BIXOLON

Network Connection Manual

Thermal POS Printer

Ver. 1.01

www.bixolon.com

Table of Contents

Copyright

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".

1. Introduction

This Network manual provides information on the connection of network with the Industrial Label printer.

2. Precaution

1) The printer has to be within 100m(Outdoor) from AP(Access point) to connect WLAN. Although 35m is able to communicate in door, WLAN could be affected by environment to be shorten.

2) The maximum separating distance may be shortened if transmission obstacles, such as cement walls, are present.

3) If a device (such as a microwave oven, wireless LAN, etc.) that uses the same frequency is present, transmission may be interrupted. Separate the printer and Bluetooth-enabled device from such interrupting devices by a distance of at least 5m.

3. Specification

Categories	Feature	Implementation
LAN	Interface	10/100 Base-T All in one(Auto detection)
	Protocol	DHCP Client, HTTP, ARP, ICMP, IPv4, TCP, UDP
WLAN	Operation Mode	Infrastructure, Soft AP, Ad-hoc, Wi-Fi Direct
	Wireless Standard	IEEE 802.11b/g/n, IEEE 802.11a/b/g/n
	Range	Up to 100m free space (Outdoor)
	Security	WEP64/128
		WPA1/2 - PSK
		WPA1/2 – Enterprise (EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-FAST)
	Management	WLAN Configuration tool, HTTP, Smart connection APP

4. How to Connect

Both Ethernet and WLAN can be configured through the printer's LCD Display, USB, Ethernet or WLAN interface.

When you want to change the Ethernet or WLAN of the printer, the network settings of the host(PC, PDA, etc) and Ethernet or WLAN of the printer must configured properly configured so that communication can be established.

4-1 Connecting Printer

1) USB cable
Connect USB cable to Printer, PC device.
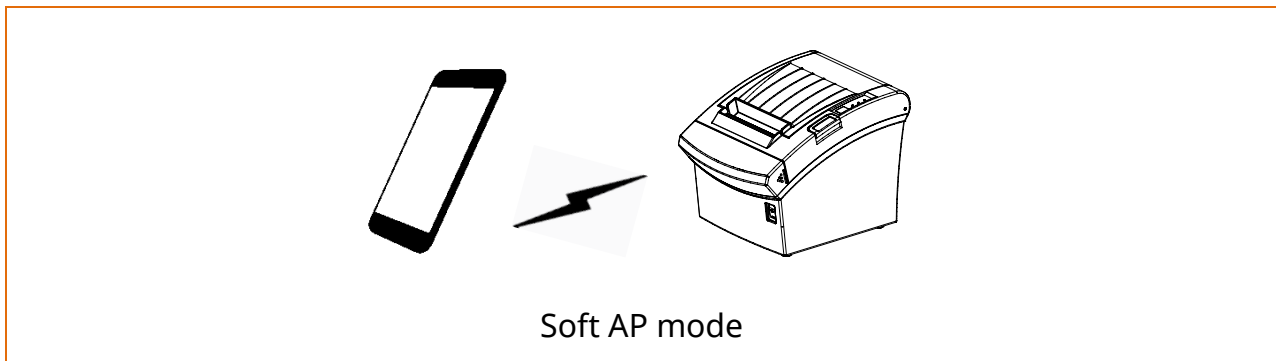Use the "Net Configuration Tool" to adjust the settings.

2) WLAN
Connect to the AP (Access Point) configured in Infrastructure mode in order to connect to the LAN/wireless network

A P

Infrastructure mode
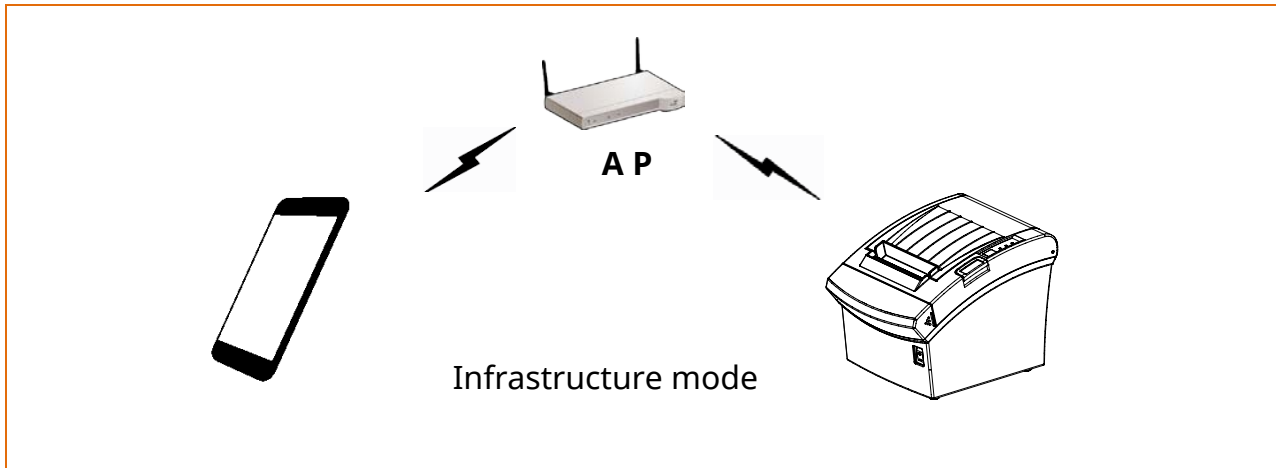
In order to configure the network between the wireless host device and the printer, set the printer to Soft AP Mode.

Soft AP mode

* Soft AP mode is only supported on IFJ-WD.

4-2 Check Network Setting

4-2-1 Ethernet Interface Card
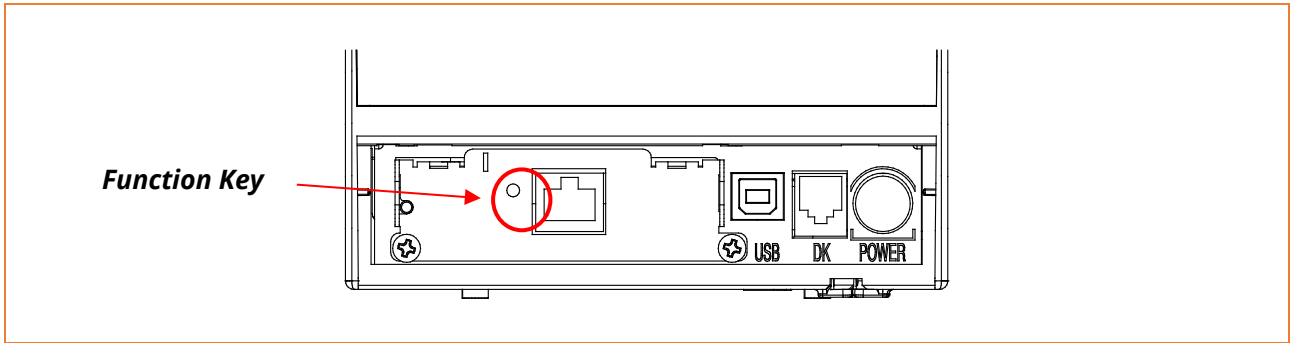
When the printer is booted, press the function button to output the network setting value. It takes about 10 seconds to apply the LAN setting after turning on the power.

```
LAN SETTING
  MAC ADDRESS  : 00:15:94:C2:6B:A8
  IP ADDRESS     : 192.168.0.48
  SUBNET MASK  : 255.255.255.0
  GATEWAY        : 192.168.0.1
  PORT             : 9100
  INACT. TIME     : 0
```

<LAN Information Printing >

4-2-2 On-Board Ethernet / WLAN
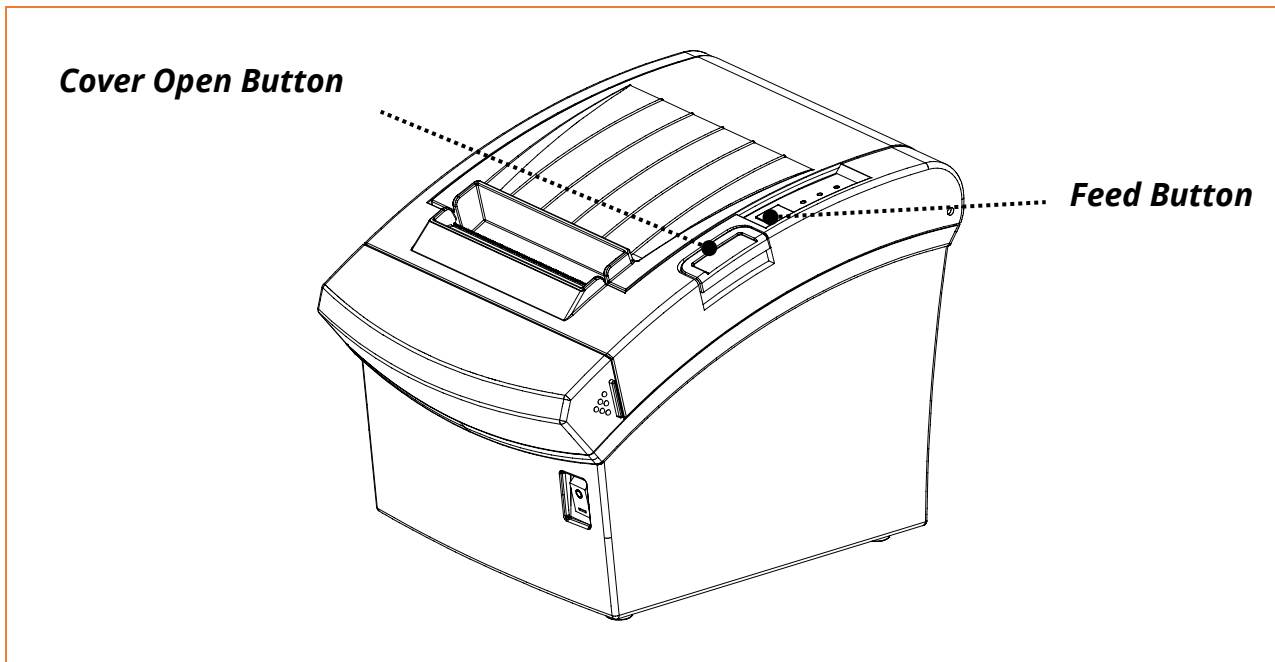
4-2-2-1 Standard model (Excluding SRP-Q300II)

Cover Open Button

Feed Button

After the printer has finished booting, open the printer cover and press and hold the FEED Button for 5 seconds. This will cause the interface setting confirmation mode. Then add the paper, close the cover, and check that the following message is printed.

> Error/Paper LED toggles when WLAN boots up.
> The number of interface setting information may be different for each interface type of the product.

```
Checking Interface Setting

 0: Exit
 1: LAN Information Print
 2: LAN Factory Reset and Reboot Printer
 3: WLAN Information Print
 4: WLAN Factory Reset and Reboot Printer
 5 or more: None

Select Modes by Feed button control
as below.
   Step 1. Short-press as many times as
           The mode number to choose.
   Step 2. Long-press over 1 second.
    *e.g. To choose Mode 2, press Feed
          Button 3 times(short-short-long)
```

If the above message is printed, select Mode 1 / 3, and you will see the following LAN data.
- To select Mode 1, press the Feed button once quickly/ once long.
- To select Mode 3, press the Feed button three times quickly/ once long.

```
LAN SETTING
  MAC ADDRESS  : 00:15:94:C2:6B:A8
  IP ADDRESS    : 192.168.0.48
  SUBNET MASK : 255.255.255.0
  GATEWAY       : 192.168.0.1
  PORT            : 9100
  INACT. TIME    : 0
```

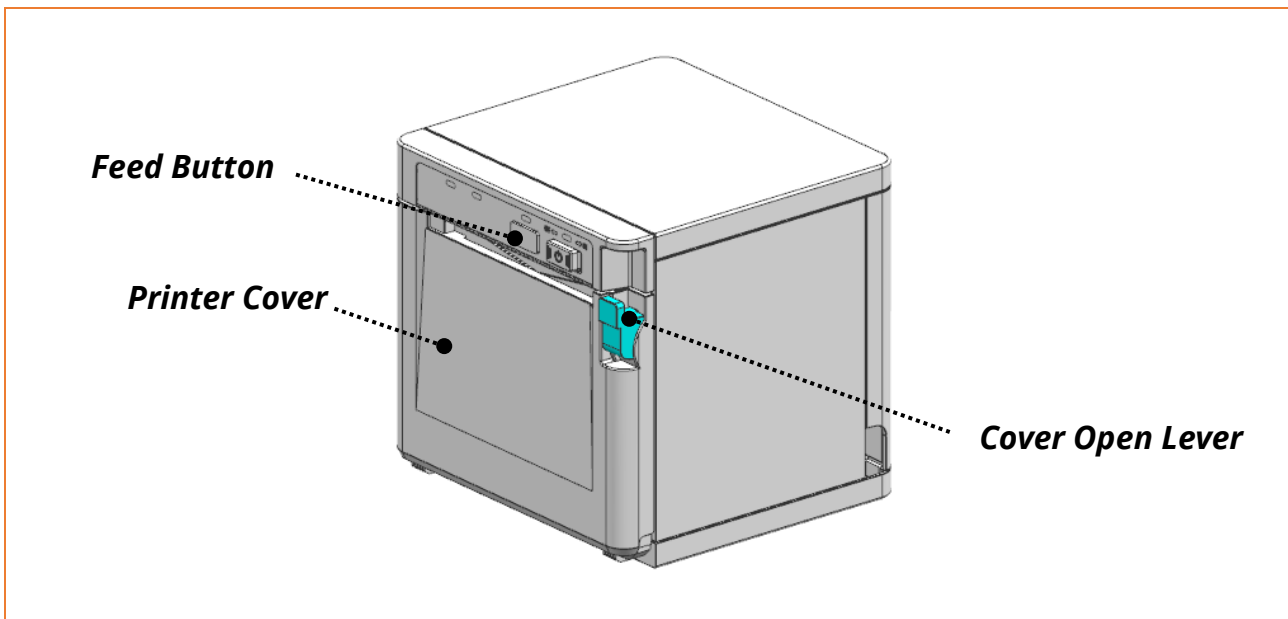< LAN Information Printing >

```
WLAN SETTING
  WLAN F/W VERSION : 02.00(3930)
  SYSTEM NAME  : SRP-350plusV
  NETWORK MODE : SOFT AP
  FREQUENCY : (Priarity) 2.4GHz/5GHz
  AUTHENTICATION : OPEN
  ENCRYTION       : NONE
  ESSID  : PRINTER_B03223
  DHCP  : ENABLED
  IP ADDRESS     : 192.168.1.1
  SUBNET MASK : 255.255.255.0
  GATEWAY       : 192.168.1.2
  PORT            : 9100
  WLAN MACADDRESS :
```

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

0 0 1 5 9 4 B 0 3 2 2 3

< WLAN Information Printing >

4-2-2-2 SRP-Q300II

After the printer has completed booting, open the printer cover and place the paper right away. To start Self-test, press FEED button and then close the printer cover. Please check 'Ethernet configuration, WLAN configuration' on the SRP-Q300II SELF TEST INFORMATION.

SRP-Q300II SELF TEST INFORMATION
Firmware Version   V0x.xx STB xxxxxx

Configuration
                    ...
                    ...

Ethernet configuration

                    ...
                    ...

WLAN configuration

                    ...
                    ...

SELECT MODES BY PRESSING FEED BUTTON
    Exit SELF-TEST : Less than 1 second
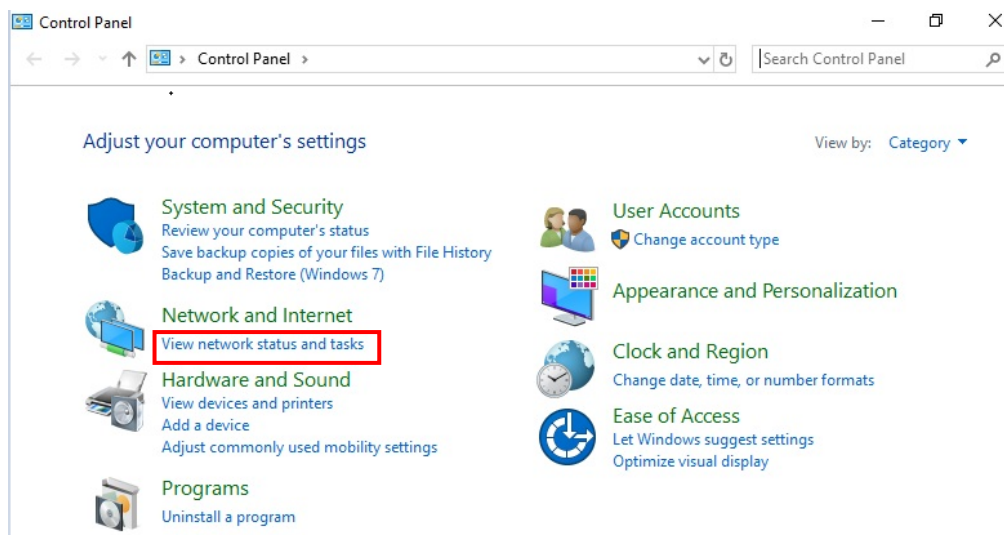   Mode Selection : 1 second or more

4-3 Initial Wireless LAN Connection (Windows 10)

• If a wireless LAN utility program is installed, set it using the program or exit the wireless program and set it in the following orders.
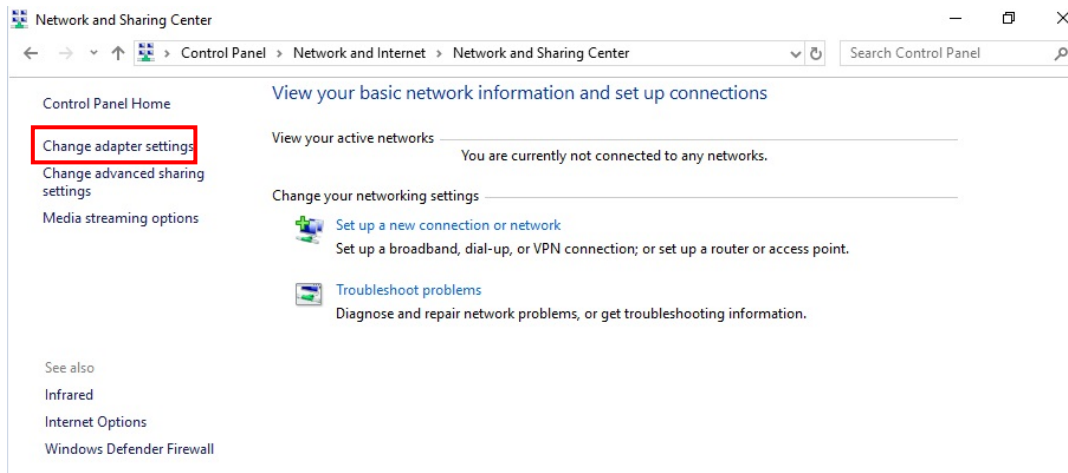
1) Search the "Control Panel" and then Click the "Open".
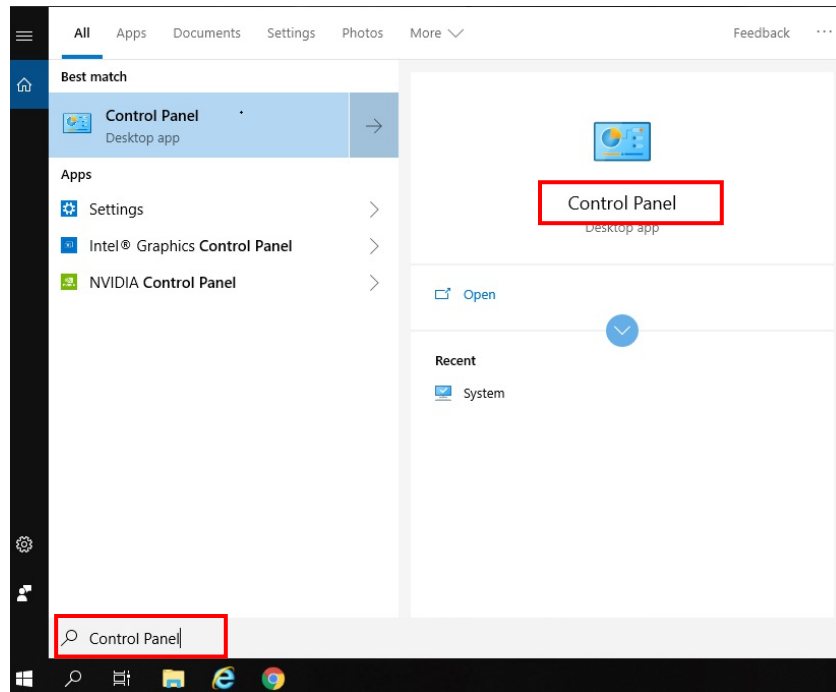
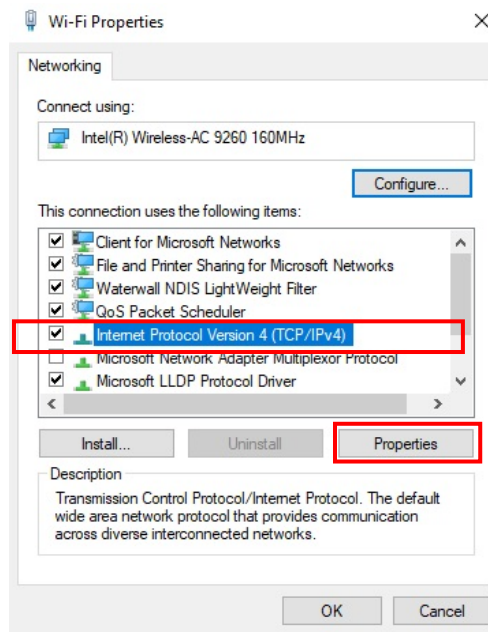2) Search the "Control Panel" and then Click the "Open".

3) Click the "Change adapter settings".
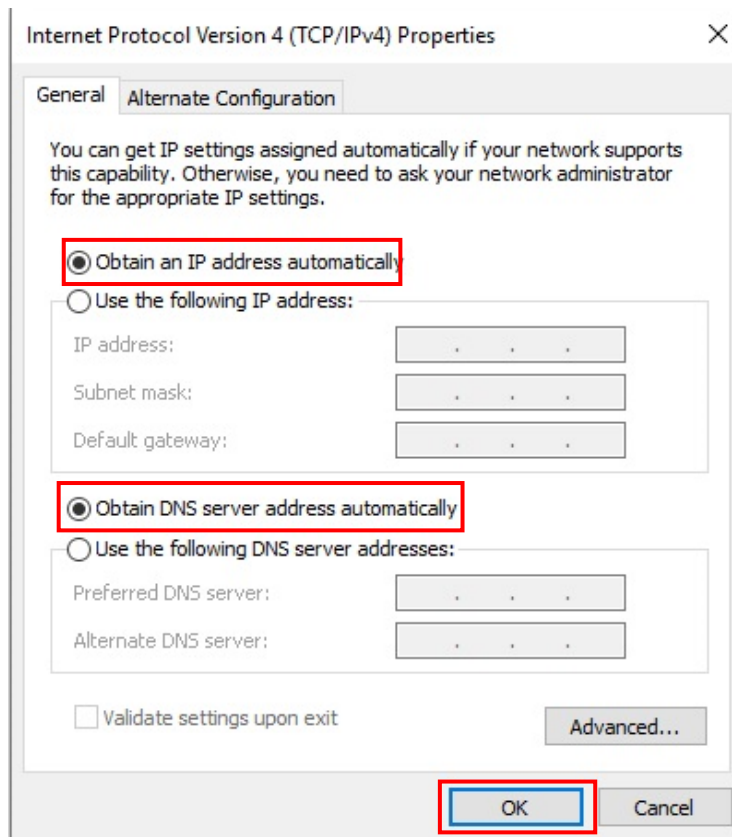

Click the "WiFi Properties".

4) Select Internet Protocol Version 4(TCP/IPv4), and then click Properties.
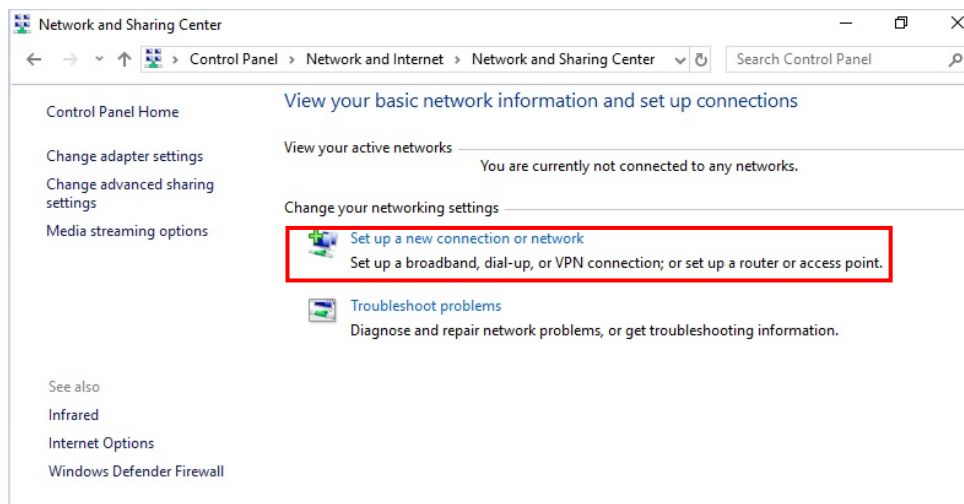
5) Set the IP settings as shown below, and then click OK.

6) Click the "Set up a new connection or network".

7) Click the "Manually create a wireless network".
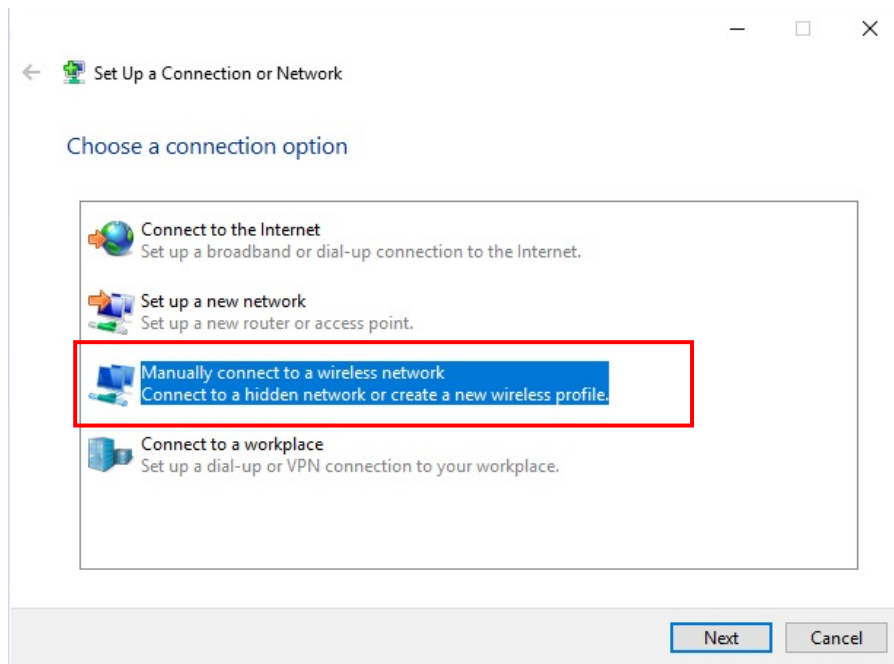
8) 'Network name' = PRINTER_XXXXXX
   'Security type' = Open,
   Check "Start this connection automatically",
   "Connect even if the network is not broadcasting" and then click the "Next"

9) Click the "Close".
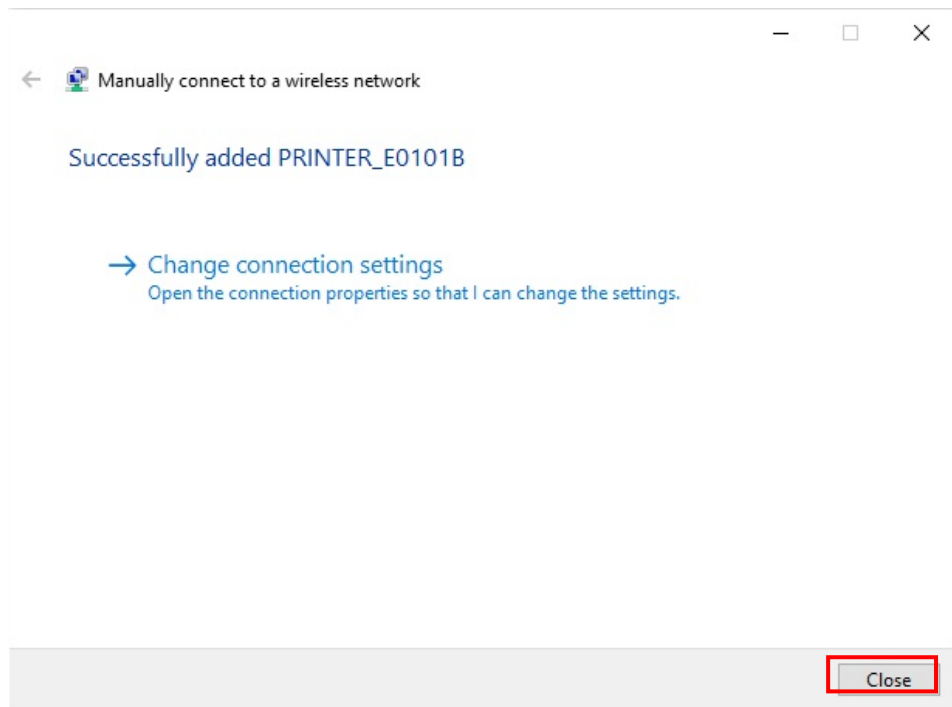
10) After completing configuration, PRINTER_XXXXXX network will be created.
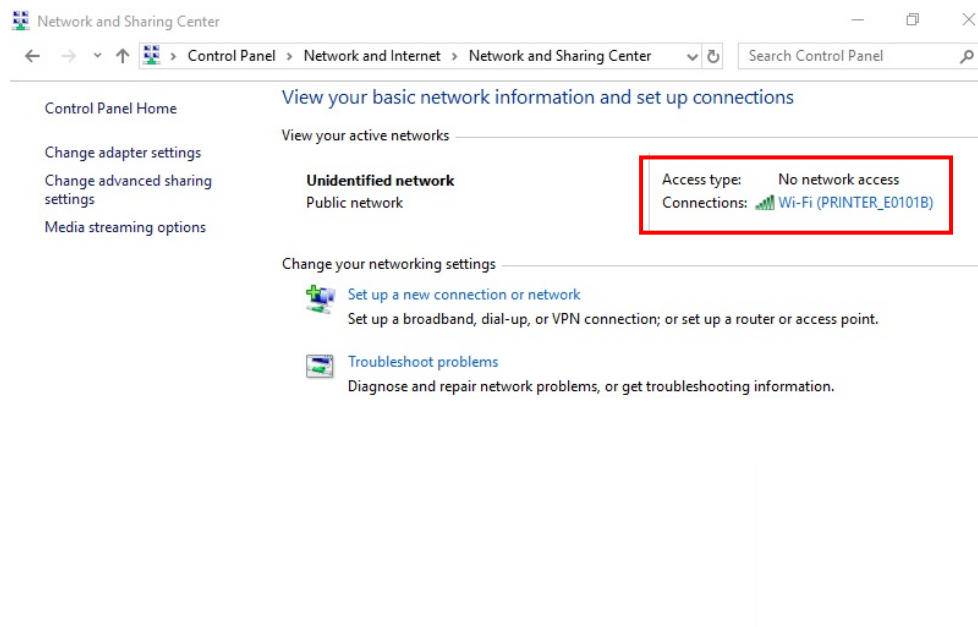
When the printer is set to the default value
(Soft-AP mode, SSID: PRINTER_XXXXXX), it will automatically connect.

4-4 Initial Wireless LAN Connection (Android Soft AP mode)

1) Select "Wi-Fi".
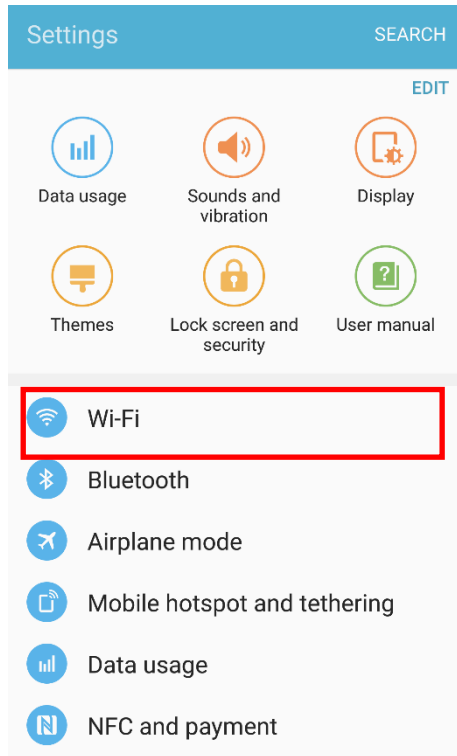
2) Select the printer to connect.
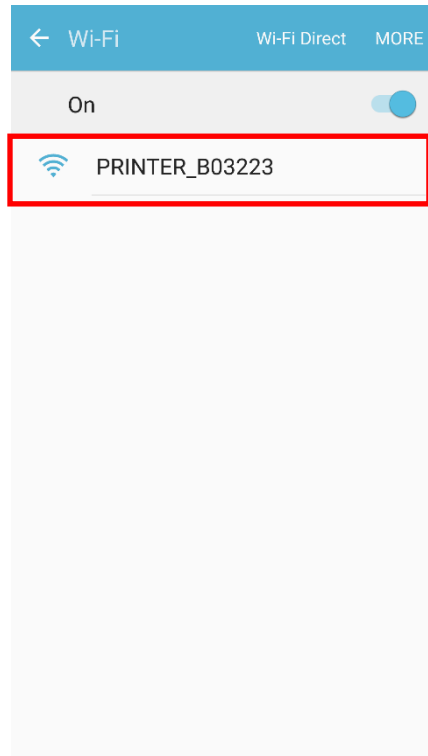
3) Select "CONNECT".
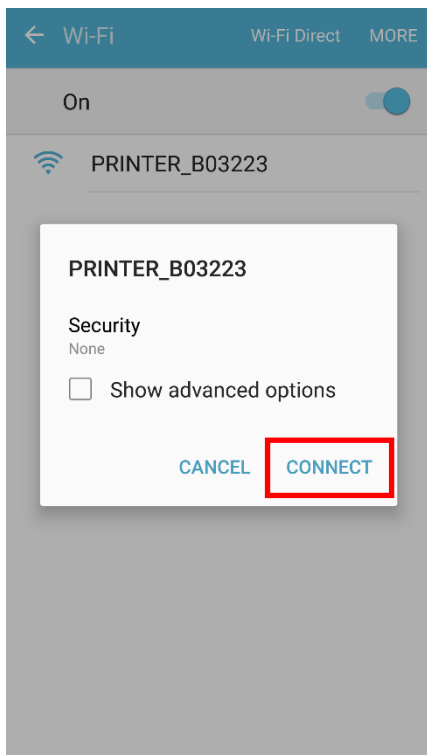
4) Wi-Fi communication is available.
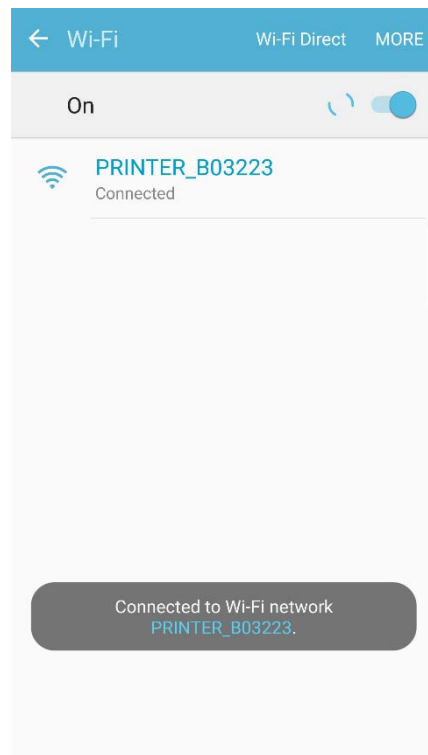
4-5 Initial Wireless LAN Connection (iOS Soft AP mode)

1) Select "Wi-Fi".
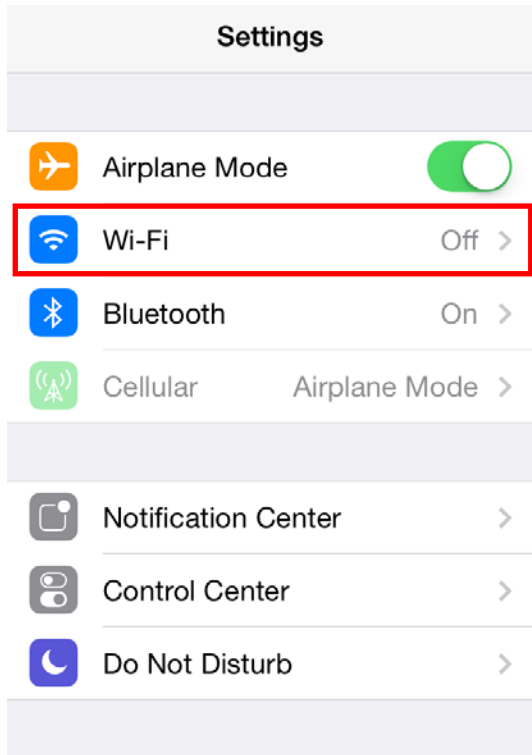
2) Wi-Fi ON and Select the printer to connect.
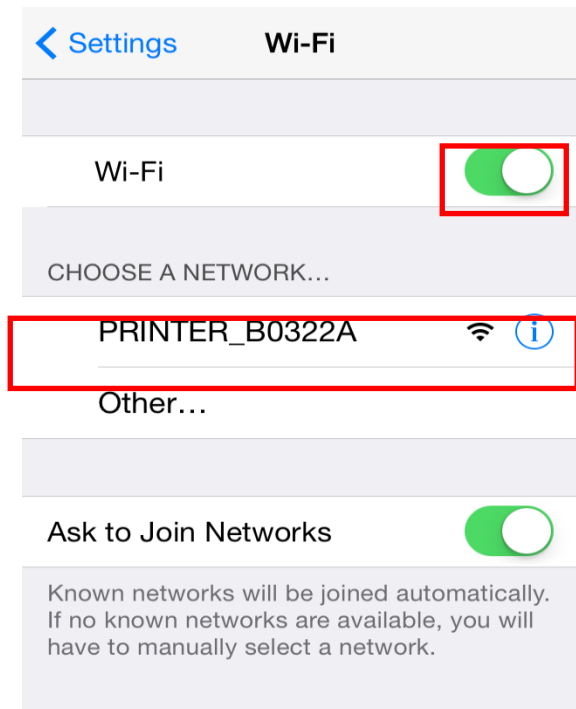
3) Wi-Fi communication is available.
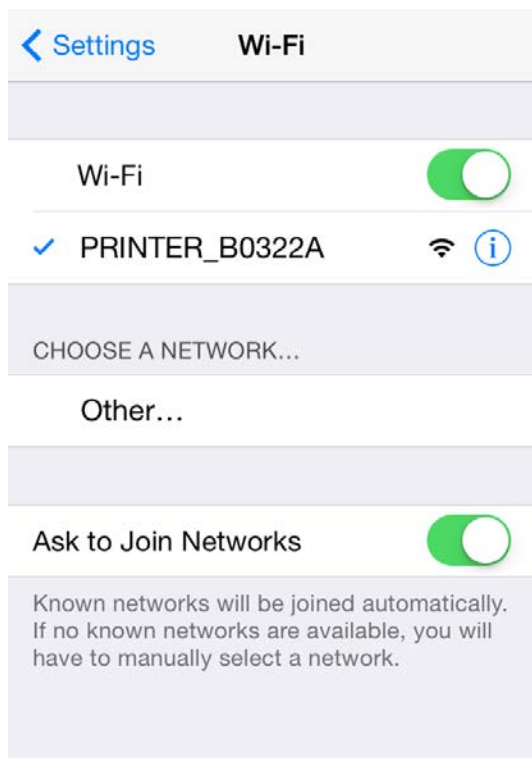
4-6 How to change Infrastructure mode

1) Enter the IP address of the printer in the address bar, and the following login window will pop up. Enter the ID and Password set for the printer, and then click [LOG IN]

> Default User Name: admin, Password: password
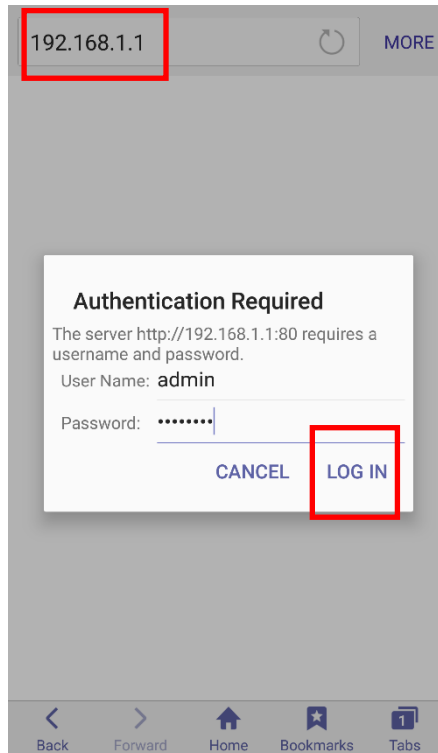
2) Select "Wireless" to change Wi-Fi mode.
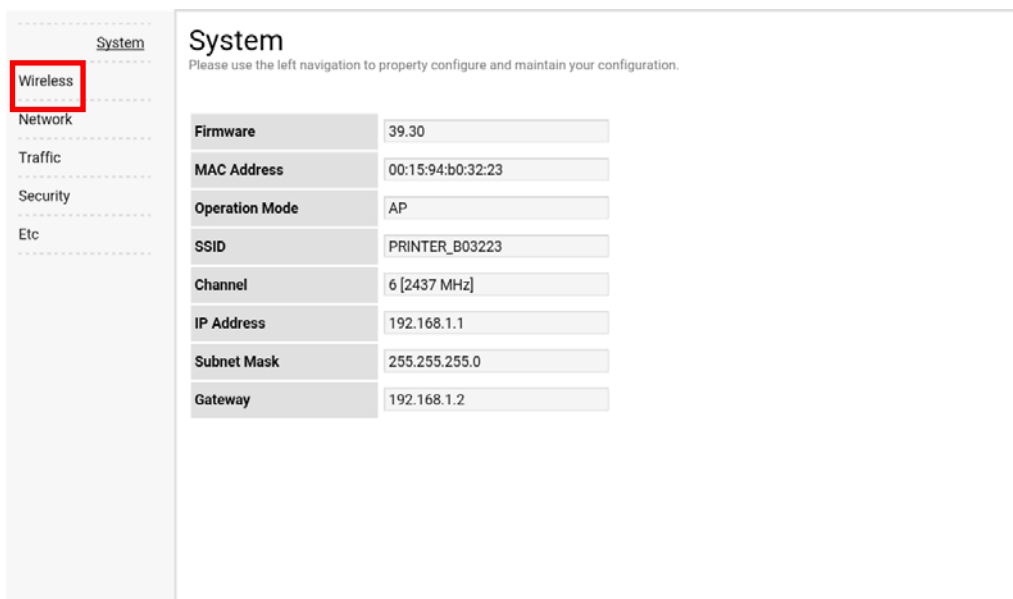
3) Select "Infrastructure", and set SSID, WLAN Security Type.

4) Reboot the Printer.

ⓘ	For changing network setting values using Net configuration tool, Refer to 'Net configuration tool manual'. The "Net Configuration Tool" manual is available on the home page.

5. Configuration

5-1 LAN Setting Values

Classification	Item	Remarks	Input Range
Network	Inactivity Time	TCP connection hold time	0~3600 integer(Sec)
	IP Assignment Method	IP assignment method	DHCP/Manual
	IP Address	Printer IP	IP Address
	Subnet Mask	Subnet mask	IP Address
	Gateway	Default Gateway	IP Address
	DNS	Domain name server IP	IP Address

5-2 WLAN Setting Values

Classification	Item	Description	Input Range
Home	-	WLAN setting status display	-
Network	Network Mode	Wireless LAN operating mode	Infrastructure/Adhoc
	Adhoc Channel	Channel when creating Adhoc network	1~14
	SSID	ID of the AP to connect	1~32 letters
	Inactivity Time	TCP connection hold time	0~3600 integer
	IP Assignment Method	IP Assignment Method	DHCP/Manual
	IP Address	Printer IP	IP Address
	Subnet Mask	Subnet mask	IP Address
	Gateway	Default Gateway	IP Address
	DNS	Domain name server IP	IP Address
Authentication	Authentication	Wireless LAN authentication method	open, shared, wpa1/2-psk, wpa1/2
	Cryptograph	Wireless LAN encryption method	none, WEP64/128, TKIP, AES
	EAP Mode	Authentication method	none, PEAP, TLS, LEAP, FAST
	WEP Key	Key for WEP encryption method	WEP64 (5 Ascii, 10 Hex) WEP128 (13 Ascii, 26 Hex)
	PSK Key	Key for PSK encryption method	1~64 letters
	Authentication ID	ID for EAP Authentication	1~32 letters
	Authentication PW	Password for EAP Authentication	1~32 letters

For changing network setting values using Net configuration tool, Refer to 'Net Configuration Tool' manual.

6. Ethernet / WLAN Test by using Windows Test Page

You can use the Windows printer driver as shown below when there is no test program. Operating systems that allow you to use the Windows printer driver are Windows, XP, Server 2003, VISTA, 2008 Server, 7, 8, 10.

❗	You can download the latest version of Windows driver from our home page. (www.bixolon.com)

1) Double-click the Windows Driver installation file.

2) Click Install.
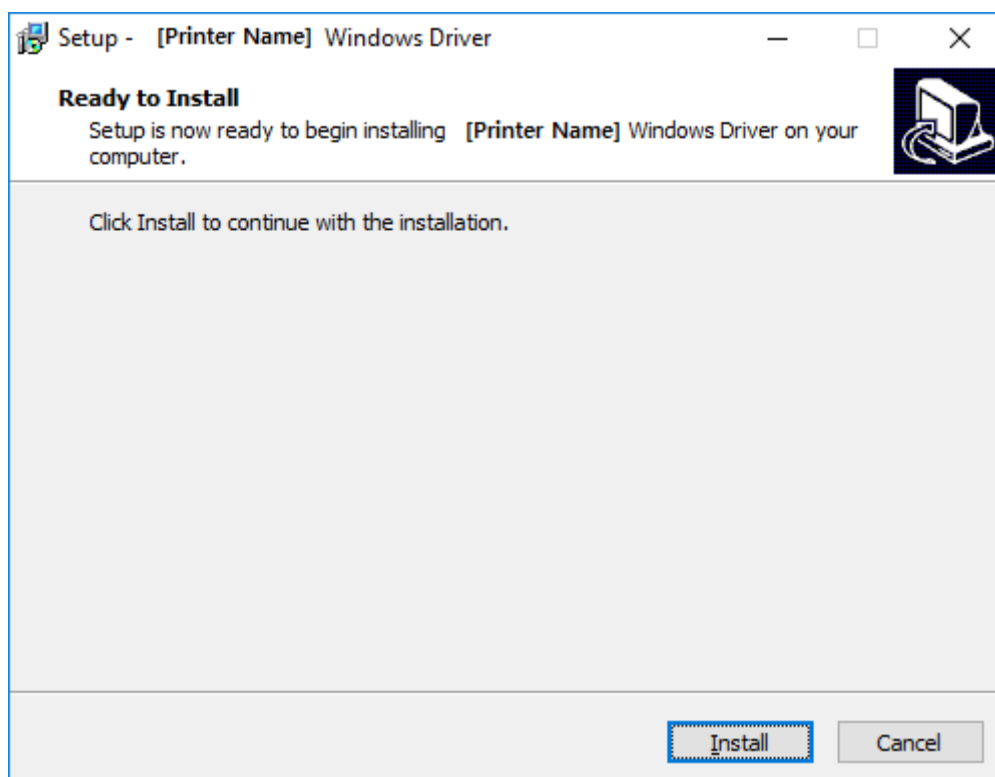
3) Select Installation and click Next.
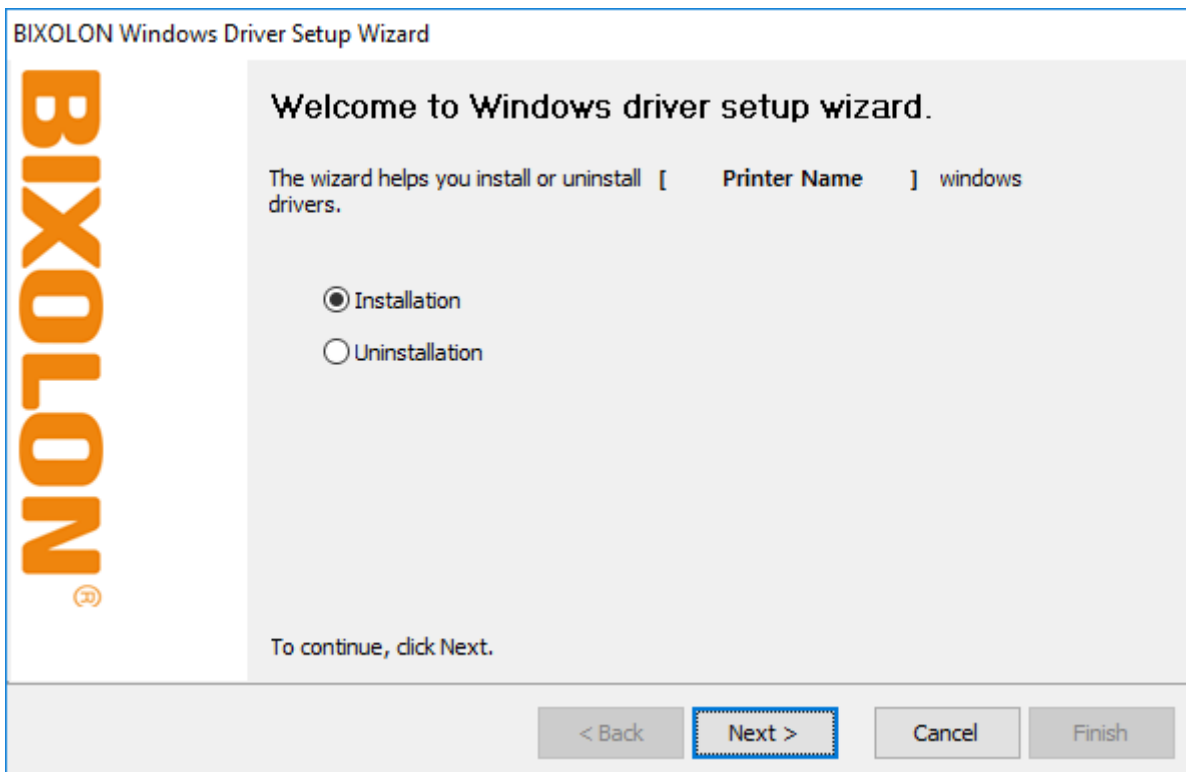
4) Select Model Name and click Next.
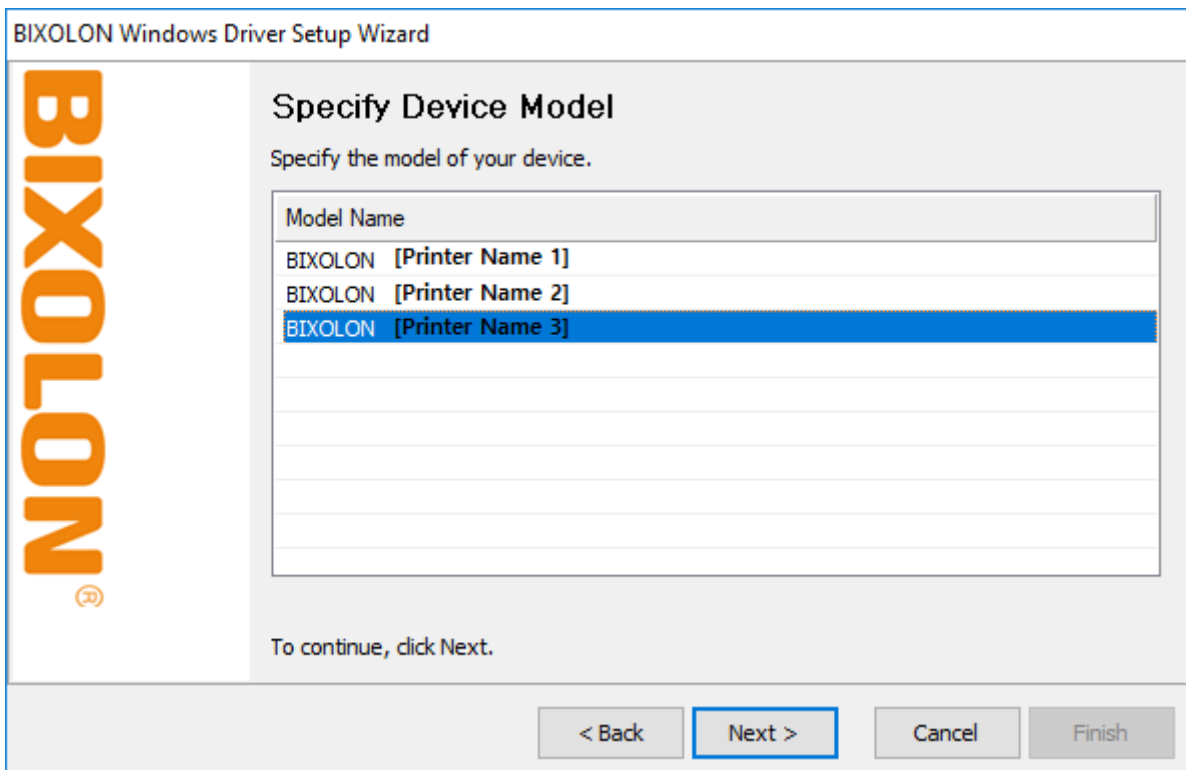
5) Select Ethernet and click Add TCP/IP Port.
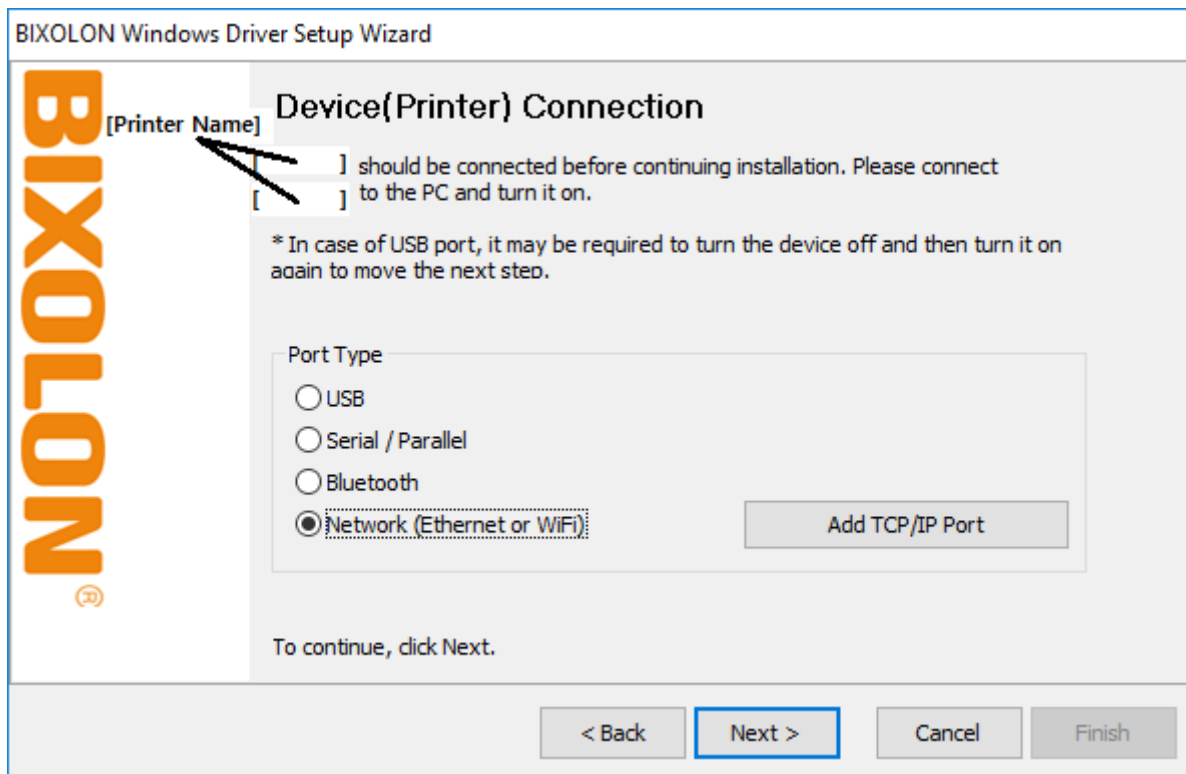
6) Enter the IP address and port number, and then click Next.
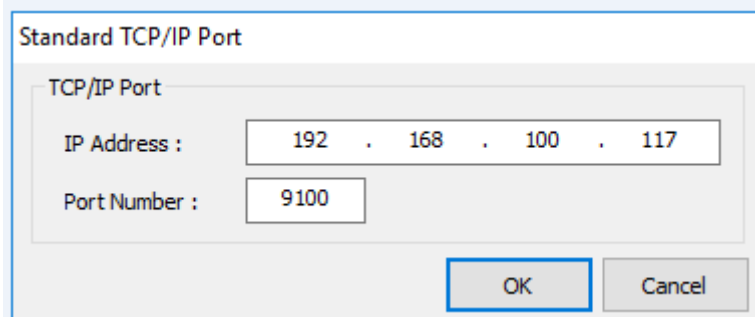
7) Click Next.
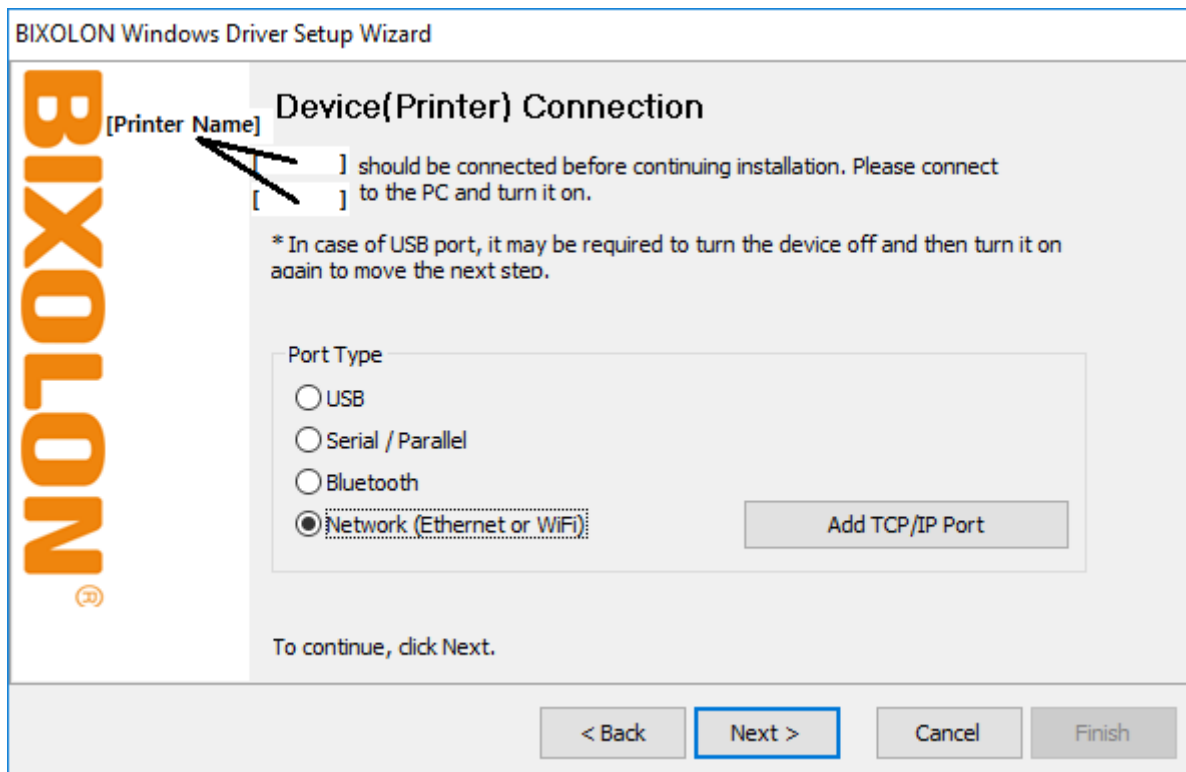
8) Click Next.
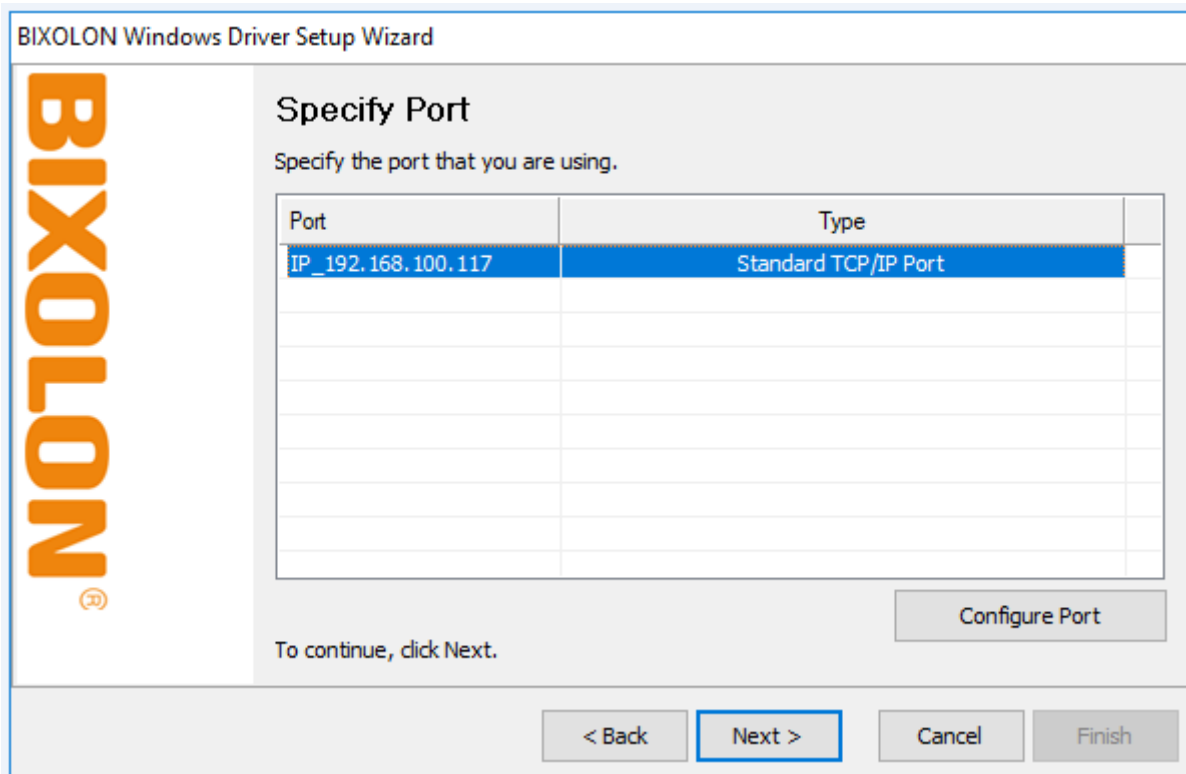
9) Click Next.
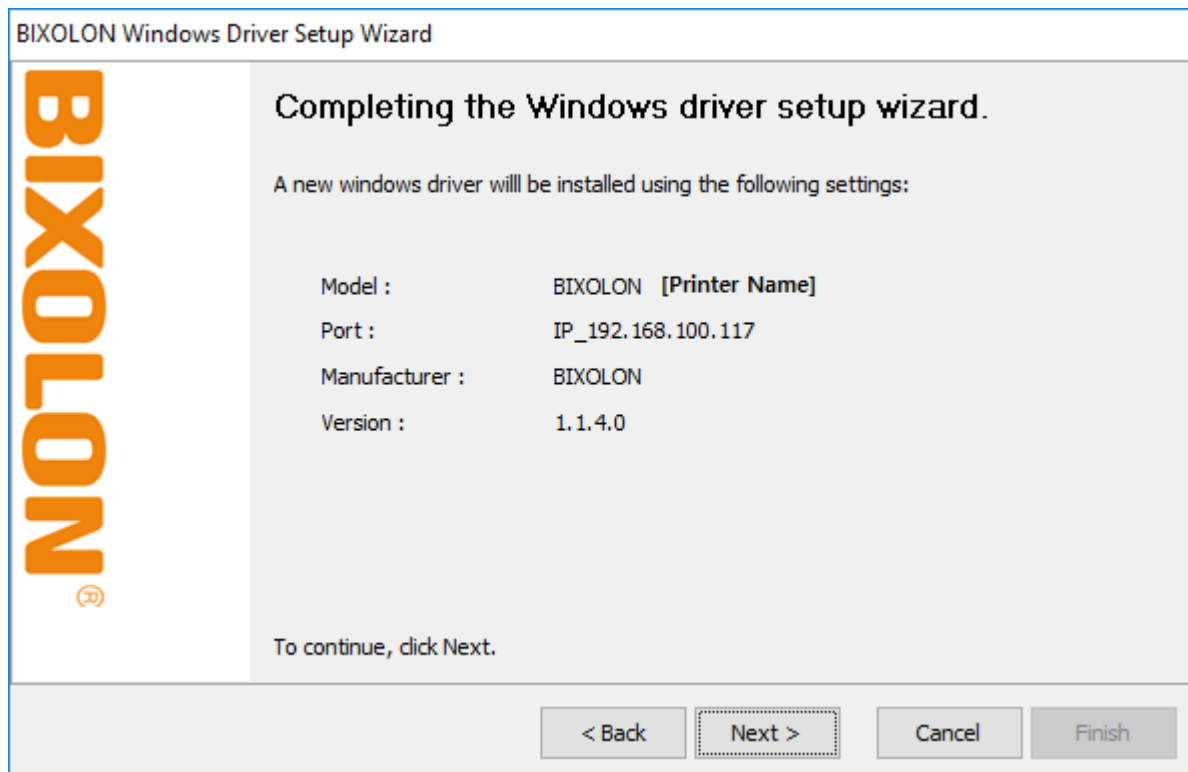
10) Click Finish.
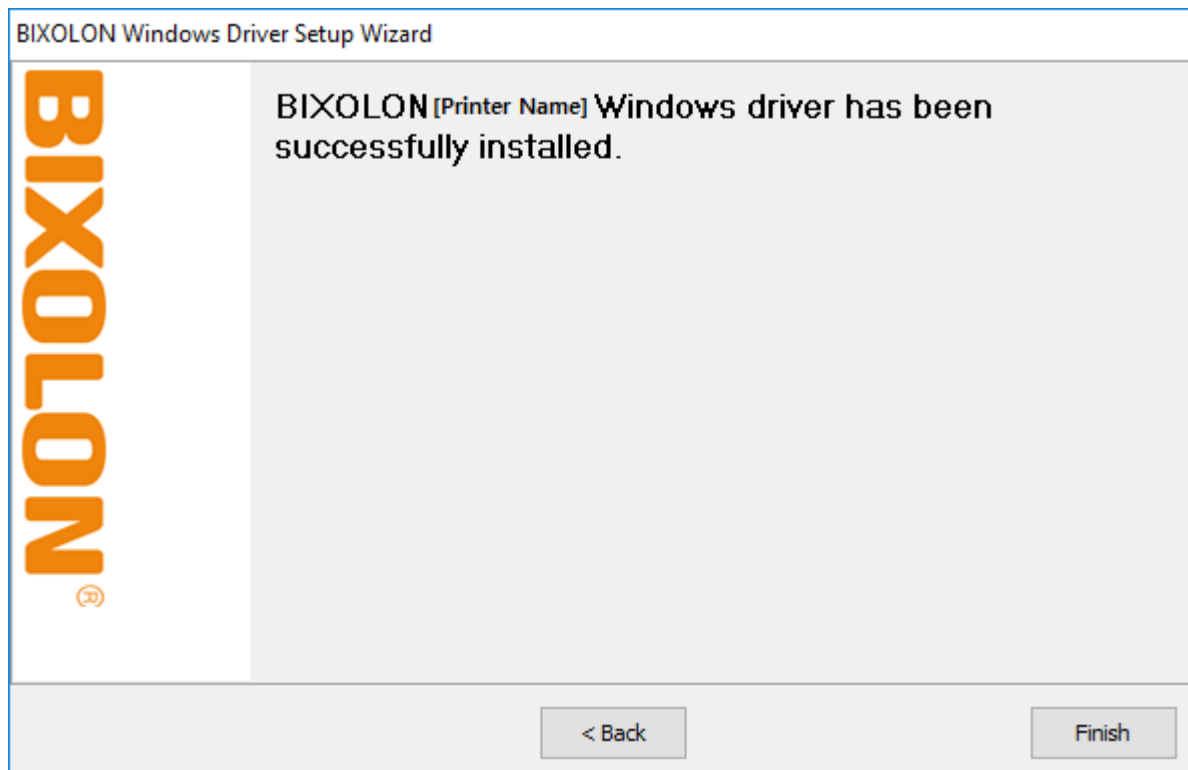
11) Open the printer properties window in the Windows OS.

   (1) Installing on Windows XP / Server 2003
      ※ Control Panel – Printers and Faxes.

   (2) Installing on Windows VISTA / Server 2008 / 7 / 8 / Server 2012 / 10
      ※ Control Panel – Hardware and Sound – Device and Printers.

12) In the Ports tab, click Configure Port.

13) Match the communication settings to those of the printer.

14) Click Print Test Page and check printing status. Proper installation of the driver is indicated if the test page is printed normally.
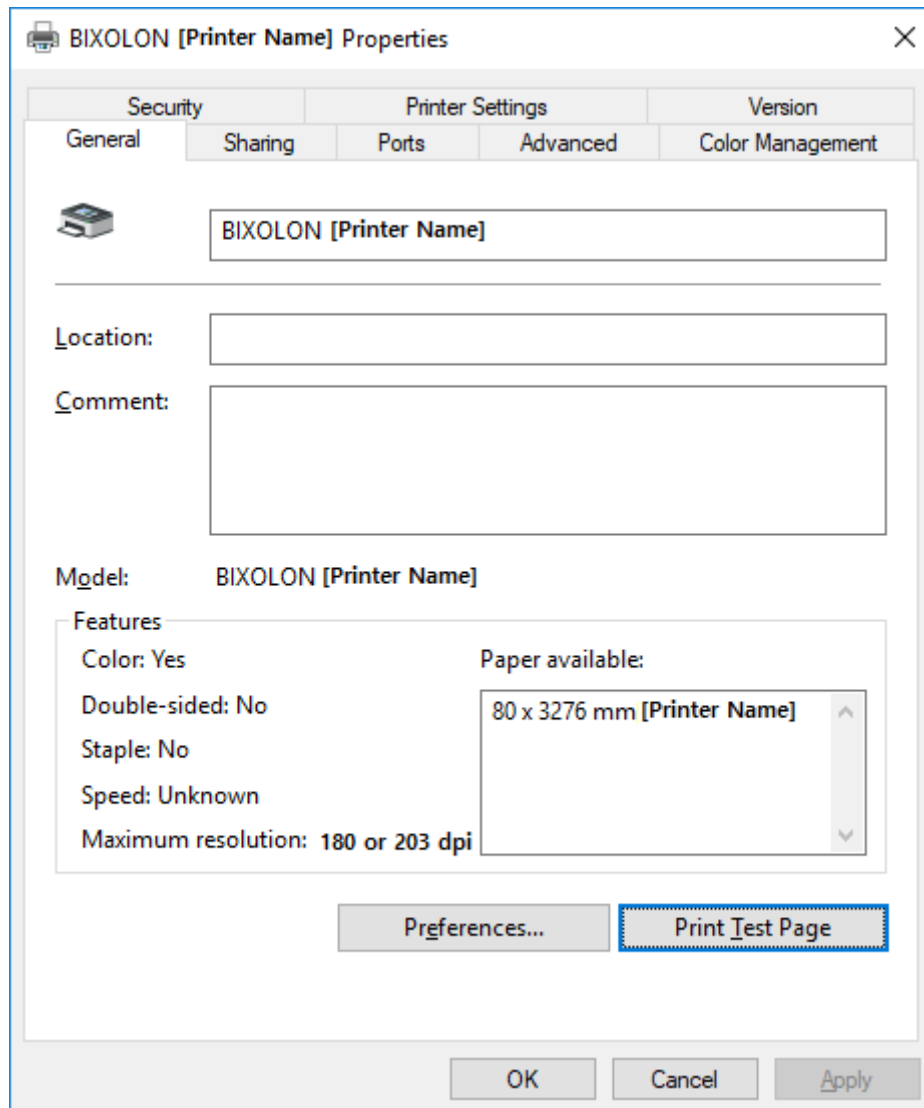
7. Factory Reset

This function changes the LAN settings of the printer to the initial factory settings.
- The SSID of the wireless (Wlan) is also reset to Default (Soft AP).

7-1 Initializing Ethernet Interface Setting
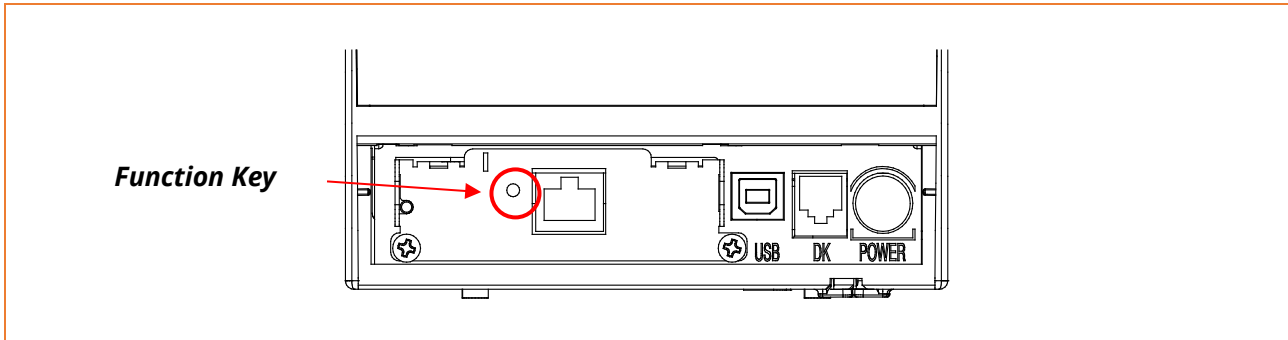
With the printer turned off, press the function key button and turn the printer on.
After pressing and holding the function key button for about 5 seconds, release it.
The factory reset occurs. Regardless of the current setting, DHCP mode is enabled.

[Dynamic IP network environment]
IP address is assigned to the printer and it can connect to web-server using the assigned IP address.
Newly assigned IP address can be checked with the Function key.

[Fixed IP network environment]
IP address is not automatically assigned to the printer.
Wait for 30 seconds and check whether IP address is assigned to the printer by pressing the Function key. If IP address is 0.0.0.0, it means that IP address has not been assigned. In this case, disable DHCP mode using the Configure Tool.

7-2 Initializing On-Board Ethernet / WLAN Setting

7-2-1 Standard model (Excluding SRP-Q300II)
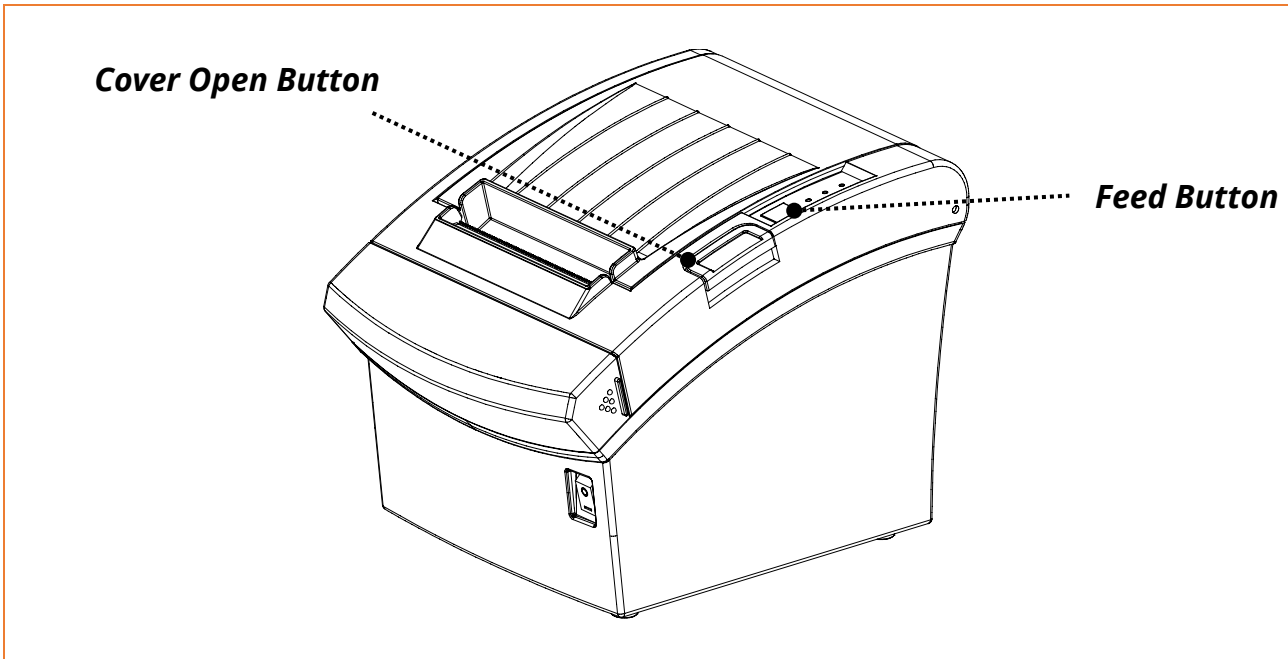
Cover Open Button

Feed Button

After the printer has finished booting, open the printer cover and press and hold the FEED Button for 5 seconds. This will cause the interface setting confirmation mode. Then add the paper, close the cover, and check that the following message is printed.

```
Checking Interface Setting

 0: Exit
 1: LAN Information Print
 2: LAN Factory Reset and Reboot Printer
 3: WLAN Information Print
 4: WLAN Factory Reset and Reboot Printer
 5 or more: None

Select Modes by Feed button control
as below.
   Step 1. Short-press as many times as
           The mode number to choose.
   Step 2. Long-press over 1 second.
    *e.g. To choose Mode 2, press Feed

        Button 3 times(short-short-long)
```

If the above message is printed, select Mode 2 / 4, and you will see the following WLAN information.
- To select Mode 2, press the Feed button twice quickly / once long.
- To select Mode 4, press the Feed button four times quickly / once long.

```
LAN(WLAN) Factory Reset OK!   Reboot Printer.
```

After the above message is printed, the printer will automatically reboot.

7-2-2 SRP-Q300II
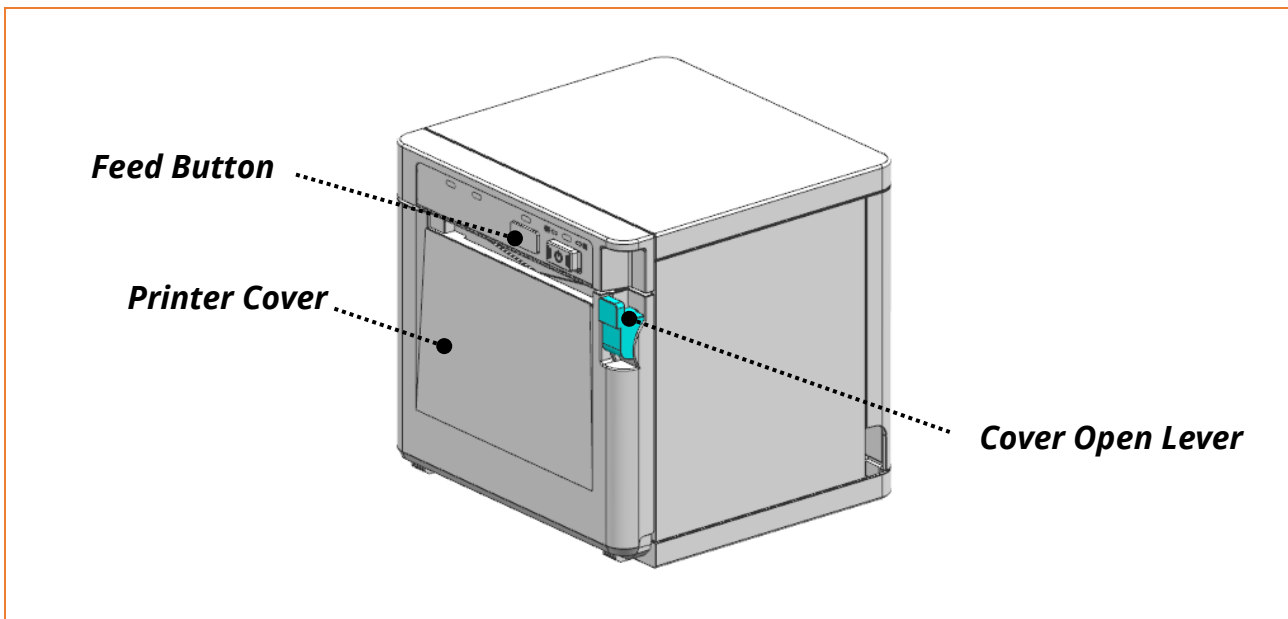
After the printer has completed booting, open the printer cover and place the paper right away. To start Self-test, press FEED button and then close the printer cover.

```
SRP-Q300II SELF TEST INFORMATION
Firmware Version            V0x.xx STB xxxxxx
_____

Configuration
                    ...
                    ...
_____

Ethernet configuration
_____

                    ...
                    ...
_____

WLAN configuration
_____

                    ...
                    ...

   SELECT MODES BY PRESSING FEED BUTTON
      Exit SELF-TEST : Less than 1 second
      Mode Selection : 1 second or more
```

Once self-test printing is complete, press and hold the button to enter "Mode Selection".

Mode Selection
0: Exit
1: VMSM Selection Mode
2: Interface Setting
3: Hexadecimal Dumping
4 or more: None

Select Modes by Feed button control
as below.
  Step 1. Short-press as many times as
       The mode number to choose.
  Step 2. Long-press over 1 second.
   *e.g. To choose Mode 2, press Feed
        Button 3 times(short-short-long)

When the above message is displayed, select Mode No. 2 'Interface Setting'.
To choose Mode No 2, press the Feed button 3 times, short-short-long.
(Press the Feed button short-press twice and long-press over 1 second.)

Interface Setting
0: Exit
1: LAN Factory Reset
2: SWC mode
3: WLAN Factory Reset
4 or more: None

Select Modes by Feed button control
as below.
  Step 1. Short-press as many times as
       The mode number to choose.
  Step 2. Long-press over 1 second.
   *e.g. To choose Mode 2, press Feed
        Button 3 times(short-short-long)

When the above message is displayed, select Mode No. 1 'LAN Factory Reset' or Mode No 3 'WLAN Factory Reset'.
To choose Mode No 3, press the Feed button 4 times, short-short-short -long.
(Press the Feed button short-press three times and long-press over 1 second.)

> **1(2): LAN(WLAN) Factory Reset**
> * Do you really want to reset?
> 1. YES: Press the button 1 second or more
> 2. NO: Press the button less than 1 second

When the above message is displayed, press the Feed button over 1second to Confirm LAN or WLAN Factory Reset.

> LAN(WLAN) Factory reset complete

When the above message is displayed, the printer will automatically reboot.

Factory Reset Values

LAN	Network	Inactivity time	0
		IP Assignment Method	Automatic(DHCP)
		Local Port	9100
WLAN	System	Printer Name	*Printer model
		Printer Port Num	9100
		User ID	admin
		User Password	password
	Enc / Auth	Encryption	None/Open
	Network	Network Mode	Soft AP mode
		SSID	PRINTER_{MAC address}
		Inactivity time	10
		IP Assignment Method	Manual (DHCP server)
		IP, Subnet, Gateway	IP : 192.168.1.1 Subnet : 255.255.255.0 Gateway : 192.168.1.2

Ver.1.01

8. Troubleshooting
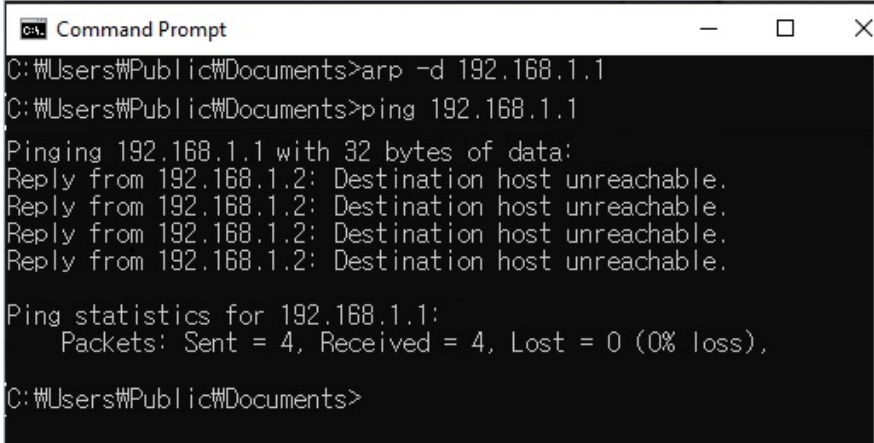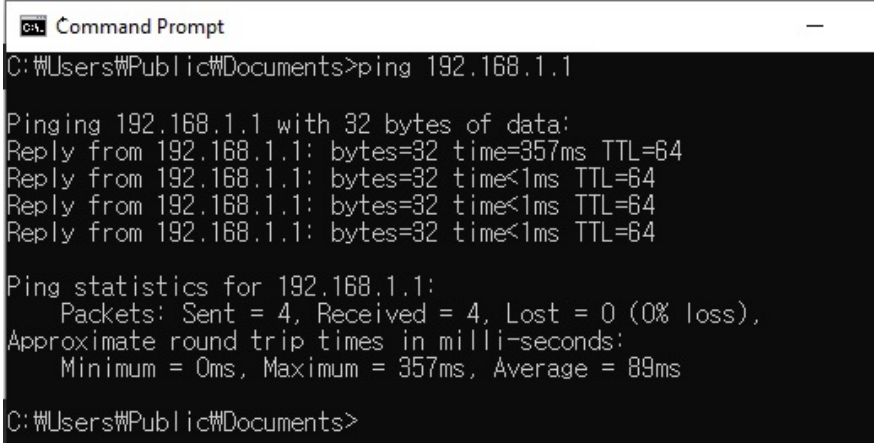
Check network setting	
When using Ethernet	[IP Address] Check whether the IP Address band of the printer rand the AP(or wireless terminals) are the same. The first three digits of the four digit value in the IP Address must be the same. [Subnet Mask] Check whether the subnet mask of the printer matches with the one in AP(or wireless terminal). [Port] Check whether the port configured in the printer and the host(PC, PDA) are the same.
When using WLAN Check the wireless network setting of the AP and the printer. (Refer to Configuration for checking/changing the printer settings)	[SSID] Check whether the SSID of the printer matches with the one in AP(or wireless terminal) [802.11 mode] Check whether AP supports 802.11a, 802.11b or 802.11g. [Network Mode] Check the network mode of the printer. Network mode must be set to "Infrastructure" to connect to AP. [IP Address] Check the band of the IP Address. Check whether the band of the printer and the AP(or wireless terminals) are the same. The first three digits of the four digit value of the IP address must be the same. [Subnet Mask] Check whether the subnet mask of the printer matches the one in AP(or wireless terminal). [Port] Check whether the port configured in the printer and the host(PC, PDA) are the same.

	[Authentication/Encryption] Check the authentication/encryption setting status. Check whether the settings of the printer and the AP(wireless terminals) are the same.

PING Check	
Checking IP collision	1. When entering IP address manually without using DHCP, you must check whether the corresponding IP address is used by other equipment. The printer may not work normally when there is a collision in the IP address. 2. When the printer is turned off, carry out the Ping Test to the printer IP.
Ping TEST	1. Turn off the printer. 2. Search "cmd" and then click "Open". 3. Enter "ARP –d {printer IP}" and delete ARP table. 4. Enter "ping {printer IP}". 5. ARP –d, ping {IP address} When you see "Destination host unreachable." as shown below, it means that there is no collision. The corresponding IP can be used. On the other hand, if there is a reply as shown below, then the corresponding IP is used by another network terminal and it cannot be used for the printer IP.

Check Cable	
When using Ethernet	In order to check whether the problem is due to the LAN cable, connect the cable connected to the printer to other terminals or the PC to confirm whether its operation is normal.
Inactivity Time	If multiple host devices are used with one printer, "Inactivity Time" is Recommended. (Other host devices are restricted to use a printer if one host device keep connecting to a printer.) ex) 5sec

Revision History

Rev.	Date	Description
1.00	07-12-2022	New
1.01	20-12-2023	Add checking and initializing SRP-Q300II network settings