IF1-WF01

Wireless LAN Interface Board

User Manual

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Contents

Read before using

Be sure to read this manual carefully before using the product. After you read it, store it in a safe place so that you can reread it when necessary.

- Contents of this manual may be changed without notice.
- Reproducing and/or copying the contents of this manual by any means without permission are prohibited.
- We will not be responsible for any adverse occurrence that results from the use of this manual, regardless if it contains omissions, errors/misprints, etc.
- Note that we will not be responsible for (a) loss caused by improper operation or mishandling of the device by the user, or (b) loss due to operational environment.
- Data etc., are basically impermanent; long time or permanent storing/saving of data by the device is not possible.
- Note that we will not be responsible for any loss or loss of profits owing to loss of data due to breakdown, repairs, inspections, etc.
- Please contact us if there are omissions, errors, ambiguities, etc. in this manual.
- Refer to this document along with the user manual of the printer.
- This product operates by setting up a wireless connection between itself and other wireless LAN equipment for data transmission. Therefore, other wireless LAN equipment is required to use this product. While we have confirmed the operation of this product with certain wireless LAN equipment, operation with all types of wireless LAN equipment is not guaranteed. Carry out a sufficient evaluation before using this product.

Trademarks

- Microsoft, Windows XP, Windows Server 2003, Windows Vista, and Windows 7 are registered trademarks of Microsoft Corporation U.S.A.
- Other company names and product names mentioned here are trademarks or registered trademarks of those companies.

Safety Instructions

- Before handling the product (removing from packaging, etc.), discharge static electricity by touching metal, etc.
- Do not spill liquid onto the device.
- Do not place the device in a humid place.
- Do not step on, or subject the network cable connected to the device to rough treatment.
- Do not connect a telephone line to the RJ45 connector on the device. Be sure to connect STP cable (category 5 or higher).
- Connect the product only to devices that operate on SELV voltage (safety extra-low voltage).
- Be sure to use the device inserted in the interface board slot of the printer. Do not use the device when it is not inserted in the interface board slot.

Declaration of Conformity

The printers using this WLAN interface board conform to the following Standards: The Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC, the RoHS Directive 2002/95/EC, and the WEEE Directive 2002/96/EC.

LVD : EN60950-1

EMC: EN55022 Class A
EN61000-3-2
EN61000-3-3
EN55024

This declaration applies only to the 230-V model.

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

CAUTION: Use shielded cable for this equipment.

Sicherheitshinweis

Die Steckdose zum Anschluß dieses Druckers muß nahe dem Gerät angebracht und leicht zugänglich sein.

For Uses in Canada

This Class A digital apparatus complies with Canadian ICES-003.
This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus, as set out in the radio interference regulations of the Canadian department of communications.

Pour L'utilisateurs Canadiens

Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.
Cet appareil numérique ne dépasse pas les limites de carégorie a pour les émissions de bruit radio émanant d'appareils numériques, tel que prévu dans les réglements sur l'interférence radio du départment Canadien des communications.

GENERAL PRECAUTIONS

- Before using this product, be sure to read through this manual. After having read this manual, keep it in a safe, readily accessible place for future reference.
- The information contained herein is subject to change without prior notice.
- Reproduction or transfer of part or all of this document in any means is prohibited without permission from Citizen Systems.
- Note that Citizen Systems is not responsible for any operation results regardless of omissions, errors, or misprints in this manual.
- Note that Citizen Systems is not responsible for any trouble caused as a result of using options or consumables that are not specified in this manual.
- Except explained elsewhere in this manual, do not attempt to service, disassemble, or repair this product.
- Note that Citizen Systems is not responsible for any damage attributable to incorrect operation/handling or improper operating environments that are not specified in this manual.
- Data is basically for temporary use and not stored for an extended period of time or permanently. Please note that Citizen Systems is not responsible for damage or lost profit resulting from the loss of data caused by accidents, repairs, tests or other occurrences.
- If you find omissions, errors, or have questions, please contact your Citizen Systems dealer.
- If you find any pages missing or out of order, contact your Citizen Systems dealer for a replacement.

Important

FCC Radiation Exposure Statement

The radiation exposure from this equipment is within the FCC RF radiation exposure limits for an uncontrolled environment. It is recommended that you install and operate this equipment with a minimum of 20 cm between the radiator and your body.

CE Mark Warning

This equipment is classified as a Class B product and may cause radio interference in a home environment. In such cases, the user is requested to take the necessary countermeasures to resolve the interference.

Restrictions by Country

Frequency range: 2400.0 to 2483.5 MHz

CE

Country	Restrictions	Notes
Bulgaria	None	Outdoor use and public service require general authorization.
France	Outdoor use is limited to 10 mW e.i.r.p. within the band 2,454 to 2,483.5 MHz	Used for military radiolocation. The 2.4 GHz band is being reformed to relax the current regulations. Full implementation is planned by 2012.
Italy	None	Outdoor use requires general authorization.
Luxembourg	None	Network and service supply (not for spectrum) require general authorization.
Norway	Implemented	The geographical area within a radius of 20 km from the center of Ny-Ålesund is excluded from this subsection.
Russian Federation	None	For indoor use only.

Note: Do not use this equipment outdoors in France.

1. Introduction

Thank you for purchasing the Citizen IF-WF01 wireless LAN (WLAN) interface board.

By using the IF1-WF01 wireless LAN interface board (hereinafter referred to as the IF1-WF01) with the CT-S801 and CT-S601 series of line thermal printers, CL-S400DT barcode printer, and other equipment, you can directly connect to various printers via a network and use computers on the network to print from the printers. In addition, the operational status, print settings, and other information about the printer can be checked from computers on the network.

1-1. Features

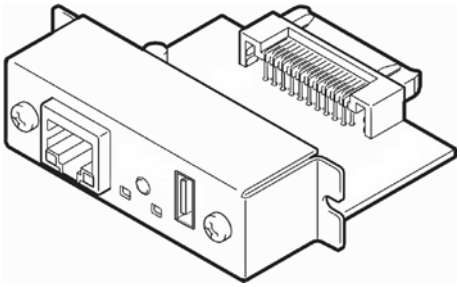
- Support for wireless LAN and wired LAN for configuration
- Support for 802.11b/g/n wireless LAN
- WPS function for easy wireless LAN setup
- Support for WPA/WPA2 wireless LAN encryption
- Support for DHCP, static IP, and ZeroConf methods of IP address acquisition
- Configuration through a browser or utility software
- Support for Raw 9100 port and LPR printing methods
- Panel button to print configuration information and change the configuration mode
- LED indicators for connection, operation, and error statuses

1-2. Checking the Package

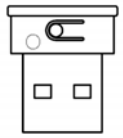
Please check to see if the items mentioned below are all included.

If anything is missing, contact your Citizen Systems dealer.

・Wireless LAN interface board unit

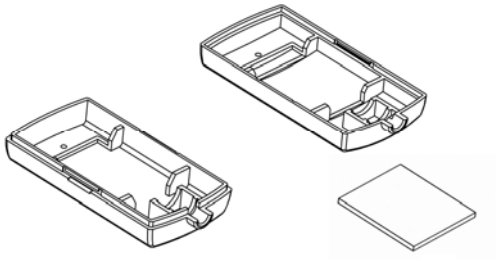


・Wireless LAN adapter



・USB extension cable

・Adapter cover and double sided fixing tape



・Quick-start Guide

・CD-ROM

User manual (this document)

Port driver manual

WLAN Setup Tool installer

Port driver installer

1-3. Specifications

Model number		IF1-WF01
Wireless LAN (WU606n)	Supported standards	IEEE802.11n, IEEE802.11g, IEEE802.11b
	Number of channels	1 to 13
	Frequency band	2.4GHz band (2,412 to 2,472 MHz)
	Transmission speed	IEEE802.11n: maximum 150 Mbps
		IEEE802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps
		IEEE802.11b: 11, 5.5, 2, 1 Mbps
	Access mode	Infrastructure, * Ad-Hoc
	Easy setting function	WPS support
	Security	WPA2-PSK (encryption: AES, TKIP)
		WPA2-PSK (encryption: AES, TKIP)
		WEP (Key size: 64 bit/128 bit)
*Wired LAN	Standards	100BASE-TX/10BASE-T, Full Duplex/Half Duplex auto negotiation
	Port	RJ-45
Network	IP Version	IPv4
	Protocols	TCP, UDP, HTTP, ICMP, DHCP, SNMP
	Port number for printing	RAW (port 9100 (Changeable)), LPR
	IP address setting	Manual, DHCP
Software	Setting methods	Browser, PC setting tool
	Firmware upgrade	Browser, PC setting tool
	Supported OS	Windows XP, Windows Vista, Windows 7
Hardware	Power supply	DC 5V ± 5%
	Power consumption	Approx. 1 W
	Operation panel	LED: 4 (2 on panel, 2 on RJ45 connector) Button: 1
	External dimensions	80 mm (W) x 70 mm (D) x 28 mm (H) (including connector protuberance)
	Weight	Approx. 78 g
Wireless LAN adapter	External dimensions	15 mm (W) x 19.2 mm (D) x 10 mm (H)
	Weight	Approx. 2.2 g
Compatible printers		CT-S801/851/601/651 Series, CL-S400DT (CT-S2000/4000/310, CD-S500, etc. are not supported)
Operating temperature and humidity ranges		0 to 40°C, 10 to 90% RH (condensation free)
Storage temperature and humidity ranges		-20 to 90°C, 10 to 90% RH (condensation free)
Safety standards		VCCI Class A, FCC Part 15, CE Mark

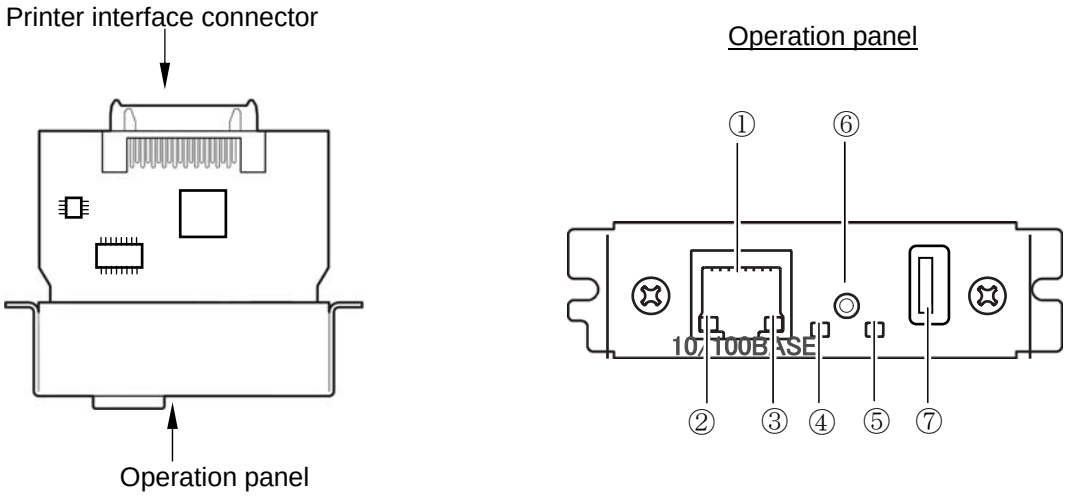
1 Introduction

*The communication by “Ad-Hoc” does not work correctly in various cases due to various restrictions. If "Ad-Hoc" does not work correctly, we recommend “Infrastructure”.

*The purpose of wired LAN port is to set up the WLAN interface board. And printing through the wired LAN port is not taken into the consideration. Therefore, depending on the used environment, the wired LAN port may not work properly for the printing.

1-4. Part Names and Functions

Wireless LAN Interface Board Unit



① RJ45 connector (compatible with 10Base-T/100Base-TX)
Connection for network cable

② Wired LAN transmission speed LED indicator (green)*1
Shows wired LAN transmission speed with steady/blinking light.

③ Wired LAN status indicator LED (yellow)*1
Shows wired LAN connection status (disconnected, receiving data, etc.).

④ Wired/wireless LAN status LED indicator (green)*1

⑤ Wired/wireless LAN status LED indicator (red)*1
Shows transmission, connection, and error statuses of the IF1-WF01 with combinations of steady and blinking lights.

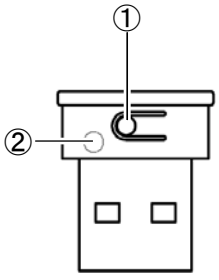
⑥ Panel button*2
Used to operate the IF1-WF01.

⑦ USB connector
Connection for the Wireless LAN adapter.

*1 See 2-4, LED Functions (page 19) for indicator details.

*2 See 2-3, Using the Panel Button (page 18) for panel button operations.

Wireless LAN Adapter



① WPS button
Start settings using the WPS function.

② Wireless adapter status indicator LED*
Shows wireless adapter connection status (connecting, communicating, setting using WPS, etc.).

2. Preparation

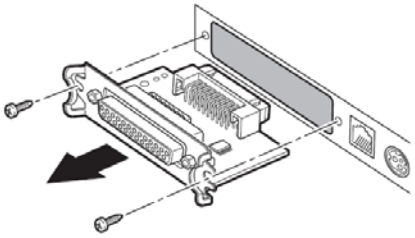
2-1. Connecting the Wireless LAN Interface Board Unit

Warning
• To install the Wireless LAN interface board, please contact your Citizen Systems dealer or service person. • Do not pull the Wireless LAN interface board out of the printer and re-insert it. This could cause malfunctioning.

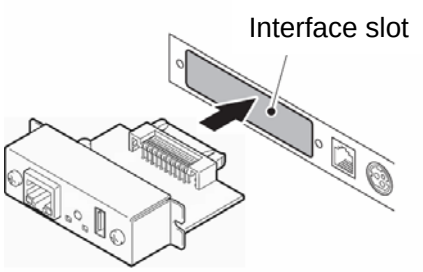
■ Connecting to the Printer

1) Switch off the power and remove the power cord from the printer.

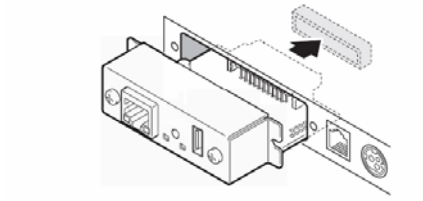
2) If another interface board is installed in the printer, remove it.



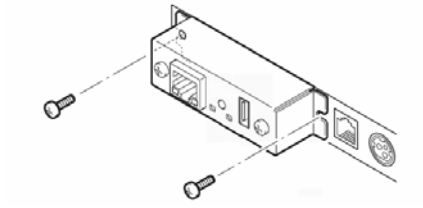
3) Insert the IF1-WF01 into the interface slot of the printer.



4) Connect the interface connector of the IF1-WF01 to the interface connector inside the printer.



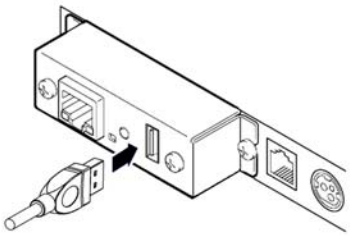
5) Fix the IF1-WF01 in place with screws.



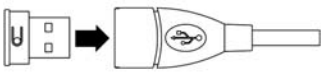
■ Connecting the Wireless LAN Adapter

1) Connect the USB extension cable to the USB connector of the IF1-WF01.

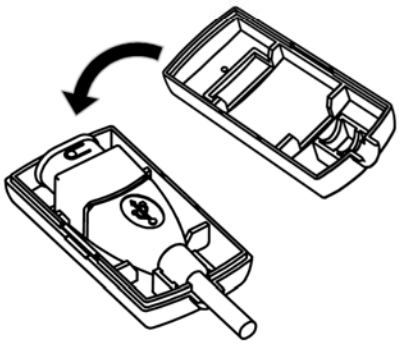
*If the installation location has good reception, the Wireless LAN adapter can be directly connected without using the extension cable.



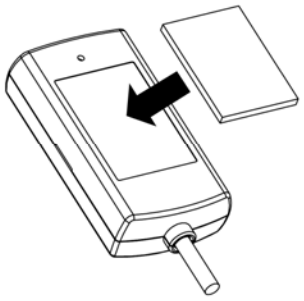
2) Connect the USB extension cable and wireless LAN adapter.



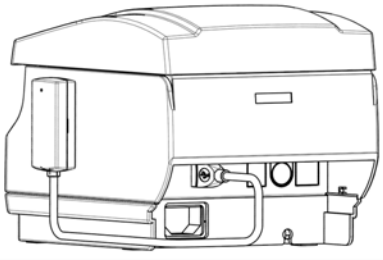
3) Set the Wireless LAN adapter in the adapter cover.



4) Attach the double sided fixing tape to the adapter cover.

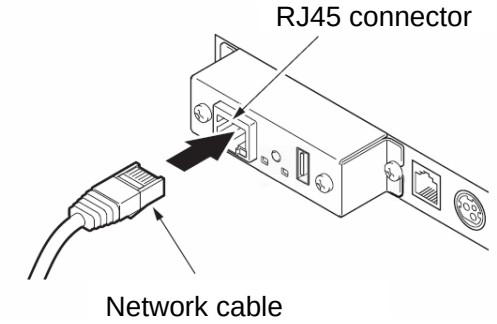


5) Fix the adapter cover to a flat surface, such as the printer or a wall, using the double sided tape.



■ Connecting the Wired LAN*

1) Connect the network cable to the RJ45 connector of the IF1-WF01.



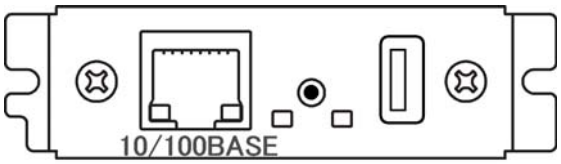
* Connect the wired LAN when using the IF1-WF01 with wired LAN or when setting the wireless LAN. The wired LAN is enabled when the wired and wireless LAN are connected simultaneously.

2-2. Installing the Printer

With an unobstructed view, the guideline transmission distance for the IF1-WF01 is approximately 30 m. The transmission distance depends on the setup environment. This includes electrical interference from the periphery, obstacles such as the printer, and the antenna location. Carefully consider these points before installing the IF1-WF01.

2-3. Using the Panel Button

The panel button on the operation panel is used to operate the IF1-WF01.



■ Starting the Wireless LAN Interface Board

Turn on the printer. The IF1-WF01 starts working approximately 20 seconds after the printer turns on.

■ Printing the Wireless LAN Interface Board Configuration

Press the panel button. See 2-5, Printing the Wireless LAN Interface Board Configuration (page 21) for details.

■ Switching to Setting Mode

Press and hold the panel button. The buzzer* will sound once, signaling a switch to setting mode.

・Setting mode enables the reading of the factory default settings.

・If there is no activity for three seconds in the setting mode, the buzzer* will sound once, signaling a return to normal mode.

* Note that the buzzer will not sound if the IF1-WF01 is connected to the CL-S400DT (Z) printer. In addition, the buzzer will not sound when the IF1-WF01 is used with the CT-S801 and CT-S601 series if the buzzer has been set to not sound.

■ Restoring to the Factory Default Settings

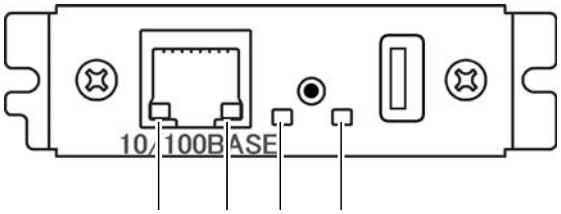
Switch to setting mode, then press and hold the panel button. The IF1-WF01 will return to the factory default settings.

Warning

When the operation is complete, the IF1-WF01 will restart automatically.
The settings are cleared so the wireless LAN must be configured again.

2-4. LED Functions

The following charts show what each LED indicator indicates.



Green Yellow Green Red

(Status)

① Wired LAN transmission speed indicator

Transmission speed	LED (green)
100 Mbps	On
10 Mbps / Disconnected	Off

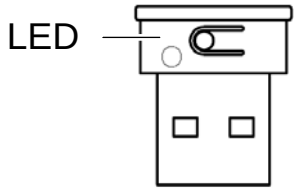
② Wired LAN connection/transmission status indicator

Connection status	LED (yellow)
Connected	On
Disconnected	Off
Transmitting data	Flashing

③ Wired/wireless LAN status indicator

Connection Status		LED (green)	LED (red)	Description
Printer disconnected		Off	-	Not connected to printer.
Printer connection	Network: disconnected	On	Off	Connected to printer.
	Wired LAN connecting	On	Flashing (1-second cycle)	Seeking IP address from DHCP server via wired LAN.
	Wired LAN working	On	On	Network operation via wired LAN.
	Wireless LAN connecting	Flashing (2-second cycle)	Flashing (1-second cycle)	Connecting to access point or seeking IP address from DHCP server via wireless LAN.
	Wireless LAN working	Flashing (2-second cycle)	On	Network operation via wireless LAN.
Resource error		Alternating blinking (1-second cycle)		The IF1-WF01 is malfunctioning.
System error		Alternating blinking (0.2-second cycle)		The IF1-WF01 is malfunctioning.

④ Wireless LAN adapter status indicator



Status	LED
Connecting	Repeats short-cycle and long-cycle flashing.
Communicating	Irregular flashing (changes with data transmission status)
Setting using WPS	Short-cycle flashing.

2-5. Printing the Wireless LAN Interface Board Configuration

Press the panel button to print out the configuration of the IF1-WF01 from the printer.

■ Wired LAN Connection and DHCP On

① Title of the printout.

② Model name, hardware revision, and firmware version of the IF1-WF01.

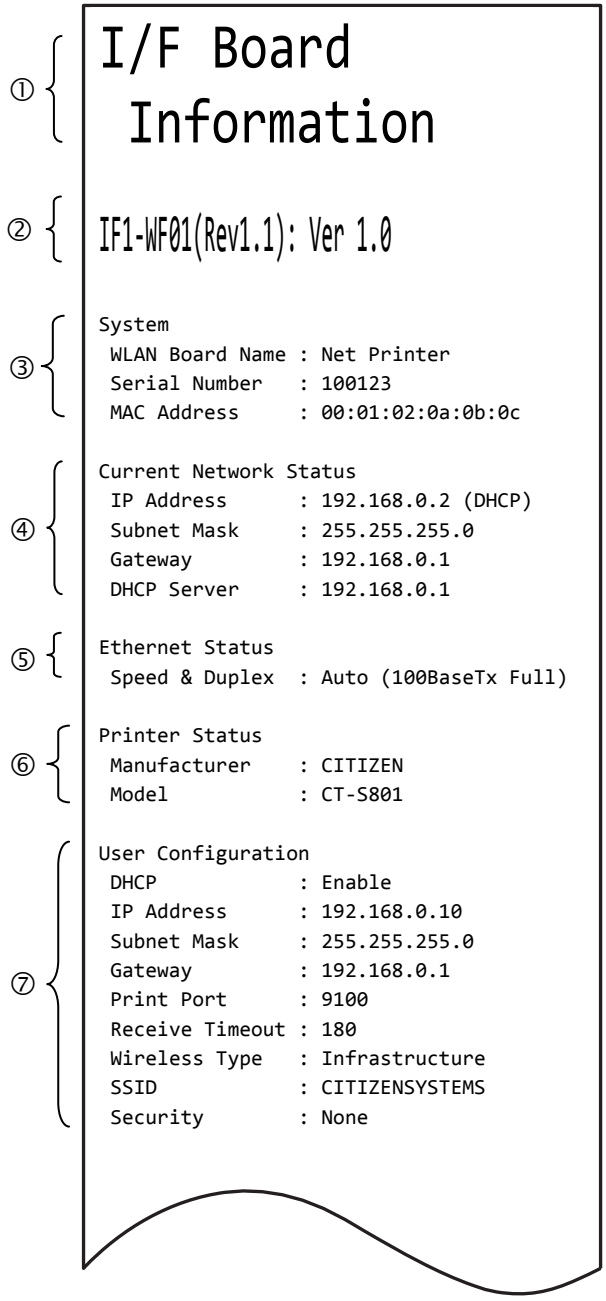
③ System information of the IF1-WF01. The WLAN board name, serial number, and MAC address are printed.

④ Network information of the IF1-WF01.

⑤ Wired LAN information. Printed when connected by wired LAN.

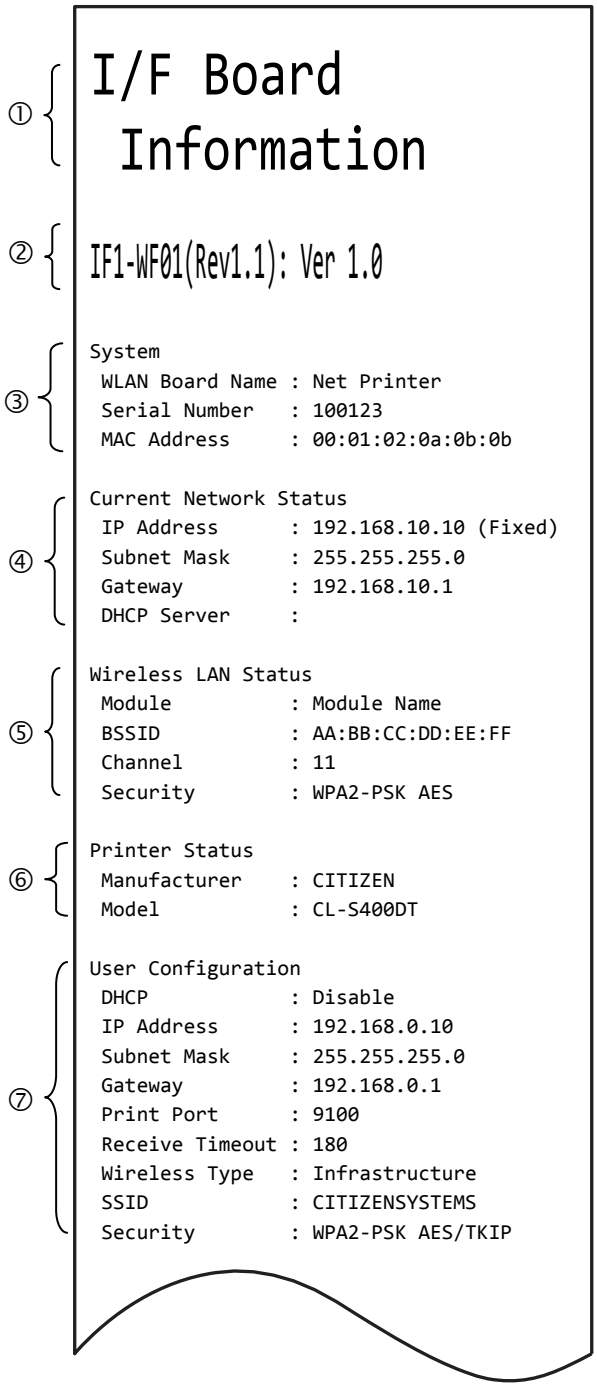
⑥ Printer information. The name of the manufacturer and the model name of the printer connected to the IF1-WF01 are printed.

⑦ Configuration information of the IF1-WF01. The information stored in the IF1-WF01 is printed and may be different from the connection status of the current network. Check the connection status using the network information of ④.



■ Wireless LAN Connection and DHCP Off

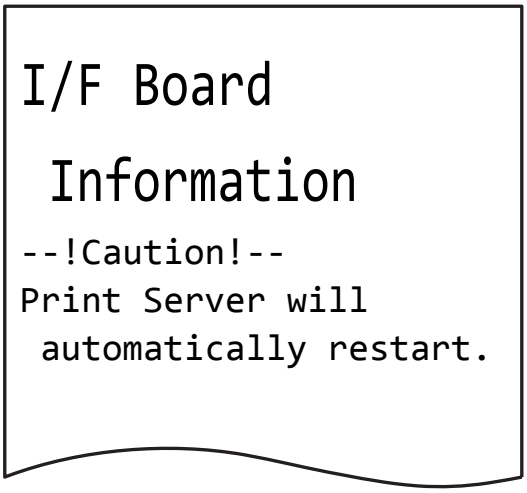
① Title of the printout.
② Model name, hardware revision, and firmware version of the IF1-WF01.
③ System information of the IF1-WF01. The WLAN board name, serial number, and MAC address are printed.
④ Network information of the IF1-WF01.
⑤ Wired LAN information. Printed when connected by wired LAN.
⑥ Printer information. The name of the manufacturer and the model name of the printer connected to the IF1-WF01 are printed.
⑦ The configuration information of the IF1-WF01. The information stored in the IF1-WF01 is printed and may be different from the connection status of the current network. Check the connection status using the network information of ④.



2-6. Returning the Wireless LAN Interface Board Configuration to Factory Default Settings

1) Press and hold the panel button to switch to setting mode.

2) After the IF1-WF01 has switched to setting mode, press and hold the panel button again within three seconds. The following message is printed and the IF1-WF01 returns to factory default settings.



2-7. Setting the Wireless LAN

2-7-1. Settings

Classification		Item	Description
General tab			
	WLAN board Information	WLAN board Name	Set the ID of the IF1-WF01. Net Printer (factory default)
	TCP/IP	TCP/IP	Select the IP address acquisition method. “Obtain an IP Address Automatically” (factory default) “Use the following IP Address”
		IP Address	Set the IP address for a static address. 192.168.10.100 (factory default)
		Subnet Mask	Set the subnet mask for a static address. 255.255.255.0 (factory default)
		Default Gateway	Set the default gateway for a static address. 192.168.10.100 (factory default)
	UPnP Setting	UPnP	Set the UPnP setting. Enable (factory default) Disable
	Print Setting	Raw Port Number	Set the TCP port number for raw protocol printing. 9100 (factory default)
		Timeout for print data	Set the timeout duration of connection to the host. 0 to 65535 (seconds). When the setting is “0”, there is no timeout. 180 (factory default).
		Action at Timeout	Set the action when a timeout occurs with the host and other connections are open. Close all connections (factory default) Move to next connection
Wireless LAN tab			
	Basic	Network Type	Set the access mode. Infrastructure (factory default) Ad Hoc
		SSID	Set the SSID of the connection access point. CITIZENSYSTEMS (factory default)

	Security	Security System	Select the encryption method. Disable (factory default) WEP WPA-PSK WPA2-PSK
		Authentication	Select the authentication method when WEP is selected. Open System (factory default) Shared Key
		Key Size	Select the key size when WEP was selected. 64 Bit (Hex-10 chars) (factory default) 64 Bit (ASCII-5 chars) 128 Bit (Hex-26 chars) 128 Bit (ASCII-13 chars)
		Key1 to Key4	When WEP is selected, enter the WEP key and select the key to be used. KEY1: 0123456789 (factory default)
		Key Format	Select the key format when WPA-PSK/WPA2-PSK is selected Passphrase (8-63 chars) (factory default) Hex (64 chars)
		Pre-Shared Key	Enter the shared key when WPA-PSK/WPA2-PSK is selected ABCDEF4321 (factory default)
		Encryption	Enter the encryption method when WPA-PSK/WPA2-PSK is selected TKIP (factory default) AES TKIP/AES mixed mode
	WPS Setting	WPS	Turn the WPS function on or off. Enable (factory default) Disable
	Within WPS Setting	Mode	Select the WPS mode. PBC (factory default) PIN
		PIN	Select the PIN allocation method. Random Generation (factory default) Manually Generation

2-7-2. Example Settings

■ Use the WPS function and Configure Settings*

1) Connect the Wireless LAN adapter to the IF1-WF01.

2) Turn on the printer.
Confirm that the IF1-WF01 recognized the Wireless LAN adapter. The Wireless LAN adapter is recognized approximately 20 seconds after the printer is turned on. The status indicator LED (green) starts flashing.

3) Hold the WPS button on the Wireless LAN adapter for 1 second or more. The LED on the Wireless LAN adapter starts flashing.
If the adapter cover is being used, either open the cover or use a thin needle to press the WPS button from the hole in the cover.

4) Start the WPS function of the access point.*

5) When the configuration is complete, the LED of the wireless LAN adapter changes to transmission status.
You can confirm that the configuration was performed correctly by pressing the panel button to print out the configuration of the IF1-WF01. See 2-5, Printing the Wireless LAN Interface Board Configuration (page 21) for details.

* For the method to start the WPS function, see the manual of the access point. If the access point you are using does not support the WPS function, perform configuration by using the “Configuring using the Wired LAN Adapter” method.

■ Configuring using the Wired LAN Adapter

1) Connect the Wireless LAN adapter to the IF1-WF01.

2) Connect the wired LAN cable to the IF1-WF01.

3) Turn on the printer.
After the printer is turned on and the IF1-WF01 starts, the IF1-WF01 will automatically obtain an IP address from the DHCP server within 90 seconds. If an IP address cannot be obtained automatically, use the ZeroConf function to allocate the IP address 169.254.XX.YY (XX.YY will differ by a setup environment). Allocate the IP address while referring to 4-3, Setup Window (page 47).

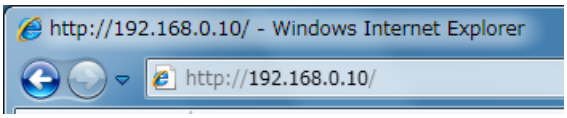
4) Use the Web manager to configure the wireless LAN.
   Configure the wireless LAN while referring to 3, Web Manager (page 28).

3. Web Manager

The IF1-WF01 is equipped with a Web manager function, which allows you to access the IF1-WF01 from a web browser and check the status of the IF1-WF01 or change its settings.

3-1. Starting the Web Manager

1) Start a web browser.
2) In the address bar, enter the IP address and then press **Enter**.



* The image to the left is a sample. Enter the actual allocated value for the IP address.

Warning

- The configuration window of the IF1-WF01 cannot be displayed if the network settings of your computer and the IF1-WF01 differ. Ensure that the IP address of the IF1-WF01 matches the settings of your network.
- The IP address of the IF1-WF01 can be confirmed by using the “Printing the Wireless LAN Interface Board Configuration” method.

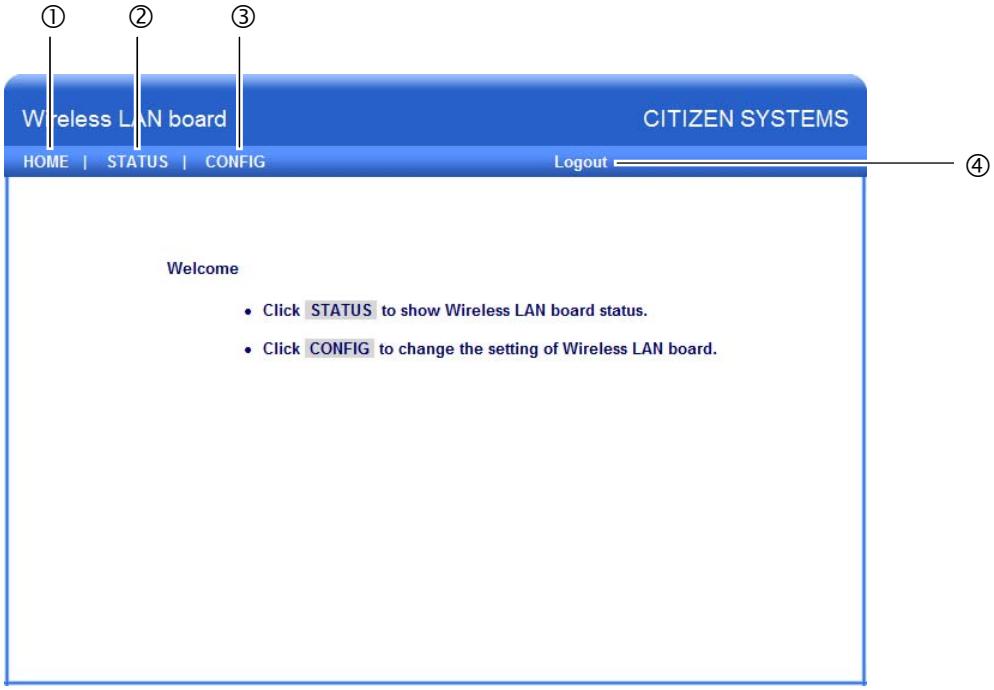
Web Manager Window Layout

The Web manager consists of the following windows and tabs.

- HOME window
- STATUS window
  - System Status tab
  - Network Status tab
  - Wireless LAN Status tab
  - Printer Status tab
- CONFIG window
  - General tab
  - Wireless LAN tab
    - Site Survey Setting tab
    - WPS Setting tab
  - User Account tab
  - Maintenance tab

3-2. HOME Window

This is the Home window of the Web manager.



① HOME button

Display the Home window.

② STATUS button

Display the Status window. At the status window, you can check the status of the IF1-WF01.

③ CONFIG button

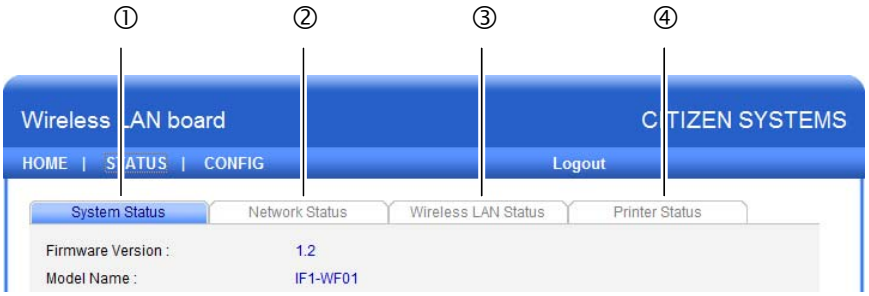
Display the CONFIG window. At the CONFIG window, you can configure the IF1-WF01.

④ Logout button

Log out from the CONFIG window of the IF1-WF01. It is not possible to open the CONFIG window at multiple PCs of the same time. You must log out to make settings using another Web manager or WLAN Setup Tool.

3-3. STATUS Window

Displays the status of the IF1-WF01.



① System Status tab

See 3-3-1, System Status Tab (page 31).

② Network Status tab

See 3-3-2, Network Status Tab (page 32).

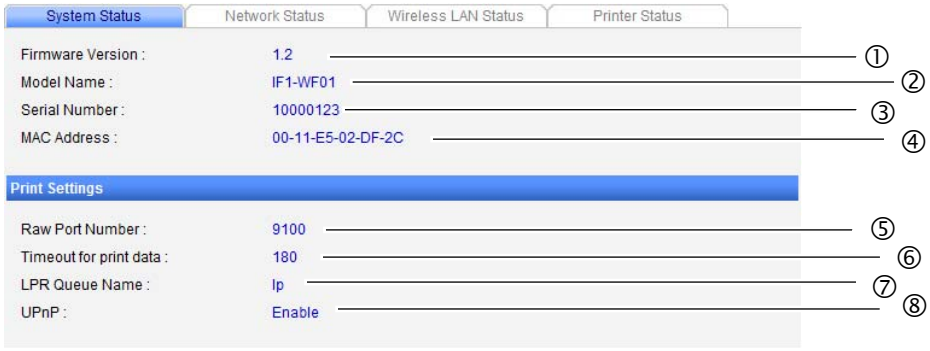
③ Wireless LAN Status tab

See 3-3-3, Wireless LAN Tab (page 33).

④ Printer Status tab

See 3-3-4, Printer Status Tab (page 34).

3-3-1. System Status Tab



① Firmware Version

Displays the firmware version of the IF1-WF01.

② Model Name

Displays the model name of the IF1-WF01.

③ Serial Number

Displays the serial number of the IF1-WF01.

④ MAC Address

Displays the MAC address of the IF1-WF01.

⑤ RAW Port Number

Displays the TCP port number for RAW printing.

⑥ Timeout for print data

Displays the socket timeout duration during printing. When the host and the TCP/IP socket are connected and the host sends no data for this duration during printing, the socket is forced to close. When the setting is “0”, the socket remains connected until a disconnection request is received from the host.

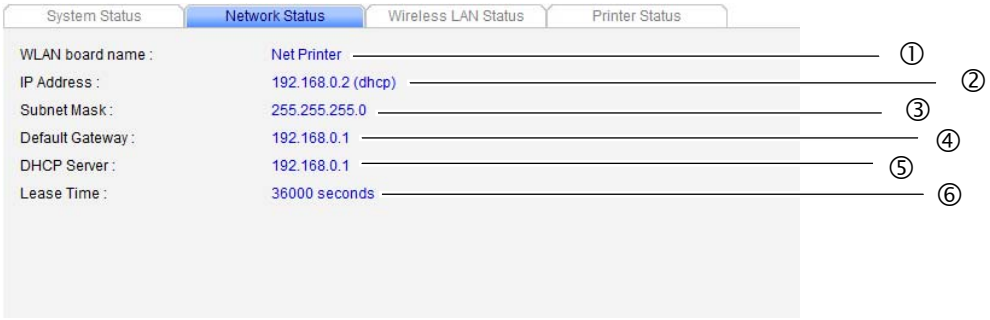
⑦ LPR Queue Name

Displays the LPR queue name.

⑧ UPnP

Displays the UPnP configuration status.

3-3-2. Network Status Tab



① WLAN board name

Displays the WLAN board name of the IF1-WF01.

② IP Address

Displays the IP address of the IF1-WF01.

③ Subnet Mask

Displays the subnet mask of the IF1-WF01.

④ Default Gateway

Displays the default gateway of the IF1-WF01.

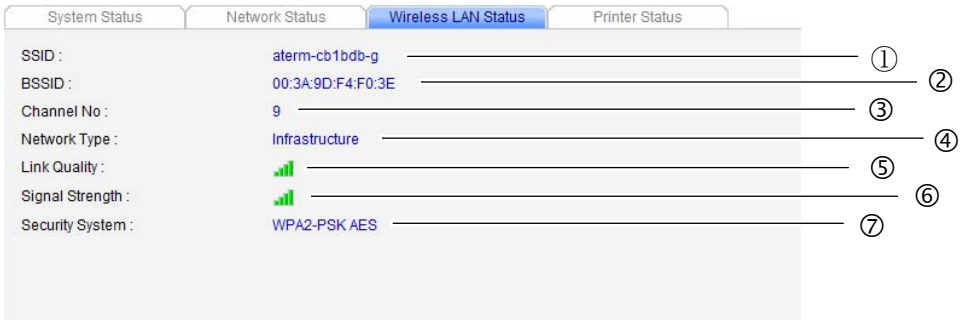
⑤ DHCP Server

Displays the IP address of the DHCP server from which the IF1-WF01 obtained its IP address.

⑥ Lease Time

Displays the lease time of the IP address allocated by the DHCP server.

3-3-3. Wireless LAN Tab



① SSID

Displays the SSID of the access point to which the IF1-WF01 is connected.

② BSSID

Displays the BSSID of the wireless LAN to which the IF1-WF01 is connected. Generally, the BSSID is the MAC address of the access point.

③ Channel No

Displays the wireless LAN channel used by the IF1-WF01.

④ Network Type

Displays the current access method (Infrastructure or Ad Hoc).

⑤ Link Quality

Displays the current link quality of the wireless LAN using four bars.

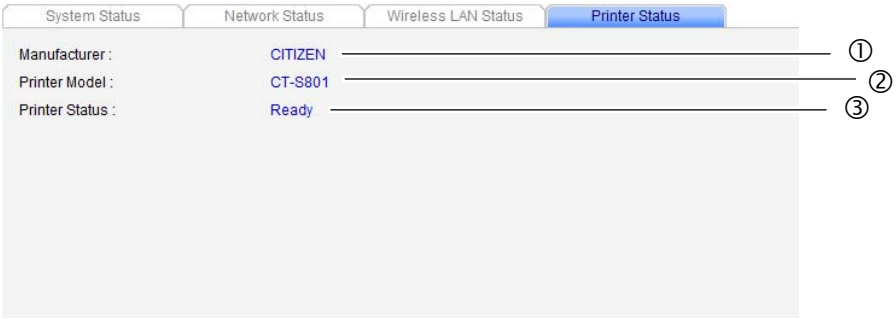
⑥ Signal Strength

Displays the signal strength of the wireless LAN using four bars.

⑦ Security System

Displays the security method of the wireless LAN to which the IF1-WF01 is currently connected.

3-3-4. Printer Status Tab



① Manufacturer

Displays “CITIZEN”.

② Printer Model

Displays the model of the printer to which the IF1-WF01 is connected.

③ Printer Status

Displays the operational status of the printer to which the IF1-WF01 is connected.

Ready: Ready to print.

Offline: Not ready to print.

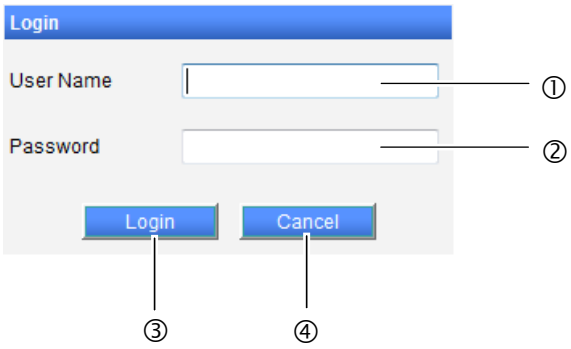
Paper Empty: Out of paper.

Error: Error status.

(Note) When the CT-S801/851/601/651 series is connected to the IF1-WF01 and the bi-directional port of the printer driver is enabled, the printer status is not correctly displayed. In such cases, confirm the printer status from the Windows spooler.

3-4. CONFIG Window

You can configure the IF1-WF01 after logging in as an administrator.



① User Name

Enter the name of the IF1-WF01 administrator. (Initial setting: admin)

② Password

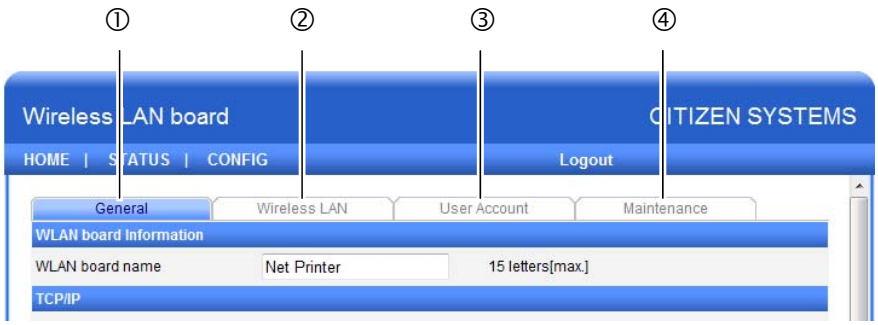
Enter the administrator password. (Initial setting: admin)

③ Login button

Enter the administrator name and password, and then click “Login”. The CONFIG window appears.

④ Cancel button

Cancel login.



① General tab

See 3-4-1 General Tab (page 36).

② Wireless LAN tab

See 3-4-2 Wireless LAN Tab (page 37).

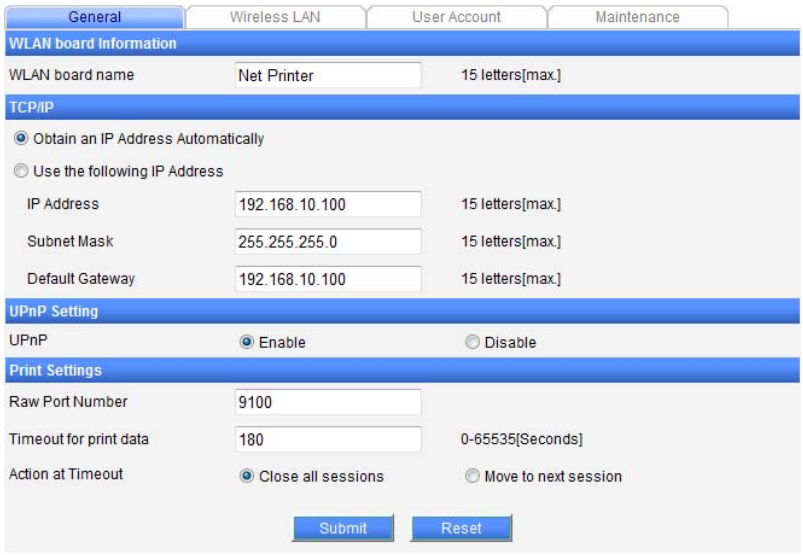
③ Administrator tab

See 3-4-3 User Account Tab (page 40).

④ Maintenance tab

See 3-4-4 Maintenance Tab (page 41).

3-4-1. General Tab



WLAN board Information

- WLAN board name (factory default: Net Printer)

  Set the ID of the IF1-WF01.

TCP/IP

- Obtain an IP Address Automatically (factory default)

  Automatically obtain the IP address from the DHCP server.

- Use the following IP Address

  Enter IP addresses in the IP Address, Subnet Mask, and Default Gateway fields.

UPnP Setting

- UPnP (factory default: Enable)

  Set the UPnP setting.

Print Settings

Configure the printing functions of the printer.

- Raw Port Number (factory default: 9100)

  Set the TCP port number for RAW protocol printing.

- Timeout for print data

  Set the timeout duration for the connection to the host.

- Action at Timeout

  Select the action for other connections when a timeout occurs with the host. There are two selections: Close all connections and Move to next connection.

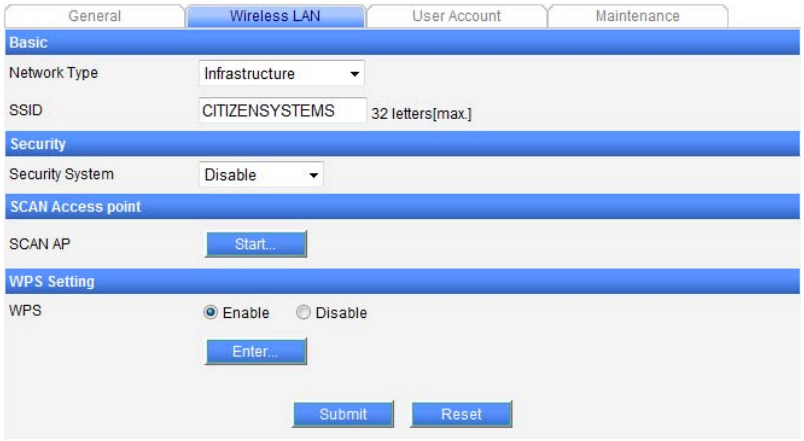
Submit button

Enter the changes.

Reset button

Cancel the changes.

3-4-2. Wireless LAN Tab



Basic

- Network Type (factory default: Infrastructure)

  Select the access mode from Infrastructure and Ad Hoc.

- SSID (factory default: CITIZENSYSTEMS)

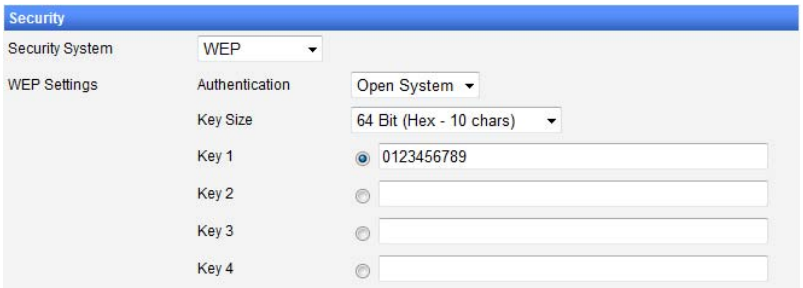
  Enter the SSID specified for the connection access point.

Security

- Security System (factory default: Disable)

  Select the encryption method from Disable, WEP, WPA-PSK, and WPA2-PSK.

For WEP



- Authentication (factory default: Open System)

  Select the authentication method from Open System and Shared Key.

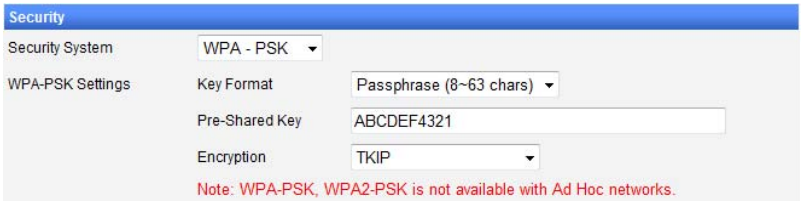
- Key Size (factory default: 64 Bit (Hex - 10 chars))

  Select a key size from 64 Bit (Hex - 10 chars), 64 Bit (ASCII - 5 chars), 128 Bit (Hex - 26 chars), and 128 Bit (ASCII - 13 chars).

- Key 1 to Key 4 (factory default: Key 1=0123456789)

  Enter the WEP key and then select the button of the key to be used.

For WPA - PSK and WPA2 - PSK



- Key Format (factory default: Passphrase (8-63 chars))

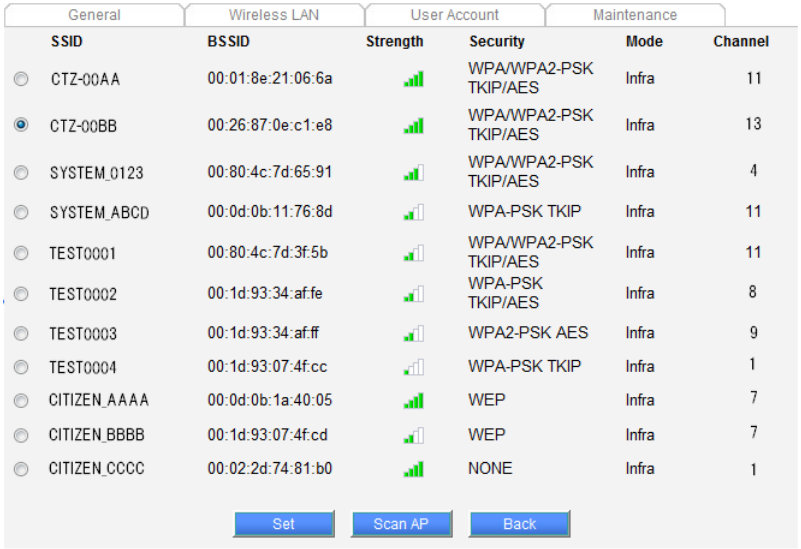
  Select the key format from Passphrase (8-63 chars) and Hex (64 chars).

- Pre-Shared Key (factory default: ABCDEF4321)

  Enter the shared key.

Site Survey Setting

This function searches for access points. An SSID can be selected when this function is used. Click “Start” to display the following window.



Select the button of the access point you want to set, and then click “Set”.

WPS Setting

- WPS (factory default: Enable)

  Select the WPS function setting from Enable and Disable.

Click “Enter” to configure the WPS setting from the Web manager.

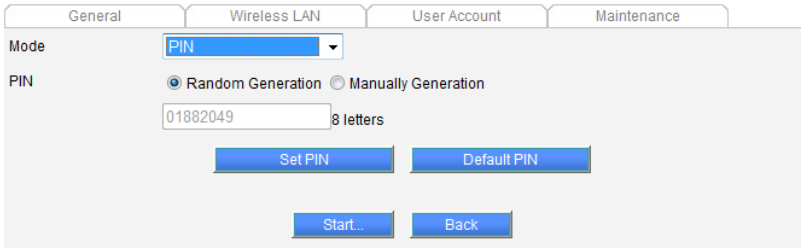
- Mode (factory default: PBC)

  Select the mode from PBC and PIN.

For PBC

When “Start” is clicked, the WPS setting of the IF1-WF01 starts. Start the WPS setting of the access point.

For PIN



In PIN mode, the pin code set at the IF1-WF01 is specified at the access point and then the WPS setting is started.

- PIN (factory default: Random Generation)

  Select the PIN allocation method from Random Generation and Manually Generation. With Random Generation, the pin code is generated automatically by the IF1-WF01. With Manually Generation, the user specifies the PIN code.

When the pin code is set and “Start” is clicked, the WPS starts in PIN mode. At the access point, specify the pin code and start the WPS setting.

Submit button

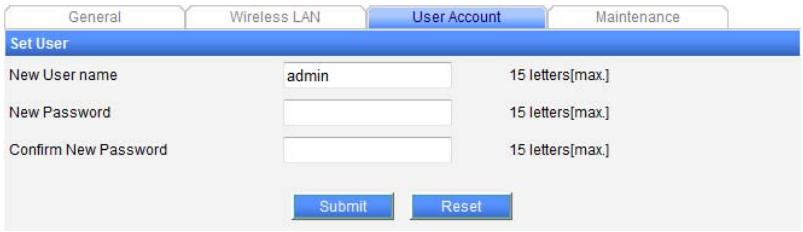
Enter the changes.

Reset button

Cancel the changes

3-4-3. User Account Tab

You must log in as an administrator to change the settings of the IF1-WF01. At this screen, the administrator name and password can be changed.



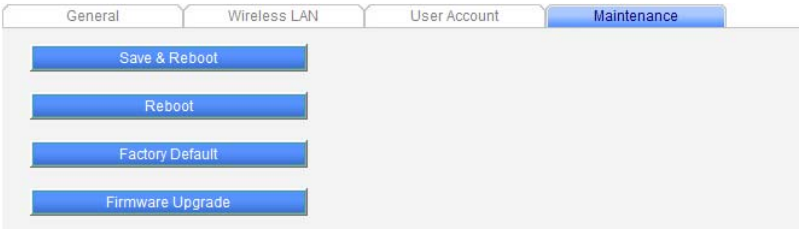
Set User

- New User name (factory default: admin)
  Enter the new administrator name.
- New Password (factory default: admin)
  Enter the new password.
- Confirm New Password
  Enter the password again.

Warning

If you forget the new username and password, settings must be returned to the factory default settings.

3-4-4. Maintenance Tab



- Save & Restart button

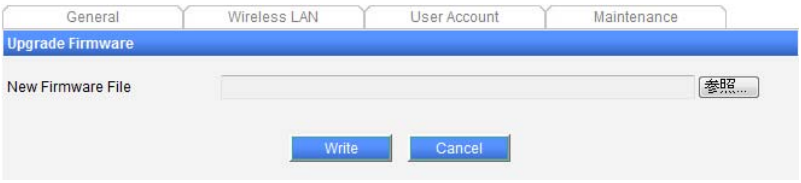
  Save changes, and restart the IF1-WF01.
- Restart button

  Restart the IF1-WF01 without saving changes.
- Factory Default button

  Return the IF1-WF01 to the factory default settings.
- Firmware Upgrade button

  Upgrade the firmware of the IF1-WF01.

Firmware upgrade



1) Click “Browse”, and select the firmware file.
2) Click “Write”.

Warning

After the firmware upgrade starts, do not disconnect power or transmission to the printer until the upgrade is complete.

4. WLAN Setup Tool

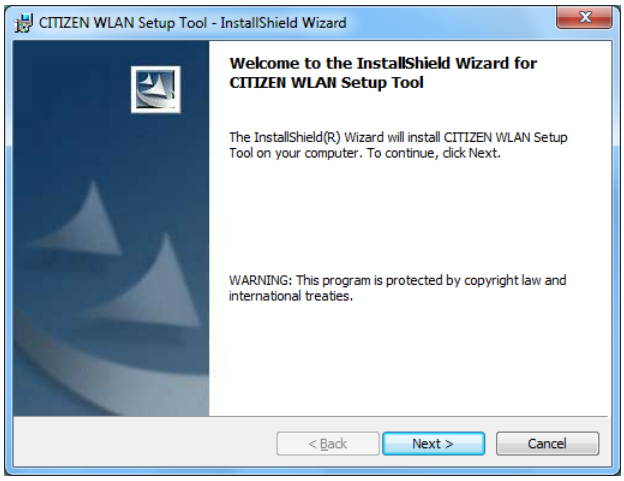
The “WLAN Setup Tool” utility software runs on the Windows operating system and can be used to change the settings of the IF1-WF01.

4-1. Installing the WLAN Setup Tool

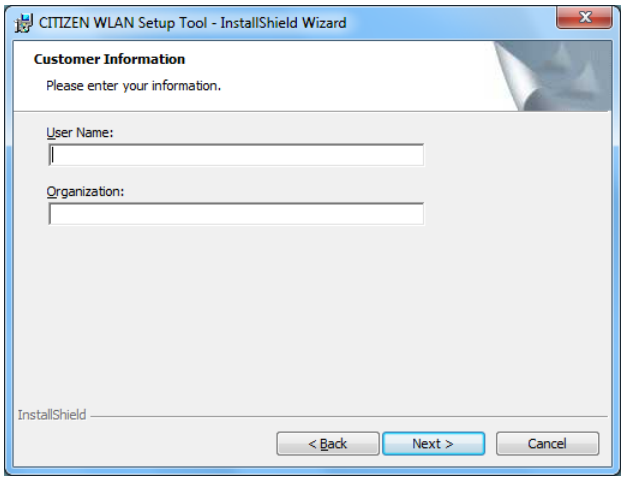
1) Acquire the file “WLANSetupToolSetup.exe” from the CD-ROM or our website. Double click the file.

2) If the “User Account Control” screen appears, click “Continue.”

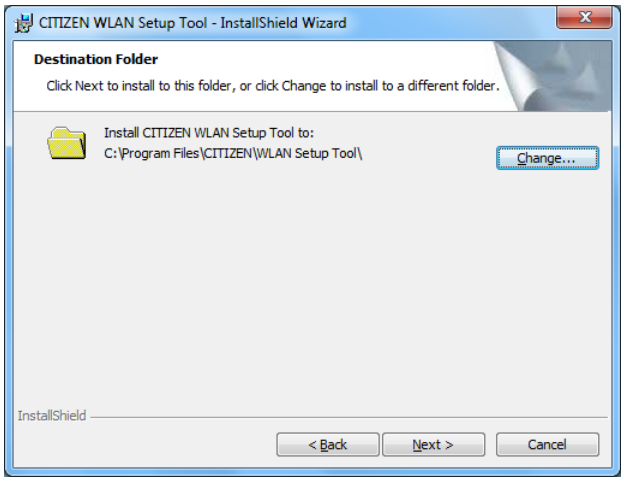
3) The screen shown on the right appears. Click “Next.”



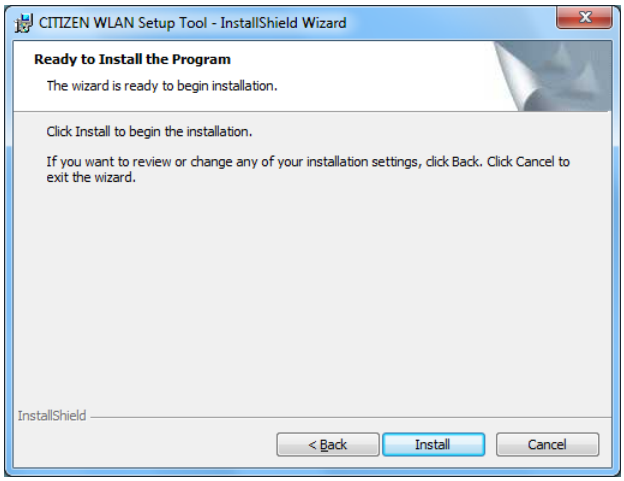
4) Enter a username and organization, and then click “Next”.



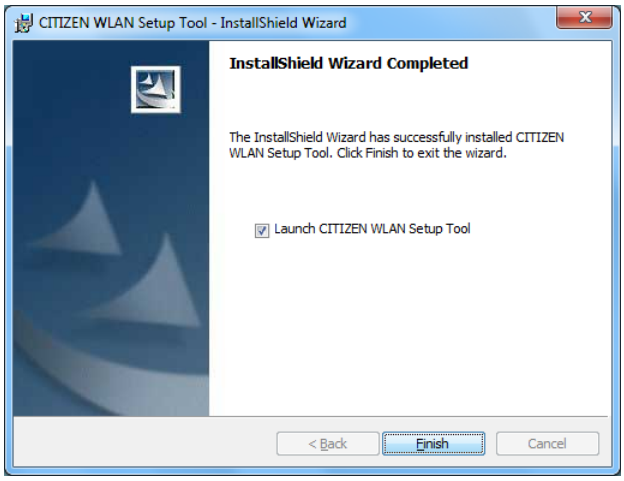
5) The screen shown on the right appears. Click “Next.”



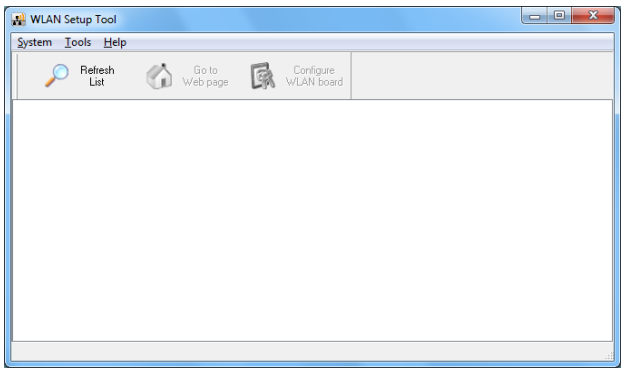
6) The screen shown on the right appears. Click “Install”.



7) Click “Finish” to complete installation.

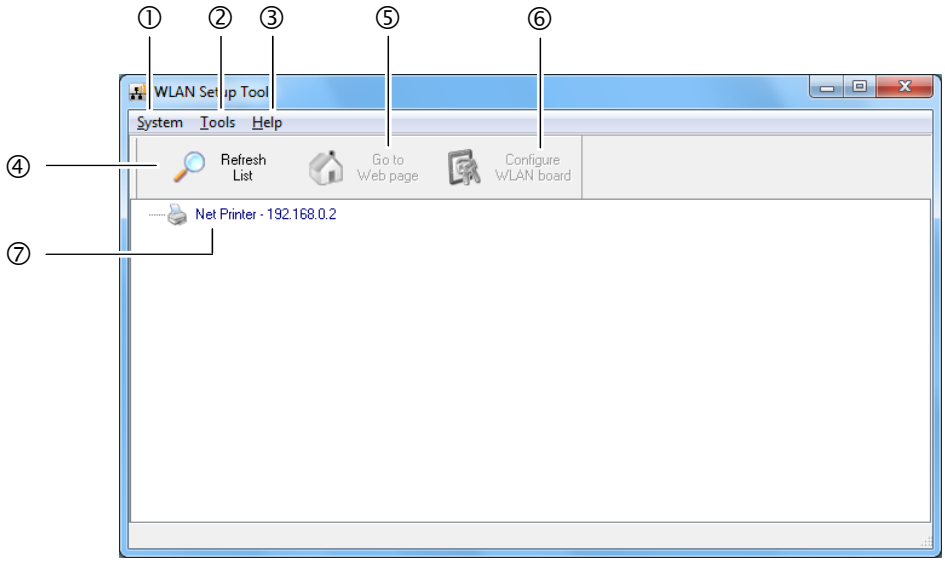


8) The PC setting tool starts. From the ”System” menu, select ”Exit”.



9) The icon on the right is placed on the desktop of the computer. You can now start program by double clicking this icon.

4-2. Information List Window

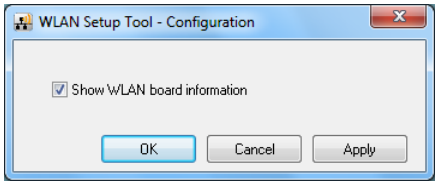


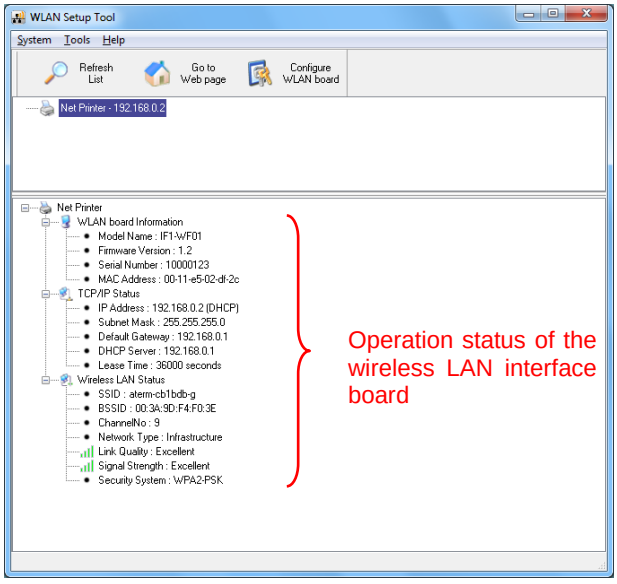
① ”System”

Select ”System” – ”Exit” to exit the WLAN Setup Tool.

② ”Tools”

Select ”Tools” – ”Settings” to switch the display of the wireless LAN interface board information. When the “Display WLAN board information” check box is selected, the wireless LAN interface board operation status can be displayed as shown below.





③ ”Help” menu

Select ”Help” – ”About” to display the version information of the WLAN Setup Tool.

④ ”Refresh List” button

Refresh the list of the wireless LAN interface board. The application periodically refreshes the list, but you can refresh the list manually by clicking this button.

⑤ ”Configure using a Web Browser” button

Select the wireless LAN interface board you want to configure, and then click “Configure using a web browser”. The browser starts and displays the Web manager.

⑥ ”Configure the WLAN Board” button

Select the wireless LAN interface board you want to configure, and then click “Configure the WLAN Board”. See 4-3 Setup Window (page 47).

⑦ Wireless LAN interface board list

The list displays the wireless LAN interface boards connected to the network. The wireless LAN interface boards connected to the same subnet are displayed.

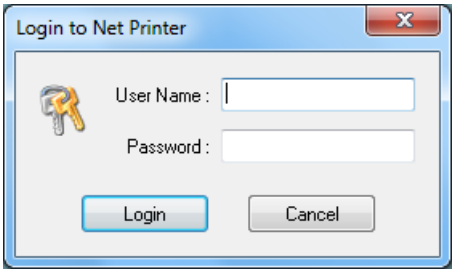
4-3. Setup Window

You can configure the wireless LAN interface board by selecting the wireless LAN interface board from the list screen and clicking “Configure the WLAN Board”.

To login at the login screen, enter a username and password.

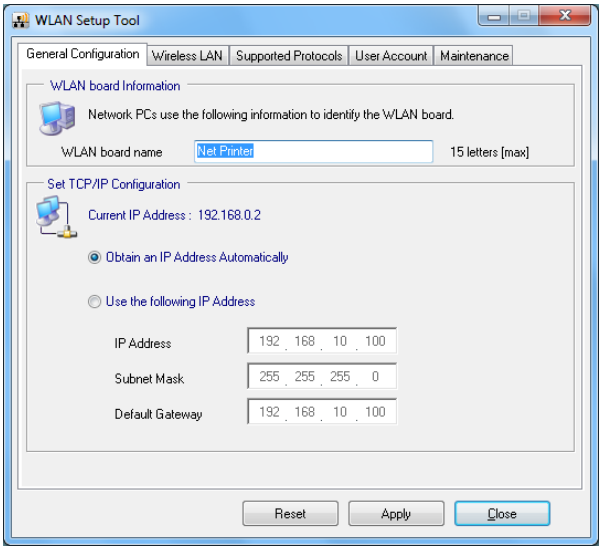
Username: admin (factory default)

Password: admin: (factory default)



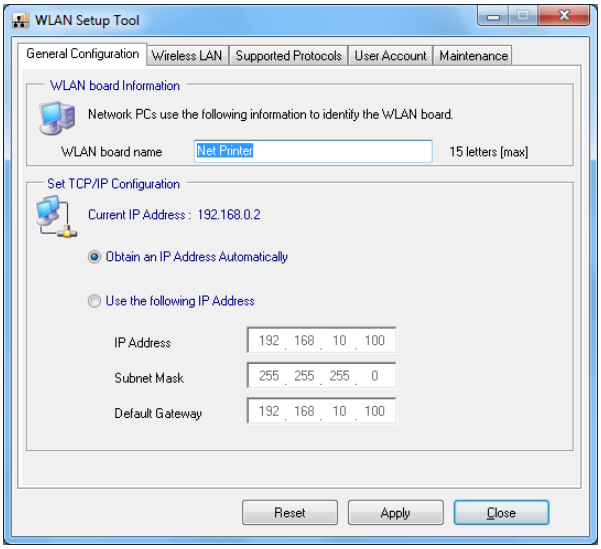
4-3-1. “General“ Tab

Use the “General“ tab to configure the WLAN board name and IP address



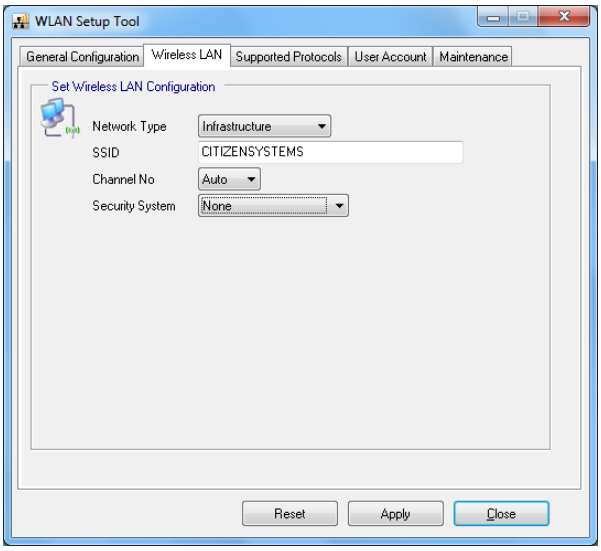
4-3-2. “Wireless LAN“ Tab

Use the “Wireless LAN“ tab to configure the wireless LAN.



4-3-3. “Protocol“ Tab

Use the “Protocol“ tab to enable LPR and the RAW protocol, set the printer timeout duration, and enable UPnP.

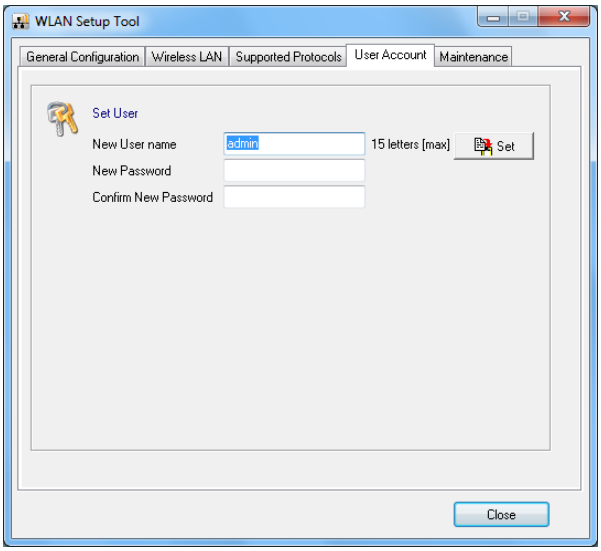


4-3-4. “User Account“ Tab

Use the “User account“ tab to change the administrator name and password.

Warning

If you forget the new username and password, settings must be returned to the factory default settings.

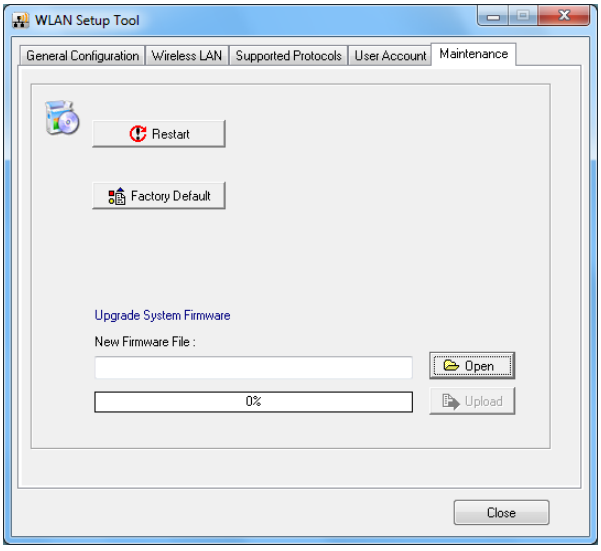


4-3-5. “Maintenance“ Tab

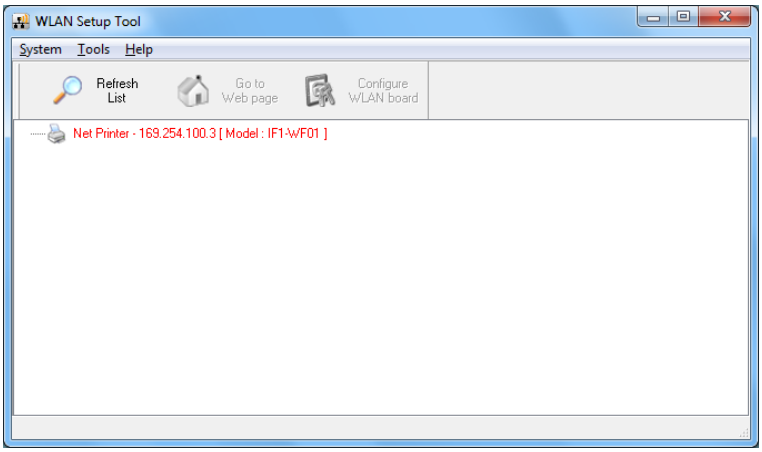
Use the “Maintenance“ tab to restart the wireless LAN interface board, return the settings to the factory default settings, and update the firmware.

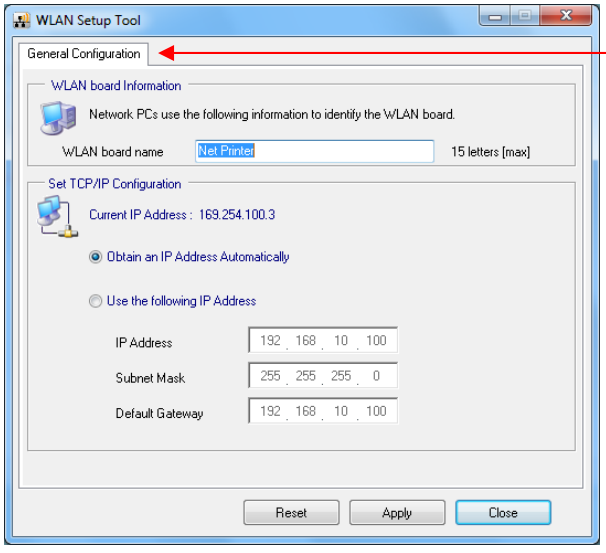
Note

After the firmware upgrade starts, do not disconnect power or transmission to the printer until the upgrade is complete.



Note: If the computer at which you are performing the configuration and the wireless LAN interface board have different subnet values, a message like the one shown below appears in red letters. If this message appears, set the IP address using the “Configure the WLAN Board” button before configuring the wireless LAN interface board.





Only the server name and IP address can be configured. Configure the IP address correctly one time before configuring the wireless LAN interface board.