

**CLP-9001/9301**

**User's Manual**

**CITIZEN<sup>®</sup>**

## **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 new Citizen CLP series label printer.

This manual is designed to help you quickly understand the basic operations of this printer.

## Design features

This printer is designed to accurately print bar codes and various character fonts on media such as tags and labels at high speeds. Both direct thermal and thermal transfer printing are available.

- **Excellent print quality at speed**

This printer easily creates the crisp bar codes and clear fonts required for today's vast range of labeling applications at a speed to match the performance of modern time-critical installations.

- **Simple 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 control panel.

- **Easy maintenance**

The simple construction of the printer and unobstructed view of the paper path make daily maintenance, paper and ribbon replacement, and troubleshooting quite easy and fast.

- **Interfacing to a computer**

The printer is equipped with the RS-232C serial (max. 115.2Kbps) and parallel interfaces as standard. Other interfaces such as USB, IEEE1284ECP, and Ethernet are also available as options. Using standard applications or dedicated software, bar codes and labels can easily be created and printed.

- **Great versatility from many options**

As well as the interface options, other accessories such as auto-cutter and peeler with rewinder are available to meet a diverse range of applications.

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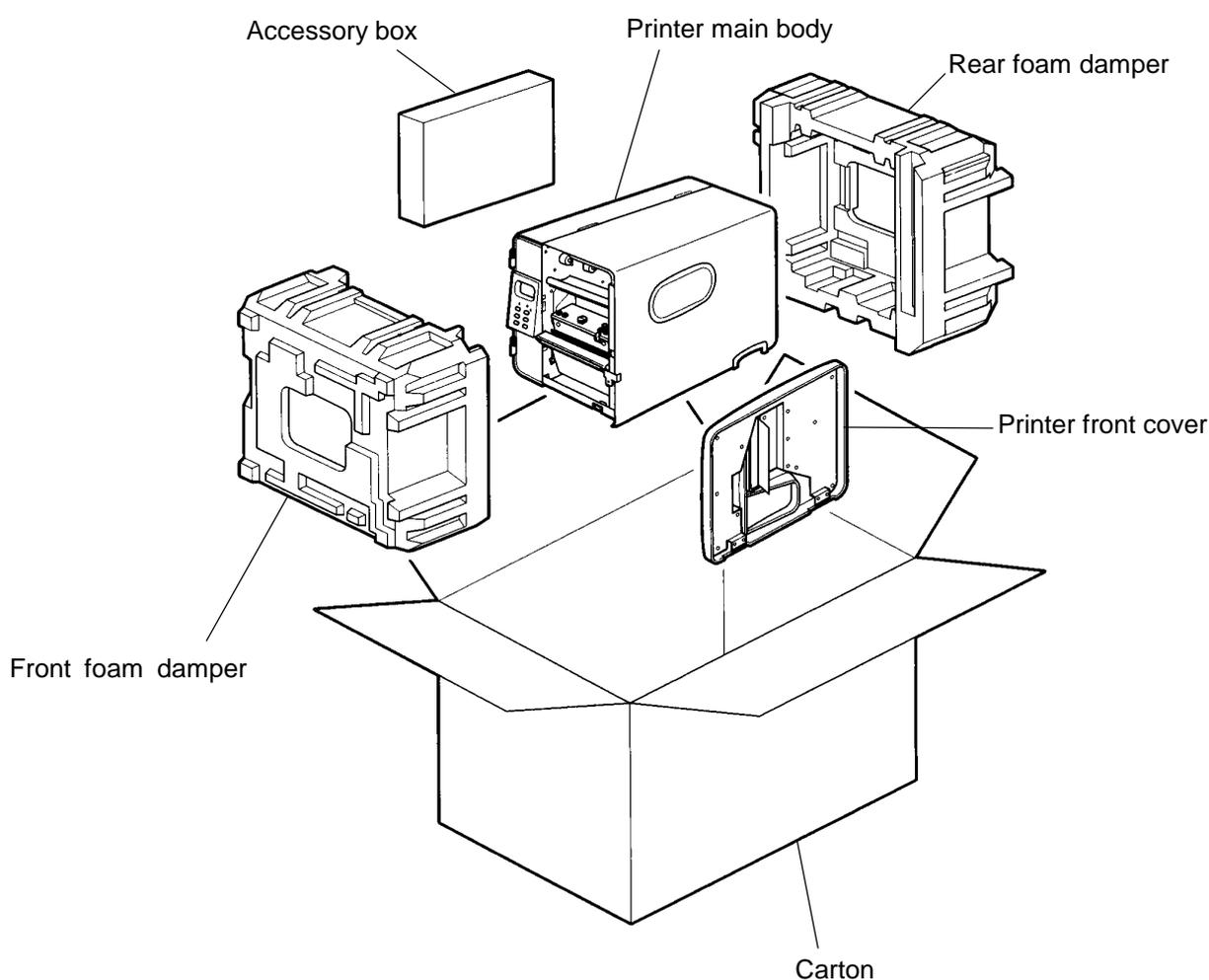


# Chapter 1

## Unpacking

First open the carton and take out the accessory box and the printer front cover, 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 properly with the carton and packing materials for future shipment.



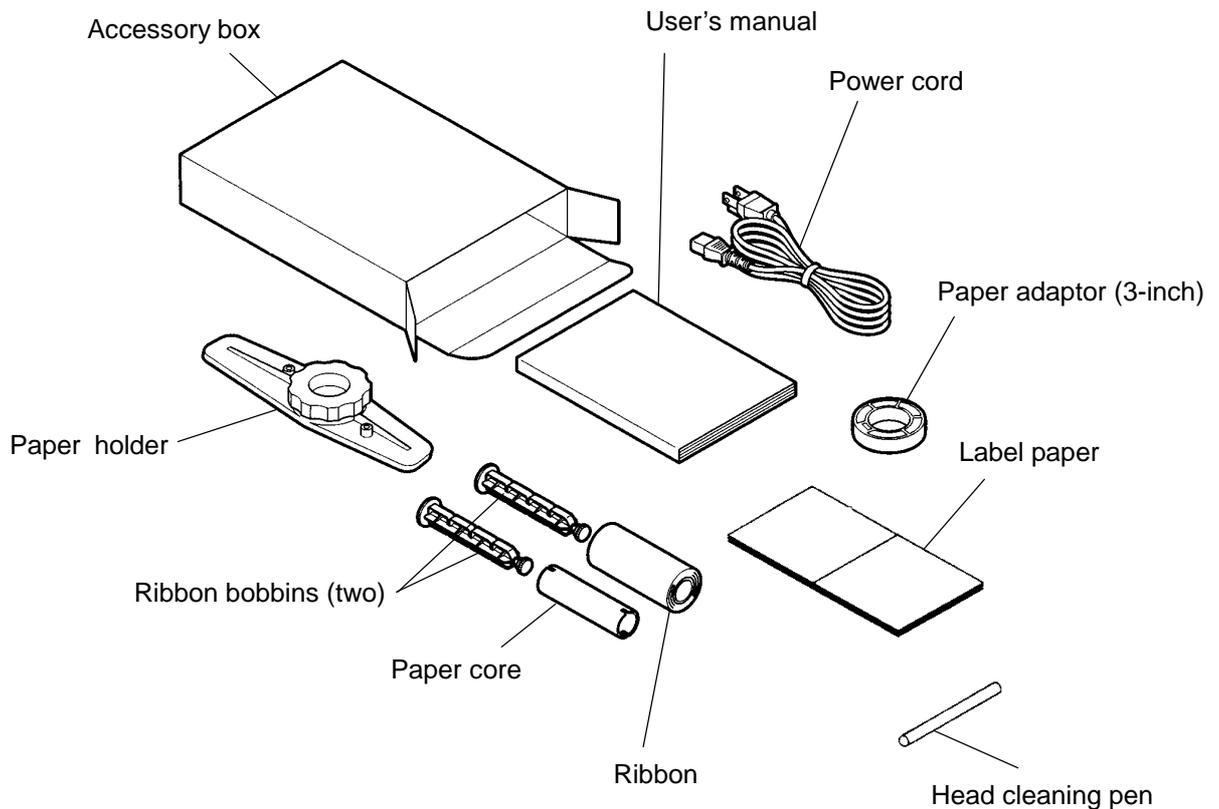
### CAUTION

- 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 (polystyrene) dampers when lifting the printer main body.

## 1.1 Checking items inside the accessory box

First, you should check that all of the following items are inside the accessory box. If any are missing, please contact your supplier.

- Power cord 1 piece
- Paper adaptor (3-inch) 1 piece
- Paper core 1 piece
- Paper holder 1 piece
- Label paper 1 piece
- Ribbon bobbins 2 pieces
- Ribbon 1 piece
- Head cleaning pen 1 piece
- User's manual 1 copy



 **CAUTION**

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

# 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



Symbol  $\Delta$ : Attention! The actual warning is portrayed in the drawing (for example, the sign on the left calls attention to electrical shock).



Symbol  $\textcircled{/}$ : Operation prohibited. The prohibited operation is portrayed in the drawing (for example, the sign on the left indicates that disassembling is prohibited).



Symbol  $\bullet$ : 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**

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***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.

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***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.

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***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). 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.

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**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 if an unpleasant smell or smoke is emitted. 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.

**Cutter (optional)**

To avoid injury, never allow your hands or any foreign matter to enter the cutter section.

---

**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

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### **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 paper or ribbon. If paper is loaded, it may drop out, leading to injury or internal damage to the printer.

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.

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### ***Opening/closing the right side cover***



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

When opening, open the cover all the way until it stops at the hinges, and then release your hand.

When closing, close the cover fully and then release your hand.

---

### ***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 paper 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 paper and ribbon***



When loading the paper 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

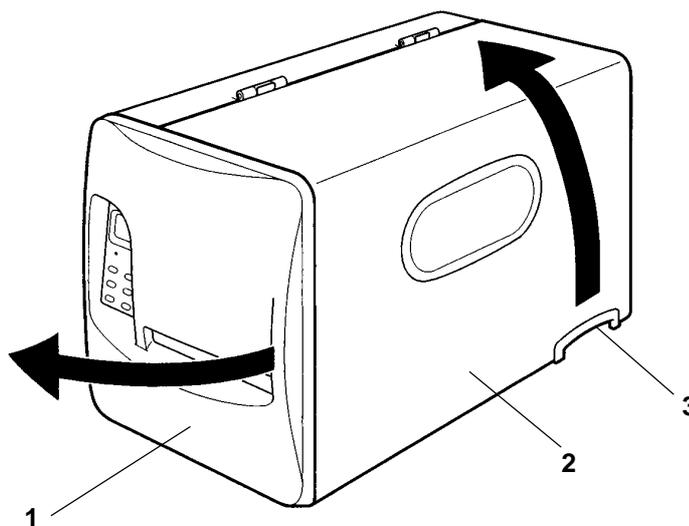
#### 1 Opening/closing and detachment of the front cover

To open the front cover, catch hold of the right edge of the front cover with your fingers and open it in the direction as shown with arrow. To close the front cover, return the right edge of the front cover to the original position and push it lightly and the magnet on the lower right corner will hold the front cover and the printer main body frame firmly. To remove the front cover, first open it fully then vertically lift up the hinged left side of the cover.

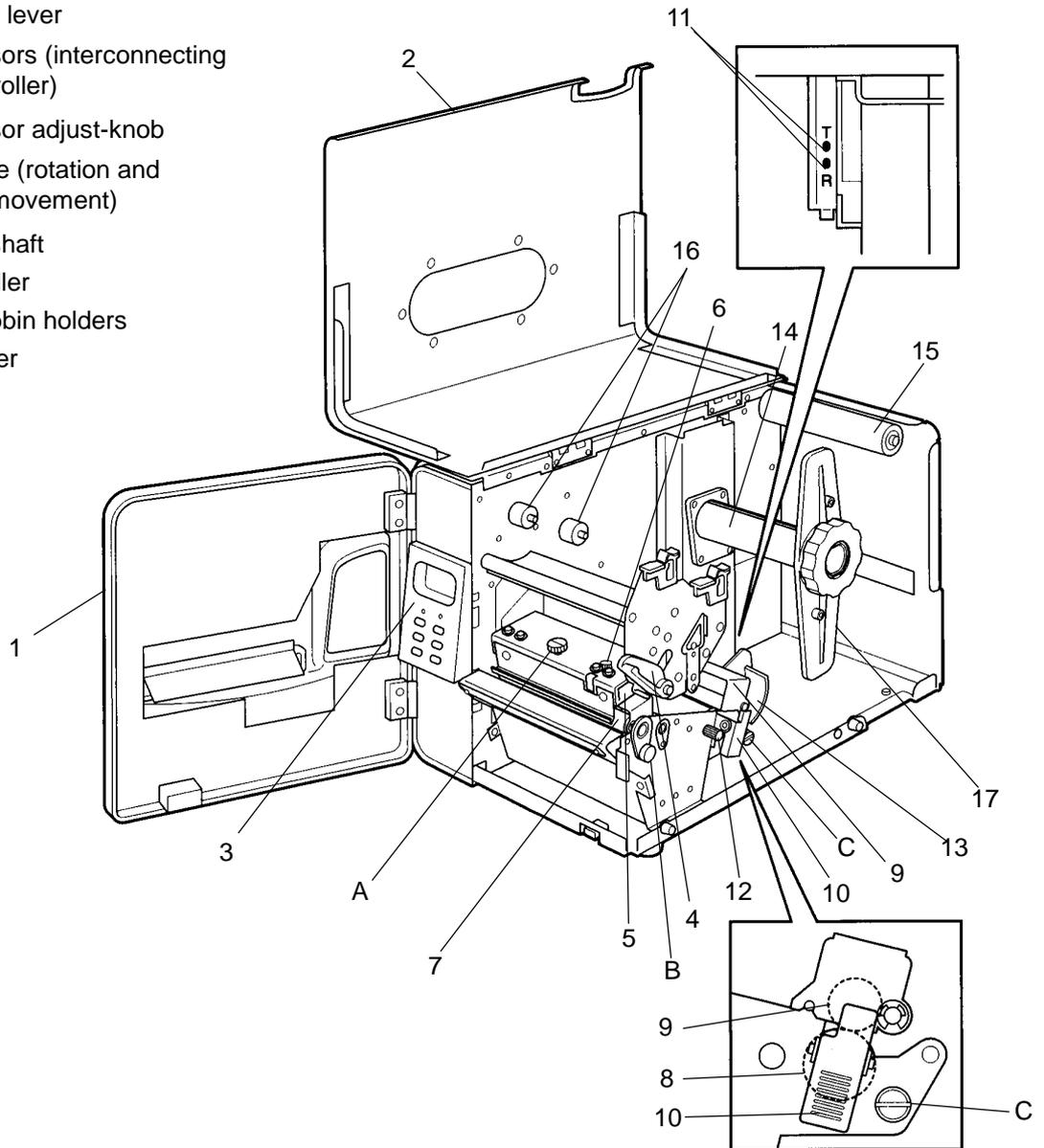
#### 2 Opening/closing of the right side cover

The right side cover (viewed from the front) is opened while holding the lower curved grip of the cover. The cover should be opened all the way until it stops at the hinges. To close the cover, close it fully while holding the grip of the cover and release your hand.

#### 3 Grip to open/close the right side cover



- 1 Front cover
- 2 Right side cover
- 3 Control panel
- 4 Printhead lever
- 5 Printhead
- 6 Printhead pressure knob
- 7 Platen
- 8 Tension roller
- 9 Pinch roller
- 10 Pinch roller lever
- 11 Paper sensors (interconnecting with pinch roller)
- 12 Paper sensor adjust-knob
- 13 Paper guide (rotation and horizontal movement)
- 14 Paper roll shaft
- 15 Cushion roller
- 16 Ribbon bobbin holders
- 17 Paper holder

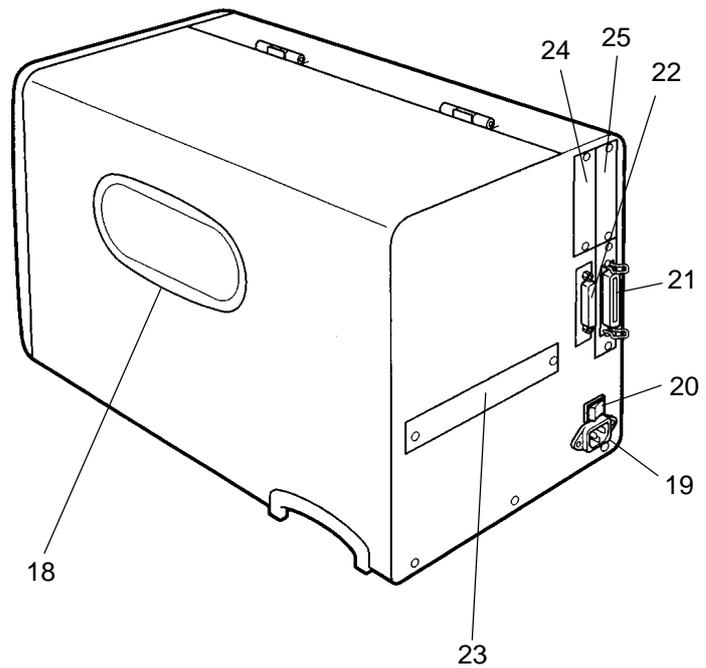


**CAUTION**

Do not touch the printhead set screw A, platen set screw B and tension roller set screw C.

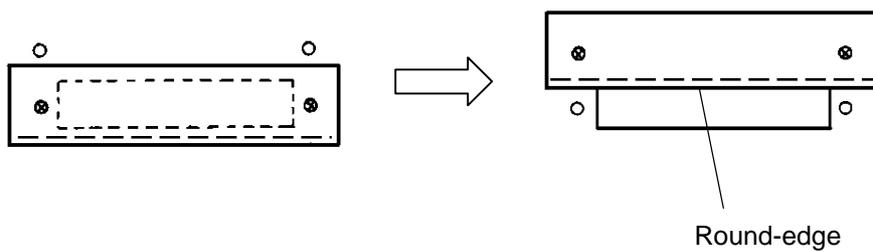
**Rear and side covers**

- 18 Media viewing window
- 19 AC main power input port
- 20 Power switch
- 21 Parallel interface connector  
(or optional IEEE1284ECP interface connector or optional Ethernet interface connector)
- 22 RS-232C serial interface connector
- 23 Fanfold insertion slot plate
- 24 Optional USB interface slot plate
- 25 (not used)



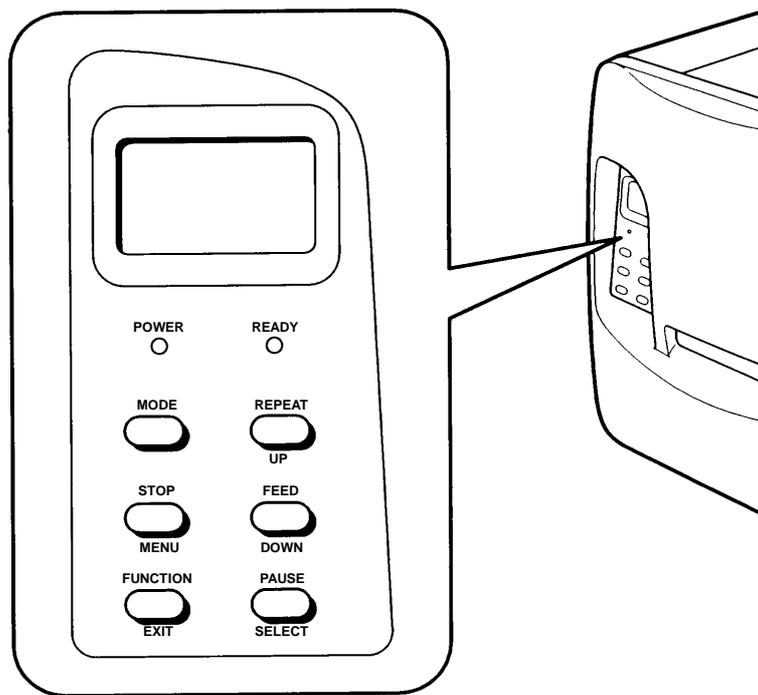
**When loading the paper from the outside**

Use the fanfold insertion slot on the rear cover. Remove the two screws, slide up the fanfold insertion slot plate, and fix the plate by screwing the two screws into their holes. Note that the bottom of the plate is round-edged.



## 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 shows "Pause" on the LCD (Display). By pressing the **PAUSE** key again, the READY LED lights up.
- The printer is in Ready mode after the power-on sequence has finished.
- The Ready mode is selected using the **MODE** key.

## ● 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.

When the **MODE** key is pressed, the printer is placed into the Ready mode. When the **MODE** key is pressed again, the printer returns to Menu mode. Each time the **MODE** key is pressed, the printer toggles between the **Ready mode** and **Menu mode**. (See P31)

## ■ Key functions in the Ready mode

### **STOP** key

- Shows "JobClear Yes/No" on the LCD (Display) if data is stored in print buffer.
- Completes printing midway through the print job or data processing and shows "JobClear" on the LCD (Display).
- Pressing **STOP** again clears the current print job.

### **FEED** key

- Feeds one sheet of paper 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 paper 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 paper 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 sheet 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). (See P31)

## ■ Key functions in the Menu mode

### **MENU** key

Selects the next Group Menu or Menu Item. (See P31 – 33)

### **UP** key

- Selects the next Group Menu or Menu Item. (See P31 – 33)
- Selects the next Value of the Menu Item. (See P31 – 33)

### **DOWN** key

- Selects the previous Group Menu or Menu Item. (See P31 – 33)
- Selects the previous Value of the Menu Item. (See P31 – 33)

### **SELECT** key

- Enters the Menu Item from the Group Menu. (See P31 – 33)
- Enters or exits the Value from the Menu Item. (See P31 – 33)
- Executes current setting of the Value, for example, “Printing Sample” in Test mode.  
(See P35)

### **EXIT** key

Return to the Menu Item or Group Menu. (See P31 – 33)

### **MODE** key

Return to the Ready mode and the ‘READY’ is shown on the LCD (Display). (See P31, 32)

# Chapter 4

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## Media (Paper) and Ribbon

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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

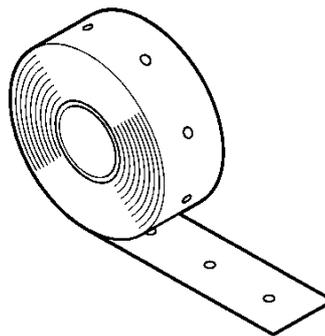
We recommend that you should use a genuine Citizen paper or its equivalent.

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

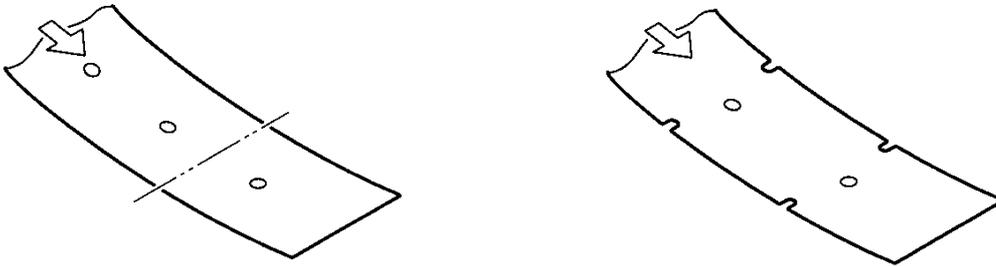
#### ● Tag

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



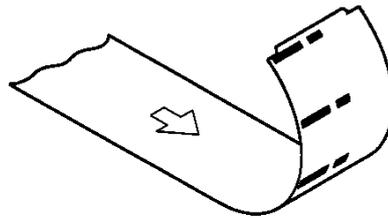
◆ **Center-punched hole tag**

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



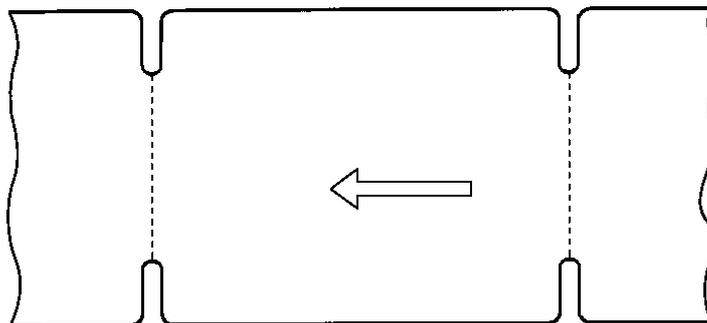
◆ **Black mark tag**

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



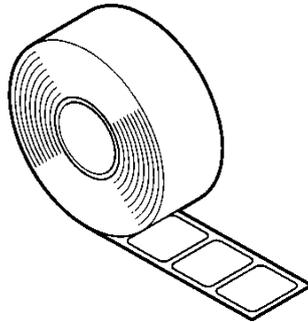
◆ **Corner-with-a-radius cut tag**

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



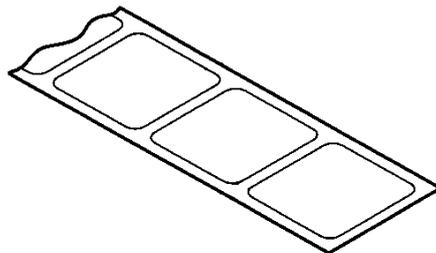
● **Label**

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.



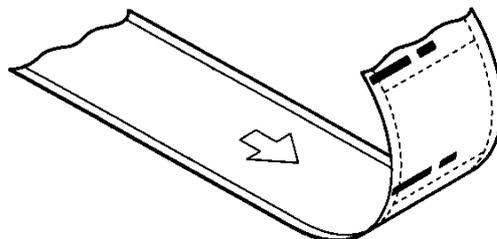
◆ **Labels with inter-label gap**

There are gaps between labels.



◆ **Black mark label**

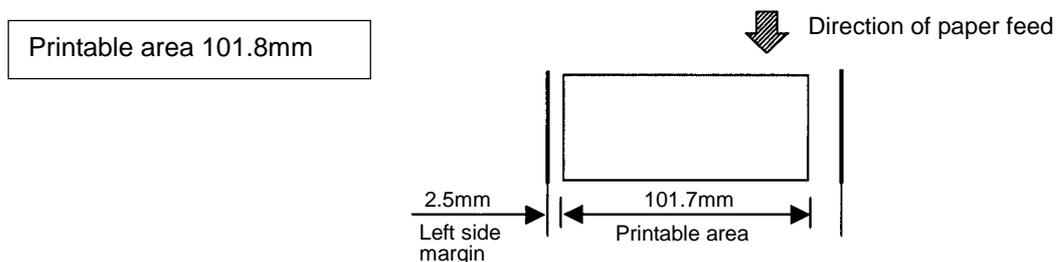
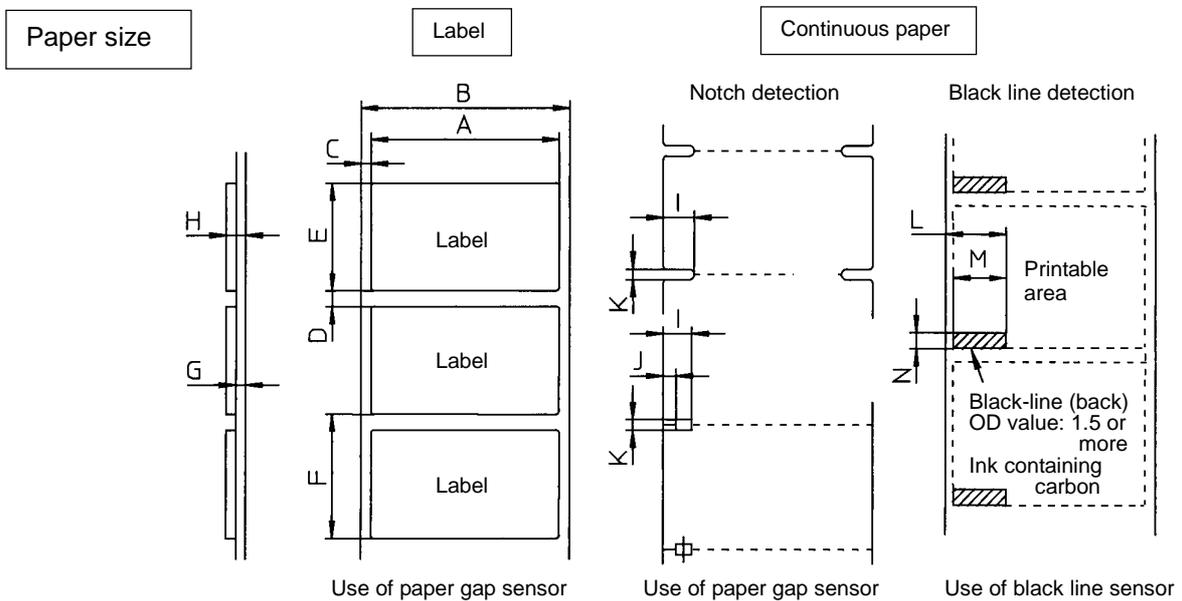
Black marks are printed on the back of the label line on the central line or right side in the direction of feed.



## 4.2 Paper size

		Minimum value mm (in)	Maximum value mm (in)
A	Label width	19 (0.748)	115.00 (4.53)
B	Liner width	19 (0.748)	115.00 (4.53)
C	Label left edge position	0	2.5 (0.10)
D	Label paper gap length	2 (0.079)	1016 (40)
E	Label length	6.5 (0.256)*	1016 (40)
F	Label pitch	6.5 (0.256)	1016 (40)
G	Liner thickness	0.06 (0.0025)	0.089 (0.0035)
H	Paper total thickness	0.14 (0.0055)	0.25 (0.01)
I	Notch right end position	3.75 (0.148)	11 (0.43)
J	Notch left end position	0	55.6 (2.19)
K	Notch length	2 (0.079)	17.8 (0.70)
L	Black line right end position	12.7 (0.5)	115 (4.53)
M	Black line length	6 (0.236)	51.5 (2.02)
N	Black line width	3 (0.118)	17.8 (0.70)

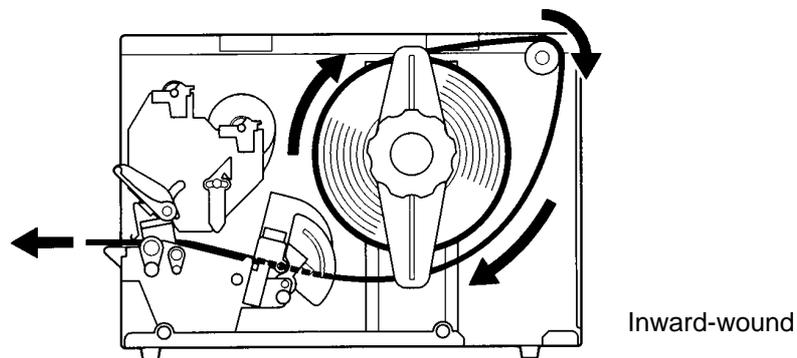
- Note**
- If paper has both label paper gap and black line, use the paper gap sensor.
  - For fanfold, use the paper gap sensor.
  - \* In Peel Off Mode, this value is 25.4mm (1in).



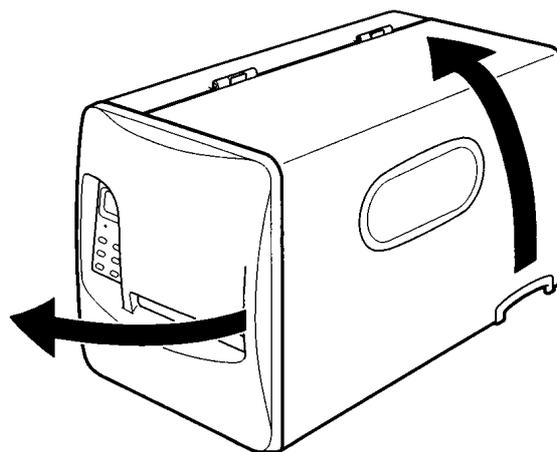
## 4.3 Loading the paper

The in-wound roll of paper is the standard, although outward-wound media can also be used without problems. See Page 23 for these details.

The paper core diameters for the roll of paper are 1, 3, or 4 inches. The standard core sizes are 1 and 3 inches. When using the paper with a paper core diameter of 3 inches, first insert the adaptor provided as an accessory into the paper core, slide it to the center of the paper core (the center of the paper width), and then set the paper on the paper shaft as shown below. When using the paper with a paper core diameter of 4 inches, the 4-inch adaptor (optional) is needed, so contact your supplier.



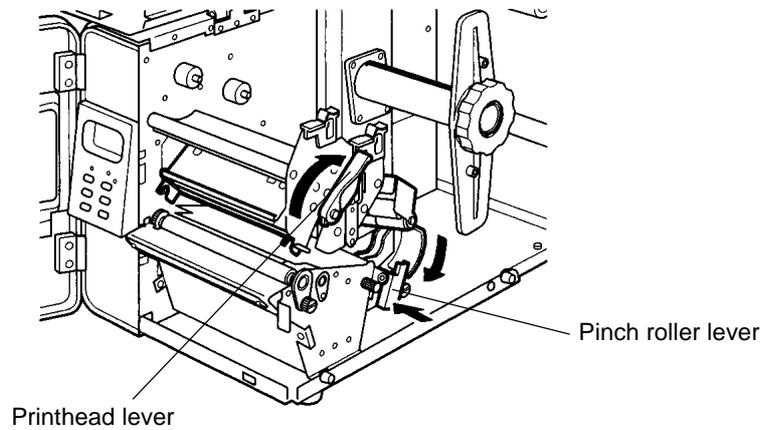
1. Open the front cover by pulling the lower right corner of the cover.
2. Open the right side cover (viewed from the front), holding the curved grip on the lower right. The cover should be opened all the way until it stops at the hinges.



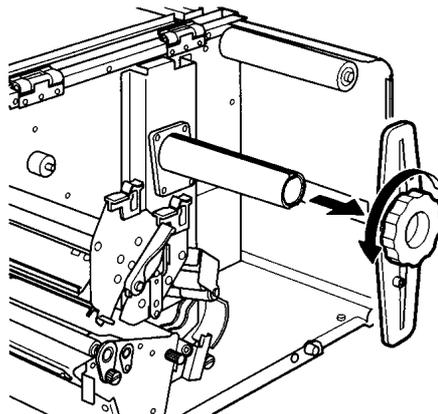
 **CAUTION**

Do not release the cover midway. Premature release may cause the cover to slam shut, risking injury.

3. Move the blue printhead lever towards the back of the printer to lift the printhead block. Push the blue pinch roller lever to lift the pinch roller, and lower the paper guide.

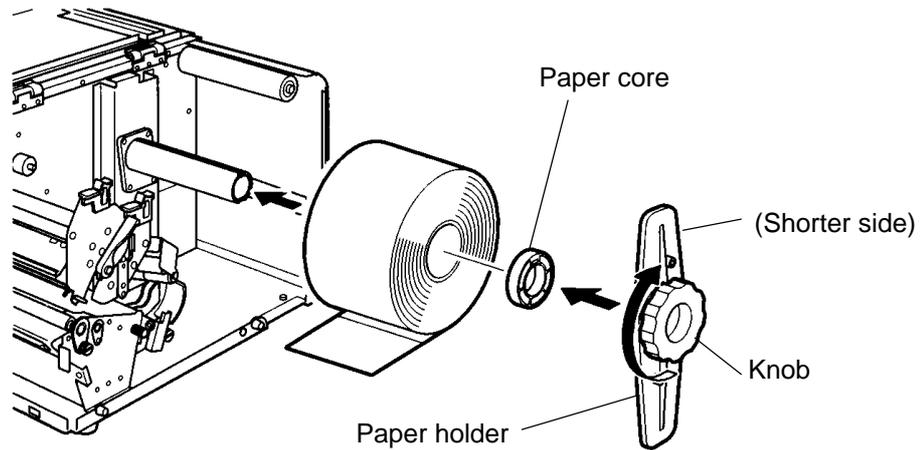


4. Turn the blue paper holder knob counterclockwise, and remove the paper holder from the shaft.

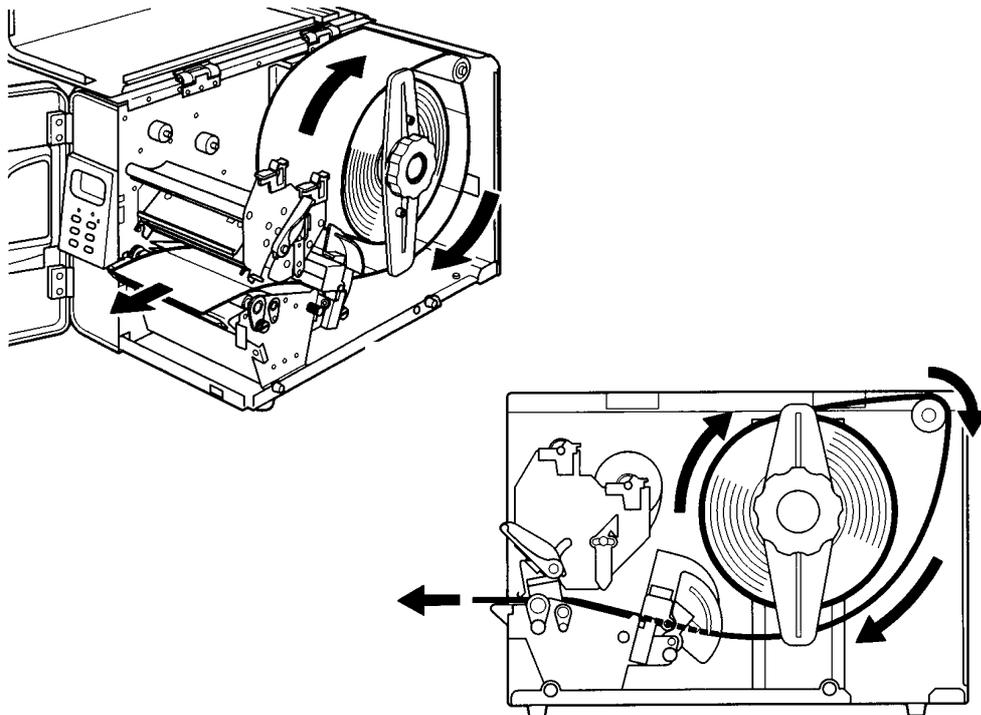


The roll of paper now can be loaded.

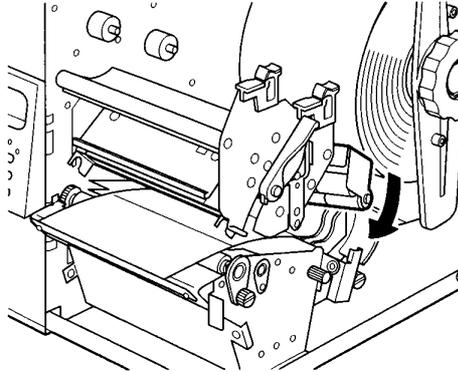
- To load the roll of paper, insert the paper adaptor into the paper core as needed and put the adaptor onto the paper shaft, pushing it to the deepest side, then insert the paper holder into the paper shaft and turn the knob clockwise to tighten the paper holder. At this time, be careful about the direction of the two plates — the shorter plate should face up when the printer is equipped with the peeler option, and down when the printer is the standard model.



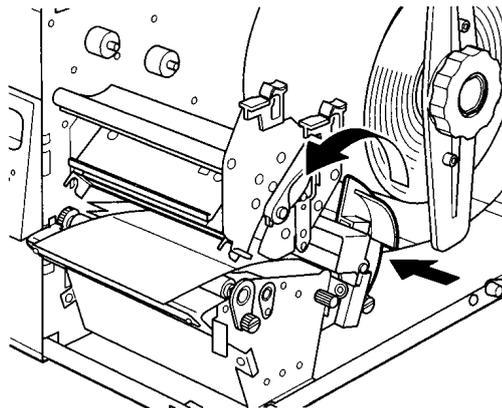
- Pull the free end of the roll of paper through the mechanism as shown below. The paper path can be seen clearly when viewed from the side of the printer, passing below the open pinch roller and open printhead.



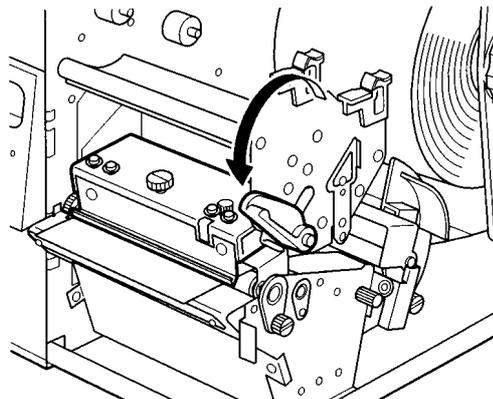
7. Let the edge of the roll of paper nearer to the control panel butt against the fan-shaped metal paper guide (on the deepest side) and the blue plastic paper guide. When this done, push the pinch roller and ensure it is locked in position by the blue lever.



8. Slide the blue paper guide to left edge of the roll of paper in the direction of feed and turn it upwards.



9. Slightly pulling the paper toward you, move the blue printhead lever towards the front of the printer to lower and lock the printhead block in place.

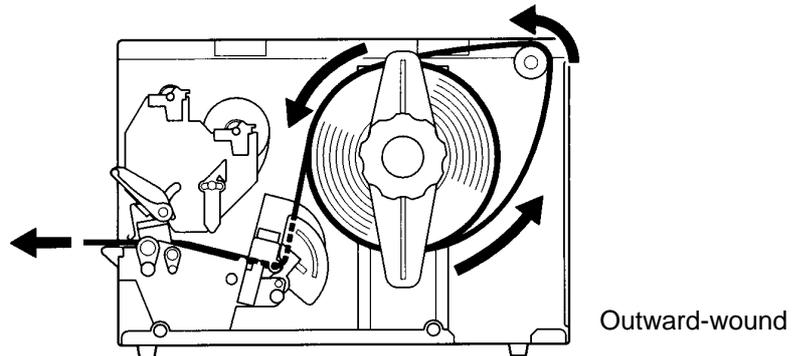


10. Close the right side cover and the front cover.  
Loading the paper is now completed.



**CAUTION**

When the outward-wound roll of paper is used, first put the roll of paper onto the paper shaft so that it can be wound counterclockwise as shown below, then pull the end of the roll of paper through the printer as before.



**SUGGESTION**

You may not need the 'paper core adapter' when the printer is used with outward-wound media. A better paper path may be achieved by hanging the 3- or 4-inch internal diameter roll of paper directly onto the main paper shaft. However, caution should be exercised to ensure the media doesn't foul the optional peeler/rewinder spool, if fitted.



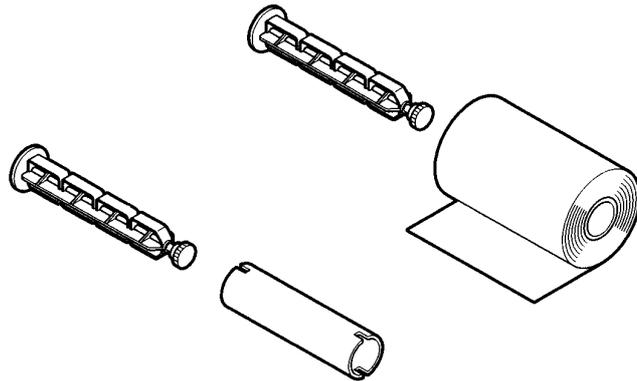
**CAUTION**

The outer diameter of the outward-wound roll of paper is 8 inches (maximum) with or without the peeler (optional).

## 4.4 Loading the ribbon

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

The ribbon (with paper core) is loaded into the printer using the two ribbon bobbins supplied. The ribbon passes from the source ribbon core (unused) to the destination core of used ribbon.



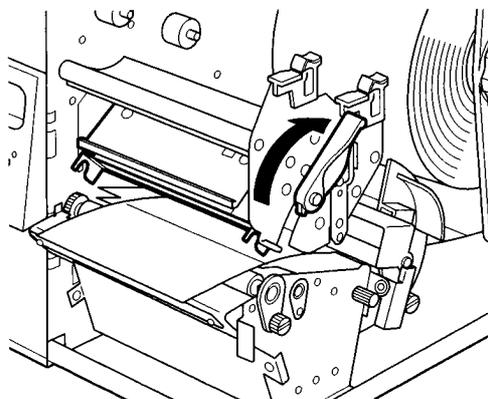
1. Open the front cover by pulling the right hand side of the cover towards you.
2. Open the right side cover (viewed from the front), holding the curved grip on the lower right of the cover. The cover should be opened all the way until it stops at the hinges.



### CAUTION

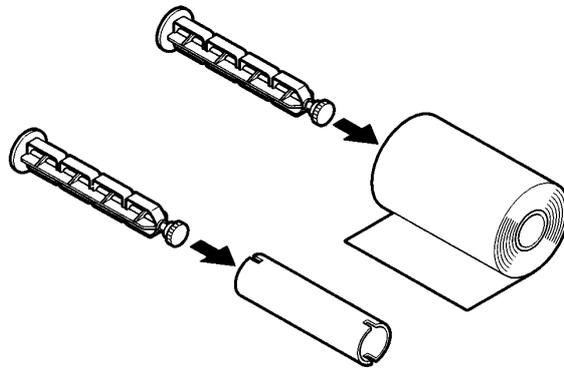
Do not release the cover midway. Premature release may cause the cover to slam shut, leading to injury.

3. Turn the blue printhead lever clockwise to lift the printhead block. At this time, the pinch roller should be kept closed.

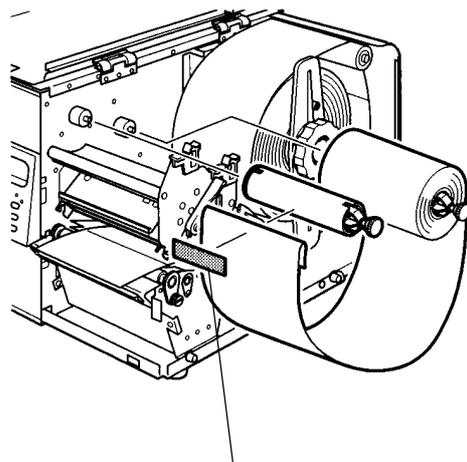


The ribbon now can be loaded.

4. Insert the bobbins into the source ribbon and destination paper cores respectively.



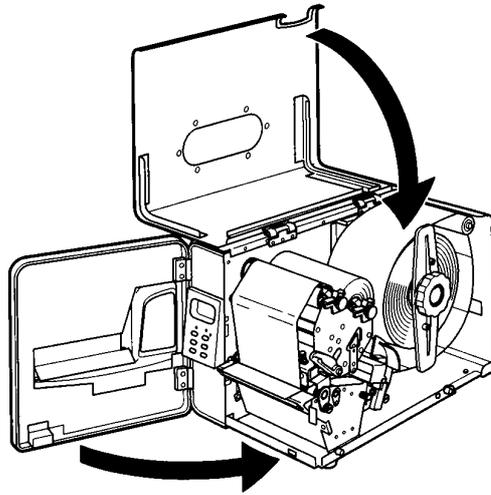
5. Fit the destination paper core with the bobbin on the left side ribbon shaft holder and click into position.
6. Feed the ribbon bobbin a certain length and set it on the right side ribbon shaft holder and click into position.
7. Pass the ribbon through the lower side of the printhead block onto the destination ribbon core. At this time, the end of the ribbon is stuck to the destination ribbon core using the adhesive leader supplied with our genuine consumables. Alternatively, clear adhesive tape may be used. Remove any slack in the ribbon by winding the destination ribbon core clockwise.



Adhesive leader (or clear adhesive tape)

8. Turn the blue printhead lever counterclockwise to lock the printhead block.

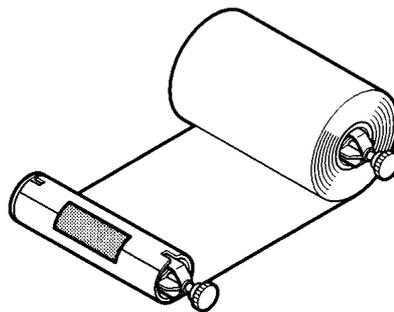
9. Close the right side cover and then close the front cover, allowing the magnetic catch to firmly hold the front cover.



The ribbon is now loaded.

**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 block.



**CAUTION**

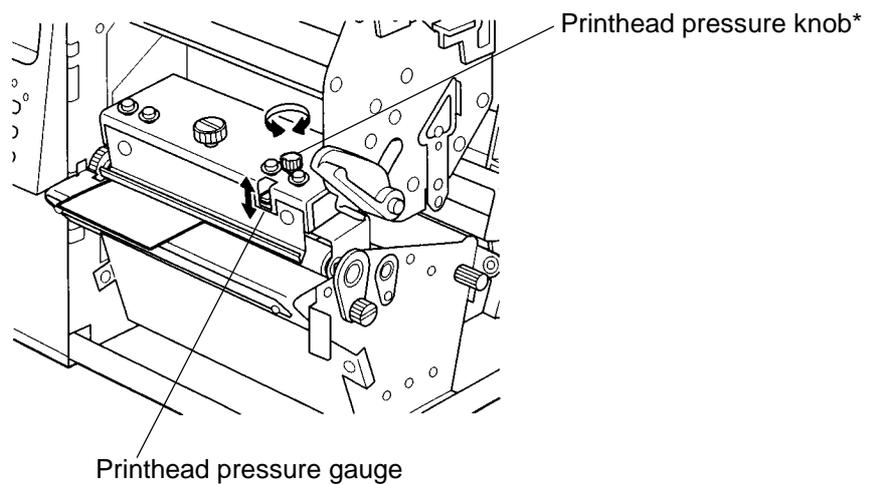
Be sure to wind the ribbon sufficiently over the adhesive leader (or clear adhesive tape) fastened to the end of the ribbon before closing the right side cover.

## 4.5 Printhead pressure adjustments

The paper width for this printer is 19-115 mm (0.75-4.53 in). When a narrow width of paper or thick media is used, the printhead pressure across the print area is not even so poor print quality etc may occur.

Before making adjustments, the paper must be loaded and the printhead block be lowered and locked. If the ribbon is loaded, the front bobbin should be removed and laid down in front of the printer.

When using paper with a width of 115 mm (4.53 in) the standard printhead pressure position is about 1 mm (0.039 in) above the bottom of the gauge pointed out by the printhead pressure pointer. When narrow-width paper is used, reduce the printhead pressure on the no paper section by turning the printhead pressure knob counterclockwise. When making printhead pressure adjustments, check the paper width, paper thickness, and presence/absence of a ribbon.



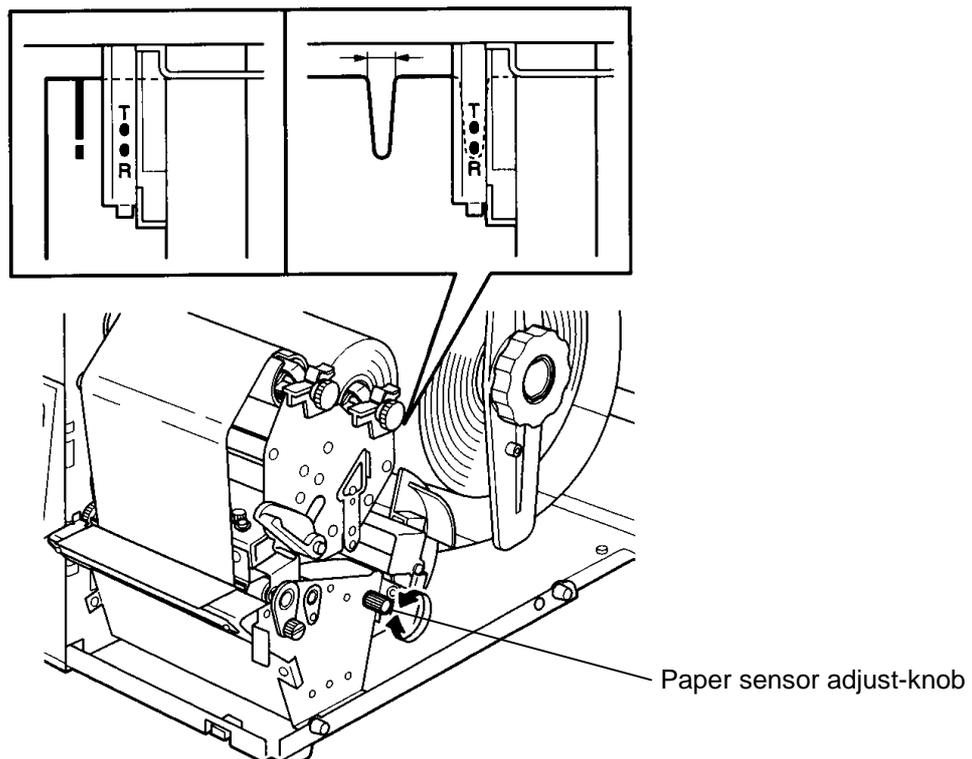
- \* To increase printhead pressure, turn printhead pressure knob clockwise.
- To decrease printhead pressure, turn printhead pressure knob counterclockwise.

## 4.6 Paper sensor adjustments

Using the paper sensor adjust-knob, adjustments to the paper sensor can be made to suit the kind of media that is being used.

Before making adjustments, the paper must be loaded and the pinch roller be lowered. The two holes in the sensor arm correspond to the two different sensor positions, i.e., a hole 'R' for the reflective sensor and a hole 'T' for the transparent sensor.

When using black mark tag or label paper, align the R hole with the black mark. When using corner-with-a-radius cut tag or gap label paper, align the T hole with the cut or gap. The paper sensors are moved away from you by turning the paper sensor adjust-knob (white) counterclockwise and towards you by turning the paper sensor adjust-knob clockwise.



# Chapter 5

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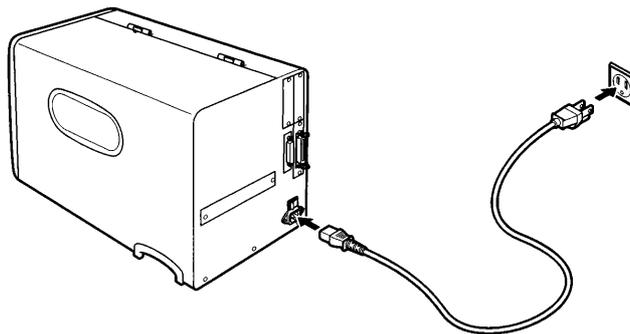
## Power ON and Using the Control Panel

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After loading the paper 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.



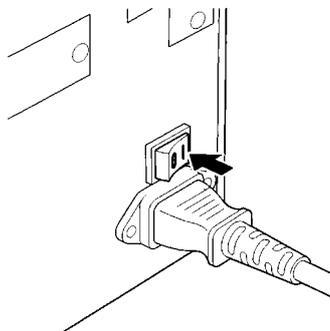
#### CAUTION

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

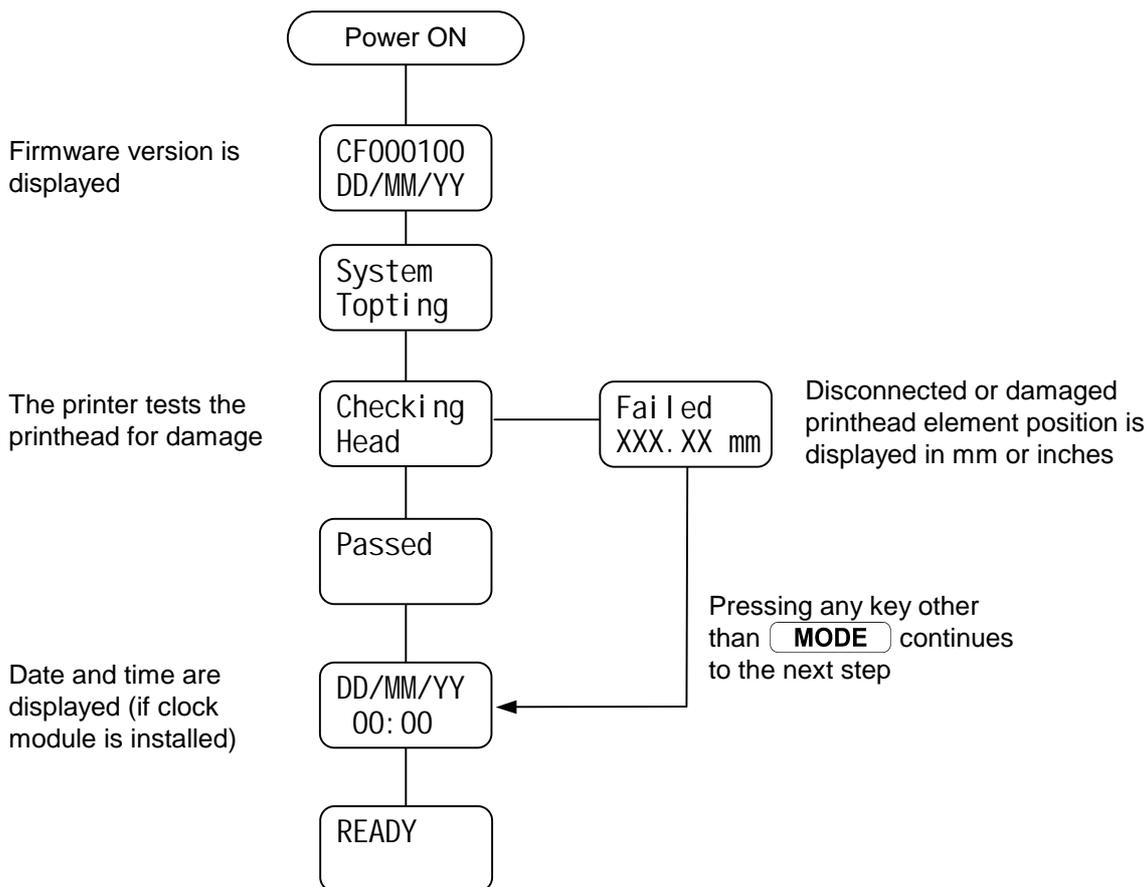
## 5.2 Turning the printer ON

Turn ON the power switch.

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

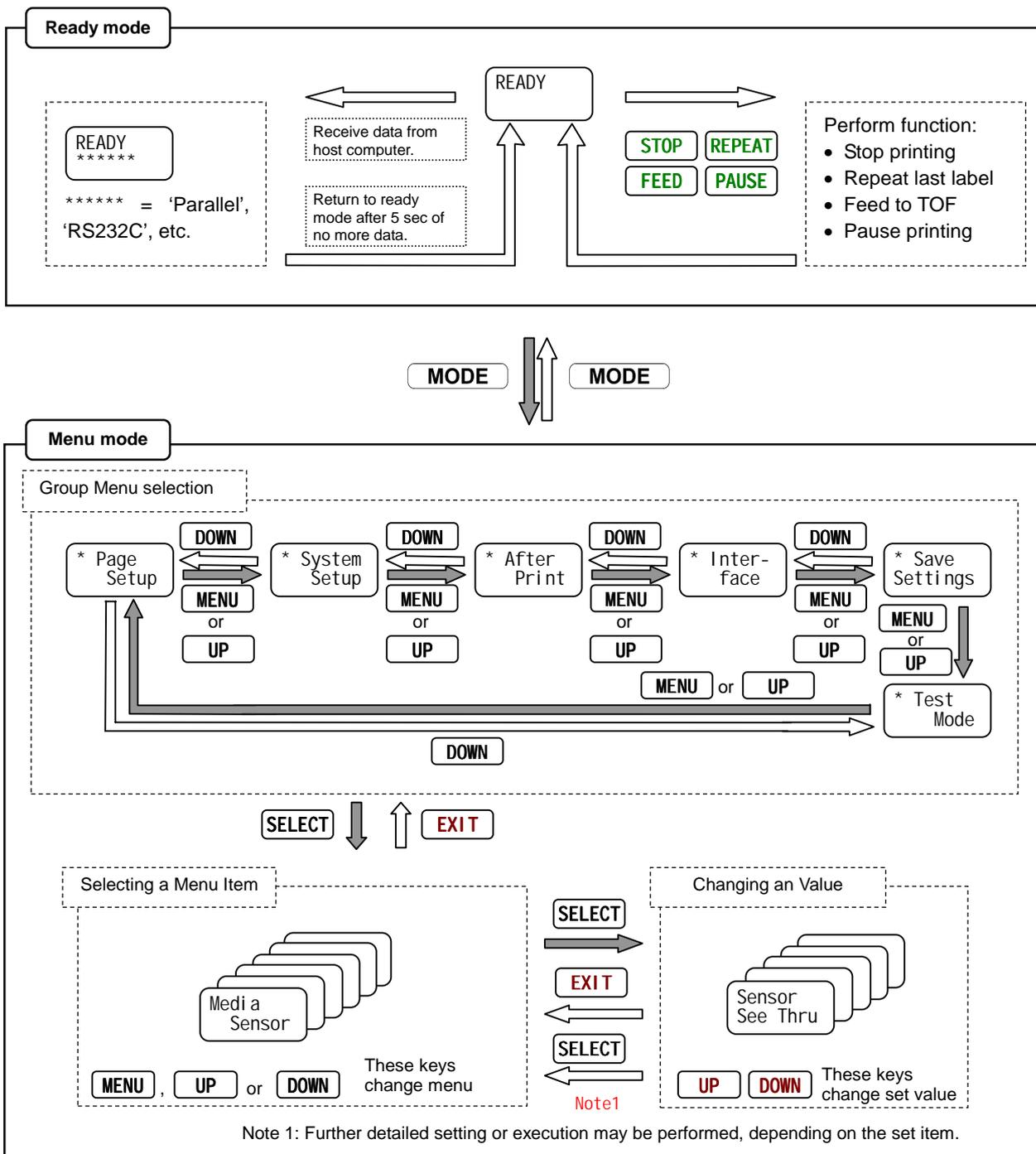


Once the power is turned ON, the following initial messages are displayed on the screen for about three seconds.



### 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 paper feed, printing stop/restart etc using the keys on the control panel. (See P12 – 14)

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

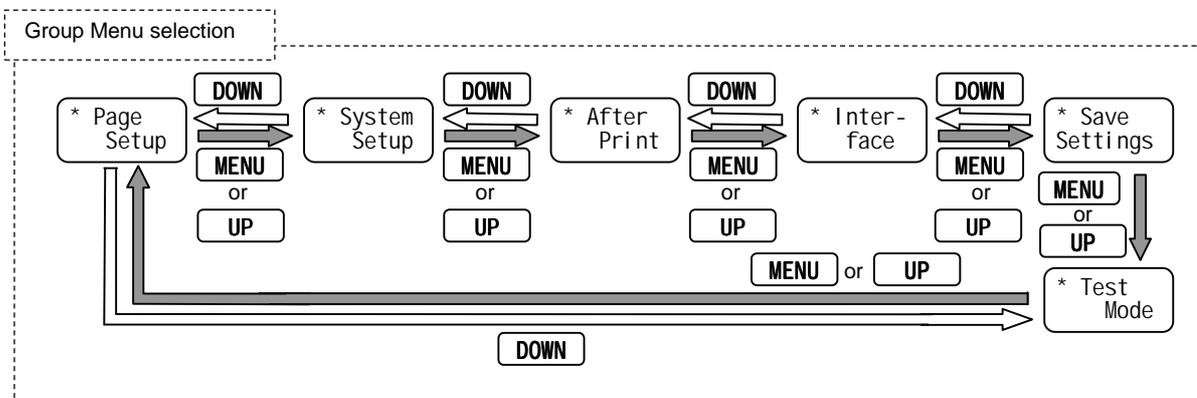
\* Page Setup

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:            01 – 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 'Test Pattern.'

Test  
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 **UP** 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  
Sample\_

## 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.

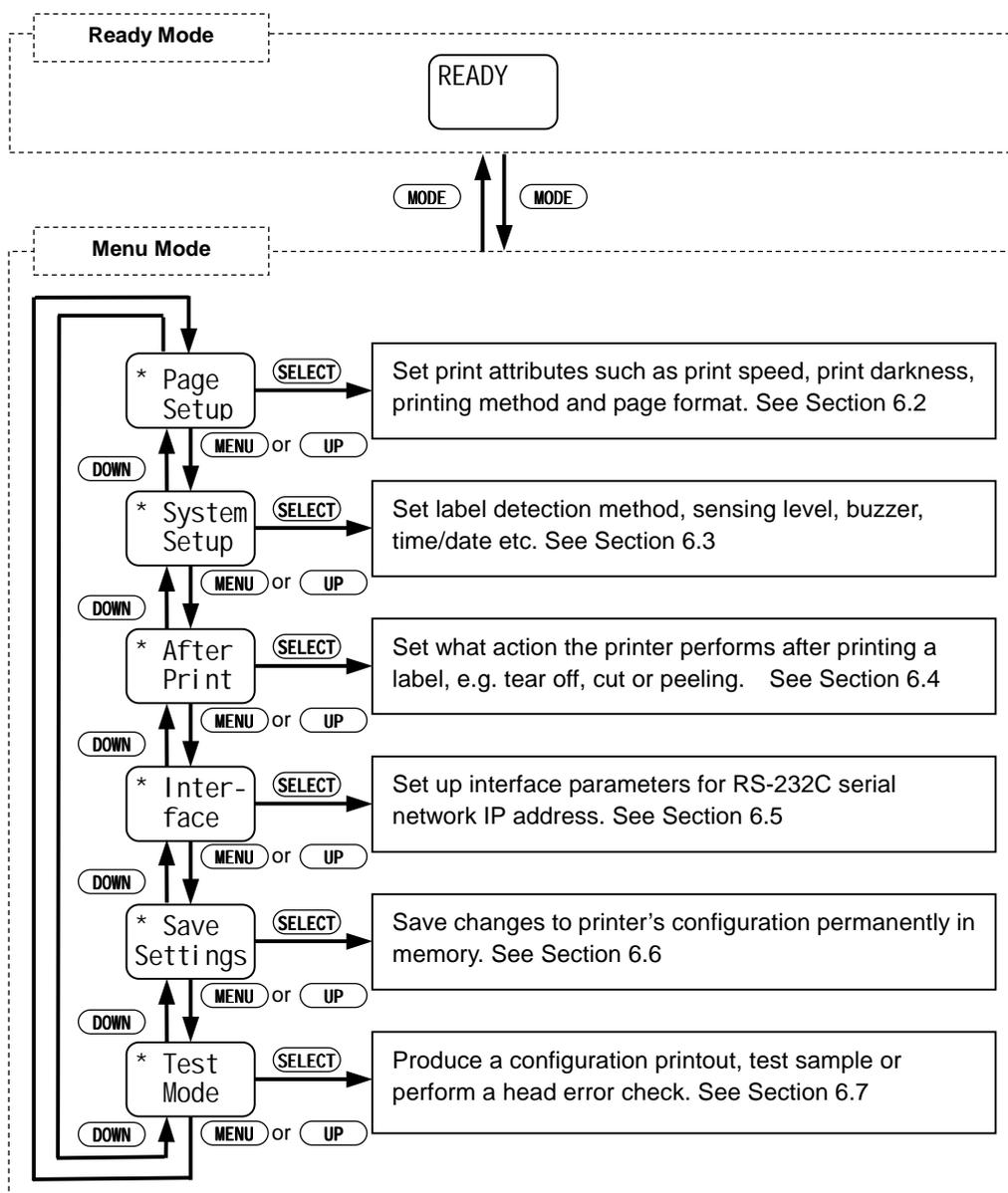
# Chapter 6

## 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 menu system and which keys perform which actions.

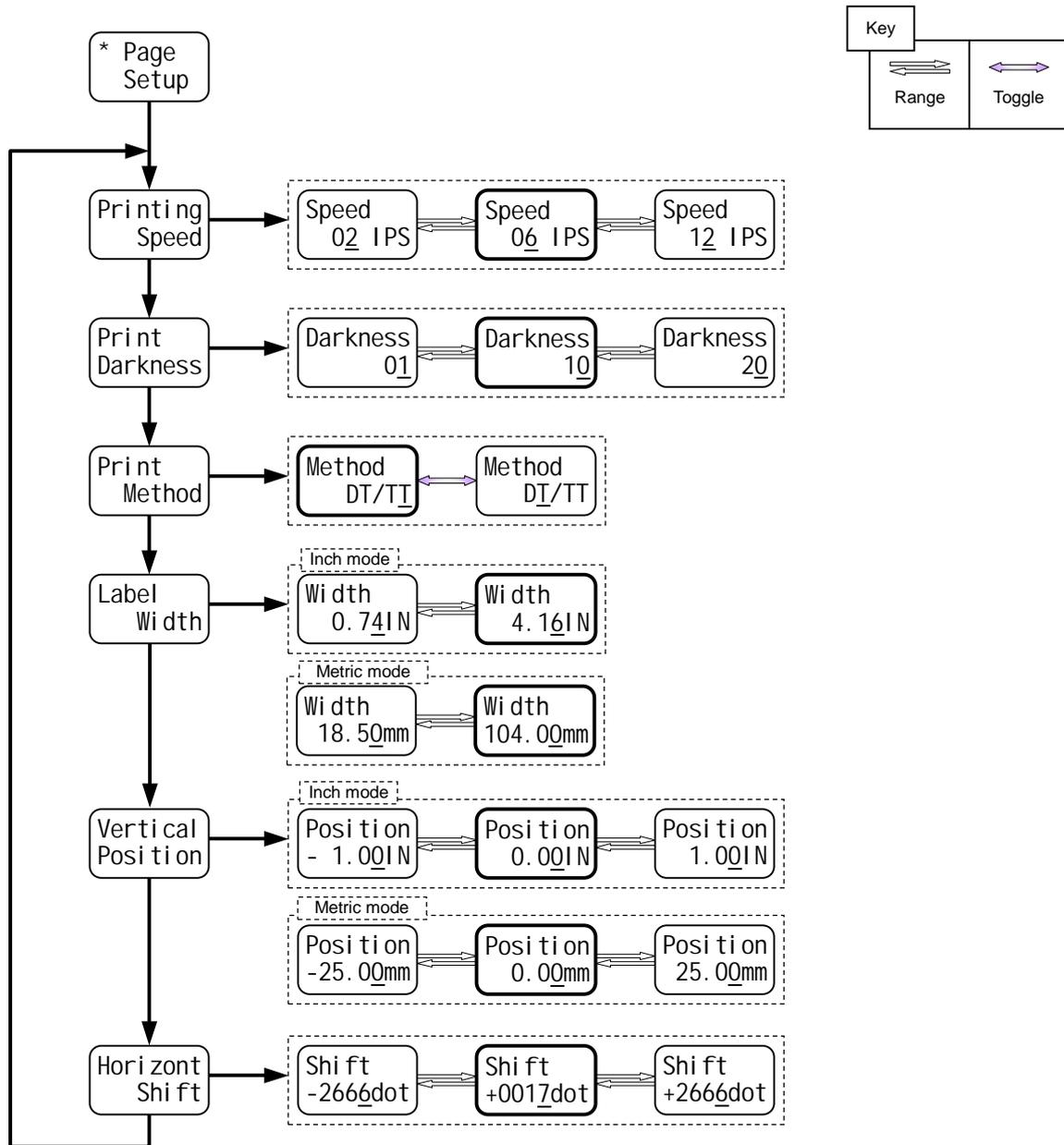
### 6.1 The Group Menu

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.



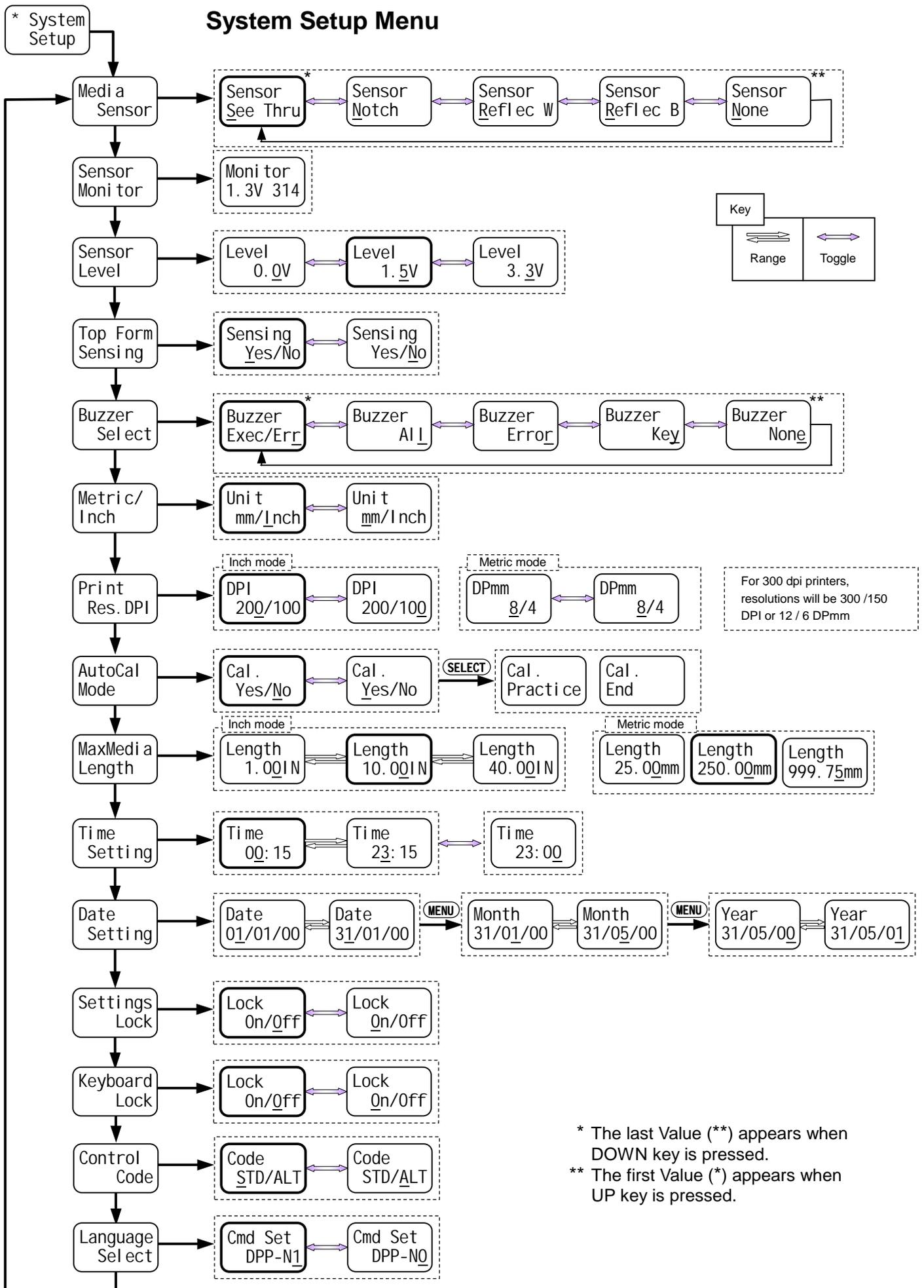
## 6.2 Page Setup Menu

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.



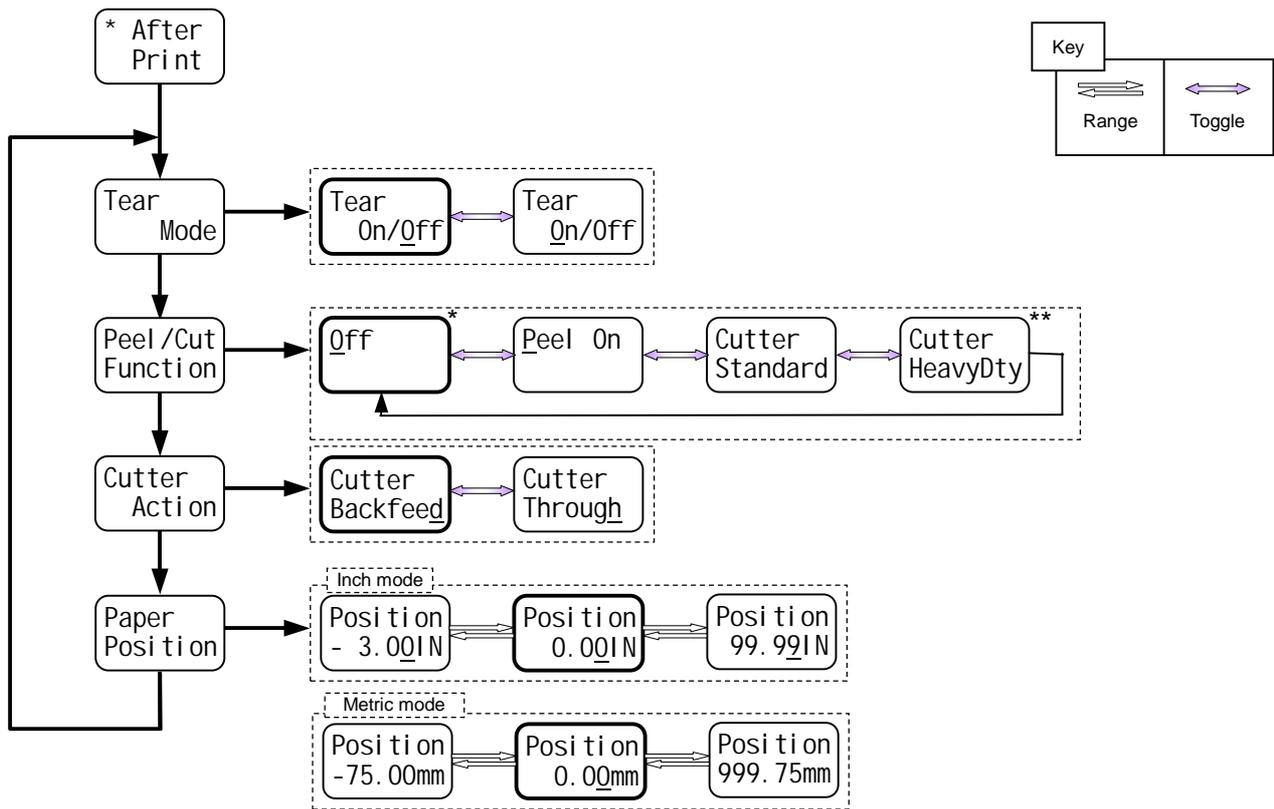
## 6.3 System Setup Menu

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.



## 6.4 After Print Menu

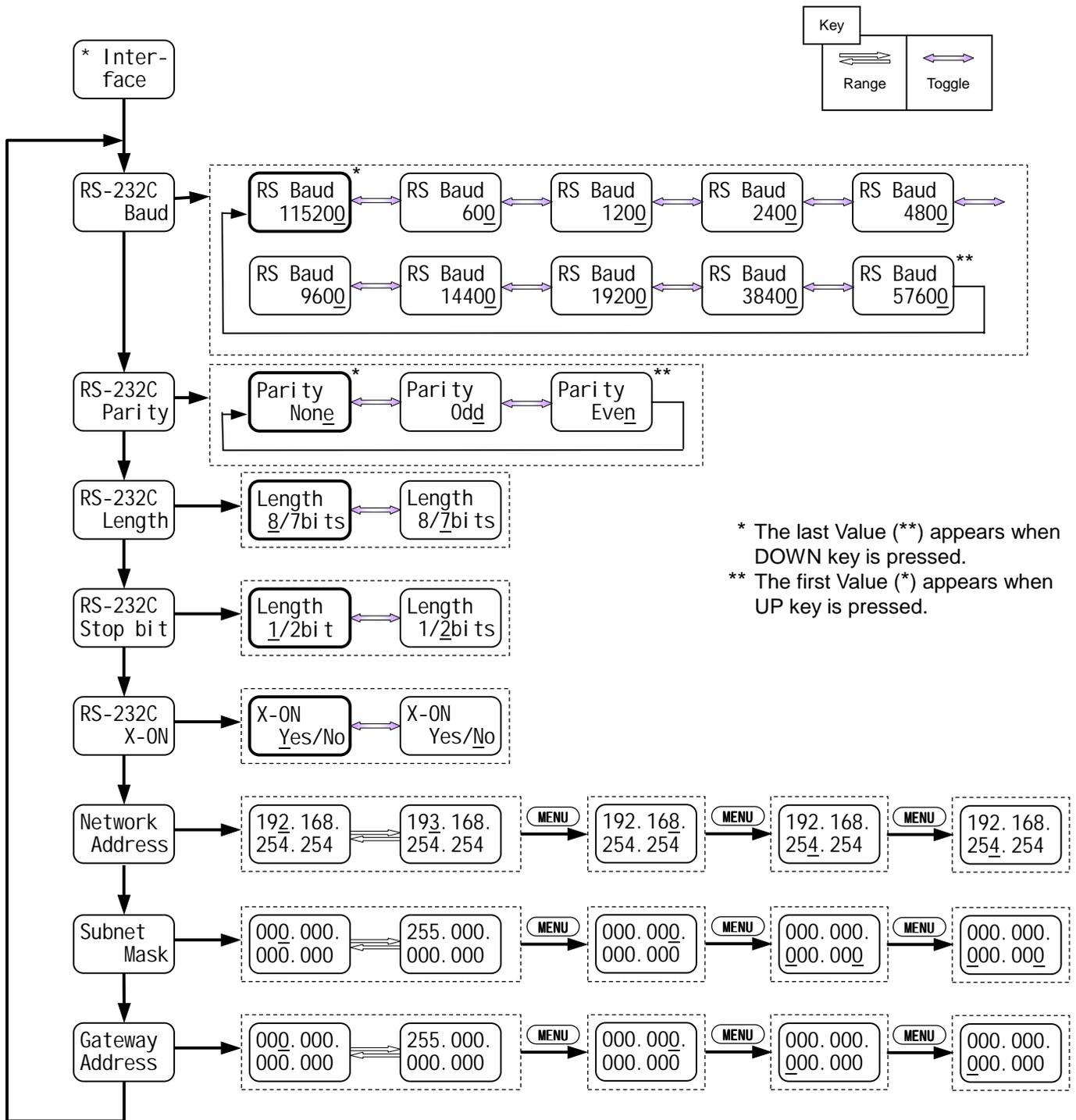
The After Print Menu allows you to configure what the printer does once the label has been printed, including whether the printer feeds to the tear position after a batch of labels, whether the printer cuts the labels and what type of cutter or peeler is installed.



- \* The last Value (\*\*) appears when DOWN key is pressed.
- \*\* The first Value (\*) appears when UP key is pressed.

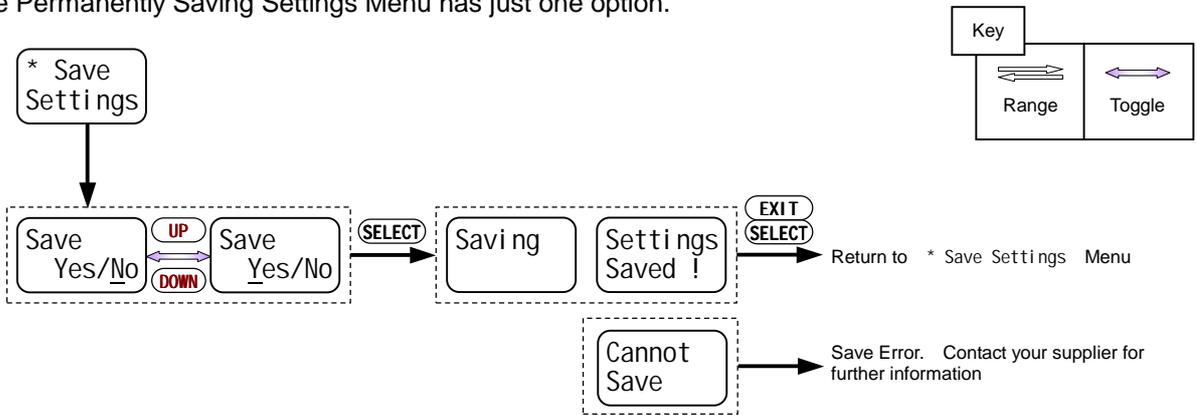
## 6.5 Interface Setup Menu

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.



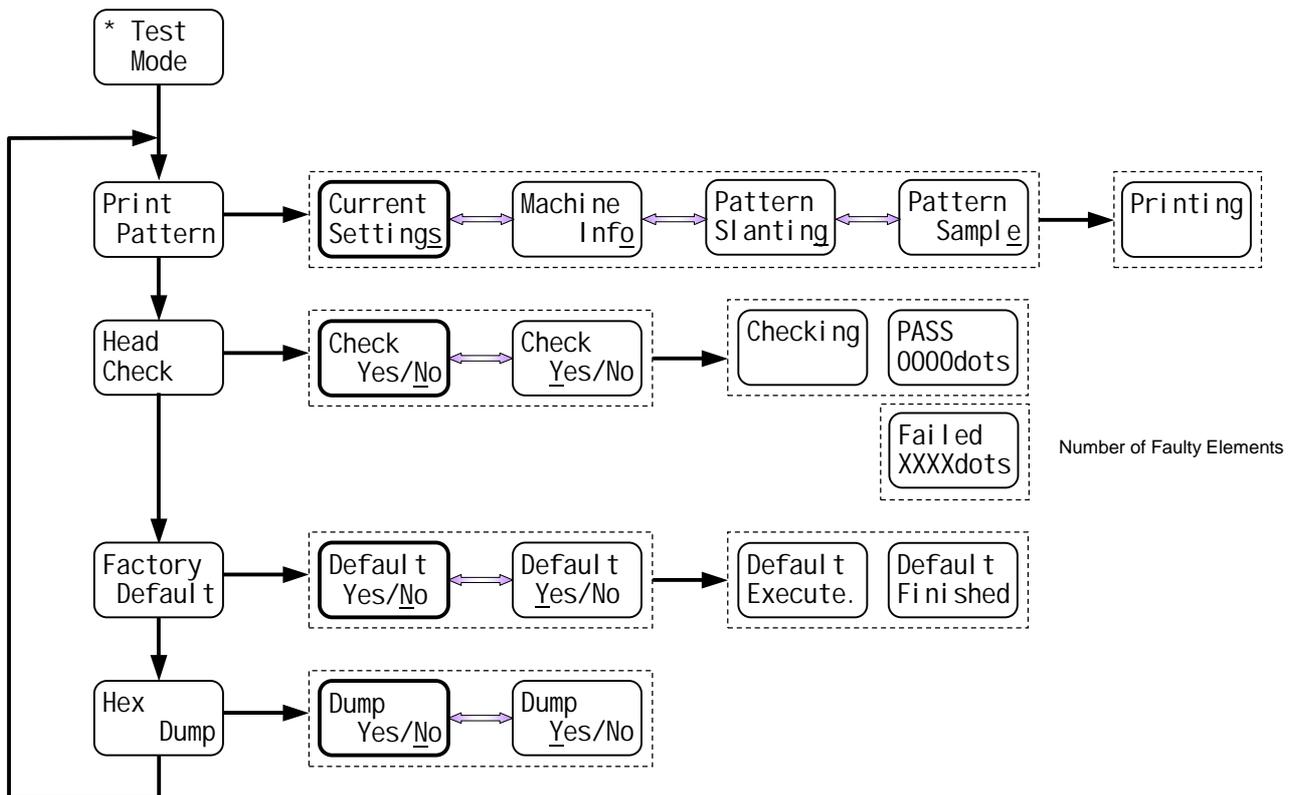
## 6.6 Permanently Saving Settings Menu

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	Print Speed	06 IPS	02 – 12 IPS	Set print speed. * 300dpi printer.
		06 IPS*	02 – 8 IPS*	
	Print Darkness	10	01 – 20	Adjust print darkness.
	Print Method	TT	DT / Direct Thermal TT / Thermal Transfer	Set printing method.
	Label Width	4.16in 104.00mm*	0.74 – 4.16in 18.50 – 104.00mm	Set print label width.
	Vertical Position	0.00in 0.00mm*	- 1.00 – 1.00in -25.00 – 25.00mm	Adjust print start position.
	Horizont Shift	+0017dot	-2666 – +2666dot	Adjust left-to-right position in dots. Allowable: -2666 to +2666 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)	200	200DPI(8 DPmm) 100DPI(4 DPmm)	Set print resolution. Values in parentheses are in metric system. * 300dpi printer.
		300	300DPI(12 DPmm)* 150DPI(6 DPmm)*	
	AutoCal Mode			Perform sensor calibration.
	MaxMedia Length	10.00 Inch	1.00 – 40.00IN 25.0mm – 999.75mm	Set GAP length.
	Time Setting			Set time (hours and minutes).
Date Setting			Set date (day, month and year).	

(Continued)

Group Menu	Menu Item	Default Value	Range of Values	Description															
* System Setup	Settings Lock	Off	On Off	When 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.															
	Control Code (DPP-N1 and DPP-N0 Mode Only)	STD	STD ALT	Change control command SOH, STX and ^ to keyboard characters. ALT: AS400 mode <table border="1" style="margin-left: 20px;"> <tr> <td>STD</td> <td>ALT</td> </tr> <tr> <td>SOH (0x01)</td> <td>^ (0x5E)</td> </tr> <tr> <td>STX (0x02)</td> <td>~ (0x7E)</td> </tr> <tr> <td>^ (0x5E)</td> <td>@ (0x40)</td> </tr> </table>	STD	ALT	SOH (0x01)	^ (0x5E)	STX (0x02)	~ (0x7E)	^ (0x5E)	@ (0x40)							
	STD	ALT																	
SOH (0x01)	^ (0x5E)																		
STX (0x02)	~ (0x7E)																		
^ (0x5E)	@ (0x40)																		
Language Select	DPP-N1	DPP-N1 DPP-N0	Change emulation compatibility.																
* After Print	Tear Mode	Off	Off On	Set Tear OFF (only valid when Peel/Cut Function is off).															
	Peel/Cut Function	Off	Off Peel On Cutter Standard Cutter HeavyDty	Set optional device and change relative reference of command STX+fnnn parameter for stop position. Set and reference f values are as follows: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Set optional device</th> <th>Reference fnnn value</th> <th>Sensor to Peel/Cut Position</th> </tr> </thead> <tbody> <tr> <td>Off</td> <td>110 (inch mode), 279 (mm mode)</td> <td>87mm 3.43inches</td> </tr> <tr> <td>Peel On</td> <td>146 (inch mode), 371 (mm mode)</td> <td>132.9mm 5.23inches</td> </tr> <tr> <td>Cutter Standard</td> <td>230 (inch mode), 584 (mm mode)</td> <td>113.2mm 4.46inches</td> </tr> <tr> <td>Cutter HeavyDty</td> <td>230 (inch mode), 584 (mm mode)</td> <td>118.7mm 4.67inches</td> </tr> </tbody> </table>	Set optional device	Reference fnnn value	Sensor to Peel/Cut Position	Off	110 (inch mode), 279 (mm mode)	87mm 3.43inches	Peel On	146 (inch mode), 371 (mm mode)	132.9mm 5.23inches	Cutter Standard	230 (inch mode), 584 (mm mode)	113.2mm 4.46inches	Cutter HeavyDty	230 (inch mode), 584 (mm mode)	118.7mm 4.67inches
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Cutter Standard	230 (inch mode), 584 (mm mode)	113.2mm 4.46inches																	
Cutter HeavyDty	230 (inch mode), 584 (mm mode)	118.7mm 4.67inches																	
Cutter Action	Backfeed	Backfeed Through	Set cutter operation. Setting is enabled only when Cutter A or B is selected. <b>Backfeed:</b> Always backfeed to top-of-form after cutting. <b>Through:</b> When printing multiple pages at one time, only the last label is backfed.																
Paper Position	0.00IN 0.00mm	- 0.8IN - 3.00IN - 20.3mm - 76.2mm	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 and set values of Peel/Cut Function.																

(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 in buffer.
	Head Check			Check for faulty printhead elements.
	Factory Default			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> </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> </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 improper?</li> <li>5. Are the print attributes improper?</li> <li>6. Is the label sensor threshold set correctly 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 print attributes via the Menu from the control panel.</li> <li>6. Incorrect threshold level may cause the printer to miss some or all of the end-of-label marks on the media.</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	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	Paper Jam
Paper end (when printing)	<ul style="list-style-type: none"> <li>Load new paper.</li> </ul>	 0.5sec	Paper End
Ribbon end (when printing)	<ul style="list-style-type: none"> <li>Load new ribbon.</li> </ul>	 0.5sec	Ribbon End
Printhead up (just before printing)	<ul style="list-style-type: none"> <li>Set printhead properly by lowering printhead lever.</li> </ul>	 0.5sec	Head Open !
Roller up (just before printing)	<ul style="list-style-type: none"> <li>Lock pinch roller.</li> </ul>	 0.5sec	Roller Open !
Printhead disconnected (when turning power on or resetting)	<ul style="list-style-type: none"> <li>Contact our service personnel.</li> </ul>	 1sec	Failed x. xxinch
Cutter operation error (optional)	<ul style="list-style-type: none"> <li>Cutter blade does not move. Foreign matter may be caught or sensor connector may not be connected properly. For repair, please contact our service personnel.</li> </ul>	 0.3sec	Cutter Fail
Interface error	<ul style="list-style-type: none"> <li>Check interface cable connection.</li> <li>Check interface setup.</li> </ul>	 0.3sec	ERROR xxxxxxxx*
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	READY Cmd Err

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 P31, 32).

\* 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

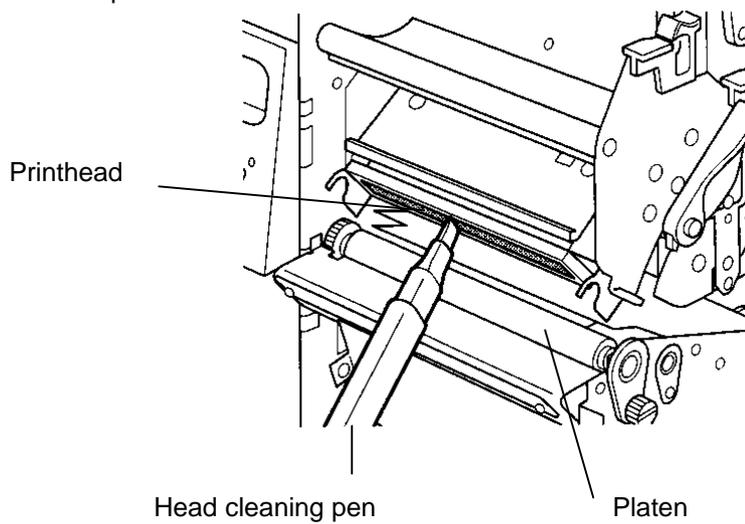


Soft cloth

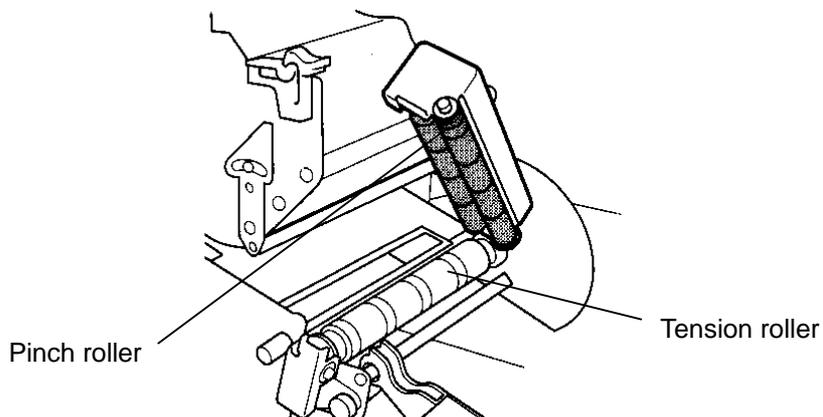


Ethyl or isopropyl alcohol (do not use solvent like thinner)

### ◆ Printhead and platen



### ◆ Tension roller and its surroundings



# Chapter 9

## Specifications

### 9.1 General specifications

Item	CLP-9001	CLP-9301
Printing method	Thermal Transfer/Direct Thermal	
Printhead resolution	203 DPI (8 dots/mm) approx	304 DPI (12 dots/mm) approx
Print width	101.8 mm (4.0 in)	
Print length	6.5 mm – 1,016 mm (0.25 – 40 in)	6.5 mm – 762 mm (0.25 in – 30 in)
Print speed	2 – 12 IPS*	2 – 8 IPS
Media	Max. media roll diameter: Inward Wound: 250 mm (9.84 in) Max. media roll diameter: Outward Wound: 203 mm (8.00 in) Max. media width: 115 mm (4.53 in)	
Media pitch detections	Movable transparent and reflective sensors	
Ribbon	Max. ribbon length: 360 m (1,181 feet) Max. ribbon outer diameter: 85 mm (3.35 in)	
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	
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	BMP file	
Interfaces	Standard: RS-232C serial (max: 115.2 kbps) and Centronics parallel Optional: USB, Ethernet and IEEE 1284 ECP	
Options	By factory: Peeler with rewinder By dealer (reseller): Standard cutter, Heavy-duty cutter, USB, Ethernet and IEEE 1284 ECP	
Power input voltage	120V: -10%+6%, 2.6A, 60HZ (U.S.A., Canada) 220V – 240V: -10%+6%, 1.5A, 50/60HZ (Europe)	
Power consumption	Typical Operating: 235W, Standby: 50W	
Operating temperature and humidity	5 – 40°C (41 – 104°F), Rh25~85% (non-condensing)	
Outer dimensions	243W x280H x 474D mm (9.6W x 11H x 18.7D in) approx	
Weight	16 kg (35.24 lb) approx, excluding media and ribbon	
Standards	120V: UL1950 CSA: No. 950 FCC: Class A 220V – 240V: EN60950, EN55024, EN61000-3-2, EN61000-3-3	

\* 10 IPS for media width of less than 2 inches.

## 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

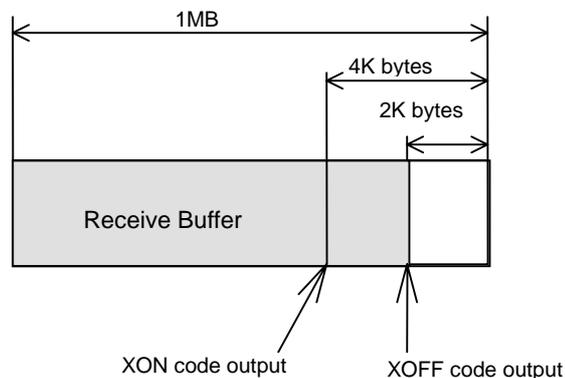
#### XON/XOFF protocol

XON code output requirements:

- Communication is enabled after power is turned ON.
- Receive buffer has less than 2K bytes available and XOFF code is output and receive buffer has at least 4K bytes available.
- 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 2K bytes available.



**DTR protocol**

DTR signal “Ready (High)” level requirements:

The following must be satisfied:

- Printer is on line.
- Receive buffer has more than 2K bytes available.

Note: When receive buffer has less than 2K bytes available, DTR signal becomes “Busy (Low)” level and this “Busy (Low) level is kept until receive buffer has at least 4K 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 2K 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

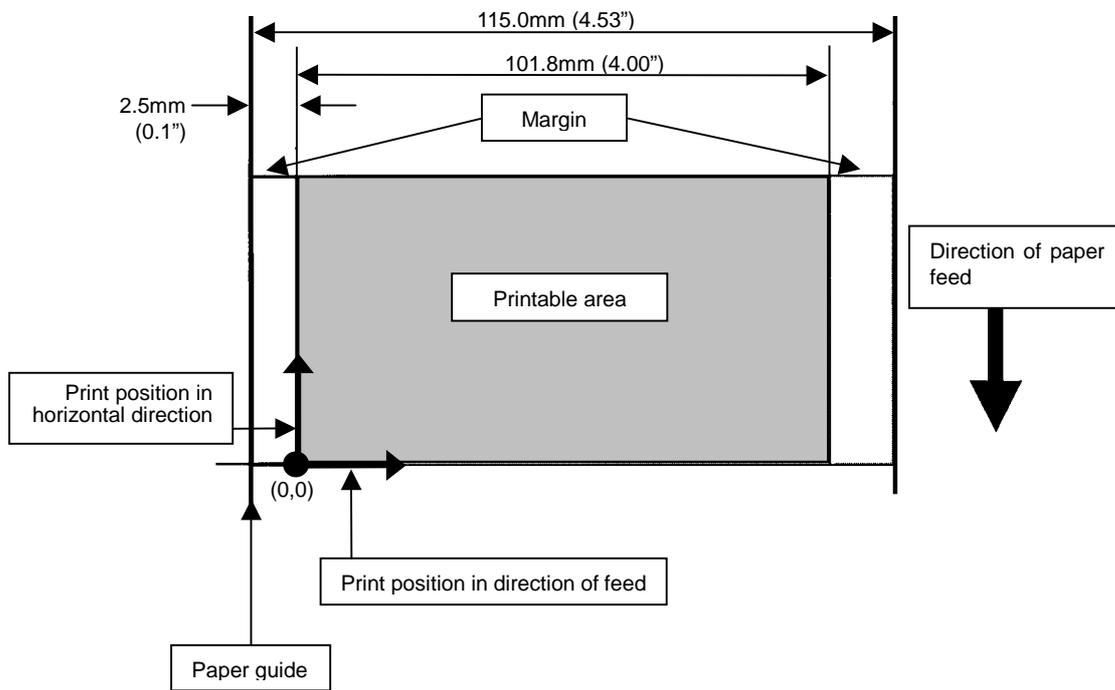
### Pin assignment

Pin No.	Signal	Input/Output	Description
1	$\overline{\text{STROBE}}$	Input	Strobe signal to read 8-bit data
2–9	DATA1-8	Input	8-bit parallel data signal
10	$\overline{\text{ACKNLG}}$	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	AUTOFD	Input	Invalid (ignored)
15	NC	–	Not used
16	GND	–	Ground
17	F.GND	–	Frame ground
18	P.L.H	Output	Peripheral Logic High (Pull up to +5V with 1.2Kohm)
19–30	GND	–	GND
31	$\overline{\text{INIT}}$	Input	Printer reset
32	$\overline{\text{FAULT}}$	Output	Signal to indicate printer error
33–35	N.C	–	Not used
36	$\overline{\text{SELECT IN}}$	Input	Invalid (ignored)

### 9.3 Printable area

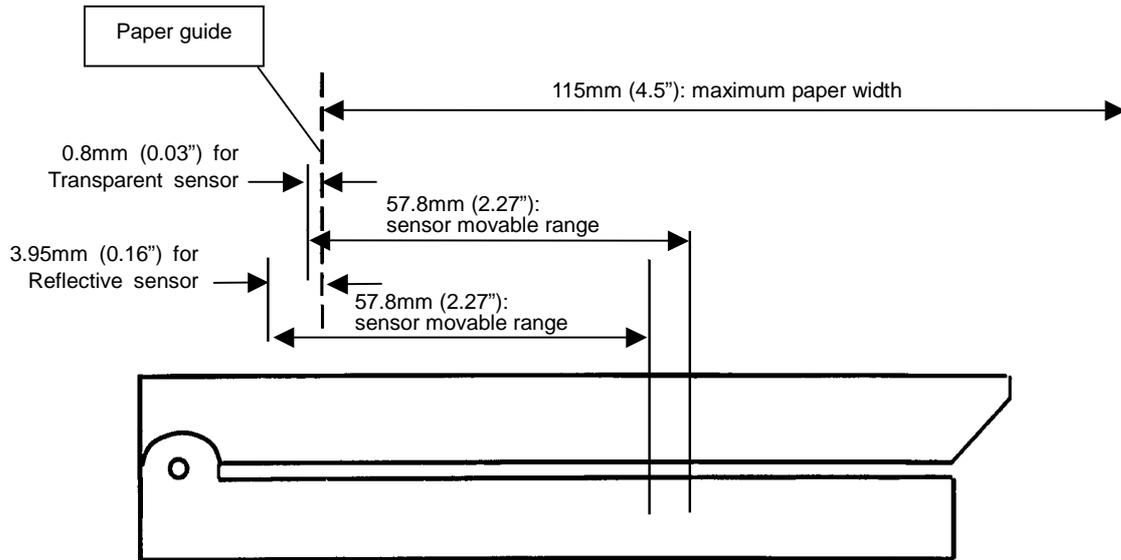
The accurate print position is illustrated below.

#### Accurate print position



## 9.4 Adjustable sensor

The required detection position can be set with the adjustable sensor. The adjustable sensor mechanism is illustrated below.



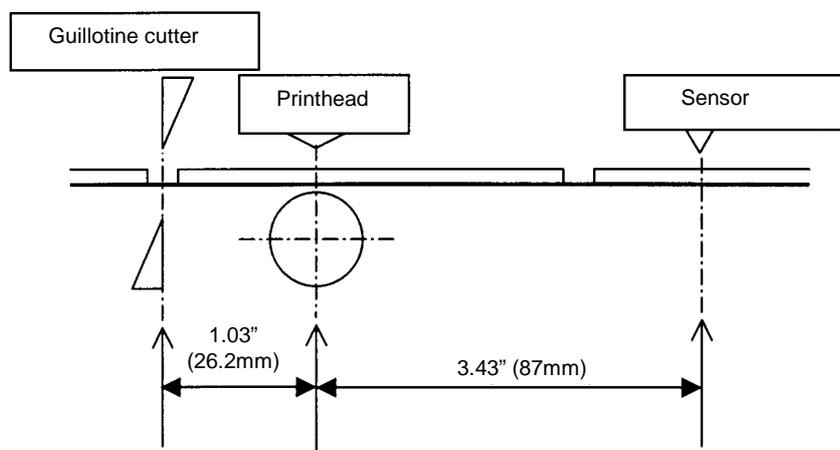
Media	Sensor	Detection	A/D Voltage	Setup Guide	Setup Voltage	Voltage Level	Variable Voltage	FIX/VR
Black Mark	Reflective	Center	Low	No Mark area	2.1V	1.7V or less	1.2V – 2.2V	FIX
Gap	Transparent	Edge	High	No Mark area	1.05V	1.5V or more	1.0V – 2.0V	
Hole (including corner 'R')		Edge	High	Mark area (no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

## 9.5 Auto-Cutter (optional)

Two kinds of auto-cutter are available: standard and heavy-duty versions.

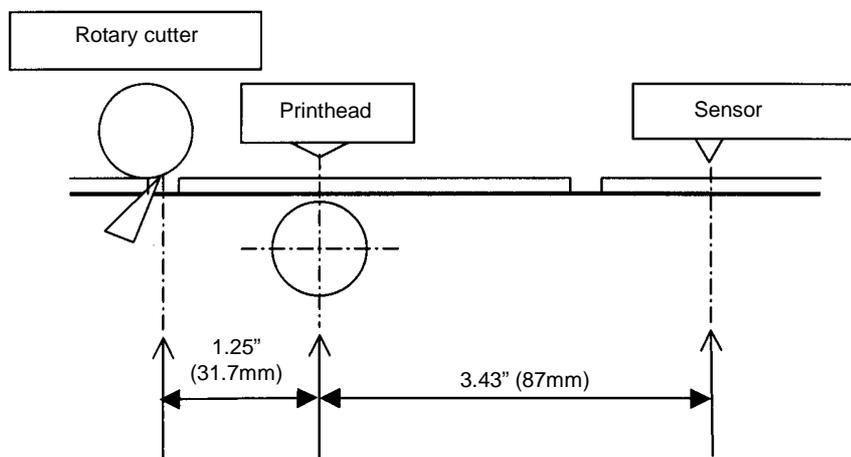
### 1 Standard auto-cutter specifications

Cutting method: Guillotine cutter  
 Maximum thickness of cut paper : 0.15mm (0.006in)  
 Minimum length of cut paper: 25.4mm (1in)  
 (For details, see the user's manual of the standard auto-cutter.)



### 2 Heavy-duty auto-cutter specifications

Cutting method: Rotary cutter  
 Maximum thickness of cut paper: 0.25mm (0.01in)  
 Minimum length of cut paper: 25.4mm (1in)  
 (For details, see the user's manual of the heavy-duty auto-cutter.)



## 9.6 Peeler (optional)

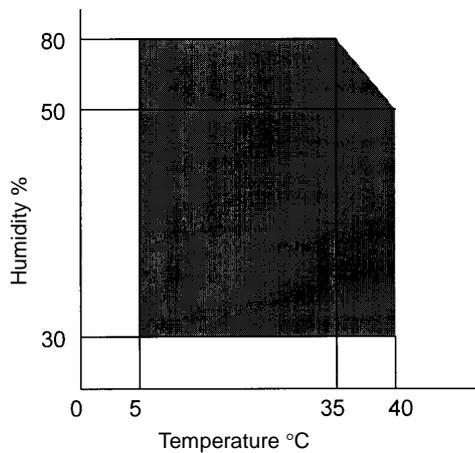
### Peeler specifications

Paper width:	115mm (4.53in)
Maximum diameter of paper roll:	203mm (8in)
Minimum inner diameter of paper roll:	76mm (3in)
Maximum label length:	120mm (4.72in)
Minimum label length:	25.4mm (1in)
Maximum paper thickness:	0.17mm (0.067in)
Maximum liner thickness:	0.07mm (0.0027in)

## 9.7 Environmental requirements

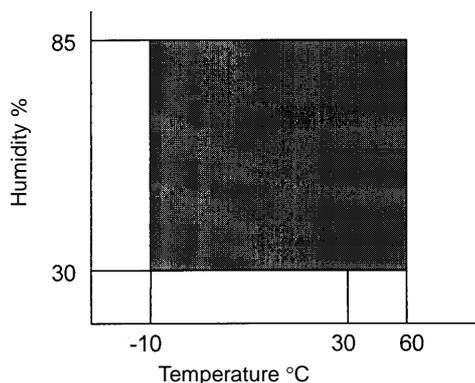
### 1 Printer operating conditions for ensuring print quality

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 printhead is up and paper is removed.)



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