Set-up Manual for IFBD-HI01X/02X

Wireless LAN Printer WebPRNT CloudPRNT

STAR MICRONICS CO., LTD.



Rev1.3

P43

IFBD-HI01X/02X with Star Printer – How to setup

1.	Introduction	P2
2.	Web configuration utility	P3
3.	Firmware Update	P9
4.	WLAN dongle setting	P14
5.	WebPRNT Initial setting/ BCR setting/ Demo	P25
6.	CloudPRNT Initial setting/ Peripheral device setting	P33
7.	Star Cloud Services Initial setting	P39

History



1. Introduction

Interface	Printer	Printer Firmware		
Board model	model	Boot Version	Main Version	Interface Firmware
	TSP650II	1.0 or later	1.0 or later	1.1 or later
IFBD-HI01X	TSP700II	2.0 or later	3.0 or later	1.2 or later
	TSP800II	1.0 or later	1.2 or later	1.2 or later
IFBD-HI02X	SP700	2.0 or later	3.0 or later	1.2 or later

IFBD-HI01X/02X is supporting the following printers.

The printer with IFBD-HI01X/02X can be worked as USB Printer, LAN Printer, and Wireless Printer by using Wireless LAN dongle.

In addition, the printer with IFBD-HI01X/02X can be WebPRNT Printer and CloudPRNT Printer.

[Notes]

When changes the printer setting (e.g. Memory Switch Settings, Register Logo Setting, Printer F/W \cdot Font writing...), then please turn off and on the printer power to apply the changed settings on the IFBD-HIX I/F and Printer correctly.

Driver	StarPRNT Intelligence CD			CUPS Driver	JavaPOS Driver
				(Web Release)	(Web Release)
Version	Printer Driver	OPOS	StarlO	Linux: Ver3.1.1	
	Ver. 2.0	Ver1.13.2	Ver1.2.2	Mac: Ver3.1.1	Ver1.9.13 or later
	or later	or later	or later	or later	
Support	O*3	O*1	0	O *2 *4	0

IFBD-HI01X/02X is supporting the following printer drivers.

*1 : OPOS driver with USB is supported from HI01X/02X firmware version 1.2.

- *2 : To use CUPS driver, LPR must be set Enable from WebUI. (Default is Disable) To use LPR, 9100 port also must be set Enable.
- *3 : When use PSA Logo Store tool with TSP650II,

please "Reload" Logo again if it is failed to "Reload" the registered Logo from the printer.

*4 : To use CUPS driver with Star Cloud Services, the "Fixed Length" of "Page Type" can not use correctly. The printing result becomes same as "Variable Length" of "Page Type".

2. Web configuration utility

The web configuration utility is located in HI01X/02X. It is shown below how to access to the web configuration utility.

- 1. 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.



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





3. To enter the setting of HI01X/02X page, click "Login" and put user name and password. User name: "root", Pass word: "public" as factory setting.



Example : changing LPR setting from Disable to Enable

In the screen below, select [System Configuration] from left menu, and select LPR: ENABLE.

Configuration > IP Parameters	Device Model:IFBD-HI01X/02X Mac Address :00:11:E5:05:CC:98
System Configuration	System Configuration
➤Change Password	
Star Cloud Services	Network
CloudPRNT	
▶ WebPRNT	Web Refresh Interval Time (Sec.)
SSL/TLS	
➤WLAN IP Config	5
Wireless Connection	#0100/0101 most
▶ Firmware Update	
▶ Set Default	ENABLE V
> Save	#0100 Multi Saaaian
Display Status	
Natural Carl Info	DISABLE •
Network Statue	#0100 Data Timon t (Sala)
Device Infe	
Device Into	0 •
Wireless Status	
 Wireless otatus 	
System Access	DISABLE V
▶ Logout	

Then, click Submit in the bottom of this screen.



4. Click the menu [Save].

CLOK

Select any of the following, the click Execute:

- •Save \rightarrow Configuration Printing \rightarrow Restart device
- Save → Restart device

(After the set print is output, when you select, Configuration Printing) Wait for the printer to reset.

Star Intelligent Network Utility					
Network Configuration	Device Model:IFBD-HI01 X/02X				
 System Configuration 	Mac Address :00:11 :E5:05:CD:1C				
 Change Password CloudP RNT WebPRNT 	Save				
> SSL/TLS > WLAN IP Config					
> Wireless connection	©Save → Restart device				
 > Firmware Update > Set Default > Save 	execute cancel				

Fin

■How to set SSL/TLS setting for web server of IFBD-HI01X/02X.

SSL/TLS setting can be select self signed certificate made by I/F or custom ca-certificate. This SSL/TLS setting is stored in this product's non-volatile memory.

1. Select "Create Self-Signed Certificate".

Configuration	Device Model:IFBD-HI01X/02X Mac Address :00:11:62:0D:60:DF
 > IP Parameters > System Configuration > Change Password 	SSL/TLS
 > Star Cloud Services > CloudPRNT > WebPRNT > SSL/TLS 	SSL/TLS Setting
 WLAN IP Config Wireless Connection 	Create Self-Signed Certificate
 > Firmware Update > Set Default > Savo 	Import CA-Signed Certificate

2. Input each items to create self- signed certificate as followings and push "create".

Variable name	Max length of string	[Example]	Default value
Country Name (2 letter code)	2	JP	(Blank)
State or Province Name	128	Shizuoka city	(Blank)
Locally Name (eg, city)	128	Shimizu-ku,	(Blank)
		Nanatshushinya	
Organization Name (eg, company)	128	Star Micronics Co., Itd.	(Blank)
Organization Unit Name (eg, section)	128	Software Section	(Blank)
Domain (eg, IP Address)	128	192.168.1.175	(Blank)
Expiration Date (eg, YYYY/MM/DD)	2015.01.01 to 2049.12.31	2020/12/31	(Blank)

Star Intelligent Network Utility

Configuration	Device Model:IFBD-HI01X/02X Mac Address :00:11:62:0D:60:DF
 System Configuration Change Password 	Self-Signed Certificate
 Star Cloud Services CloudPRNT WebPRNT 	Country Name (2 letter code)
 > SSL/TLS > WLAN IP Config > Wireless Connection 	State or Province Name
 > Firmware Update > Set Default > Save 	Locally Name (eg, city)
Display Status Network Card Info Network Status 	Organization Name (eg, company)
 Device Info Device Status Wireless Status 	Organization Unit Name (eg, section)
System Access Logout	Domain
Contact us > Star Web Site > E-Mail	Expiration Date (eg, YYYY/MM/DD)



3. Push "Save" link. At below page, select save way and push "execute".

Network Configuration	Device Model:IFBD-HI01X/02X		
 > IP Parameters > System Configuration 	Mac Address :00:11:E5:05:CD:1C		
> Change Password > CloudP RNT	Save		
> SSL/TLS > WI AN IP Config	${}^{\odot}$ Save \rightarrow Configuration printing \rightarrow Restart device		
>Wireless connection	Save → Restart device		
 Firmware Update Set Default 	execute	cancel	

After reboot printer, then select "SSL/TLS->Create Self Certificate" again and push "Download" to get created self-signed certificate for registering on web browser(*).
 (*) Please register downloaded certification file by each browser way.

Contact us	Expirat	tion Date (eg, YYY)	//MM/DD)	
Star Web Site				
> E-Mail		create	download	delete

5. Select "SSL/TLS" and push "SSL/TLS Setting".

Star Intelligent Network Utility					
Configuration	Device Model:IFBD-HI01X/02X Mac Address :00:11:62:0D:60:DF				
System ConfigurationChange Password	SSL/TLS				
 Star Cloud Services CloudPRNT WebPRNT 	SSL/TLS Setting				
 > SSL/TLS > WLAN IP Config > Wireless Connection 	Create Self-Signed Certificate				
 Firmware Update Set Default Save 	Import CA-Signed Certificate				



6. Input each items at "SSL/TLS Setting". And push "submit".(In this case, choose "Self_Signed")

Setting Items	Input Range (*)	Initial Value (Factory Default)	
SSL/TLS	ENABLE / DISABLE	DISABLE	
TCP Port	1 \sim 65535	443	
Certificate	Self_Signed/CA-Signed	Self_Signed	

star st	ar Intelligent Network Utility
Configuration	Device Model:IFBD-HI01X/02X Mac Address :00:11:62:0D:60:DF
 IP Parameters System Configuration Change Password 	SSL/TLS Setting
 Star Cloud Services CloudPRNT WebPRNT 	SSL/TLS ENABLE •
 > SSL/TLS > WLAN IP Config > Wireless Connection 	TCP Port 443
 > Firmware Update > Set Default > Save 	Certificate Self_Signed •
Display Status Network Card Info Network Status	submit cancel

7. Push "Save" link. At below page, select save way and push "execute" (Same as "3."). It can access to <u>https://[Printer IP Address]</u> after reboot.

Fin.

[If use custom "CA-Signed Certificate"] Please select "SSL/TLS" and push "Import CA-Signed Certificate" on "1.". And please upload custom CA-Signed Certificate and Private Key by "Browse" and "Upload".

	Device Model:IFBD-HI01X/02X Mac Address :00:11:62:0D:60:DF
 System Configuration Change Password 	Import CA-Signed Certificate
 Star Cloud Services CloudPRNT 	Browse No file selected.
> WebPRNT	upload
> SSL/TLS	
WLAN IP Config	Import CA-Signed Private Key
Wireless Connection	1 1
Firmware Update	
Set Default	Browse No file selected.
> Save	
Display Status	upload
Network Card Info	delete

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3. Firmware Update

It is shown below how to update the firmware. This product allows uploading F/W from Web UI.

There are 2 ways for uploading. One is online updating from Star Cloud Service. The other is offline updating from a local file.

The current firmware version can be confirmed from [Network Card Info] menu of WebUI

star	Star Intelligent Network Utility
Configuration	Device Model:IFBD-HI01X/02X Mac Address :00:11:E5:05:CC:98
 IP Parameters System Configuration Change Password 	Network Card Infomation
 Star Cloud Services Cloud PRNT WebPRNT 	Part Name: IFBD-HI01X/02X
 > SSL/TLS > WLAN IP Config > Wireless Connection 	Main E/W: V1.1.0
 Firmware Update Set Default Save 	Boot F/W : V1.0.0
Display Status Network Card Info Network Status 	Application F/W: V1.1.0
 Device Info 	



A. Updating from Star Cloud Service (Online)

This procedure can be valid in the case of the network connecting internet.

A-1. Click "Network Configuration" ->Firmware Update.



A-2. Click [Check for updates]





A-3. If the latest firmware data is available, version number and release note are shown as below.



A-4. After clicking the download button, when all data has been confirmed to be correctly received, start writing to the Flash ROM with below screen.



After writing to the Flash ROM ends correctly, the printer will automatically be reset. Writing takes several minutes. Absolutely never turn off the power or apply a reset prior to final reset being applied. If terminated partway, the Flash ROM data will be damaged, and later it may not start up.

* If your current firmware version is latest, [Your Interface hardware is up-to-date] is expressed, and no need to update firmware.

Update Firmware from Star Cloud Services

Check for updates Your Interface hardware is up-to-date

No firmware updates are needed for your hardware at this time.

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B. Updating from a local file (Offline)

For this procedure user must obtain a F/W file from Star Micronics in advance.

B-1. Click "Network Configuration" -> Firmware Update.







Check for updates



> WLAN IP Config
> Wireless Connection
> Firmware Update
> Set Default



B-3 . Click [Browse] button, and select a firmware file.



B-4. Click "upload" button.

When all data has been confirmed to be correctly received, start writing to the Flash ROM with below screen.



If writing to the Flash ROM ends correctly, the printer will automatically be reset. Writing takes several minutes. Absolutely never turn off the power or apply a reset prior to final reset being applied. If terminated partway, the Flash ROM data will be damaged, and later it may not start up.

Fin.



4. WLAN dongle setting

The following list shows the Wireless LAN dongle tested by Star.	

W/LAN object	Brond	Model	Test
WLAN Chipset	Dianu	Model	result
	PLANEX	GW-USNANO2A	~
	TRENDnet	TEW-648UBM	~
RTL8188CUS	EDIMAX	EW-7811UN	~
	NETGEAR	WNA1000M	~
	PLANEX	GW-900D	✓ *1
	Buffalo	WI-U2-433DM	~
	TRENDnet	TEW-805UB	✓ *1
	TP-LINK	Archer T4U Ver.1	✓ *1
RTL0012AU	TP-LINK	Archer T4U Ver.2	✓ *1 *2
	D-Link	DWA-182 rev C1	✓ *1
	LINKSYS	WUSB6300	✓ *1
RTL8192DU	Aus Linx	AL-9904R3	~

*1 In case of SP700, the dongle cannot mount directly to USB-A port due to the dongle size. In this case please use other dongle or use a general USB extension cable.

*2 Interface F/W version 1.3 or later is required to be supported.



How to set WLAN IP configuration by using WLAN dongle.

For the setting to connect to access point, there are 2 methods. One is from WebUI, and the other is by using USB memory.

A. Setting from WebUI

Access the WebUI by wired LAN connection with WLAN dongle inserted.

- A-1. Access the homepage for administrator (http://IP Address/home.html).
- (Example: For IP address = 192.168.10.1, access http://192.168.10.1/home.html)
- A-2. Login with User Name and Password (UN: "root" and PW:"public" as factory setting)
- A-3. Click "Network Configuration" ->Wireless Connection.



[Method by automatic access point searching]

A-4. Click [Enter] of Site Survey.

Wireless Connect	ion
Site Survey	
Manual Connect	
Enter	





A-5. Then found access point are listed. Click [Select] of access point to connect.

SSID	Select	Encryption
AirPortN	Select	WPA/WPA2-TKIP/AES
TSP100II-B93271	Select	OPEN
WARPSTAR-782F6D	Select	WPA/WPA2-AES
aterm-06c15f-g	Select	WPA/WPA2-AES
WARPSTAR-782F6D-W	Select	WEP
StarDemoAP	Select	WPA2-AES
BAT_Aterm	Select	WPA/WPA2-AES
Roming	Select	WPA/WPA2-TKIP/AES
000A79C03D79	Select	WPA/WPA2-TKIP/AES
Buffalo-G-D468	Select	WPA2-AES

A-6. Input the Key, and click [connect].

Connect Sett	ings	
SSID		
AirPortN		
Key		
	connect	cancel

A-7. Click [save] menu or "save" link to save the setting. In this case, do not click back button of the browser, otherwise setting is disappeared.

Network Configuration	Device Model:IFBD-HI01X/02X Maic Address :00:11:E5:05:CD:1E
System Configuration Change Password	Wireless configuration is accepted.
 Star Cloud Services CloudPRNT WebPRNT SSL/TLS 	SSID : AirPortN
 > WLAN IP Config > Wireless Connection > Firmware Update 	Security : WPA/WPA2-TKIP/AES
Set Default Save Display Status	Please exe <mark>cute "Save" me</mark> hu if these settings are correct. Return to Previous page <wlan config="" ip=""></wlan> (Don't use "Back" button of browser to return.)

A-8. Select [Save -> Configuration printing -> Restart device] for rebooting with setting print, or [Save -> Restart device] for rebooting without setting print, and click [execute]. Then printer executes reboot and setting is finished.

Save			
Save → Configure Configure Save → Configure Configure Save → Configu	ation printing	Restart device	
©Save → Restart o	bevice		
	execute		cancel



Method by inputting the setting manually

A' -4 Click [Enter] of Manual Connect.

Wireless	Connection
Site Surve	ý
Enter	
Manual Co	nnect
Enter	

A' -5 Input the setting of access point manually and click [Connect].

SSID		
AirPortN		
Security		
WPA2-PSK V		
KeyFormat		
Passphrase (8 [~] 63 c	hars) 🔻	
Passphrase (8 [°] 63 c Encryption	hars) v	
Passphrase (8°63 c Encryption AES •	hars) ▼	
Passphrase (8°63 c Encryption AES • Key	hars) ▼	
Passphrase (8°63 c Encryption AES T Key	hars) ▼	



A' -6 Click [save] menu or "save" link to move to save menu. In this case, do not click back button of the browser, otherwise setting is disappeared.

Network Configuration	Device Model:IFBD-HI01X/02X Mac Address :00:11:E5:05:CD:1C
 System Configuration Change Password 	Wireless configuration is accepted.
Star Cloud Services	
Cloud PRNT	SSID :
>WebPRNT	AirPortN
> SSL/TLS	
▶WLAN IP Config	Security :
 Wireless Connection 	WD42-DSK
▶ Firmware Update	
Set Default	Encryption :
+ Cave	AES
Display Status	
Network Card Info	Please execu <mark>re "Save" n</mark> enu if these settings are correct.
▶Network Status	
Device Info	Return to Previous page (WLAN IP Config)
> Device Status	(Don't use Dack Button of browser to return.)

A' -7 Select [Save -> Configuration printing -> Restart device] for rebooting with setting print, or [Save -> Restart device] for rebooting without setting print, and click [execute]. Then printer executes reboot and setting is finished.

Save			
●Save → Conf	iguration printing —	→ Restart deviœ	
©Save → Rest	art device		
	execute		cancel
]	



Wireless connection status can be confirmed from [Wireless Status] menu of WebUI.

Network Configuration	Device Model:IFBD-HI01X/02X Mac Address :00:11:E5:05:CD:1E
 IP Parameters System Configuration Change Password 	Wireless Status
 > Star Cloud Services > CloudPRNT > WebPRNT 	Status : Connected
 SSL/TLS WLAN IP Config Wireless Connection Firmware Update Set Default Save 	SSID: AirPortN
	Current IP 192.168.0.7 (DHCP)
Display Status	

Network Card Info

Network Status

> Device Info

> Device Status

> Wireless Status



B Setting by USB memory

This product allows changing the network setting by generic USB memory that stores a specified setting file.

Procedure of WLAN setting by USB memory

B-1. An operator connects USB memory (FAT32 formatted) which has "star-hix.conf" file to this product with printer power OFF status. For the details of this file, see the bottom of this section. B-2. Turn ON the printer with FEED button pushing. (Self printing is conducted.)

If USB memory is correctly mounted, and "star-hix.conf" file parameter is correct, then below

printing is conducted.

If there is no "star-hix.conf" file in USB memory, printer prints "USB configuration mode cancelled", or if "star-hix.conf" file parameter is incorrect, printer prints "Authentication Error", and setting mode is canceled.

B-3. An operator executes printer cover open 1 second or more and close within one minute after 2. If printer cover open and close is not executed within one minute, printer prints "USB configuration mode cancelled", and setting mode is canceled.

B-4. Printer starts reading a setting of "star-hix.conf". When reading is finished correctly, below printing is conducted.



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USB memory can be taken out after this printing.

B-5. Printer reboots automatically. Then setting are changed.

Configuration file specification

File name : star-hix.conf (fixed)

File path : root directory of USB memory (fixed)

File format : text file, field name and value must be divided by semicolon.

	Field Name	Value and details
Root password	auth	An SHA256 hash of the root password. If supplied then this must match the printer
(with SHA256)		internally stored hash. If they do not match, then settings will not be installed.
		If not provided, then the password is not checked, so the user confirmation must be
		relied on alone to approve the configuration change. Some settings will not be
		applied if no auth field is provided. (*)
WLAN setting	ssid	SSID of the Wireless network to connect to.
	security	Set to OPEN, WEP-OPEN, WEP-KEY, WPA-PSK or WPA2-PSK to specify the
		security type.
	defwepkey	In a WEP-KEY (WEP with key) network, this specifies a value from 1 to 4 to indicate
		the default key to use.
	encryption	In a WPA or WPA2 network, specify the encryption method to use, either TKIP, or
		AES
	key	Specify the pre-shared key for this network. The key format will be determined b the
		length.
	wifi_ip	Specify "DHCP" to use DHCP assigned address, or set to a valid IP address to use
		static IP
	wifi_subnet	Specify the subnet address, if a fixed IP was specified for the ip field. If ip is set to
		DHCP, then this field is ignored.
	wifi_gateway	Specify the gateway address, if a fixed IP was specified for the ip field. If ip is set to
		DHCP, then this field is ignored.
	eth_ip	Specify "DHCP" to use DHCP assigned address for Ethernet, or set to a valid IP
		address to use static IP
	eth_subnet	Specify the Ethernet subnet address, if a fixed IP was specified for the eth-ip field.
		If eth-ip is set to DHCP, then this field is ignored.



	eth_gateway	Specify the Ethernet gateway address, if a fixed IP was specified for the eth-ip field.
		If eth-ip is set to DHCP, then this field is ignored.
Password	rootpassword	Set a new 'root' user password for accessing the configuration UI.
setting(*)		This setting will only be applied if the auth field was also supplied. (*)
	userpassword	Set a new 'user' user password for accessing port 22222 functions.
		This setting will only be applied if the auth field was also supplied. (*)
USB memory	usbconfig	Set to ENABLE or DISABLE to control the USB configuration function. If set to
setting function		DISABLE, then USB configuration will be blocked after settings are applied. To
valid/invalid		re-enable, a user will have to log-in to the WEB configuration UI and manually
		enable the ""USB Configuration"" option.
CloudPRNT	cloudprnt_enable	Set to ENABLE or DISABLE to control the CloudPRNT service
setting	cloudprnt_url	Set to URL of CloudPRNT service.
(Supported from	cloudprnt_interval	Set CloudPRNT Polling time in sec (Range: 1 to 7200, Default value is 5)
I/F version 1.3)	cloudprnt_user	Set user name registered on CloudPRNT server. (Optional)
	cloudprnt_pass	Set password registered on CloudPRNT server. (Optional)
		Set CloudPRNT certification level. (0 as default)
	cloudprnt_certlevel	0: Use Bundle of CA Root Certificates(Mozilla as of: Thu Jun 18 14:06:27 2015)
		1: Use custom CA certificate. (Registered by Web UI on CloudPRNT setting)
		2: Accept all (Warning - not secure)
Disconnect		Set to ENABLE or DISABLE or AUTO to control Disconnect Message function for
Message	eth_disconnectmessage	Wired network.
(Supported from	eth_line1	Set first line of message
I/F version 1.3)	eth_line2	Set second line of message
	eth_line3	Set third line of message
	eth_line4	Set fourth line of message
		Set to ENABLE or DISABLE or AUTO to control Disconnect Message function for
	wifi_disconnectmessage	Wireless network.
	wifi_line1	Set first line of message
	wifi_line2	Set second line of message
	wifi_line3	Set third line of message
	wifi_line4	Set fourth line of message

(*) It is possible to change under the condition that auth parameter setting is valid.



"star-hix.conf" example :

# Configuration file for star-hix		
# Configured by USB stick.		
#		
#auth: efa1f375d76194fa51a3556a97e641e61685f914d446979da50a551a4333ffd7		
#WifiSettings		
ssid: 000A79C03D79		
security: WPA2-PSK		
encryption: AES		
key: 71428246		
wifi_ip: DHCP		
wifi_subnet:		
wifi_gateway:		

(# columns are ignored)

[Reference] How to convert Root password with SHA256

e.g. case of root password = "public"

1. Visit free SHA256 HASH generating web site like below.

http://www.xorbin.com/tools/sha256-hash-calculator

http://hash.online-convert.com/sha256-generator

http://www.timestampgenerator.com/tools/sha256-generator/

2. Input the text "public" to text box of the converting site.

3. Below result is calculated. Then copy the text and paste to auth field of "star-hix.conf".

(converted result) : efa1f375d76194fa51a3556a97e641e61685f914d446979da50a551a4333ffd7



5. WebPRNT

■How to enable WebPRNT in HI01X/02X

*The default setting of WebPRNT is "Enable"

Visit the web configuration utility to enable WebPRNT.

- 1. Select "Web Print" after "Login"
- 2. Select "ENABLE" in WebPRNT Service section
- 3. Click "Submit" button.

Star Star	r Intelligent Network Utility
Network Configuration	Device Model:IFBD-HI01X/02X Mac Address :00:11:E5:05:CD:1C
 System Configuration Change Password 	WebPRNT
 Star Cloud Services CloudPRNT WebPRNT 	WebPRNT Service
 SSL/TLS WLAN IP Config Wireless Connection 	TCP Port Number 80
 > Firmware Update > Set Default > Save 	3 submit cancel

4 The following message is shown. Select "Save".

Web Pri	nt is accepted.
TCP Port N	lumber :
80	
WebPRNT S	Service :
ENABLE	
	Please execu <mark>re "Save" m</mark> enu if these settings are correct.
	Return to Previous page <webprnt></webprnt> (Don't use [″] Back [″] button of browser to return.)



- 5 Select "Save-> Configuration printing -> Restart device"
- 6 Click "execute" button. Then printer executes reboot and setting is finished.

Save	
5 Save → Configuration printing → Restart device	
©Save → Restart device <u>(6</u>)	
execute	cancel

Fin



■How to set BCR for WebPRNT (example: mPOP-BCR)

From I/F firmware ver. 1.2, you don't need to change to HID class setting for mPOP-BCR

Visit the web configuration utility.

1. Select [System Configuration] menu

Star Star	Intelligent Network Utility
Configuration > IP Parameters	Device Model:IFBD-HI01X/02X Mac Address :00:11:E5:05:CC:98
System Configuration Change Password	System Configuration
 Star Cloud Services Cloud PRNT 	Network
> WebPRNT > SSL/TLS	Web Refresh Interval Time (Sec.)
 > WLAN IP Config > Wireless Connection 	#9100/9101 port

2. Select mPOP-BCR in [Barcode Reader Device]. (Firmware Version 1.2 or later)

Barcode Reader Device		
Type:	StarmPOP-BCR1 🔹	
	None	
	Star mPOP-BCR1	
Keyboard [Generic HID Keyboard Scanner	

* For other HID BCR, select [Generic HID Keyboard Scanner] and put VID and PID of Barcode Reader Device. In this case, "a" to "f" must be input as lower case.

You can check the BCR of VID and PID by Windows "Device manager"

(Windows button > Computer > Manage (right click)

Barcode Reader Device		
Type: vid: pid:	Generic HID Keyboard Scanner • Available with WebPRNT	

3. Click "Submit" button on the bottom of web page..

3	submit	cancel



4 The following message is shown. Select "Save".



- 5 Select "Save-> Configuration printing -> Restart device"
- 6 Click "execute" button. Then printer executes reboot and setting is finished.

	Save	
6	• Save \rightarrow Configuration printing \rightarrow Restart device	
	©Save → Restart device	
6	execute	cancel

Fin



WebPRNT demo

Open the web browser (Safari, Chrome) and put "<u>http://IPaddress/webprnt/A002.html</u>" into web-browser to visit WebPRNT demo site. WebPRNT demo site which is located in IFBD-HI01X/02X is shown as below.

<Print demo>

1. Select "Text Receipts" to make print demo

← → C ⋒ 192.168.1.11/webprnt/A002.html	Q 🖒	G 🐐 🔁 🗉
アブリ 🦳 StarMicronics 🦳 English 🦳 NEWS 🦳 Technical 🚦	Bing »	🧀 その他のブックマーク
star		STAR MICRONICS CO ITTO
Star WebPRNT Menu		
Text Receipt		>
Text (Canvas)		•
Barcode (Canvas)		>
Figures (Canvas)		>
Handwriting (Canvas)		*
Image File (Canvas)		>
Star WebPRNT API		>
Barcode Reader		>
Keyboard		>

- 2. Select "3 inch" at Paper Width.
- 3. Put "http://"IPaddress":80/StarWebPRNT/SendMessage"into the URL of web app sample.
- 4. Click "Send" button. Then the printer prints a receipt.

 	 ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・
star	STAR MICRONICS CO, LTD
API : Receipt	
Paper Width 2 Inch •	
http://192.168.1.11:80/StarWebPRNT/SendMessage	
Send (Ascii)	
Send (Kanji)	

Fin

<Barcode reader demo>

Note: Before making BCR demo you have to set BCR information (VID, PID).

Please see previous section for the detail.



1. Select "Barcode Reader".

star	STAR MORIONICS CO.LT
Star WebPRNT Menu	
Text Receipt	>
Image Receipt (Canvas)	>
Text (Canvas)	>
Barcode (Canvas)	>
Figures (Canvas)	>
Handwriting (Canvas)	>
Image File (Canvas)	>
Star WebPRNT API	>
Barcode Reader	>
Keyboard	>
lor JebPRNT	

- 2. Put "<u>http://"IPaddress":80/StarWebPRNT/SendMessage</u>"into the URL of web app sample.
- 3. Set the claim polling timeout.

star		STAR MCRONICS CO. LTC
	Barcode Reader	
URL: http://192.168.1.11:80/StarWebPRNT/SendMessage	2	
Barcode Function Settings Scan Mode: scan_once ▼ Duplicate Scan Delay: 750 Scan Once Timeout: 30000 Claim Polling Timeout: 30000 Send Symbol Setting Symbol: AUSTRALIAN_POST ▼ Symbol Enable: true ▼	3	
Clam&Settings	Release	Capability
Get Barcode Data		
Get Data	Poll Get Data	Stop Poll

Fin

4. Click "Clam & Settings", then the following messages are shown in "Response"

e.g.						
	- onReceive -					
	TraderBCRSuccess : [true]					
	TraderBCRCode : [0]					
	TraderBCRClaim : [true]					
	TraderBCRClaimPollingTimeout : [3	0000]				
		_				
4		[]				
	Clam&Settings	Release	Capability			
(5)	Get Barcode Data	Get Barcode Data				
Ŭ	Get Data	Poll Get Data	Stop Poll			
	Barcode Data(String) "[0x00-0x19] and [0x7f-0xff] are converted [0xXX 4901085002605	g.				
	- onReceive -		•			
	TraderBCRSuccess : [true] TraderBCRColain : [true] TraderBCRClain : [true] TraderBCRData : [NOkwMTAANTAwMjYwNQ==] TraderBCRDataTing : [4901085002605] TraderBCRDataCount : [0]		*			
	L					

5. To get the scanning data one by one;

1) Scan a barcode with BCR, 2) Click "Get Data"

The scanned data is shown in "Barcode data" and some messages are shown in "Response" e.g.

<barcode data=""></barcode>	
	4901085002605
<response></response>	
	- onReceive -
	TraderBCRSuccess : [true]
	TraderBCRCode : [0]
	TraderBCRClaim : [true]
	TraderBCRData : [NDkwMTA4NTAwMjYwNQ==]
	TraderBCRDataString : [4901085002605]
	TraderBCRDataCount : [1]

6. To get the scanning data consecutively;

1) Click "Poll Get Data", 2) Scan some barcodes with BCR

The scanned data is shown in "Barcode data" and some messages are shown in "Response"

- 7. To stop scanning mode, click "Stop Poll"
- 8. To finish barcode control, click "Release"

Clam&Settings	8	Release]	Capability	
Get Barcode Data					
Get Data	6	Poll Get Data		7 Stop Poll	
Barcode Data(String) *[0x00-0x19] and [0x7f-0xff] are converted [0xXX	K].				
4901085002605 / 0 2103-30000611R / 0 FK2-9570 / 0					
				/	
Response					
- onReceive -				A	
TraderBCRSuccess : [true] TraderBCRCode : [0]					
TraderBCRData : [RksyLTk1NzA=] TraderBCRDataString : [FK2-9570]					
TraderBCRDataCount : [0]				~	
cleartext					

Fin



6. CloudPRNT

How to set CloudPRNT in HI01X/02X

- 1. Select [CloudPRNT] menu of WebUI.
- 2. Select "ENABLE". (Factory setting is DISABLE)
- Put server URL (A demo server is available from Star. Please contact to your nearest Star Micronics.)
- 4. Set polling time e.g. [5] seconds
- 5. Set User Name and Password if the server request. (If required)
- 6. Click "Submit" button.

Network Configuration	Device Model:IFBD-HI01X/02X Mac Address :00:11:E5:05:CD:1C		
 System Configuration Change Password 			
Star Cloud Services	CloudPRNT Service		
	ENABLE T		
> SSL/TLS			
▶ WLAN IP Config	Server URL		
Wireless Connection			
▶ Firmware Update			
▶ Set Default	Poliing time (Sec.)		
> Save	5		
isplay Status	User Name		
Network Card Info			
Network Status			
> Device Info	Password		
> Device Status			
▶ Wireless Status			
System Access	submit cancel		
▶Logout			

7. Select "Save"





- 8. Select "Save -> Configuration printing -> Restart device" or "Save -> Restart device"
- 9. Click "execute" button. Then printer executes reboot and setting is finished.

	Save	
	\circ Save \rightarrow Configuration printing \rightarrow Restart device	
0	©Save → Restart device	
9	execute	cancel

- 10. To use secure HTTPS communication to server, please set CA-certification to follow server specification.
 - 0: Use Bundle of CA Root Certificates (Mozilla as of: Thu Jun 18 14:06:27 2015)
 - 1: Use custom CA certificate. (Registered by Web UI on CloudPRNT setting)
 - 2: Accept all (Warning not secure)
- 11. Select NTP server to obtain the calendar and precious time information.

Default setting is using Star NTP server. If you prefer to use other NTP server,

select "Use custom NTP server" and input your NTP server URL.

12. Click "Submit" button, and execute "save" by following 7. 8. 9.

	HTTPS Client Settings	
	HTTPS trust level:	
10	 Use trusted CA-Certificate list Use custom CA-Certificate set Accept all (Warning - not secure!) 	
E	Browse No file selected.	
L	upload	
	NTP Server	
<u>]]</u>	 Use Star NTP service Use custom NTP server 	

submit

Fin

* For server side preparation, Star Micronics provides a server developing document. Please contact your nearest Star Micronics.

STAR MICRONICS CO., LTD.



cancel

How to set Peripheral Device for CloudPRNT in HI01X/02X

From I/F firmware ver. 1.4, you can control to peripheral device via CloudPRNT

* For supported peripheral devices, please contact your nearest Star Micronics.

[Star SCD222U / Scale]

Please connect to USB A port on HI01X02X interface and power on a printer, HI01X02X firmware will detect automatically if there is a supported device. (Firmware Version 1.4 or later)

[mPOP-BCR1 / 2D Scanner]

Visit the web configuration utility.

1. Select [System Configuration] menu

star	Star Intelligent Network Utility
Configuration	Device Model:IFBD-HI01X/02X
► ▶IP Parameters	Mac Address (00:11:E5:05:CC:98
System Configuration	1 System Configuration
➤Change Password	
Star Cloud Services	Network
♦ Cloud PRNT	Network
> WebPRNT	
SSL/TLS	Web Retresh Interval Time (Sec.)
▶WLAN IP Config	5
➤ Wireless Connection	#9100/9101 port

4. Select "Auto Detect" in [Barcode Reader Device]. (Firmware Version 1.4 or later)



* For other HID BCR, "Auto Detect" can't be used to detect Generic HID Keyboard Scanner. So please select [Generic HID Keyboard Scanner] and put VID and PID of Barcode Reader Device. In this case, "a" to "f" must be input as lower case.

You can check the BCR of VID and PID by Windows "Device manager"

(Windows button > Computer > Manage (right click)

Barc	code Reader Device
Type: vid:	Generic HID Keyboard Scanner •
pid:	Note: "Auto Detect" can not be used to detect Generic HID Keyboard type barcode readers.

5. Click "Submit" button on the bottom of web page..

	3	submit		cancel
--	---	--------	--	--------

6. The following message is shown. Select "Save".



- 7 Select "Save-> Configuration printing -> Restart device"
- 8 Click "execute" button. Then printer executes reboot and setting is finished.

	Save	
(7	●Save → Configuration printing → Restart device	
	©Save → Restart device	
6	execute	cancel

Fin



[HID Keyboard Device]

Visit the web configuration utility.

1. Select [System Configuration] menu

star s	tar Intelligent Network Utility
Configuration	Device Model:IFBD-HI01X/02X Mac Address :00:11:E5:05:CC:98
System Configuration Change Password	① System Configuration
 Star Cloud Services CloudPRNT 	Network
> WebPRNT > SSL/TLS > WILAN IP Coordig	Web Refresh Interval Time (Sec.)
Wireless Connection	#9100/9101 port

2. Select "vid:" and "pid:" in [Keyboard Device] and put VID and PID of HID Keyboard Device. In this case, "a" to "f" must be input as lower case. (Firmware Version 1.4 or later)

Keyboar	d Device	2
vid:		
pid:		

3. Click "Submit" button on the bottom of web page.

(3) submit cancel	
-------------------	--

4. The following message is shown. Select "Save".



- 9 Select "Save-> Configuration printing -> Restart device"
- 10 Click "execute" button. Then printer executes reboot and setting is finished.

	Save	
(8	• Save \rightarrow Configuration printing \rightarrow Restart device	
	©Save → Restart device	
6	execute	cancel

Fin



7. Star Cloud Services

HI01X/02X supports AllReciepts and do not need to install the driver supporting SCS.

It can be set by using Web Configuration Utility of HI01X/02X instead.

Raster data, Text data and Micro Receipt are supported from IFBD-HI01X V1.3.0 (Sep, 2017)

[Note]

Please do not use the driver supporting SCS together with HI01X/02X SCS function at the same time. If do this, multiple QR code will be added to the receipts.

IFBD-HI01X/02X is supporting the following printing solution for All Receipts.

- Star Line Thermal Printer are supported
- Star Dot Matrix Printer does not be supported.

l/F Board	Printer	Interface Firmware	Supported Printer Driver / SDK
Model	Model	Version	
			 Android StarIO SDK V3.X (Raster data)
			•iOS StarIO SDK V3.X (Raster data)
		1.2	StarPRNT Intelligence Printer Driver (Raster data)
			Linux / Mac OS X CUPS Driver
			·CloudPRNT (Raster data)
			Android StarIO SDK V3.X
	TODOLOUI		•iOS StarIO SDK V3.X
			StarPRNT Android SDK V5.X
			StarPRNT iOS SDK V5.X
	1360001		 StarPRNT WindowsStoreApps SDK V5.X
		1.3 or later	StarPRNT Intelligence Printer Driver
			 Linux / Mac OS X CUPS Driver
			•OPOS Driver
			JavaPOS Driver
			•CloudPRNT
			•WebPRNT
IFBD-HI02X	SP700	No Support	No Support

(As of September 2017)

■How to set Star Cloud Services in HI01X

- Select [Star Cloud Services] menu of WebUI.
 If it has already registered device to SCS on HI01X, then please go to "3.".
- 2. Input "User Name" and "Password" for SCS account(*) at [Login], and push "Register Device" to register the HI01X to SCS server. If it just uses default setting, then can be going to "7."
 - (*) If do not have an account, then please push "website" link at [Learn about Star Cloud Services] to create SCS account.

Configuration	Device Model:IFBD-HI01X/02X Mac Address :00:11:62:0D:60:DF
 System Configuration Change Password 	Star Cloud Services
Star Cloud Services	Learn about Star Cloud Services
➤ CloudPRNT	
> WebPRNT	Please visit the website to learn about how Star Cloud Services can bene your business and to sign-up for an account
SSL/TLS	
WLAN IP Config	Login
Wireless Connection	
Firmware Update	
Set Default	Password:
> Save	Register Device
Display Status	
Network Card Info	submit
> Network Status	

- 3. It can check registered information after registering device at [Registration Information].
- 4. On "Services", it can set following items.((*)Default)

Item Value		Description
Upload Data	ENABLE(*) / DISABLE	To enable All Receipts function on HI01X
QR Code Print Size	SMALL / MEDIUM(*) / LARGE	To select printing QR code size.
Micro Receipt	DISABLE: Full Receipt(*) / Information + QR code / Only QR code	To set enable/disable and select printing receipt style with All Receipts function as "Print Content + CTA Logo + QR code" or "CTA Logo + QR code", "QR code".

5. On "Configuration", it can set local time zone by selecting area manually or push "Determine from browser location"(*).

(*)It has to set "SSL/TLS" (Reference: "2. Web configuration utility") on IFBD-HI01X and access the UI by https because web browser requires the secure access to get a location information.

6. Click "submit" button.



7. Select "Save".



Select "Save -> Configuration printing -> Restart device" or "Save -> Restart device".
 Click "execute" button. Then printer executes reboot and setting is finished.(Fin.)

Save			
®Save → Configurat	ion printing —	• Restart device	
©Save → Restart de	viœ		
	execute		cancel

■How to use "On demand" function for Micro Receipt

"On demand" fuction can change the style of Micro Receipt in real time by web browser. Therefore an operator easily can use different Micro Receipt setting on each printed receipt.

Click a link on the "Star Cloud Services -> Services-> Micro Receipt" of Web Config UI.
 Or please input the URL which is /microreceipt.html">http://cprinterIPAddress>/microreceipt.html on web browser.

Services		
Upload Data:	ENABLE 🔻	
QR Code Print Size:	SMALL •	
Micro Receipt:	Only QR code 🔹	
Micro Receipt setting can be changed in real-time using the Micro Receipt Control page.		

 Select style of Micro Receipt. The red color button is showed a current selected style. (Fin) These item description are same as step "4." in "How to set Star Cloud Services in HI01X".





<u>History</u>

Rev 1.0	29th September 2016	Official Release
Rev 1.1	13 th January 2017	Applicable printer models added
		BCR setting Changed
Rev 1.2	27 th September 2017	Added 3 supported WiFi adapters
		Added Notes about changing setting of printer at "Instruction"
		Added SSL/TLS setting description at "Web configuration utility"
		Added CloudPRNT setting and Disconnect Message at "Setting by
		USB memory"
		Added the description of All Receipts and Micro receipt settings
Rev 1.3	9 th March 2018	Added Peripheral Device setting for CloudPRNT function





Star Micronics is a global leader in the manufacturing of small printers. We apply over 50 years of knowhow and innovation to provide elite printing solutions that are rich in stellar reliability and industry-respected features. Offering a diverse line of Thermal, Hybrid, Mobile, Kiosk and Impact Dot Matrix printers, we are obsessed with exceeding the demands of our valued customers every day.

We have a long history of implementations into Retail, Point of Sale, Hospitality, Restaurants and Kitchens, Kiosks and Digital Signage, Gaming and Lottery, ATMs, Ticketing, Labeling, Salons and Spas, Banking and Credit Unions, Medical, Law Enforcement, Payment Processing, and more!

High Quality POS Receipts, Interactive Coupons with Triggers, Logo Printing for Branding, Advanced Drivers for Windows, Mac and Linux, Complete SDK Packages, Android, iOS, Blackberry Printing Support, OPOS, JavaPOS, POS for .NET, Eco-Friendly Paper and Power Savings with Reporting Utility, ENERGY STAR, MSR Reading, *future*PRNT, StarPRNT... How can Star help you fulfill the needs of your application?

Don't just settle on hardware that won't work as hard as you do. Demand everything from your printer. Demand a Star!

Star Micronics Worldwide

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