

WSP-R241

Mobile thermal printer



- Pocket size.
- Support text and graphic printing.
- Low power consumption
- Interface USB / Bluetooth Ver3.0
- High resolution (203 dpi : 8 dots /mm)

Version 0.1



Summary

Introduction.....3

Operating precautions :.....4

Specifications :.....5

Setting up the printer :.....6

Printer features :.....7

Dimensions :.....8

Replacing the paper roll:.....9

Power supply :.....10

Control panel :.....12

Set operation mode :.....13

Interface :.....15

The self-test :.....18

Consumable parts :.....18

Introduction

→ The WSP-R241 printer is suitable designed for use with a growing variety of mobile devices. Bluetooth/USB interfaces make the WSP-R241 the perfect comrade for applications such as point of transaction warehousing, distribution, point of sales, hospitality, gaming and healthcare.

→ Her general features are as follows:

- Light weight (193.5g) for true mobility.
- Pocket size (79,5 x 104,4 x 37,6 mm)
- Very silent printing thru direct thermal printing method.
- High speed(100mm/sec, MAX)
- High resolution(203dpi : 8dots/mm)
- USB, Bluetooth Ver3.0 interface
- Intuitive LED's indicate Power(on/off),Error, Bluetooth status, Battery status
- Support Magnetic Stripe Reader [option]
- Support text and graphic printing.
- Easier paper loading by CLAMSHELL design.
- One touch paper cover
- Printer door open & Paper-out sensor
- Easier maintenance with self-diagnostics.
- In field programming – Update Firmware, Download Fonts and Logos
- Microsoft Windows XP/VISTA/7/8/CE, Linux, Android compatible.
- Free fall: 1.5M drop resistance
- Flow control : Software (XON/XOFF)

Operating precautions :

→ Please follow the precautions below to enjoy and maintain the full performance of the printer.

Using the printer :

- Be careful not to drop or bump the printer on a hard surface;
- Do not install the printer in direct sunlight or such areas. Suitable environment for the use of the printer is as follows:

Operating temperature : -10°C à 50°C

Relative humidity : 30 % et 80 %

- Do not install the printer near devices that generate strong electromagnetic fields such as a copy machine.
- Do not open platen cover during printing.
- Do not remove or reinstall the communication cable during printing or transmission.
- Do not touch the connectors of the communication cable during printing.
- Switch the POWER OFF when not in use.
- Do not use other solvent.
- The AC adapter, the battery charger and the battery pack may become warm when in use. This is normal and is not a malfunction.
- When the battery pack is used at low temperature, the length of time the printer can be used may be shortened.

Thermal paper handling :

- Store the thermal paper in a cool, dry and dark place.
- Do not rub the paper with hard object.
- Do not allow plastic film, erasers, or adhesive tape to touch the paper for long periods.
- Do not use chemical glue.
- Always use the clean thermal paper.

Specifications :

Item	Specifications
Printing method	Direct thermal line printing
Character size	Font size A: 12x24 / Font size B: 9x24 / Font size C : 8x16 KOR : 24x24(16x24) / CHN,JPN : 24x24
Characters per line	A : 32cpl / B : 42cpl / C : 48cpl KOR : 16cpl(24) / CHN,JPN : 16 cpl
Character set	Alphanumeric : 95, extended graphics : 128x50 pages, International : 10 Simplified/Traditional Chinese, Japanese, Korean
Resolution	203dpi, 8 dots /mm
Dimensions	79,5 x 114,3 x 43,5 mm 79,5 x 118,4 x 43,5 mm (MSR*)
Weight	197,2 g / 202,1 g (MSR*)
Interface	USB, Bluetooth ver3.0 interface
Paper supplied	Thermal roll paper, Label roll (58 mm wide, 40 Ø)
Barcodes	1-D : UPC-A, UPC-E, EAN-8, EAN-13, CODE-39, CODE-93, CODE-128, ITF, CODABAR 2-D : PDF417, Micro PDF417, Truncated PDF417, QR-CODE, DATA Matrix, Maxicode Etc :GS1 databar
Driver	Microsoft Windows XP/VISTA/7/8/CE, Linux, Android compatible
H/W spec.	MCU : RX-32bit, RAM : 128M bit, FLASH : 64M bit
Receive buffer size	1M bytes
MSR [option]	Triple tracks (1&2&3 tracks reading) Supports 3DES & AES encryption
Battery	Rechargeable, 7,4V DC, 1100mAh (Li-ion)
Battery duration	1 hours continuous printing

Environment conditions	Temperature : -10°C ~ 50°C (operating) -10°C ~ 70°C (storage) Humidity : 30 % ~ 80 % (operating) 10 % ~ 90 % (storage)
Limited warranty of life	Head : 100km

-MSR : Magnetic Stripe Reader

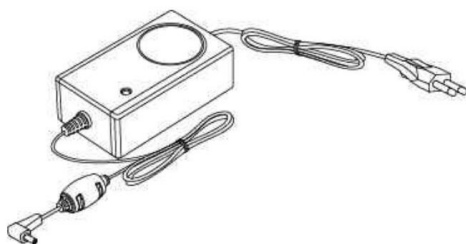
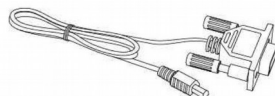
Setting up the printer :

a) Printer & accessories

→ Your printer should include these items. If any items are damaged or missing, please contact your dealer for assistance.

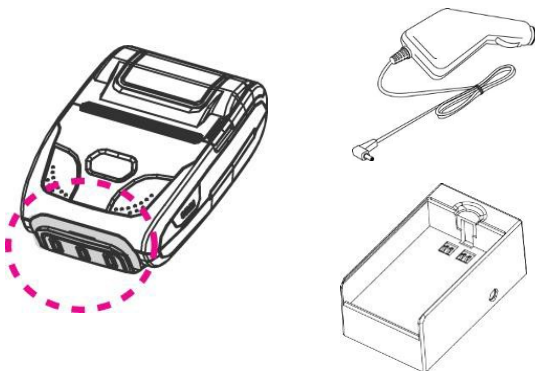
Box contents :

- Printer WSP-R241 :
- Thermal Roll Paper :
- Communication cable :
- Battery pack :
- Battery charger adaptor :

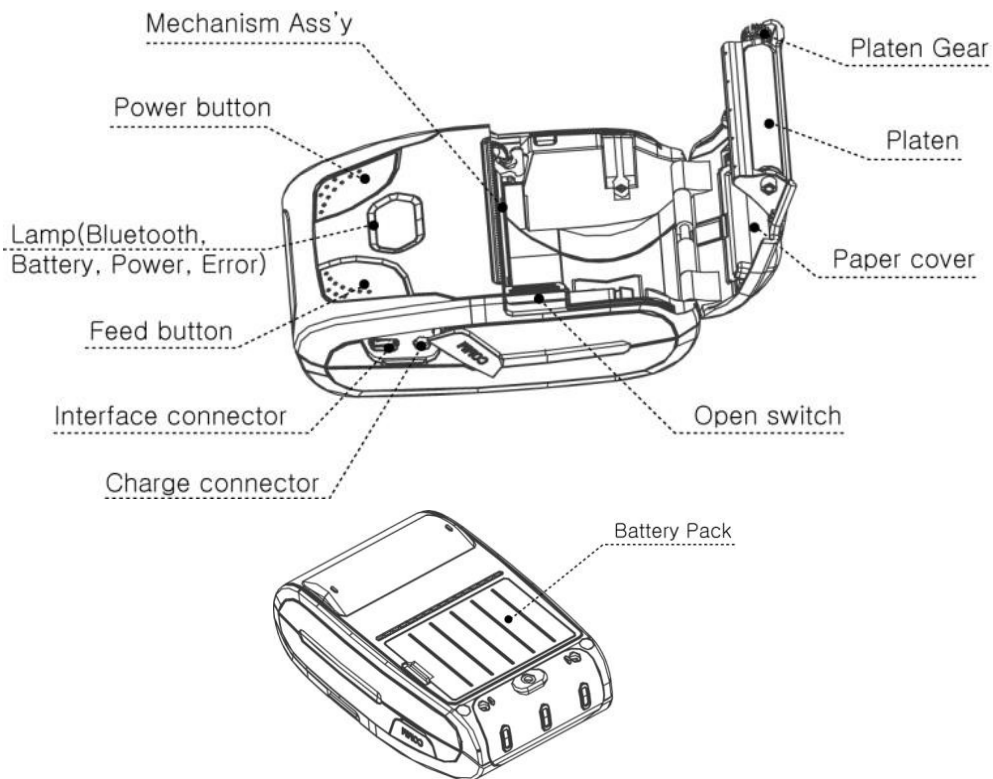


Optional accessories:

- MSR :
- Car charger :
- External battery crade :

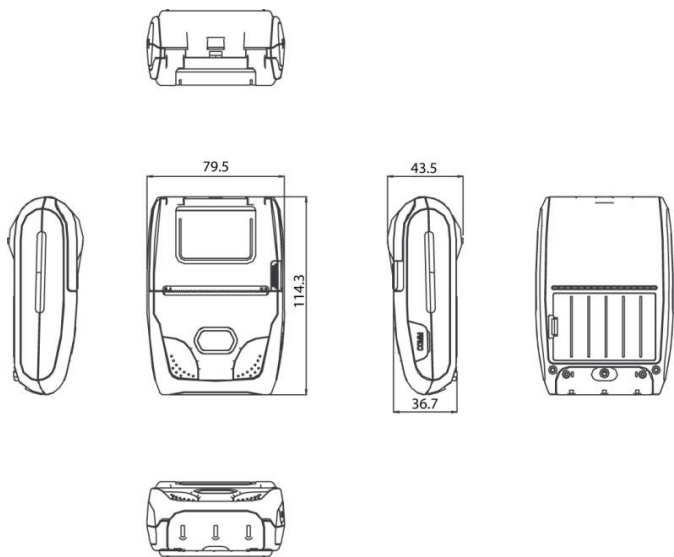


Printer features :

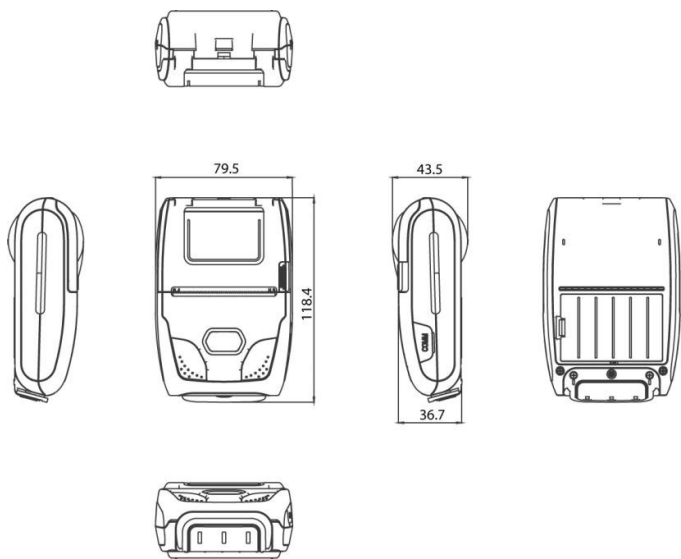


Note : The features are the same for the MSR printer.

Dimensions :



MSR model :



Replacing the paper roll:

Note : → Be sure too use paper rolls that meet the specifications.

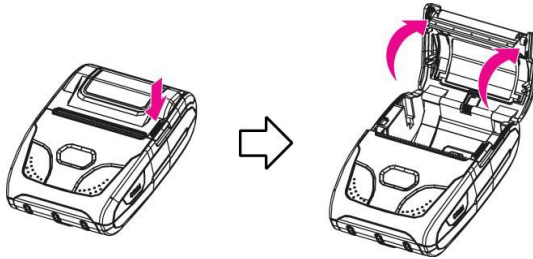
→ Do not use paper rolls that have the paper glued to the core because the printer can not detect the paper end correctly.

Steps to follow: → Make sure that the printer is not receiving data; otherwise, data may be lost.

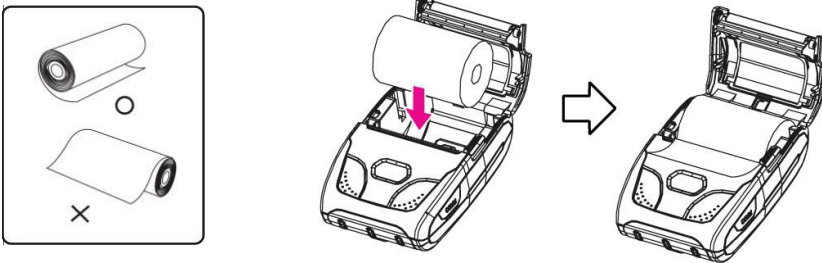
→ Remove the used paper roll (if there is one)

→ Install the paper roll as shown below :

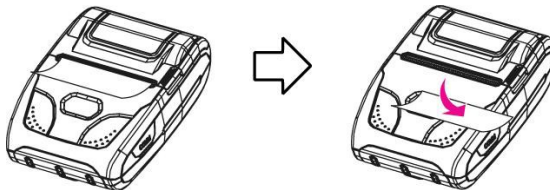
1) – Open the paper cover by pressing the open switch:



2) – Insert the paper roll as shown:



3) – Tear the excess paper off using the edge of paper door as a tear bar :



Power supply :

Power supply specifications :

→ The following specification is requested for power supply :

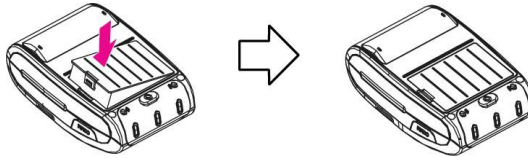
Input : 24V DC / Max 3A

Avoid using power supply which its power capacity or power current is extremely high.

Installing the battery :

→ To install the battery, please follow the steps as shown below :

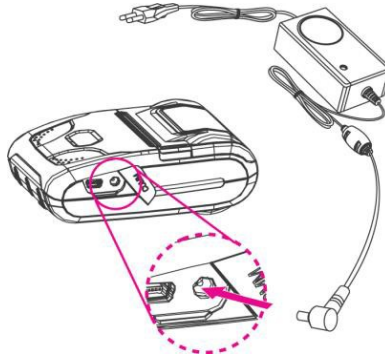
1) – Insert the battery connector in the direction of the arrow :



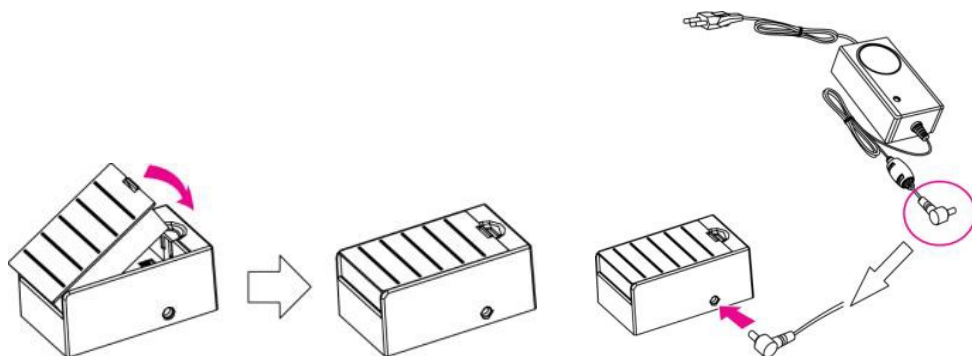
2) – To remove battery pack, proceed the above order reverse.

Recharging the battery :

→ For recharging the battery pack, insert the battery pack in the printer. Insert the battery charger to the charge connector of the printer:



→ For the external battery cradle, just do as shown below :



Note :

→ Switch off the printer during charging.

→ Do not remove the battery during charging.

→ The battery is consumable part and when purchasing, compared to the use hour is gradually decreases. (Warranty 6 month)

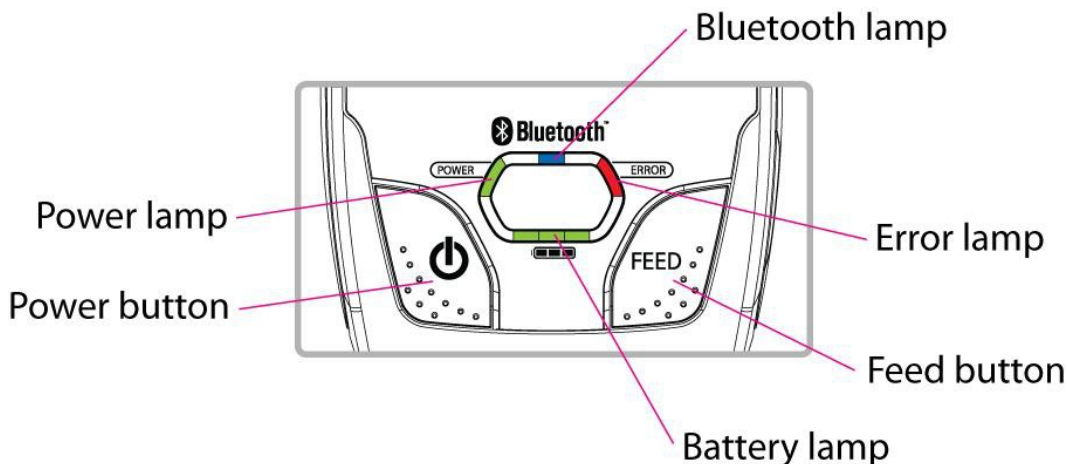
→ The recharging time depends on the voltage level and ambient temperature of the battery. Normally, it takes around 4 to 5 hours to recharge a battery pack.

→ You must use only the supplied adapter.

→ Red lamp : charging the battery.

→ Green lamp : charging is finished.

Control panel :



- **Buttons :**

- **FEED** : Use FEED button to feed the paper continuously.

- **POWER** : This button is used to power ON/OFF. You need to press it around 5 seconds to switch ON or OFF the printer.

- **Lamps:**

- **POWER (green)** : The printer is on and ready to receive data.

- **ERROR (red)** : Indicates a fault condition or a printer error (no paper, paper cover open, etc...).

- **BLUETOOTH (blue)** : Indicates a Bluetooth connection status.

- **BATTERY** : Indicates the remaining battery power thanks to a progress bar simulated by 3 lamps. If there is only one lamp ON, you must recharge your battery using the battery charger.

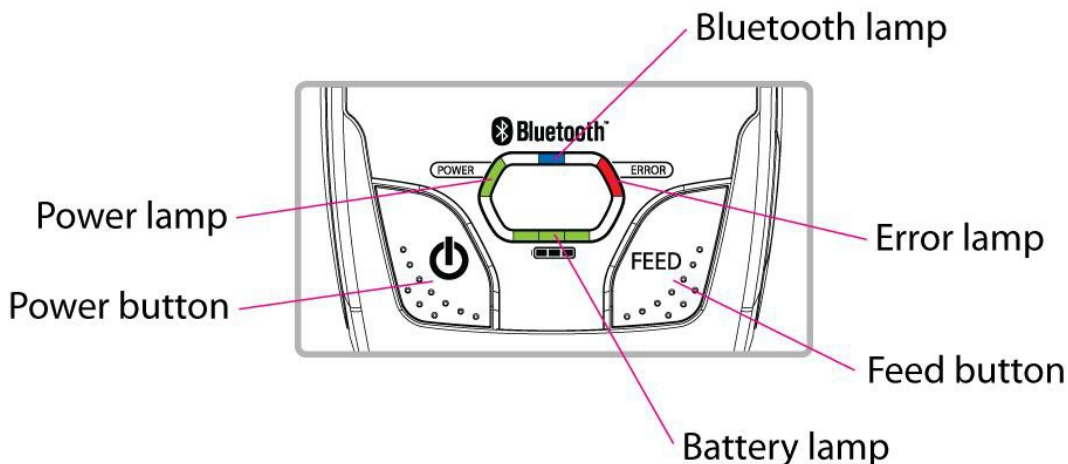
Set operation mode :

→ To switch on operation mode, press the FEED and POWER button simultaneously. Then from this moment, the **ERROR lamp** blink. You need to keep pressing on the FEED and POWER button until the **ERROR lamp** blink for 5 times. Then you are now in the operation mode.

→The menu navigation in operation mode is done as:

⌋ **POWER button:** Used for changing OPTION status of a mode. The lamps showing the chosen option is the **ERROR lamp**.

⌋ **FEED button:** Used to switch from one MODE to another. The lamp showing the chosen option is the **POWER lamp**.



→ The WSP-R241 present the following modes and options :

Amount of blinking for POWER lamp	Mode	Amount of blinking for ERROR lamp	Option
1	Type of communication	1	USB
		2	USB(pro)
		3	Bluetooth
		4	Bluetooth(pro)
		5	Bluetooth(iAP)
2	Density	1	Low
		2	Medium
		3	High
3	Mark	1	No use
		2	Use
4	Sensor sensitivity	1	Low
		2	Medium 1
		3	Medium 2
		4	High
5	Power down	1	No use
		2	1min sleep
		3	2min sleep
		4	3min sleep
		5	4min sleep
		6	5min sleep
		7	1min OFF
		8	2min OFF
		9	3min OFF
		10	4min OFF
		11	5min OFF

To leave the operation mode, press simultaneously on the FEED and POWER button again.

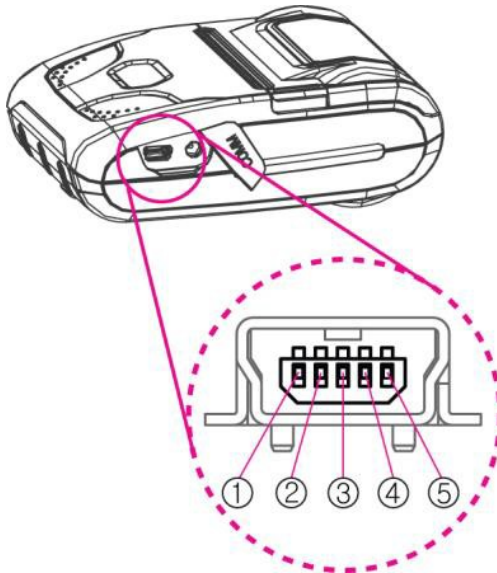
Note :

→Bluetooth(iAP) is used only for Apple devices (iPod, iPhone, iPad,...)

→ When you will leave the operation mode, the printer will print a ticket with her setting on.

Interface :

a) USB interface



→ The WSP-R241 printer has a USB interface and is connected by a means of 5 pin mini USB socket. In the following table, the signal present on the mini-USB socket are listed :

N° pin	Name	Function
1	VCC	+5V
2	DM	DATA « - »
3	DP	DATA « + »
4	NC.	-
5	GND	Ground

b) Bluetooth interface

→ To switch on Bluetooth mode, refer to the “set operation mode” section.

→ To connect in great conditions, please proceed as shown below :

- Steps :**
- 1) Switch to Bluetooth mode in the operation mode.
 - 2) Switch off the printer.
 - 3) Switch on the printer.
 - 4) Activate the bluetooth function of your device (mobile phone, tablet, etc...).
 - 5) The connection is made and the BLUETOOTH lamp lights.

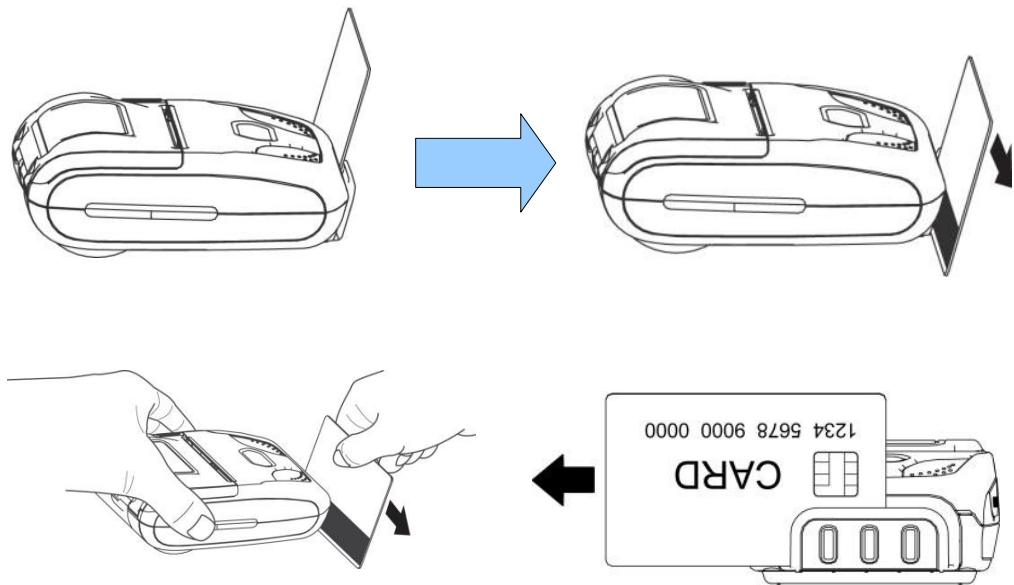
Note :

→ The printer only support one mode at a time. Thus, if the Usb cable is connected while you are on the Bluetooth mode, nothing will happen. You need to unplug the Usb cable to use the Bluetooth mode.

Bluetooth specification :

Category	Specification
Bluetooth spec.	Bluetooth Ver3.0 / Class2 (10m)
Frequency band	2402~2480 MHz
Protocol	L2CAP, RFCOMM, SDP
Profile	GAP, SDAP, SPP

c) Read a magnetic stripe card (MSR) [option]



→ Check the direction of the magnetic stripe and read the card.

→ Please hold the card correctly as show above to pass the card at a steady speed.

→ When the card reading is successful, buzzer sound one time. If it fails, buzzer sounds three times.

The self-test :

→ The self-test prints out the current setting value of printer. The way of self-test is as follows:

1. Insert proper paper into the printer.
2. Power on while pressing FEED button to start self-test.
3. The printer will print out her current settings (ROM version and communication mode).
4. And then a pattern of characters will be printed out.
5. The self-test will be finished automatically and turned to the standby status.

Consumable parts :

a) Recommended paper

- **Type** : Thermal paper.
- **Paper width** : 58 mm
- **Paper thickness** : $60 \pm 5\mu\text{m}$
- **Outer diameter** : Ø40 mm or less.
- **Recording side** : Outside of the roll.

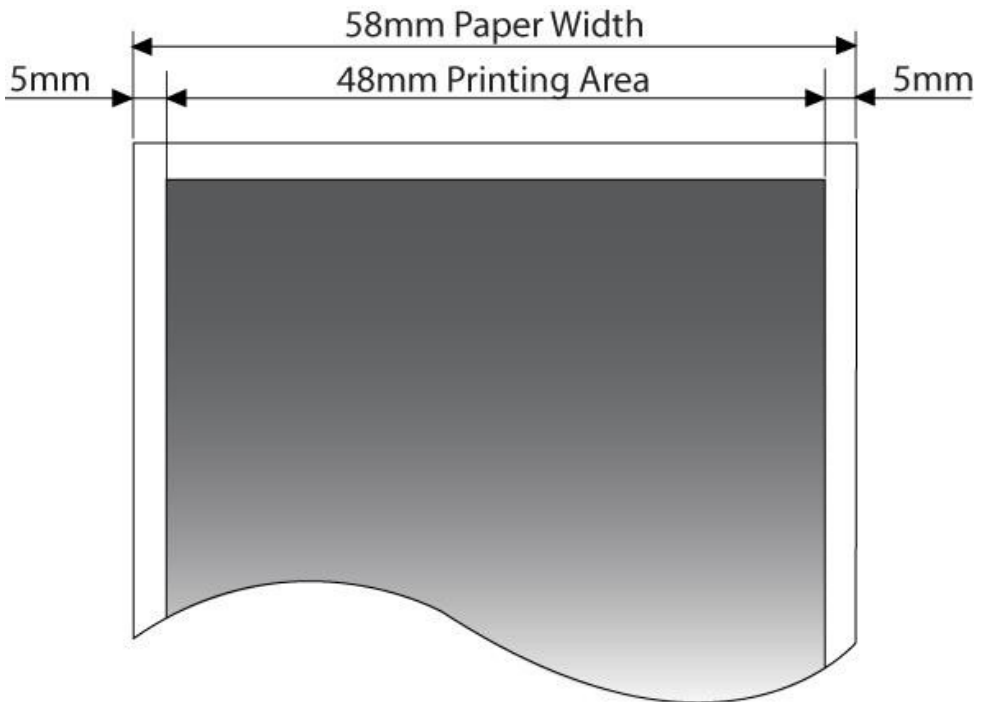


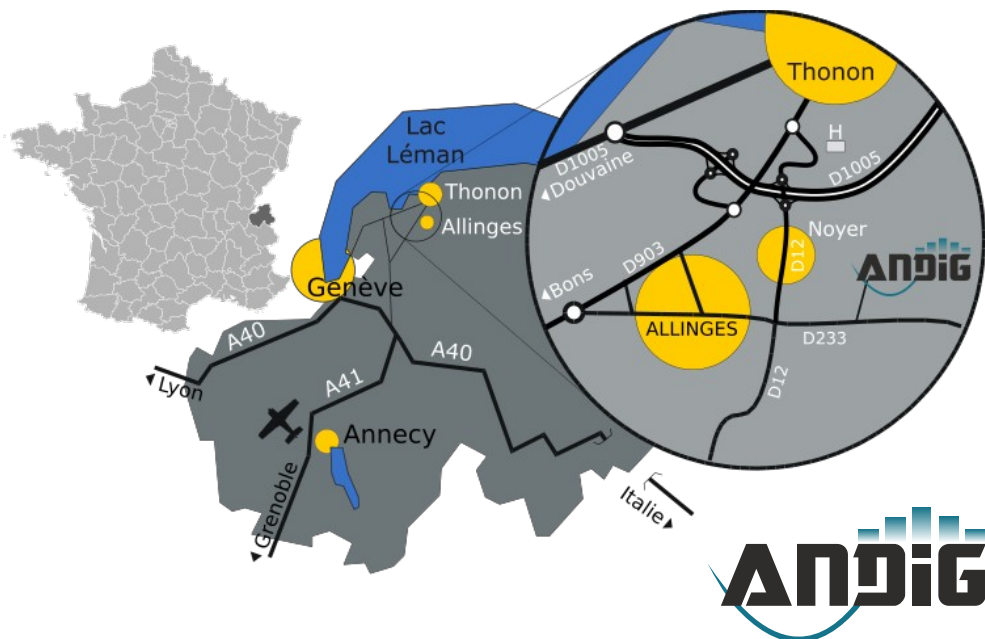
Caution



- 1) – Do not paste the paper to the core, and the roll paper which has near end mark printing on its near end is recommended.
- 2) – chemicals or oil may change the color of paper, or printed characters may fade.
- 3) – Change of paper color starts from approximatively 70°C.
- 4) – Color of paper may be changed by being scratched with a nail or hard metal, etc...

Printing position :





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