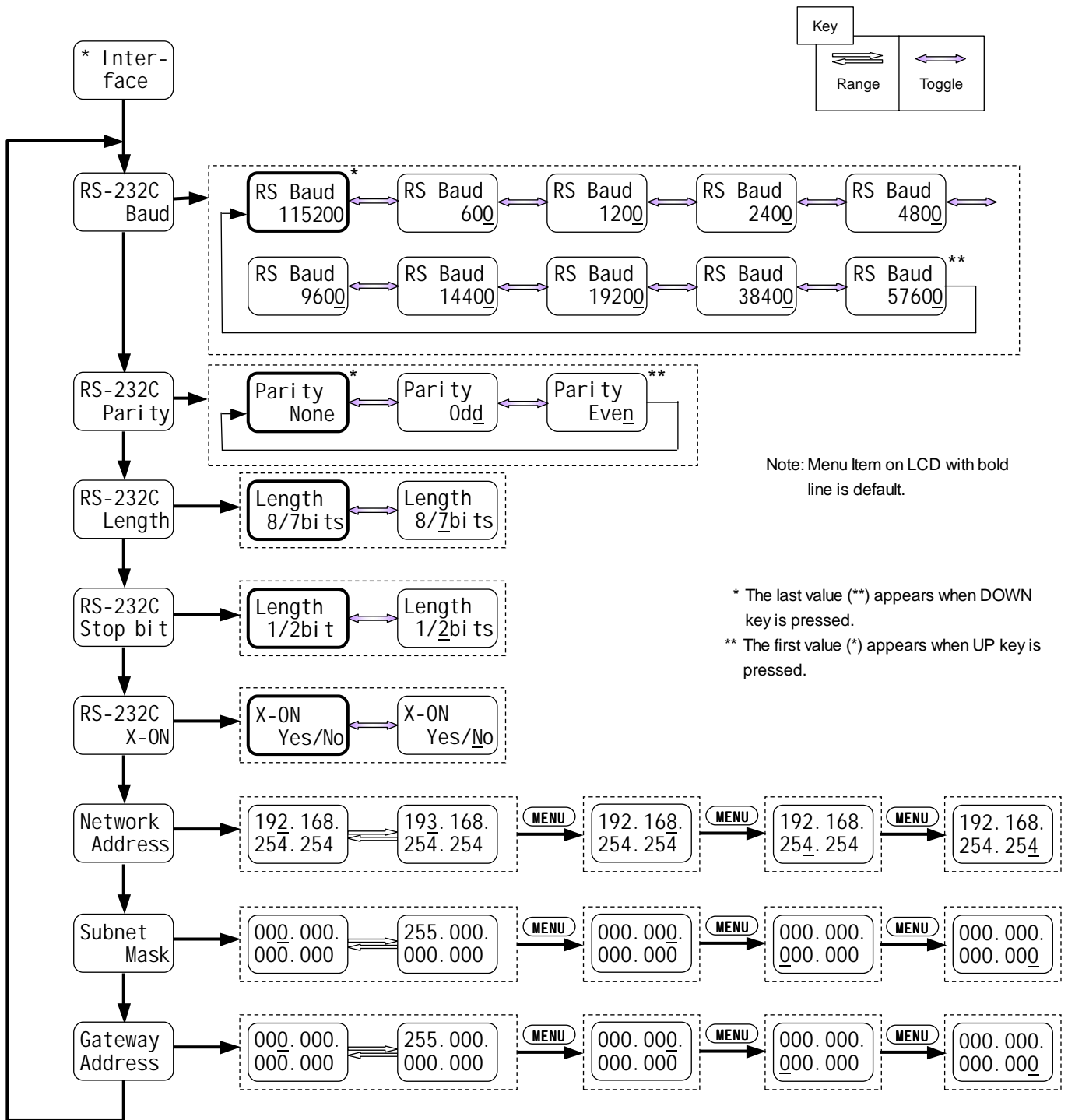
The After Print Menu allows you to configure what the printer does once the label has been printed, including whether the printer feeds to the tear position after a batch of labels, whether the printer cuts the labels.



Note: Menu Item on LCD with bold line is default.

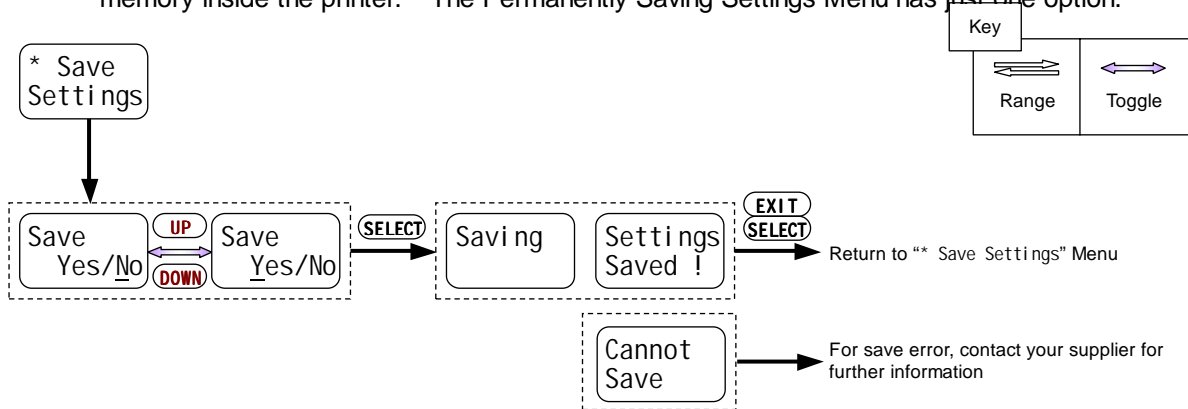
## 6.5 Interface Setup Menu

The Interface Setup Menu configures the baud rate, parity, data length, protocols and stop bits for the standard serial interface. It also allows for the configuration of the optional network interface, including IP address, subnet mask and gateway addresses.



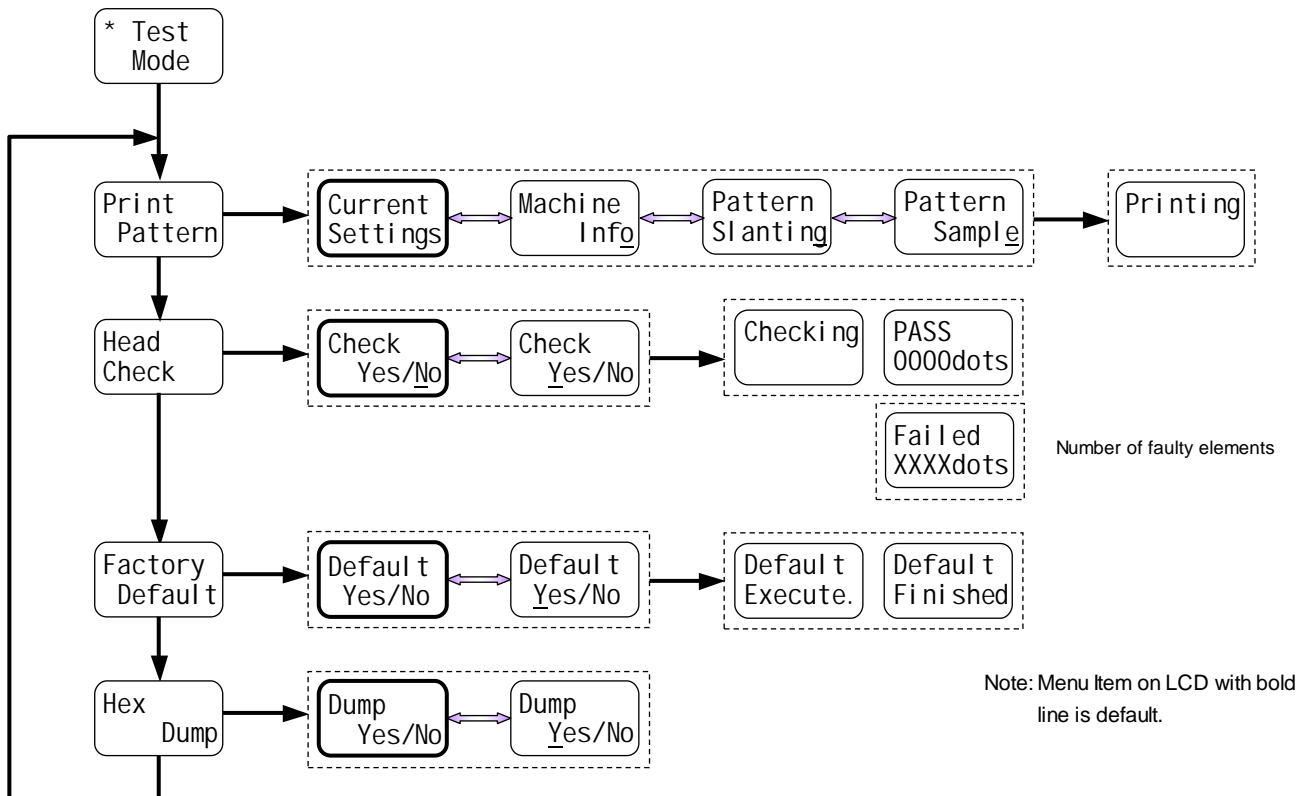
## 6.6 Permanently Saving Settings Menu

Settings made within the menu system of the printer are saved in standard memory. When the printer is switched off, these settings will be lost unless they are save to the non-volatile memory inside the printer. The Permanently Saving Settings Menu has just one option.



## 6.7 Test Mode Menu

The Test Mode Menu allows the printer to produce configuration prints for current settings, machine information such as distance counter and test samples. It also allows for head checks, resetting the non-volatile memory to factory default values and a hex dump mode.



## 6.8 Menu Mode Description

Group Menu	Menu Item	Default Value	Range of Values	Description
* Page Setup	Label Width	8.53in 216.7mm	3.00 – 8.64in 76.2 – 219.5mm	Set print label width.
	Print Speed	04 IPS	02 – 04 IPS	—
	Print Darkness	10	00 – 30*	*When language is DDP-N3, the maximum value is 20.
	Print Method	TT	DT / Direct Thermal TT / Thermal Transfer	Set printing method.
	Ribbon Torque	3	1 – 5	Set ribbon winding torque
	Continu. MediaLen	10.00in 254.0mm	0.25 – 40.00in 6.4 – 1016.0mm	Set print label length
	Vertical Position	0.00in 0.00mm	- 1.00 – 1.00in -25.4 – 25.4mm	Adjust print start position.
	Horizont Shift	10.00in 254.0mm	- 1.00 – 1.00in -25.4 – 25.4mm	Adjust left-to-right position in dots.
* System Setup	Media Sensor	See Thru	See Thru Notch Reflect White Reflect Blue None	Select label sensor. <b>See Thru:</b> Transparent GAP sensor. <b>Notch:</b> Transparent HOLE sensor. <b>Reflect White:</b> Reflective White base sensor. <b>Reflect Blue:</b> Reflective Blue base sensor. <b>None:</b> No use of sensor (continuous paper)
	Sensor Monitor	—	x.xV adc	Monitor media sensor sensing level. When None, See Thru (GAP) sensor sensing level is monitored.
	Sensor Level	1.5V/1.7V	0.0V – 3.3V	Set sensor threshold.
	Top Form	Yes	Yes No	Select Top-Of-Form (TOF) sensing. Printer will feed to top-of-form before first print after power on.
	Buzzer Select	Exec/Err	Exec/Err All Error Key None	Select condition for buzzer. <b>Exec/Err:</b> Sounds when setting and execution are completed or error occurs. <b>All:</b> Sounds in all situations. <b>Error:</b> Sounds only in error. <b>Key:</b> Sounds in key operation. <b>None:</b> No sound.
	Metric/Inch	Inch	Inch mm	Set basic unit of measurement to millimeters or inches.
	Print Res. DPI (Print Res. DPmm)	300	300DPI(12 DPmm) 150DPI(6 DPmm)	Set print resolution. Values in parentheses are in metric system.
	AutoCal Mode			Perform sensor calibration.
	MaxMedia Length	10.00in 250.0mm	1.00 – 50.00in 25.4mm – 1270.0mm	Set GAP length.

(continued)

Group Menu	Menu Item	Default Value	Range of Values	Description
* System Setup	Time Setting	—	—	Set time (hours and minutes).
	Date Setting	—	—	Set date (day, month and year).
	Settings Lock	Off	On Off	When it is On, set values with keys are locked and set values with command are ignored.
	Keyboard Lock	Off	On Off	Lock keyboard. When On, UP and DOWN keys in MENU mode (except in clearance of this function) and STOP, PAUSE and FEED keys in READY mode are invalid.
	SOH-Cmd Ignore	Yes	Yes No	Set whether or not to ignore the system level command beginning with SOH. Yes: Ignore command. No: Receive command.
	Control Code	STD	STD ALT	Change control command SOH, STX and ^ to keyboard characters. ALT: AS400 mode STD ALT  SOH (0x01) ^ (0x5E)  STX (0x02) ~ (0x7E)  ^ (0x5E) @ (0x40)
Language Select	DPP-N1	DPP-N1 DPP-N2 DPP-N3	Change emulation compatibility.	
* After Print	Tear Mode	Off	Off On	Set Tear OFF (only valid when Peel/Cut Function is off).
	Paper Position	0.00in 0.0mm	When Tear Mode is On - 1.00 – 1.00in - 25.4 – 25.4mm When Tear Mode is Off 0.00 – 2.00in 0.0 – 50.8mm	Set stop position of optional device after printing in imperial or metric system unit, using relative values. Absolute reference values vary, depending on Tear Mode On/Off.

(continued)

Group Menu	Menu Item	Default Value	Range of Values	Description
* Interface	RS-232C Baud	115200	115200 600 1200 2400 4800 9600 14400 19200 38400 57600	Set serial interface baud rate. New value is valid after power is turned off and on gain or a reset command is issued.
	RS-232C Parity	None	None Odd Even	Set serial interface communication parity.
	RS-232C Length	8 bits	8 bits 7 bits	Set serial interface character length.
	RS-232C Stop bit	1 bit	1 bit 2 bits	Set serial interface stop bits.
	RS-232C X-ON	Yes	No Yes	Enable or disable serial interface X-ON flow control.
	Network Address	192.168. 254.254	000.000.000.000 – 255.255.255.255	Set network IP address.
	Subnet Mask	000.000. 000.000	000.000.000.000 – 255.255.255.255	Set subnet mask.
	Gateway Address	000.000. 000.000	000.000.000.000 – 255.255.255.255	Set gateway address.
* Save Settings	—	—	—	Permanently save configuration values in non-volatile memory.
* Test Mode	Print Pattern	Current setting	Current setting Machine Info Pattern Slanting Pattern Sample	Choose and execute a test print. The test pattern or configuration print can only be produced when there is no print job is in buffer.
	Head Check	No	Yes No	Check for faulty printhead elements.
	Factory Default	No	Yes No	Return to factory default setting values.
	Hex Dump	No	Yes No	Enable or disable hex dump mode.

# Chapter 7

## Troubleshooting

When an error occurs, an error message is displayed on the LCD panel. This chapter describes corrective actions to be taken when error message is received or problems or difficulties are experienced.

### 7.1 Items to check in case of trouble

If problems or difficulties are experienced during the operation of the printer, please check the following table to try and resolve your problem.


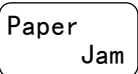



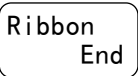

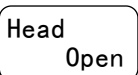

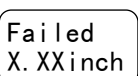

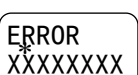

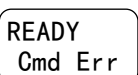
Symptom	Check	Remedy
The LCD stays blank when the printer power is turned ON.	<ol style="list-style-type: none"> <li>1. Is the socket end of the power cord plugged properly into an AC outlet?</li> <li>2. Is the other end of the power cord plugged properly into the main power input port on the printer?</li> <li>3. Is the power cord damaged or broken?</li> <li>4. Is there electricity in the power outlet used to power the printer?</li> <li>5. Have the main fuses in the fuse box for the building blown? Is the circuit breaker turned off?</li> </ol>	<ol style="list-style-type: none"> <li>1. Plug the socket end of the power cord properly into an AC outlet.</li> <li>2. Plug the other end of the power cord properly into the main power input port on the printer.</li> <li>3. Replace the power cord. Use the dedicated power cord for this printer. Contact our service personnel to obtain a replacement. <b>CAUTION:</b> Do not use a power cord other than the dedicated power cord for this printer.</li> <li>4. Check the main power source to the outlet. If there is no problem, check whether electricity is supplied to the building. Also, check for the possibility of a power failure.</li> <li>5. Replace the main fuses for the building and turn on the circuit breaker again. For replacement, contact a qualified electrician.</li> </ol>
Paper can feed but nothing is printed.	<ol style="list-style-type: none"> <li>1. Is the printhead dirty? Is a label stuck?</li> <li>2. Are you using a genuine Citizen ribbon or its equivalent?</li> </ol>	<ol style="list-style-type: none"> <li>1. If the printhead is dirty, wipe it off with the head cleaning pen supplied. If a label is stuck, remove it. <b>CAUTION:</b> Avoid using metallic tools to remove labels stuck inside the printer. (Metallic tools may damage the printhead.) If label adhesive material is stuck to the printhead, wipe it off with ethyl alcohol.</li> <li>2. Use a genuine Citizen ribbon or its equivalent.</li> </ol>



(continued)

Symptom	Check	Remedy
Text is not printed cleanly.	<ol style="list-style-type: none"> <li>1. Is the paper and ribbon loaded properly?</li> <li>2. Is the print density too dark or faint?</li> <li>3. Is the platen dirty or deformed?</li>   <li>4. Is the printhead dirty? Is a label stuck?</li>   <li>5. Are you using a genuine Citizen ribbon or its equivalent?</li> <li>6. Is the printhead position proper for the media being used?</li> </ol>	<ol style="list-style-type: none"> <li>1. Load the paper and ribbon properly.</li> <li>2. Set the proper print density via the menu or control software.</li> <li>3. If the platen is dirty, remove the dirt using ethyl alcohol. If the platen is deformed, contact our service personnel for replacement.</li> <li>4. If the printhead is dirty, wipe it off with the head cleaning pen. If a label is stuck, remove it. <b>CAUTION:</b> Avoid using metallic tools to remove labels stuck inside the printer. (Metallic tools may damage the printhead.) If label adhesive material is stuck to the printhead, wipe it off with ethyl alcohol.</li> <li>5. Use a genuine Citizen ribbon or its equivalent.</li> <li>6. Adjust the printhead position, using the printhead adjustment lever.</li> </ol>
Print position changes.	<ol style="list-style-type: none"> <li>1. Is the paper and ribbon loaded properly?</li> <li>2. Is the platen dirty or deformed?</li>   <li>3. Are you using a genuine Citizen ribbon or its equivalent?</li> <li>4. Are the contents of the data and signals from the computer proper?</li>   <li>5. Are the values of the Menu set proper?</li> <li>6. Is the media sensor level proper for the media being used?</li> </ol>	<ol style="list-style-type: none"> <li>1. Load the paper and ribbon properly.</li> <li>2. If the platen is dirty, remove the dirt using ethyl or isopropyl alcohol. If the platen is deformed, contact our service personnel for replacement.</li> <li>3. Use a genuine Citizen ribbon or its equivalent.</li> <li>4. If a message of "ERROR RS-232C" etc is displayed on the LCD, check the contents of the software and the communication conditions set on the computer.</li> <li>5. Set the proper values of the Menu set from the control panel or your PC.</li> <li>6. Incorrect sensor level may cause the printer to miss some or all of the end-of-label marks on the media.</li> </ol>
Ribbon wrinkles.	<ol style="list-style-type: none"> <li>1. Is the ribbon tension proper for the media being used?</li> <li>2. Is the ribbon guide plate guiding the ribbon evenly?</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust the ribbon tension properly (see P27).</li> <li>2. Adjust the setting angle of the ribbon guide plate.</li> </ol>

## 7.2 Error messages and corrective actions

The printer will be placed in error status and an error message will be displayed on the LCD (Display) if the printer has not been prepared properly for printing or printer setup conditions are not correct. Check error messages and take corrective actions to clear error. If a message other than the following is displayed, please contact our service personnel.

Cause	Corrective action	LEDs/Buzzer	LCD (Display)
Sensor error (when printing)	<ul style="list-style-type: none"> <li>Place label paper straight</li> <li>Set type of sensor to match label being used.</li> <li>Adjust sensor position.</li> <li>Adjust sensor sensing level.</li> <li>Make sure printer "MaxMedia Length" is longer than actual label length.</li> </ul>	 0.3sec  Sounds 0.3sec twice	
Paper end (when printing)	<ul style="list-style-type: none"> <li>Load new paper.</li> </ul>	 0.5sec  Sounds 0.5sec twice	
Ribbon end (when printing)	<ul style="list-style-type: none"> <li>Load new ribbon.</li> </ul>	 0.5sec  Sounds 0.5sec twice	
Printhead up (just before printing)	<ul style="list-style-type: none"> <li>Set printhead properly by lowering printhead lever.</li> </ul>	 0.5sec  Sounds 0.5sec once	
Printhead disconnected (when turning power on or resetting)	<ul style="list-style-type: none"> <li>Contact our service personnel.</li> </ul>	 1sec  Sounds 1sec once	
Interface error	<ul style="list-style-type: none"> <li>Check interface cable connection.</li> <li>Check interface setup.</li> </ul>	 0.3sec  Sounds 0.3sec once	
Command error	<ul style="list-style-type: none"> <li>* This occurs due to misscript or improper RS-232C setup. This is cleared automatically as it is interpreted as a normal command. LED goes off for 0.3 second and blinks and LCD shows a message for 0.3 second.</li> </ul>	 0.3sec  Sounds 0.3sec once	

Light up   blink

- Clear an error with a control key (other than MODE key) or command (in case of command error) and an initial message "Ready xxxxxxxx" will be shown if data is received from the host computer (see P35, 36).

\* XXXXXXXX: the contents of the interface error.



# Chapter 8

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## Maintenance

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Since this printer uses a thermal head and a carbon ink ribbon, thermal paper dust etc may adhere to the printhead or other related parts. In this case, printing errors or failure of the printhead may occur.

If paper dust or ribbon material adheres to the printhead, irregular printer movements, paper jams or poor print quality may occur. Therefore, be sure to clean the printhead, platen and paper path periodically. The amount of cleaning will depend on the volume of media being printed and the quality of the consumables and media used in the printer. Genuine Citizen consumables will be you the best performance.

If a defect should occur under normal use, it will be repaired free of charge during the warranty period. However, the printhead, platen and pinch roller will be regarded as consumable supplies.

### 8.1 Printer care

Observe the following when caring for the printer.

- Use a cotton swab or soft cloth to clean each part of the printer.
- Hard or square tools such as screwdrivers can scratch any part of the printer. Never clean the printhead with such tools.
- Before cleaning, make sure that the power to the printer is turned OFF and the power cord is disconnected from the mains supply.

#### CAUTION

Do not use benzine, thinner, alcohol etc to wipe the dirt off the printer. Failure to do so may cause discoloration or deformation. If the dirt is too large, soak a cloth in a thin neutral detergent and squeeze out and wipe with it, and finally wipe with a dry, soft cloth.

## 8.2 Cleaning method

Remove dirt, paper dust, adhesive materials for labels etc upon completion of printing.

### ◆ Cleaning tools

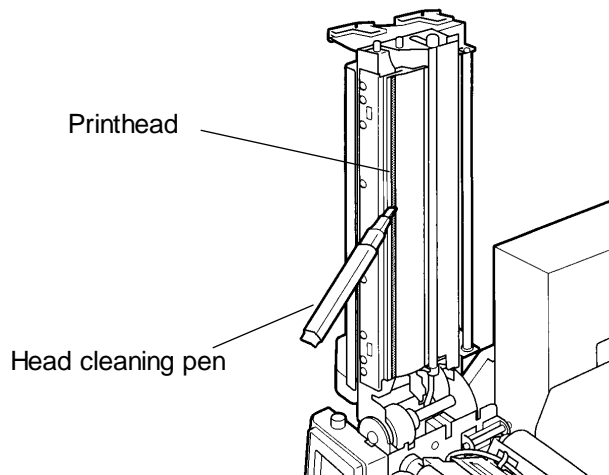


Soft cloth



Ethyl or isopropyl alcohol (do not use solvent like thinner)

### ◆ Printhead and platen



### ◆ Tension roller and its surroundings

# Chapter 9

## Specifications

### 9.1 General specifications

Item	CLP-8301
Printing method	Thermal Transfer/Direct Thermal
Printhead resolution	300 DPI (11.81 dots/mm) approx
Maximum print width	219.5 mm (8.64")
Print length	12.7 mm (0.5") – 508.0 mm (20")
Print speed	2 – 4 IPS
Media	Max. roll media outer diameter: 203 mm (8 in) Max. media width: 228.6 mm (9")
Media pitch detections	Movable transparent and reflective sensors
Ribbon	Max. ribbon length: 450 m (1,476 feet) Max. ribbon outer diameter: 78 mm (3.07") <a href="#">ink out</a>
Bar codes	Code 39/93/128 (A/B/C), EAN 8/13, UPC-A/E, UPC-2&5-Digit Codabar (NW-7), Interleaved 2 of 5, UCC/EAN 128 PDF-417, UPS MaxiCode, DataMatrix, telepen
Indications	LCD: 8 columns x 2 rows. LEDs: POWER and READY
Control keys	Setup keys (six): MODE, MENU, SELECT, EXIT, UP and DOWN Execution keys (four): STOP, FEED, PAUSE and REPEAT
Graphic data	7-bit ASCII, 8-bit HEX, PCX and BMP
Interfaces	Standard: RS-232C serial (max: 115.2 kbps) and Centronics parallel Optional: USB, Ethernet and IEEE 1284 ECP
Options	By dealer (reseller): USB, Ethernet and IEEE 1284 ECP
Power input voltage	100V – 240V (-10%+6%), 1.6 – 3.2A, 50/60HZ
Power consumption	Typical Operating: XXXW, Standby: XXW
Operating temperature and humidity	5 – 40°C (41 – 104°F), Rh25–85% (non-condensing)
Outer dimensions	395W x260H x 415D mm (15.5W x 10.2H x 16.3D in) approx
Weight	18 kg (39.68 lb) approx, excluding media and ribbon
Standards	120V: UL1950 CSA: No. 950 FCC: Class A 220V – 240V: EN60950, EN55022, EN55024, EN61000-3-2, EN61000-3-3

## 9.2 Interfaces

### 1 Serial interface

#### Specifications

Transfer method:	Start stop synchronous dual communication system
Signal level:	RS-232C
Baud rate:	2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200 bps
Data bits:	7 or 8
Start bits:	1
Stop bits:	1 or 2
Parity:	Even, odd, or none
Connector:	D-SUB 25PIN 17LE-13250-27(D41)(DDK) or its equivalent

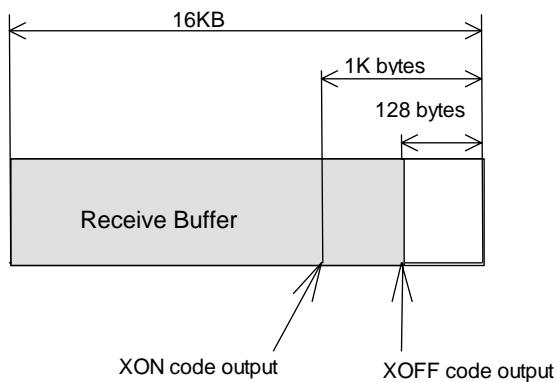
#### XON/XOFF protocol

XON code output requirements:

- Communication is enabled after power is turned ON.
- Residual capacity of the buffer is 1K bytes or more after sending XOFF code.
- Paused state is cleared.
- XOFF code is output due to error and printer returns to normal conditions.

XOFF code output requirements:

- Printer is in error.
- Printer is in paused state.
- Receive buffer has less than 128 bytes available.



**DTR protocol**

DTR signal “Ready (High)” level requirements:

The following must be satisfied:

- Printer is on line.
- Receive buffer has more than 128 bytes available.

Note: When receive buffer has less than 128 bytes available, DTR signal becomes “Busy (Low)” level and this “Busy (Low) level is kept until receive buffer has at least 1K bytes available.

DTR signal “Busy (Low)” level requirements:

The following must be satisfied:

- Printer is in error.
- Printer is in paused state.
- Receive buffer has less than 128 bytes available.

**Pin assignment**

Pin No.	Signal	Input/Output	Description
1	FG	Output	Frame ground
7	SGND	Output	Signal ground
2	TXD	Output	Signal to transmit data
3	RXD	Input	Signal to receive data
4	RTS	Output	Transmission request signal. Pull up to +12V with 3.3Kohm
6	DSR	Input	Signal active when host computer ready to interface with printer
20	DTR	Output	Signal active when printer ready to interface with host computer
25	VCC	Output	(Factory use)

## 2 Parallel interface

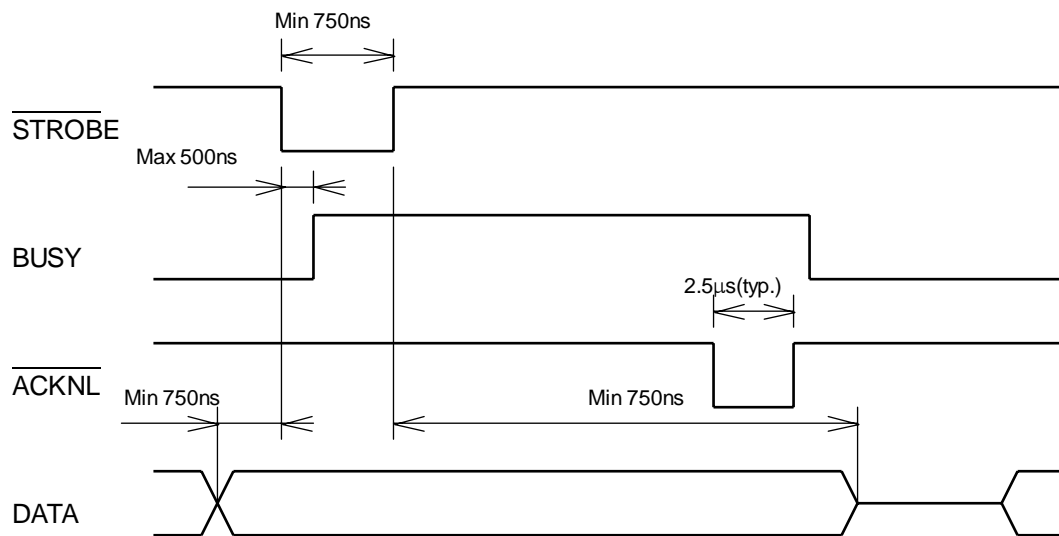
### Specifications

Transfer method: 8-bit parallel (compatibility mode)  
 Synchronous: Strobe pulse  
 Handshaking: ACKNLG and BUSY signals  
 Signal level: TTL  
 Printer side: 36-pin non-phenol type

### Pin assignment

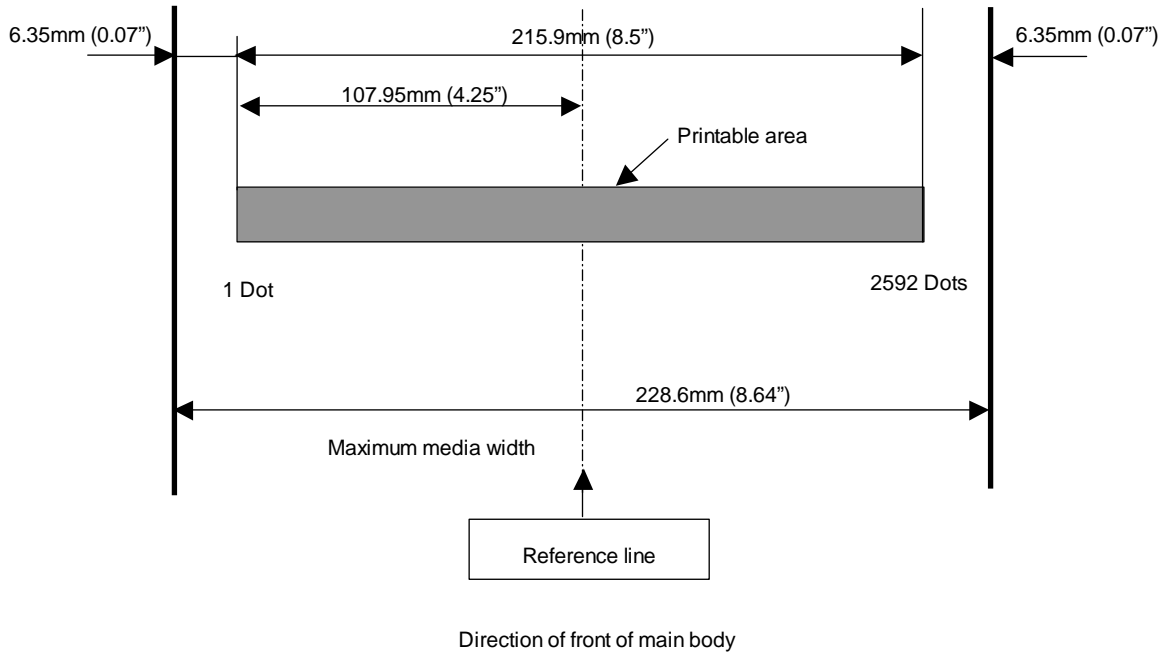
Pin No.	Signal	Input/Output	Description
1	STROBE	Input	Strobe signal to read 8-bit data
2-9	DATA1-8	Input	8-bit parallel data signal
10	ACKNLG	Output	8-bit parallel data request signal
11	BUSY	Output	Signal to indicate printer 'Busy'
12	PERROR	Output	Signal to indicate paper out
13	SELECT	Output	Signal to indicate printer on line or off line
14	N.C	-	Not used
15	NC	-	Not used
16	GND	-	Ground
17	F.GND	-	Frame ground
18	N.C	-	Not used
19-30	GND	-	GND
31	INIT	Input	Printer reset
32	FAULT	Output	Signal to indicate printer error
33-35	N.C	-	Not used
36	N.C	-	Not used

## Timing chart

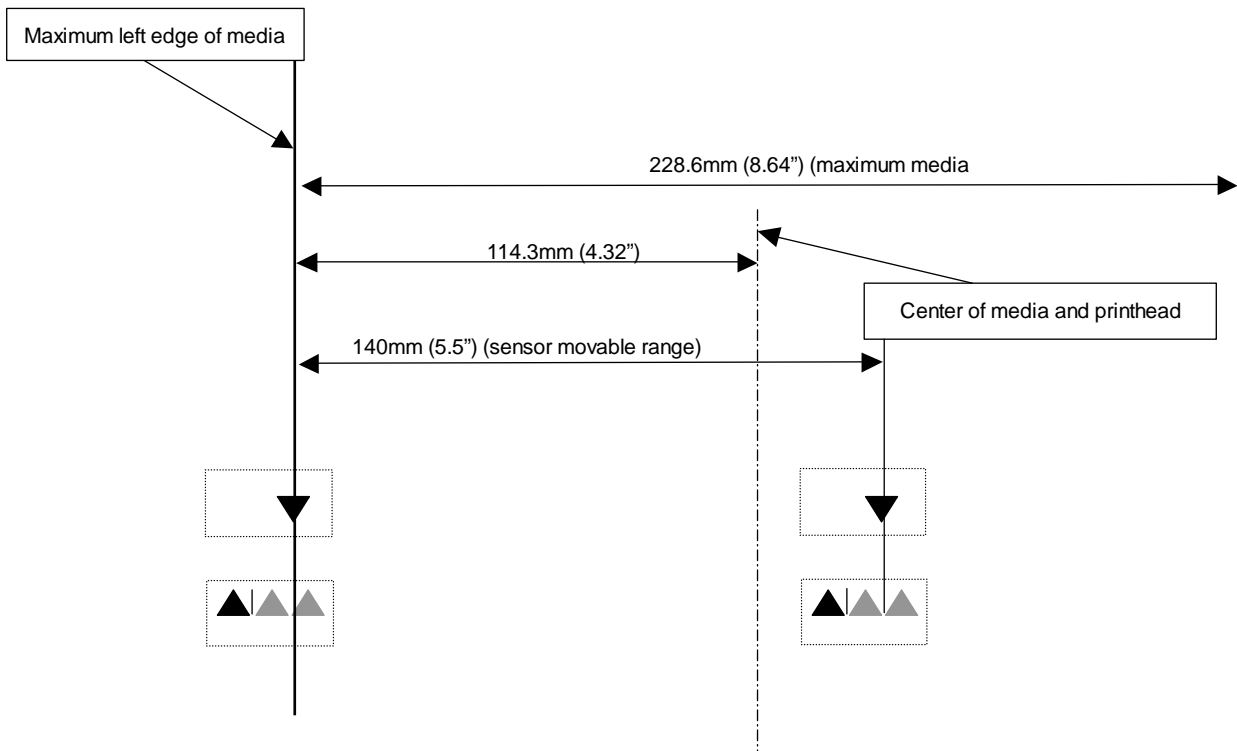


ACKNLG "Low" shows that the printer requests the computer to send data. BUSY "High" shows that the printer cannot receive data and BUSY "Low" shows that the printer now can receive data from the computer.

### 9.3 Printable area



### Movable sensors



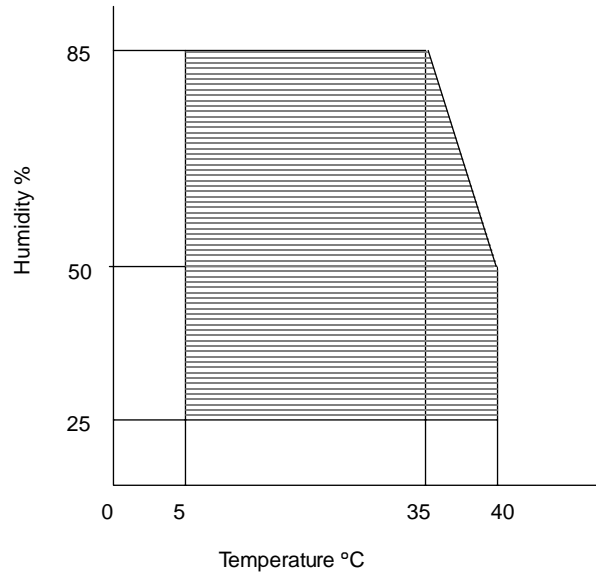
Media	Sensor	Detection	Mark A/D Voltage	Setup Guide	Setup Voltage	Voltage Level	Variable Voltage	FIX/VR
Black Mark	Reflective	Center	Low	No Mark area	2.1V	1.7V or less	1.2V – 2.2V	FIX
Gap	Transparent	Edge	High	No Mark area	1.05V	1.5V or more	1.0V – 2.0V	
Hole (including corner 'R')		Edge	High	Mark area (no media)	2.5V	1.5V or more	1.0V – 2.0V	

## 9.5 Environmental requirements

### 1 Printer operating conditions for ensuring print quality

Operating temperature: 5°C – 40°C

Humidity: 25% – 85% RH (non-condensing)

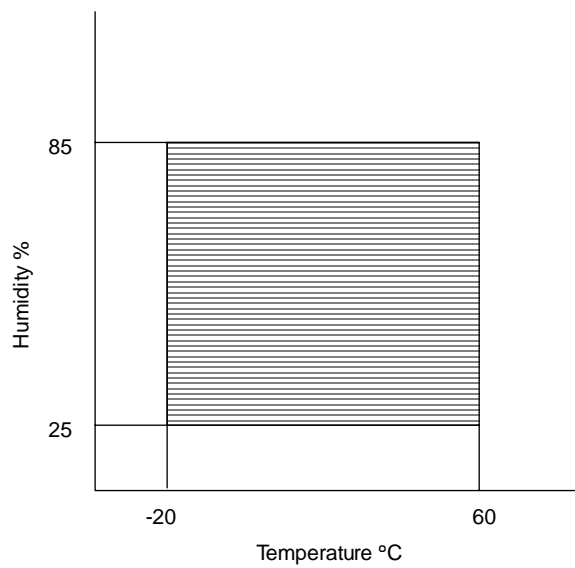


### 2 Printer storage conditions

Storage temperature: -20°C – 60°C

Humidity: 25% – 85% RH (non-condensing)

(Printer should be stored in a condition that the printhead is up and no media and ribbon are loaded.)





Citizen Systems Europe GmbH  
Mettinger Strasse 11      337 Bath Road, Slough  
73728 Esslingen      Berkshire, SL1 5PR  
Germany      United Kingdom

[www.citizen-europe.com](http://www.citizen-europe.com)