11Mbps Wireless LAN

Wireless Ethernet Adapter

User's Manual

Version 1.0

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Contents

1 Introduction

Thank you for purchasing your Wireless Ethernet Adapter.
This manual will assist you with the installation procedure.

The package you have received contains the following items:
• User manual,
• 11MBPS Series Wireless Ethernet Adapter,
• Power adapter,
• CD containing this manual.

Note: if anything is missing, please contact your vendor

A wireless LAN is normally used in a predefined environment. In such a network, Wireless Ethernet Adapters are mounted at assigned places, each covering its own area in which wireless nodes can operate. These Wireless Ethernet Adapters are connected to a wired network to communicate with each other and with servers and clients on that network.

The 11MBPS Wireless Ethernet Adapter can be connected to a 10 Mbps Ethernet network through a RJ45 (UTP) connector.

2 Installation

1. Mount the Wireless Ethernet Adapter firmly on the position that is determined during the site survey.
2. Insert the power connector.
3. Attach the Wireless Ethernet Adapter to Ethernet network by using UTP Ethernet cable.

At the front of the Wireless Ethernet Adapter you will see three LEDs.
If all goes well, the LED (Power) is red and the (LINK) and (ACT) LEDs flash whenever there is traffic on the respective networks.
The Wireless Ethernet Adapter automatically selects the medium attached. When the cable network is detected, the network LED will turn yellow.

Reset the Wireless Ethernet Adapter

If you press the reset button for more than four seconds, the Wireless Ethernet Adapter will be reset to the default factory settings. All changes you made to the configuration will be lost.

1.Insert one end of a paperclip into the hole for the reset button and keep it pressed for more than four seconds. After about three seconds, the ACT LED goes from constantly on to being blinking.

2.Release the reset button when the LED has gone off. All settings are deleted. You will need to reconfigure the Wireless Ethernet Adapter.

3 Configuring the Wireless Ethernet Adapter

The Wireless Ethernet Adapter is a ready to use device. It is delivered with default settings which allow you to have access to it without configuring it.
You configure the Wireless Ethernet Adapter via *a JavaScript-enabled web-browser such as the Internet Explorer 4.0 or higher, or the Netscape Navigator 4.0 or higher.*

> ***The computer that you are using for initial configuration must have an IP Address within the same range as the IP Address of the Wireless Ethernet Adapter.***
> ***The Wireless Ethernet Adapter has a default IP Address of 192.168.5.90 with a subnet mask of 255.255.0.0***

Factory Default Settings for the Wireless Ethernet Adapter

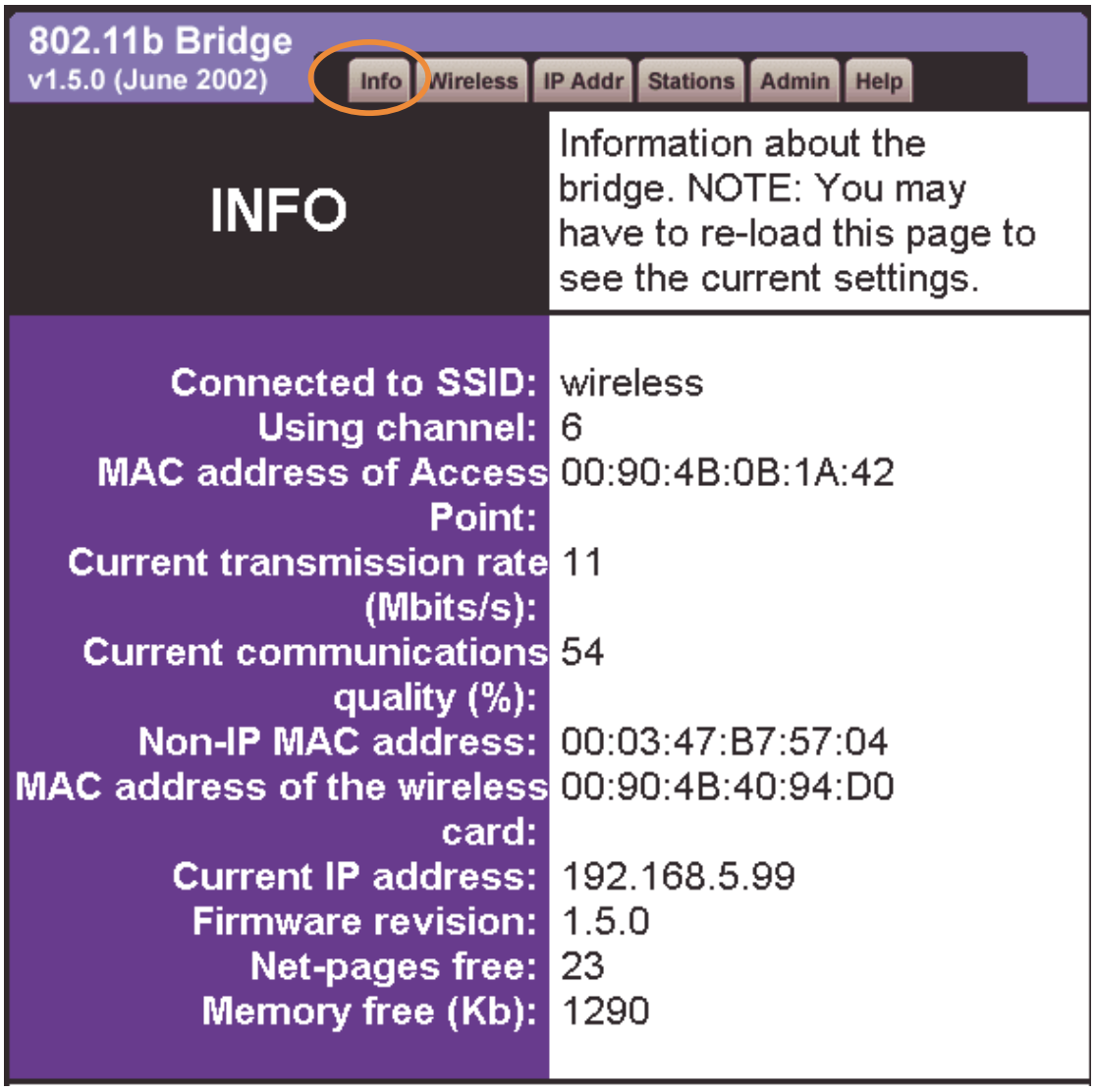
SSID	default
Channel	6
Transmission rates	Auto
WEP enable	No
IP Address mode	Static
IP Address	192.168.5.99
Subnet mask	255.255.0.0
User Name	Blank
Administrator or password	Blank (no password needed)

When you do configure the Wireless Ethernet Adapter, you can change the settings with respect to security, radio channels, etc.

4 Contents of Web Interface

The Web Interface application contains the following subjects:

4.1 Info Page



The **Info** window displays the current setup status of the Wireless Ethernet Adapter..

Communication Quality: Specifies the Communications Quality of the Basic Service Set to which the station is currently connected. The value for the field of this record is based on signal level and noise level measurements.

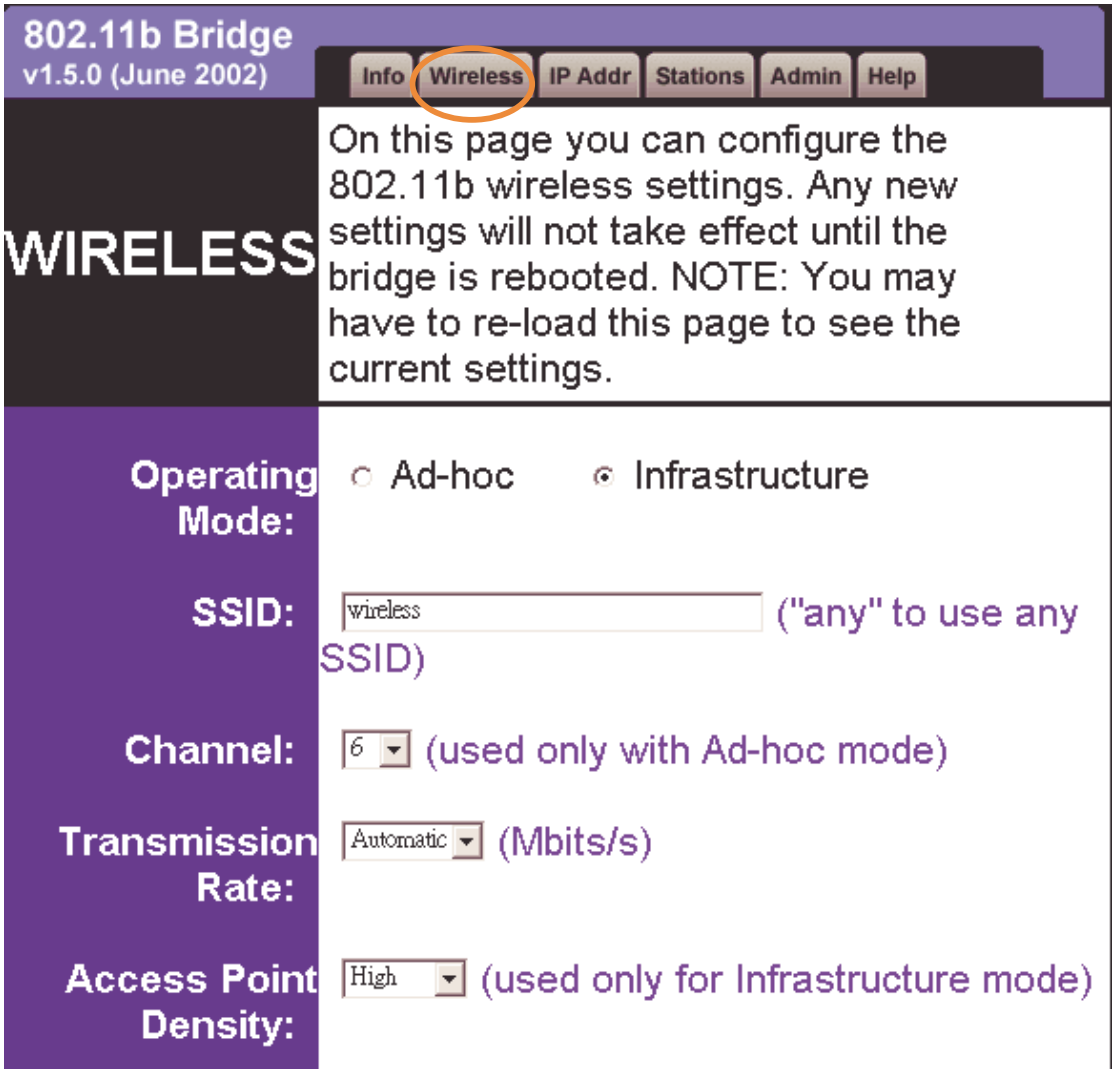
Firmware Version. This indicates the Wireless Ethernet Adapter's firmware version.

Current setting of IP Address: The IP address of the wireless Ethernet adapter.

Non-IP MAC Address: The MAC Address of Ethernet port that bridging to Wireless Ethernet Adapter.

4.2 Wireless Settings

The settings of the wireless device are displayed here, and you can edit some of these settings.



Operating Mode: Infrastructure - is the default setting. Switch to **Ad-Hoc** mode when communicating to another client device without the presence of the Access Point.

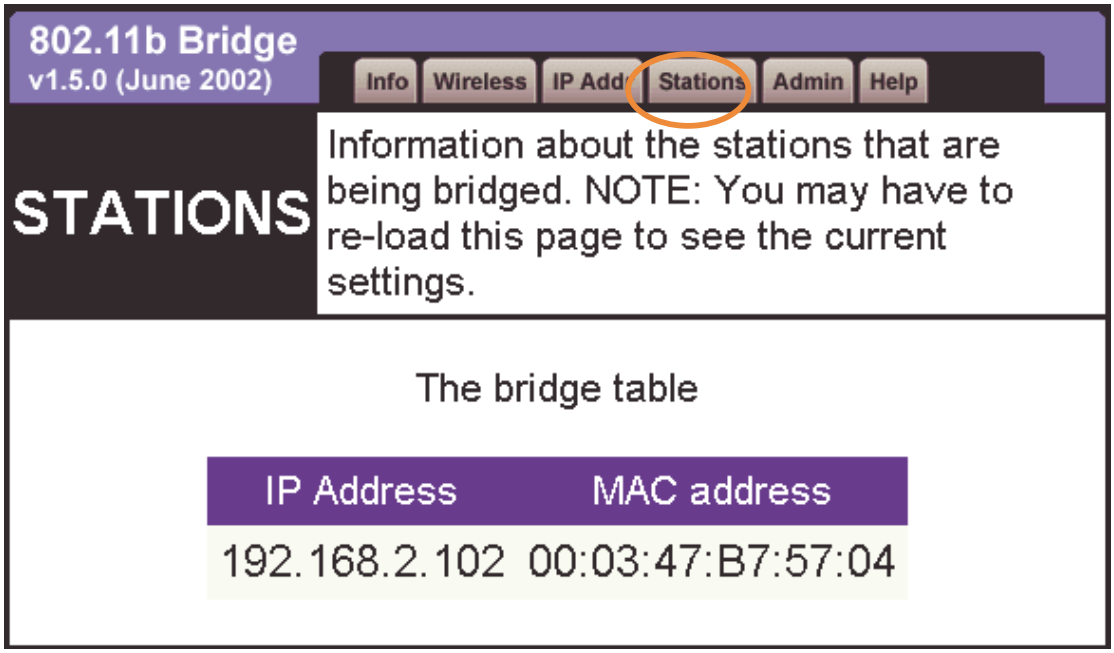
SSID: The SSID is also known as Service Set ID. This is the name of your wireless network. Only Wireless Ethernet Adapters and clients that share the same SSID are able to communicate with each other.

Channel: This is the channel that the Wireless Ethernet Adapter uses to transmit and receive information. The channel that you select here is restricted to the channels that can be used within your Regulatory domain.

Tx rate: The transmit rate identifies the preferred data transmission speed of the Wireless Ethernet Adapter. Transmissions at faster rates allow for higher data throughput and quicker network response times. However, transmissions at lower rates are usually more reliable and cover longer distances than the higher rates.

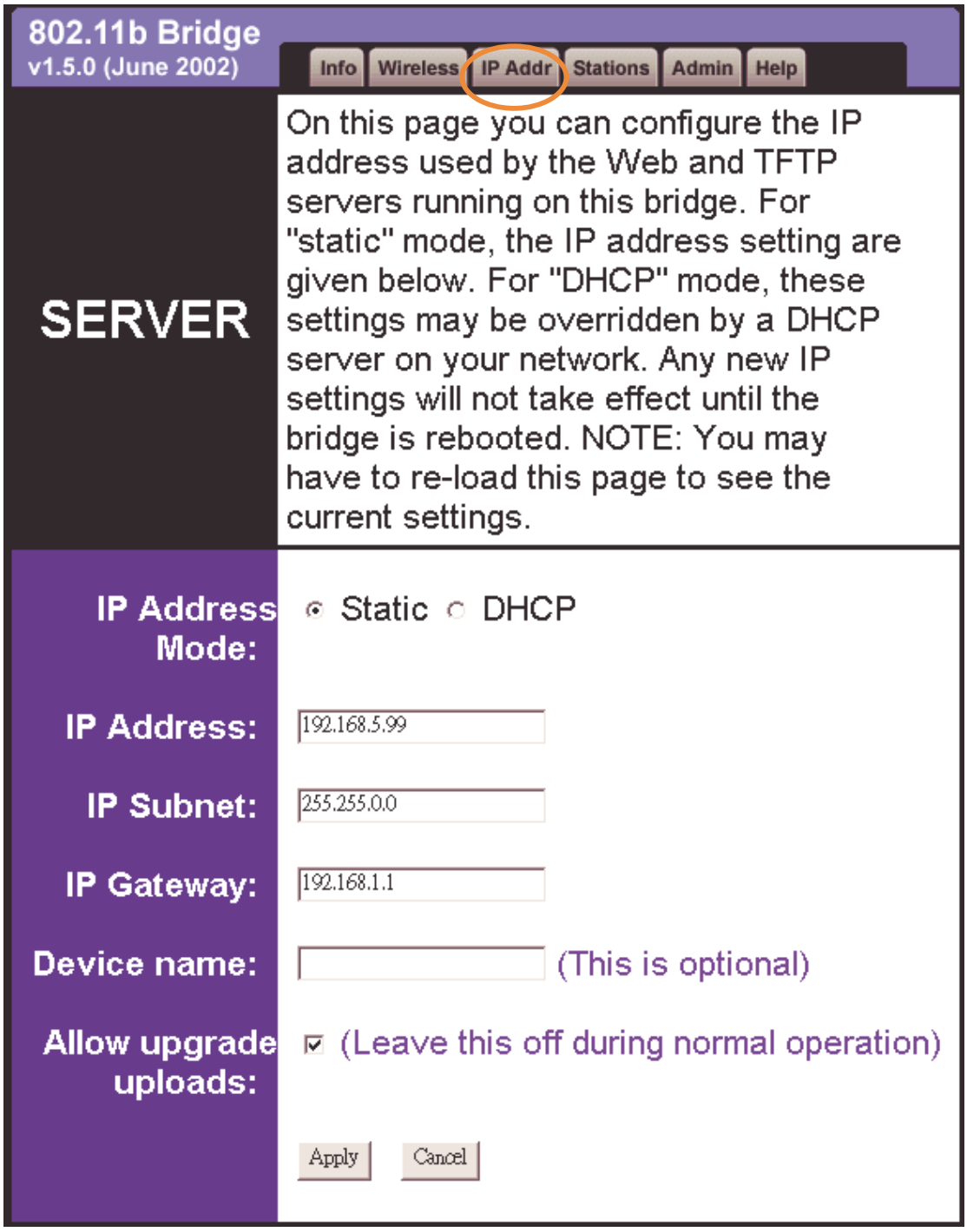
Access Point Density: When connecting to the Access Point, it is generally necessary to specify an Access Point Density. This provides some control over handoff of clients during roaming between Access Points. Three values, Low, Medium, and High

4.3 Bridging Table



The table lists all of stations that are bridging with the Wireless Ethernet Adapter.

4.4 IP Setting



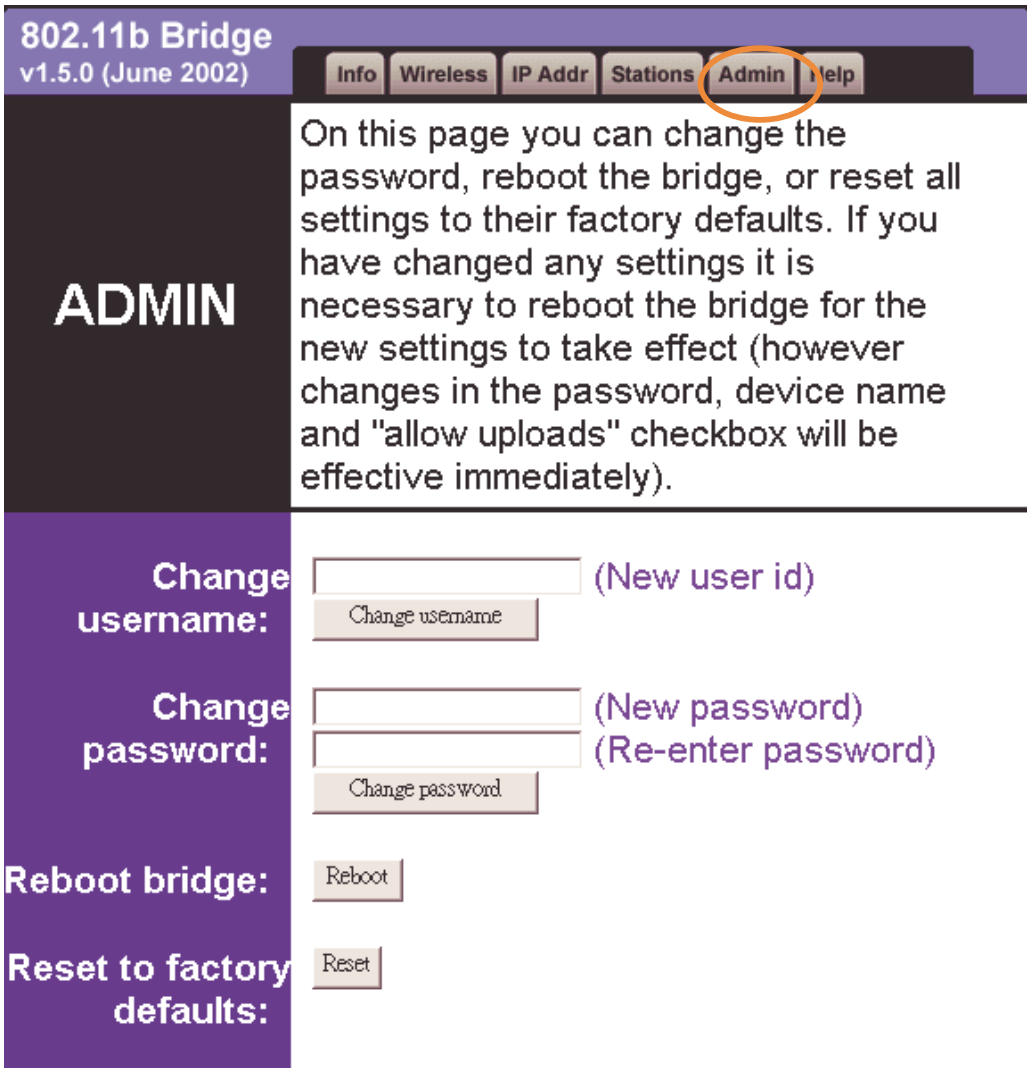
Static: Select **Static (recommended)** to assign the IP Address, the Subnet Mask and the Gateway Address.

DHCP: If the Wireless Ethernet Adapter is part of a network with a DHCP server, the DHCP server assigns the IP settings to the Wireless Ethernet Adapter for you. **(This is not recommended because a DHCP-assigned IP Address will change frequently, making the Wireless Ethernet Adapter impossible to configure.)**

Device Name: Assign the name of the Wireless Ethernet Adapter

Allow Upgrade Uploads: Select this checkbox when performing upgrading firmware.

4.5 Administration

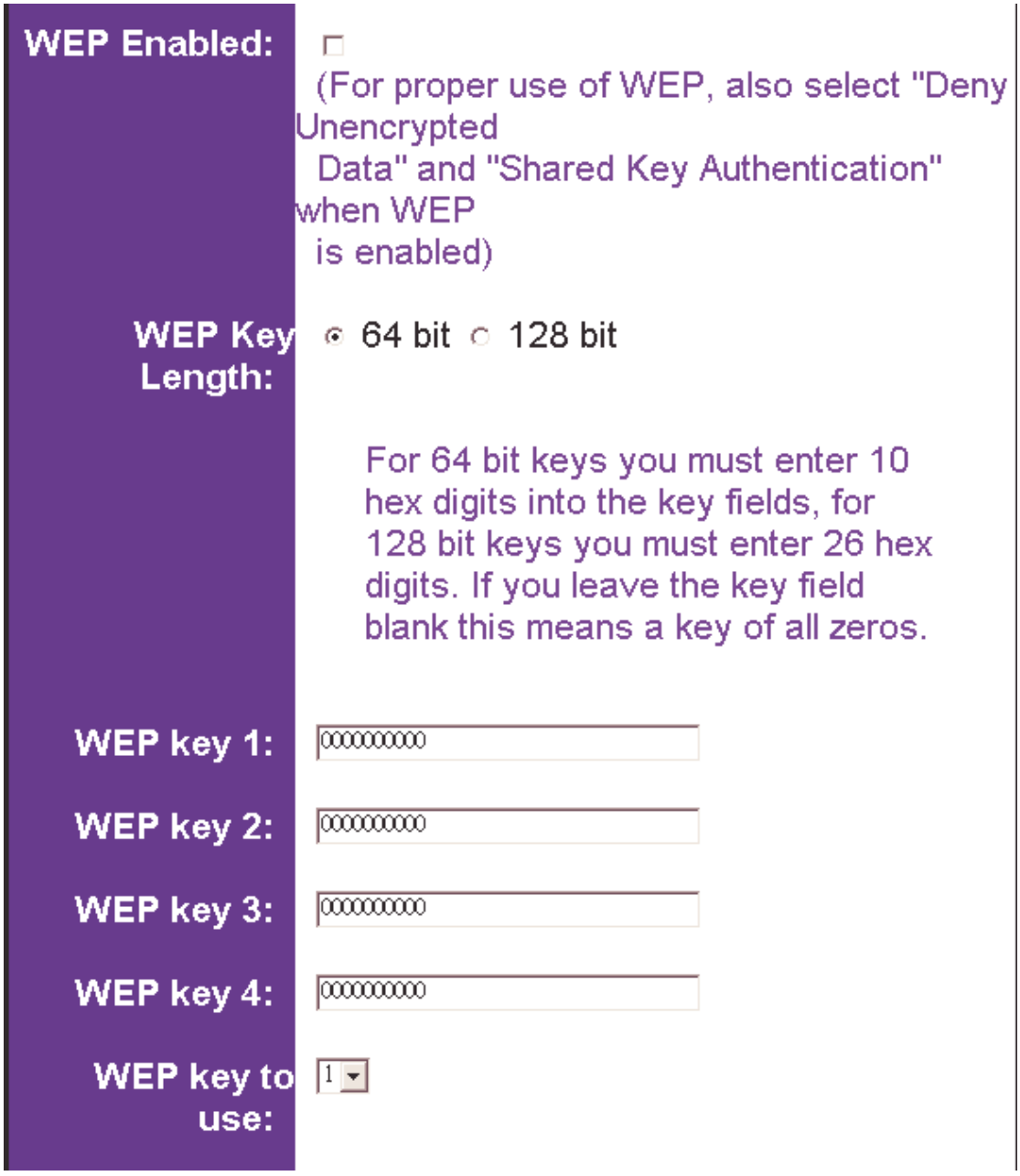


Change Username and Password: You can use a password to prevent tampering with the configuration of the Wireless Ethernet Adapter. By default, no username and password is required. However, if you choose to use a password, type in a password that is no more than 15 letters in length. Re-enter the password in the next field, and click **Change Password** for the change to take effect.

Reboot Bridge: Click **Reboot** to restart the Wireless Ethernet Adapter.

Reset to Factory Defaults: Click on **Factory Reset** to return all settings to the Factory Default values. *(Press and release the Reset button on the back of the unit to return the Wireless Ethernet Adapter to its factory default settings.)*

4.6 Security



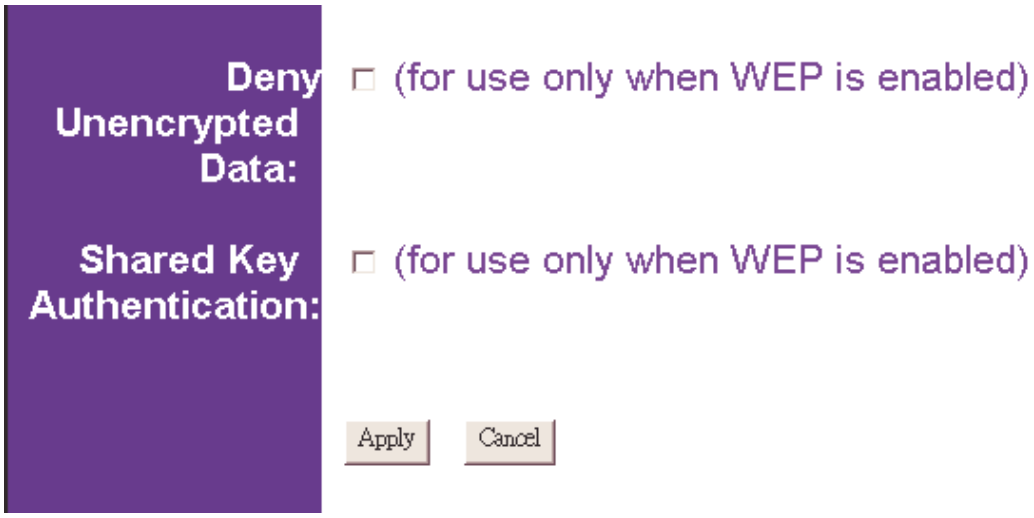
WEP Enabled: The default setting is **Disable.** Encryption (WEP)—additional measure of security on your wireless network which can be achieved by using WEP (Wired Equivalent Privacy) encryption. When an encrypted frame is received it will only be accepted if it decrypts correctly. This happens only if the receiver has the WEP Key used by the transmitter. All devices on the network, and the Wireless Ethernet Adapter, must share the same WEP selection – either **Enable** or **Disable**

To enable WEP Encryption, click on **WEP Enable**.

WEP Key Length: The default Key Length is **64-bit.** The WEP key is generated from **Hexadecimal** entries that are either 64 or 128-bit in length. (This is also sometimes referred to as 40-bit or 104-bit encryption) When enabling encryption, select the Key Length, either 64 or 128-bit, and then input the Hexadecimal digits. For 64 bit keys you must enter 10 hex digits into the key fields, for 128 bit keys you must enter 26 hex digits. If you leave the key field blank this means a key of all zeros.

Note: Only the following alphanumeric characters are allowed in the entry, which is 0 to 9, a to f.

WEP Key to Use: Use the pull-down menu to select the WEP key. All devices on the network must use the same key to communicate with one another.



Deny Unencrypted Data: For additional security when WEP is enabled, select **Deny Unencrypted Data.** Data received without a WEP key is rejected when **Deny Unencrypted Data** is selected.

Authentication Type. You may choose between **Open System, Shared Key, and Both.** The Authentication Type default is set to **Open System. Shared Key** is when both the sender and the recipient share a secret key. All points on your network must use the same authentication type. It is recommended that you use the default setting.

5 Troubleshooting

Q: If IP Address does not find the Wireless Ethernet Adapter you are looking for.

A: There are several possible causes depending on the way the Wireless Ethernet Adapter is connected to the network.

a. Problems on the wireless side

Always check the status of the LEDs to see whether you have:

•electricity problems,

•radio signal problems,

•networking problems.

1. **Possible cause:** Is the Wireless Ethernet Adapter powered up ?
   Solution: Check the power LED. Check if the Wireless Ethernet Adapter is connected.
2. **Possible cause:** Is the Wireless Ethernet Adapter is in range of the Access Point?
   Solution: Check the ACT signal LED. Check for possible problems with respect to range.
3. **Possible cause:** Is there a network connection? Check the network LINK LED.
   Solution: The Wireless Ethernet Adapter may take up to a minute to find an IP address.

b. Problems on the wired side

Always check if your cables and connections are in good order and properly installed.

1. **Possible cause:** Has the proper cable been used?
   Solution: • If the Wireless Ethernet Adapter is connected to a hub, a ‘normal ’ (not a crossover) cable must be used.
   • If the Wireless Ethernet Adapter is connected directly to a computer, a crossover cable must be used.

6 Technical Specifications of Wireless Ethernet Adapter

Standards supported

– IEEE 802.11 standard for Wireless LAN
– All major networking standards (including IP, IPX)

Environmental

Operating temperature (ambient):

– -10 ~ 50°C

Humidity:

– Max. 95% Non-condensing

Power specifications

DC power supply

– Input : DC 100-240 50-60 Hz 2A
– Output: 5V DC 2A converter incl.

Radio specifications

Range:

– per cell indoors approx. 35-75 meters
– per cell outdoors up to 100-250 meters

Transmit power:

– Nominal Temp Range: 14 dBm, 12min.

Frequency range:

– 2.4-2.4835 GHz, direct sequence spread spectrum

Number of Channels:

– Most European countries: 13 (1-13)
– US and Canada: 11 (1-11) (3 non-overlapping)
– France: 4 (10-13) (1 non-overlapping)
– Japan : 14 (1-14)

Specific features

Supported bit rates:

– 11 Mbps : CCK
– 5.5 Mbps : CCK
– 1 Mbps : DBSK

– 2 Mbps : DQPSK

Data encryption:

– 64-bits WEP Encryption
– 128-bits WEP Encryption

Utility Management:

– Web management and TFTP firmware upgrade

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.