Wasp 610/608 Barcode Printer

User’s Manual
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1. Introduction

1.1 Product Introduction

Congratulations on your purchase of a 610/608 barcode printer. This durable printer has a die-cast aluminum chassis and print mechanism and a metal cover featuring a large clear media view window. These features ensure your new printer will perform even in industrial environments and applications.

The back-lit graphic LCD display, makes management and operation of the printer status features easy and user-friendly. The moveable sensor design can accept a wide range of label media and all of the most frequently used bar code formats are included. Fonts and bar codes can be printed in four directions. This printer includes the high quality, high performance MONOTYPE IMAGING® True Type font engine and one CG Triumvirate Bold Condensed smooth font. With a flexible firmware design, the user can also download any True Type Font from a PC into the printer memory for printing labels. Besides the scalable fonts, it also provides a choice of five different sizes of alphanumeric bitmap font, OCR-A and OCR-B fonts.

1.2 Compliances

CE Class A:
EN 61000-4 SERIES REGULATIONS
ETSI EN 301 489-17:V1.2.1(2002-08)
FCC:
CFR 47, Part 15/CISPR 22 3RD EDITION:1997, Class A

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions.
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

ANSI C63.4:2003
CANADIAN ICES-003
C-Tick:
AS/NZS CISPR22 (Class A)
UL, CUL
UL 60950 3rd
Important Safety Warnings

1. Please read this reference manual carefully.
2. Keep these safety recommendations for later reference.
3. Before cleaning the printer, disconnect it from the power source. Do not use abrasive or aerosol cleaners. A damp cloth is recommended for cleaning.
4. The printer should be located near the power source and the power source should be easily accessible.
5. The printer and accessories should be protected from humidity.
6. Use caution when moving the printer. Tilting or dropping this equipment could damage it.
7. Pay attention when plugging the unit into the wall outlet as high voltage is involved.
8. The printer should not be stored where temperatures exceed 104 degrees Fahrenheit.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer instructions.
2. Operations Overview

2.1 Unpacking and Inspection

This printer has been specially packaged to withstand damage during shipping. Carefully inspect the packaging and printer upon receiving the bar code printer. Retain the packaging materials in case you need to reship the printer.

The following items are included in the printer packaging.

- One printer unit
- One Windows labeling software/Windows driver CD disk
- One quick installation guide
- One power cord
- One USB interface cable

If any parts are missing, please contact Wasp Customer Service.
2.2 Printer Overview

2.2.1 Front View

1. LED indicators
2. LCD display
3. Front panel buttons
4. Paper exit chute
5. Lower front cover
6. Printer right side cover
2.2.2 Interior view

1. Ribbon rewind spindle  
2. Ribbon release button  
3. Ribbon guide plate  
4. Print head  
5. Platen roller  
6. Print head release lever  
7. Media guide bar  
8. Label roll guard  
9. Label supply spindle  
10. Ribbon supply spindle  
11. Damper  
12. Label guide  
13. Z axis mechanism adjustment knob  
14. Print head pressure adjustment knob  
15. Print head secure screw  
16. Ribbon sensor  
17. Media sensor
2.2.3 Rear View

1. Fan-fold paper entrance chute
2. Centronics interface
3. USB interface
4. RS-232C interface
5. Power jack socket
6. GPIO interface
*7. SD card slot
8. Ethernet interface
9. PS/2 interface
10. Power switch

Note:
1. SD card slot, Ethernet interface and PS/2 interface are standard interfaces for WPL610 model, but optional for WPL608 model.

* Recommended SD card specification.

<table>
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<tr>
<th>SD V 1.0, V 1.1</th>
<th>SD V 2.0 (SDHC)</th>
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<tr>
<td>✓ 128MB</td>
<td>✓ 4GB class 6</td>
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<td>✓ 256MB</td>
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<td>✓ 512MB</td>
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<tr>
<td>✓ 1GB</td>
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-Supported DOS FAT file system.
-Folders stored on the SD card should be in the 8.3 filename format.
-Approved SD card manufacturer: SanDisk, Transcend.
2.3 Operator Controls

2.3.1 Front Panel Display

2.3.2 LED Indicators

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<tr>
<th>LED</th>
<th>Status</th>
<th>Indication</th>
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<tr>
<td>POWER</td>
<td>Off</td>
<td>The printer power is turned off</td>
</tr>
<tr>
<td></td>
<td>On</td>
<td>The printer power is turned on</td>
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<td>ON-LINE</td>
<td>On</td>
<td>Printer is ready</td>
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<td></td>
<td>Blinking</td>
<td>Pause</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Downloading data into printer.</td>
</tr>
<tr>
<td>ERROR</td>
<td>Off</td>
<td>Printer is ready</td>
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<tr>
<td></td>
<td>On</td>
<td>&quot;CARRIAGE OPEN&quot; or &quot;CUTTER ERROR&quot;</td>
</tr>
<tr>
<td></td>
<td>Blinking</td>
<td>&quot;NO PAPER&quot;, &quot;PAPER JAM&quot; or &quot;NO RIBBON&quot;</td>
</tr>
</tbody>
</table>
2.3.3 Front Panel Keys

<table>
<thead>
<tr>
<th>Keys</th>
<th>Function</th>
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</thead>
<tbody>
<tr>
<td>MENU</td>
<td>1. Enter the menu</td>
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<tr>
<td></td>
<td>2. Exit from a menu or cancel a setting and return to the previous menu</td>
</tr>
<tr>
<td>PAUSE</td>
<td>Pause/Resume the printing process</td>
</tr>
<tr>
<td>FEED</td>
<td>Advance one label</td>
</tr>
<tr>
<td>UP</td>
<td>Scroll up the menu list</td>
</tr>
<tr>
<td>DOWN</td>
<td>Scroll down the menu list</td>
</tr>
<tr>
<td>SELECT</td>
<td>Enter/Select cursor located option</td>
</tr>
</tbody>
</table>

2.4 Setting Up the Printer

1. Place the printer on a flat, secure surface.
2. Make sure the power switch is off.
3. Connect the printer to the computer with the provided USB cable.
4. Plug the power cord into the AC power cord socket at the rear of the printer, and then plug the power cord into a properly grounded power outlet.
2.5 Installation of Ribbon

2.5.1 Loading Ribbon

1. Lift the right side printer cover to open it.
2. Push the print head release lever to open the print head mechanism.

3. Install the ribbon onto the ribbon supply spindle.

4. Thread the ribbon through the ribbon sensor slot and then through the open space in between the print head and platen.
5. Wrap the ribbon onto the ribbon rewind spindle, keeping the ribbon flat and without wrinkles.

6. Wind the ribbon clockwise about 3~5 rotations onto the ribbon rewind spindle until it is smooth and properly stretched.

7. Close the print head mechanism making sure the latches are engaged properly.
Loading path for ribbon
2.5.2 Remove Used Ribbon

1. Cut the ribbon between ribbon guide plate and the ribbon rewind spindle.

2. Push the ribbon release button to release the ribbon on the ribbon rewind spindle.

3. Then, slide off the ribbon from ribbon rewind spindle and discard.
2.6 Installation of Media

2.6.1 Loading Roll Labels

1. Lift open printer right side cover.
2. Push the print head release lever to open the print head mechanism.

![Image of printer with lever highlighted]

3. Move the label roll guard horizontally to the end of label spindle then flip down the label roll guard.

![Images of label roll guard being moved and flipped down]

4. Place the roll of media on the label supply spindle. Flip up the label roll guard. Move the label roll guard horizontally to gently fit the width of label roll.

![Images of label roll guard being moved and flipped up]
5. Pull label roll leading edge forward through the media guide bar, damper, media sensor and place the label leading edge onto the platen roller.

6. Adjust the label guide to fit the width of the label.
7. Close the print head mechanism making sure the latches are engaged properly.
8. Using the front display panel, set the media sensor type and calibrate the selected sensor. (Please refer to section 3.1.2)

**Note:** Please calibrate the gap/black mark sensor when changing media.

- **Loading path for roll labels**
2.6.2 Loading Fan-fold Labels

Fan-fold media feeds through either the bottom or rear external label entrance chute.

1. Lift open printer right side cover.
2. Push the print head release lever to open the print head mechanism.
3. Insert the fan-fold media through the bottom or rear external label entrance chute.
4. Pull fan-fold label leading edge forward through the media guide bar, damper media sensor and place the label leading edge onto the platen roller.
5. Adjust the label guide by sliding to fit the paper width.
6. Close the print head mechanism making sure the latches are engaged properly.
7. Set the media sensor type and calibrate the selected sensor. (Please refer to section 3.1.2)

**Note:** Please calibrate the gap/black mark sensor when changing media.

- **Loading path for fan-fold labels**
2.6.3 Loading Media in Peel-off Mode (Option)

1. Lift open printer right side cover.
2. Push the print head release lever to open the print head mechanism.
3. Move the label roll guard horizontally to the end of label spindle then flip down the label roll guard.
4. Place the roll of media on the label supply spindle. Flip up the label roll guard. Move the label roll guard horizontally to fit the width of label roll.
5. Pull label roll leading edge forward through the media guide bar, damper media sensor and place the label leading edge onto the platen roller.
6. Adjust the label guide to fit the width of the label.
7. Using the front display panel, set the media sensor type and calibrate the selected sensor. (Please refer to section 3.1.2)
8. Then, pull approximately 25"/650mm of label through the front of the printer.
9. Push down the peel-off roller release lever.

10. Feed the label between peel-off roller and platen roller.

11. Wrap the label onto the internal rewind spindle and wind the spindle counter-clockwise about 3~5 rotations until the label is properly stretched.
12. Lift up the peel-off roller release lever and close the print head mechanism.
13. Rotate the peel-off sensor toward the paper exit chute.

14. Peeling will automatically start. Press the FEED button to test.

**Note:**
Please calibrate the gap/black mark sensor when changing media.
2.6.4 Remove Liner from Internal Rewind

1. Cut the liner between peel-off roller and the internal rewind spindle.

2. Push the liner release button to release the liner on the internal rewind spindle.

3. Then, slide off the liner from internal rewind spindle and discard.
2.6.5 Loading Media in Rewind Liner with Label Mode (Option)

This mode can rewind the media including liner and label on the rewind spindle.

1. Lift open the printer’s right side cover.
2. Insert the supply holder guide and paper core into the internal rewind for 1” core label roll.
   Insert the supply holder guide, 3” label core adapter and paper core into the internal rewind for 3” core label roll.

3. Insert media into the printer label spindle. Pull label roll leading edge forward through the media guide bar, damper media sensor and place the label leading edge onto the platen roller. (Please refer to section 2.6.1)
4. Then, pull approximately 650mm of label through the label redirect front panel.
5. Wrap the label onto the internal rewind spindle and stick the label onto the paper core.

6. Insert another supply holder guide into the internal rewind for 1” core label roll.
7. Using the LCD panel set the media sensor type and calibrate the selected sensor. (Please refer to section 3.1.2)

Note:
Please calibrate the gap/black mark sensor when changing media.
2.6.6 Remove Labels from Internal Rewind (Option)

1. Slide off the labels with supply holder guides from the internal rewind spindle.
2.7 Adjustment Knob

2.7.1 Print head Pressure Adjustment Knob

The print head pressure adjustment knob has 5 levels of adjustment. Because the printer's paper alignment is to the left side of the mechanism, different media widths require different pressure to print correctly. Therefore, you may need to adjust the pressure knob to achieve the best print quality. For example, if the label width is 4”, adjust both print head pressure adjustment knobs to the same level. If the label is less than 2” wide, increase the left side print head pressure by rotating the adjustment knob clockwise and decrease the right side pressure by rotating the adjustment knob counter-clockwise to level 1.

2.7.2 Print Head Burn Line Adjustment Knob

The print head burn line adjustment knobs are used to fine-tune the print quality for different thickness of media. Turning the knobs adjusts the print head’s burn line forward or backward as it relates to the platen roller.
Caution: Incorrectly adjusting these knobs can lead to poor print quality and may cause damage to the printer. Proceed with caution.

The print head burn line default is set for general purpose printing media (plain paper and paper thickness less than 0.20mm). The adjustment knobs default position is screwed clockwise to the end of thread.

Poor print quality when using paper thicker than 0.20mm may be due to the print head burn line not being at the optimized position. To improve the print quality, increase the head pressure or adjust the knobs counter-clockwise to move the print head burn line toward the paper out direction then print again. Continue to adjust the burn line position and test print as necessary until the printout image is clear.
3. Menu Function

Main Menu Overview

Notice:
* The Ethernet function is available for 610 series only and option for 608 series.
* Ethernet function is available on the LCD display when Ethernet card is installed.
3.1 Setup Menu Overview

Notice:
* The Ethernet function is available for 610 series only and option for 608 series.
* Ethernet function is available on the LCD display when Ethernet card is installed.
### 3.1.1 Printer Setup

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<th>Density</th>
<th>Direction</th>
<th>Print Mode</th>
<th>Offset</th>
<th>Shift X</th>
<th>Shift Y</th>
<th>Reference X</th>
<th>Reference Y</th>
<th>Code Page</th>
<th>Country</th>
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3.1.1.1 Speed:

Use this option to setup print speed. The available print speed is between 4~12 ips and each increment/decrement is 1 ips. The default print speed is 6 ips.

Press the **UP** key to raise the print speed, and press the **DOWN** key to decrease print speed. Press the **SELECT** key to set it into printer. Press the **MENU** key to cancel the setting and return to the previous menu.

*Note: If printing from enclosed software/driver, the software/driver will send out the SPEED command, which will overwrite the setting selected on the front panel.*

3.1.1.2 Density:

Use this option to setup printing darkness. The available setting is from 0 to 15, and the step is 1. Printer default density is 8. You may need to adjust your density based on selected media.

Press **UP** and **DOWN** to increase/decrease the printing darkness. Press the **SELECT** key to enable the setting. Press the **MENU** key to cancel the setting and return to the previous menu.

*Note: If printing from enclosed software/driver, the software/driver will send out the DENSITY command, which will overwrite the setting selected on the front panel.*

3.1.1.3 Direction:

The direction setting value is either 1 or 0. Use this option to setup the printout direction. Printer default printout direction is DIRECTION 0.

Press the **UP** key to set the direction as 1, and **DOWN** to set it as 0, and the **SELECT** key to enable the setting. Press the **MENU** key to cancel the setting and return to the previous menu.

The following 2 figures are the printouts of DIRECTION 0 and 1 for your reference.
3.1.4 Print Mode: (None/Batch Mode/Peeler Mode/Cutter Mode/Cutter Batch)

This option is used to set the print mode. Printer default setting is Batch Mode. When enter this list, the print mode in the right side of " >" icon is the printer current setting. Press UP ⊗ and DOWN ⊗ to select the different print mode and press the SELECT button to enable the setting. Press the MENU key to cancel the setting and return to the previous menu.

<table>
<thead>
<tr>
<th>Printer Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Next label top of form is aligned to the print head burn line location. (Tear Off Mode)</td>
</tr>
<tr>
<td>Batch Mode</td>
<td>Once image is printed completely, label gap/black mark will be fed to the tear plate location for tear away.</td>
</tr>
<tr>
<td>Peeler Mode</td>
<td>Enable the label peel off mode.</td>
</tr>
<tr>
<td>Cutter Mode</td>
<td>Enable the label cutter mode.</td>
</tr>
<tr>
<td>Cutter Batch</td>
<td>Cut the label once at the end of the printing job.</td>
</tr>
</tbody>
</table>

Note: If printing from enclosed software/driver, the software/driver will send out the
3.1.1.5 Offset:

This option is used to fine tune media stop location. Press the DOWN button to move the cursor from left digit to right digit, and press the UP button to set the value from “+” to “-” or “0” to “9”. Press the SELECT button to set the value into printer. Press MENU key to cancel the setting and return to the previous menu. The default value is +000.

Note: If printing from enclosed software/driver, the software/driver will send out the OFFSET command, which will overwrite the setting set from the front panel.

3.1.1.6 Shift X & Shift Y:

This option is used to fine tune print position. Press the DOWN button to move the cursor from left digit to right digit, and press the UP button to set the value from “+” to “-” or “0” to “9”. Press the SELECT button to set the value into printer. Press MENU key to cancel the setting and return to the previous menu. The default value is +000.

Note: If printing from enclosed software/driver, the software/driver will send out the SHIFT command, which will overwrite the setting set from the front panel.

3.1.1.6 Reference X & Reference Y:

This option is used to set the origin of printer coordinate system horizontally and vertically. Press the DOWN button to move the cursor from left digit to right digit, and press the UP button to set the value from “0” to “9”. Press the SELECT button to set the value into printer. Press MENU key to cancel the setting and return to the previous menu. The default value is 000.

Note: If printing from enclosed software/driver, the software/driver will send out the
3.1.1.7 Code Page:

Use this option to set the code page of international character set. For more information about code page, please refer to the programming manual.

When entering the code page list, the code page in the right side of “>” icon is the printer current setting.

Press the UP and DOWN to select the code page, and press the SELECT button to enable the setting. Press MENU key to cancel the setting and return to the previous menu.

**Note:** If printing from enclosed software/driver, the software/driver will send out the command, which will overwrite the setting set from the front panel.

<table>
<thead>
<tr>
<th>7-bit</th>
<th>8-bit</th>
</tr>
</thead>
<tbody>
<tr>
<td>code page name</td>
<td>International Character Set</td>
</tr>
<tr>
<td>USA</td>
<td>USA</td>
</tr>
<tr>
<td>BRI</td>
<td>British</td>
</tr>
<tr>
<td>GER</td>
<td>German</td>
</tr>
<tr>
<td>FRE</td>
<td>French</td>
</tr>
<tr>
<td>DAN</td>
<td>Danish</td>
</tr>
<tr>
<td>ITA</td>
<td>Italian</td>
</tr>
<tr>
<td>SPA</td>
<td>Spanish</td>
</tr>
<tr>
<td>SWE</td>
<td>Swedish</td>
</tr>
<tr>
<td>SWI</td>
<td>Swiss</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>code page number</td>
<td>International Character Set</td>
</tr>
<tr>
<td>1252</td>
<td>Latin 1</td>
</tr>
<tr>
<td>1250</td>
<td>Central Europe</td>
</tr>
<tr>
<td>1253</td>
<td>Greek</td>
</tr>
<tr>
<td>1254</td>
<td>Turkish</td>
</tr>
<tr>
<td>1251</td>
<td>Cyrillic</td>
</tr>
<tr>
<td>1255</td>
<td>Hebrew</td>
</tr>
<tr>
<td>1256</td>
<td>Arabic</td>
</tr>
<tr>
<td>1257</td>
<td>Baltic</td>
</tr>
</tbody>
</table>
### ISO Code Page

<table>
<thead>
<tr>
<th>code page name</th>
<th>International Character Set</th>
<th>code page number</th>
<th>International Character Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>8859-1</td>
<td>Latin 1</td>
<td>8859-7</td>
<td>Greek</td>
</tr>
<tr>
<td>8859-2</td>
<td>Latin 2</td>
<td>8859-9</td>
<td>Turkish</td>
</tr>
<tr>
<td>8859-3</td>
<td>Latin 3</td>
<td>8859-10</td>
<td>Latin 6</td>
</tr>
<tr>
<td>8859-4</td>
<td>Baltic</td>
<td>8859-15</td>
<td>Latin 9</td>
</tr>
<tr>
<td>8859-5</td>
<td>Cyrillic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 3.1.1.8 Country:

Use this option to set the country code for the LCD display. Press the **UP** key and **DOWN** key to select the country code, and press the **SELECT** button to set the value into printer. When enter this list, the country code in the right side of ">" icon is the printer current setting. Press **MENU** key to cancel the setting and return to the previous menu.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>USA</td>
<td>034</td>
<td>Spanish (Spain)</td>
<td>044</td>
<td>United Kingdom</td>
<td>055</td>
<td>Brazil</td>
</tr>
<tr>
<td>002</td>
<td>Canadian-French</td>
<td>036</td>
<td>Hungarian</td>
<td>045</td>
<td>Danish</td>
<td>061</td>
<td>English (International)</td>
</tr>
<tr>
<td>003</td>
<td>Spanish (Latin America)</td>
<td>038</td>
<td>Yugoslavian</td>
<td>046</td>
<td>Swedish</td>
<td>351</td>
<td>Portuguese</td>
</tr>
<tr>
<td>031</td>
<td>Dutch</td>
<td>039</td>
<td>Italian</td>
<td>047</td>
<td>Norwegian</td>
<td>358</td>
<td>Finnish</td>
</tr>
<tr>
<td>032</td>
<td>Belgian</td>
<td>041</td>
<td>Switzerland</td>
<td>048</td>
<td>Polish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>033</td>
<td>French (France)</td>
<td>042</td>
<td>Slovak</td>
<td>049</td>
<td>German</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.1.2 Sensor

3.1.2.1 Status
This function is available to check the printer’s sensor status. When enter the [Status] option, you will see following message.

<table>
<thead>
<tr>
<th>Paper Len.</th>
<th>812</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gap Size</td>
<td>24</td>
</tr>
<tr>
<td>Intensity</td>
<td>3</td>
</tr>
<tr>
<td>Ref. Level</td>
<td>512</td>
</tr>
</tbody>
</table>

3.1.2.2 Calibration
This option is used to set the media sensor type and calibrate the selected sensor. We recommend you calibrate the sensor before printing when changing the media.
A. Gap Mode

Press the UP и DOWN buttons to scroll the cursor to the media type and press the SELECT button to enter the sensor calibration mode.

**Note:** If printing from enclosed software/driver, the software/driver will send out the GAP or BLINE command, which will overwrite the sensor type setting set from the front panel.

### A-1 Automatic

When you select the [Automatic] option, you will see the following message, and the printer will feed 2 to 3 gap labels to automatically calibrate the sensor sensitivity. When calibration is completed, the LCD screen will return to the previous menu.

### A-2 Manual

In case “Automatic” sensor calibration cannot apply to the media, please use the “Manual” function to calibrate the gap sensor manually.

When you select the [Manual] option, you will see the message below. Please complete these steps:

1. Press the DOWN button to move the cursor from left digit to right digit, and press the UP button to set the value from “0” to “9” and the “dot/mm/ inch”. Press the SELECT button to set the paper length into the printer.

2. Press the DOWN button to move the cursor from left digit to right digit, and press the UP button to set the value from “0” to “9” and the “dot/mm/ inch”. Press the SELECT button to set the gap size into the printer.
3. Open the print head mechanism, put the label backing (liner) under the media sensor. Press the SELECT button to set the value into the printer.

4. Then, put the label with liner under the media sensor. Press the SELECT button to set the value into the printer.

5. The gap sensor calibration is complete. Press the SELECT button the LCD screen will return to the previous menu.

### A-3 Pre-Printed

This function is used to set the paper length and gap size before the system auto-calibrates the sensor sensitivity. This function can be used to set the sensor sensitivity accurately.

When you select the [Pre-Printed] option, you will see the following message. Please complete these steps:
1. Press the **DOWN** button to move the cursor from left digit to right digit, and press the **UP** button to set the value from “0” to “9” and the “dot/mm/inch”. Press the **SELECT** button to set the paper length into the printer.

<table>
<thead>
<tr>
<th>Paper Len.</th>
<th>00812 dot</th>
</tr>
</thead>
</table>

2. Press the **DOWN** button to move the cursor from left digit to right digit, and press the **UP** button to set the value from “0” to “9” and the “dot/mm/inch”. Press the **SELECT** button to set the gap size into the printer.

<table>
<thead>
<tr>
<th>Gap Size</th>
<th>0024 dot</th>
</tr>
</thead>
</table>

3. Then, printer will feed labels to calibrate the sensor sensitivity automatically. When calibration is completed, the LCD screen will return to the previous menu.

<table>
<thead>
<tr>
<th>Gap Mode</th>
<th>Pre-Printed</th>
</tr>
</thead>
</table>
### B. Bline Mode

Press the **UP** and **DOWN** buttons to scroll the cursor to the sensor type. Press the **SELECT** button to enter the black-mark sensor calibration mode.

#### B-1 Automatic

When enter the [Automatic] option, you will see the following message and the printer will feed the black mark label to calibrate the sensor sensitivity automatically. When the calibration process is completed, the LCD screen will return to the previous menu.

#### B-2 Manual

In case “Automatic” sensor calibration cannot apply to the media, please use the “Manual” function to calibrate the bline sensor manually.

When you select the [Manual] option, you will see the following message. Please complete these steps:

1. Press the **DOWN** button to move the cursor from left digit to right digit, and press the **UP** button to set the value from “0” to “9” and the “dot/mm/inch”. Press the **SELECT** button to set the paper length into the printer.

2. Press the **DOWN** button to move the cursor from left digit to right digit, and press the **UP** button to set the value from “0” to “9” and the “dot/mm/inch”. Press the **SELECT** button to set the bline size into the printer.
3. Open the print head mechanism, put the black mark under the media sensor. Press the **SELECT** button to set the value into the printer.

4. Then, put the label without black mark under the media sensor. Press the **SELECT** button to set the value into the printer.

**Note:**
Normally, the value of “Ref. Level” for mark should be larger than paper for over 128. If the media sensor fails to do so, you have to manually change the Intensity by pressing **UP** and **DOWN** to reach the above value.

5. The bline sensor calibration is complete. Press the **SELECT** button the LCD screen will return to the previous menu.

**B-3 Pre-Printed**

This function can be used to set the paper length and gap size before you auto-calibrate the sensor sensitivity. It is used to set the sensor sensitivity accurately.

When you select the [Pre-Printed] option, you will see the following message. Please complete these steps:
1. Press the **DOWN** button to move the cursor from left digit to right digit, and press the **UP** button to set the value from “0” to “9” and the “dot/mm/inch”. Press the **SELECT** button to set the paper length into the printer.

<table>
<thead>
<tr>
<th>Paper Len.</th>
<th>00812 dot</th>
</tr>
</thead>
</table>

2. Press the **DOWN** button to move the cursor from left digit to right digit, and press the **UP** button to set the value from “0” to “9” and the “dot/mm/inch”. Press the **SELECT** button to set the bline size into the printer.

<table>
<thead>
<tr>
<th>Bline Size</th>
<th>0024 dot</th>
</tr>
</thead>
</table>

3. Then, printer will feed labels to calibrate the sensor sensitivity automatically. When calibration is completed, the LCD screen will return to the previous menu.

<table>
<thead>
<tr>
<th>Bline Mode</th>
<th>Pre-Printed</th>
</tr>
</thead>
</table>
C. Cont. Mode

Press the **UP** and **DOWN** buttons to scroll the cursor to the sensor type. Press the **SELECT** button to enter the black-mark sensor calibration mode.

C-1 Automatic

When you select the [Automatic] option, you will see the following message and the printer will calibrate the sensor sensitivity automatically. When the calibration process is completed, the LCD screen will return to the previous menu.

C-2 Manual

In case “Automatic” sensor calibration cannot apply to the media, please use the “Manual” function to calibrate the sensor manually.

When you select the [Manual] option, you will see the following message. Please complete these steps:

1. Remove the continuous label. Press the **SELECT** button to set the value into the printer.

2. Then, put the continuous label under the media sensor. Press the **SELECT** button to set the value into the printer.
3. The sensor calibration is complete. Press the **SELECT** button the LCD screen will return to the previous menu.

3.1.3 Serial Comm.

- **Baud Rate**
  - 1200 bps
  - 2400 bps
  - 4800 bps
  - 9600 bps
  - 19200 bps
  - 38400 bps
  - 57600 bps
  - 115200 bps
  - Exit

- **Parity**
  - None
  - Odd
  - Even

- **Data Bits**
  - 7
  - 8

- **Stop Bit(s)**
  - 1
  - 2

- **Exit**
3.1.3.1 Baud Rate

<table>
<thead>
<tr>
<th>Serial Comm. 1/5</th>
<th>Baud Rate 4/9</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Baud Rate</td>
<td>&gt; 9600 bps</td>
</tr>
<tr>
<td>Parity</td>
<td>19200 bps</td>
</tr>
<tr>
<td>Data Bits</td>
<td>38400 bps</td>
</tr>
</tbody>
</table>

This option is used to set the RS-232 baud rate. The default setting is 9600 bps. Press UP and DOWN buttons to select the different baud rate and press SELECT button to set the value into printer. When you enter this list, the baud rate value in the right side of “>” icon is the current setting in the printer. Press MENU key to cancel the setting and return to the previous menu.

3.1.3.2 Parity

<table>
<thead>
<tr>
<th>Serial Comm. 2/5</th>
<th>Parity 1/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baud Rate</td>
<td>&gt; None</td>
</tr>
<tr>
<td>&gt; Parity</td>
<td>Odd</td>
</tr>
<tr>
<td>Data Bits</td>
<td>Even</td>
</tr>
</tbody>
</table>

This option is used to set the RS-232 parity. The default setting is “None”. Press UP and DOWN buttons to select the different parity and press SELECT button to set the value into printer. When you enter this list, the parity in the right side of “>” is the printer current setting. Press MENU key to cancel the setting and return to the previous menu.

3.1.3.3 Data Bits:

<table>
<thead>
<tr>
<th>Serial Comm. 3/5</th>
<th>Data Bits 2/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baud Rate</td>
<td>7</td>
</tr>
<tr>
<td>&gt; Parity</td>
<td>&gt; 8</td>
</tr>
<tr>
<td>Data Bits</td>
<td>Exit</td>
</tr>
</tbody>
</table>

This option is used to set the RS-232 Data Bits. The default setting is “8” data bits. Press UP and DOWN buttons to select the different Data Bits and press SELECT button to set the value into printer. When you enter this list, the Data Bits in the right side of “>” icon is the printer current setting. Press MENU key to cancel the setting and return to the previous menu.
3.1.3.4 Stop Bit(s):

This option is used to set the RS-232 Stop Bits. The default setting is “1” stop bit. Press **UP** and **DOWN** buttons to select the different Stop Bits and press **SELECT** button to set the value into printer. When you enter this list, the option in the right side of “>” icon is the printer current setting. Press **MENU** key to cancel the setting and return to the previous menu.
3.1.4 Ethernet

Use this menu to configure internal Ethernet configuration check the printer’s Ethernet module status, and reset the Ethernet module. This function is available on the LCD display when Ethernet card is installed.

Press the UP and DOWN buttons to select the different options and press SELECT button to enter the option. Press the MENU key to cancel the setting and return to the previous menu.

Note:

This function is available for 610 series only and option for 608 series.

3.1.4.1 Status: (IP Address / MAC)

Use this menu to check the Ethernet setting status.

3.1.4.1.1 IP Address

The IP address information will be shown on the LCD display. Please press SELECT or MENU button to return to the previous menu.
3.1.4.1.2 MAC

The MAC address information will be shown on the LCD display. Please press SELECT or MENU button to return to the previous menu.

3.1.4.2 Configure: (DHCP / Static IP)

Use this menu to set the printer's DHCP and Static IP.

3.1.4.2.1 DHCP

Press UP ⊕ and DOWN ⊕ buttons to select the DHCP function and press SELECT to enter. Press MENU key to cancel the setting and return to the previous menu.

Press SELECT button the printer will set DHCP and restart to reset the setting. Press MENU button to return to the previous menu.
3.1.4.2.2 Static IP

Use this menu to set the printer's IP address, subnet mask and gateway.

Press UP ↑ and DOWN ↓ buttons to select the different options and press SELECT button to enter the option. Press MENU key to cancel the setting and return to the previous menu.

Press DOWN ↓ button to move the cursor from left to right digits and press the UP ↑ button to scroll the value from "0" to "9". Press SELECT button to next setting.

Press the SELECT button printer will restart to reset the Ethernet module setting. Press MENU key to cancel the setting.
3.2 File Manager

This feature is used to check the printer available memory and file list.

File Manager

File List  Avail. Memory  Del. All Files  Exit

DRAM  ↓↓  FLASH  ↓↓  CARD  ↓↓  Exit

3.2.1 File List

Use this menu to show, delete and run (.BAS) the files saved in the printer DRAM/Flash/Card memory.

To show the files:

File Manager  1/4
> File List
Avail. Memory
Del. All Files

File List  2/4
> FLASH
CARD
Exit

FLASH File List
> DEMO.TTF
DEMO.BAS

To delete the file: Please follow the order to press the DOWN button.

FLASH File List
> DEMO.TTF
1.75 MB
DOWN: Delete

To run the file (.BAS): Please follow the order to press the SELECT button.
3.2.2 Avail. Memory

Use this menu to show available memory space.

File Manager 2/4
File List
> Avail. Memory
Del. All Files

Avail. Memory
DRAM: 256 KB
FALSH: 6656 KB
CARD: 0 KB

3.2.3 Del. All Files

Use this menu to delete all files. Press **SELECT** button to delete all files in the device. Press **MENU** to cancel deleting files and go back to previous menu.

File Manager 3/4
File List
> Avail. Memory
> Del. All File

File List 1/4
> DRAM
FALSH
CARD

Del. All Files
SELECT: YES
MENU: NO
3.3 Diagnostics

3.3.1 Print Config.

This feature is used to print current printer configuration to the label. On the sconfiguration printout, there is a print head test pattern, which is useful for checking if there is any dot damage on the print head heater element.

<table>
<thead>
<tr>
<th>Diagnostics 1/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Print Config.</td>
</tr>
<tr>
<td>Dump Mode</td>
</tr>
<tr>
<td>Rotate Cutter</td>
</tr>
<tr>
<td>Self Test ...</td>
</tr>
<tr>
<td>Printing ... 1/1</td>
</tr>
</tbody>
</table>

Self-test printout

Print head check pattern
Model name and F/W version
Printed mileage (meter)
Firmware checksum
Serial port configuration
Code page
Country code
Print speed (inch/sec)
Print darkness
Label size (inch)
Gap distance (inch)
Gap/black mark sensor sensitivity
Numbers of download files
Total & available memory space
3.3.2 Dump Mode
Captures the data from the communications port and prints out the data received by printer. In the dump mode, all characters will be printed in 2 columns as following. The left side characters are received from your system and right side data are the corresponding hexadecimal value of the characters. It allows users or engineers to verify and debug the program.

Note:
1. Dump mode requires 4” wide paper width.
2. Turn off / on the power to resume printer for normal printing.
3. Press FEED button to back to the previous menu.
3.3.3 Rotate Cutter

In case paper is jammed in the cutter, this feature can rotate the cutter blade forward or backward, which is helpful to remove the jammed paper from the cutter.

![Diagnostics menu](image)

3.4 Language

This option is used to setup the language on LCD display.

Press **UP** and **DOWN** buttons to scroll the cursor to desire language and press **SELECT** button to select this option. Press **MENU** key to cancel the setting and return to the previous menu. The default language setting is English.
3.5 Service

This feature is used to restore all printer settings to their defaults and to display printer mileage information.

3.5.1 Initialization

The printer settings are restored to defaults as below once printer is initialized.

Note:

When printer initialization is done, please calibrate the gap or black mark sensor before printing.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>WPL610: 6 IPS (152 mm/sec) WPL608: 4 IPS (101.6 mm/sec)</td>
</tr>
<tr>
<td>Density</td>
<td>8</td>
</tr>
<tr>
<td>Label width</td>
<td>4.00&quot;(101.6mm)</td>
</tr>
<tr>
<td>Label height</td>
<td>4.00&quot;(101.6mm)</td>
</tr>
<tr>
<td>Sensor type</td>
<td>Gap sensor</td>
</tr>
<tr>
<td>Gap setting</td>
<td>0.12&quot;(3.0mm)</td>
</tr>
<tr>
<td>Print direction</td>
<td>0</td>
</tr>
<tr>
<td>Reference point</td>
<td>0,0(upper left corner)</td>
</tr>
<tr>
<td>Offset</td>
<td>0</td>
</tr>
<tr>
<td>Print mode</td>
<td>Batch mode</td>
</tr>
<tr>
<td>Serial port settings</td>
<td>9600 bps, none parity, 8 data bits, 1 stop bit</td>
</tr>
<tr>
<td>Code page</td>
<td>850</td>
</tr>
<tr>
<td>Country code</td>
<td>001</td>
</tr>
<tr>
<td>Clear flash memory</td>
<td>No</td>
</tr>
<tr>
<td>Shift X</td>
<td>0</td>
</tr>
<tr>
<td>Shift Y</td>
<td>0</td>
</tr>
<tr>
<td>Gap sensor sensitivity</td>
<td>3 (Will be reset. Need to re-calibrate the gap)</td>
</tr>
</tbody>
</table>
### 3.5.2 Mileage Info.

Use this option to check the printed mileage (displayed in meter).

<table>
<thead>
<tr>
<th>Service</th>
<th>Mileage: (m)</th>
<th>Labels: (pcs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initialization</td>
<td>4016</td>
<td></td>
</tr>
<tr>
<td>&gt; Mileage Info.</td>
<td></td>
<td>51698</td>
</tr>
<tr>
<td>Exit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# 4. Troubleshooting

## 4.1 Common Problems

The following guide lists the most common problems that may be encountered when operating this bar code printer. If the printer still does not function after you have tried all of these suggested solutions, please Wasp Customer Server for assistance.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Recovery Procedure</th>
</tr>
</thead>
</table>
| Power indicator does not illuminate | * The power cord is not properly connected.  
* The ribbon is installed incorrectly. | * Plug the power cord in printer and outlet.  
* Switch the printer on. |
| Carriage Open            | * The printer carriage is open.                                                | * Please close the print carriage.                                                                    |
| No Ribbon                | * Running out of ribbon.  
* The ribbon is installed incorrectly. | * Supply a new ribbon roll.  
* Please refer to the steps in user’s manual to reinstall the ribbon.                                |
| No Paper                 | * Running out of label.  
* The label is installed incorrectly.  
* Gap/black mark sensor is not calibrated. | * Supply a new label roll.  
* Please refer to the steps in user’s manual to reinstall the label roll.  
* Calibrate the gap/black mark sensor. |
| Paper Jam                | * Gap/black mark sensor is not set properly.  
* Make sure label size is set properly.  
* Labels may be stuck inside the printer mechanism. | * Calibrate the gap/black mark sensor.  
* Set label size correctly. |
| Take Label               | * Peel function is enabled.                                                     | * If the peeler module is installed, please remove the label.  
* If there is no peeler module in front of the printer, please switch off the printer and install it.  
* Check if the connector is plugging correctly. |
| UP: Fwd.  
DOWN: Rev.  
MENU: Exit | * Cutter jam.  
* There is no cutter installed on the printer.  
* Cutter PCB is damaged. | * If the cutter module is installed, please press UP or DOWN key to rotate the cutter up or down to make the knife back to the right position.  
* Remove the label.  
* Make sure the thickness of label is less than 200 g/m² (for regular cutter) or 300 g/m² (for heavy duty cutter).  
* Replace a cutter PCB. |
| Not Printing             | * Cable is not well connected to serial or USB interface or parallel port.  
* The serial port cable pin configuration | * Re-connect cable to interface.  
* If using serial cable,  
  - Please replace the cable with pin to pin |
<table>
<thead>
<tr>
<th>Issue</th>
<th>Possible Causes and Solutions</th>
</tr>
</thead>
</table>
| is not pin to pin connected. | - Check the baud rate setting. The default baud rate setting of printer is 9600,n,8,1.  
* If using the Ethernet cable,  
  - Check if the Ethernet RJ-45 connector green LED is lit on.  
  - Check if the Ethernet RJ-45 connector amber LED is blinking.  
  - Check if the printer gets the IP address when using DHCP mode.  
  - Check if the IP address is correct when using the static IP address.  
  - Wait a few seconds let the printer get the communication with the server then check the IP address setting again.  
* Change a new cable.  
* Ribbon and media are not compatible.  
* Verify the ribbon-inked side.  
* Reload the ribbon again.  
* Clean the printhead.  
* The print density setting is incorrect.  
* Printhead’s harness connector is not well connected with printhead. Turn off the printer and plug the connector again.  
* Check if the stepping motor is plugging in the right connector.  
* Check your program if there is a command PRINT at the end of the file and there must have CRLF at the end of each command line. |
| Memory full (FLASH / DRAM) | * The space of FLASH/DRAM is full.  
* Delete unused files in the FLASH/DRAM.  
* The max. numbers of file of DRAM is 50 files.  
* The max. user addressable memory space of DRAM is 256 KB.  
* The max. numbers of file of FLASH is 256 files.  
* The max. user addressable memory space of FLASH is 2560 KB for 608 Plus and for 610. |
| SD card is unable to use | * SD card is damaged.  
* SD card doesn’t insert correctly.  
* Use the non-approved SD card manufacturer.  
* Use the supported capacity SD card.  
* Insert the SD card again.  
* The supported SD card spec.  
  - 128MB  
  - 256MB  
  - 512MB  
  - 1GB  
  - 4GB SDHC CLASS 6  
* Approved SD card manufacturers; SanDisk, Transcend |
| PS/2 port does not work | * Did not turn off power prior to plug in the PS/2 keyboard.  
* PS/2 keyboard is damaged.  
* PS/2 keyboard doesn’t plug-in correctly.  
* There is no BAS file in the printer.  
* Turn off printer power prior to plug in the PS/2 keyboard.  
* Plug the PS/2 keyboard again.  
* Make sure the keyboard is fine.  
* Make sure if there is any BAS file downloaded into printer. |
| Poor Print Quality | * Ribbon and media is loaded incorrectly  
* Dust or adhesive accumulation on the print head.  
* Print density is not set properly.  
* Printhead element is damaged.  
* Ribbon and media are incompatible.  
* The printhead pressure is not set properly.  
* Reload the supply.  
* Clean the printhead.  
* Clean the platen roller.  
* Adjust the print density and print speed.  
* Run printer self-test and check the print head test pattern if there is dot missing in the pattern.  
* Change proper ribbon or proper label media.  
* Adjust the printhead pressure adjustment knob.  
  - If the left side printout is too light, please adjust the left side pressure adjustment knob to the higher index (higher pressure). If the pressure... |
<table>
<thead>
<tr>
<th>Issue Description</th>
<th>Possible Cause</th>
<th>Possible Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustment knob has been adjust to index “5” and the poor print quality is still at the left side of the printout, please adjust the pressure adjustment knob to index “1” and use the Z-axis adjustment knob to fine tune the pressure.</td>
<td>- If the right side printout is too light, please adjust the right side pressure adjustment knob to the higher index (higher pressure) to improve the print quality.</td>
<td>* If the label thickness is more than 0.22 mm, the print quality might be not good enough, please adjust the heater line adjustment screw counter clockwise to get the best print quality. * The release lever does not latch the printhead properly.</td>
</tr>
<tr>
<td>LCD panel is dark and keys are not working</td>
<td>* The cable between main PCB and LCD panel is loose.</td>
<td>* Check if the cable between main PCB and LCD panel is secured or not.</td>
</tr>
<tr>
<td>LCD panel is dark but the LEDs are light</td>
<td>* The printer initialization is unsuccessful.</td>
<td>* Turn OFF and ON the printer again.</td>
</tr>
<tr>
<td>LCD panel is dark and LEDs are lit on, but the label is feeding forward</td>
<td>* The LCD panel harness connector is loose.</td>
<td>* The LCD panel harness connector is plugged upside down.</td>
</tr>
<tr>
<td>Ribbon encoder sensor doesn’t work</td>
<td>* The ribbon encoder sensor connector is loose.</td>
<td>* Fasten the connector.</td>
</tr>
<tr>
<td>Ribbon end sensor doesn’t work</td>
<td>* The connector is loose.</td>
<td>* Check the connector.</td>
</tr>
<tr>
<td>Peel sensor is not working</td>
<td>* Peel sensor is not located on the correct position.</td>
<td>* Check the connector.</td>
</tr>
<tr>
<td>Peel sensor is not working</td>
<td>* The connector is loose.</td>
<td>* Clear the dust in the sensor hole by the blower.</td>
</tr>
<tr>
<td>Cutter is not working</td>
<td>* The connector is loose.</td>
<td>* Make sure that the media goes through the Peel sensor.</td>
</tr>
<tr>
<td>Cutter is not working</td>
<td>* The connector is loose.</td>
<td>* Plug the connect cable correctly.</td>
</tr>
<tr>
<td>Label feeding is not stable (skew) when printing</td>
<td>* The media guide does not touch the edge of the media.</td>
<td>* If the label is moving to the right side, please move the label guide to left.</td>
</tr>
<tr>
<td>Label feeding is not stable (skew) when printing</td>
<td>* The media guide does not touch the edge of the media.</td>
<td>* If the label is moving to the left side, please move the label guide to right.</td>
</tr>
<tr>
<td>Skip labels when printing</td>
<td>* Label size is not specified properly.</td>
<td>* Check if label size is setup correctly.</td>
</tr>
<tr>
<td>Skip labels when printing</td>
<td>* Sensor sensitivity is not set properly.</td>
<td>* Calibrate the sensor by Auto Gap or Manual Gap options.</td>
</tr>
<tr>
<td>Skip labels when printing</td>
<td>* The media sensor is covered with dust.</td>
<td>* Clear the GAP/Black mark sensor by blower.</td>
</tr>
<tr>
<td>The printing position of small label is incorrect</td>
<td>* Media sensor sensitivity is not set properly.</td>
<td>* Calibrate the sensor sensitivity again.</td>
</tr>
<tr>
<td>The printing position of small label is incorrect</td>
<td>* Label size is incorrect.</td>
<td>* Set the correct label size and gap size.</td>
</tr>
<tr>
<td>The printing position of small label is incorrect</td>
<td>* The parameter Shift Y in the LCD menu is incorrect.</td>
<td>* Press [MENU] → [SELECT] x3→[DOWN]x6 → [SELECT] to fine tune the parameter of Shift Y.</td>
</tr>
<tr>
<td>The printing position of small label is incorrect</td>
<td>* The vertical offset setting in the driver is incorrect.</td>
<td>* If using the software BarTender, please set the vertical offset in the driver.</td>
</tr>
<tr>
<td>Issue</td>
<td>Possible Cause</td>
<td>Solution</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| The left side printout position is incorrect  | * Wrong label size setup.  
* The parameter Shift X in LCD menu is incorrect. | * Set the correct label size.  
* Press [MENU] → [SELECT] x 3 → [DOWN] x 5 → [SELECT] to fine tune the parameter of Shift X. |
| Missing printing on the left or right side of label | * Wrong label size setup. | * Set the correct label size. |
| RTC time is incorrect when reboot the printer | * The battery has run down. | * Check if there is a battery on the main board. |
| Multi interface board doesn’t work            | * The installation is incorrect. | * Check if the board is plugged in the right connector. |
| Power and Error LEDs are blinking fast        | * Power switch OFF and ON too fast. | * Turn off the printer and wait all LEDs are dark, and turn on the printer again. |
| Wrinkle Problem                               | * Printhead pressure is incorrect.  
* Ribbon installation is incorrect.  
* Media installation is incorrect.  
* Print density is incorrect.  
* Media feeding is incorrect. | * Please refer to the 5.2 chapter.  
* Please set the suitable density to have good print quality.  
* Make sure the label guide touch the edge of the media guide. |
| Gray line on the blank label                  | * The printhead is dirty.  
* The platen roller is dirty. | * Clean the printhead.  
* Clean the platen roller. |
| Irregular printing                            | * The printer is in Hex Dump mode.  
* The RS-232 setting is incorrect. | * Turn off and on the printer to skip the dump mode.  
* Re-set the Rs-232 setting. |
4.2 Mechanism Fine Adjustment to Avoid Ribbon Wrinkles

This printer has been fully tested before delivery. There should be no ribbon wrinkle present on the media for general-purpose printing application. Ribbon wrinkle is related to the media thickness, print head pressure balance, ribbon film characteristics, print darkness setting...etc. In case ribbon wrinkle happens, please follow the instructions below to adjust the printer parts.

<table>
<thead>
<tr>
<th>Adjustable Printer Parts</th>
<th>Symptom</th>
<th>Wrinkle Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Print head pressure adjustment knob</td>
<td>1. Wrinkle happens from label lower left to upper right direction (&quot;ˊ&quot;)</td>
<td>Adjust the print head pressure adjustment knob</td>
</tr>
<tr>
<td>Z-axis mechanism adjustment knob</td>
<td>2. Wrinkle happens from label lower right to upper left direction (&quot;ˋ&quot;)</td>
<td>The print head pressure adjustment knob has 5 levels of settings. Clockwise direction adjustment is to increase the print head pressure. Counter Clockwise adjustment can decrease the print head pressure. If the wrinkle on the label starts from the lower left side to upper right side, please do following</td>
</tr>
<tr>
<td>Ribbon guide plate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Decrease the right side print head pressure adjustment knob setting 1 level per each adjustment then print the label again to check if wrinkle is gone.
2. If the right side print head adjustment knob setting has been set to index 1 (the lowest pressure index), please increase the left side print head pressure.
3. If the left side print head adjustment knob setting has been set to 5 (the highest pressure index) the wrinkle can’t be avoid, please rotate the both knobs back to setting 1 then rotate the Z-axis mechanism adjustment knob clockwise for a few degrees and print again for fine tune the print head pressure distribution.

**Note for step 3:**
*Factory default setting - the Z-axis knob is rotated counter clockwise to the end of thread.*
*Turn the Z-axis mechanism adjustment knob clockwise until you feel the knob touch the mechanism for the first adjustment.*
*If the wrinkle is still there, please turn the Z-axis mechanism adjustment knob clockwise about 1/4 circle each time for adjustment.*
*If the winkled direction is change from "ˊ" to "ˋ" by adjusting the Z-axis mechanism adjustment knob, please turn the Z axis mechanism adjustment knob counter clockwise to avoid the wrinkle.*

1. Decrease the left side print head pressure adjustment knob setting 1 level per each adjustment then print the label again to check if wrinkle is gone.
2. If the left side print head adjustment knob level has been set to index 1 (the lowest index), please increase the right side print head pressure.
5. Maintenance

This chapter provides information on the proper cleaning tools and methods to maintain your printer.

1. Please use one of following materials to clean the printer.
   - Cotton swab (Head cleaner pen)
   - Lint-free cloth
   - Vacuum / Blower brush
   - 100% ethanol

2. The cleaning process is described as following

<table>
<thead>
<tr>
<th>Printer Part</th>
<th>Method</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Print Head</strong></td>
<td>1. Always turn off the printer before cleaning the print head.</td>
<td>Clean the print head when changing a new label roll</td>
</tr>
<tr>
<td></td>
<td>2. Allow the print head to cool for a minimum of one minute.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Use a cotton swab (Head cleaner pen) and 100% ethanol to clean the print head surface.</td>
<td></td>
</tr>
<tr>
<td><strong>Platen Roller</strong></td>
<td>1. Turn the power off. 2. Rotate the platen roller and wipe it thoroughly with 100% ethanol and a cotton swab, or lint-free cloth.</td>
<td>Clean the platen roller when changing a new label roll</td>
</tr>
<tr>
<td><strong>Tear Bar/Peel Bar</strong></td>
<td>Use the lint-free cloth with 100% ethanol to wipe it.</td>
<td>As needed</td>
</tr>
<tr>
<td><strong>Sensor</strong></td>
<td>Compressed air or vacuum</td>
<td>Monthly</td>
</tr>
<tr>
<td><strong>Exterior</strong></td>
<td>Wipe it with water-dampened cloth</td>
<td>As needed</td>
</tr>
<tr>
<td><strong>Interior</strong></td>
<td>Brush or vacuum</td>
<td>As needed</td>
</tr>
</tbody>
</table>

**Note:**
- Do not touch the printer head. If accidentally touch it, use ethanol to clean it.
- Please use 100% Ethanol. DO NOT use medical alcohol, which may damage the printer head.
- Regularly clean the print head and supply sensors when installing a new ribbon to maintain optimal printer performance and extend the printer life.