

User's Manual SRP-Q300/302

THERMAL RECEIPT PRINTER Rev. 1.01



http://www.bixolon.com

Introduction

SRP-Q300/302 series printers have been designed to be connected to various types of electronic devices such as POS (Point Of Sales), and computer peripheral devices.

<u>* The main features of the printer are as follows:</u>

- 1. Thermal Printer and B-gate
- 2. Low-noise thermal transfer method printing
- 3. Maximum 220mm/s printing speed
- 4. External dimensions
 - SRP-Q300/302: 128 x 125 x 125 (W x L x H)
 - SRP-Q300H/302H: 128 x 125 x 160.2 (W x L x H)
- 5. Charging function for USB, Ethernet, Wireless LAN, Bluetooth, mobile devices; supports NFC, DK, CDP
- 6. Equipped with data buffer (receives print data even while printing)
- 7. Can print a range of barcodes
- 8. Range of printing density and selectable speed
- (controlled with virtual memory switch management)

It is advisable to read the contents of this manual carefully before using the printer for the first time.

W Use only authorized supplies that can be trusted!

- We are not responsible for quality and service for damage caused by the use of unauthorized products (or recycled ones).

Battery Safety Warning

Please be sure to read this guide prior to use.

\land Warning

- 1. If the battery is not charged after the charging time, stop charging and contact the seller.
- 2. Store and use the battery where it will not come into contact with liquid (water, salt water, etc.). There may be a risk of overheating, rupturing or igniting.
- 3. Avoid exposing the battery to high temperatures over 50 °C and do not store or use it in a place with high temperature and humidity. There may be a risk of overheating, rupturing or igniting. In addition, it may reduce the performance and life of the battery. There is a risk of explosion, especially when the battery is placed by a fire or stored near a heating device (e.g., heater, etc.).
- 4. Do not put the battery in a microwave oven or high-pressure cooker (pressure cooker, etc.). There may be a risk of overheating, rupturing or igniting.
- 5. Do not use or leave the battery exposed to direct sunlight or high temperatures such as in a car. It may reduce battery performance and life, or there may be a risk of overheating, rupturing or igniting.
- 6. The usage temperature range of the battery is as follows. If used outside of this range, battery performance and life may be reduced, or there may be a risk of overheating, rupturing or igniting.
 - Charging: 0 to 40 $\,^\circ\,$ C (32 to 104 $\,^\circ\,$ F)
 - Using: -15 to 50 $\,^\circ\,$ C (5 to 122 $\,^\circ\,$ F)
 - Long-term storage (over 30 days): -15 to 40 $^{\circ}$ C (5 to 104 $^{\circ}$ F)
- 7. Be sure to only use an adapter or charger approved by us to charge the battery. Use of any other adapter or charger may reduce battery performance and life, or cause a risk of overheating, rupturing or igniting.
- 8. Do not use the (+) and (-) terminals of the battery reversely. Failure to use the equipment may result in an abnormal chemical reaction inside the battery, which may cause overheating, rupturing or igniting.
- 9. Do not touch the (+) and (-) terminals of the battery with metal. Also, do not carry or store it with metallic goods (necklaces, hair pins, coins, etc.). There may be a risk of overheating, rupturing or igniting.
- 10. Do not use the battery in a place where static electricity can be generated. It may damage the protective device, resulting in reduction of battery performance and life, or there may be a risk of overheating, rupturing or igniting.
- 11. Avoid causing any strong impact to the battery or throwing it. The protective device inside the battery may be damaged, which may reduce the battery performance and life, or there may be a risk of overheating, rupturing or igniting.

- 12. Do not disassemble or modify the battery. The battery contains safety and protection devices to prevent danger. It may reduce battery performance and life due to damage, or there may be a risk of overheating, rupturing or igniting.
- 13. If any leakage of the battery comes into contact with the eyes or skin, immediately rinse with clean water such as tap water and consult a doctor immediately.
- 14. Keep the battery out of the reach of children and infants. If it is swallowed, consult a doctor immediately.

▲ Recommendations

- 1. Do not charge for longer than the charging time described in this guide, as it may reduce battery performance and duration.
- 2. If the battery is not expected to be used for a long time, remove it from the equipment and keep in a place with low humidity.
- 3. Be sure to turn off the power of the equipment after use. Failure to do so may reduce the performance and life of the battery.
- 4. Batteries that have not been used for a long time may fail to charge properly. Even if you do not use the battery for a long time, charge it at least once every 6 months before storing it.
- 5. If the (+) and (-) terminals of the battery are contaminated, wipe them with a dry cloth and use in a clean condition. The contamination of battery may result in unstable contact with the equipment and the power may be cut off or the battery may not be charged.

\land Disposal

- 1. When using, storing or charging the battery, if you detect any abnormality such as an odor, overheating, discoloration, deformation, leakage, etc., please remove the battery from the equipment or charger and dispose of it immediately.
- 2. When disposing of the battery, completely discharge it, tape the terminals with insulation, and dispose of it at a designated location according to relevant laws and regulations set by the government.

Safety Information

ΛŅ

Warning: Warnings must be heeded carefully in order to prevent serious physical harm.

Caution: Cautions must be heeded in order to prevent minor injuries, equipment damage, or data loss.

Symbol Information

	DC (Direct current)
Ŵ	Error, Warning, Caution
Ĩ	Paper Empty
$\hat{\mathcal{O}}$	Paper Feeding
Ċ	Stand-By
NFC	NFC
4	charge
•	USB
율	Ethernet

SRP-Q300/302

Table of Contents

1. Installing Printer and Getting Started	7
1-1 Unpacking	7
1-2 Interface	8
1-2-1 USB Interface	
1-2-2 Ethernet Interface	
1-2-3 Wireless LAN Interface(Option)	
1-2-4 Bluetooth Interface(Option)	
1-2-5 NFC(Near Field Communication)(Built-in)	
1-3 Drawer Port	
1-4 Customer LCD Port	
1-5 Connecting Power Supply	
1-6 Reconfiguration of Printer	
1-7 Installing & Replacing Paper	
1-8 Recommended Papers	
1-9 Removing Paper Jam	
1-10 Using Printer Functions	
1-11 Battery Indication Lamp	
2. Self-Test	
3. Hexadecimal Dumping	
4. Specifications	
5. Appendix	24
5-1 Cleaning Printer	24

1. Installing Printer and Getting Started

1-1 Unpacking

• Check the following contents list, and contact your dealer for assistance if any item is missing or incorrect.



1-2 Interface

• Connect the printer to the host computer using the right interface cable that complies with the specifications of the interface. The drawer to be used with the printer should meet the specifications of the printer.

1-2-1 USB Interface



Pin No.	Signal Name	Designation (Color)	Function
Shell	Shield	Drain Cable	Frame Ground
1	VBUS	RED	Host Power
2	D-	WHITE	Data Line (D-)
3	D+	GREEN	Data Line (D+)
4	GND	BLACK	Signal Ground

<u>∧</u> Caution	 All cables must be connected while the product is turned off. The Charge Port is designed for charging mobile devices only. (communication is not supported) The charging current may differ depending on the mobile device. The communication ports (USB, Ethernet) in the printer set for models SRP-Q300H/302H will be deactivated. Do not separate and use the printer and B-gate on models SRP-Q300H / Q302H.(Externally exposed power terminals may cause malfunction.)
---------------------	---

SRP-Q300/302

1-2-2 Ethernet Interface



Pin No.	Signal Name	Designation (Color)	Function
1	TD+	WHITE ORANGE	Transmit +
2	TD-	ORANGE	Transmit -
3	ТСТ	WHITE GREEN	Receive +
4	NC	BLUE	-
5	NC	WHITE BLUE	-
6	RCT	GREEN	Receive -
7	RD+	WHITE BROWN	-
8	RD-	BROWN	-

* Refer to the Ethernet User's Manual that is available from the BIXOLON website for more detailed information.

⚠ Caution	 When B-gate is connected to the printer, all communication ports of the printer will be deactivated. Instead, the B-gate communication port will be activated (except for the drawer port and LCD port) All cables must be connected while the product is turned off. This port is exclusively for Ethernet communications. Other products are incompatible The communication ports (USB, Ethernet) in the printer set for models SRP-Q300H/302H will be deactivated.

1-2-3 Wireless LAN Interface(Option)

- Printer Set
- 1) Wireless LAN Communication Specifications

Item	Specifications
Frequency	2.4GHz / 5GHz
Protocol	802.11 a/b/g/n

- 2) Connecting Wireless LAN
- * Printer can be connected to terminal devices with wireless LAN communication capability (PDA, PC, smartphone, tablet PC, etc.).
- * Refer to the Wireless Wireless LAN Connection Manual for more detailed instructions about how to establish the connection.
- B-gate Set
- 1) List of dongles supporting wireless LAN

Manufacturer	Model name	Frequency	Protocol
TP-Link	TL-WN727N (V3)	2.4GHz	802.11 b/g/n
TP-Link	TL-WN727N (V4)	2.4GHz	802.11 b/g/n
TP-Link	AC600	2.4GHz / 5GHz	802.11 b/g/n / ac/a

- When B-gate is connected to the printer, all communica			
	of the printer will be deactivated. Instead,		
•	the B-gate communication port will be activated		
A Caution	(except for the drawer port and LCD port)		
	- If you wish to use wireless LAN communication while B-gate		
	is connected, you must use one of the USB dongles listed		
	above.		

<u>1-2-4 Bluetooth Interface(Option)</u>

1) Bluetooth Communication Specifications

Item	Specifications
Frequency	2.4GHz
Version	4.2
Module Type	Class 1

2) Bluetooth Connection

- * Printer can be connected to terminal devices with Bluetooth communication capability (PDA, PC, smartphone, tablet PC, etc.)
- * Refer to the Bluetooth Connection Manual for more detailed instructions about how to establish the connection.

1-2-5 NFC(Near Field Communication)(Built-in)



1) NFC Communication Specifications

Item	Specifications
Frequency	13.56 MHz
Standard	ISO14443A – 106Kbps
Туре	Tag Type 2
Range	Max. 10mm*

2) NFC Connection

- The printer supports near-field communication with NFC-enabled devices.
- (PDA, smartphone, tablet PC).



• Download the mobile application by scanning the QR code on the label affixed to the bottom of the product.

•	 For accurate NFC recognition, hold the section of your mobile device where the NFC is located to the section of the printer's NFC mark until it is recognized.
A Caution	 The communication range may differ depending on the type of device and operating conditions. This only works with Android devices that support NFC.

1-3 Drawer Port

• Connect the cash drawer connection cable to the drawer kick-out connector on the rear side of the printer.



Pin No.	Signal Name	Direction
1	Frame Ground	-
2	Drawer Kick-out Drive Signal 1	Output
3	Drawer Open/Close Signal	Input
4	+24V	-
5	Drawer Kick-out Drive Signal 2	Output
6	Signal Ground	-

	- Use a cash drawer that meets the printer specifications.						
	Using a cash drawer that is inappropriate to the specs or using						
it as a power supply for a constant davias may result in							
	it as a power supply for a separate device may result in						
damage to the product							
	- Do not connect a telephone line to the drawer kick-out						
	connector. Otherwise, the telephone line and the computer						
	may be damaged.						
	De set alleur e fansing shiret euch ee e eendusten te touch						
List Caution	- Do not allow a foreign object such as a conductor to touch						
the cash drawer port. This may result in damage to t							
	- Make sure to use a cash drawer with an internal coil resistance of						
	24 onms or higher. (The maximum current is 1A.)						
	- The open signal time for the cash drawer should not exceed 0.8						
	seconds. After opening the cash drawer, make sure to idle for at						
	seconds. After opening the cash drawer, make sure to fulle for at						
	least 3.2 seconds (at least 4 times that of the open signal time)						
	before operating it.						

1-4 Customer LCD Port



Connect the BIXOLON Customer LCD Display BCD-3000 cable to the LCD connector located at the rear of the printer.

Pin No.	Signal Name	Direction
1	+5VDC	Output
2	TXD	Output
3	RXD	Input
4	N.C	-
5	Signal Ground	-
6	N.C	-
7	CTS	Input
8	RTS	Output

⚠ Caution	 The port is designed for BIXOLON Customer LCD Display BCD-3000 only and other connector cables cannot be used.
Marning	 Using a different LCD product or a cable that does not meet the specs may result in damage to the product.

1-5 Connecting Power Supply

- 1) Make sure the product is turned off before connecting the power supply.
- 2) Connect the power cable with the flat side pointing to the outside of the printer, as shown in the diagram below.





1-6 Reconfiguration of Printer

- This product does not support Dip Switch. In order to change the product's configuration, use either the virtual memory switch utility or the virtual memory switch management function when performing a self-diagnosis.
- Please refer to the Utility and Service Manual for more information.



1-7 Installing & Replacing Paper

1) Open the printer cover by pulling the Open Cover lever forward.



	 Do not open the print cover while the printer is operating, otherwise the printer may be damaged.
Z ¹ Caution	 This printer should be used in Front Exit orientation. We don't guarantee any of issue by Vertical Exit orientation.

2) Remove the empty paper roll and replace with a new one as shown in the image.





3) Pull out a small amount of paper as shown in the picture, and close the cover.



4) Cut the paper as shown in the following picture.



firmly so that paper roll is loaded correctly.



1-8 Recommended Papers

- TF50KS-E (Paper Thickness: 65µm): Nippon Paper Industries Co., Ltd.
- PD 150R (Paper Thickness: 75µm): New Oji Paper Mfg. Co., Ltd.
- PD 160R (Paper Thickness: 75µm): New Oji Paper Mfg. Co., Ltd.
- P350 (Paper Thickness: 62µm): Kansaki Specialty Paper, Inc. (USA)
- P220AG (Paper Thickness: 65µm): Mitsubishi Paper Mills Limited
- P220A (Paper Thickness: 65µm): Mitsubishi Paper Mills Limited
- F5041 (Paper Thickness: 65µm): Mitsubishi HitecPaper Flensburg Gmbh

⚠ Caution	 Use of papers other than those recommended above may Damage TPH or degrade the printing quality and our company Is not responsible for the damage caused by non-recommended papers. If you have to use other products, we recommend that you use papers with a similar level of quality to the recommended ones.

1-9 Removing Paper Jam

- Open the cover and remove the jammed paper.
- If the paper is only slightly jammed, the blade that is stuck when opening the cover will return to its original position and the cover can be opened.

A Caution	 Placing your hand above the printer outlet may cause a paper jam. If the cover will not open due to a minor paper jam, turning the power OFF → ON will automatically return the blade to its
	original position.
⚠ Warning	- If the cover does not open, do not use tools such as screw drivers, and call the customer center. Forcing the cover open may result in faulty paper cutting or damage to the product.

SRP-Q300/302

1-10 Using Printer Functions



• Error (Indicator Lamp)

Red light will be on in various error conditions such as out of paper, cover open, etc.



Paper (Indicator Lamp)

Red light will be on when there is no paper or paper almost runs out. If this light keeps blinking, it means that the printer is in self-test standby state or waiting for macro execution.

• Feed (Button)

Press this button to feed the paper out. Hold down this button to feed out the paper continuously.



- Power On

Hold the Power button until the power Lamp indicator comes on.

- Power Off

Hold the Power button for 3 seconds. The printer will beep and the Error and Paper indicators will turn on. When you take your finger off

1-11 Battery Indication Lamp



• Error (Indicator Lamp)

∠!\ Warning

Red LED is light turns on when charging circuit or battery malfunction.

If the ERROR light turns on, please turn off the power and visit the service center.

If the error persists, it may cause a fire due to overheating



• Power (Indicator Lamp)

The red LED lights up when charging, the blue LED lights up when fully charged, and the red LED below 20V flashes.

2. Self-Test

- The self-test checks whether the printer has any problems. If the printer does not function properly, contact your dealer. The self-test procedure is as follows:
- 1) Make sure paper roll has been installed properly.
- 2) Turn on the power while holding down the FEED button and the self-test begins.
- 3) The self-test prints the current status of the printer including control ROM version.
- 4) After printing the current printer status, the printer wait for the next step after printing the following lines. (The paper signal light keeps blinking.)

SELECT MODES BY PRESSING FEED BUTTON. Continuous SELF-TEST : Less than 1 second VMSM Selection : 1 second or more

- 5) Press the Feed button to resume printing or hold down the button for at least one second to change the VMSM settings.
- If "Continuous SELF-TEST" is selected
- (1) Press the Feed button for less than one second to print the preset page.
- (2) The self test ends automatically as it prints the following line and cuts the paper

*** COMPLETED ***

(3) The printer goes into normal print mode upon completion of the self test.

- If "VMSM Selection" is selected
- (1) The following lines will be printed when the VMSM opens.
 - ** VMSM Selection **
 0 : Exit and reboot printer
 1 : Print current settings
 2 : Set Print Density
 3 : Set Print Speed
 4 : Set Cutting mode
 5 : Set Internal Buzzer control
 6 : Set Buzzer control after cutting
 7 : Set International Character
 8 : Print Maintenance Counter
 9 or more : None

(2) Press the Feed button to run the above function.

- Step 1(Select Options): press the button a number of times as shown by each menu.
- Step 2(Enter Options): hold down the button for at least one second to applyeach item selected.

% Note

If you select any items not listed above, the list of "VMSM Selection" will be printed again. Setting the mode will be canceled if no item is selected in Step 1.

(3) Hold down the Feed button for at least 1 second to save the changes.

The following line will be printed before cutting the paper.

If "0: Exit and reboot printer" is not executed, the new settings will not be saved.

*** COMPLETED ***

6) The new settings will be automatically applied when printer resets.



3. Hexadecimal Dumping

- This function allows experienced users to see exactly what data is coming to the printer. This can be useful in finding software problems. When you turn on the hexadecimal dump function, the printer prints all commands and data in hexadecimal format along with a guide section to help you find specific commands.
- To use the hexadecimal dump function, follow these steps.
- 1) After making sure that the printer is off, open the cover.
- 2) Turn the printer on, while holding down the FEED button.
- 3) Close the cover, and then the printer enters the hexadecimal dump mode.
- 4) Select the hexadecimal printing function in the mode selection menu to move to the hexadecimal printing mode.
- 5) Run any software program that sends data to the printer. The printer will print all the codes it receives in a two-column format. The first column contains the hexadecimal codes and the second column gives the ASCII characters that correspond to the codes.

1B	21	00	1B	26	02	40	40	40	40	. ! & . @ @ @ @
02	0D	1B	44	0A	14	1E	28	28	28	D (((
00	01	0A	41	0D	42	0A	43	43	43	A . B . C C C

- A period (.) is printed for each code that has no ASCII equivalent.
- During the hex dump, all commands are disabled.
- 6) When the printing finishes, turn off the printer.
- 7) Turn on the printer and then the hexadecimal mode is off.



4. Specifications

Printing Method		Thermal transfer printing		
Det Density		SRP-Q300: 180 dpi (7dots/mm)		
Dot Density		SRP-Q302: 203 dpi (8dots/mm)		
Printing Width		3 inches	72 mm	
Roll Width		3 inches	79.5±0.5 mm	
		SRP-Q300: 42 (Font	A) ,56 (Font B) ,56 (Font	
No. of Characters	per Line	C)		
(Default Value)		SRP-Q302: 48 (Font A) ,64 (Font B) ,64 (Font		
		C)		
Printing Speed		Max. 220 mm/sec		
Receiving Buffer S	Size	4K bytes		
		SRP-Q300/302: USE	, LAN, WLAN, Bluetooth,	
Interface		USB charging port, N	FC, LCD port	
		SRP-Q300H/302H: 4	xUSB host, LAN,	
Orah Daawaa		Bluetooth, USB charg		
Cash Drawer		2port with Y-type cab	е	
Battery	Charge Voltage	24.8V		
Charger	Charge Current	930mA ~ 1,000mA		
	Cell	Lithium-ion		
Battery Pack	Voltage	Normal: 21.9V		
Dattory r dok	Charging Capacity	2750mAh		
	Charging Time	Within four hours		
	SMPS Input Voltage	100~240 VAC		
Supply Voltage	Frequency	50/60 Hz		
	SMPS Output Voltage	24 VDC		
	Temperature	Operating: 0 ∼ 40 °C		
Environment	Tomporature	Storage: -20 ~ 60 ℃		
Condition		Operating: 10 ~ 80 % RH		
Condition	Humidity	Storage: 10 ~ 90 % RH		
		Paper excluded		
	Printer Head *)	150 Km		
Life Snan	Battery	Rechargeable up to 250 times		
Life opan	Dattory	(Battery capacity is over 1770mA)		
Auto Cutter		1,500,000 cuts		

*) The specifications were determined based on operation at normal temperature using designated paper on default settings. They are subject to change depending on temperature or printing level.

5. Appendix

5-1 Cleaning Printer

• Paper dust inside the printer may lower the print quality. In this case clean the printer as follows:

- 1) Open the printer cover and remove the paper currently in use.
- 2) Residue or contamination of printer head should be wiped out by ethanol or IPA.



- 3) Clean the paper sensor and paper roller with a cotton swab or a dry cloth.
- 4) Insert a paper roll and close the printer cover.
- When printer foot rubber becomes dirty not to work it properly, please replace it with enclosed foot rubber.



⚠ Caution	 When cleaning the printer head, make sure that cleaning solutions such as ethanol or IPA do not penetrate the printer.
Marning	 Do not touch the printer head immediately after printing, as it could burn the skin.

Copyright

© BIXOLON Co., Ltd. All rights reserved.

This user manual and all property of the product are protected under copyright law. It is strictly prohibited to copy, store, and transmit the whole or any part of the manual and any property of the product without the prior written approval of BIXOLON Co., Ltd. The information contained herein is designed only for use with this BIXOLON product. BIXOLON is not responsible for any direct or indirect damages, arising from or related to use of this information.

- The BIXOLON logo is the registered trademark of BIXOLON Co., Ltd.
- All other brand or product names are trademarks of their respective companies or organizations.

BIXOLON maintains ongoing efforts to enhance and upgrade the functions and quality of all our products.

In the following, product specifications and/or user manual content may be changed without prior notice.

Warning - U.S.A

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

ii) Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

iii) Caution: Exposure to Radio Frequency Radiation.

To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

Notice - Canada

i) Class A Digital Device : Wired Device

This Apparatus complies with class "A" limits for radio interference as specified in the Canadian department of communications radio interference regulations.

Get appareil est conforme aux normes class "A" d'interference radio tel que specifier par ministre canadien des communications dans les reglements d'interference radio.

Notice - EU

This wireless device is class A that is considered to be used in an industrial environment.

Caution

Some semiconductor devices are easily damaged by static electricity. You should turn the printer "OFF", before you connect or remove the cables on the rear side, in order to guard the printer against the static electricity. If the printer is damaged by the static electricity, you should turn the printer "OFF".

Waste Electrical and Electric Equipment (WEEE)



This marking shown on the product or its literature, indicates that is should not be disposed with other household wastes at the end of its working life, To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable 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 take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

SRP-Q300/302

Revision history

Rev.	Date	Page	Description
1.00	01.06.17	-	New
1.01	12.06.18	3~4 7~8 14~15 19 23	Add battery Safety Warning Add battery model Add battery outside of the printer & caution phrase Add battery Indication lamp Add battery specifications