Mobile Thermal Printer

# USER MANUAL

# Contents

# Notice

Please read the following information carefully before using the printer!

## Safety Notice

This printer can only use battery and power adapter provided by our company, or it may cause damage to the printer, battery leakage, fire or explosion.

Do not put the battery into the fire, not make it short circuit, break up or heating, otherwise it may cause the battery leakage, fire or explosion.

The battery liquid is corrosive, if the user's careless operation leads the battery leakage and the liquid viscosity to the skin or the clothes please use the clean water for washing immediately, if accidentally into the eyes, please rinse with plenty of clean water to wash the eyes then goes to the hospital.

Do not open paper cover and use hand or any part of body to touch the printer mechanism when printing or printing just end, to avoid the exorbitant temperature causes scald.

Do not use the printer when the operation is failed because that would cause a fire or electric shock. Please turn off and unplug it, then call the dealer.

## Usage Notice

The printer can not be immerged into the water and not be exposed in the rain for a long time; otherwise it may lead the damage to the printer.

Do not open the paper cover when printing or it may cause the printer working improperly.

If use the serial interface to print, do not pull off the serial line when printing, otherwise it may result in incompletion of the final print data.

When using IR to print, the user should aim the IR windows of main equipment at the IR windows of printer, the distance between them should be not more than 50 centimeters, and the angle should not exceed 30 degrees, or it may lead to print garbled or unable to print.

The printer could work stably from -10℃ to 50℃, but the higher temperature (>/=45℃) or lower temperature (</=5℃) would debase the print quality.

Higher humidity (>/=85%) or lower humidity (</=20%) also may debase the print quality.

Use the bad print paper or long time storage paper would affect the print quality, even damage the printer.

When the printer is working in black mark detection mode (when printing the pre-print receipt with black mark), it requires the black mark that on the pre-print paper is accord with black mark printing standard (as details in 4.2 Pre-print Black Mark Instruction), otherwise it may lead the printer disable to detect the black mark accurately.

The battery of the printer is better running out before charging, which could effectively ensure the lifespan of it.

## Storage Notice

The printer should be stored in the environment where the temperature is -20℃ to 70℃ and relative humidity is 5% to 95%.

If the user plan to store the printer for a long time, please be sure to take out the battery and stored it separately, or it may result in the battery lose efficacy, even leakage and then damage the printer.

The storage time of common thermal paper is short, if the user need to print the long-term preservation receipt, please use long-acting thermal paper.

Do not store the thermal paper in a high temperature or direct sunlight environment, if it has been sealed off, please store it in dark place.

## ■ Battery Safety Notice

Please read this user manual carefully before using the printer. Ignoring the followings may cause overheating, burning, explosion, damage of the battery and/or debase the lifespan of the printer.

**Warning:**

1. Do not let water or sea water in or leak into the battery. If the safety device in it is burned out, any charge of it would lead abnormity current and/ or voltage and bring unusual chemistry reaction, then cause the overheating, burning and/ or explosion of it.

2. Do not use or place the battery near burner or high temperature environment. Overheating may cause the damage to the resin shell and/or heat insulation material, and bring the short circuit in the battery then lead the overheating, burning and/ or explosion of it.

3. Please use dedicated charger when charging. When charging under the excluded conditions (such as high temperature, high voltage/current or using modified charger) may cause excessive battery charging, abnormal current and/ or voltage, bring unusual chemistry reaction and then may result in overheating, burning and or explosion of it.

4. Positive and negative poles are marked clearly on the battery. The user should make sure the battery position is correct when inserting it in the charger or product. Reverse insertion would lead reserve charging, may bring unusual chemistry reaction and then cause overheating, burning and/or explosion of the battery.

5. Do not make the battery contact to power socket and/or car cigarette lighting socket, which may lead high voltage, bring excessive current and result in overheating, burning and/or explosion of it.

6. Do not heat the battery or put it into the fire that may melt the heat insulation material and/or damage the safety device or equipment and make the electrolytic ignited, then bring overheating, burning and/or explosion of it.

7. Do not take the opposite position ((+) and (-)) when using battery. During the charging process, it would cause reverse charge and bring unusual chemistry reaction. During the using process, it may bring unpredictable current abnormity, then cause overheating, burning and/or explosion of it.
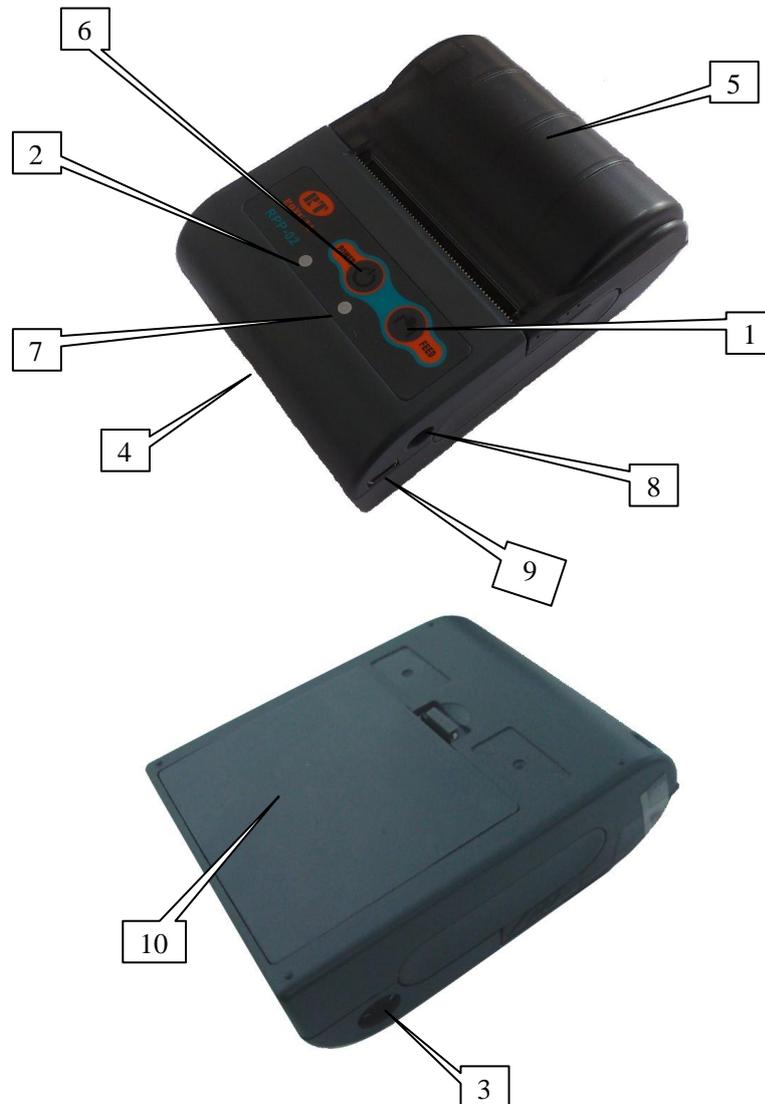
8. Do not make the battery poles ((+) and (-)) contact to any metal. In addition, do not take or store it with metal materials, such as necklace, hairpin etc. Short circuit in the battery may cause excessive current, then bring overheating, burning and/or explosion of it and overheating of neighboring metal materials.

9. Do not throw the battery or make it damaged. If the safety device in it is burned out, any charging of it would bring abnormal current and/or voltage, bring unusual chemistry reaction, then

may lead to overheating, burning and/or explosion of it.

# Chapter I Introduction

## 1.1 Printer outer design



1. Feed Key
2. Status Indicator
3. RS232 Socket
4. IR Interface
5. Printer Top Cover
6. Power Key
7. Charge Indicator
8. Power Interface
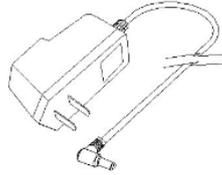9. USB Interface
10. Battery Cover
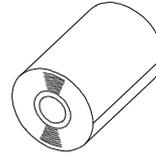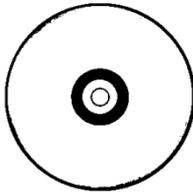
## 1.2 Accessories

### Standard Accessories

Battery                        Power Charger                        Paper Roll
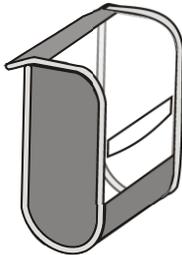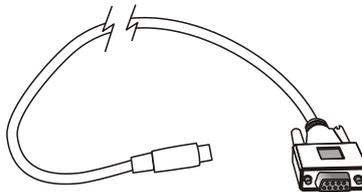
CD-ROM

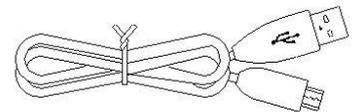### Optional Accessories

Leather Sheath                 Serial Data Wire                     USB Data Wire

# Chapter II Performance

## 2.1 Print Performance

Printing way: Direct thermal print

Paper width: 56mm

Printing width: 48mm

Resolution: 8dots/mm (203dpi)

Dot/line: 384dots

Printing speed: 50-80mm/s

Paper thickness: 60-80μm

Printing Content：Chinese (Support all GB18030 Chinese character, character sets), ASCII character, some full width custom characters and some half width custom characters; barcode: CODE39, EAN13, EAN8, CODABAR, CODE93, ITF; graphics.

## 2.2 Physics Parameter

Outer dimension： 103x75x46mm

Gross weight： 196g（exclude the paper roll）

Scroll Diameter： ≤38mm

Interface： Original IR（RAW_IR），VIR，IrDA（IrCOMM），RS232，USB，Bluetooth；interfaces varied with different models. See the model description.

## 2.3 Environment Parameter

Working temperature：-10℃～50℃

Working humidity: 20%～85%

Storing temperature：-20℃～70℃

Storing humidity：5%～95%

## 2.4 Other Performance

Paper loading way: Clamshell paper loading（as details 3.1.2 Paper Roll Installation）；

Black mark detection：Yes（as details 4.2 Pre-print Black Mark Instruction）；

Paper sensor: Power and function indicator of printer flashes when come to paper end meanwhile alarm;

Printing Command: ESC/POS compatible with commands set (see "Portal Mini Printer Development Manual"), the user could get it from the supplier;

Power: 1500 mAH rechargeable li-ion battery

Power alarm: Indicator flashes when printer will run out of power and give out two short hoots. When running out of power, buzzer will give out interval warning to indicate charging.

Charging: battery can be filled with in 2-4 hours.

A charging time available: The battery could be used 100-200 minutes under 12.5% printing density and 80-100 minutes under 25% printing density. The parameter is only for reference; the capacity of the battery would be decreased after a long time using and could not ensure the actual

print time.

# Chapter Ⅲ Introduction

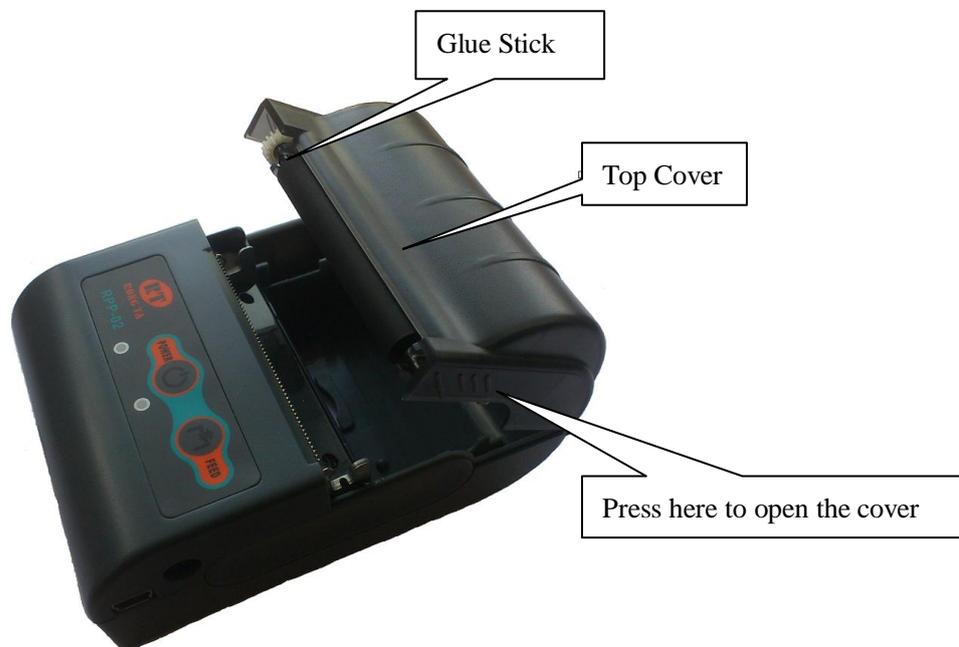## 3.1 Preparing before usage

### 3.1.1 Battery Installation



1. Pull up the buckle, open battery cover;

2. As shown in the picture, put battery into the battery compartment. Please do not put the negative and positive poles of battery in wrong way;

3. Then closed the battery cover.

### 3.1.2 Paper Roll Installation



Usage Method

1. Using two hands to keep pressing the cover then open it.

2. As shown in picture, please put the paper roll in and do not put it in wrong direction, otherwise it would lead the printer unable to work.

3. As shown in picture, pull out part of paper; please make sure to pull the paper out of the paper roll compartment.

4. Put the paper roll in the right way and then close the cover.

## 3.2 Basic Function

### 3.2.1 Power On

Under power off status, keep pressing "POWER" key for two seconds, printer will be powered on and on working status, then power indicator (red light) lights.

Note: If printer feed indicator (blue light) flashes but not lack of paper, it means the printer is going to power off, please change the battery or charge it. Charging method please refer to (3.2.5 charging).

### 3.2.2 Power Off

Under power on status, keep pressing "POWER" key for two seconds, then the printer will be powered off and all indicator lights will be put out.

### 3.2.3 Self-Test

Once the user receives the printer could do the self-test at any time to check the setting and status of it.

Self-Test method as follows: Power off(If the printer is power on)the printer, press "FEED" key and at the same time press "POWER" key to power on it, then the printer will print out the self-test page, which contains the printer status, setting and printing sample.

### 3.2.4 Feed (Feed Manually)

Under printer working status, press "FEED" key, the printer will start feeding paper for 250mm length. If the paper has black mark accepted by the printer, the printer will stop feeding when goes to the black mark. If feeding length is set as "0", printer feeding will not be affected by black mark.

### 3.2.5 Charge

When the printer has been working for a long time, the battery will be out of power, in this case, the printer feed indicator (blue light) will flash, and at the same time the printer would alarm ,which means it needs charging. If the printer power off automatically while printing, the user should charge it for continue working.

Charging method as follows: The printer is charging after plugging the charger into 220V，50HZ power socket，and the other end plug to the charger socket of the printer. During the charging process, under power on status, feed indicator (blue light) will keep flashing till the charging is finished and the charge indicator is keep lighting.

Printer can work normally during charging process.

## 3.3 Printer Connecting and Printing

### 3.3.1 Serial Interface Connecting

Printer's optional accessories contain DB-9 serial interface cable (the other end connected to printer is MINI DIN plug.)

### 3.3.2 USB Interface Connecting

Printer's optional accessories contain USB Wire,Connect to PC and install the USB driver

### 3.3.3 Original IR and IR Connecting

User could use infrared data communication technology to connect with your equipment.

Infrared data communication technology is developed by the infrared data association (IrDA); it uses infrared light as a kind of wireless data communications data carrier communication technology.

**Usage Method**

As a wireless data transmission interface, Infrared (IR) port has the advantages of Low power consumption, mature technology and easy to use etc. and has become the primary method of data communication of most of the portable devices. Most portable devices have infrared (IR) port, such as all the WINCE PDA, PALM PDA, notebook computer, part of mobile phones, most of the portable data collector, and a small number of measuring instruments used in fieldwork. The printer hardware is compatible with IrDA1.1 specification, IrCOMM protocol is a sub-protocol of IrDA, and it is used on many portable devices. Original infrared data communications can be connected to the device with original infrared interface to print. IrCOMM way may be connected to printer, which is with IrCOMM protocols to print. For more information about IrDA, please visit website http://www.irda.org.

If printer did not work under the condition you need, for example,printer can't simultaneously work among the original infrared status, VIR or IrCOMM condition, in order to use, you must re-setting the printer. Setting IR mode method, please refer to 3.3 Printer Setting.

Original infrared can work under baud rate of 9600bps、19200bps、38400bps、57600bps and 115200bps.

When using original infrared (RAW-IR) and IrDA(IrCOMM) method to print, during the printer, you should direct the primary device infrared at printer infrared window, distance less than 50cm(according to the primary device),angle less than 30 degrees.

### 3.3.4 The Bluetooth Matching and Printing

Before working, RPP-02/BL portable mini printer need to be matched with primary device, which will drive RPP-02/BL printer, the matching will be started by primary device.

Matching Method as follows:

1. Power on Printer

2. Primary Device search for external bluetooth devices

3. If there are more than one external bluetooth devices, select the printer which is corresponding to the BDA address (refer to self-test page).

4. Input password"0000"

5. Finishing Matching.

About matching method details, please refer to primary bluetooth function description.

During matching, RPP-02/BL portable mini printer must be power on.

Note: During matching, don't power on more than one unit printer, otherwise, the user may not know which printer will be matched successfully.

After matching successfully, other PC still can be matched with the printer, each printer can be at most matched with eight PC, if matched with more than eight PC, the printer that earliest be matched with PC will be deleted automatically, at this time, if this printer need the PC to drive it,

then it need to be re-matched with PC.

**Using Bluetooth Interface to Print**

For the PC with virtual bluetooth serial port (such as cell phone using the SMARTPHONE, POCKET PC, PALM, laptops, etc.), after the success of the matching, you can send printing data through virtual bluetooth serial port to the RPP - 02 / BL portable mini printer for printing. If the PC doesn't have virtual bluetooth serial port, and you want to drive the RPP - 02 / BL portable mini printer, please consult your PC supplier.

## 3. 4 Indicator Light and Buzzer Signal Description

Printer has a buzzer and two indicators light that used to prompt the user the status of the printer, the light is used to represent the current status of the printer, and buzzer used to prompt the printer status changes. Two indicator lights are respectively function indicator light and charge indicator.

| Feed Paper Indicator(blue) | Power Indicator (red) | Printing Status | Buzzer |
|---|---|---|---|
| Quick flashing | Off | Charging | |
| Slow flashing | Off | Low level | |
| Long lighting | Off | Finish charging | |
| No flash | Long Lighting | Power on Status | |
| Slow flashing | Slow Flashing | Lack of paper | With a buzz |
| No flash | Sow Flashing | Sleep status | |

# Chapter IV Other Information

## 4.1 Pre-print Black Mark Instruction

If the user is using pre-printed black mark for paper positioning, print the black mark must comply with the following black mark pre-printed standard, otherwise it may lead the printer could not identify the black mark. Black mark pre-printed rules:

Printing position: black mark should be printed in the left edge of text page.

Width: width≥7mm

Height: 4mmheight≤6mm

The infrared reflectivity: <10% (Other part of the paper black mark width for infrared reflectivity >65%)

Hps：Hps is the distance between the lower edge of the black mark of printer and the upper edge of the start printing.

0mm≤Hps≤1mm