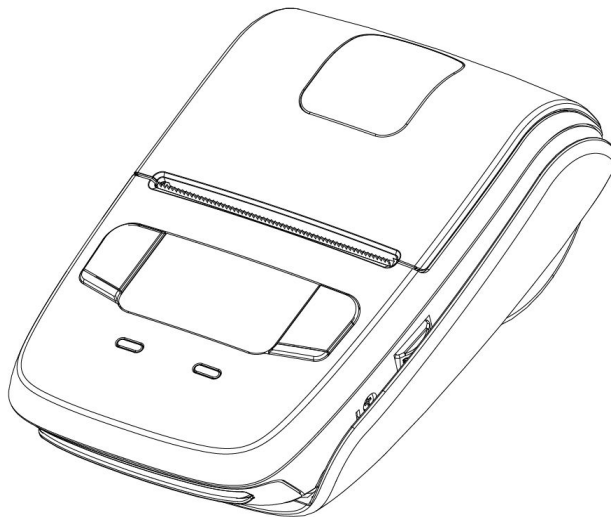


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**Mobile Printer**  
**SM-L200 SERIES**

***Hardware Manual***



Rev 1.0

**star** 

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<USA model>

**Federal Communications Commission  
Radio Frequency Interference Statement**

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.

**CAUTION:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment of and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications not expressly approved by the manufacturer could void the user's authority to operated the equipment under FCC rules.This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.This equipment complies with FCC radiation exposure limits set forth for uncontrolled equipment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. This equipment has very low levels of RF energy that it is deemed to comply without testing of specific absorption ratio (SAR).

**FCC WARNING**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.For compliance with the Federal Noise Interference Standard, this equipment requires a shielded cable.For RF interference suppression, if a ferrite core is provided with this device, affix it to the interface cable.

*The above statement applies only to equipments marketed in U.S.A.*

<Europe model>

English: Hereby, STAR MICRONICS CO.,LTD. declares that this Wireless Device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC

Deutsch: Hiermit erklärt STAR MICRONICS CO.,LTD., dass sich das Gerät Wireless Device in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befidet.  
[German]

Svenska: Härmed intygar STAR MICRONICS CO.,LTD. att denna Wireless Device står i överensstämmelse med de väsentliga egenskapskravoch övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG  
[Swedish]

Español: Por medio de la presente STAR MICRONICS CO.,LTD. declara que el Wireless Device cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.  
[Spanish]

Português: STAR MICRONICS CO.,LTD. declara que este Wireless Device está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.  
[Portuguese]

Français: Par la présente STAR MICRONICS CO.,LTD. déclare que l' appareil Wireless Device est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.  
[French]

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Suomi: [Finnish]	STAR MICRONICS CO.,LTD. vakuuttaa täten että Wireless Device tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten jäsittä koskevien direktiivin muiden ehtojen mukainen.
Italiano: [Italian]	Con la presente STAR MICRONICS CO.,LTD. dichiara che questo Wireless Device è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Dansk: [Danish]	Undertegnede STAR MICRONICS CO.,LTD. erklærer herved, at følgende udstyr Wireless Device overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Nederlands: [Dutch]	Hierbij verklaart STAR MICRONICS CO.,LTD. dat het toestel Wireless Device in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG
Eesti: [Estonian]	Käesolevaga kinnitab STAR MICRONICS CO.,LTD. seadme Wireless Device vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
Ελληνική: [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ STAR MICRONICS CO.,LTD. ΔΗΛΩΝΕΙ ΟΤΙ Wireless Device ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Slovensky: [Slovak]	STAR MICRONICS CO.,LTD. týmto vyhlasuje, že Wireless Device spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Slovensko: [Slovenian]	STAR MICRONICS CO.,LTD. izjavlja, da je ta Wireless Device v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Česky: [Czech]	STAR MICRONICS CO.,LTD. tímto prohlašuje, že tento Wireless Device je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Magyar: [Hungarian]	Alulírott, STAR MICRONICS CO.,LTD. nyilatkozom, hogy a Wireless Device megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Български: [Bulgarian]	това Безжично устройство е в съответствие със задължителните изисквания и другите приложими разпоредби на Директива1999/5/EC.
Polski: [Polish]	Niniejszym STAR MICRONICS CO.,LTD. oświadcza, że Wireless Device jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Malti: [Maltese]	Hawnhekk, STAR MICRONICS CO.,LTD., jiddikjara li dan Wireless Device jikkonforma mal-htigijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Latviski: [Latvian]	Ar šo STAR MICRONICS CO.,LTD. deklarē, ka Wireless Device atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių : [Lithuanian]	Šiuo STAR MICRONICS CO.,LTD. deklaruoja, kad šis Wireless Device atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Norsk: [Norwegian]	STAR MICRONICS CO.,LTD. erklærer herved at utstyret Wireless Device er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
Íslenska: [Icelandic]	Hér með lýsir STAR MICRONICS CO.,LTD. yfi því að Wireless Device er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.

This is a class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Notice: This device can be operated in all European countries.

France: Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz.

(The wireless output power of this printer is less than 10mW e.i.r.p.)

Italy: For private use, a general authorisation is required if WAS/RLAN's are used outside own premises. For public use, a general authorisation is required.

Norway: This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund.

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### ***Trademark acknowledgments***

SM-L200: Star Micronics Co., Ltd.

### ***Notice***

- All rights reserved. Reproduction of any part of this manual in any form whatsoever, without STAR's express permission is forbidden.
- The contents of this manual are subject to change without notice.
- All efforts have been made to ensure the accuracy of the contents of this manual at the time of going to press. However, should any errors be detected, STAR would greatly appreciate being informed of them.
- The above notwithstanding, STAR can assume no responsibility for any errors in this manual.

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## Caution Symbol



This symbol is placed near the thermal head to indicate that it may be hot.

Never touch the thermal head immediately after the printer has been used. Let the thermal head cool for a few minutes before touching it.



This symbol is placed near the thermal head to indicate that it is easily damaged. Observe the precautions for handling electrostatic sensitive devices.

## Safety Precautions

Please be sure to read

To use this product in safety, please follow the precautions given below.

---

### WARNING

- ✓ If you notice smoke, a strange smell, or a strange sound, turn off the power immediately, and remove the USB cable and/or battery pack. Then contact the dealer.
  - ✓ If any foreign material (metal scraps, water, or other fluid) enters the printer, immediately turn off the printer and remove the USB cable and/or battery pack. Then, contact your dealer for advice. Continued use of the printer could result in a fire.
  - ✓ Never attempt to repair the printer yourself. Also do not disassemble or modify the product. Doing so could lead to injury, fire, or electric shock.
  - ✓ Do not touch the tear bar.
    - . There is a tear bar inside the paper outlet slot. Neither put your hand in the paper outlet slot while printing is in progress, or put your hand into the outlet even when printing is not in progress.
    - . The printer cover can be opened when replacing the paper. However, since the tear bar is on the inside of the printer cover, be careful not to place your face or hands too close to the tear bar.
  - ✓ During and immediately after printing, the area around the thermal head is very hot. Do not touch it, as you could be burned.
  - ✓ If any battery fluid gets on your skin or clothing, immediately wash the affected area with fresh water. Otherwise, skin damage may result.
  - ✓ The battery pack may be hot immediately after the product has been used.
-

---

## ■ Using the Printer

- ✓ Some semiconductors can be damaged by static electricity. Be sure to turn off the printer when inserting or removing the battery pack.
- ✓ Do not drop the printer or hit it against a hard object.
- ✓ Do not open the printer cover while the printer is printing.
- ✓ Before you open the printer cover, make sure that printing data is not being sent to the printer.
- ✓ Do not unplug or plug in a USB cable while the printer is printing or during communication.
- ✓ Do not touch a USB connector while the printer is printing.
- ✓ Turn off the printer when you are not using it.
- ✓ When the printer is used in a low temperature environment, the battery's performance will be diminished, and the amount of time that you can use the printer for may be reduced.
- ✓ Do not pull out paper while the printer cover is closed.
- ✓ The heating element and the driver IC of the thermal head are easily damaged. Do not touch them with metal objects, sandpaper, etc.
- ✓ Printing quality may suffer if the thermal head heating element becomes soiled by being touched with your hands. Do not touch the thermal head heating element.
- ✓ There is a risk of damage to the driver IC of the thermal head from static electricity. Never directly touch the IC.
- ✓ Do not operate the printer if there is moisture on the front surface of the head from condensation, etc.

## ■ Thermal Paper Handling

- ✓ Only use thermal paper with the designated specifications. The printing quality and working life of the thermal head cannot be guaranteed if any paper other than that recommended is used. In particular, if ion concentration of [Na<sup>+</sup>, K<sup>+</sup>, Cl<sup>-</sup>] is high, it may drastically reduce the working life of the thermal head. Please exercise caution.
  - ✓ Store the thermal paper in a cool, dry, dark location.
  - ✓ Do not rub the thermal paper with a hard object.
  - ✓ Do not leave the thermal paper in contact with plastic film, an eraser, or adhesive tape for a long period of time.
  - ✓ Do not stack the thermal paper on fresh diazo copies or wet-type copies.
  - ✓ Do not use chemical glue on the thermal paper.
  - ✓ Do not use thermal paper that has been stored for a long period .
-

---

## ■ Operating Environment for the Printer

Before actually unpacking the printer, you should take a few minutes to think about where you plan to use it. Remember the following points when doing this.

- ✓ Do not use the printer in an environment in which it will be subject to strong shaking while it is printing.
- ✓ Be careful to ensure that the printer is not exposed to direct sunlight.

The appropriate environment for using the printer is described below.

Temperature: 0°C to 50°C

Humidity: 20% RH to 85% RH (no condensation)

- ✓ Do not place the printer near a copying machine or other device that produces a strong electromagnetic field.
- ✓ Keep the printer sufficiently removed from heaters and other sources of heat.
- ✓ Use the printer in a clean, low-humidity environment that is free from dust.
- ✓ Avoid using the printer in high-humidity rooms.

## ■ Printer Maintenance

Please perform the following maintenance every 6 months.

- ✓ Thermal head

Dip a cotton swab in an alcohol solvent (ethanol, methanol, or isopropyl alcohol), and clean the heating area of the head.

- ✓ Platen

While turning the platen, use a soft dry cloth to lightly rub the entire surface of the platen and remove any foreign objects.

- ✓ Paper storage unit and the surrounding area

Remove any dirt, dust, pieces of paper, etc., from the paper storage unit.

- ✓ Card reader

Regularly blow air onto the card reader to remove any dust from the card slot.

## ■ Using a Magnetic Card

- ✓ Do not bring magnets near the card, and do not store the card near a device that produces a magnetic field (such as a mobile phone, speaker, or TV). If you do so, the data on the card may be deleted.
  - ✓ Do not leave the card in a high-temperature environment (such as the dashboard of a car). If you do so, the card may bend.
  - ✓ Do not touch the card with dirty or wet hands. Also, do not attach adhesive tape or glue to the card. Failing to follow the above precautions could cause the card to stop working properly.
-

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# Table of Contents

1. Product Overview.....	1
1.1 Printer & Accessories.....	2
1.2 Appearance and Components.....	3
2. Setup.....	4
2.1 Battery Pack.....	4
2.1.1 Inserting into the Printer.....	4
2.1.2 Charging the Battery.....	5
2.2 Bluetooth.....	8
2.3 Loading Paper.....	9
2.4 Memory Switch Settings.....	11
2.5 Belt Clip.....	17
2.5.1 Attaching to the Printer.....	17
2.5.2 Using the Belt Clip.....	17
3. Printer Features.....	18
3.1 Control Panel.....	18
3.1.1 Button.....	18
3.1.2 Panel Lamp.....	19
3.1.3 LCD Indication.....	19
3.1.4 Buzzer Description.....	20
3.2 Self Test.....	21
3.2.1 Self Test Procedure.....	21
3.2.2 Printing the Bluetooth Device Name and MAC Address.....	21
3.3 Instruction for Auto Power Down(Sleep) Mode.....	22
3.4 Magnetic Card Reader.....	23
4. Paper.....	25
4.1 Paper Specification.....	25
4.2 Recommended Paper.....	25
4.3 Printing Range.....	25
4.4 Specification of Black Mark.....	26
5. General Specification.....	27

This manual supports the following firmware version.

Firmware Version	Ver.11
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Refer to the appropriate manual which supports the firmware version of you printer.

The firmware version can be confirmed by the self-test.(Refer to 3.2 Self-test)

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# 1. Product Overview

This printer is perfect for mobile banking systems, retail, POS (point of sale) terminals and other forms of mobile computing.

The characteristics of this printer are listed below:

- Pocket size (83x122.5x44mm)
- Extremely light and mobile (220g including Battery pack)
- Ultra-long standby time(20h) and continuously work for 1.2 hours
- 1m Drop Resistance
  - \*Our test procedure, Not guarantee
- Very silent printing thru direct thermal printing method
- Print speed 35mm/s (Paper feed 70mm/s)
- Support Bluetooth Ver3.0/4.0[BLE] Dual Mode
- Support Secure Magnetic Stripe Reader <Model with Card Reader>
  - \*AES or 3DES encryption
  - \*DUKPT Key Management
- Support Graphic LCD(128x64 dots) with Blue Backlight
- Belt Clip as a standard accessory
- Support text and graphic printing
- Drop-in design that makes it easy to load paper
- A printer cover that can be opened with the touch of a button
- Printer cover open sensor, Paper-out sensor and Black mark sensor

---

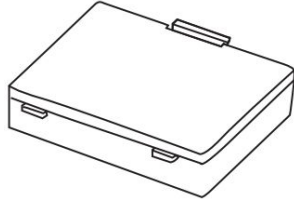
## 1.1 Printer & Accessories

The printer is packaged with the following accessories.

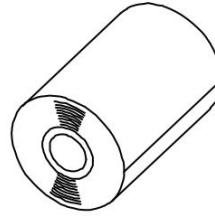
If any of these accessories is broken or missing, please contact the dealer that you bought the product.



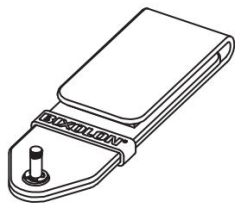
Printer



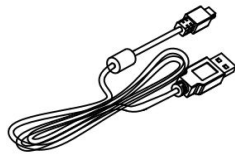
Battery Pack



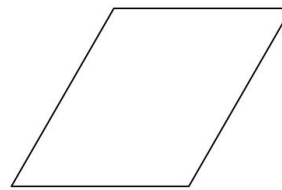
Printer paper sample



Belt Clip



USB Cable

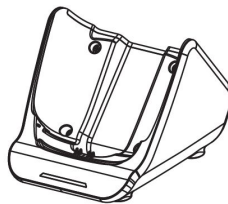


Safety Instruction Sheet

► The optional items for this printer are listed below.



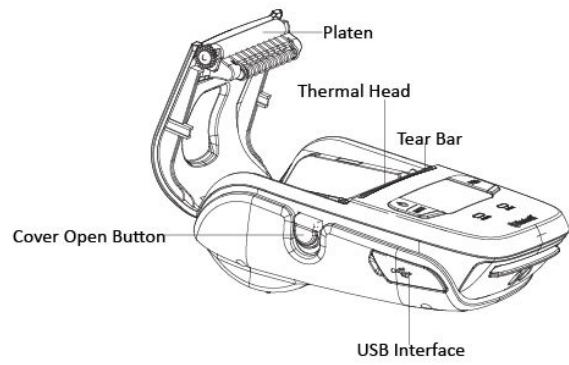
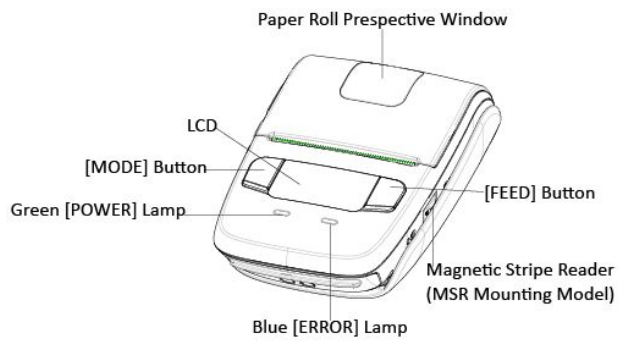
Extra Battery Pack



Docking Cradle

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## 1.2 Appearance and Components



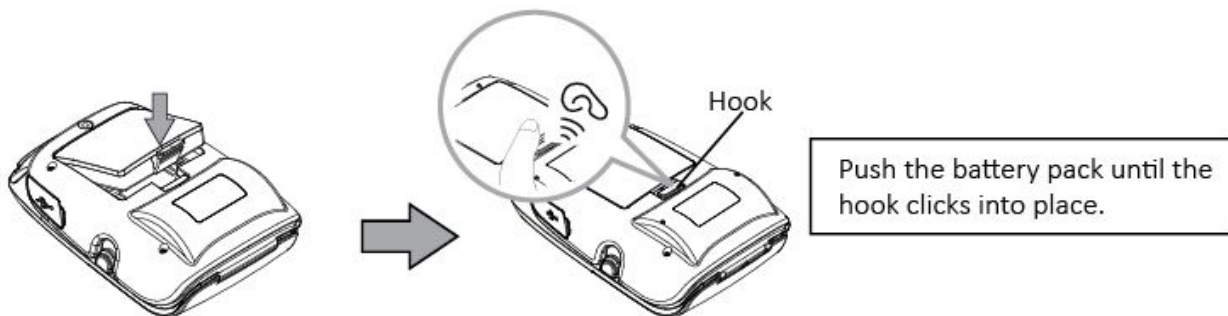
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## 2. Setup

### 2.1 Battery Pack

#### 2.1.1 Inserting into the Printer

1. Make sure that the printer has been turned off before you insert or remove the battery pack.
2. Insert the battery pack into the back of the printer as in the figure shown below, following the direction of the arrow.



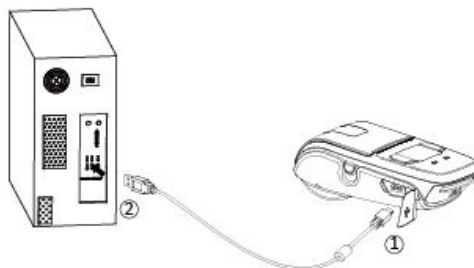
3. To remove the battery back, pull back the hook, and use the opposite procedure from the one you used to insert the battery pack.

---

## 2.1.2 Charging the Battery

Insert the battery pack into the printer to charge it.

Plug in socket with USB charging.



When battery pack runs out of power, the battery icon will flash. It powers off automatically when continues printing. If you want to go on, please charge it.

Battery charging

- ◆ POWER lamp will always flash in green color and goes off when fully charged.
- ◆ Charging the printer when it is on, even if battery icon on the LCD shows fully charged, turn off the printer and let the battery charge until the POWER lamp goes off for fully charge.

*NOTE: However, a low-grade car charger may cause a trouble due to a sudden change of voltage.*



### **Notes about the Battery Pack**

#### ► General Battery Characteristics

- The battery is a consumable and its performance over time gradually decreases.
- While not in use, the battery will slowly discharge itself.  
Prepare a battery pack that has been charged relatively recently (1 to 2 days earlier).
- To ensure that the battery lasts for a long time, we recommend that you turn off the printer whenever possible.
- When used at low temperatures, battery performance will temporarily decline. Be sure to have a fully-charged spare battery standing by if the printer will operate in a cold environment.

---

### ► Charging the Battery Pack

- The battery pack can be charged at ambient temperatures between 0 and 40°C.
- The time required to charge the battery pack varies depending on the voltage and the ambient temperature. Normally, it takes 4 to 5 hours to charge the battery pack.
- It will take longer to charge the battery pack if you print while charging the battery pack.
- Do not remove the battery pack while it is being charged.
- Fully charge the battery prior to using the printer. Otherwise, the performance of the battery may be affected.
- There is no need to completely discharge or use up a rechargeable Lithium-ion battery before recharge it.
- It is normal for the battery pack to be hot after it has finished charging or been used.
- Do not recharge a battery pack that has just been fully charged.

### ► Battery Pack Life

- The battery can be charged approximately 500 times in the normal temperature range without losing performance. If an extreme decline in the running time of the battery is noticed, the battery is reaching the end of its usable life. It is recommended to replace the old battery with a new one.

### ► Notes about Using the Battery Pack

- Only use a designated battery pack.
- Only use the designated battery charging method.  
You cannot use a USB cable other than the designated USB cable.
- Do not throw the battery into a fire, place it near a flame or heating device, or leave it in a hot environment (under direct sunlight, in a car, etc.).
- Do not use a battery pack that has been dropped or subjected to a shock in some other way.
- Do not disassemble or modify the battery pack.
- Do not short the terminals of the battery pack or get it wet.
- Do not place the battery pack in a bag with a small metal object (such as a key).
- If any battery fluid gets on your skin or clothing, immediately wash the affected area with fresh water. Otherwise, skin damage may result.

---

### ► Notes about Storing the Battery Pack

- The characteristics of the battery pack may degrade if you store it in a charged state for a long period of time. If you do not intend to use the battery pack for a while, use up its power before storing it.
- If you do not intend to use the battery pack for a long time, be sure to remove it from the printer.
- Keep the battery out of the reach of children. In addition, be careful that children do not remove the battery.
- Store the battery pack in a cool place.
  - \* We recommend that you store the battery pack in a dry area with an ambient temperature of 15 to 25 °C.
  - \* Avoid storing the battery in locations with high or extremely low temperatures.

### ► Battery Disposal and Recycling

A battery pack is used to power this device. Since the disposal process of batteries varies from country to country, refer to the appropriate measures mandating the disposal method of the country in which this device is used.

#### < For U.S.A. and Canada >



Lithium-Ion batteries are recyclable. You can help preserve our environment by returning your used rechargeable batteries to the collection and recycling location nearest you. For more information regarding recycling of rechargeable batteries, call toll free 1-800-822-8837, or visit <http://www.rbrc.org/>

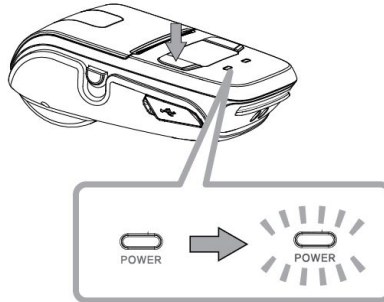
If battery pack is not in use for a long time, please remove it after fully charged. And it should be recharged every 3 months.

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.

---

## 2.2 Bluetooth

1. Press and hold MODE button for approx. 2 seconds, and printer is turned on.  
Then, it is ready to pair with another Bluetooth device.



2. If necessary, enter the following information into the terminal that you are using.  
PIN: 1234 (default)  
Device name: "STAR L200-XXXXX" (default)  
(XXXXX is the last digits of the Product Serial Number)

### Notes:

1. SM-L200 has two Bluetooth modes:

- a) One is Bluetooth Ver3.0 with PIN for Android or Windows system. PIN and Device name can be changed through Star Utility. To obtain this utility, please contact with your dealer.
- b) Another is Bluetooth 4.0(BLE) without PIN for iOS system.

2. SM-L200 changes the Bluetooth mode automatically by host system

3. Pairing sets one by one in order, otherwise it can't figure out which one succeeds in pairing.

The Bluetooth<sup>®</sup> word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Star is under license. (Design and specifications subject to change without notice.)

You can test the connectivity with a host device by using StarIO SDK Application which is available on Apple Store and Google play

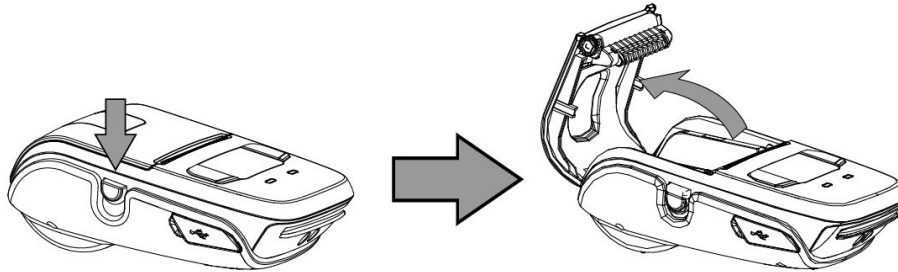


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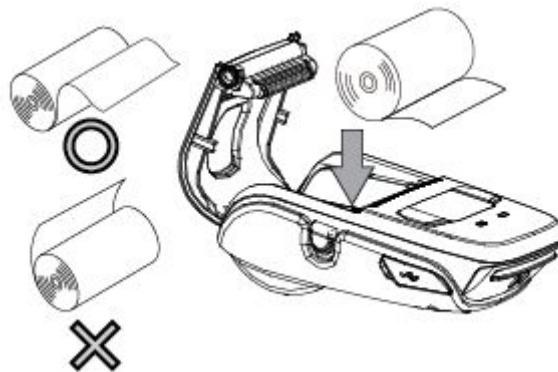
## 2.3 Loading Paper

Refer to Section 4 “Paper” (p. 25), to select roll paper that conforms to the specifications.

1) Press the cover open button to open the paper cover.



2) Load the roll paper in the orientation shown in the figure below.



3) Pull the end of the roll straight toward you. Then press down on both sides of the printer cover to close it firmly. When you close the printer cover, make sure that it is closed on both sides.



4) Use the tear bar to cut the extra paper.



---

## **CAUTION**

When ERROR lamp is flashing, please make sure the cover is closed correctly. If it's not, open the cover and close it correctly.

When the paper is jammed, be sure to open the printer cover before removing the jammed paper.

Do not under any circumstances try to pull out the jammed paper forcefully while the printer cover is closed, doing so may damage parts of the printer.

## **Caution Symbol**

This symbol is placed near the thermal head to indicate that it may be hot.



Never touch the thermal head immediately after the printer has been used.

Also, even when the thermal head is not hot, do not touch it, because static electricity can damage the devices inside the thermal head.

---

## **WARNING**

1) Do not touch the tear bar.

- There is a tear bar inside the paper outlet slot. You could neither put your hand in the paper outlet slot while printing is in progress nor put your hand into the outlet even when printing is not in progress.
- The paper cover can be opened when replacing the paper. However, since the tear bar is on the inside of the paper cover, be careful not to place your face or hands too close to the tear bar.

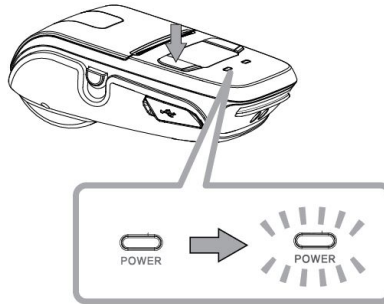
2) During and immediately after printing, the area around the thermal head is very hot. Do not touch it, as you could be burned.

---

## 2.4 Memory Switch Settings

Change the Memory switch by following operations. (Refer to P16 “Memory Switch Setting Table”).

1. Press and hold MODE button for approx. 2 seconds, and printer is turned on.



2. To put the printer into Memory Switch Setting mode, press and hold both the MODE & FEED buttons for 5 seconds. After printer displays “Enter Menu Mode”, you can configure the settings. Release the buttons after you surely confirm the screen display “Enter Menu Mode”, to get a printer into the setting mode.



3. To switch the Menu and option parameter, or return to the previous menu, press MODE button.
4. To move the cursor (“\_”), entry the printer mode, or confirm the new setting, press FEED button.

### CAUTION

Before changing the memory switch settings, make sure that the communication with a host device is disconnected.

When the printer is under the Bluetooth communication with a host device, it cannot enter the Memory Switch Setting mode.

---

## Example

---

When you want to change the settings of the printer mode as shown below,

Item	Factory Setting	Configuration Example
1 Density	0(Medium)	1(Low)
2 Standby Time	0060(Sec)	0080(Sec)
3 Auto Off Time	0000(Invalid)	1000(Min)
4 Paper Type	0(Receipt)	2(BM(Back))
5 Factory Reset	0(Cancel)	0(Cancel)
6 Password	0000	2222

▶ Press and hold the MODE & FEED buttons for 5 seconds.

→ You will see present “Enter Menu Mode” in the LCD.

▶ Press the MODE button once to switch the menu item.

Display: 1 Self Test → 2 System Setting

▶ Press the FEED button once to get into the System Setting menu.

→ You will see present “Input Password 0000” in the LCD.

→ Press FEED button to move cursor(“\_”), Press MODE button to switch the number (0~9).

Password: 0000(default)

→ Press and hold the FEED button for 2 seconds to get into the menu.

Display: 1 Density

2 Standby Time

3 Auto off Time

4 Paper Type

▶ Press MODE button to switch the menu item, then press the FEED button once to enter the menu.

→ Press the FEED button once to get into the Density menu.

Display: Density:

0-Medium

1-Low

2-High

3-Special

0

→ Press the MODE button once to input the number 1, then press and hold FEED button to confirm the new setting and return to the previous menu.

(The density has set to Low)

0(Medium) → 1(Low)

---

Please use at a room temperature if you want to set the density to '3 Special'.  
Some type of the paper are not suitable for use in low temperature environment.

---

▶ Press the MODE button once to switch the menu item--Standby Time.

→ Press the FEED button once to get into the menu.

Display:                      Standby Time:  
  (Sec)

0060

→ Press the FEED button twice to move cursor("-"), then press the MODE button twice to input the number: 8,  
finally press and hold FEED button to confirm the new setting and return to the previous menu.

(The standby time has set to 80 seconds)

0060(Sec) →0080(Sec)

When set the parameter to 0000, the standby time becomes invalid.  
If set the parameter to 001~ 009, a buzzer beeps, so do not set it.

▶ Press the MODE button twice to switch the menu item--Auto Off Time.

→ Press the FEED button once to get into the menu.

Display:                      Auto Off Time:  
  (Min)

0000

→ Press the MODE button once to input the number on : 1, then press and hold FEED button to confirm the new  
setting and return to previous menu.

(The auto off time has set to 1000 minutes)

0000(Min) →1000(Min)

When set the parameter to 0000, the auto off time becomes invalid.

▶ Press the MODE button 3 times to switch the menu item--Paper Type.

→ Press the FEED button once to get into the menu.

Display:                      0-Receipt  
  1-BM(Front)  
  2-BM(Back)

0

→ Press the MODE button twice to input the number:2, then press and hold FEED button to confirm the new  
setting and return to the previous menu.

(The paper type has set to BM(Back))

0(Receipt) →2(BM(Back))

---

▶ Press the MODE button 4 times to switch the menu item--Factory Reset.

→ Press the FEED button once to get into the menu.

Display:                    0-Cancel  
                                 1-Factory Reset

0

→ When the setting does not need to be reset, press and hold FEED button to return to the previous menu.

▶ Press the MODE button 5 times to switch the menu item--Password.

→ Press the FEED button once to get into the menu.

Display:                    Input New  
                                 Password

0000

→ Press the MODE button twice to input the number: 2, then press FEED button once to move cursor("-"), press the MODE button twice to input the number: 2, repeat the above steps to input the number "2222", finally press and hold FEED button to confirm the new setting and return to the previous menu.

(The Password has set to 2222)

0000→2222

▶ Press the MODE button 6 times to switch the menu item--Previous Menu.

→ Press the FEED button once to return to the previous menu.

Display:                    1 Self Test  
                                 2 System Setting  
                                 3 Exit Menu

▶ Press the FEED button once to enter the menu item--Self Test.

Display:                    1 Print  
                                 2 MSR  
                                 3 Hex Dump Mode  
                                 4 Previous Menu

→ Press the FEED button once, you will see present "Press Feed To Print" in the LCD, press FEED button, the new settings will be printed.

---

If the settings were not configured correctly, follow the above procedure to configure the settings again.

## Memory Switch Setting Table

First-level menu	Second-level menu	Third-level menu	Default
1 Self Test	1 Print	Press Feed To Print	--
	2 MSR	Please Swipe Card	--
	3 Hex Dump Mode	Hex Dump Mode	
	4 Previous Menu	--	--
2 System Setting	1 Density	0-Medium 1-Low 2-High 3-Special	Medium
	2 Standby Time	Standby Time: 0060	60 Seconds
	3 Auto Off Time	Power Down Time(Min): 0000	Invalid
	4 Paper Type	0-Receipt 1-BM(Front) 2-BM(Back)	Receipt
	5 Factory Reset	0-Cancel 1-Factory Reset	Cancel
	6 Password	Input New Password: 0000	0000
	7 Previous Menu	--	--
3 Exit Menu		--	--



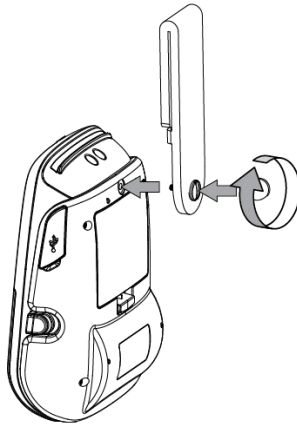
---

## 2.5 Belt Clip

### 2.5.1 Attaching to the Printer

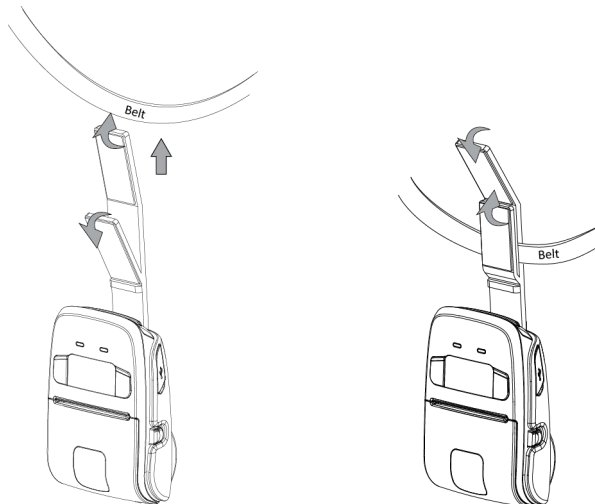
Follow the procedure below to attach the belt clip to the printer.

1. Make sure that you are attaching the belt clip in the right orientation, then screw the screw that comes with the belt clip into the designated screw hole to attach the belt clip to the printer.
2. Use a coin to firmly screw in the screw.



### 2.5.2 Using the Belt Clip

When the printer is attached to your belt, you can use it like the picture below.



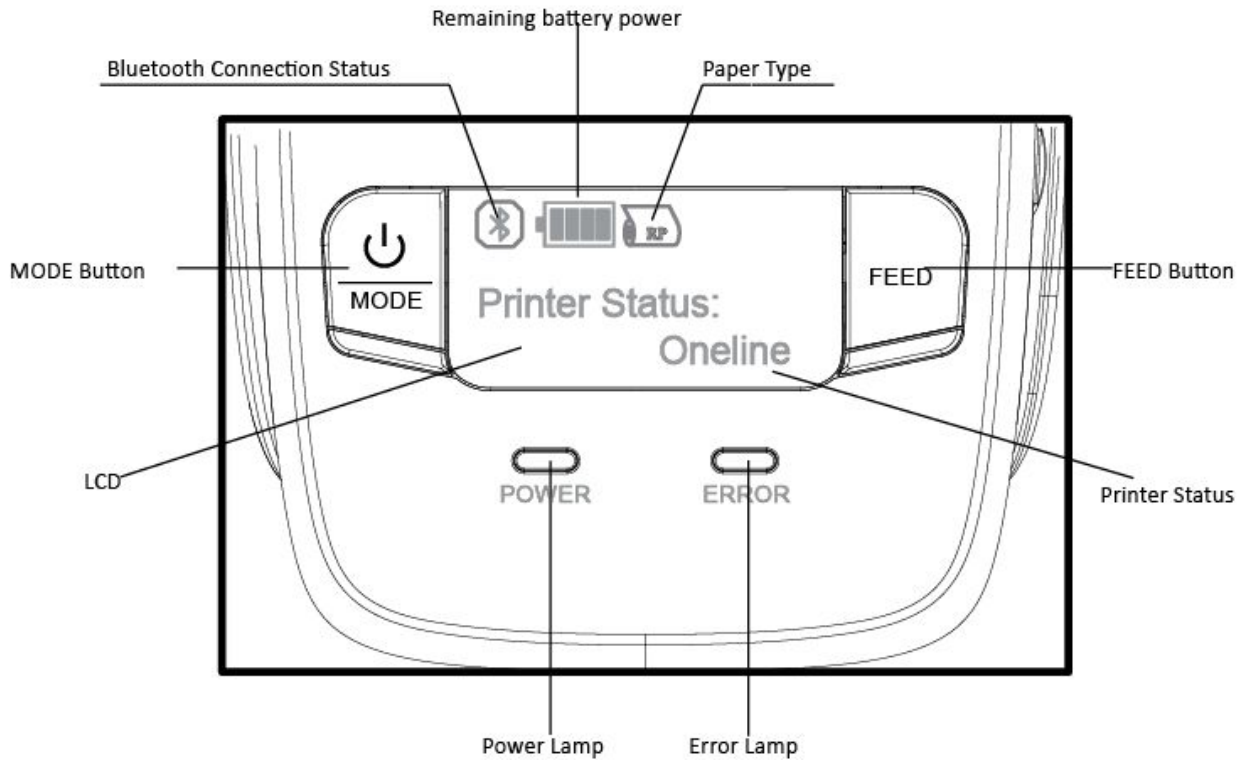
*Note: Be careful not to drop when use a belt clip. Velcro be securely fixed.*

Hold the printer firmly with your hand when you swipe a magnetic stripe card or cut paper. If it is not held firmly, you may fail to read card data or cannot cut paper smoothly with the tear bar.

---

## 3. Printer Features

### 3.1 Control Panel



#### 3.1.1 Button

##### 1) MODE Button:

- ① Pressing and holding the MODE button for 2 seconds or more will turn the power on or off.
- ② Pressing and holding MODE & FEED buttons for 5 seconds will put the printer into Memory Switch Setting mode. The MODE button can now be used to change Printer MODE status visible on the LCD screen for fast configuration .

(Refer to 2.4 Memory Switch Settings for details about mode conversion)

##### 2) FEED Button :

- ① When the printer is on, paper can be fed manually by pressing and holding the FEED button for more than one second.
- ② In Memory Switch Setting mode, the FEED button can be used to move cursor(" \_ ") and confirm the new setting.

### 3.1.2 Panel Lamp

- 1) **POWER (Green)**: Printer is ON and ready to receive data.
- 2) **ERROR (Red)**: Indicates an error has occurred. (Ex: Paper Out, Cover Open, etc)

Power lamp (green)	Error lamp (blue)	Status
Flash	OFF	Power-on charging
Flash	OFF	Power-off charging
ON	OFF	Power-on charging , Battery full
OFF	OFF	Power-off charging , Battery full
ON	OFF	Power on
Flash	OFF	Standby
ON	Flash	Paper out
ON	Flash	Cover open

### 3.1.3 LCD Indication

LCD will display most of the printer status.

- 1) The 128 x 64 dots display shows alphanumeric characters.
- 2) Content

Mode/Status: Indicates the currently specified printer mode or error status.

Remaining battery power :



There is sufficient remaining battery power.



The remaining battery power is low. Please charge the battery pack. (\*)



The remaining battery power is extremely low.

Flashing Stop using the printer immediately, and charge the battery pack. (\*)

Note\*): If you continue printing at the low remaining battery power status, the printer cannot feed paper properly and may print with condensed (narrow) line spacing.

Bluetooth connection status



The mark on the left indicates that there is no Bluetooth connection.



The mark on the left indicates that there is a Bluetooth connection

---

## Paper type



Receipt



Black mark (Front)



Black mark (Back)



Out of paper

## 3.1.4 Buzzer Description

Buzzer	Status
No ring	Low battery
Once	Begin charging/Press button/Cover close
Twice	Paper out/Cover open
Three	USB disconnected

## 3.2 Self Test

You can use self test to check the printer's settings.

Before you start the self test, make sure that roll paper has been properly loaded into the printer.

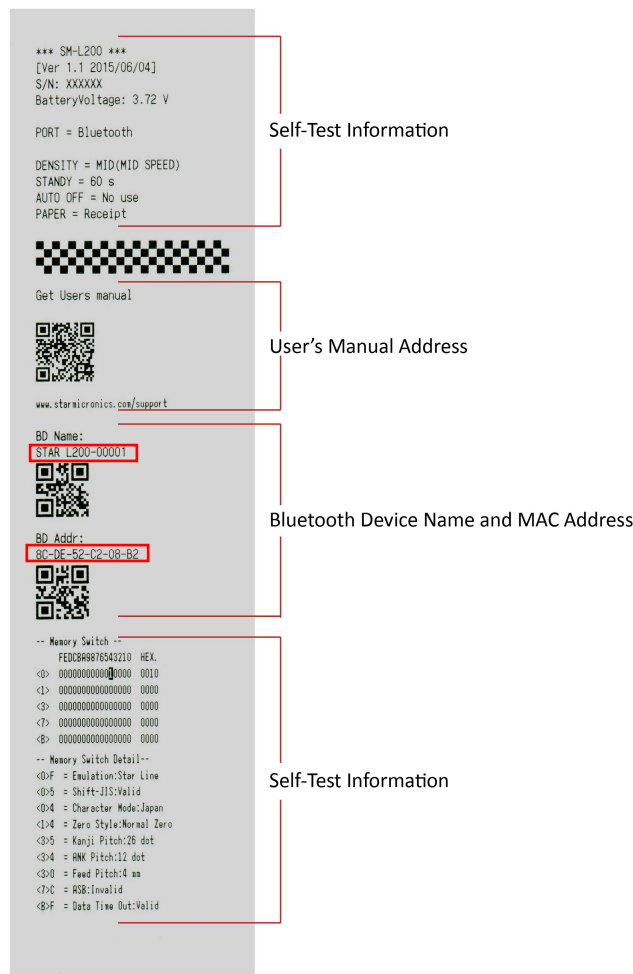
### 3.2.1 Self Test Procedure

- 1) Turn on the power while holding down FEED.
- 2) The printer will print the current printer status, including the firmware version, communication mode, print settings and QR code that links to the users Manual Download site.
- 3) The self test will finish automatically. The printer will be ready to receive data after the self test finishes.

### 3.2.2 Printing the Bluetooth Device Name and MAC Address

- 1) Follow the procedure in section 3.2.1 to perform a self test.
- 2) Before the self test finishes, press and hold FEED and MODE at the same time.
- 3) The printer will print the Bluetooth device name and MAC address, and the self test will finish automatically.

The printer will be ready to receive data after the self test finishes.



---

### **3.3 Instruction for Auto Power Down(Sleep) Mode**

The printer in the Standby(Sleep) Mode will recover to the Print Ready Mode when receiving print data or button operations.

Press the FEED button or the MODE button and confirm that the Power lamp(Green LED) is turned on. When the Power lamp is not turned on, it is possible that the printer is turned off by the Power OFF mode. In this case, turn the printer on manually.

---

## 3.4 Magnetic Card Reader

Please keep the following points in mind when reading a card.

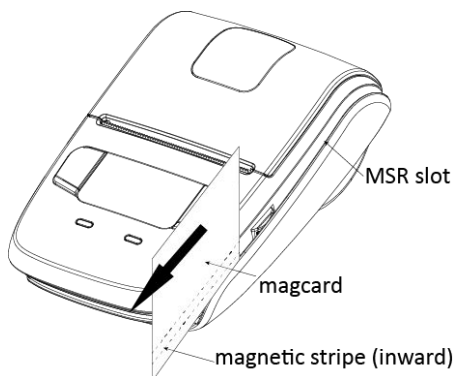
- Swipe the card with its magnetic stripe side towards the printer.
- Hold the card in the center and swipe it straight at a steady speed in the directions of arrows. You can swipe the card in either direction to read the data.

Be sure to hold the printer firmly with your hand while swiping.

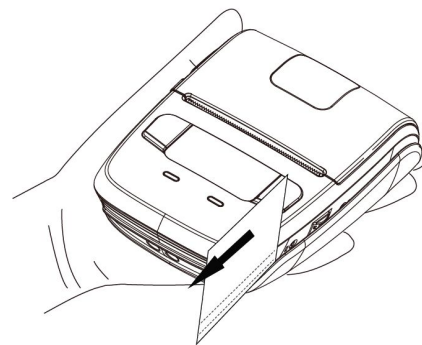
➤ *Pay attention to the hand you hold the printer, your finger should not touch the cover of the MSR slot, if not, the card cannot be read properly. (See correct example on Figure 3.4-2)*

If you hold the corner of the card, it is difficult to swipe it straight so that you may fail to read the card data. So hold the card in the center when you swipe the card.

**Figure 3.4-1**



**Figure 3.4-2**



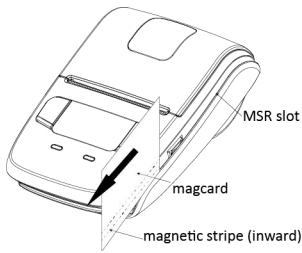
- A buzzer will sound once when a card is successfully read, and you will see present "MSR read success" in the LCD.
- When the printer fails to read the card, the buzzer will sound three times and you will see present "MSR read failure" in the LCD. Please check the orientation of the card, and slide it through the reader slot again.

Note:

1. Swiping JIS card is also under MSR mode.

2. JIS card operation is same as MSR card operation.

## ■ Correct example:

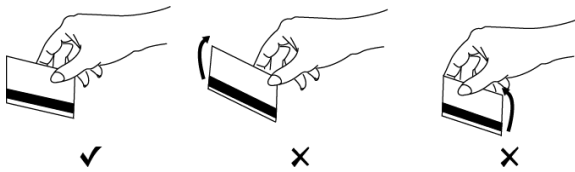


Make sure the magnetic stripe is towards to the magnetic head. Hold the card in the center as illustrated below and swipe it straight at a steady speed in the direction of arrows.

## Incorrect example:

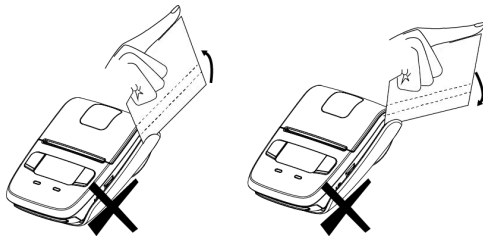
### To grasp a magnetic card

If you grasp the front/rear part of a card and move it through the MSR slot, the front /rear part is loose and a read error occurs.

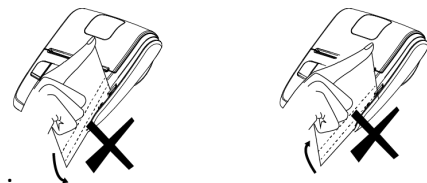


### To move a magnetic card

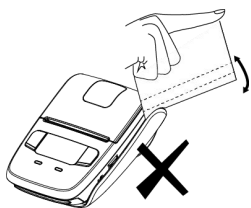
If you insert a card tilted upward/downward into the MSR slot, the card does not move horizontally and a read error occurs.



If you extract a card at the end of the MSR slot by lifting up or lowering down, the card is not maintained and a read error occurs.



If you insert a card into the middle part of the MSR card, the card is not read correctly and read error occurs, or if you move the card back or forth by force after inserting into the MSR slot, the card is not read correctly and a read error occurs.





## 4. Paper

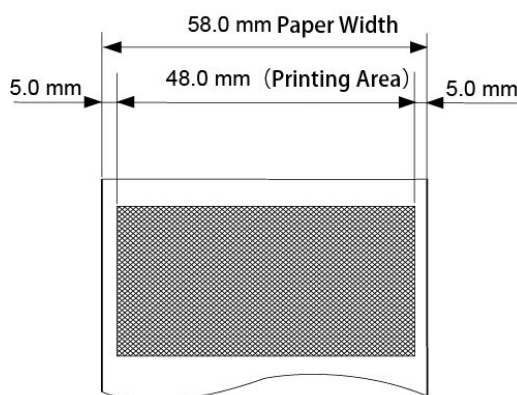
### 4.1 Paper Specification

Paper type	Thermal paper
Paper width	58mm
Paper thickness	0.053mm≤X≤0.12mm
Roll paper diameter	13mm≤Ø≤40.5mm

### 4.2 Recommended Paper

Manufacturer	Product Name
Mitsubishi Paper Mills Limited	P220AG
Oji Paper Co., Ltd.	PD450
Appvion, Inc	Alpha 400-2.1
Oji Paper Co., Ltd.	FD200

### 4.3 Printing Range



#### CAUTION

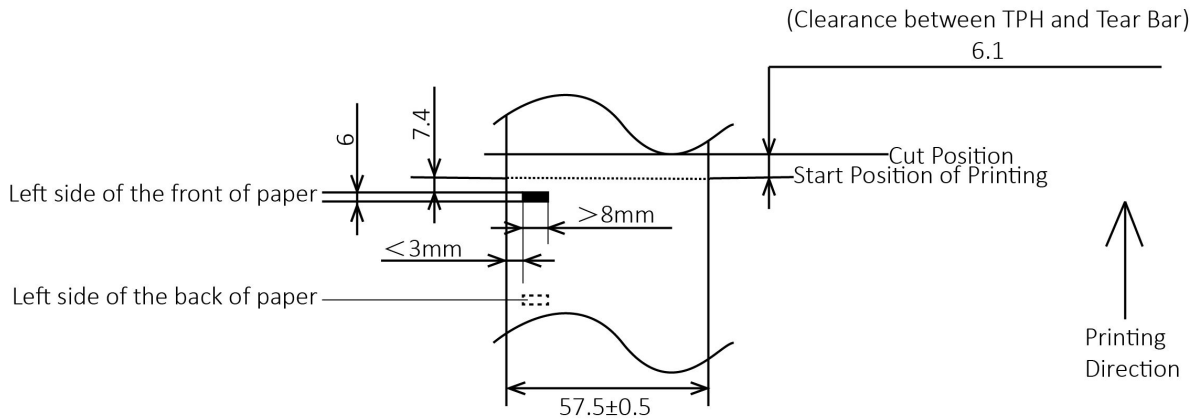
- 1) Do not use roll paper whose end is glued to its core, because the printer will be unable to properly detect the end of the paper. Also, we recommend that you use roll paper that has a roll end mark at its end.
- 2) Chemicals and oil may cause the roll paper to change color or cause the printed characters to become lighter.
- 3) Please be aware that the roll paper can be affected by heat, humidity, and direct sunlight.
- 4) The roll paper may change color if you scratch it with your fingernail, a hard piece of metal, etc.

## 4.4 Specification of Black Mark

SM-L200 supports black mark on both sides of the paper and the specification of black mark is illustrated by the following image.

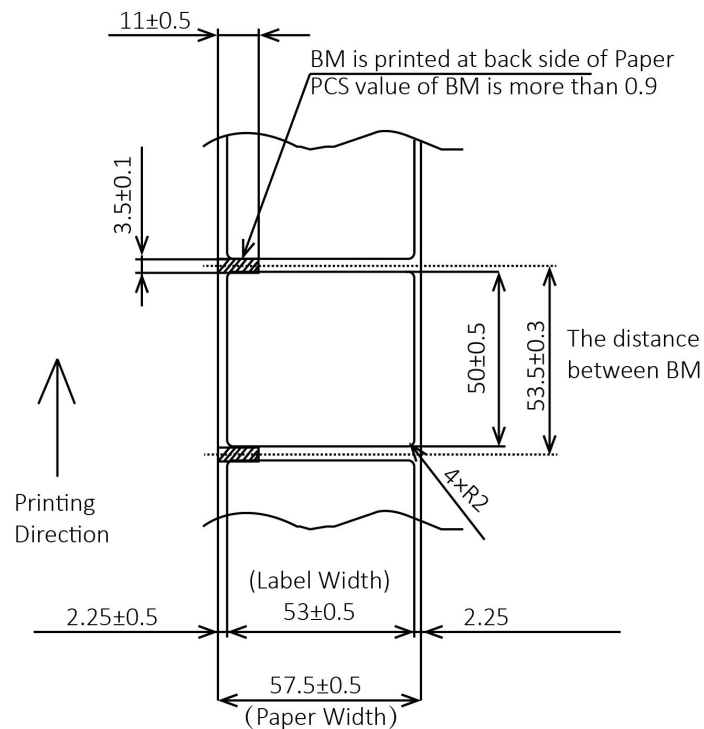
### • Thermal paper

Unit:mm



### • Label paper

Unit:mm



Note: PCS value of BM should be more than 0.9

## 5. General Specification

Table 5-1 General Specification

(1/2)

Item		Specifications	
Printing	Printing method	Direct line thermal printing	
	Resolution	203dpi (8dots/mm)	
	Printing speed	35mm/s	
	Valid printing width	48mm (384dots)	
Interface	Bluetooth	Bluetooth Spec	Bluetooth Ver 3.0/4.0 [BLE] Dual Mode
		Frequency range	2.4GHz ISM band
		Data transmission rate	115200bps adjustable
		Data bit	8 data bit fixed
		Parity bit	No parity fixed
		Stop bit	1 stop bit fixed
		SSP	Compatible
Power saving	Sleep mode	YES	
Character Set	Font	Alphanumeric: 9x17, 9x24, 12x24 dots Kanji:24x24 dots	
Barcode Symbologies	1D	UPC-A, UPC-E, EAN8, EAN13, CODE39, ITF, CODE128, CODE93	
	2D	QR code, PDF417	
Graphics		Support bitmap printing with different density and user defined bitmap printing (Max. 512K for total)	
Detection	Sensors	Printer cover open sensor, Paper-out sensor and Black mark sensor	
LED lamp	Power lamp	Green	
	Error lamp	Blue	

**Table 5-1 General Specification(Continued)**

(2/2)

Item		Parameter
Charging	USB charge	Output DC 5V $\overline{\text{---}}\text{---} = 0.5\text{A}$ , Time required for full charge: 5H
Power supply	Battery	1700mA 3.7V rechargeable battery pack
	Battery operating time	Approximately 13 hour printing (12 receipts per hour with sleep mode)
LCD		128 x 64 dots with Blue Backlight
MSR (Single Head)	Format	ISO 7810, ISO 7811, ISO7812 1st, 2nd and 3rd Track/ JISII Track Reading
	Security	AES or 3DES encryption. DUKPT Key Management
Paper	Paper type	Thermal paper
	Paper width	$57.5 \pm 0.5\text{mm}$
	Paper thickness	$0.053\text{mm} \leq X \leq 0.12\text{mm}$
	Roll paper diameter	$13\text{mm} \leq \varnothing \leq 40.5\text{mm}$
	Recommended paper	P220AG, PD450, FD200, Alpha 400-2.1
Physical characteristics	Operation condition	0°C to 50°C, 20% to 85%RH
	Charging condition	0°C to 40°C
	Storage condition	-20°C to 70°C, 5% to 95%RH
	Dimension	83(W) x 122.5(D) x 44(H) mm
	Weight	220g (including battery pack)
Reliability	TPH	50km(not more than 12.5% printing density)/100 million pulses
Software	Emulation	Star Line mode


**WARNING:**

Pls.use the recommended thermal paper or same quality paper, otherwise it will influence the printing quality and decrease the thermal print head life.

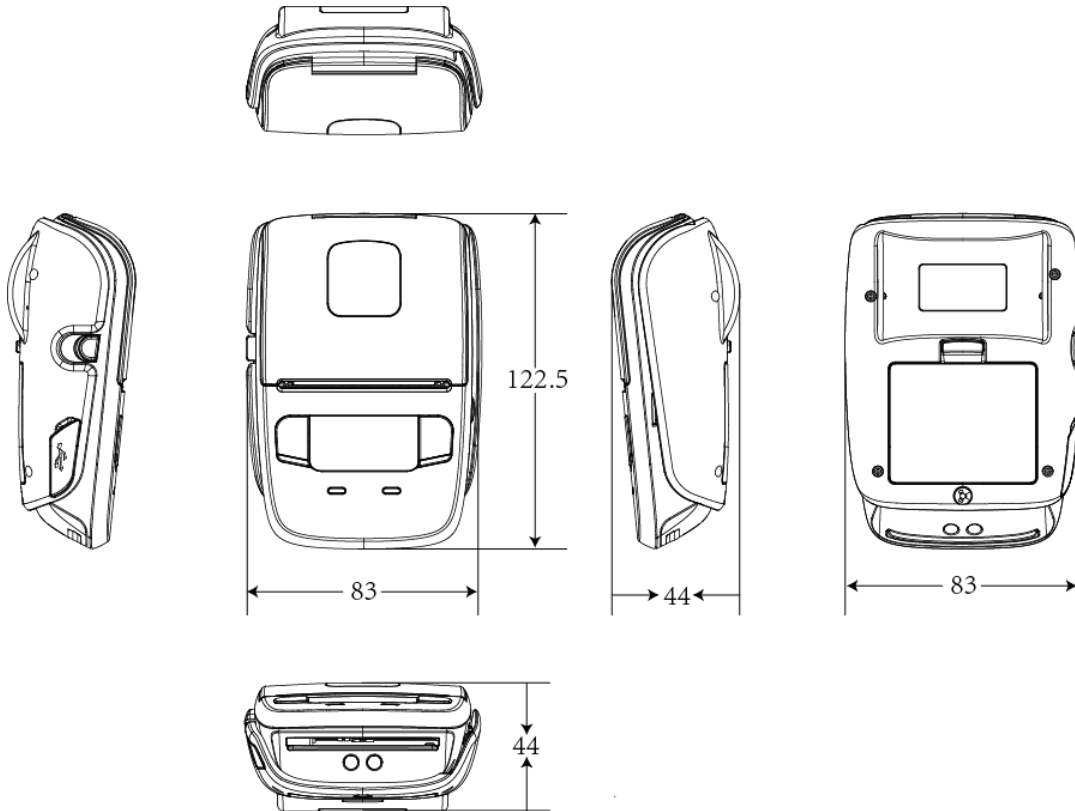
Pls. Use at a room temperature if you want to set the print density to “Special”.

Some type of the paper art not suitable for use in low-temperature environment.

---

## ■ Dimensions

- External Dimension: 83mm (W) x 122.5mm(D) x 44mm (H)
- Weight : 220g (including battery pack)
- Body color : Black





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## Declaration of Conformity

We declare, under our solo responsibility, that the product to which this declaration relates complies with the provisions of following European Directives:

**1999/5/EC of 9 Mar 1999**  
**2011/65/EU of 8 Jun 2011**

harmonised standard

RADIO : **EN 300 328 V1.8.1**  
EMC : **EN 301 489-1 V1.9.2**  
**EN 301 489-17 V2.2.1**  
SAFETY : **EN 60950-1 : 2006 +A11:2009 +A1:2010 +A12:2011 +A2:2013**  
**EN 62479 : 2010**  
ENVIRONMENT: **EN 50581: 2012**

Manufacturer's Name **Star Micronics Co.,Ltd.**  
Manufacturer's Address **20-10 Nakayoshida, Suruga-ku, Shizuoka-shi,  
Shizuoka 422-8654 Japan**

Importer's Name **Star Micronics Europe Ltd.**  
Importer's Address **Star House, Peregrine Business Park, Gomm Road,  
High Wycombe, Bucks. HP13 7DL, U.K.**

Type of Equipment **Thermal Printer**  
Model Name **SM-L200 , SM-L204**  
Ref. Radio Report No. **14070688-CE-R1 , 14070688-CE-R2**  
Ref. EMC Report No. **14070688-CE-E1**  
Ref. Safety Cert. No. **14070688-CE-S , 14070688-CE-H2**  
Ref. Environ. Report No. **SM-L200-RoHS2-01**

Place High Wycombe - U.K.

D. Pearce (Signature)

Date Apr. 13 , 2015

David Pearce (Full Name)

Year of 1st CE mark '15

Technical Director (Position)



*URL: <http://www.star-m.jp/eng>*