AirPrint Users Manual

Revision 1.2

Star Micronics Corporation Special Devices Division

STAR MICRONICS CO., LTD.

November 2019
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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")

1.2 Support OS

iOS

Devices using the latest version of iOS as following:

- iPhone
- iPad
- iPod touch

macOS

macOS 10.14 / 10.13 / 10.12, Mac OS X 10.11 / 10.10 are supported by Mac OS X CUPS Driver.
Please download Mac OS X CUPS Driver from below URL.

http://www.starmicronics.com/support/default.aspx?printerCode=CUPS_for_Mac

1.3 Trademarks

Apple, the Apple logo, iPad, iPhone, iPod, iPod touch, iTunes, Retina, Mac, Mac OS and OS X are trademarks of Apple Inc., registered in the U.S. and other countries.

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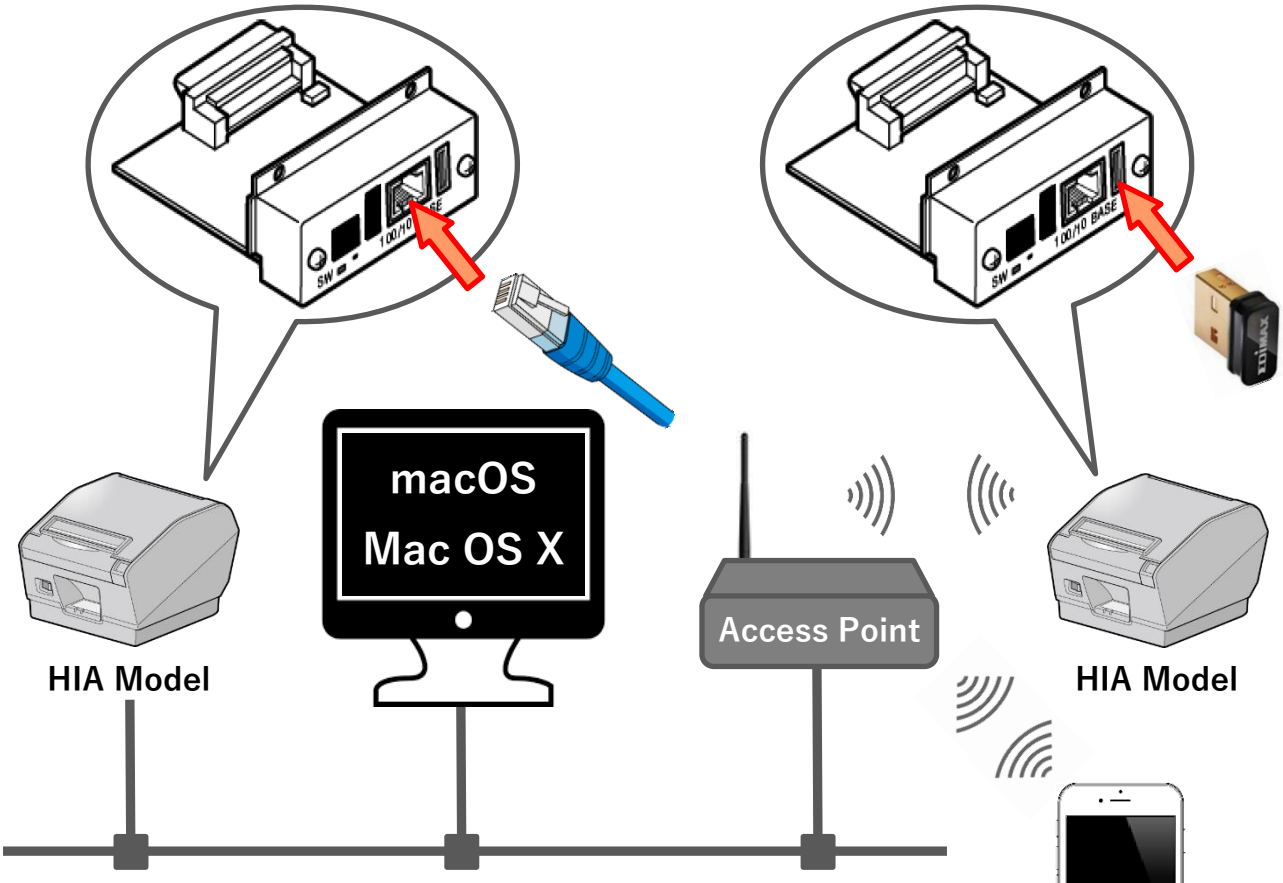
2 Setting

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.

2.2 How to setup Wired LAN

2.3 How to setup WLAN



Supported WiFi Dongle

Brand	Model	Frequency
PLANEX	GW-USNANO2A	2.4GHz
EDIMAX	EW-7811UN	2.4GHz
D-Link	DWA-182 rev C1	2.4GHz / 5GHz
LINKSYS	WUSB6300	2.4GHz / 5GHz

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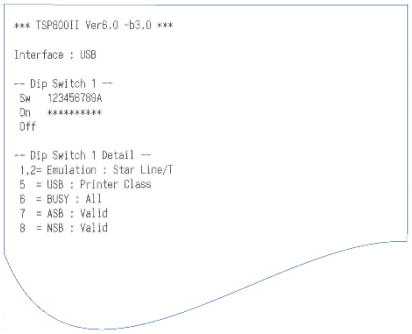
2.2 How to setup Wired LAN

2.2.1 Connect Ethernet cable to Access Point or Switching Hub.

2.2.2 Self-Print

Turn ON the printer with FEED button pushing.
You can find the IP Address (DHCP) on the bottom of 2nd page.

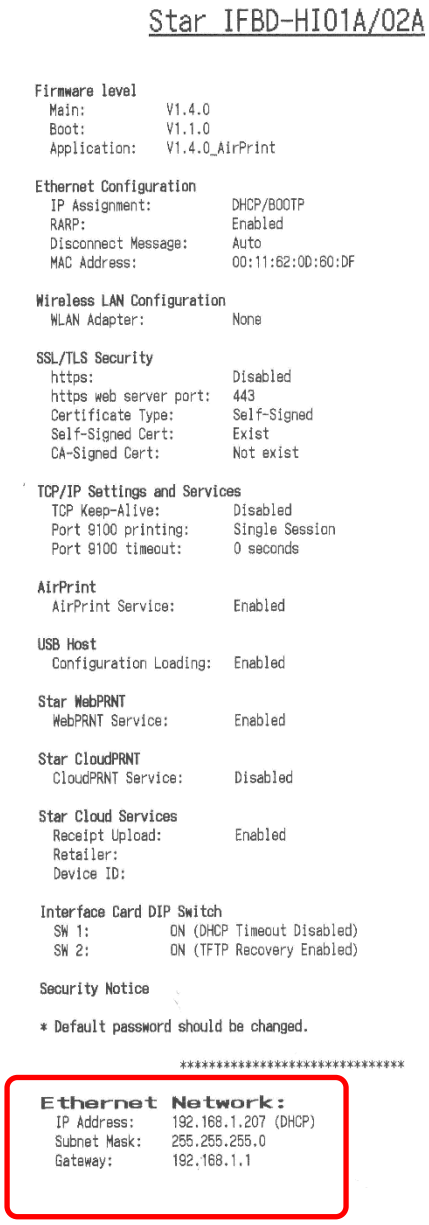


```
*** TSP800II Ver6.0 -b3.0 ***

Interface : USB

-- Dip Switch 1 --
 Sw   12345678A
 On   **********
 Off

-- Dip Switch 1 Detail --
 1,2= Emulation : Star Line/T
 5  = USB : Printer Class
 6  = BUSY : All
 7  = ASB : Valid
 8  = NSB : Valid
```



Star IFBD-HI01A/02A

Firmware level
Main: V1.4.0
Boot: V1.1.0
Application: V1.4.0_AirPrint

Ethernet Configuration
IP Assignment: DHCP/BOOTP
RARP: Enabled
Disconnect Message: Auto
MAC Address: 00:11:62:0D:60:DF

Wireless LAN Configuration
WLAN Adapter: None

SSL/TLS Security
https: Disabled
https web server port: 443
Certificate Type: Self-Signed
Self-Signed Cert: Exist
CA-Signed Cert: Not exist

TCP/IP Settings and Services
TCP Keep-Alive: Disabled
Port 9100 printing: Single Session
Port 9100 timeout: 0 seconds

AirPrint
AirPrint Service: Enabled

USB Host
Configuration Loading: Enabled

Star WebPRNT
WebPRNT Service: Enabled

Star CloudPRNT
CloudPRNT Service: Disabled

Star Cloud Services
Receipt Upload: Enabled
Retailer:
Device ID:

Interface Card DIP Switch
SW 1: ON (DHCP Timeout Disabled)
SW 2: ON (TFTP Recovery Enabled)

Security Notice

* Default password should be changed.

****

Ethernet Network:
IP Address: 192.168.1.207 (DHCP)
Subnet Mask: 255.255.255.0
Gateway: 192.168.1.1

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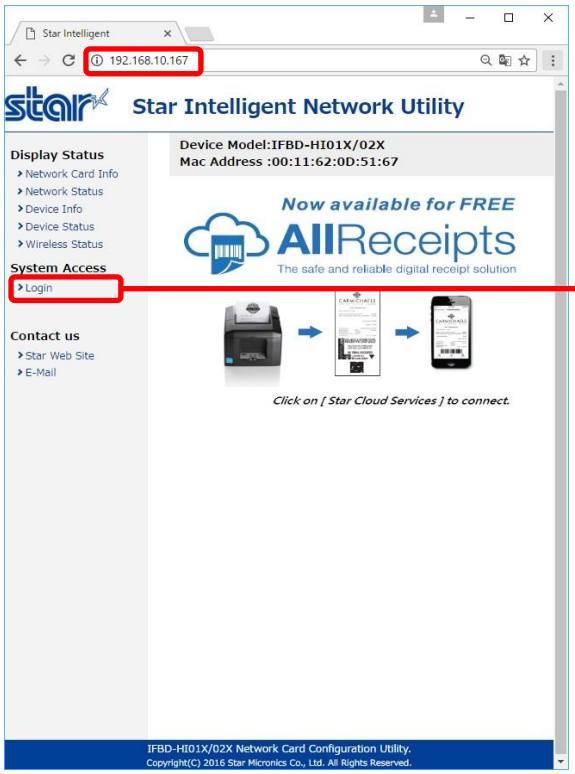
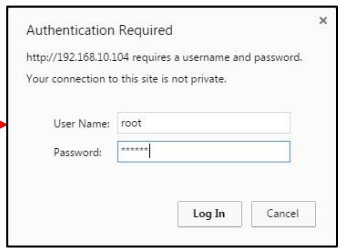
2.2.3 Execute Browser, then Login

Execute Browser, then put IP Address which you got from Self-Print.
And, click "Login".





Default Login ID & Password

User Name : *root*

Password : *public*

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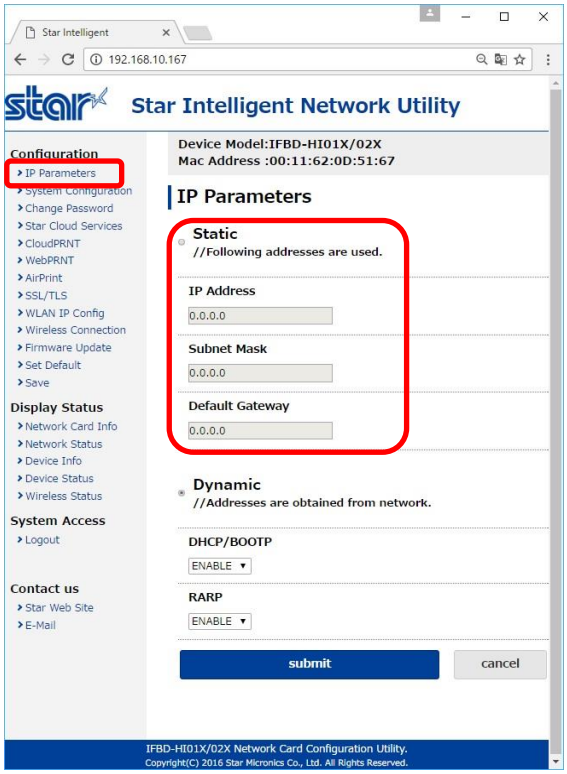
2.2.4 IP Config Settings

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



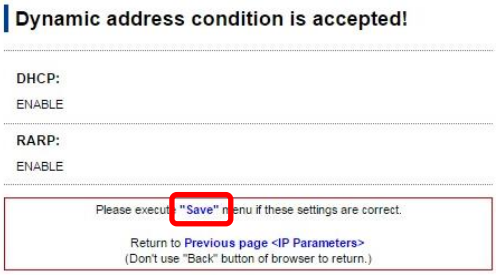
IP Parameters

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.



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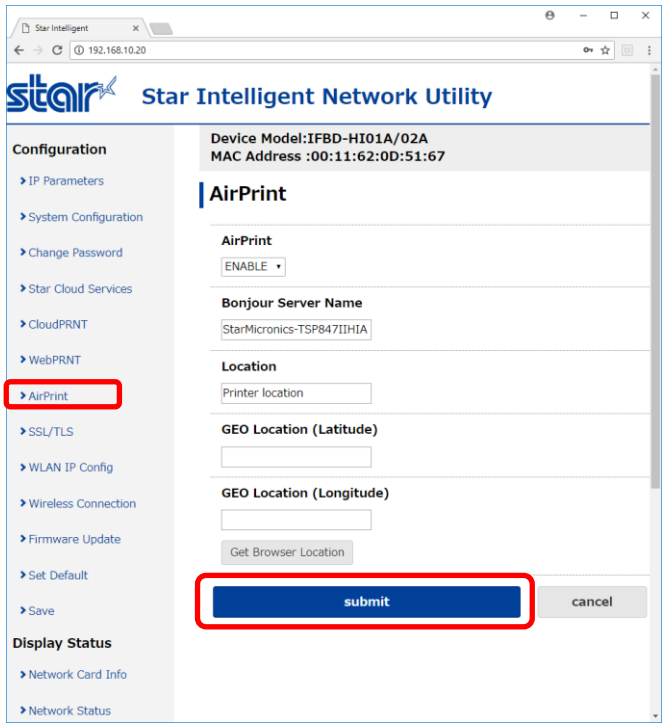
2.2.5 AirPrint Settings

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

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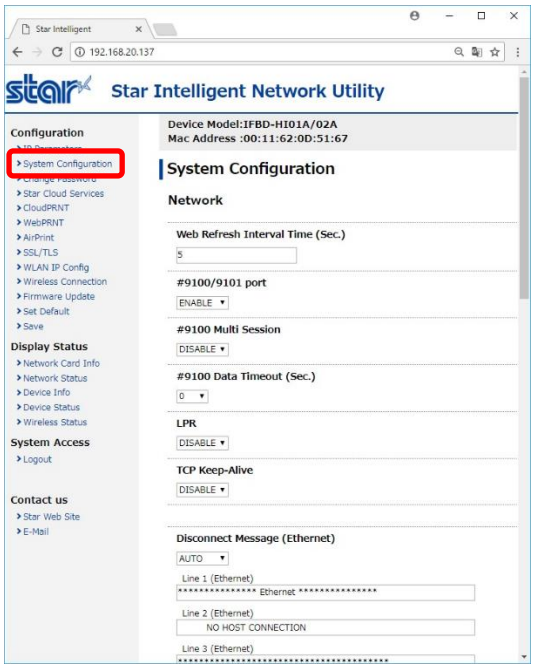
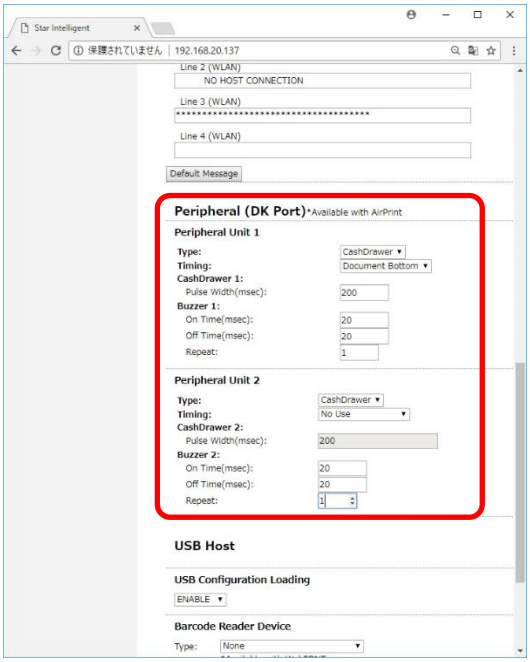
2.2.6 Peripheral (DK Port) Settings

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

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2.3 How to setup WLAN

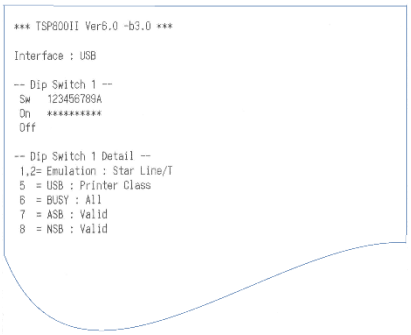
2.3.1 Put WiFi Dongle onto USB Type A connector and Ethernet cable to Access Point.

Supported WiFi Dongle

Brand	Model	Frequency
PLANEX	GW-USNANO2A	2.4GHz
EDIMAX	EW-7811UN	2.4GHz
D-Link	DWA-182 rev C1	2.4GHz / 5GHz
LINKSYS	WUSB6300	2.4GHz / 5GHz

2.3.2 Self-Print

Turn ON the printer with FEED button pushing.
You can find the IP Address (DHCP) on the bottom of 2nd page.



```
*** TSP800II Ver6.0 -b3.0 ***

Interface : USB

-- Dip Switch 1 --
 Sw   12345678A
 On   **********
 Off

-- Dip Switch 1 Detail --
 1,2= Emulation : Star Line/T
 5  = USB : Printer Class
 6  = BUSY : All
 7  = ASB : Valid
 8  = NSB : Valid
```

Star IFBD-HI01A/02A

```
Firmware level
  Main:          V1.4.0
  Boot:          V1.1.0
  Application:   V1.4.0_AirPrint

Ethernet Configuration
  IP Assignment:           DHCP/BOOTP
  RARP:                    Enabled
  Disconnect Message:      Auto
  MAC Address:             00:11:62:0D:60:DF

Wireless LAN Configuration
  WLAN Adapter:            None

SSL/TLS Security
  https:                   Disabled
  https web server port:   443
  Certificate Type:        Self-Signed
  Self-Signed Cert:        Exist
  CA-Signed Cert:          Not exist

TCP/IP Settings and Services
  TCP Keep-Alive:          Disabled
  Port 9100 printing:      Single Session
  Port 9100 timeout:       0 seconds

AirPrint
  AirPrint Service:        Enabled

USB Host
  Configuration Loading:   Enabled

Star WebPRNT
  WebPRNT Service:         Enabled

Star CloudPRNT
  CloudPRNT Service:       Disabled

Star Cloud Services
  Receipt Upload:          Enabled
  Retailer:
  Device ID:

Interface Card DIP Switch
  SW 1:          ON (DHCP Timeout Disabled)
  SW 2:          ON (TFTP Recovery Enabled)

Security Notice

* Default password should be changed.

                  ********************************

Ethernet Network:
  IP Address:    192.168.1.207 (DHCP)
  Subnet Mask:   255.255.255.0
  Gateway:       192.168.1.1
```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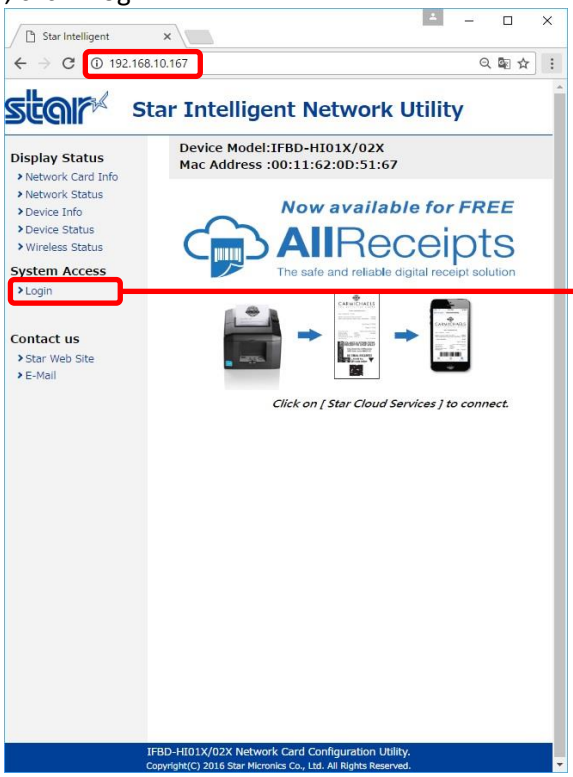
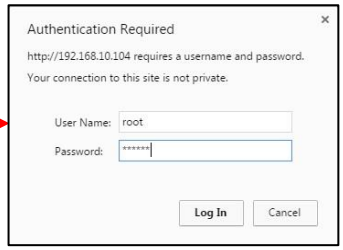
2.3.3 Execute Browser, then Login

Execute Browser, then put IP Address which you got from Self-Print.
And, click "Login".





Default Login ID & Password

User Name : *root*

Password : *public*

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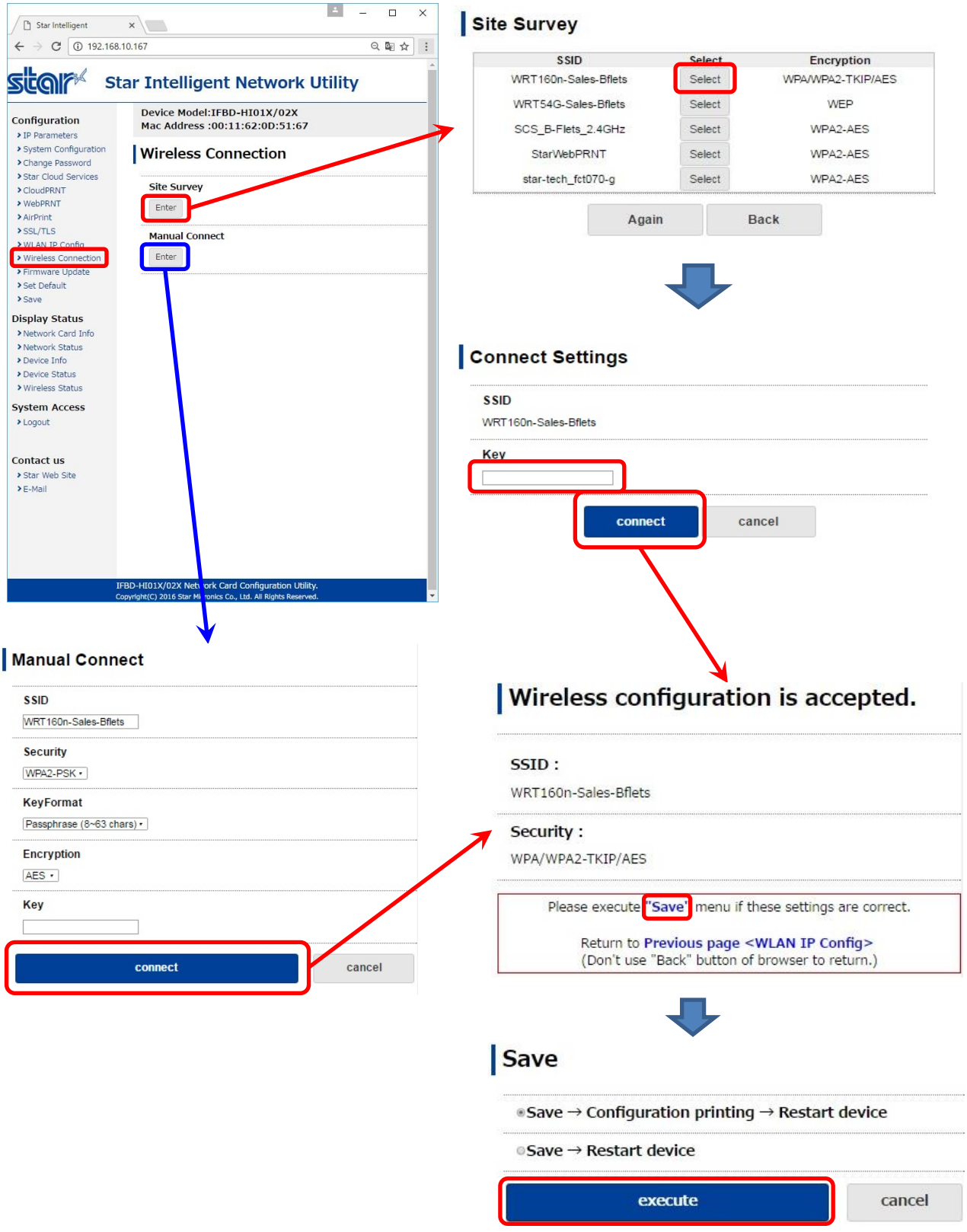
2.3.4 Wireless Connection Settings

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



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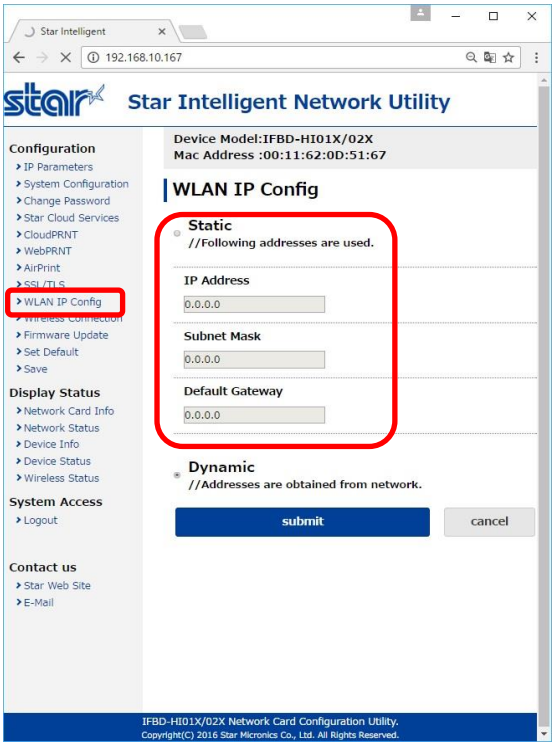
2.3.5 WLAN IP Config

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



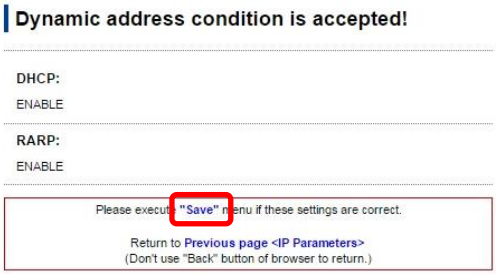
IP Parameters

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.



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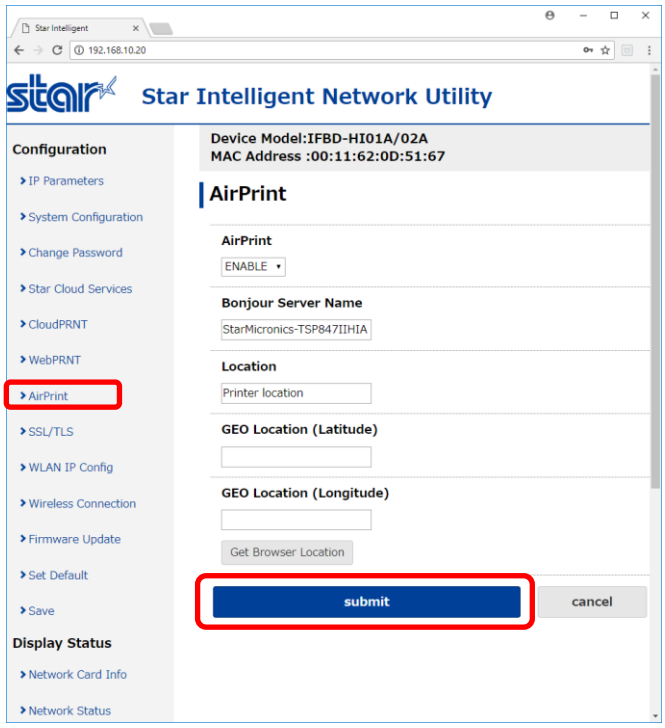
2.3.6 AirPrint Settings

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

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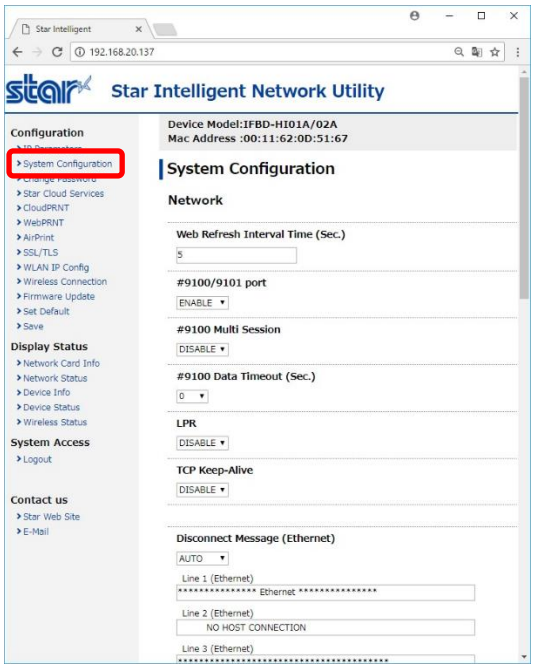
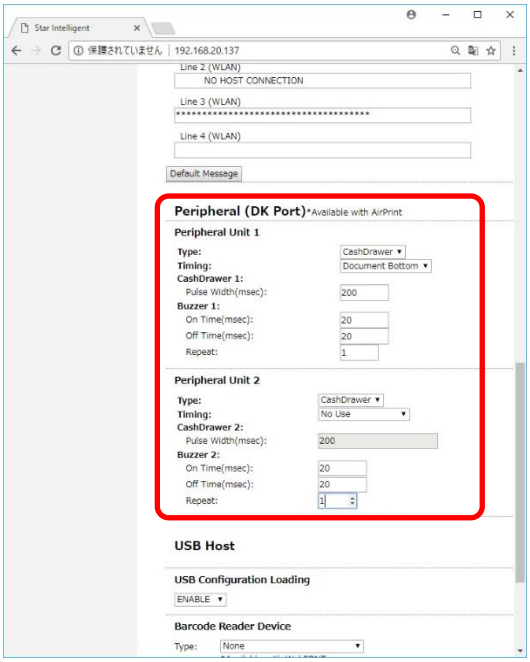
2.3.7 Peripheral (DK Port) Settings

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

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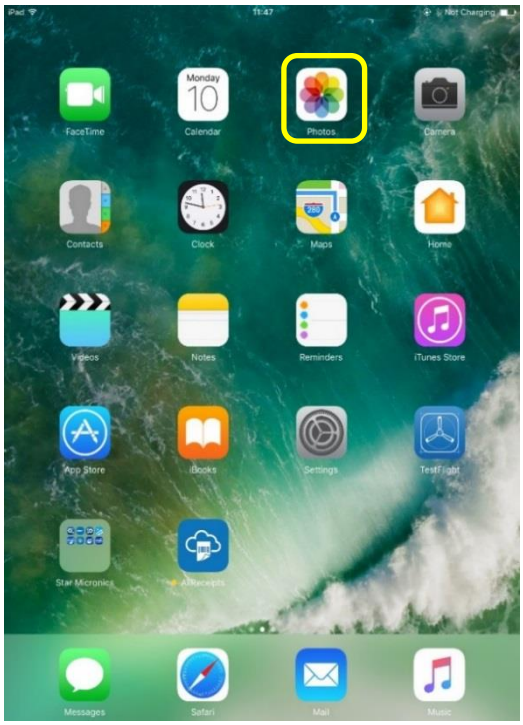
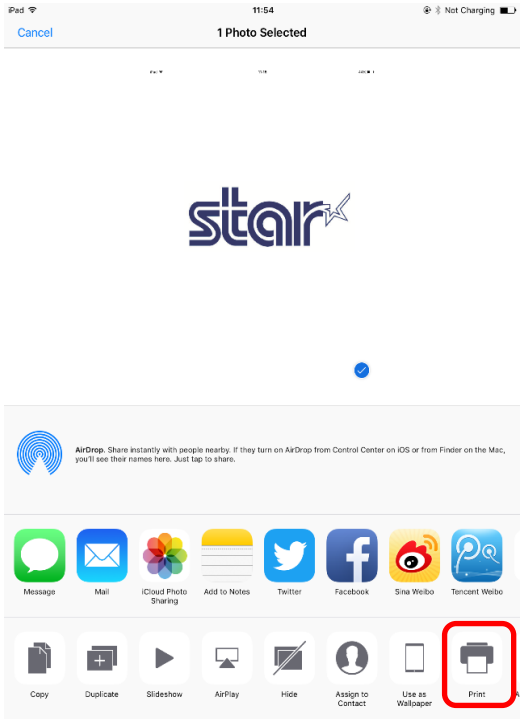
3 Printing

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**".



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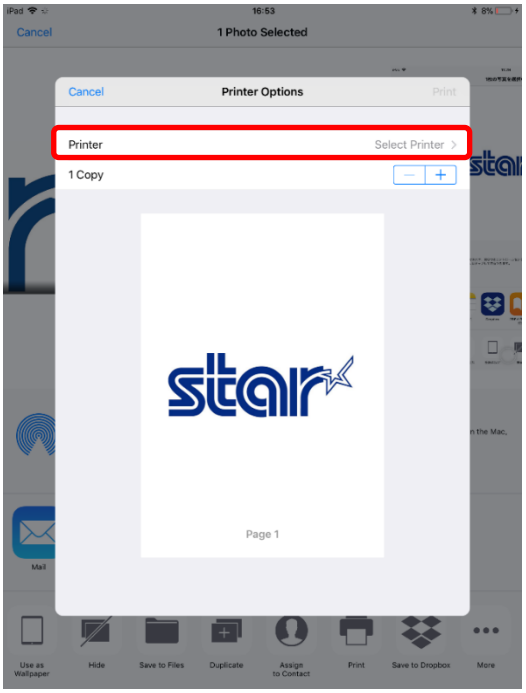
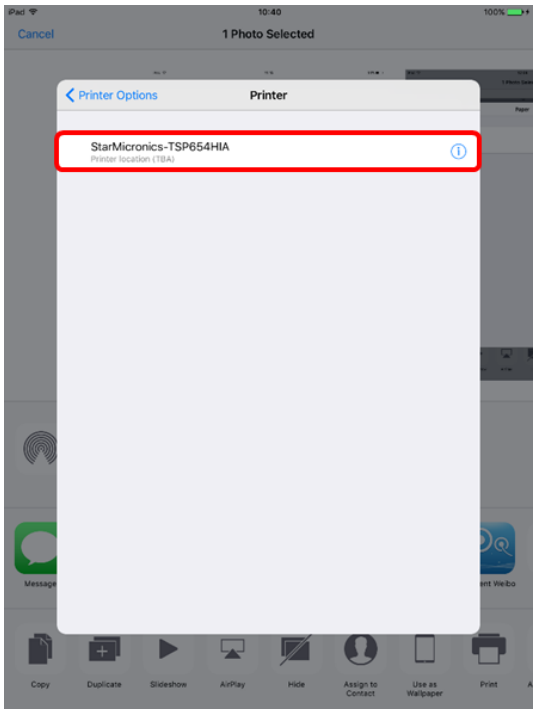
3.1.3 Please select "**Printer**".



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



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

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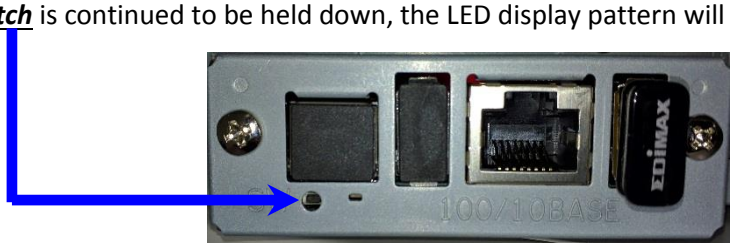
4 Trouble shooting

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.

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