

P/N. 920-011211-07

Edition 1

MAR.24

# EZ-2200/EZ-2300 User Manual



**GODEX**

## **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 instructions, 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 own expense.

## **EMS AND EMI COMPLIANCE STATEMENT FOR EUROPEAN USERS**

This equipment has been tested and passed with the requirements relating to electromagnetic compatibility based on the standards EN50081-1 (EN55022 CLASS A) and EN61000-4-2/-3/-4/-5/-6/-8/-11 (IEC Teil 2,3,4). The equipment also tested and passed in accordance with the European Standard EN55022 for the both Radiated and Conducted emissions limits.

## **EZ-2000 Serial TO WHICH THIS DECLARATION RELATES IS IN CONFORMITY WITH THE FOLLOWING STANDARDS**

EN55022 : 1998, CISPR 22, Class A / EN55024 : 1998 IEC 61000-4 Serial / EN61000-3-2 : 2000 / EN 6100-3-3 : 1995 / CFR 47, Part 15/CISPR 22 3rd Edition : 1997, Class A / ANSI C63.4 : 2001 / CNS 13438, CISPR 22 (Class A ) / IEC60950 3rd Edition (1999) / GB4943 : 2001 / GB9254 : 1998 / GB17625.1 : 2003 / EN60950 : 2000

### **CAUTION**

Danger of explosion if battery is incorrectly replaced  
Replace only with the equivalent type recommended by the manufacture.  
Dispose of used batteries according to the manufacturer's instructions.

Specifications are subject to change without notice.

# Safety Instructions

Bitte die Sicherheitshinweise sorgfältig lesen und für später aufheben.

1. Die Geräte nicht der Feuchtigkeit aussetzen.
2. Bevor Sie die Geräte ans Stromnetz anschließen, vergewissern Sie sich, dass die Spannung des Geräts mit der Netzspannung übereinstimmt.
3. Nehmen Sie das Gerät bei Überspannungen (Gewitter) vom Netz. Das Gerät könnte sonst Schaden nehmen.
4. Sollte versehentlich Flüssigkeit in das Gerät gelangen, so ziehen sofort den Netzstecker. Anderenfalls besteht die Gefahr eines lebensgefährlichen elektrischen Schlags.
5. Wartungs- und Reparaturarbeiten dürfen aus Sicherheitsgründen nur von autorisierten Personen durchgeführt werden.
6. Bei Wartungs- und Reparaturarbeiten müssen die Sicherheitsvorschriften der zuständigen Berufsverbände und Behörden unbedingt eingehalten werden.
7. Bei Verletzungen unbedingt den Arzt aufsuchen und die gegebenenfalls die zuständigen Stellen benachrichtigen. Unterlassung kann zum Verlust der Versicherungsleistungen führen.

# Safety Instructions

Please read the following instructions seriously.

1. Keep the equipment away from humidity.
2. Before you connect the equipment to the power outlet, please check the voltage of the power source.
3. Disconnect the equipment from the voltage of the power source to prevent possible transient over voltage damage.
4. Don't pour any liquid to the equipment to avoid electrical shock.
5. ONLY qualified service personnel for safety reason should open equipment.
6. Don't repair or adjust energized equipment alone under any circumstances. Someone capable of providing first aid must always be present for your safety
7. Always obtain first aid or medical attention immediately after an injury. Never neglect an injury, no matter how slight it seems.

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# Chapter 1. Barcode Printer

## 1-1. Introduction

The Godex EZ-2000 is a heavy duty, high performance thermal transfer / direct thermal label printer suitable for large volume printing requirements in industrial applications. With robust metal outer casing and inner mechanism, the EZ-2000 is designed to be durable, tough and reliable, even in the harshest environments. Its features are as follows:

- ◆ Print head density of 8 dots or 12dots per mm (203 or 300 dots per inch).
- ◆ Backlight LCD display showing graphics and messages in English and simplified Chinese (version dependent).
- ◆ Internal memory card for label, graphics, and fonts download.
- ◆ Real Time Clock for time recording and tracking.
- ◆ Internal 8" label roll capacity and 450M-ribbon length (1" core size).
- ◆ Maximum 50" print length.
- ◆ Optional stripper and internal rewinder for efficient operation.
- ◆ Optional cutter for ticketing or receipt printing applications.

## 1-2. Printer Options



## 1-3. Printer Accessories

After unpacking, please check the accessories that come with the package, and store appropriately.

Barcode printer	Power cable (110V or 230V)	Parallel cable
Serial Cable (optional)	USB Cable (Optional)	Quick Start Guide
Label Roll Sample	Ribbon Roll Sample	Empty Ribbon Roll
CD (includes Software/Manual/Driver/DLL)		

## 1-4. General Specifications

Model	EZ-2200	EZ-2300
Resolution	203 dpi (8 dot/mm)	300 dpi (12 dot/mm)
Print Mode	Thermal Transfer / Direct Thermal	Thermal Transfer / Direct Thermal
CPU	16 Bit	
Sensor Location	Moveable, left aligned	
Sensor Type	Reflective, Transmissive	
Sensor Detection	Type: Label gap and black mark sensing. Detection: Label length auto sensing and / or program command setting	
Print Speed	50.8mm (2")/sec ~ 152.4mm (6")/sec	50.8mm (2") ~ 101.6mm (4")
Print Length	1270mm (50")	558.8mm (22")
Print Width	25mm (1") ~ 104 mm (4.09")	25mm (1") ~ 105 mm (4.13")
Media	Label Roll: Max. 203mm (8") Core Diameter: 38.1 mm (1.5")~ 76.2 mm (3") Width: 25.0 mm (1") ~ 118.0 mm (4.65") Thickness: 0.06~0.25mm	
Ribbon	Material: Transfer ribbons (wax, hybrid, and resin) Type: Ink inside or ink outside Length: 450M (1471 ft) Width: 30mm ~ 110 mm (1.18" to 4.33"). Inner Core Diameter: 25.4 mm (1"). Ribbon Roll Diameter: 75 mm (2.95").	
Printer Language	EZPL (downloadable)	
Software	Application: QLabel DLL & Driver: Microsoft Windows 95, 98, Me, NT 4.0, 2000 and XP	
Resident Fonts	9 resident alphanumeric fonts (included OCR A & B) those are expandable (8 times for EZPL) horizontally and vertically. All fonts in 4 directions rotation (0, 90, 180, 270 degrees), 6,8,10,12,14,18,24,30 points.	
Fonts Download	Windows Bit-map fonts and Asian fonts downloadable. All fonts in 4 directions rotation (0, 90, 180, 270 degrees). Asian fonts in 8 directions rotation.	
Image Handling	BMP, PCX, Support ICO, WMF, JPG, EMF file through software.	
Barcode	Code 39, Code 93, Code 128 (subset A, B, C), UCC 128, UPC A / E (add on 2 & 5), I 2 of 5, EAN 8 / 13 (add on 2 & 5), Codabar, Post NET, EAN 128, DUN 14, MaxiCode, PDF417 & Datamatrix Code	
Interface	Serial, Parallel, USB, PS2 keyboard wedge	
Interface Transmission Speed	Baud rate 4800 ~ 38400, XON/XOFF, DSR/DTR	
Memory	Standard: 2MB Flash, 2MB DRAM Optional: 2MB Flash	
LCD Display	Back-light Graphic LCD Display Three bi-color LED lamps: Power, Ready, Error Three Feed keys: Feed, Pause, Cancel	
Power	100/240VAC, 50/60 Hz	
Real Time Clock	Time and date stamp	
Environment	Operation: 40°F to 104°F (5°C to 40°C) Storage: -40°F to 122°F (-20°C to 50°C)	
Humidity	Operation: 30-85%, non-condensing. Free air. Storage: 10-90%, non-condensing. Free air.	
Cert. Approval	CE, CUL, FCC Class A	
Printer Dimension	Length: 454.58 mm (17.9") Height: 277.30 mm (10.92") Width: 275.55 mm (10.85") Weight: 13 Kg	
Options	Cutter Stripper with Internal Rewinder 2MB Flash memory module Stand-alone keyboard (KP-180) QR code	

*Specifications are subject to change without notice.*

## 1-5. Communication Interface

### Parallel Interface

Handshake : DSTB connects to the printer, BUSY connects to the host  
 Interface cable : Parallel cable compatible to IBM PC  
 Pin out : See below

PIN NO.	FUNCTION	TRANSMITTER
1	/Strobe	host / printer
2-9	Data 0-7	host
10	/Acknowledge	printer
11	Busy	printer
12	/Paper empty	printer
13	/Select	printer
14	/Auto-Linefeed	host / printer
15	N/C	
16	Signal Gnd	
17	Chasis Gnd	
18	+5V,max 500mA	
19-30	Signal Gnd	host
31	/Initialize	host / printer
32	/Errow	printer
33	Signal Ground	
34-35	N/C	
36	/Select-in	host / printer

### Serial Interface

Serial Default Setting : 9600 baud rate, no parity, 8 data bits, 1 stop bit, XON/XOFF protocol and RTS/CTS.

#### RS232 HOUSING (9-pin to 9-pin)

DB9 SOCKET			DB9 PLUG
---	1	1	+5V,max 5000mA
RXD	2	2	TXD
TXD	3	3	RXD
DTR	4	4	DSR
GND	5	5	GND
DSR	6	6	DTR
RTS	7	7	N/C
CTS	8	8	RTS
RI	9	9	N/C
PC	PRINTER		

NOTE: The total voltage output from parallel port and serial port altogether can not exceed 500mA.

## USB Interface

Connector Type : Type B

PIN NO.	1	2	3	4
FUNCTION	USBVCC	D-	D+	GND

## PS2 Interface

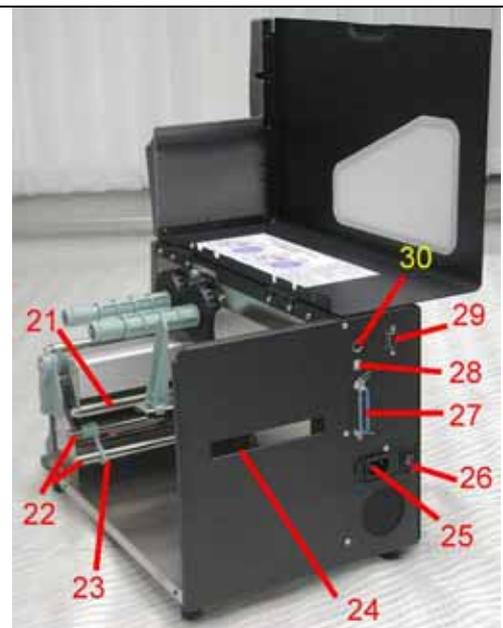
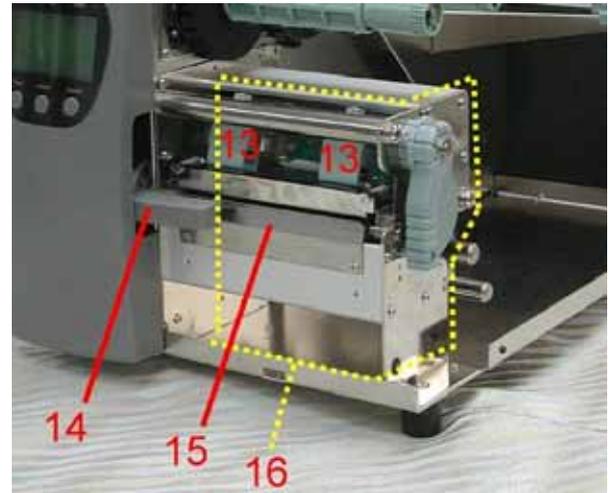
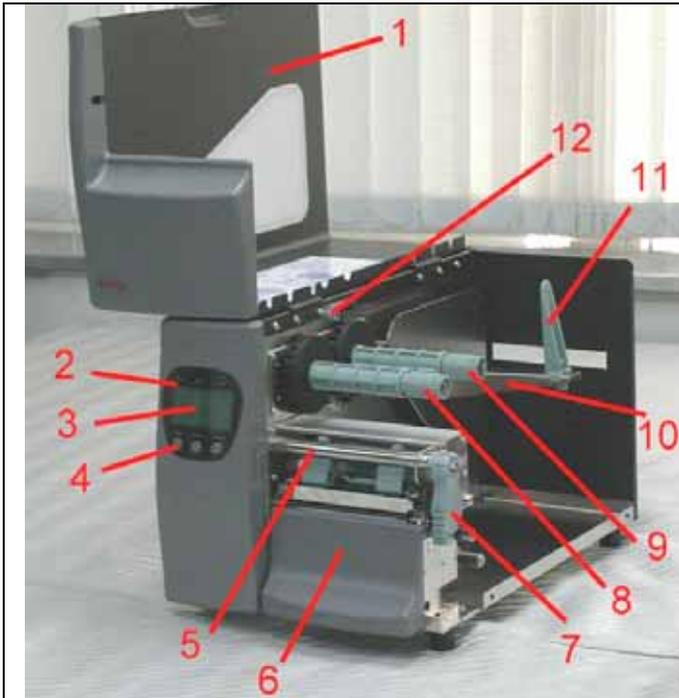
PIN NO.	1	2	3	4	5	6
FUNCTION	DATA	N/C	GND	VCC	CLOCK	N/C

PS2 interface from PC to printer

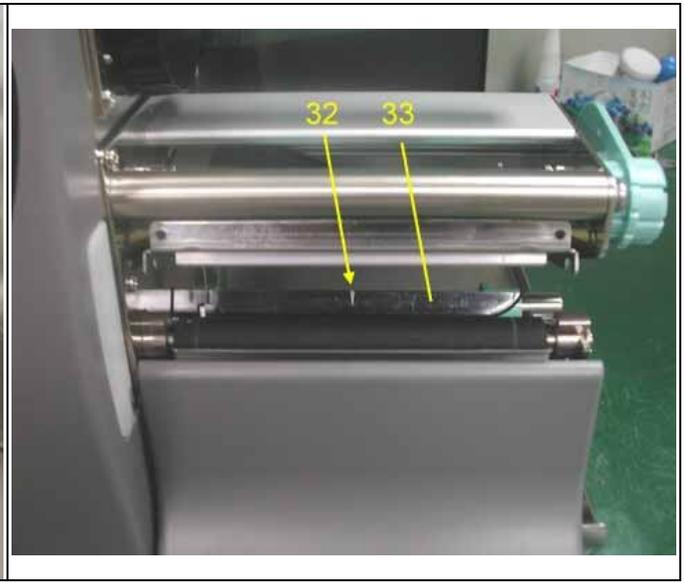
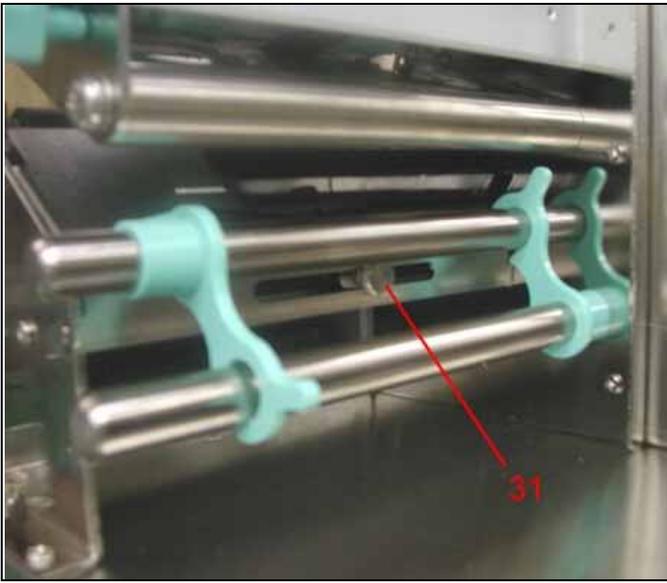
PC			EZ-2000
DATA	1	1	DATA
N/C	2	2	N/C
GND	3	3	GND
VCC	4	4	VCC
CLOCK	5	5	CLOCK
N/C	6	6	N/C

## 1-6. Printer Parts

Please use the following diagrams to identify each printer part.



1	Top Cover	11	Label Width Guide	21	Ribbon Feed Rod
2	Indicator Light	12	Ink Position Lever	22	Label Feed Rods
3	LCD Display	13	Print Head Spring Box	23	Label Feed Guide
4	Control Key	14	Stripper Sensor	24	Fan-Fold Label Insert
5	Ribbon Rod	15	Tear Off Bar	25	Power Socket
6	Bottom Front Cover	16	Printer Mechanism	26	Power Switch
7	Print Head Lever	17	Rewinder Option Cover Plate	27	Parallel Port
8	Ribbon Rewind Shaft	18	Rewinder Connector	28	USB Port
9	Ribbon Supply Shaft	19	Cutter Connector	29	Serial Port
10	Label Roll Bar	20	Cable Configuration holes	30	PS2 Port



31	Moveable Sensor Lever	32	Sensor Position Mark	33	Moveable Sensor
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## Chapter 2. Printer Installation

This printer model has the following print modes:

Thermal Transfer (TT):	When printing, ribbon must be installed to transfer the print contents onto the media.
Direct Thermal (DT):	When printing, no ribbon is necessary; it only requires direct thermal media.

Please check the specific print mode, and then go into the Setting Mode after power on the printer.

### 2-1. Ribbon Installation

1. Place the printer onto a smooth surface, and open the top cover.



2. Pull the Print Head Lever out and flip it upward to the right.

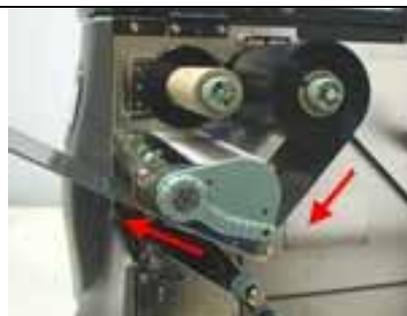


3. Take the used ribbon out of the ribbon supply shaft.
4. Place the new ribbon roll onto the ribbon supply shaft.
5. Place the empty ribbon roll onto the ribbon rewind shaft.



6. Feed the ribbon from the Ribbon Supply Shaft Rod under the Print Head.

*Note: DO NOT feed the ribbon under the moveable sensor.*



7. Wrap the ribbon around the Ribbon Shaft Rod and stick the ribbon onto the empty ribbon roll.

*Note: Make sure the ribbon rewind direction is correct.*



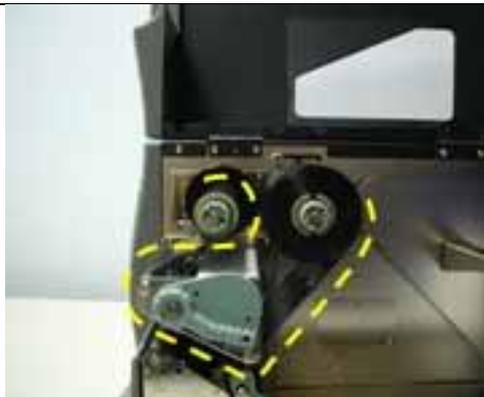
8. Flip the Print Head Lever back to its original position.

9. Close the top cover to complete the ribbon installation.

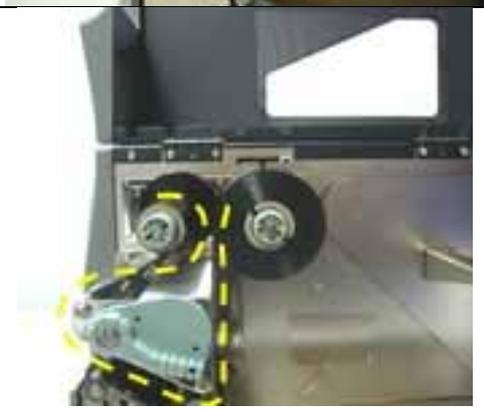


**2-2. Ribbon Inside/Outside Installation**

1. Ribbon outside (ink outside the roll).

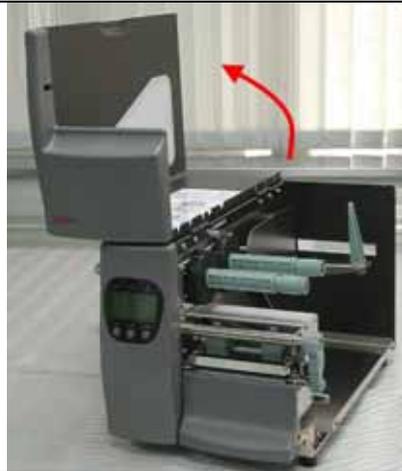


2. Ribbon inside (ink inside the roll).



## 2-3. Label Installation

1. Place the printer onto a smooth surface, and open the top cover.



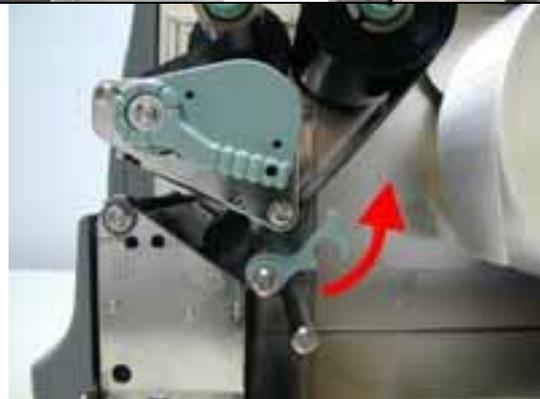
2. Place the label roll onto the Label Roll Bar, and align the label to printer's inner wall.
3. Align the label roll with the Label Width Guide. Avoid pushing the guide too far in to damage the label edge.



4. Pull the Print Head Lever out and flip it upward to the right.



5. Flip the Label Feed Guide upward.



6. Feed the label through the two Label Feed Rods (under the moveable sensor) to the Tear-off Bar.



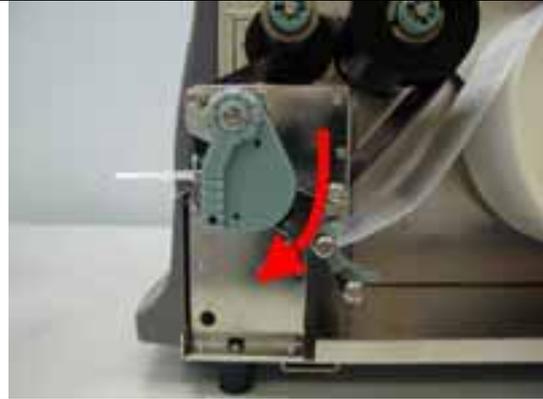
7. Align the label edge inward, and adjust the Label Feed Guide with the label.

8. Flip the Label Feed Guide back down to its original position, and clip the guide in position.



9. Flip the Print Head Lever back to its original position.

10. Close the top cover to complete the label installation.



## 2-4. USB Installation

1. USB is a Plug & Play facility. Once the USB cable is connected from PC to the printer, PC will automatically detect the new device and begin the installation process.



2. Select "Search for a suitable driver for my device [recommended]." and click "Next"



3. Select the location of the driver.



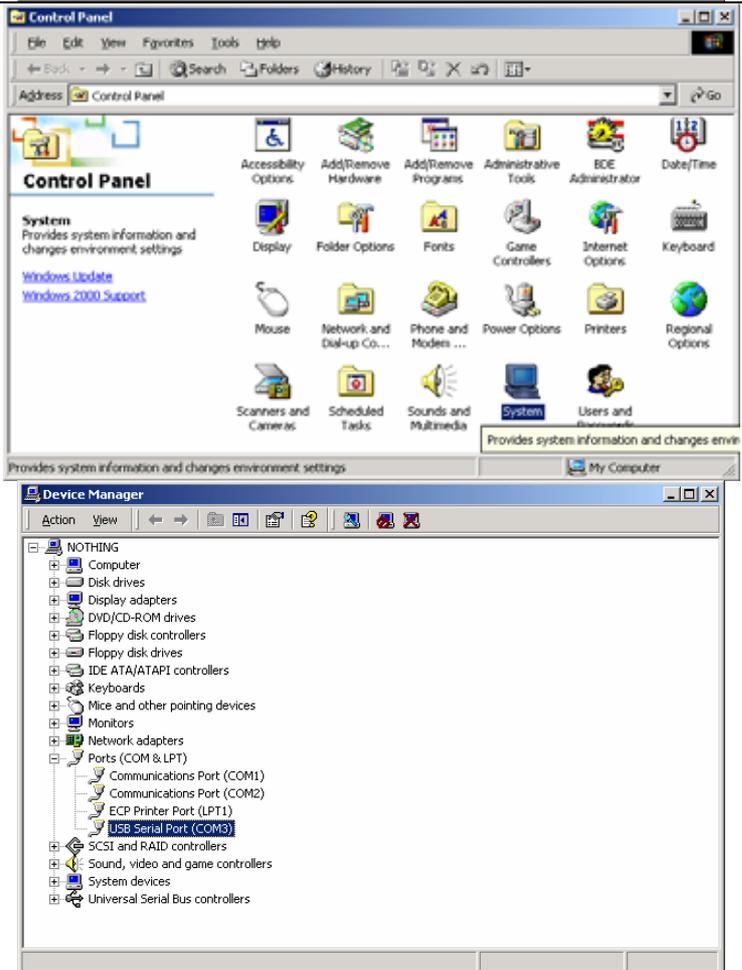
4. When the USB device driver is assigned and saved, click "Next"



5. The USB device is built on the serial port, therefore make sure the interface setting is specified to the assigned port.

6. Go to Control Panel\System\Device Manager and the USB port will be listed under Ports (COM & LPT). The example from the right hand side indicates that the USB Serial Port is COM3.

7. After the USB driver is installed, the USB device can be used through software (such as QLabel III or Godex drivers) to print labels.



## 2-5. USB Uninstallation

1. To remove the USB driver, open "USB Driver" folder and execute the "Ftdiunin" program, the message box on the right hand side will appear. Click "Continue" to remove the USB driver.



## 2-6. PC Connection

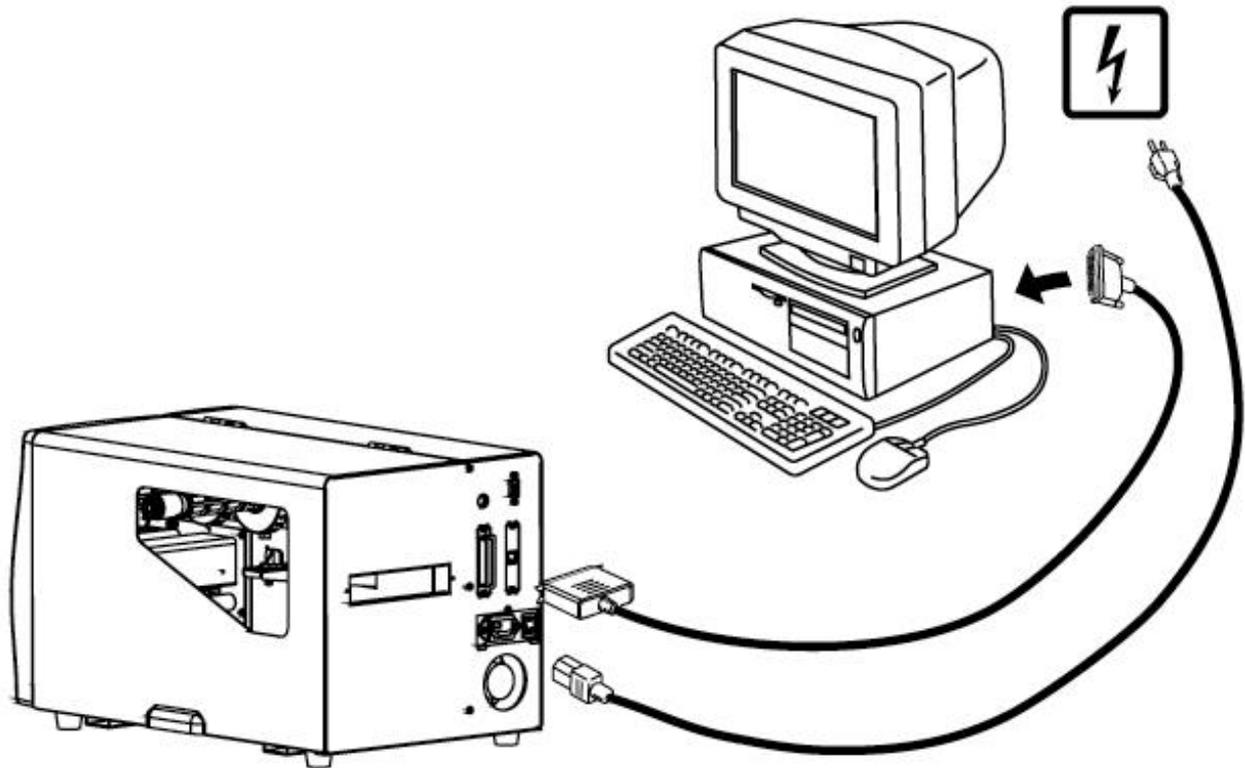
1. Please make sure the printer is powered off.

Take the power cable, plug the cable switch to the power socket, and then connect the other end of the cable to the printer power socket.

Connect the cable to the parallel port on the printer and on the PC.

Power on the PC. LCD display would show the printer model and F/W version.

*Remark: If you wish to connect with an USB interface, please install the USB driver first.*

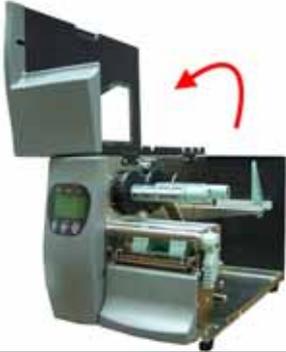


# Chapter 3. Operation Parts Installation

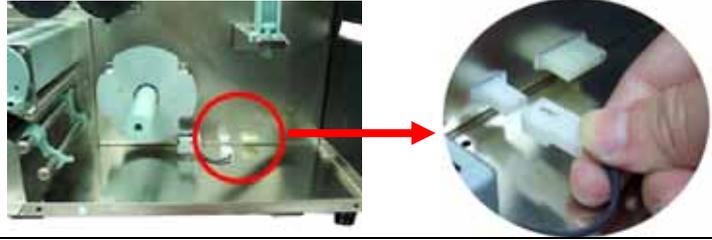
## 3-1. Rewinder Parts

	<table border="1"><tr><td>1</td><td>Rewinder</td></tr><tr><td>2</td><td>Screw</td></tr><tr><td>3</td><td>Rewind bracket</td></tr><tr><td>4</td><td>U Shape Clip</td></tr></table> <p><b>【Note】</b> Peel-off liner width : 118mm (Max) <b>【Suggestion】</b> Liner : thickness 0.06mm +/- 10% basuc weight 65g/m2 +/- 6%</p>	1	Rewinder	2	Screw	3	Rewind bracket	4	U Shape Clip
1	Rewinder								
2	Screw								
3	Rewind bracket								
4	U Shape Clip								

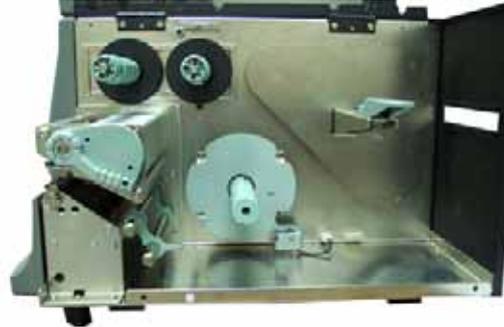
## 3-2. Rewinder Installation

<p>1. Place the printer onto a smooth surface, open the top cover and face the printer sideways.</p>	
<p>2. Turn the printer sideways and remove the Rewinder Option Cover Plate.</p>	
<p>3. Install the Rewinder unit. 4. Take off the U Shape Clip from the Liner Rewind Shaft, and then screw the Rewinder unit onto the printer.</p>	

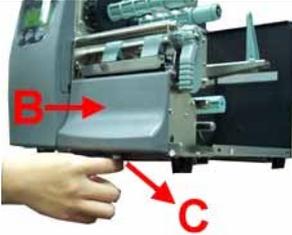
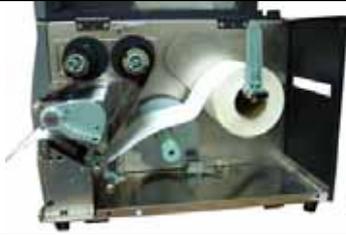
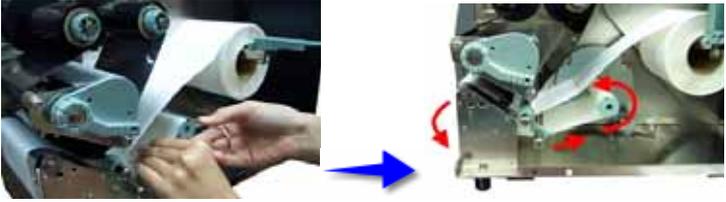
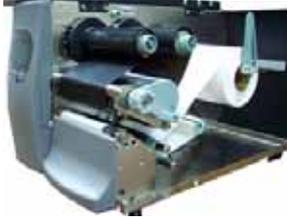
5. After the Rewinder is installed, plug the Rewinder Cable Connector onto the Rewinder Connector.



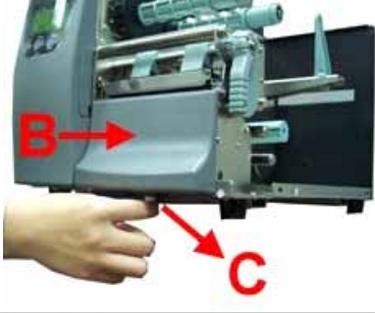
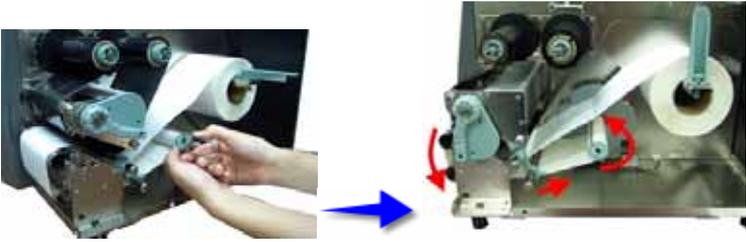
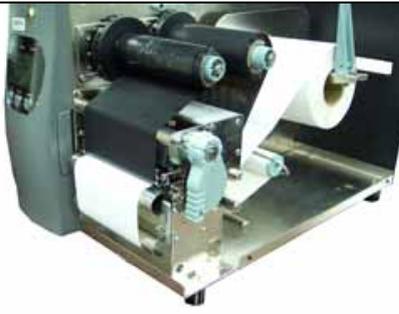
6. Rewinder Installation complete.



### 3-3. Use stripper

<p>1. Face the printer front, and unscrew lockwise the Bottom Cover Screw.</p> <p>2. Remove the Bottom Front Cover.</p>	
<p>3. After Rewinder Installation complete, face the printer sideways.</p> <p>4. Pull the print head lever out and flip it upward to the right.</p>	
<p>5. Install the media into the printer (Please refer to the printer user manual).</p>	
<p>6. Peel off a few labels from the liner (about 400mm of liner), and then feed the liner through the Printer Mechanism and around the Label Feed Guide.</p> <p>7. Wrap the liner around the Liner Rewinder Shaft, and use the U Shape Clip to secure the liner.</p> <p><i>Note: Make sure the liner rewind direction.</i></p>	
<p>8. Screw the Bottom Front Cover back onto the printer.</p>	
<p>9. Press lower part of the Stripper Sensor to flip it open.</p>	
<p>10. Flip the Stripper Sensor to the sensor detect position, then close the print head lever.</p> <p>11. Close the top cover to complete stripper installation.</p>	

### 3-4. Rewind Bracket Installation and Use

<ol style="list-style-type: none"> <li>1. Face the printer front, and unscrew the Bottom Cover Screw.</li> <li>2. Remove the Bottom Front Cover.</li> </ol>	
<ol style="list-style-type: none"> <li>3. Mount the label rewind bracket onto the printer mechanism and secure the screws into place.</li> </ol>	
<ol style="list-style-type: none"> <li>4. Label rewind bracket Installation complete.</li> </ol>	
<ol style="list-style-type: none"> <li>5. Install the media into the printer (Please refer to the printer user manual).</li> <li>6. Feed the label through the Printer Mechanism and around the Label Feed Guide.</li> <li>7. Wrap the label around the Liner Rewinder Shaft, and use the U Shape Clip to secure the liner.</li> </ol> <p><i>Note: Make sure the label rewind direction.</i></p>	
<ol style="list-style-type: none"> <li>8. Not Close the top cover to complete Label rewind bracket and Rewinder installation.</li> </ol> <p><i>Note1: Before starting to rewind labels, please make sure the printer's Label Rewind Bracket is installed properly (as instructed).</i></p> <p><i>Note2: When use stripper function, Please dismount the rewind bracket first.</i></p>	

### 3-5. Cutter Parts



37	Cutter Cover
38	Cutter
39	Cutter Cable Connector
40	Screws

[Note]: Do not cut self-adhesive labels! The traces of adhesive will pollute the rotary knife and impair safe operation! The service life of the cutter is 500,000 cuts with 160g/m<sup>2</sup> paper weight and 250,000 cuts with 200g/m<sup>2</sup> paper weight.

### 3-6. Cutter Installation

1. Face the printer front, and unscrew the Bottom Cover Screw.
2. Remove the Bottom Front Cover.



3. Open the Top Cover and remove the Tear Off Bar.
4. Remove the two screws in the front.



5. Hold the cutter and secure the cutter kit onto the printer.



<p>6. Plug the Cutter Cable Connector onto the Cutter Connector.</p>	
<p>7. Tie the cables with the secure locks, and fix the locks into the Cable Configuration Holes.</p>	
<p>8. Screw the Cutter Cover onto the cutter kit.</p> <p>9. Install the media into the printer (refer to 2-1 for Ribbon Installation and 2-3 for Label Installation). Close the Top Cover to complete the cutter installation.</p> <p><i>Note1: Make sure printer is set to have the cutter function on.</i></p> <p><i>Note2: The label / paper used for cutting is suggested to be at least 30mm in height.</i></p>	

## Chapter 4. Control Panel

### 4-1. LCD/LED Messages

LCD Message Display	LED Light			Beep	Description
	Power	Ready	Error		
EZ-XXXX Vx.xxx	Green	Green		1	EZ-XXXX: printer model; Vx.xxx: current F/W version
Self Test	Green	Green		3	Printer is in Self-Test Mode. Please refer to page 23 for more information.
Now in Dump Mode	Green	Green		3	Printer is in Dump Mode. Please refer to page 23 for more information.
Auto Sensing mode	Green			3	Printer is in Auto Sensing Mode. Please refer to page 24 for more information.
EZ-XXXX Pause	Green	Green			Printer has paused, press Pause key again to continue printing.
Print job is cancelled	Green	Green			Cancel key pressed, stopping all the print jobs and clear the printer data.
Press feed key to continue print job	Green		Red		Press the Feed key to allow printer to continue with the existing actions.
PROGRAM LOADING	Green		Red (Flash)		Printer is downloading the firmware.
LOADING COMPLETE	Green	Green		1	Firmware has been successfully downloaded.
Setting Mode	Green	Green		1	Printer is currently in the Setting Mode. Please refer to page 25 for more information.

### 4-2. General Operation

#### Pause Key

When pressing the Pause key in standby mode, the printer will go into the Pause Mode, and LCD Display will indicate "EZ-xxxx Vx.xxx Pause." At this time, printer won't be able to receive any command; but when pressing the Pause key once again, the printer will get out of the Pause mode and go back to standby.

Pressing the Pause key while printing, printer will pause the print job, when the Pause key is pressed one more time, the printer will continue with the rest of the print job. For example, if the print job contains 10 labels, press the Pause key after 2 labels are printed to stop printing; when pressing the Pause key again, printer will finish printing the remaining 8 labels.

#### Cancel Key

When pressing the Cancel key while printing, the LCD Display will show "xxxxxxx Cancel," this means the printer cancels the current print job. For example, if the print job contains 10 labels, press the Cancel key after 2 labels are printed, the remaining 8 labels won't be printed, and the printer goes back to standby.

#### Feed Key

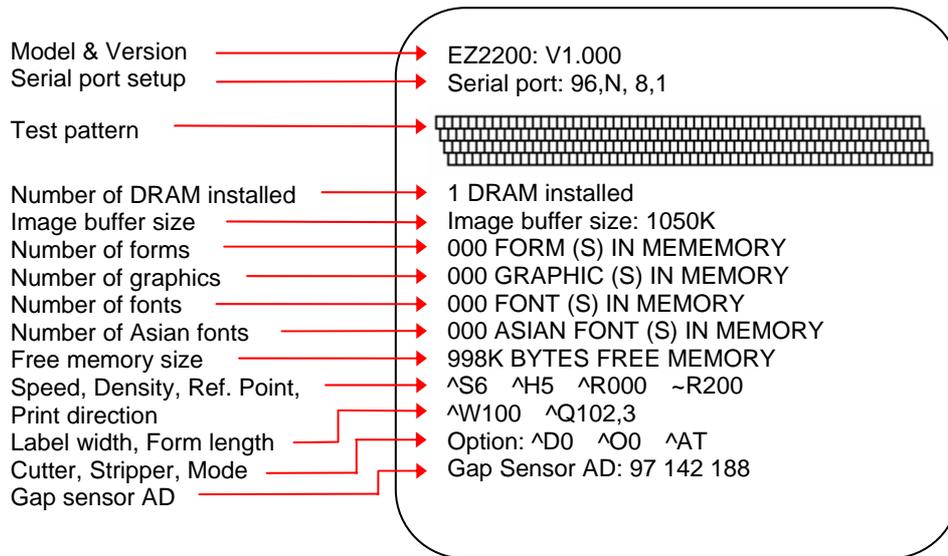
When pressing the Feed key, printer will send the media (according to media type) to the specified stop position. When printing with continuous media, when pressing the Feed key, the printer will feed media out to a certain length. When printing labels, pressing the Feed key, the printer will feed one label at a time; if the label is not sent out in a correct position, then please proceed with the Auto Sensing (see page 24).

### 4-3. Self-Test

The Self-Test function in a printer will help the user to troubleshoot whether the printer is operating normally. In the Self-Test Mode, the printer will print out a test sample each time when the Feed key is pressed. To stop the Self-Test procedure in the middle, simply power off the printer. Below are the Self-Test procedures:

1. Power off the printer, press and hold the Feed key.
2. Power on the printer (while still holding the Feed key); release the Feed key after hearing 3 beeps.

After about 1 second, printer would automatically print out the following, and the LCD Display would show “Self Test.” This means the printer is operating normally.



Self-Test includes the internal printer data setting.

### 4-4. Dump Mode

When label setting and the print result don't match, it's recommended to go into the Dump Mode to check whether there's a mistake in data transmission between the printer and the PC. For example, when printer receives 8 commands, yet without processing these commands, only printed out the contents of the commands, this will confirm whether the commands were received correctly. Test procedures to enter the Dump Mode are as follows:

1. Power off the printer, press and hold the Feed key.
2. Power on the printer (while still holding the Feed key).
3. When LCD Display shows “DUMP MODE BEGIN,” release the Feed key. Printer will automatically print “DUMP MODE BEGIN.” This means the printer is already in Dump Mode.
4. Send commands to the printer, and check to see if the print result matches the commands sent.

*Note: To cancel (get out of the Dump Mode), press the Feed key, this time printer will automatically print out “OUT OF DUMP MODE.” This indicates that printer is back in the standby mode. Or power off to exit the Dump Mode.*

## 4-5. Auto Sensing

Printer can automatically detect label (black mark paper) length and record. This way, without setting the print length, the printer can accurately detect the label (black mark) positions.

1. Check if the Moveable Sensor Mark is located at the right sensing position.
2. Power off the printer, press and hold the Pause key.
3. Power on the printer (while still holding the Pause key), after printer beeps 3 times and the LCD Display shows "Auto Sensing mode," release the Pause key. Printer will automatically detect the label size/length and record.
4. LCD Display shows the results of measurement.

Printer goes back to standby mode after displaying the measurement.

## 4-6. Setting Mode

In the Setting Mode, changes can be made according to requirement on the printing mode, options, media type, and parallel interface (printer can only go into setting when connected to PC by parallel cable, USB cable, or serial cable).

1. Install label and ribbon according to the Ribbon & Label Installation Diagram, and make sure the Ready light turns green.
2. Press and hold the "Pause" key, then press the "Feed" key, hold these two keys, and the LCD Display will show "Setting Mode."
3. Release the keys to enter the "Setting Mode," and it will show the setting items.
5. In the Setting Mode, the keys have the following functions:

**Feed Key: Selection**

**Pause Key: Enter or confirm**

**Cancel Key: Exit**

6. Items with the "\*" sign is of option items.
7. Before exiting the Setting Mode, printer will prompt user whether to save the settings.

After user's response on whether or not to save the settings, printer will return to standby mode.

<b>Printing mode:</b>	<b>Thermal Transfer:</b> when printing, a ribbon must be installed to transfer the print contents onto the media. <b>Direct Thermal:</b> when printing, no ribbon is necessary; it only requires direct thermal media.
<b>Option Set:</b>	<b>Stripper mode:</b> turn on the stripper function <b>Cutter mode:</b> turn on the cutter function <b>Option OFF:</b> select this option to turn off the stripper and cutter functions. This is the default setting.
<b>Paper Set:</b>	<b>Black Mark:</b> for label or plain paper with black mark in the back <b>Gap Paper:</b> for labels with liner and gap, or hang tags. The default is set to be gap paper. <b>Plain Paper:</b> for plain paper
<b>COM Port Set:</b>	<b>Baud Rate:</b> 4800/ 9600/ 19200/ 38400/57600/115200 bits, default: 9600 bits <b>Parity Set:</b> None / Odd / Even Parity, default: None Parity <b>Data Length:</b> 7 / 8 bits, default: 8 bits <b>Stop bit:</b> 1 / 2 bits, default: 1 bit
<b>Auto Sensing</b>	<b>Auto mode:</b> auto sense the label type (black mark, gap & plain paper) and length <b>Gap mode:</b> detects gap paper <b>Black mode:</b> detects black mark label
<b>Setting Review:</b>	Review setting items
<b>LCD Language</b>	English Simplified Chinese Traditional Chinese

*Note:*

- (1) "Default Setting" is the original settings from the factory, if other changes are made on the settings, then follow the new settings.
- (2) Printer will store the previous settings after power off, thus if settings are to be changed again, please enter the Setting Mode to reset.

## 4-7. Error Messages

LCD Display wasn't installed in position or other problems occur, printer will beep 2 times as warning, and error messages will be displayed.

LCD Message Display	LED Message Light			Beep	Description	Solution
	Power	Ready	Error			
Print Head is opened	Green		Red	4 beeps twice	Thermal Print Head not firmly in place.	Re-open Thermal Print Head and make sure it closes tightly.
Entering the Cooling Process	Green		Red		Thermal Print Head temperature high.	Printer goes back to standby mode after cooling.
Out of ribbon or check ribbon sensor	Green		Red	3 beeps twice	Ribbon not installed, and printer shows error message.	Make sure the printer is in the Direct Thermal mode.
					Ribbons used up or ribbon supply shaft not moving.	Replace with new ribbon roll.
Out of media or check media gap sensor	Green		Red	2 beeps twice	Unable to detect paper.	Make sure the movable sensor mark is at the correct position, if the sensor is still unable to detect paper, and then go through Auto Sensing again.
					Label used up or label sensor can't detect paper.	Replace with new label roll. When label sensor can't detect paper, please perform Auto Sensing.
Check paper setting	Green		Red	2 beeps twice	Abnormal paper feed.	Possible causes: card tags, paper falling into the gap behind the platen roller, can't find label gap/black mark, black mark paper out. Please adjust according to actual usage.
Command is not recognized	Green		Red	2 beeps twice	Wrong command	Check printer commands, possible value missing or errors.
Memory is full	Green		Red	2 beeps twice	Memory is full	Delete unnecessary data in the memory or have memory expansion (options)
Filename can not be found	Green		Red	2 beeps twice	Can't find the file	Use "~X4" command to print out all the files, then check whether the file exist and the names are correct.
Filename is repeated	Green		Red	2 beeps twice	File name is repeated	Change the file name and download again.

## Chapter 5. Maintenance and Adjustment

### 5-1. Thermal Print Head Cleaning

Unclear printouts (some parts unable to print) may be caused by dusty print head, ribbon stain, or label liner glue, therefore when printing, it's necessary to keep the top cover closed. Also, check and prevent paper/label from being stained or dusty to ensure print quality and to prolong the print head life. Print head cleaning instructions are as follows:

1. Power-off the printer.
2. Open top cover.
3. Take out the ribbon.
4. Open the print head by lifting the Print Head Lever.
5. If on the print head (see yellow arrow) there's label pieces or other stain, please use a soft cloth with industrial use alcohol to wipe away the stain.

**Note:**

- (1) Weekly cleaning on the print head is recommended.
- (2) When cleaning the print head with soft cloth, make sure it does not have any metal or hard particles attached on it.

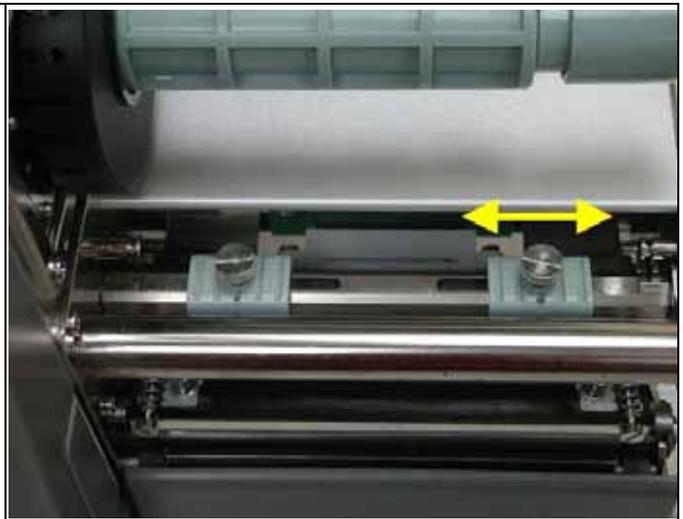


### 5-2. Thermal Print Head Balance Adjustment

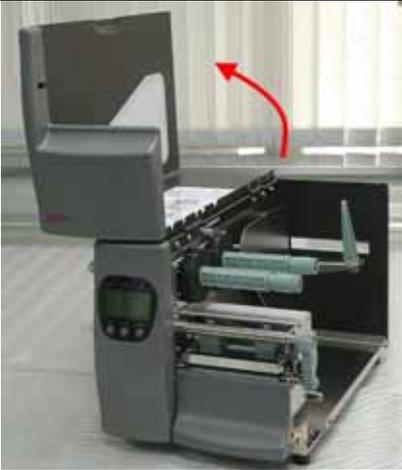
When printing with different label materials or using different ribbon types, unbalanced print quality may occur due to the media material differences, thus it's necessary to adjust the Thermal Print Head pressure.

1. Open top cover.
2. Take out the ribbon.
3. Open the Thermal Print Head by lifting the Thermal Print Head Bar Handle.

Move the Thermal Print Head Balance Box on the right side to change the print position. Normally, the wider the paper, the right Thermal Print Head Balance Box is farther to the right (out); the narrower the paper, the right Thermal Print Head Balance Box is farther to the left (in).



## 5-3 Pressure Adjustment

<p>1. Open the top cover.</p>	
<p>2. Pull and flip the TPH Lever counterclockwise to open the TPH.</p>	
<p>3. One side of the printout not being printed clearly or ribbon wrinkle occurs, adjust the TPH Spring Box position or pressure to cure the problem.</p>	
<p>4. To adjust the TPH Spring Box pressure, use a flat tip screwdriver to turn the screw clockwise to increase the pressure, counterclockwise to decrease the pressure.</p>	

## 5-4. Print Head Installation / Removal Instruction

1. Open the top cover.
2. Note: Power-off when removing print head.



3. Pull and flip the TPH Lever counterclockwise to open the TPH.



4. To remove print head, hold on to the front of the of the print head and pull it out.

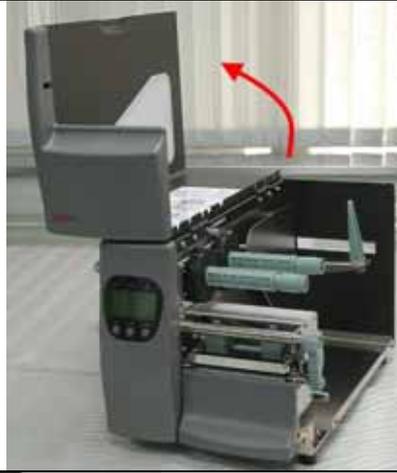


5. To install print head, hold on to the front of the print head and slide down along the track. Align the male end (with protruding pins) with the female end (pin base) and push the print head down.



## 5-5 TPH Print Line Adjustment

1. Open the top cover.



2. Pull and flip the TPH Lever counterclockwise to open the TPH.



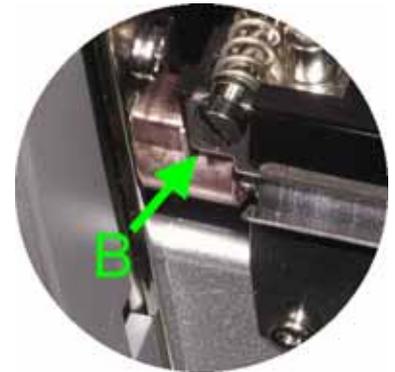
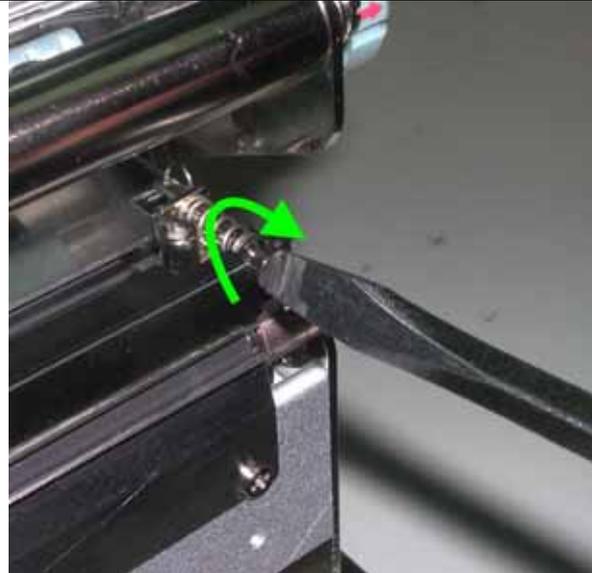
3. Use the flat tip screwdriver to loosen the TPH screws (A) on each side of the print head counterclockwise for one circle (as indicated by the arrows)



#### 4. TPH print line adjustment

- (1) When printing stiff or thick paper, the print line needs to be moved forward (paper feed direction) in order to achieve better printing quality. Use a flat tip screwdriver (as shown in the photo), and turn the screws (B) clockwise to move the TPH forward.
- (2) TPH position adjustment for the left and right screws (B) need to be identical to make sure that the print line and the roller platen are parallel to each other.
- (3) Turning the screws (B) one circle, the TPH will move 0.5mm, it is recommended to adjust by a quarter of a circle each time to fully control the printing quality and status.
- (4) If in the midst of adjusting the TPH position, please slowly turn the screws (B) counterclockwise all the way to the end using a flat tip screwdriver. And start making the adjustment from the Beginning.

**NOTE: DO NOT make TPH print line adjustment before the TPH screws (A) are turned loose.**



5. After the TPH print line adjustment is completed, use the flat tip screwdriver to tighten up the TPH screws (A) clockwise (as indicated by the arrows).



## 5-6 Label Width Guide Operation Instruction

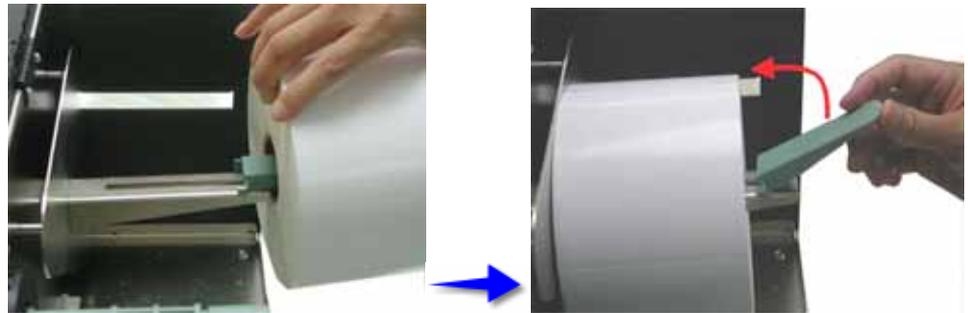
1. Open the top cover.



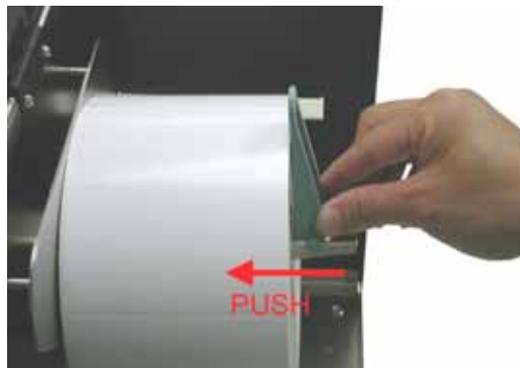
2. Flip down the Label Width Guide to make it parallel to the Label Roll Bar.



3. Place the label roll onto the Label Roll Bar, then flip back the Label Width Guide.



4. After the label roll is installed, push the Label Width Guide inward to secure the label roll.



## 5-7. Cutter

5. There are two holes (as marked "A") on the sides of the cutter
2. When paper jams and cutter malfunctions, power off the printer. Use 3mm hexagon screwdriver to turn the cutter blade clockwise.
3. After the paper jam is cleared, power on the printer, and the cutter blade will go back to its original position.

*Note: The label / paper used for cutting is suggested to be least 30mm in height.*

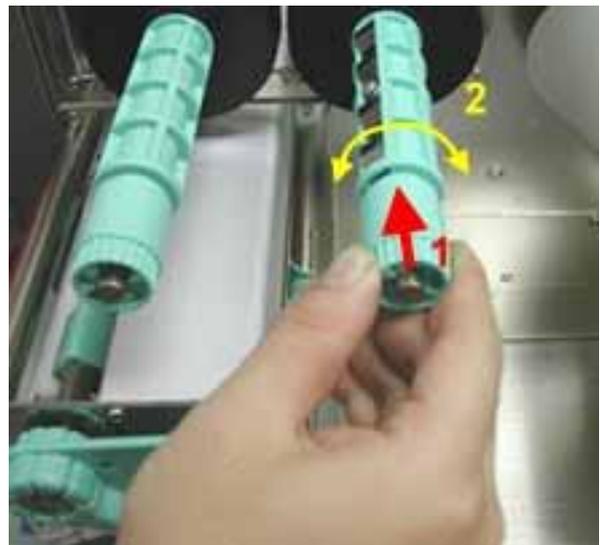


## 5-8. Ribbon Tension Adjustment

The ribbon shaft tension can be adjusted by turning the ribbon shaft knob clockwise or counterclockwise. There are 4 different levels of tension and marked with 1-4 on both knobs of Ribbon Rewind Shaft and Ribbon Supply Shaft. 1 represents the strongest tension and 4 is the weakest tension. When the tension is too weak to pull the ribbon, please decrease the tension of Ribbon Supply Shaft or increase the tension of Ribbon Rewind Shaft. To adjust the ribbon shaft knob, please push the knob inward (Step.1) and then start to turn (Step.2).

If the ribbon wrinkles occurs during printing due to the differences of ribbon materials, please increase the tension by turning Ribbon Rewind Shaft Knob clockwise. (For more detail about the ribbon wrinkle problem, please refer to Chapter5-9)

If a narrower ribbon is used (especially when ribbon width is less than 2"), the printer might have problem to pull the labels. In this case, please decrease the tension by turning Ribbon Supply Shaft Knob counterclockwise. Moreover, the Ribbon Roll maybe difficult to be removed because of the shape-change that result from over-power tension. In this case, please decrease both tensions of Ribbon Supply Shaft and Ribbon Rewind Shaft by turning Knobs counterclockwise.



## 5-9. Ribbon Shield Adjustment

1. Due to differences in the ribbon material, if ribbon wrinkles occur during printing, please adjust the ribbon shield screw.

Example: If ribbon wrinkles occur as (a), please turn the ribbon shield screw A clockwise, and if ribbon wrinkles occur as (b), please turn the ribbon shield screw B clockwise.

2. It is recommended to adjust by a half of a circle each time to fully control the printing quality and status. Perform test print after adjustment, and if a ribbon wrinkle has not been removed, please perform the adjustment one more time. Each adjustment on the screw can not be turned more than two circles.

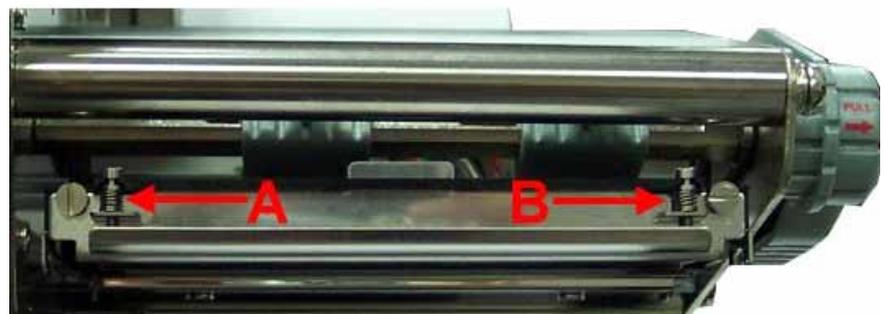
*Note: If the screws are turned more than the acceptable range, then paper feed may not be smooth. It means the ribbon shield was adjusted to low which made the paper feed path too small. Paper would be blocked by the tear off bar which would cause pulling problem, when this happens, the screws must be turned counterclockwise all the way for readjustment.*



(a)



(b)



## 5-10. Troubleshooting

Problem	Recommended Solution
LCD Display shows no message after power on the printer	<ul style="list-style-type: none"> <li>◆ Check the power cable</li> </ul>
LED light turns red (power/status) after printing stops	<ul style="list-style-type: none"> <li>◆ Check for software setting or program command errors</li> <li>◆ Replace with suitable label or ribbon</li> <li>◆ Check if label or ribbon is all out</li> <li>◆ Check if label is jammed/tangled up</li> <li>◆ Check if mechanism is closed (Thermal Print Head not positioned correctly)</li> <li>◆ Check if sensor is blocked by paper/label</li> <li>◆ Check for abnormal cutter function or of no actions (if cutter is installed)</li> </ul>
Printing started, but nothing was printed on the label	<ul style="list-style-type: none"> <li>◆ Check if label is placed upside down or if label is not suitable for the application</li> <li>◆ Select the correct printer driver</li> <li>◆ Select the correct label and print type</li> </ul>
When printing, label is jammed/tangled up	<ul style="list-style-type: none"> <li>◆ Clean the label jam, and if label is stuck on Thermal Print Head, please remove it by using soft cloth with alcohol.</li> </ul>
When printing, only part of the contents were printed	<ul style="list-style-type: none"> <li>◆ Check if label or ribbon is stuck on the Thermal Print Head</li> <li>◆ Check if application software has errors</li> <li>◆ Check if start position setting has errors</li> <li>◆ Check if ribbon has wrinkles</li> <li>◆ Check if ribbon supply shaft is creating friction with the platen roller. If the platen roller needs to be replaced, please contact your reseller for more information</li> <li>◆ Check if power supply is correct</li> </ul>
When printing, part of the label wasn't printed completely	<ul style="list-style-type: none"> <li>◆ Check if Thermal Print Head is stained or dusted</li> <li>◆ Use internal command "~T" to check Thermal Print Head can print completely</li> <li>◆ Check the media quality</li> </ul>
Printout not in desired position	<ul style="list-style-type: none"> <li>◆ Check if sensor is covered by paper or dust</li> <li>◆ Check if liner is suitable for use, please contact reseller for more information</li> <li>◆ Check if label roll edge is aligned with Label Width Guide</li> </ul>
When printing, page skipping occurs	<ul style="list-style-type: none"> <li>◆ Check if error occurs on label height setting</li> <li>◆ Check is sensor is covered by dust</li> </ul>
Unclear printout	<ul style="list-style-type: none"> <li>◆ Check print darkness setting</li> <li>◆ Check if Thermal Print Head is covered with glue or stain</li> </ul>
When using cutter, label wasn't cut straight	<ul style="list-style-type: none"> <li>◆ Check if label is set up straight</li> </ul>
When using cutter, label wasn't cut successfully	<ul style="list-style-type: none"> <li>◆ Check whether label thickness exceeds 0.16mm</li> </ul>
When using cutter, label couldn't feed or abnormal cutting occurs	<ul style="list-style-type: none"> <li>◆ Check if cutter is installed properly</li> <li>◆ Check if Paper Feed Rods are sticky</li> </ul>
When using stripper, abnormal function occurs	<ul style="list-style-type: none"> <li>◆ Check if stripper sensor is covered with dust</li> <li>◆ Check if label is installed properly</li> </ul>

*Note: If further problems shall occur, please contact your distributor for more information.*