

# BP-DT-4

**Barcode** Printer

**CAS**

# CONTENTS

<b>1. PRECAUTIONS</b>	<b>4</b>
<b>2. BARCODE PRINTER</b>	<b>5</b>
2-1. Printer Accessories	5
2-2. General Specifications	5
2-3. Communication Interface	7
2-4. Printer Parts	8
<b>3. PRINTER INSTALLATION</b>	<b>10</b>
3-1. Label Installation	10
3-2. Label Roll Core Switch	12
3-3. PC Connection	13
3-4. Driver Installation	14
<b>4. ACCESSORY</b>	<b>16</b>
4-1. Stripper Module Installation	16
4-2. Cutter Module Installation	19
<b>5. PRINTER SETTING</b>	<b>22</b>
5-1. FEED Key	22
5-2. LED Status	22
5-3. Auto Sensing	22
5-4. Self-Test	23
5-5. Dump-Mode	23
5-6. Error Messages	24
<b>6. MAINTENANCE AND ADJUSTMENT</b>	<b>25</b>
6-1. Thermal Print Head Cleaning	25
6-2. Adjust the Cutter	26
6-3. Troubleshooting	27

# 1. PRECAUTIONS

Please read the following instructions seriously.

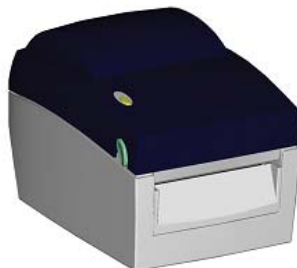
- 1) Keep the equipment away from humidity.
- 2) Before you connect the equipment to the power outlet, please check the voltage of the power source.
- 3) Disconnect the equipment from the voltage of the power source to prevent possible transient over voltage damage.
- 4) Don't pour any liquid to the 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.

## 2. BARCODE PRINTER

### 2-1. Printer Accessories

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

- Barcode printer
- Power cord
- Switching Power
- USB Cable
- Label
- Quick Start Guide
- CD (includes label editing software QLabel / Manual)



**BP-DT-4**

### 2-2. General Specifications

MODEL	BP-DT-4
Print Method	Direct Thermal
Resolution	203 dpi (8 dot/mm)
Print Speed	4 IPS (100 mm/s)
Print Width	108mm (4.25 Inch)
Print Length	Min. 10 mm (0.39 Inch)** ; Max. 1727mm (68 Inch)
Memory	4MB Flash(User Memory 2MB); 8MB SDRAM
Sensor Type	Adjustable reflective sensor. Fixed transmissive sensor, central aligned
Media	Types: Continuous form, gap labels, black mark sensing, and punched hole; label length set by auto sensing or programming Width: 1" (25.4 mm) Min. - 4.64" (118 mm) Max. Thickness: 0.003" (0.06 mm) Min. - 0.008" (0.20 mm) Max. Label roll diameter: Max. 5" (127 mm) Core diameter: 1", 1.5" (25.4 mm, 38.1 mm)
Printer Language	EZPL, GEPL, GZPL
Software	Label design software: QLabel-IV (for EZPL only) Driver & DLL: Windows 2000, XP and Vista
Resident Fonts	Bitmap fonts: 6, 8, 10, 12, 14, 18, 24, 30, 16X26 and OCRA & B Bitmap fonts 90°, 180°, 270° rotatable, single characters 90°, 180°, 270° rotatable Bitmap fonts 8 times expandable in horizontal and vertical directions Scalable fonts 90°, 180°, 270° rotatable

Download Fonts	<p>Bitmap fonts 90°, 180°, 270° rotatable, single characters 90°, 180°, 270° rotatable</p> <p>Asian fonts 90°, 180°, 270° rotatable and 8 times expandable in horizontal and vertical directions</p> <p>Scalable fonts 90°, 180°, 270° rotatable</p>
Barcodes	<p>1-D Bar codes: Code 39, Code 93, Code 128 (subset A, B, C), UCC/EAN-128 K-Mart, UCC/EAN-128, UPC A / E (add on 2 &amp; 5), I 2 of 5, I 2 of 5 with Shipping Bearer Bars, EAN 8 / 13 (add on 2 &amp; 5), Codabar, Post NET, EAN 128, DUN 14, HIBC, MSI (1 Mod 10), Random Weight, Telepen, FIM, China Postal Code, RPS 128 and GS1 DataBar</p> <p>2-D Bar codes: PDF417, Datamatrix code, MaxiCode, QR code and Micro QR code</p>
Code Pages	<p>CODEPAGE 437, 850, 851, 852, 855, 857, 860, 861, 862, 863, 865, 866, 869, 737</p> <p>WINDOWS 1250, 1251, 1252, 1253, 1254, 1255</p> <p>Unicode (UTF8, UTF16)</p>
Graphics	Resident graphic file types are BMP and PCX, other graphic formats are downloadable from the software
Interfaces	<p>USB port: V2.0</p> <p>Serial port: RS-232 (DB-9)</p>
Control Panel	<p>One Tri-color LED: Power (Green, Orange and Red)</p> <p>Control key: FEED</p>
Agency Approvals	CE(EMC), FCC Class A, CB, CCC
Power	100-240VAC, 50-60Hz
Environment	<p>Operation temperature : 41°F to 104°F (5°C to 40°C)</p> <p>Storage temperature : -4°F to 122°F (-20°C to 50°C)</p>
Humidity	<p>Operation: 30-85%, non-condensing.</p> <p>Storage: 10-90%, non-condensing.</p>
Dimension	<p>Length: 8.58" (218 mm)</p> <p>Height: 6.53" (166 mm)</p> <p>Width: 6.61" (168 mm)</p>
Weight	1.5kg
Options	<p>Parallel port (Centronics 36-pin)</p> <p>Ethernet Card</p> <p>Label Stripper</p> <p>Cutter Module</p>

## 2-3. Communication Interface

### Serial Interface

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

RS232 HOUSING(9-pin to 9-pin)

DB9 SOCKET		DB9 PLUG
---	1	+5V, max 500mA
RXD	2	TXD
TXD	3	RXD
DTR	4	N/C
GND	5	GND
DSR	6	RTS
RTS	7	CTS
CTS	8	RTS
RI	9	N/C
PC		PRINTER

Note. The total current output from serial port can not exceed 500mA.

### USB Interface

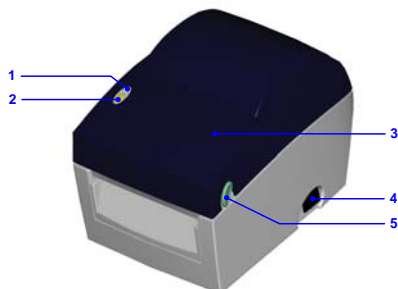
Connector Type : Type B

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

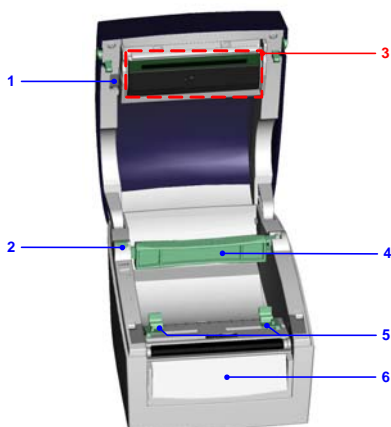
### Internal Interface

UART1 wafer		Ethernet module
N.C	1	N.C
TXD	2	RXD
RXD	3	TXD
CTS	4	RTS
GND	5	GND
RTS	6	CTS
E_MD	7	E_MD
RTS	8	CTS
E_RST	9	E_RST
+5V	10	+5V
GND	11	GND
+5V	12	+5V

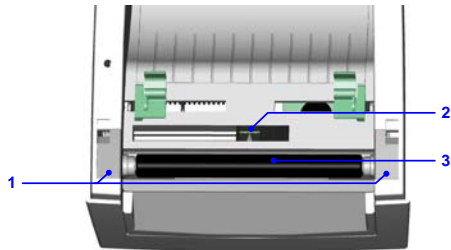
## 2-4. Printer Parts



1	LED Light
2	FEED Key
3	Top Cover
4	Power Switch
5	Cover Open Button



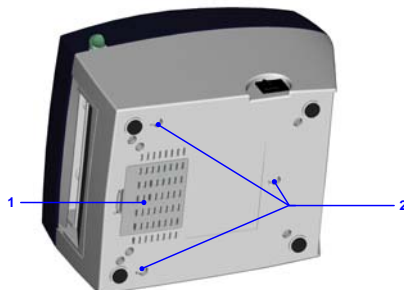
1	Print Head Lift
2	Label Roll Hlder
3	Printer Mechanism
4	Label Roll Core
5	Label guide
6	Front Cover Piece



1	Platen Cover
2	Label Sensor
3	Platen Roller



1	Power Socket
2	USB Port
3	Fan-fold Label Insert
4	Serial Port(RS-232)

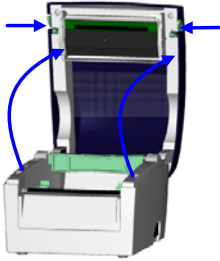
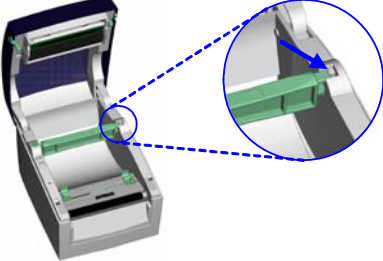
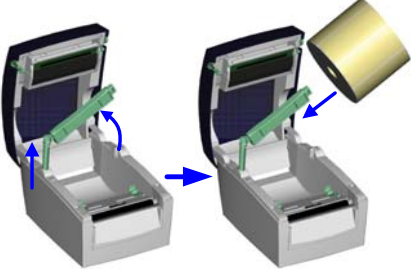
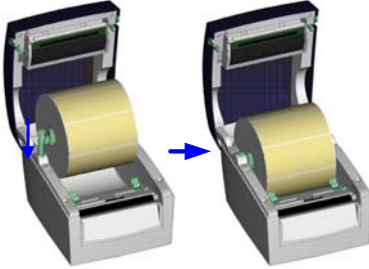


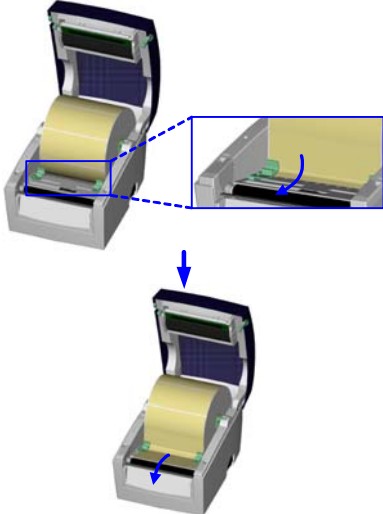
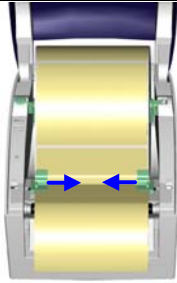
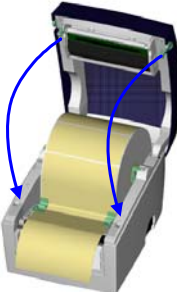
1	Bottom Case Cover
2	Hang Holes



## 3. PRINTER INSTALLATION

### 3-1. Label Installation

<p>1. Place the printer on a horizontal surface and open the Top Cover</p>	
<p>2. Press and release the lock of Label Roll Core</p>	
<p>3. Pull up the Label Roll Holder and lift the Label Roll Core upward.</p> <p>4. Place a new label roll onto the Label Roll Core.</p>	
<p>5. Flip the Label Roll Core downward and pull back the Label Roll Holder.</p> <p>6. Pull and lock the Label Roll Core to the original position.</p>	

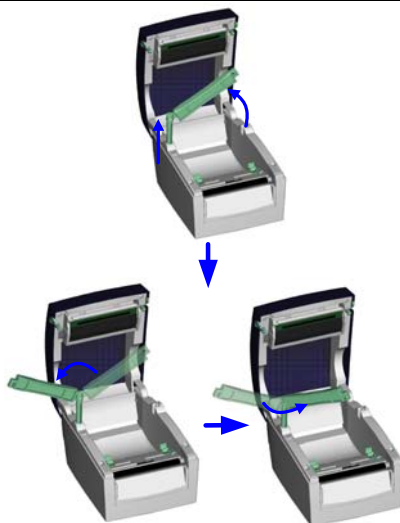
<p>7. Put the label under the Label Guide and stretch it frontward.</p>	
<p>8. Pull the Label Guide inward and make it fit the edge of label</p>	
<p>9. Close the Top Cover to complete the label installation.</p>	

### 3-2. Label Roll Core Switch

1. Pull the Label Roll Holder to the topmost and lift the Label Roll Core upward.

2. Turn the Label Roll Core outward as the figure shows.

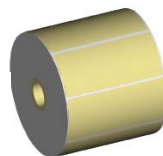
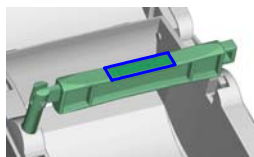
3. Whirl the Label Roll Core back to the original position



1 Inch Core

A. When the lock hole of Label Roll Core is on upper side, it applies to 1" core.

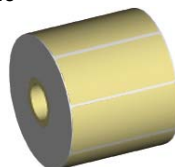
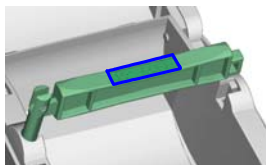
B. When the lock hole of Label Roll Core is on lower side, it applies to 1.5" core



1.5 Inch Core

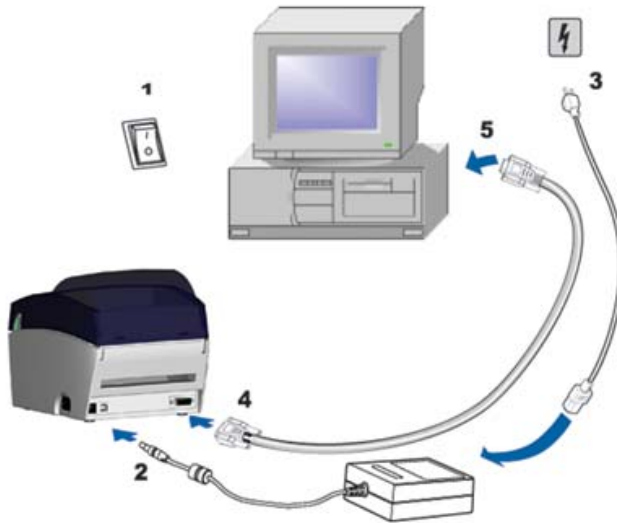
[Note]

You can also distinguish it by the index on the Label Roll Core as shown in figure

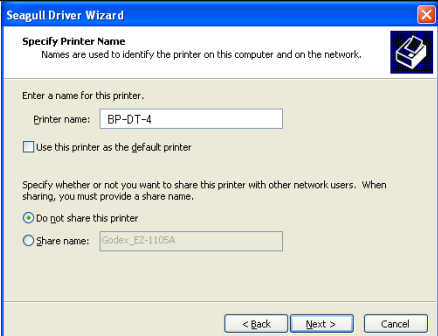




### 3-3. PC Connection

1. Please make sure the printer is powered off.
2. 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.
3. Connect the cable to the USB/Serial port on the printer and on the PC.
4. Power on the printer and the LED light will shine.

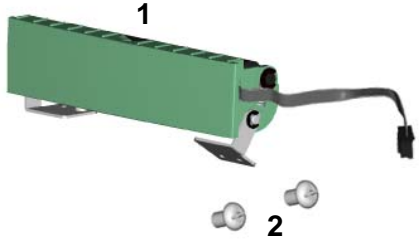
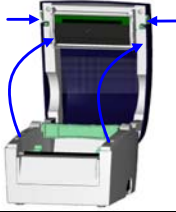
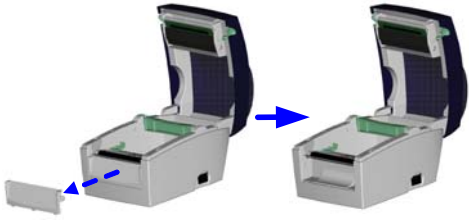
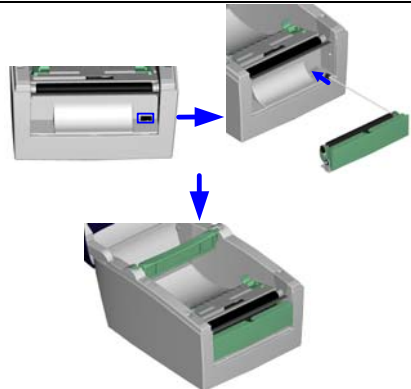


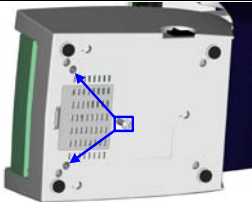
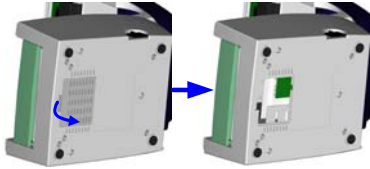
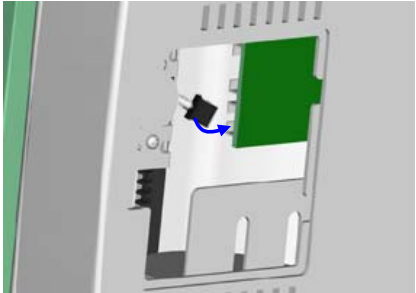
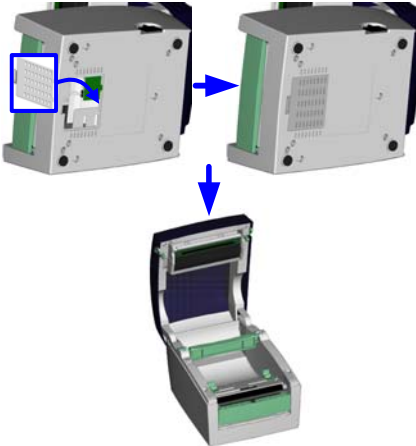
1. Insert the product CD to your computer's CD Drive and find the "Windows Drivers" folder.
2. Select the icon of driver file and click it to start the installation.
3. Follow the instruction on screen to keep the installation going. Then the Driver Wizard utility should run automatically.
4. Select "Install printer drivers".
5. Select printer model.
6. Select connection port.

<p>7. Enter the printer name and set printer sharing option.</p>	 <p>The screenshot shows the 'Specify Printer Name' window of the Seagull Driver Wizard. It prompts the user to enter a name for the printer. The 'Printer name' field contains 'BP-DT-4'. There is an unchecked checkbox for 'Use this printer as the default printer'. Below, there are two radio buttons for sharing: 'Do not share this printer' (selected) and 'Share name: Godex_E2-1105A' (unselected). Navigation buttons at the bottom are '&lt; Back', 'Next &gt;', and 'Cancel'.</p>
<p>8. A description page of printer settings will be displayed after all settings are completed.</p> <p>9. Check if all printer settings are correct and then press finish to start copying driver files.</p> <p>10. Wait for file copying finished and complete the installation.</p>	 <p>The screenshot shows the 'Completing the Seagull Driver Wizard' window. It lists the installation settings: Name: BP-1105, Share name: &lt;Not Shared&gt;, Port: USB001, Default: No, Manufacturer: Barcode Printer, Model: BP-1105, and Version: 7.1.7 M-0 (08/06/2009). It instructs the user to click 'Finish' to begin the driver installation process. Navigation buttons at the bottom are '&lt; Back', 'Finish', and 'Cancel'.</p>
<p>11. After the driver installation is complete, there should be a new printer model on Windows "Printer and Faxes" setting.</p>	 <p>The screenshot shows the Windows 'Printers and Faxes' control panel window. In the 'Printer Tasks' section on the left, 'Add a printer' is highlighted. On the right, a new printer icon is shown with the label 'BP-DT-4' below it.</p>

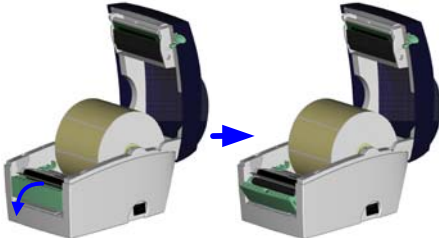
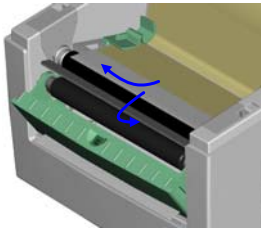
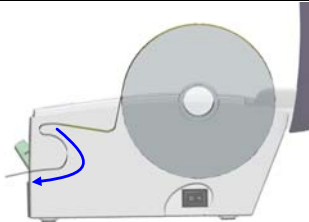
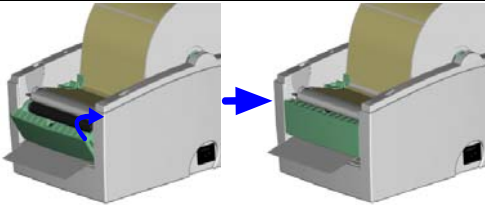
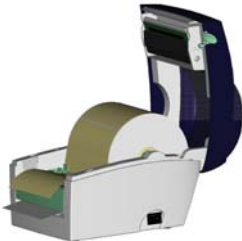
## 4. ACCESSORY

### 4-1. Stripper Module Installation

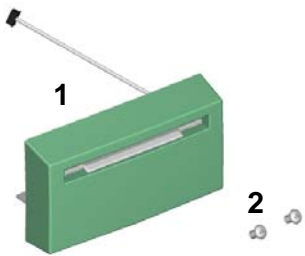
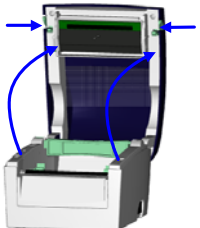
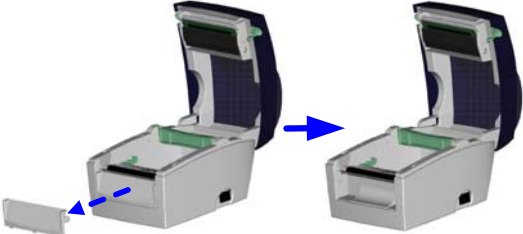
1	Stripper Module	
2	Screw X 2	
<p>[Note1] Please power off the printer before installing the stripper module.</p> <p>[Note 2] Label liner thickness is recommended to be 0.06mm <math>\pm 10\%</math> with basic weight 65g/m<sup>2</sup> <math>\pm 6\%</math>.</p>		
<p>1. Place the printer on a horizontal surface and open the Top Cover</p>		
<p>2. Remove the Front Cover Piece.</p> <p>[Note1] You can also use coin or screwdriver to open the Front Cover Piece.</p>		
<p>3. Push the stripper connector into printer through the cable hole as shown in figure.</p> <p>4. Place the Stripper on the fillister. Align the Stripper with 2 notches on the fillister.</p>		


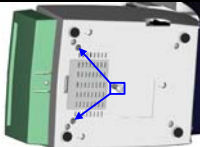
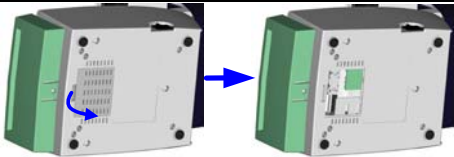
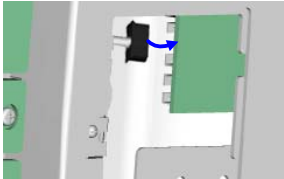
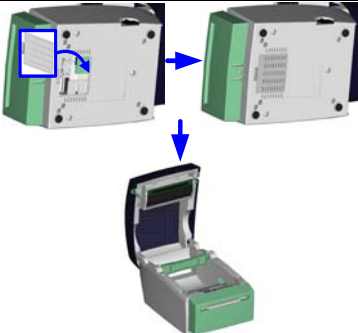
<p>5. Turn the printer around and tighten screws to fix the Stripper in location.</p>	
<p>6. Unlock the Bottom Case Cover to see the main board of printer.</p> <p>[Note] You can also use coin or screwdriver to open the bottom case cover</p>	
<p>7. Plug the connector into the main board.</p> <p>[Note] There are 2 sockets on the main board, one is for stripper installation, another is for cutter installation. Before plugging the connector into socket, please check the pin first</p>	
<p>8. Lock the Bottom Case Cover</p> <p>9. Turn the printer back to proceed to the label installation.</p>	

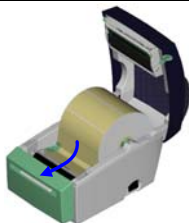



<p>10. Flip the stripper downward to open it.</p> <p>11. Follow the instruction on Chapter 2-1 to install the label.</p>	
<p>12. Peel off the first label, and feed the liner through the roller and the strip bar.</p> <p>[Note] The label / paper used for stripper is suggested to be at least 20mm in height.</p> <p>[Suggestion] When printing with stripper module, it is suggested to set the stop position (^E) to 9 (for DT-4)</p>	
<p>13. Follow the direction as shown in figure to feed the liner across the stripper.</p>	
<p>14. Flip the stripper upward to close it.</p>	
<p>15. Press the FEED key to adjust the position of label and complete the installation.</p>	

## 4-2. Cutter Module Installation

<p>1 Cutter Module</p> <p>2 Screw X 2pcs</p>	
<p>[Note 1] Please power off the printer before installing the cutter module.</p> <p>[Note 2] 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 1,000,000 cuts for paper weights up to 120g/m<sup>2</sup>, and 500,000 cuts for paper weights 120g/m<sup>2</sup> to 170g/m<sup>2</sup>.</p>	<p>[Note 3] The max paper cutting width is 114mm</p> <p>[Note 4] The label / paper that used for cutting is suggested to be at least 30mm</p>
<p>1. Place the printer on a horizontal surface and open the Top Cover.</p>	
<p>2. Remove the Front Cover Piece.</p>	

<p>3. Push the Cutter connector Into printer through the cable hole as shown in figure.</p> <p>4. Place the Stripper on the fillister.</p>	
<p>5. Turn the printer around and tighten screws to fix the Cutter in location.</p>	
<p>6. Unlock the Bottom Case Cover to see the main board of printer.</p>	
<p>7. Plug the connector into the main board. [Note] Before plugging the connector into socket, please check the pin first.</p>	
<p>8. Cover.(For BP-DT-2, please tighten the screw of Bottom Case Cover)</p> <p>9. Turn the printer back to proceed to the label installation.</p>	

<p>10. Follow the instruction on Chapter 2-1 to install the label.</p> <p>[Note] It is not suggested to use label-inside paper when printing with cutter module.</p>	
<p>11. Feed the label through the Cutter and press the FEED key to complete the installation.</p> <p>[Suggestion] When printing with cutter module, it is suggested to set the stop position (^E) to 33 (for DT-4)</p>	

## 5. PRINTER SETTING

### 5-1. FEED Key

After pressing the FEED key, printer will feed the media (according to media type) to the specified stop position.


When printing with continuous media, pressing the FEED key will feed the media out to a certain length. When printing with labels, the printer will feed one label each time the FEED key is pressed.

If the label is not sent out in a correct position, please proceed with the Auto Sensing (see next section).

### 5-2. LED Status

\*Note: below descriptions are only applied on firmware version G3.000 or after.

Press and hold the FEED key then power on the printer. Wait for the LED light flashing red and then release the FEED key, the printer will enter into Auto Sensing Mode to do the calibration. A Self-Test page will be printed out automatically after the calibration is completed. Below are the sequence and the description of two modes:.

	LED Light	Beep	Status	Description
	GREEN	X	Standby Mode	
	Press and hold FEED Key then Power on the printer ↓			
	RED	3	Auto Sensing Mode	Printers are currently in Auto Sensing Mode. The calibration will be performed and a Self-Test page will be printed out to show the configurations of printer. For more detail about Auto Sensing Mode, please refer to next section. For the descriptions of Self-Test page please refer to page 21

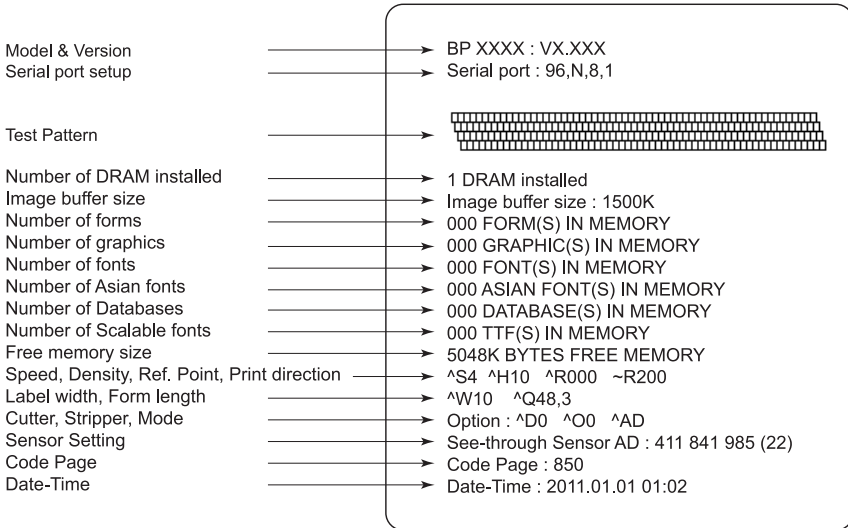
### 5-3. Auto Sensing

Printer can automatically detect the label and store the result of detecting. By doing this, the printer will calibrate the printing position of the label and the user can do printing without setting the label length. To perform the Auto Sensing, please do as follows:

1. Check if the label is correctly loaded on the printer.
2. Power off the printer, press and hold the FEED key.
3. Power on the printer while still holding the FEED key. Keep holding the FEED key, wait for the LED light turn to flash red and then release the FEED key. Printer will automatically detect the label and record it.
4. A Self-Test page will be printed out after Auto Sensing is completed and the printer goes back

## 5-4. Self - Test

The Self-Test page helps user to figure out whether the printer is operating normally. Below are some general descriptions about the content of Self-Test page:



## 5-5. Dump Mode

There are two ways to send printing commands to the printer. One is sending through the command window of QLabel IV, the other is sending through Windows <sup>TM</sup> HyperTerminal <sup>TM</sup> via RS-232 port. To send printing commands, make sure that the printer is on standby mode (LED light is green) and send commands that can change printer settings or set the label format.

However, when the printout result doesn't match to the label format setting, it is recommended to go into the Dump Mode to check whether any mistake in data transmission between the printer and the PC. For example, when printer receives 8 commands, yet without processing these commands, only printing out the contents of commands, this will confirm whether the commands were received correctly.

To enter the Dump Mode, please do as follows:

1. Make sure that the printer is on standby mode (LED light is green).
2. Send "~S,DUMP" command to the printer.
3. Printer will automatically print "DUMP MODE BEGIN". This indicates the printer is already in Dump Mode.
4. Send other printing commands to the printer, and check if the content matches the sent commands. To get out from the Dump Mode, please press the FEED key, and then the printer will automatically print out "OUT OF DUMP MODE". This indicates that the printer is back to standby mode. You can also power off the printer to exit from the Dump Mode.

## 5-6. Error Messages

LED Light	Beep	Description	Solution
RED (Flash)	None	Print head temperature high.	Wait for the print head temperature drops to the normal temperature range, printer will go back to the standby mode and the LED light will stop flashing.
RED	2 beeps twice	Unable to detect paper.	Make sure the movable sensor mark the correct position, if the sensor is still unable to detect paper, and then go through Auto Sensing again.
		Paper used up.	Replace with new label roll.
RED	2 beeps twice	Abnormal paper feed.	Possible causes: card tags or paper fall into the gap behind the platen roller, can't find label gap/black mark, black mark paper out. Please adjust according to actual usage.
RED	2 beeps twice	Memory is full; printer will print out "Memory full."	Delete unnecessary data in the memory.
RED	2 beeps twice	Can't find the file; printer will print out "Filename can not be found."	Use "-X4" command to print out all the files, then check whether the file exist and the names are correct.
RED	2 beeps twice	File name is repeated; printer will print out "Filename is repeated."	Change the file name and download again.

## 6. MAINTENANCE AND ADJUSTMENT

### 6-1. Thermal Print Head Cleaning

Unclear printouts 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:

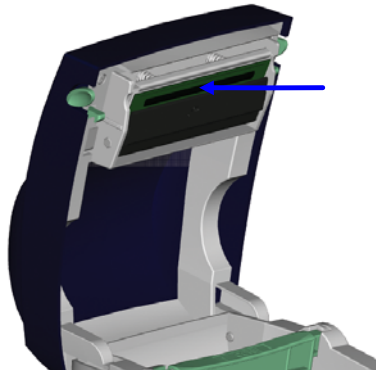
1. Power-off the printer.
2. Open the top cover.
3. If there are label pieces or other stain on the print head (see blue arrow), please use a soft cloth with industrial use alcohol to wipe away the stain.

[Note 1]

Weekly cleaning for the print head is recommended.

[Note 2]

When cleaning the print head with soft cloth, make sure there is no any metal or hard particles attached on it.

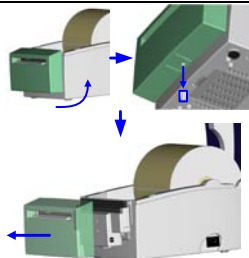




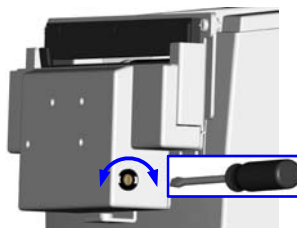
## 6-2. Adjust the Cutter

When using Cutter, paper-jam may happen sometimes.  
It can be solved by adjusting the cutter.

1. Turn the printer around to see the Cutter Cover Screw.
2. Loose the Cutter Cover Screw to remove the Cutter Cover



3. The Cutter Adjustment Screw is on the side of cutter. Use screwdriver to turn the Cutter Adjustment Screw counter-clockwise for releasing the paper-knife of the cutter and then remove the jammed-label out.
4. After the jammed-label is removed, turn the Cutter Adjustment Screw clockwise to restore the paper-knife.



## 6-3. Troubleshooting

LED light does not light up after on the printer	<ul style="list-style-type: none"> <li>• Check the power connector</li> </ul>
LED light indicates error messages after printing stops	<ul style="list-style-type: none"> <li>• Check for software setting or program command errors</li> <li>• Replace with suitable label</li> <li>• Check if label may run 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 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 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 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>
The printout is 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 if 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 unexpected cutting occurs	<ul style="list-style-type: none"> <li>• Check if cutter is installed properly</li> <li>• Check if paper feed is working normally</li> </ul>
When using stripper, the function is not working correctly.	<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]

Your dealer is knowledgeable about printers, printing software, and your unique system. Please contact your local dealer for further technical support.

## MEMO

## MEMO

## MEMO

# BP-DT-4

Barcode Printer



CAS BLDG., # 440-1, SUNGNAE-DONG,  
GANGDONG-GU, SEOUL, KOREA  
TEL\_ 82 2 2225 3500  
FAX\_ 82 2 475 4668  
[www.globalcas.com](http://www.globalcas.com)