AirPrint Users Manual

Revision 1.4

Star Micronics Corporation Special Devices Division

STAR MICRONICS CO., LTD.

Content

1　Introduction

AirPrint is a feature in Apple Inc.'s macOS and iOS operating systems such as iPhone, iPad and iPod touch for printing via a WLAN (Wireless LAN).

With AirPrint, it is easy to print photos and documents from your Mac, iPhone, iPad, or iPod touch without having to install additional software.
Also, you can control cash drawer or buzzer to be connected to the Star Micronics AirPrint printer via the DK-port.
Star Micronics AirPrint printer is designed for retail and hospitality environment.

1.1　Support model

TSP654IIHIA
"Please be aware that the print length is fixed with Airprint."
　　iOS　　　: fixed to 140mm
　　macOS　: default is fixed to 140mm (macOS can change fixed length by "Manage Custom Sizes")

TSP847IIHIA
"Please be aware that the print length is fixed with Airprint."
　　iOS　　　: fixed to 158mm
　　macOS　: default is fixed to 158mm (macOS can change fixed length by "Manage Custom Sizes")

TSP743IIHIA
"Please be aware that the print length is fixed with Airprint."
　　iOS　　　: fixed to 140mm
　　macOS　: default is fixed to 140mm (macOS can change fixed length by "Manage Custom Sizes")

1.2　Support OS

iOS/iPadOS
　　Devices using the latest version of iOS as following:
　　　－　iPhone
　　　－　iPad
　　　－　iPod touch

macOS
　　Please download Mac OS X CUPS Driver from below URL.

　　https://starmicronics.com/support/download/cups-driver-for-macos/

1.3　Trademarks

Please refer to below link.

　　https://www.star-m.jp/eng/trademarks.html

2　Setting

2.1　AirPrint Overview

HIA model supports 2 kinds of Ethernet connection.
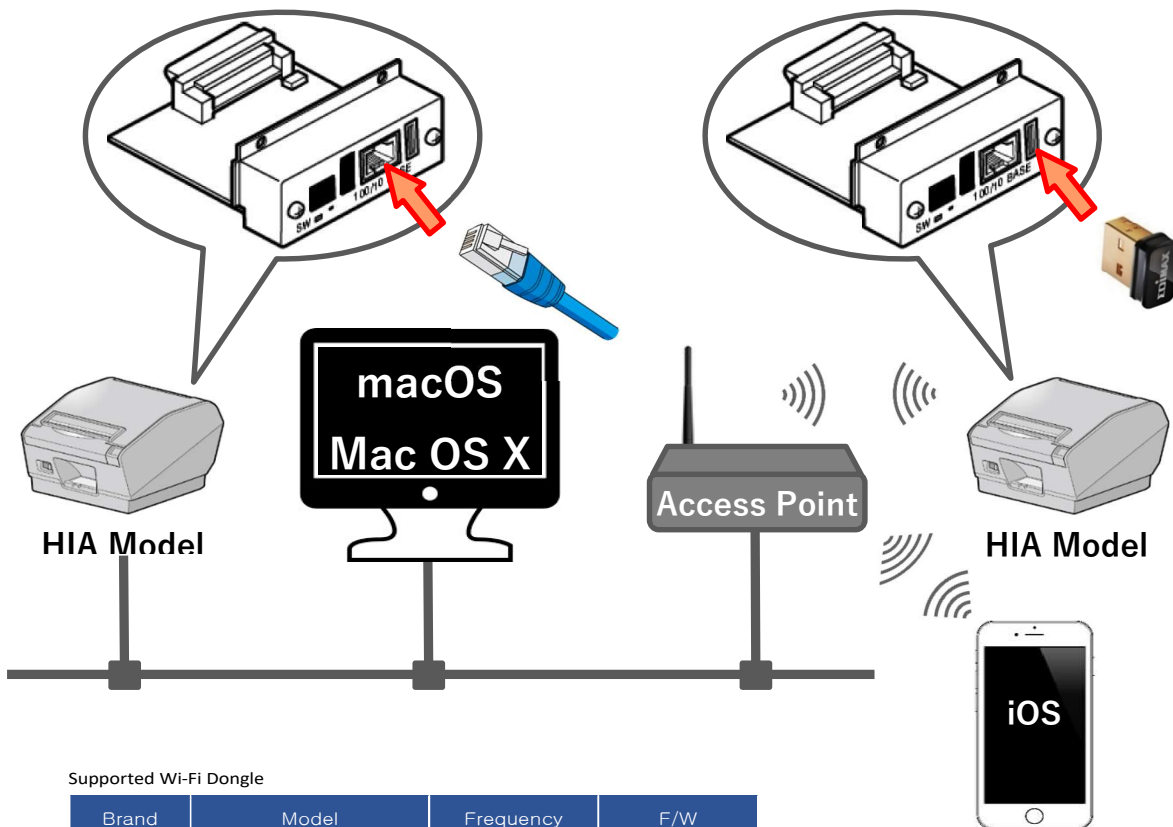One is Wired LAN and another is Wireless LAN (WLAN).
If you select Wired connection, please go to 2.2 How to setup Wired LAN.
If you select Wireless connection, please go to 2.3 How to setup WLAN.

Fig1. 2.2 How to setup

Fig2. 2.3 How to setup

Supported Wi-Fi Dongle

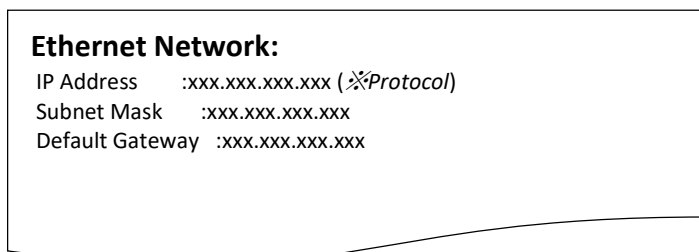| Brand	Model	Frequency	F/W
PLANEX	GW-USNANO2A	2.4GHz	1.5.0 or higher
EDIMAX	EW-7811UN	2.4GHz	1.5.0 or higher
D-Link	DWA-182 rev C1	2.4GHz / 5GHz	1.5.0 or higher
LINKSYS	WUSB6300	2.4GHz / 5GHz	1.5.0 or higher
EDIMAX	EW-7811UN V2	2.4GHz	1.9.3 or higher
TRENDnet	TEW-648UBM V2 0R	2.4GHz	1.9.3 or higher
D-Link	DWA-182 HW Ver.D1	2.4GHz / 5GHz	1.9.3 or higher
ASUS	USB-AC53 Nano	2.4GHz / 5GHz	1.9.3 or higher
D-Link	DWA-131 HW Ver.E1	2.4GHz	1.9.3 or higher
ASUS	USB-N10 Nano B1	2.4GHz	1.9.3 or higher

2.2　How to setup Wired LAN

2.2.1 Connect Ethernet cable to Access Point or Switching Hub.
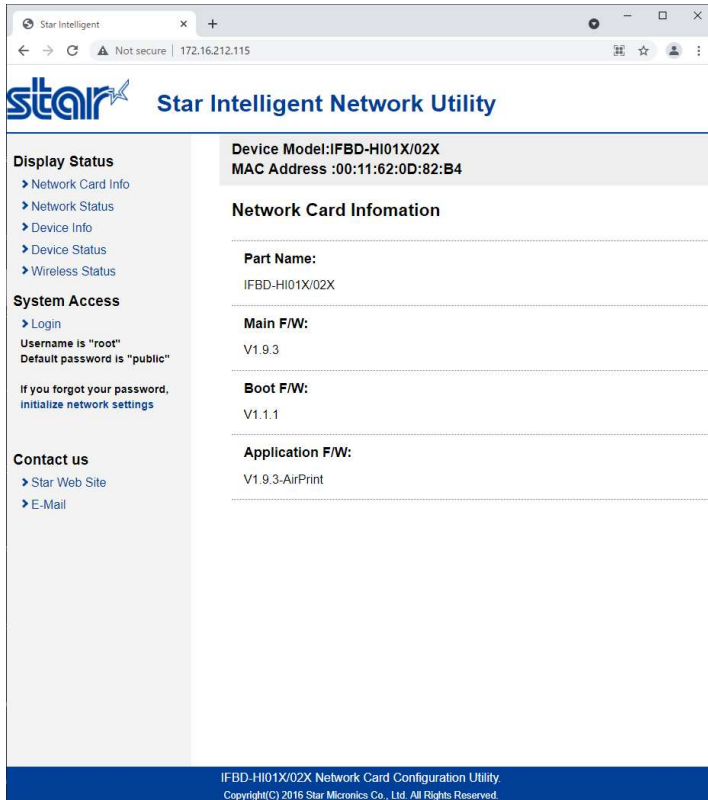

2.2.2 Self-Print

Check the IP address of the IFBD-HI01X/02X by self-print by following below procedure.

- Connect Ethernet cable to the IFBD-HI01X/02X - Printer.
- Turn on the IFBD-HI01X/02X - Printer with pushing the feed button for 5 seconds.
- The IP address of the IFBD-HI01X/02X - Printer is shown in 2nd print paper.

Ethernet Network:
IP Address　　　:xxx.xxx.xxx.xxx (※*Protocol*)
Subnet Mask　　:xxx.xxx.xxx.xxx
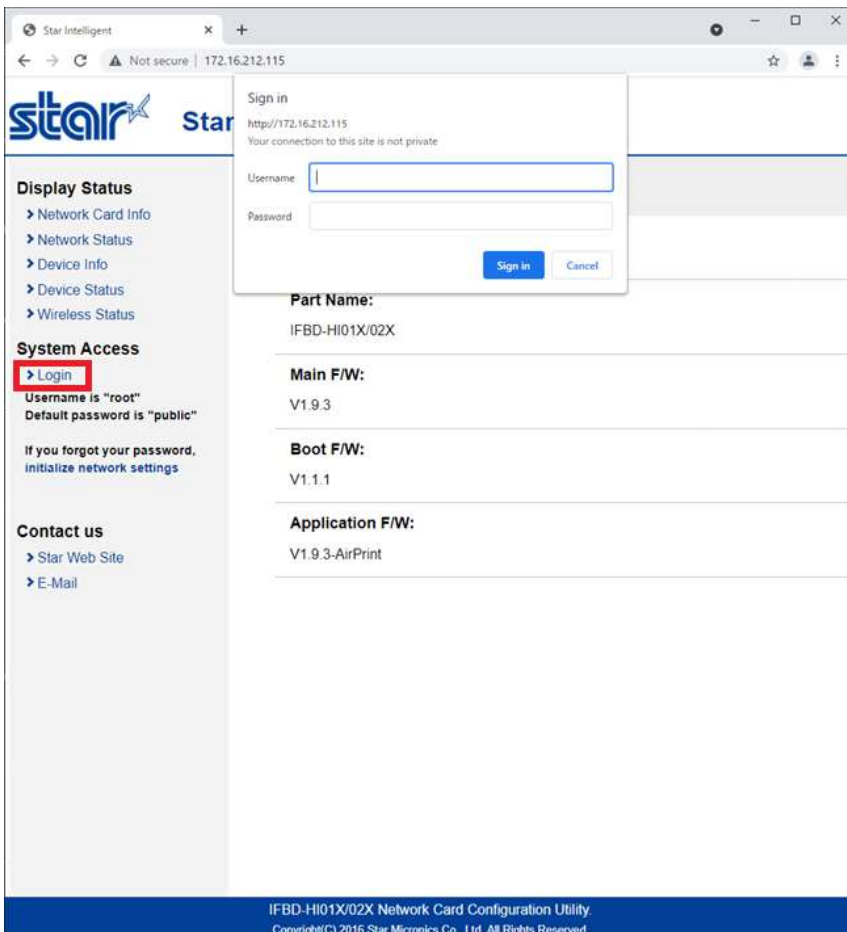Default Gateway　:xxx.xxx.xxx.xxx
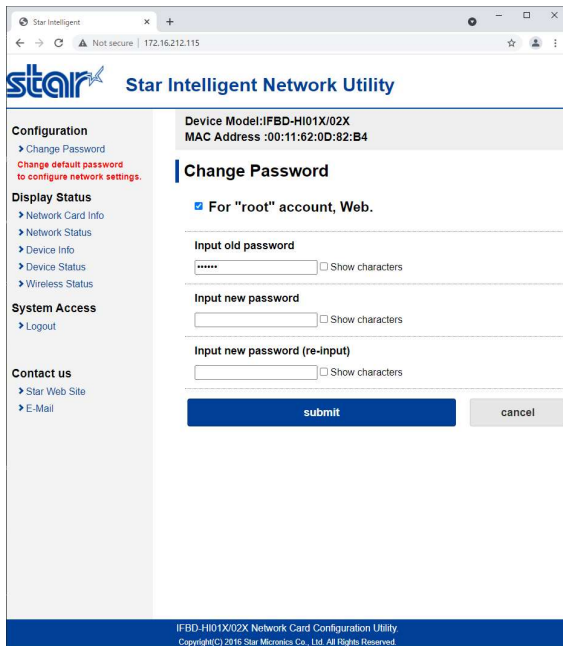
2.2.3 Execute Browser, then Login

Put IP address of IFBD-HI01X/02X into the web-browser.
Then the web configuration utility is shown.

To enter the setting of HI01X/02X page, click "Login" and put user name and password.
User name: "root", Password: "public" as factory setting. (These has been indicated under "Login")
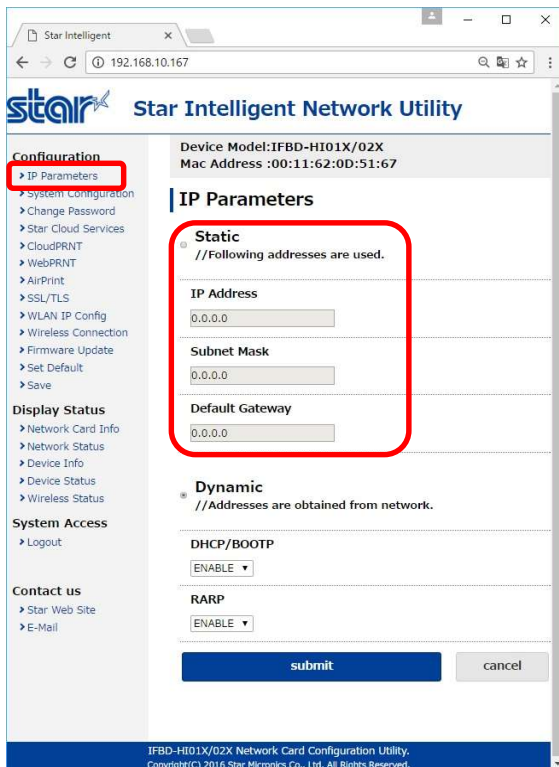
After Login, if login password for root is default, then "Change Password" contents show.
Please input new password and click submit.   If submit is succeeded, then go next step.

2.2.4 IP Config Settings

If you need to change IP Address Static, please change them, then save the settings.

IP Parameters

The following table shows the Static (fixed address) and Dynamic (dynamic address acquisition) items of the IP address that can be stored in the non-volatile memory.

Category	Setting Items	Input Range	Initial Value (Factory Default)
Static	IP Address	0.0.0.0 to 255.255.255.254	0.0.0.0
	Subnet Mask	0.0.0.0 to 255.255.255.255	0.0.0.0
	Default Gateway	0.0.0.0 to 255.255.255.255	0.0.0.0
Dynamic	DHCP/BOOTP	ENABLE / DISABLE	ENABLE
	RARP	ENABLE / DISABLE	ENABLE

Note: If setting Static to anything other than 0.0.0.0, set all Dynamic to DISABLE.
If setting Dynamic to ENABLE, set all Static to 0.0.0.0.

After change the settings, please click "submit" and save the settings.

Dynamic address condition is accepted!

DHCP:
ENABLE

RARP:
ENABLE

Please execute "Save" menu if these settings are correct.

Return to Previous page <IP Parameters>
(Don't use "Back" button of browser to return.)

Save

◉ Save → Configuration printing → Restart device

○ Save → Restart device

execute	cancel

2.2.5 AirPrint Settings

This is settings for AirPrint.
If you need to change below settings, please change them, then save the settings.

[Example of setting list]

Item	Value	Notes
AirPrint	ENABLE (*1) or DISABLE	
Bonjour Server Name	StarMicronics-TSP847IIHIA	max 63 characters
Location	Printer location	max 127 characters
GEO Location (Latitude)		(*2)
GEO Location (Longitude)		(*2)

(*1) Default value
(*2) If "Get Browser Location" button cannot work,
       please see following examples or set "SSL" setting and open by "https".

[Example of location]

Location	Star Micronics Japan	Star Micronics US	Star Micronics UK	Star Micronics Thailand
Latitude:	35.0144857	40.4846472	51.6199034	13.7269006
Longitude:	138.451635	-74.5119392	-0.7113674	100.5311396

Peripheral (DK Port) Settings
This is setting for Cash Drawer and Buzzer control for AirPrint, it can be changed at "System Configuration" on the menu list.
Refer to the below settings, then submit and save the settings.

		Value	Default Value
Peripheral Unit 1	Type:	Cash Drawer / Buzzer	CashDrawer
	Timing:	No Use / Document Top / Page Top / Page Bottom / Document Bottom	Document Bottom
	Cash Drawer 1		
	Pulse Width(msec.):	20 to 5100 msec.	200msec.
	Buzzer 1		
	On Time(msec.):	10 to 1270 msec.	20msec.
	Off Time(msec.):	10 to 1270 msec.	20msec.
	Repeat:	1 to 20 times	1 time
Peripheral Unit 2	Type:	Cash Drawer / Buzzer	CashDrawer
	Timing:	No Use / Document Top / Page Top / Page Bottom / Document Bottom	No Use
	Cash Drawer 2		
	Pulse Width(msec.):	200 msec. (Fix)	200msec.
	Buzzer 2		
	On Time(msec.):	10 to 1270 msec.	20msec.
	Off Time(msec.):	10 to 1270 msec.	20msec.
	Repeat:	1 to 20 times	1 time

2.3 How to setup WLAN

2.3.1 Put WiFi Dongle onto USB Type A connector and Ethernet cable to Access Point.
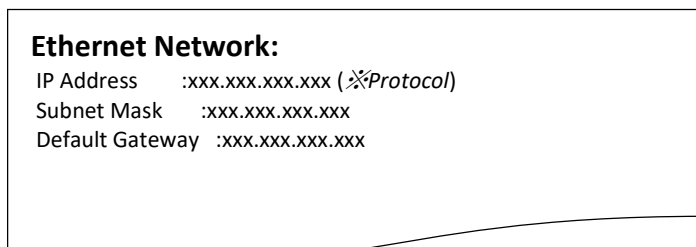

Supported Wi-Fi Dongle

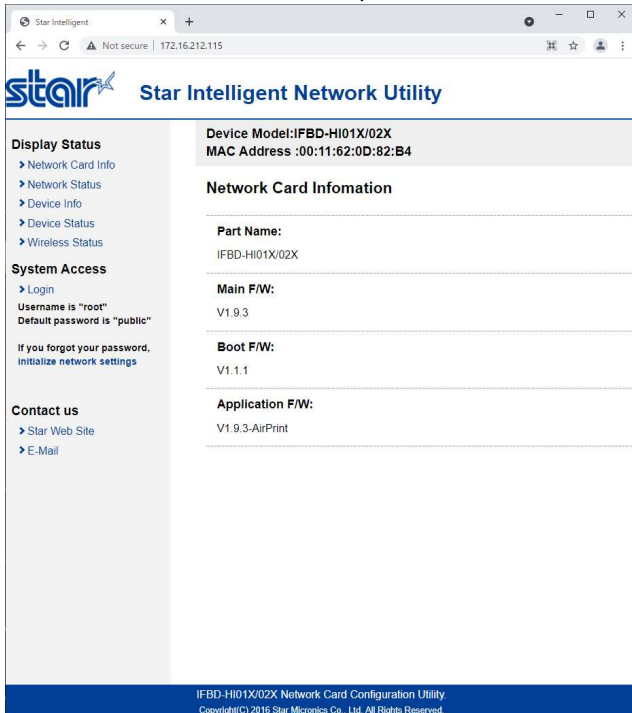| Brand	Model	Frequency	F/W
PLANEX	GW−USNANO2A	2.4GHz	1.5.0 or higher
EDIMAX	EW−7811UN	2.4GHz	1.5.0 or higher
D−Link	DWA−182 rev C1	2.4GHz / 5GHz	1.5.0 or higher
LINKSYS	WUSB6300	2.4GHz / 5GHz	1.5.0 or higher
EDIMAX	EW−7811UN V2	2.4GHz	1.9.3 or higher
TRENDnet	TEW−648UBM V2 0R	2.4GHz	1.9.3 or higher
D−Link	DWA−182 HW Ver.D1	2.4GHz / 5GHz	1.9.3 or higher
ASUS	USB−AC53 Nano	2.4GHz / 5GHz	1.9.3 or higher
D−Link	DWA−131 HW Ver.E1	2.4GHz	1.9.3 or higher
ASUS	USB−N10 Nano B1	2.4GHz	1.9.3 or higher

2.3.2 Self-Print

Check the IP address of the IFBD-HI01X/02X by self-print by following below procedure.

- Connect Ethernet cable to the IFBD-HI01X/02X - Printer.
- Turn on the IFBD-HI01X/02X - Printer with pushing the feed button for 5 seconds.
- The IP address of the IFBD-HI01X/02X - Printer is shown in 2nd print paper.

Ethernet Network:
IP Address   :xxx.xxx.xxx.xxx (※Protocol)
Subnet Mask   :xxx.xxx.xxx.xxx
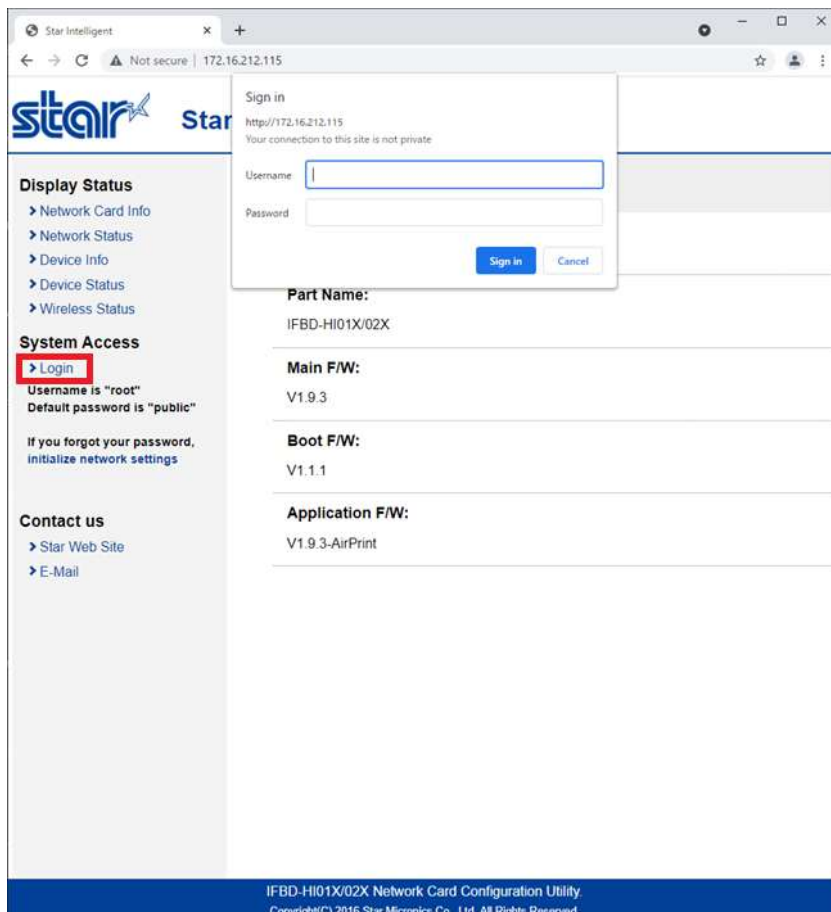Default Gateway :xxx.xxx.xxx.xxx
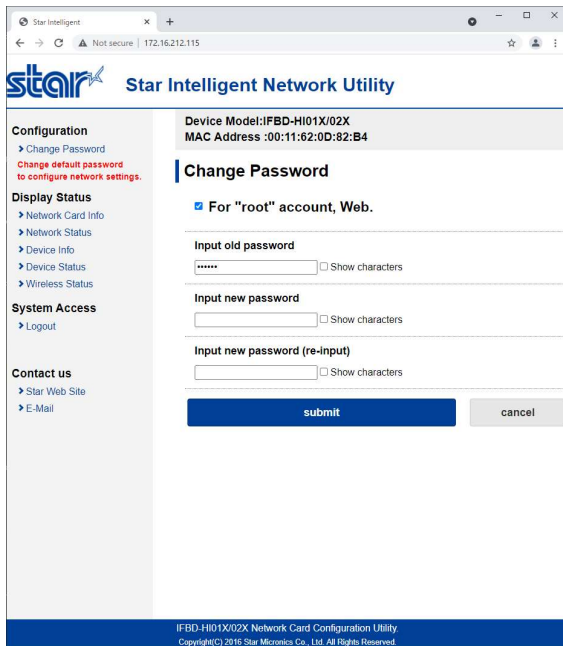
2.3.3 Execute Browser, then Login

Put IP address of IFBD-HI01X/02X into the web-browser. Then the web configuration utility is shown.

To enter the setting of HI01X/02X page, click "Login" and put user name and password.
User name: "root", Password: "public" as factory setting. (These has been indicated under "Login")
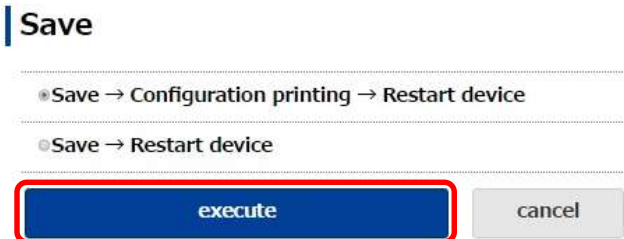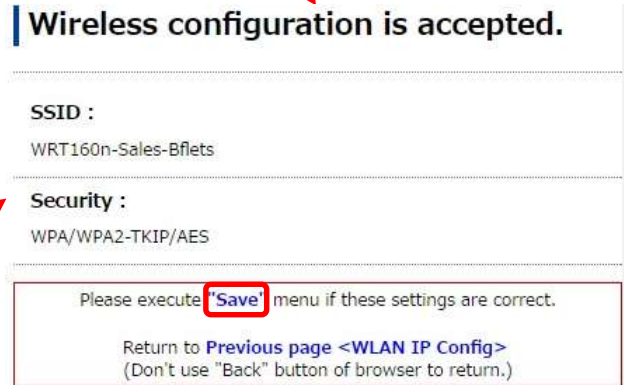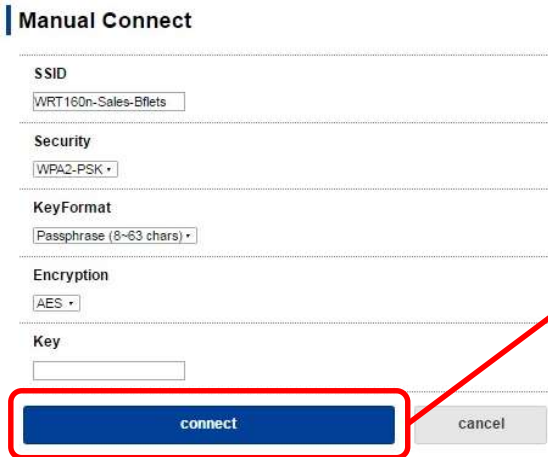
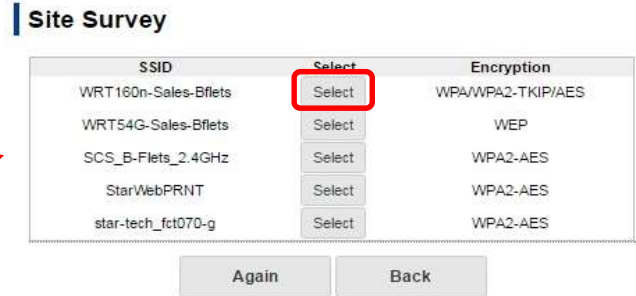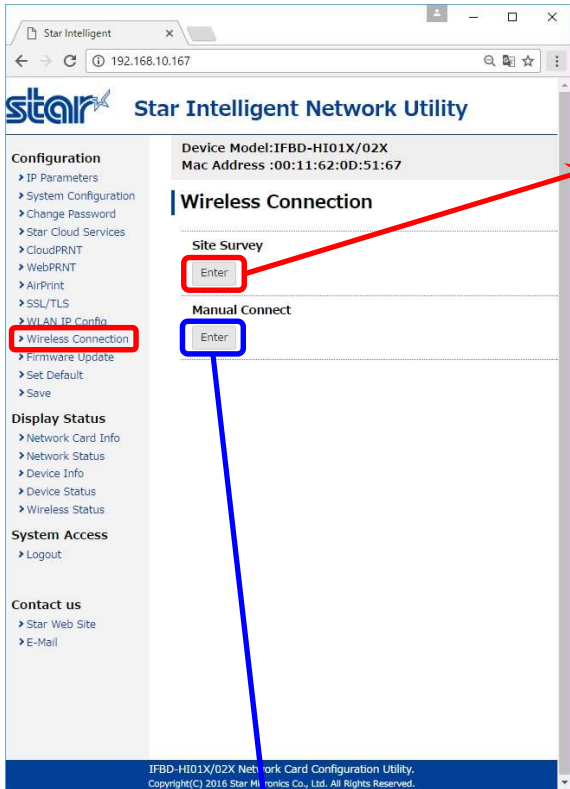After Login, if login password for root is default, then "Change Password" contents show.
　Please input new password and click submit. If submit is succeeded, then go next step.
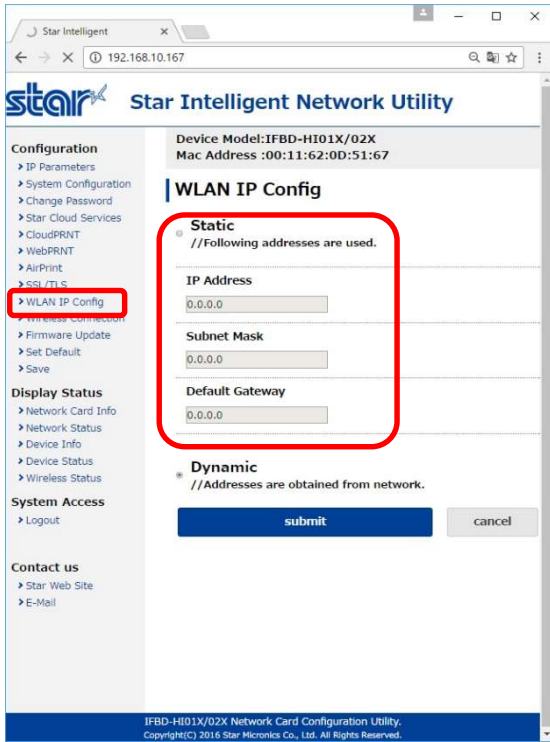
2.3.4 Wireless Connection Settings

There are two kinds of settings to connect to Access Point, one is Site Survey and another is Manual Connect.

2.3.5 WLAN IP Config

If you need to change IP Address Static, please change them, then save the settings.

IP Parameters

The following table shows the Static (fixed address) and Dynamic (dynamic address acquisition) items of the IP address that can be stored in the non-volatile memory.

Category	Setting Items	Input Range	Initial Value (Factory Default)
Static	IP Address	0.0.0.0 to 255.255.255.254	0.0.0.0
	Subnet Mask	0.0.0.0 to 255.255.255.255	0.0.0.0
	Default Gateway	0.0.0.0 to 255.255.255.255	0.0.0.0
Dynamic	DHCP/BOOTP	ENABLE / DISABLE	ENABLE
	RARP	ENABLE / DISABLE	ENABLE

Note: If setting Static to anything other than 0.0.0.0, set all Dynamic to DISABLE.
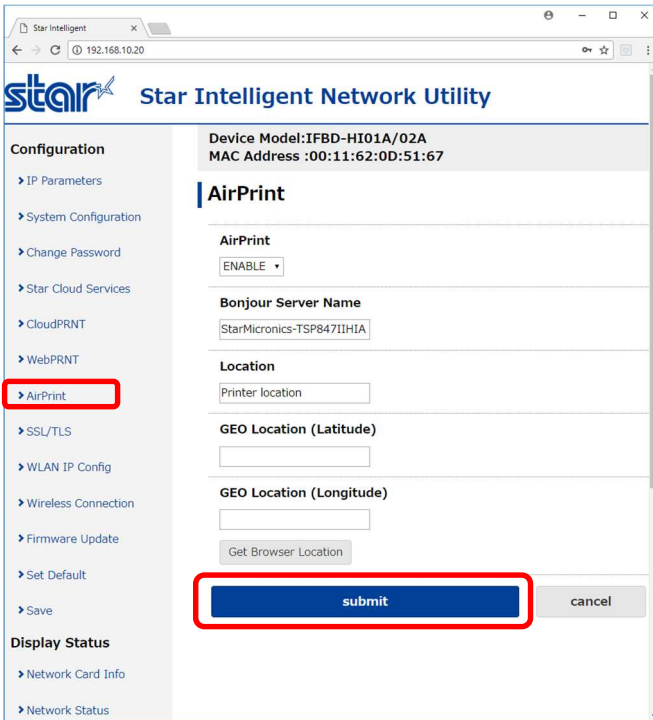If setting Dynamic to ENABLE, set all Static to 0.0.0.0.

After change the settings, please click "submit" and save the settings.

2.3.6 AirPrint Settings

This is settings for AirPrint.
If you need to change below settings, please change them, then save the settings.

[Example of setting list]

Item	Value	Notes
AirPrint	ENABLE (*1) or DISABLE	
Bonjour Server Name	StarMicronics-TSP847IIHIA	max 63 characters
Location	Printer location	max 127 characters
GEO Location (Latitude)		(*2)
GEO Location (Longitude)		(*2)

(*1)   Default value
(*2)   If "Get Browser Location" button cannot work,
        please see following examples or set "SSL" setting and open by "https".

[Example of location]

Location	SMJ (Japan)	SMA (US)	SME (UK)	SMSA (Thailand)
Latitude:	35.0144857	40.4846472	51.6199034	13.7269006
Longitude:	138.451635	-74.5119392	-0.7113674	100.5311396

2.3.7 Peripheral (DK Port) Settings

This is setting for Cash Drawer and Buzzer control for AirPrint, it can be changed at "System Configuration" on the menu list.
Refer to the below settings, then submit and save the settings.

		Value	Default Value
Peripheral Unit 1	Type:	Cash Drawer / Buzzer	CashDrawer
	Timing:	No Use / Document Top / Page Top / Page Bottom / Document Bottom	Document Bottom
	Cash Drawer 1		
	Pulse Width(msec.):	20 to 5100 msec.	200msec.
	Buzzer 1		
	On Time(msec.):	10 to 1270 msec.	20msec.
	Off Time(msec.):	10 to 1270 msec.	20msec.
	Repeat:	1 to 20 times	1 time
Peripheral Unit 2	Type:	Cash Drawer / Buzzer	CashDrawer
	Timing:	No Use / Document Top / Page Top / Page Bottom / Document Bottom	No Use
	Cash Drawer 2		
	Pulse Width(msec.):	200 msec. (Fix)	200msec.
	Buzzer 2		
	On Time(msec.):	10 to 1270 msec.	20msec.
	Off Time(msec.):	10 to 1270 msec.	20msec.
	Repeat:	1 to 20 times	1 time

3 Printing

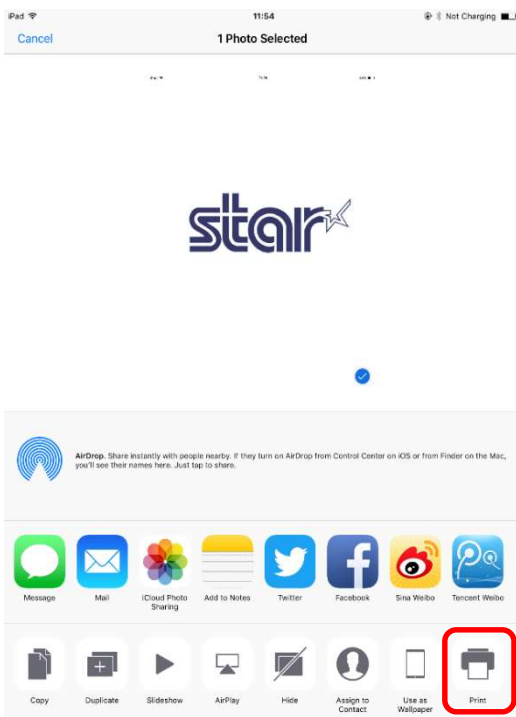## 3.1 How to Print
*In case of printing photos

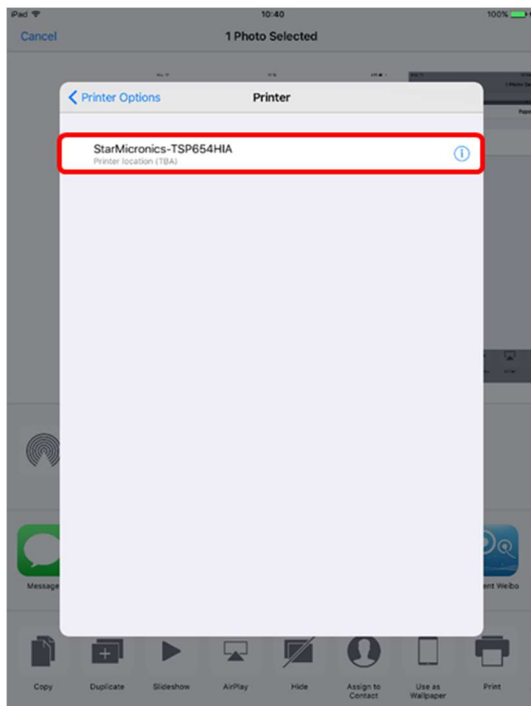### 3.1.1 Please select "**Photos**", then select picture(s)

3.1.2 Please select "**Print**".

3.1.3 Please select "**Printer**".
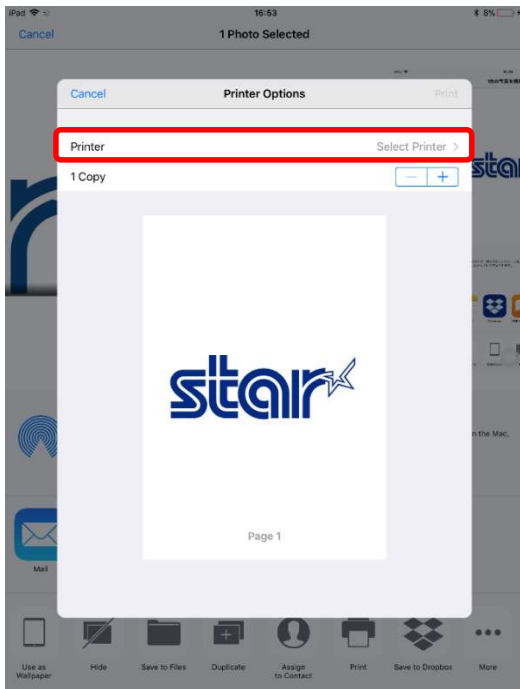
### 3.1.4 Please select **"HIA Printer"**.

3.1.5 Please click "**Print**", then you can get print out.

4 Trouble shooting

4.1 How to initialize Ethernet settings to factory default settings.

If you need the Ethernet settings to factory settings, please do the following operation.

While the TCP/IP is operating, if the **_push switch_** is continued to be held down, the LED display pattern will change according to the times shown below.
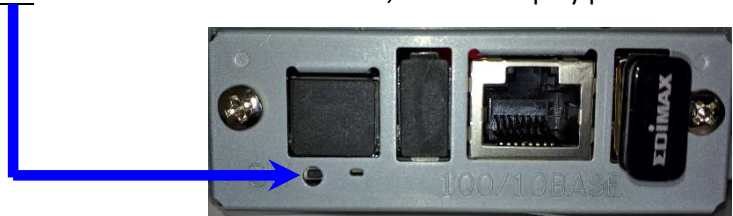
Phase	Phase SW Pressing Time	LED Pattern		Special Mode
		Color	Pattern	
1	1 second to less than 5 seconds	Yellow	Blinking	Reserved (Undefined)
2	**5 second to less than 9 seconds**	**Red**	**Blinking**	**NIC setting initialize mode (*2)**
3	9 second to less than 13 seconds	Green	Blinking	Reserved (Undefined)
	over 13 seconds (*1)			

*1 When Phase 3 is exceeded, press the switch for 1 second to return to Phase 1.
*2 Execution procedures for the NIC setting initialize mode

A) After entering this mode, press the push switch once and release it. The LED display will be "Extinguished" and the initializing of the NIC settings in the non-volatile memory will begin.

B) If the initialization is successful, the printer will automatically be reset.

Do not turn off the power or apply a reset until this reset has been applied.

Also, if the NIC setting initialization fails, the LED display will be "Red Lit" and all operations will stop.

If so, turn the power off.

Note: When turning the power on, a different mode (automatic firmware update function using TFTP client) will startup that is different to the above functions, for the operations when turning the power on with the push switch pressed.

https://www.starmicronics.com/support/