

Mobile Receipt & Label Printer

User Manual

MLP2



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Printed in China

1.6 Version

Warnings :



This must be complied with in order to avoid any damage to the human body and to the equipment.



This is showing the important information and tips for the printer operating.



Due to continuous update of product, please take in kind of real machine, such as accessories, programs etc.

Contents

■ MANUAL INFORMATION.....	1
■ IMPORTANT SAFETY INSTRUCTIONS.....	2
CHAPTER 1 APPEARANCE AND ACCESSORIES.....	5
1.1 Packing List.....	5
1.2 Appearance.....	6
CHAPTER 2 SPECIFICATION.....	7
CHAPTER 3 INSTALLATION & USAGE.....	9
3.1 Battery Installation.....	9
3.2 Battery Charging.....	10
3.3 Paper Loading.....	11
3.3.1 Peel Mode.....	11
3.3.2 Tear Bar Mode.....	12
3.3.3 Paper Guide.....	12
3.4 Belt Clip Usage.....	13
3.5 Control Panel.....	13
3.6 Self-test.....	14
3.7 Peripherals Connection.....	15
3.7.1 Bluetooth Connection.....	15
3.7.2 Interface Cable Connection.....	15
3.8 Menu Operation.....	16
CHAPTER 4 INTERFACE.....	19
4.1 Power Interface.....	19
4.2 USB Interface.....	19
4.3 RS-232 Interface.....	19
CHAPTER 5 PRINTER CLEANING.....	20
CHAPTER 6 TROUBLESHOOTING.....	21

■ **MANUAL INFORMATION**

This user manual contains basic information for product usage as well as for emergency measures that may be required.

※ The following separate manuals provide more detailed content on various technological issues and areas.

1.Windows Driver Manual

This manual provides information on the installation instructions and main functions of the Windows Driver.

2.Printer Utility Tool Manual

This manual provides information on the usage of software for function selection of this product, operating condition modification, etc.

3.Programming Manual

This manual provides information on label printer commands.

4.Bluetooth Manual

This manual describes how to connect terminals (PDAs, PCs, etc.) with Bluetooth functionality.

■ IMPORTANT SAFETY INSTRUCTIONS

In using the present appliance, please keep the following safety regulations in order to prevent any hazard or material damage.

1. Safety Precautions

- 1) Be sure to use the specified battery and power charger provided by our company, connection to an improper power charger may cause fire, explosion or damage to the printer.
- 2) Don't put the battery into fire or water, don't disassemble or modify the battery, don't be short circuit, otherwise may result in injury or fire or even explosion.
- 3) If the printer would not be used for a long time, be sure to take off the battery, otherwise the battery may leak liquid which is corrosive, if improper operation causes battery leak, and the liquid is spattered on the skin or clothes, please wash it with water, if spattered into the eyes, please rinse them with water thoroughly and see a doctor.
- 4) Please do not open the paper case cover when it is printing or just when printing is over, do not touch the print head with hand or body, overheat may cause scald.

2. Operation Precautions

- 1) Water or other liquid should not spill into the printer, also the printer should not be expose to the rain, or else may cause printer damage.
- 2) Please do not open the paper case cover when it is printing, otherwise the printer may work improperly.
- 3) If print with serial interface, should not unplug the interface cable in the course of printing, or else some printing data may be lost.
- 4) When print with Bluetooth interface, the communication distance should be within 10 meters, otherwise the printer doesn't print or prints rubbish codes.
- 5) Too high (40°C) or too low (0°C) temperature and too high (85%) or too low (20%) relative humidity both effect the print quality.
- 6) The print paper in poor quality or stored for too long time also may reduce the print quality even damage the printer.

3. Storage Precautions

- 1) The printer should be placed in such an environment that the temperature is between -20°C and 70°C, and the relative humidity is between 5% and 95%.

- 2) If the printer will be stored for a long time, please be sure to take out the battery, otherwise may damage the battery and printer.
- 3) Normal thermal paper can't be kept too long, if you need to keep the receipt for a long period, please choose long term effective thermal paper.
- 4) The print paper should be kept away from high temperature environment and point-blank sunshine.

4. Battery Safety Precautions

- 1) Ignore the following instructions may cause battery overheating, fire, explosion, damage and / or performance, and reduced product life.
- 2) Do not allow water, sea water from entering or leaking into the battery. If the battery's internal safety device burns, when charging it, it may produce abnormal current and/or voltage, or abnormal chemical reaction when charging it, then may cause the battery overheating, fire and/or explosion.
- 3) Do not use or place the battery nearby the stove or other high temperature places. Excessive heat may damage the resin shell and/or the insulation materials, thereby cause short-circuit inside the battery, then the battery may be overheated, burning and/or explosion.
- 4) When charging, use a specified charger. Other conditions (high temperature, high pressure/high current, using the modified battery charger, etc.) excluded here may result in over-charging the battery and abnormal current and/or voltage, cause abnormal chemical reaction, and may cause the battery overheat, light and/or explosion.
- 5) Battery clearly marks with positive and negative. When connect the battery with the charger and/or printer, be sure to verify the correct battery orientation. Reverse insertion will cause the reverse charging and may cause abnormal chemical reaction, and then may cause the battery overheat, ignite, and/or explosion.
- 6) Do not make the battery contact with the power outlet and/or car cigarette lighter socket. This may cause high pressure and excessive current, and lead to the battery overheat, burning and/or explosion.
- 7) Do not heat the battery or put the battery into fire. This may melt insulation material and/or damage safety devices or safety equipment, then ignite electrolytic solution, and cause the battery overheat, burning and/or explosion.
- 8) Do not use the battery with contrary (+) and (-) location. In the charging process, this will cause the reverse charging and may cause abnormal chemical reaction. During use, may appear unpredictable current exception, and cause the battery overheat, ignite, and/or explosion.

- 9) Do not make the battery (+) and (-) contact with any metal. Also, do not carry along or store batteries with metal objects, such as necklaces, hair clips and so on. Battery internal short circuit may cause excessive current, and lead to the battery overheat, ignite, and/or explosion and the adjacent metal objects (necklaces, hairpins, etc.) may be overheating.
- 10) Do not throw or attack the battery heavily. If internal safety device of the batteries burn, the battery charging may cause any abnormal current and/or voltage, and abnormal chemical reaction, and lead to the battery overheat, ignite, and/or explosion.

5. Other Precautions

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6. WEEE (Waste Electrical and Electric Equipment)



This mark shown on the product or its literature indicates that the corresponding item should not be discarded at the end of its working life with other household waste. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate marked items from other types of waste and recycle them responsibly to promote the sustained reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office for details of where and how they can conduct environmentally safe recycling of such items. Commercial users should contact their suppliers and check the terms and conditions of purchase contracts. This product should not be combined with other commercial waste for disposal.

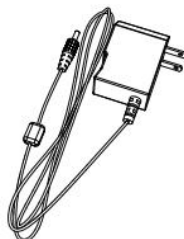
CHAPTER 1 APPEARANCE AND ACCESSORIES

1.1 Packing List

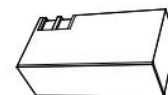
■ Standard Accessories



Printer



Power Charger



Battery



Belt Clip



Battery Cover



Paper Guide



Quick Start Guide



Screw×1(Lock battery cover)

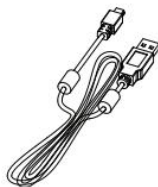


Screw×2(Lock belt clip)

■ Optional Accessories



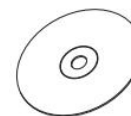
Serial Cable



USB Cable

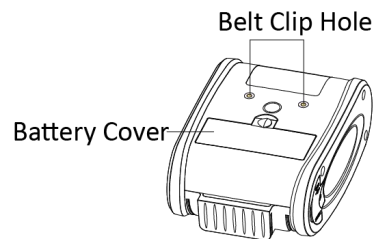
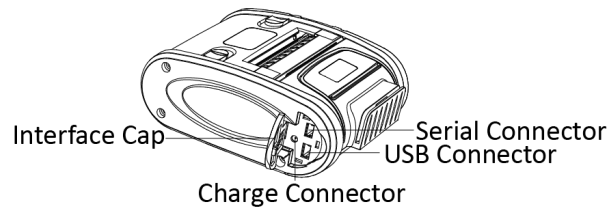
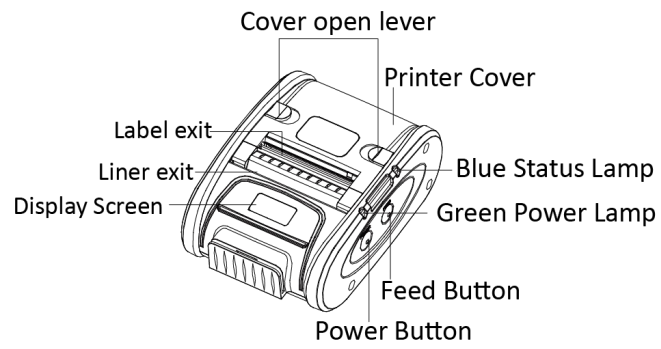


Roll Paper



CD

1.2 Appearance



CHAPTER 2 SPECIFICATION

Table 2-1 General Specification

(1/2)

Item	Parameter	
Printing	Printing Method	Direct thermal line printing
	Resolution	203dpi (8dots/mm)
	Printing Speed	Up to 80mm/s 12.5%pattern
	Valid Printing Width	48mm
	Interface (Optional)	Serial, USB, Bluetooth V2.0+EDR
	Card Reader(Optional)	MSR
Power Saving	Sleep Mode	YES
Memory	RAM	8Mb
	FLASH	16Mb
Resident Fonts	Chinese	GBK: 16×16, 24×24dots
	Alphanumeric	ASCII: 8×16, 12×24dots
	User-defined	YES
	Code Page	46
Barcode	1D	UPC-A,UPC-E,EAN8, EAN13, CODE39, ITF, CODEBAR, CODE128,CODE93
	2D	QR code
Graphics		Support bitmap printing with different density and user defined bitmap printing (Max. 40K for per bitmap, and Max. 76K for total)
Detection	Sensors	Paper out detection, cover open detection, label gap detection
LED Indicator	Power Indicator	Green
	Status Indicator	Blue
Power Supply	Power Adapter	12V --- = 0.5A
	Battery	DC7.4V, 1450mAh rechargeable Li-polymer battery
Paper	Paper Type	Label Paper/Receipt Paper
	Paper Width	58mm
	Paper Thickness	0.06~0.09mm
	Paper Roll Diameter	Max.40mm
	Paper Loading	Easy loading

Table 2-1 (Continued)

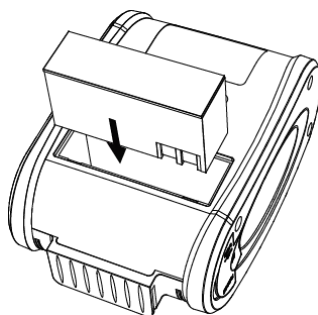
(2/2)

Physical Characteristics	Working Condition	0°C ~ 40°C, 20% ~ 85%RH
	Storage Condition	-20°C ~ 70%, 5 ~ 95%RH
	Dimension	132(L)*92(W)*53(H)mm
	Weight	360g(without paper roll)
Accessories		USB Cable, Serial Cable
Software	Emulation	ESC/POS, CPCL
	Driver	Windows XP/Vista/7/8/10
	SDK	WinCE, Win Mobile, Android, iOS

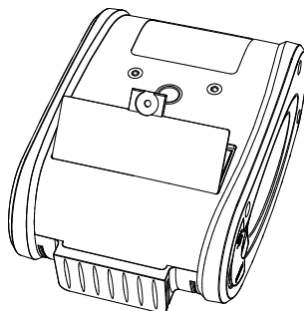
CHAPTER 3 INSTALLATION & USAGE

3.1 Battery Installation

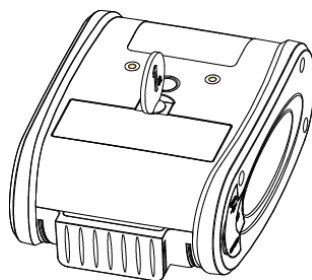
1. Insert the battery in the bottom of the printer, and ensure that you align the battery hook properly.



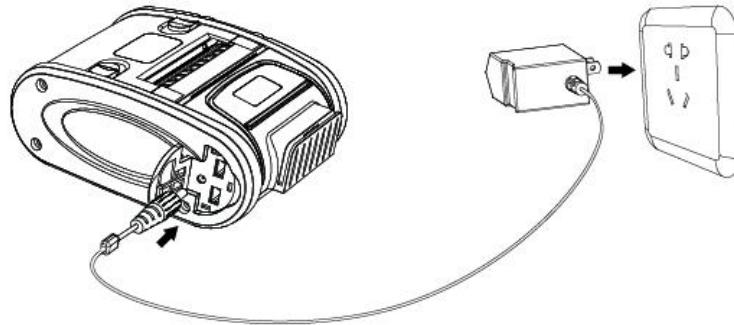
2. Close the battery cover.



3. Use a coin to tighten the screw.



3.2 Battery Charging



(Varies by local or region)

When Li-polymer battery runs out of power, blue power LED and green status LED flash slowly. It will power off automatically when continues printing. If you want to go on, please charge it.

Charging method: Plug in socket (220V, 50Hz) with power charger.

Power-off charging: Status LED will always indicate blue color and goes off when fully charged.

Power-on charging: Status LED will keep blinking in blue color, and always indicate blue color when fully charged.

Printer could be in use when charging.

NOTES:

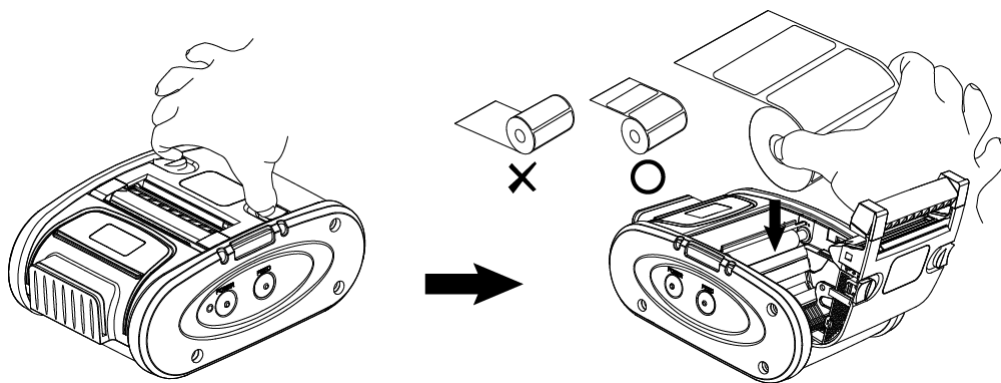
- Please use the manufacturers power charger, otherwise cause to printer damage and battery leakage, light and/or explosion.
- If battery is not in use for a long time, please remove it after fully charged, and then it should be recharged every 3 months, when power is low, battery should be charged in time.
- If the printer automatically power down because of low power, be sure to charge the battery in 15 days. Otherwise, it will cause permanent damage to the battery.

3.3 Paper Loading

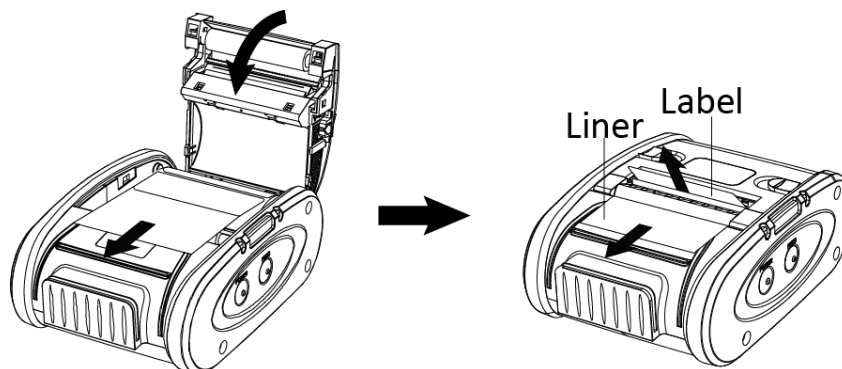
Please note that there are two paper loading methods (peel mode and tear bar mode).

3.3.1 Peel Mode

1. Use fingers to squeeze the cover open lever towards center position.
2. Remove enough labels from the paper roll to create a 4"(100mm) leader. And please note correct direction of paper placement.

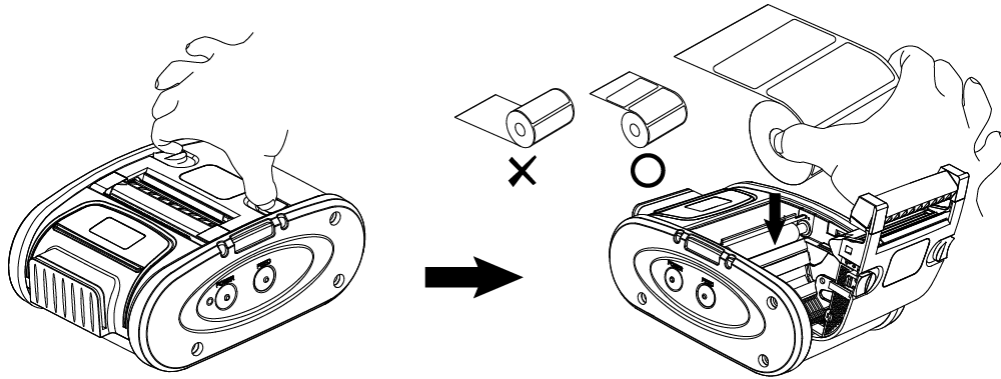


3. Pull the paper out of printer as shown in the picture, and close the printer cover.
4. The label will be peeled from the liner while feeding.

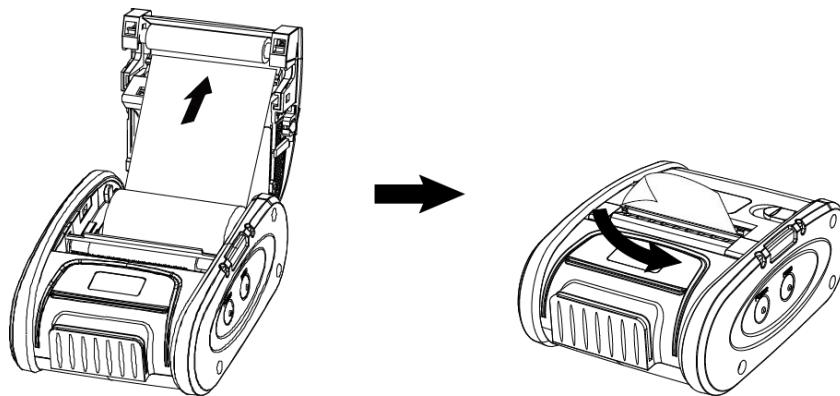


3.3.2 Tear Bar Mode

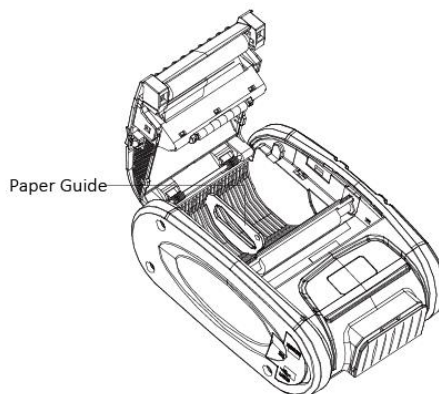
1. Use fingers to squeeze the cover open lever towards center position.
2. Load the paper roll. And please note correct direction of paper placement.



3. Pass the paper through the exit, and close the printer cover.
4. Cut the portion of the backing paper, which extends from the printer cover, along the tear bar.



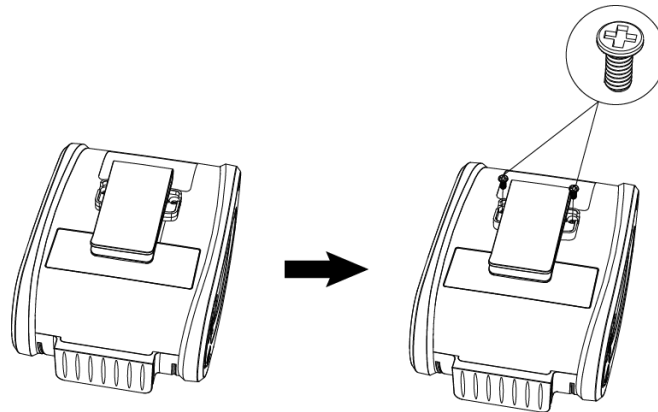
3.3.3 Paper Guide



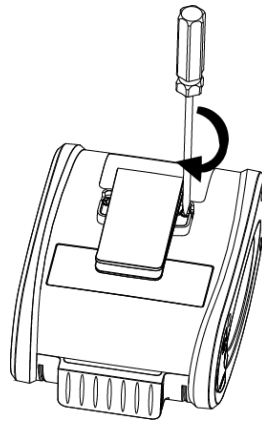
MLP2 has a paper guide to adjust paper width. The max paper width is 58mm(without paper guide). The min paper width is 10mm(paper guide is in the fifth slot).

3.4 Belt Clip Usage

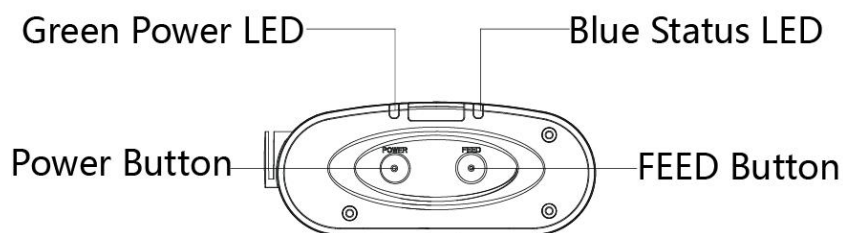
1. Insert the belt clip screws into the belt clip hole.



2. Use a screwdriver to tighten the belt clip screws as shown in the image.



3.5 Control Panel



■ Power Button

This button is used to turn the printer on and off.

- 1) When the printer is off, press this button for approximately 2 seconds to turn on the power.
- 2) When the printer is on, press this button for approximately 2 Seconds to turn off the power.

■ Feed Button

This button is used to feed paper manually, and take the self-set .

1) To feed paper manually, press this button.

Pressing FEED button, printer will feed paper to the specified position according to the paper type.

2) For information on the self-test, refer to “3.6 Self-test”.

■ Green Power LED & Blue Status LED

LED indicator		OLED display screen	Description
Green	Blue		
On	Off	Status: OK...	Power on
Blinking	Blinking	Platen Out Status: ERR	Cover is open
On	off	Status: OK	Paper—receipt paper
		Status: OK	Paper—label paper
Blinking	Blinking	Status: ERR	Paper out
Slow blinking	Off	--	Standby
Off	Fast blinking	Status: OK	Charging under power on
On	On	--	Fully charged under power on
Off	On	--	charging under power off
Off	Off	--	Fully charged under power off
Blinking	Blinking	--	Low battery

3.6 Self-test

The self-test checks the printer’s current settings, status and whether the printer has any problem.

1. Turn the printer power off .
2. Load paper and close the printer cover.
3. Pressing the paper feed button and power button simultaneously turns the printer on.
4. The printer is ready to receive data as soon as it completes the self-test.

3.7 Peripherals Connection

3.7.1 Bluetooth Connection

PDA with Bluetooth interface, laptop and other information terminals can drive the mobile thermal printer MLP2. Instructions as follows:

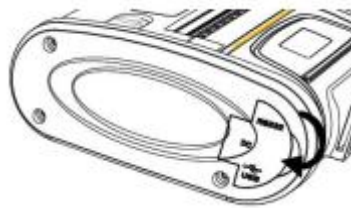
1. Power on printer.
2. primary device search for outer Bluetooth devices.
3. If there are some outer Bluetooth devices, choose MLP2.
4. PIN "0000".
5. Finish matching.

Detailed pairing methods, please refer to primary devices Bluetooth Names.

After pairing, primary devices with virtual Bluetooth interface (smart phone, pocket PC, palm, notebook) can drive mobile thermal printer MLP2 to printer through such virtual Bluetooth interface.

3.7.2 Interface Cable Connection

1. Open the Interface Cap.




2. Connect the USB or serial interface cable (optional) to the cable connector of the printer.



3.8 Menu Operation

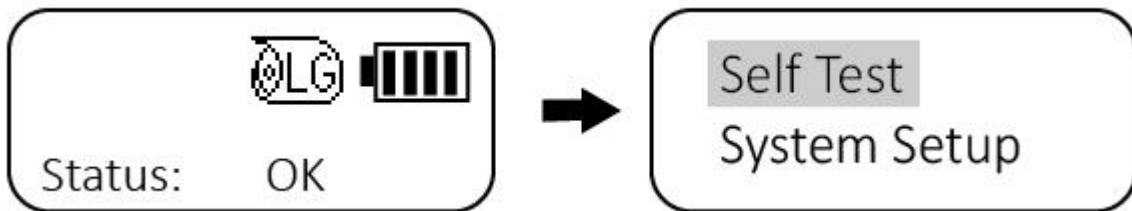
Main Menu	Second Level Menu	Third Level Menu	Description
Self Test	Print	--	Press the FEED button and then you can print self-test.
	Prior Menu	--	Press the FEED button and then you can go back to main menu.
System Setup	Density	Density: 5	Press the POWER button and you can change the data bit setting, press and hold the FEED button to confirm.
	St by Time	St by Time (s): 0180	Press the FEED button to move cursor and press the POWER button you can change the data bit setting, press and hold the FEED button to confirm.
	Auto Shut Time	Auto Shut Time (s): 7200	Press the FEED button to move cursor and press the POWER button you can change the data bit setting, press and hold the FEED button to confirm.
	Paper Type	Paper Type: 0-L 1-R 1	Press the POWER button you can change the data bit setting, press and hold the FEED button to confirm.
	Back Y Offs	Back Y Offs (dot) 040	Press the FEED button to move cursor and press the POWER button you can change the data bit setting, press and hold the FEED button to confirm.
	Factory Reset	Input Pwd: 0000	Press the FEED button to move cursor and press the POWER button you can change the data bit setting, press and hold the FEED button to confirm.
	Password	Original Pwd: 0000	Press the FEED button to move cursor and press the POWER button you can change the data bit setting, press and hold the FEED button to confirm.
	Prior Menu	--	Press the FEED button you can go back to main menu.
Update FMW	Update FMW? 0-N 1-Y 0	--	Press the POWER button you can change the data bit setting, press and hold the FEED button to confirm.
Exit Menu	Press the FEED button you go back to icon menu.		

 **NOTE:** When you enter the menu mode, whatever the location, you can press and hold the POWER button to cancel the current configuration and go to next higher level. If you press and hold the POWER button you can exit menu mode and go back to icon menu.

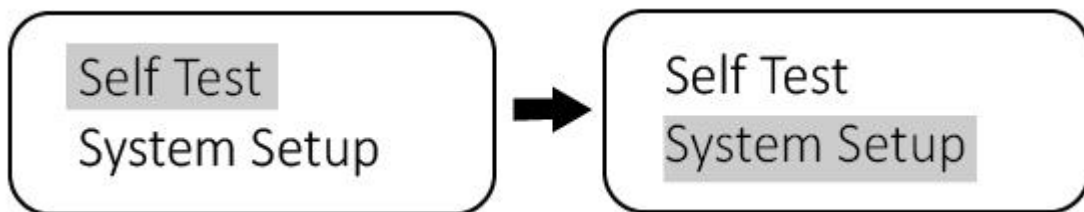
1. Long touch the POWER button, printer will power on with below indications.



2. When the printer is on, press and hold the POWER button and the FEED button at the same time to menu mode then release two button the display screen will show main menu:
(main menu include 4 items: Self Test, System Setup, Update Firmware, Exit Menu)



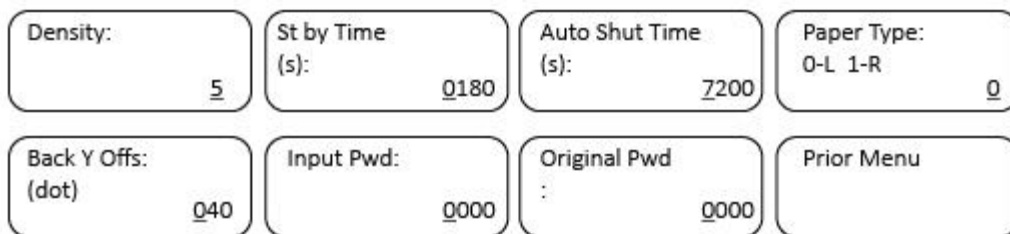
3. Press the POWER button once to select main item, press the FEED button again to confirm .



1) When you select the “Self Test” of the first level menu, press the FEED button to confirm , then you will enter second level menu, select “Print”, the printer will print self test page; select “Prior Menu”, you can go back to main menu.

2) When you select the “System setup” of the first level menu, press the FEED button to confirm, then you will enter second level menu. The sub-menu include 8 items: Density, Standby Time, Auto Shut Time, Paper Type, Back Y Offs, Factory Reset, Password, Prior Menu.

When enter the second level menu of “System Setup”, display screen show as below:



(N-No; Y-Yes; L-Lable; R-Receipt)

You can press the POWER button once to select items of the second menu level, and press FEED button once to enter that item. Use POWER button to move cursor, and press POWER button to select number. Press and hold the FEED button to save and back to second menu level.

- ① When you select "Density" item, press the FEED button and you can change the data bit setting from 0~9 by POWER button, press and hold the FEED button to save and exit.
- ② When you select "St by Time" item, press the FEED button to move cursor and press the POWER button you can change the data bit setting from 0 to 9, press and hold the FEED button to save and exit.
- ③ When you select "Auto Shut Time" item, press the FEED button to move cursor and press the POWER button you can change the data bit setting from 0 to 9, press and hold the FEED button to save and exit.
- ④ When you select "Paper Type" item, 0 means Lable , 1 means Receipt, press the POWER button you can change the data bit setting, press and hold the FEED button to save and exit.
- ⑤ When you select "Back Y Offs" item, press the FEED button to move cursor and press the POWER button you can change the data bit setting from 0 to 9, press and hold the FEED button to save and exit.
- ⑥ When you select "Factory Reset" item, you should input password, press the FEED button to move cursor and press the POWER button you can change the data bit setting from 0 to 9, press and hold the FEED button to save and exit.
- ⑦ When you select "Password" item, you should input original password(0000), press the FEED button to move cursor and press the POWER button you can change the data bit setting from 0 to 9, press and hold the FEED button to save, then you can set a new password.
- ⑧ When you select "Prior Menu" item, press the FEED button you can go back to main menu.

4. When you select the "Update FMW" of the main menu you can update firmware.

5. When you finished the parameter settings of the second level menu, select "Prior Menu". After back to main menu, you can select "Exit Menu" or long press POWER button to go to icon mode.

CHAPTER 4 INTERFACE

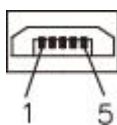
4.1 Power Interface

Power



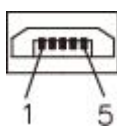
Pin No.	Name
1	IN
2	GND

4.2 USB Interface



Pin No.	Name
1	VBUS
2	D-
3	D+
4	NC
5	GND

4.3 RS-232 Interface



Pin No.	Name
1	RTS
2	TXD
3	GND
4	RXD
5	NC

CHAPTER 5 PRINTER CLEANING

If the interior of the printer is dusty, print quality can decline.

In such a case, follow the instructions below to clean the printer.

- 1) Open the paper cover and remove the paper, if present.
- 2) Clean the print head using the cleaning pen. Apply the cleaning pen from the center to the edge of the print head for cleaning.
- 3) Using the cleaning pen, remove the paper dust from the paper detection sensor .
- 4) Do not use the printer for one to two minutes after cleaning the print head until the cleaning agent (from the cleaning pen) has completely evaporated and dried.
- 5) Insert the paper and close the paper cover.



Caution

- Make sure the printer power is turned off before cleaning.
- Wait for two to three minutes after power-off before print head cleaning because it may be very hot.
- Do not touch the heating region of the print head with your hand while cleaning it.
- The print head may be damaged by static electricity.
- Avoid scratching the print head.

Print quality may be degraded or print head life may be shortened if it is not cleaned periodically.

CHAPTER 6 TROUBLESHOOTING

No power

- Check that battery is installed properly.
- Recharge or replace battery as necessary.

Paper does not feed

- Be sure print head is closed and latched.
- Check print head for any binding.
- If unit is equipped with label presence sensor, ensure the most recently printed label is removed.
- Ensure label sensor is not blocked.

Poor or faded print or low battery

- Clean print head.
- Check battery pack. Recharge or replace as necessary.
- Check quality of paper.

Partial/missing print

- Clean print head.
- Ensure print head is properly closed and latched.

No print

- Replace battery pack.
- Check cable to terminal.

Communication error

- Check paper is loaded, head is closed and status indicators are off.
- Replace cable to terminal.

Screen blank

- No application loaded. Attempt to re-load application and restart printer.
- No power. See Topic "**No power**" of this section.