EZ3+ 14 High Power Bridge

250mW 802.11b/g

User's Manual

Version: 1.0

Professional Installation of this equipment is required

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Revision History

Version	Date	Notes
1.0	May 21st , 2006	Initial Version

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Electronic Emission Notices

This device complies with Part 15 of the FCC rules, ETSI 300-328 and CE.
Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

FCC Frequency 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 when the equipment is operated in a residential environment, not withstanding use in commercial, business and industrial environment, not withstanding use in commercial, business and industrial environments. 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 or more of the following measures:

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

Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement

To comply with FCC RF exposure requirements in section 1.1307, a minimum separation distance of 2m (79 inches) is required between the antenna and all persons.

Antenna Installation

WARNING: It is installer's responsibility to ensure that when using the outdoor antenna in the United States (or where FCC apply), only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance to FCC rules CFR47 part 15.204. (See Section 7)

The installer should configure the output power level of antennas, according to country regulations and per antenna type. Professional installation is required of equipment with connectors to ensure compliance with health and safety issues.

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Contacting e-zy.net technical support

Should you need assistance beyond the scope of this manual, please contact your EZ3plus local reseller or distributor. If they can not solve your problem, feel free to contact e-zy.net Technical Support Department. The support representative can help you to solve any problem that can not be solved by your local reseller.
When requesting support, please have the following items available:

- Configuration of system, including models of e-zy.net equipment used and other applicable equipment and connecting cables.
- Hardware and firmware version of e-zy.net equipment.
- Configuration and statistic counters as viewed in the web administration utility.
- Description of the problem

1. Introduction

This chapter describes the features & benefits, package contents, applications, and network configuration.

1.1. Features & Benefits

FEATURES	BENEFITS
Up to 38dBm (6310mW) EIRP, Adjustable RF Output Power	Up to 10 times coverage of regular multi-client bridge
11Mbps IEEE 802.11b Compliant 54Mbps IEEE 802.11g Compliant	Fully Inter operable with IEEE 802.11b/g compliant devices
AP, AP Client, WDS, WDS+AP	High Power output for long distance links
Plug and Play	No driver needed, easy and quick to connect your Ethernet device to Wireless
Power-over-Ethernet	Flexible Access Point locations and cost savings
64 /128-bit WEP data encryption WPA (TKIP/AES), WPA2	Powerful data security
Hide SSID (AP Mode)	Avoids non allowed users sharing bandwidth, increases efficiency of the network
DHCP Client / DHCP Server	Simplifies network administration
Web-based configuration	Helps administrators remotely configure or manage the device using a web browser
MAC address filtering (All Modes)	Ensures secure network connection
Seamless Roaming	Allows users to roam between APs without losing their network connection
SNMP	Use your favorite SNMP client
Antenna Alignment	Minimizes installation time

1.2. Package Contents

Open the package carefully, and make sure that none of the items listed below are missing. Do not discard the packing materials, in case of return; the unit must be shipped in its original package.

- One Multi-Client Bridge/Access Point
- One Power Adapter
- One PoE Injector
- One Quick Installation Guide
- One CD-ROM with User's Manual and Auto-Discovery tool.

1.3. Applications

The wireless LAN products are easy to install and highly efficient. The following list describes some of the many applications made possible through the power and flexibility of wireless LANs:

- **Difficult-to-wire environments**
  There are many situations where wires cannot be laid easily. Historic buildings, older buildings, open areas and across busy streets make the installation of LANs either impossible or very expensive.
- **Temporary work group**
  Consider situations in parks, athletic arenas, exhibition centers, disaster recovery, temporary offices and construction sites where one wants a temporary WLAN established and removed.
- **The ability to access real-time information**
  Doctors/nurses, point-of-sale employees, and warehouse workers can access real-time information while dealing with patients, serving customers and processing information.
- **Frequently changed environments**
  Show rooms, meeting rooms, retail stores, and manufacturing sites where frequently rearrange the workplace.
- **Small Office and Home Office (SOHO) networks**
  SOHO users need a cost-effective, easy and quick installation of a small network.
- **Wireless extensions to Ethernet networks**
  Network managers in dynamic environments can minimize the overhead caused by moves, extensions to networks, and other changes with wireless LANs.
- **Wired LAN backup**
  Network managers implement wireless LANs to provide backup for mission-critical applications running on wired networks.
- **Training/Educational facilities**
  Training sites at corporations and students at universities use wireless connectivity to ease access to information, information exchanges, and learning.

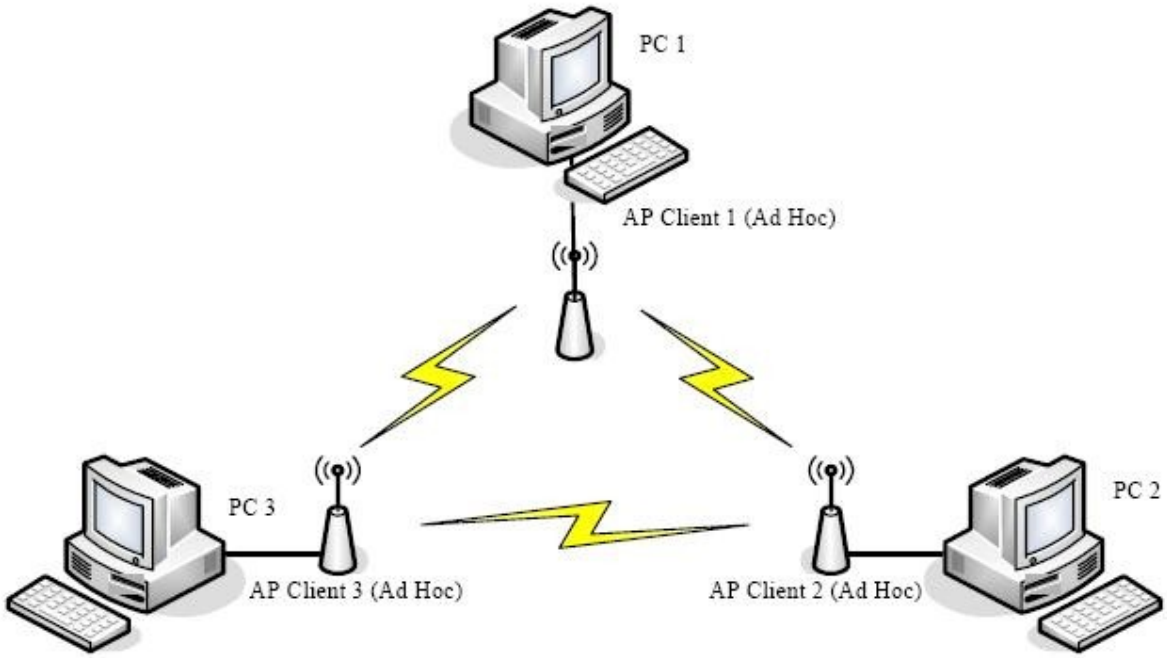
1.4. Network Configuration

To better understand how the wireless LAN products work together to create a wireless network, it might be helpful to depict a few of the possible wireless LAN PC card network configurations. The wireless LAN products can be configured as:

a) Ad-hoc (or peer-to-peer) for departmental or SOHO LANs.
b) Infrastructure for enterprise LANs.

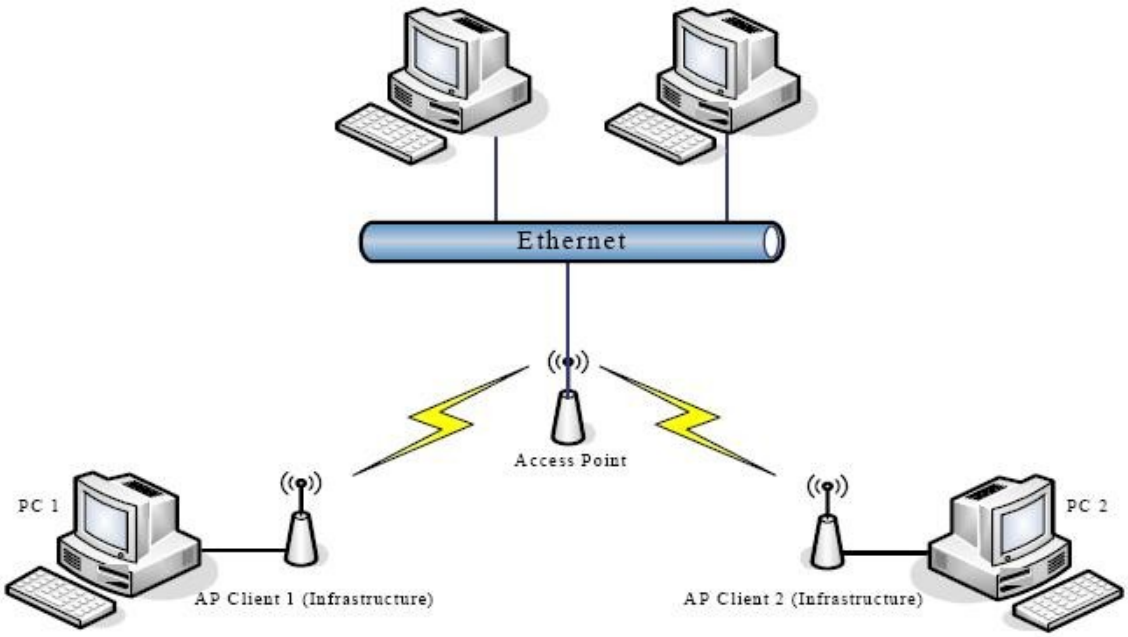
a) Ad-hoc (peer-to-peer) Mode

This is the simplest network configuration with several computers equipped with the PC Cards that form a wireless network whenever they are within range of one another. In ad-hoc mode, each client is peer-to-peer, would only have access to the resources of the other client and does not require an access point. This is the easiest and least expensive way for the SOHO to set up a wireless network. The image below depicts a network in ad-hoc mode.



b) Infrastructure Mode

The infrastructure mode requires the use of an access point (AP). In this mode, all wireless communication between two computers has to be via the AP. It doesn't matter if the AP is stand-alone or wired to an Ethernet network. If used in stand-alone, the AP can extend the range of independent wireless LANs by acting as a repeater, which effectively doubles the distance between wireless stations. The image below depicts a network in infrastructure mode.



2. Understanding the Hardware

2.1. Hardware Configuration

- **RJ-45 Ethernet Connector –** Provides connectivity to a wired Ethernet LAN along with Power to the device.

2.2. Hardware Installation

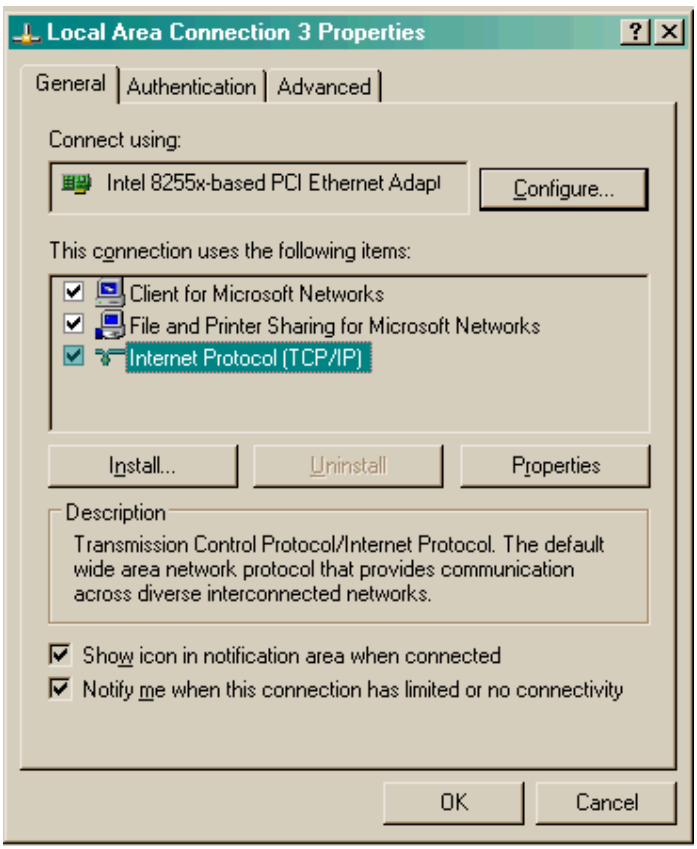
- Configure your notebook or PC with a wireless LAN card.
- For a wired LAN, connect your PC's Ethernet port to the unit's LAN port via an Ethernet cable.
- For WLAN, position the unit in a proper location.
- Plug in the power adapter into the power outlet.
- Plug the other end of the power adapter into the PoE Injector
- Plug an RJ45 cable to your PC and the other end to the "data" port on the PoE Injector
- Plug a RJ45 cable into the "Data + Power" port of the PoE Injector and the other end into the device.

3. PC Configuration

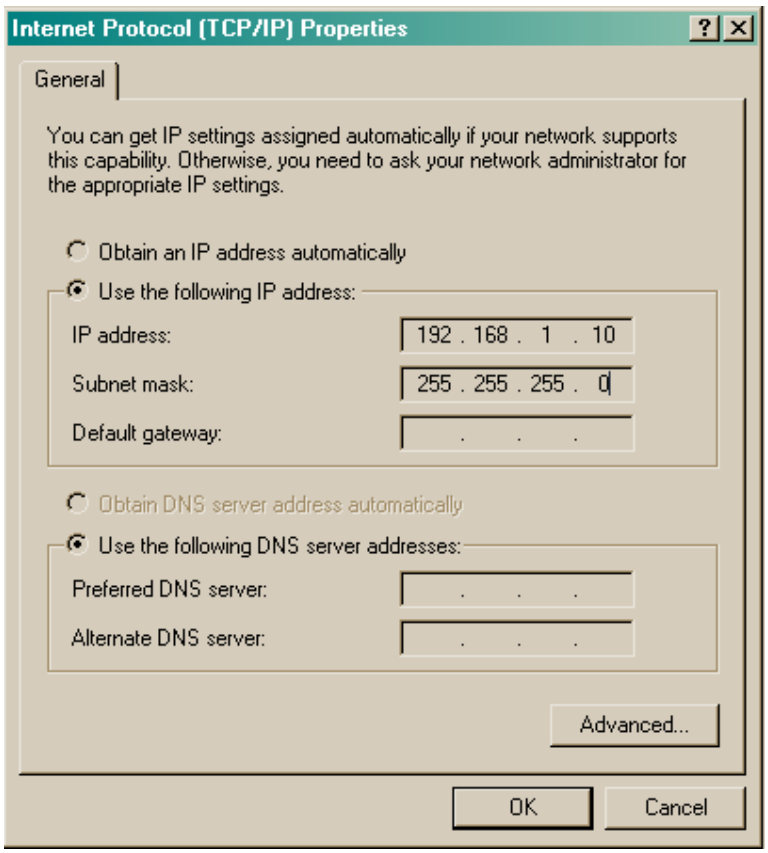
Follow the steps below in order to configure the TCP/IP settings of your PC.

A. In the Control Panel double click **Network Connections**, and then double click on the connection of your Network Interface Card (NIC). You will then see the following screen.

B. Select **Internet Protocol (TCP/IP)** and then click on the **Properties** button. This will allow you to configure the IP address of your PC. You will then see the following screen.



C. Select **Use the following IP address** radio button, and then enter an IP address and subnet mask for your PC. Make sure that the device and your PC is on the same subnet. (e.g.192.168.1.10)



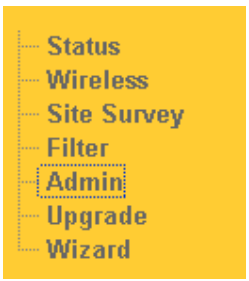
D. Click on the **OK** button, your PC's TCP/IP settings have been configured.

4. Switch Between Bridge & Access Point

This chapter describes the steps to switch from Bridge to Access Point, and Access Point to Bridge.

This device can be configured as a Bridge or an Access Point. By default, this device is configured as a Bridge, and the default IP address is **192.168.1.1**.

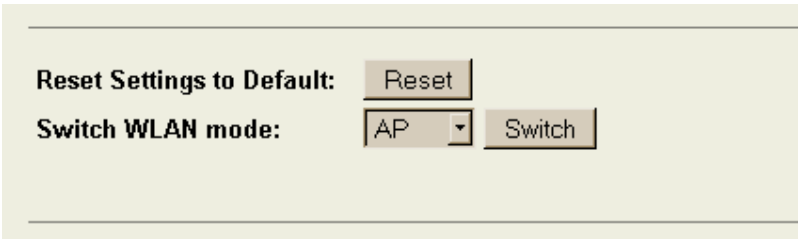
4.1. Bridge to Access Point



a. Enter the default IP address of the Bridge into the address bar of the web-browser or click here:http://192.168.1.1

b. After you have logged into the Bridge, click on the **Admin** link on the navigation bar.

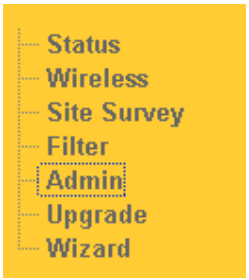
You will then see the following screen:



c. Click on the **Switch** button to switch the device from Bridge to Access Point mode.

d. The device will then restart in Access Point mode.4.2 Access Point to Bridge

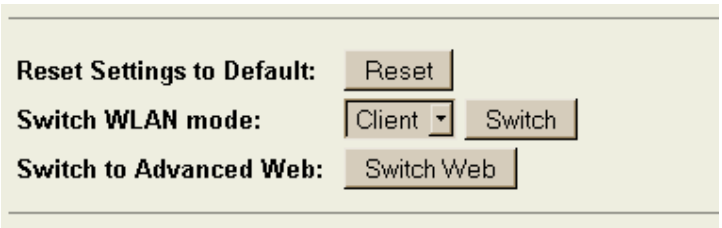
4.2. Access Point to Bridge



a. Enter the default IP address of the Bridge into the address bar of the web-browser or click here:http://192.168.1.1

b. After you have logged into the Bridge, click on the **Admin** link on the navigation bar.

You will then see the following screen:



c. Click on the **Switch** button to switch the device from Access Point to Bridge mode.

d. The device will then restart in Bridge mode.

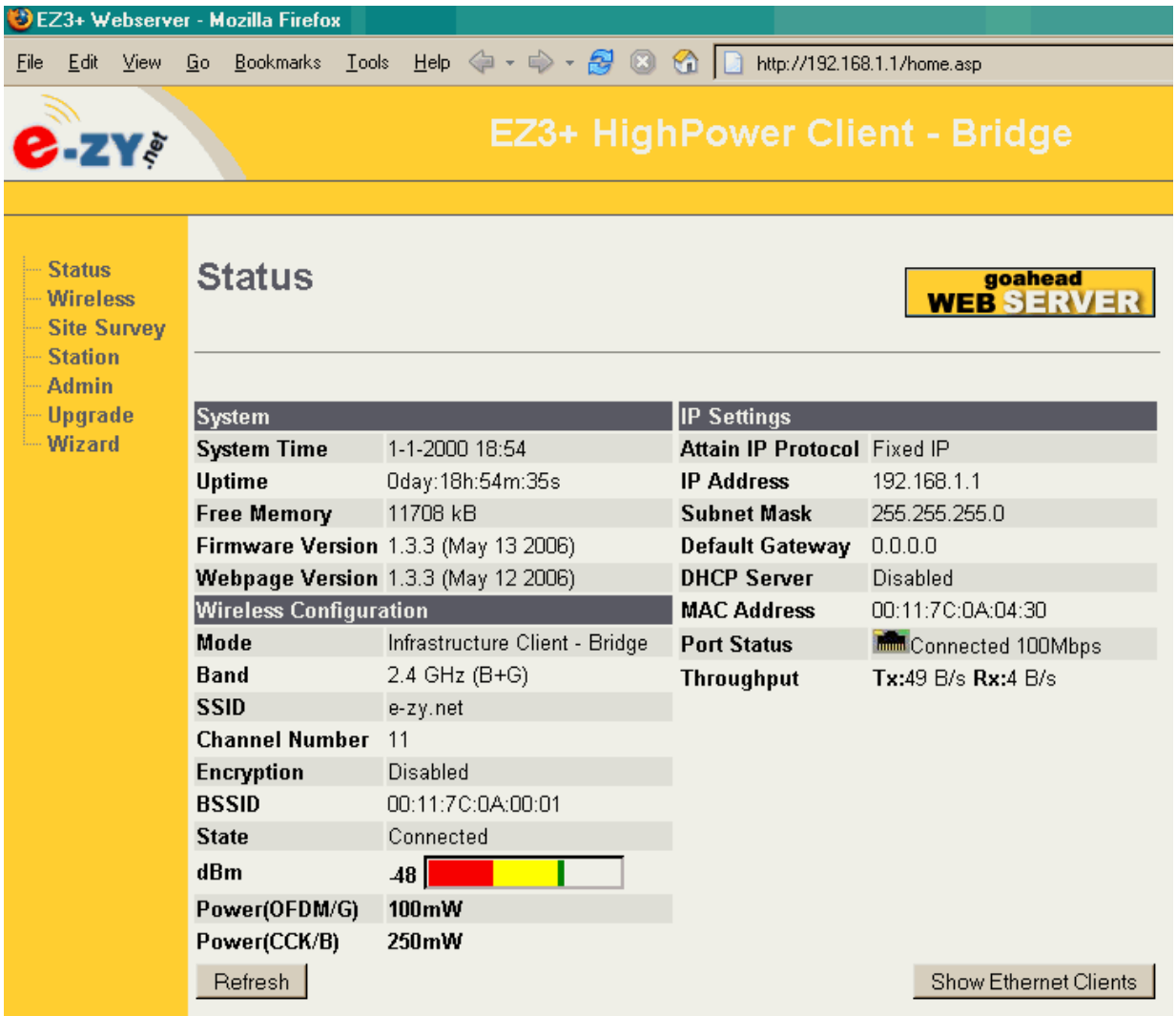
5. Bridge Mode – Web Configuration

5.1. Logging In

To configure the Bridge through the web-browser, enter the IP address of the Bridge into the address bar of the web-browser (default IP: **192.168.1.1**), and press **Enter**.

You may also change the password after you login. In order to do so, refer to section **5.4 Admin**.

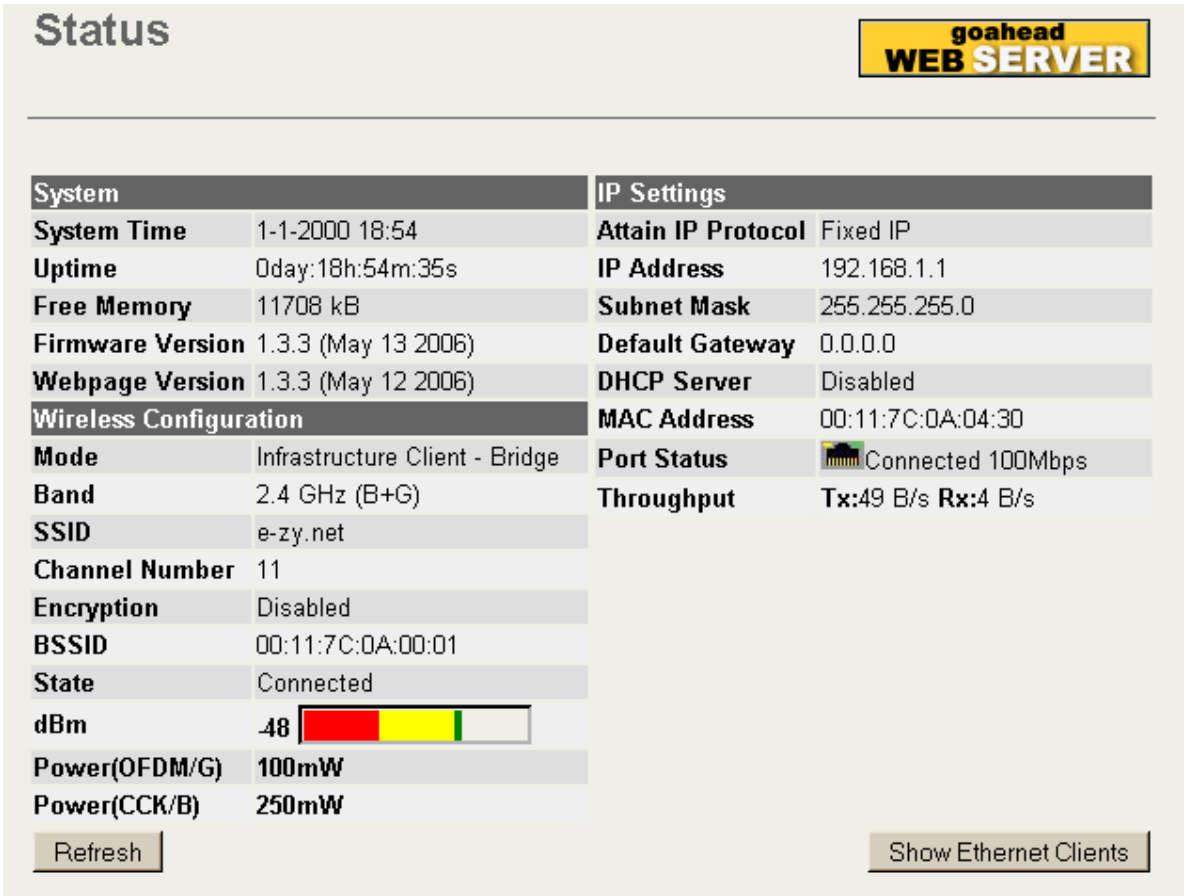
After you login, you will see the following screen. This screen displays the system information. For more information about these settings refer to section **5.2 Status**.



5.2. Status

The System page is the first page that is displayed after logging in. This page displays information about the Bridge. You may refresh this page by clicking on the **Refresh** button on the bottom of the status screen.

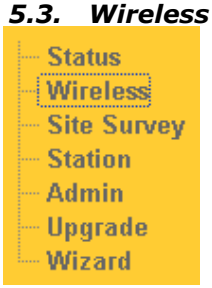
Described below is the information listed when in Bridge mode along with an image.



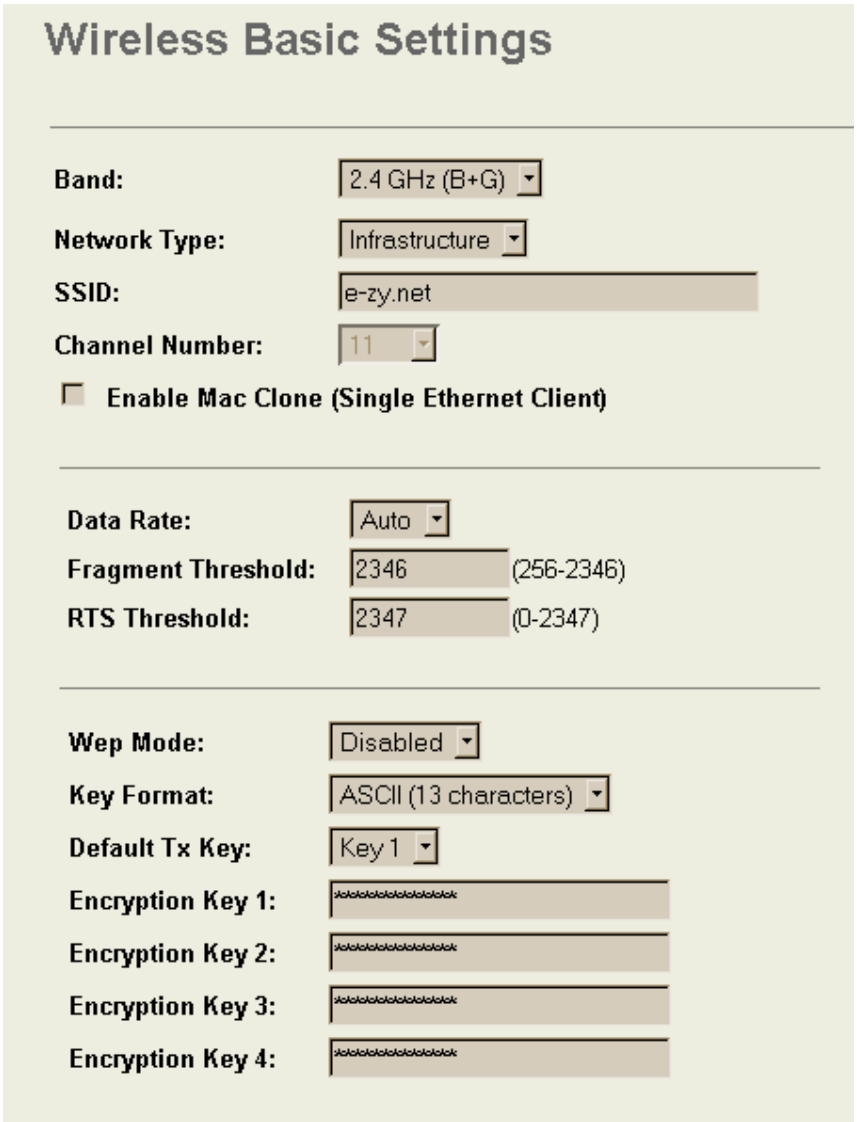
- **System Time:** displays the current time of the system.
- **Uptime:** displays the uptime of the system.
- **Free Memory:** displays the system's free memory.
- **Firmware Version:** displays the system's Firmware Version.
- **Web page Version:** displays the version of the web pages.
- **Mode:** displays the current mode (Bridge or AP).
- **Band:** displays the operating band.
- **SSID:** displays the SSID of the Access Point. The SSID is a unique name shared among all points in your wireless network.
- **Channel Number:** displays the frequency channel currently being used.
- **Encryption:** displays the encryption method used
- **BSSID:** displays the MAC address of the Access Point the Bridge is connected to.
- **State:** displays the connection state of the Bridge (connected / disconnected)
- **dBm:** displays the signal strength of the Bridge.
- **Power:** displays the current transmission power of the device in .11b and .11g modulations.

- **Attain IP Protocol:** displays the method used for attaining the IP of the Bridge.
- **IP Address:** displays the IP address of the Bridge.
- **Subnet Mask:** displays the Subnet Mask of the Bridge.
- **Default Gateway :** displays the Default Gateway of the Bridge.
- **MAC address of the Bridge:** displays the MAC address of the Bridge.
- **Port Status:** displays the current status and speed of the RJ45 port
- **Throughput:** displays the current throughput of the Bridge

5.3. Wireless



Click on the **Wireless** link on the navigation bar in order to configure the wireless settings of this Bridge. The page displays the current wireless settings and allows you to make changes as you choose. Described below along with an image are details on how to configure the wireless settings of the Bridge.



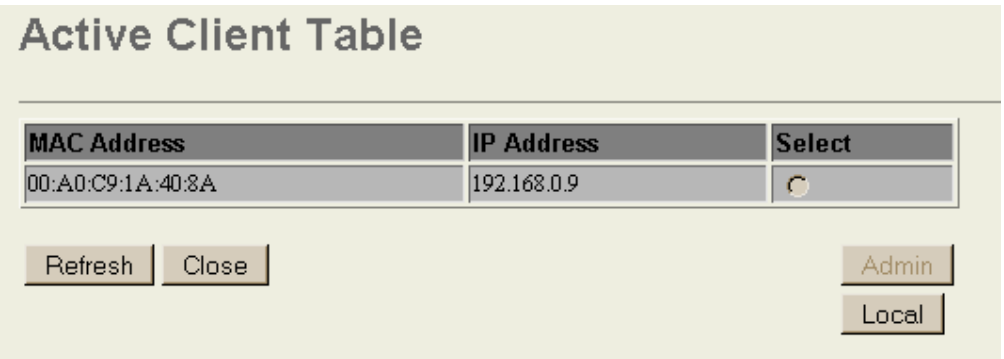
- **Band:** Select the operational band
- **Network Type:** select **Infrastructure** or Ad Hoc from the pull down menu, depending on the type of network you would like to configure.

- **SSID:** displays the SSID of the Access Point. The SSID is a unique name shared among all points in your wireless network. The SSID must be identical for all points in the network, and is case-sensitive. Leaving this field blank means using the SSID “any” and connecting to an Access Point with the strongest available signal.
- **Enable Mac Clone:** place a check in this box to use MAC cloning. The Bridge will set the wireless interface to use the MAC address of a device from the wired side. Multiple devices can be connected but only the first device will be cloned.
- **Data Rate:** select a supported transmission rate from the drop down list, or select the default (**automatic**) to let the Bridge decide which data rate to use.
- **Fragmentation threshold:** transmitted wireless packets larger than this size will be fragmented to maintain performance in noisy wireless networks.
- **RTS threshold:** transmitted wireless packets larger than this size will use the RTS/CTS protocol to (a) maintain performance in noisy wireless networks and (b) prevent hidden nodes from degrading performance.
- **WEP mode:** select if you would like to use WEP encryption. WEP is an acronym for Wired Equivalent Privacy, a security protocol for Wireless Local Area Networks (WLANs) defined in the 802.11 standard. WEP is designed to provide the same level of security as a wired LAN.
- **Key Format:** select a WEP key length from the drop-down list. Options available are **64-bit** (13 characters) and **128-bit** (26 characters).
- **Default Tx Key:** select a WEP key to use from the drop-down list.
- **Encryption Key 1~4:** enter the WEP key. If you use WEP you must enter the same key into the Access Points and Clients. For **64-bit** keys you must enter 13 ASCII characters. For **128-bit** keys you must enter 26 hex digits. A hex digit is defined as a number from 0 through 9 or letter from A through F. Leaving this field blank indicates a key of all zeros.

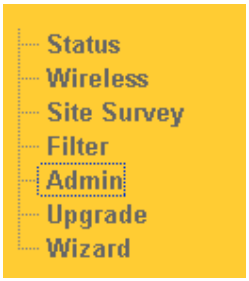
Click on the **Apply Changes** button to confirm the changes.

5.4. Ethernet Clients

Click on the **Show Ethernet Clients** button on the bottom right of the status screen in order to view a list of stations connected to this Bridge.

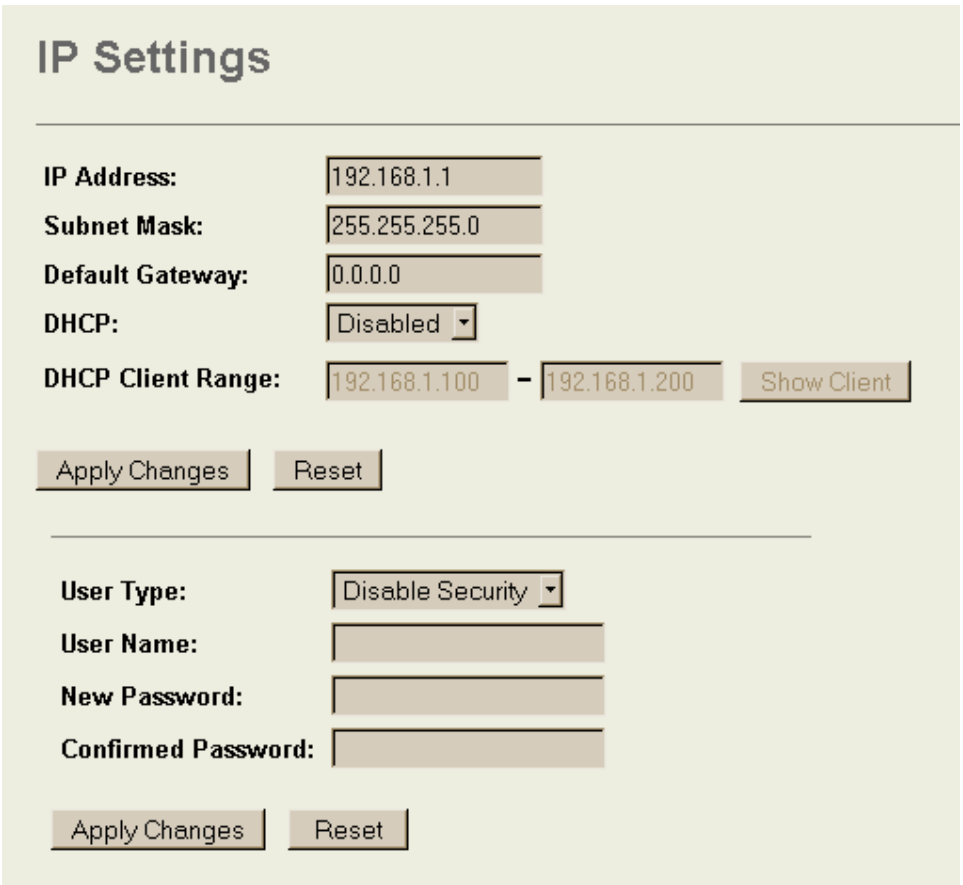


5.5. Admin



Click on the **Admin** link on the navigation bar in order to configure the threshold values and login details. You may also reboot this device and reset the setting back to the factory defaults.

Described below along with an image are details on how to configure the administrative settings.



- **IP address:** enter the IP address of this Bridge.
- **Subnet mask:** enter the subnet mask for this Bridge.
- **Default Gateway:** enter the IP address of the default gateway
- **DHCP:** select **Disabled, Server** or **Client**. If you select **Client** the IP address, subnet mask, and gateway will be assigned to this bridge via a DHCP server. However, if you select **Disable**, or **Server** you are required to enter a default IP address, subnet mask, and gateway. In case you select **Server** the Bridge will also act as a DHCP server passing leases to other devices on the same physical network.
- **DHCP Client Range:** The range of IP addresses to be leased by the Bridge.
- **User Type:** select **Disable Security, Administrator,** or **User.** If you select **Disable Security** there will be no need to fill the **User Name** and **Password fields. Administrator** has both

read and write privileges upon login. **User** has only read privileges upon login.

- **User Name:** type in the user name for the relevant user type.
- **Password:** type in the password.
- **Confirm Password:** reenter the password for confirmation purposes.

Click on the **Apply Changes** button to confirm the changes.

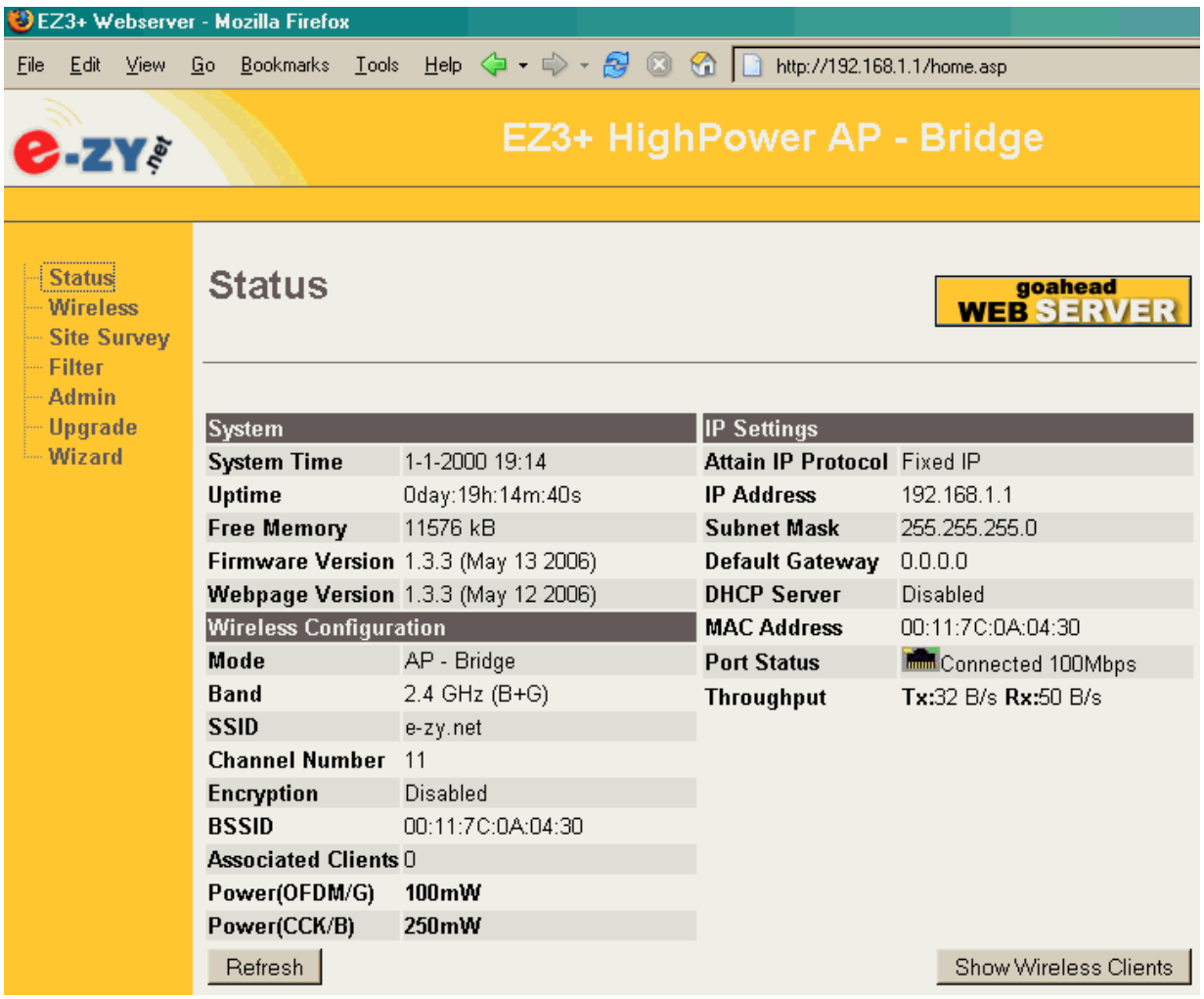
6. Access Point – Web Configuration

6.1. Logging In

To configure the Access Point through the web-browser, enter the IP address of the Access Point into the address bar of the web-browser (default IP: **192.168.1.1**), and press **Enter**.

You may change the user name and password after you login. In order to do so, refer to section **6.5 Admin**.

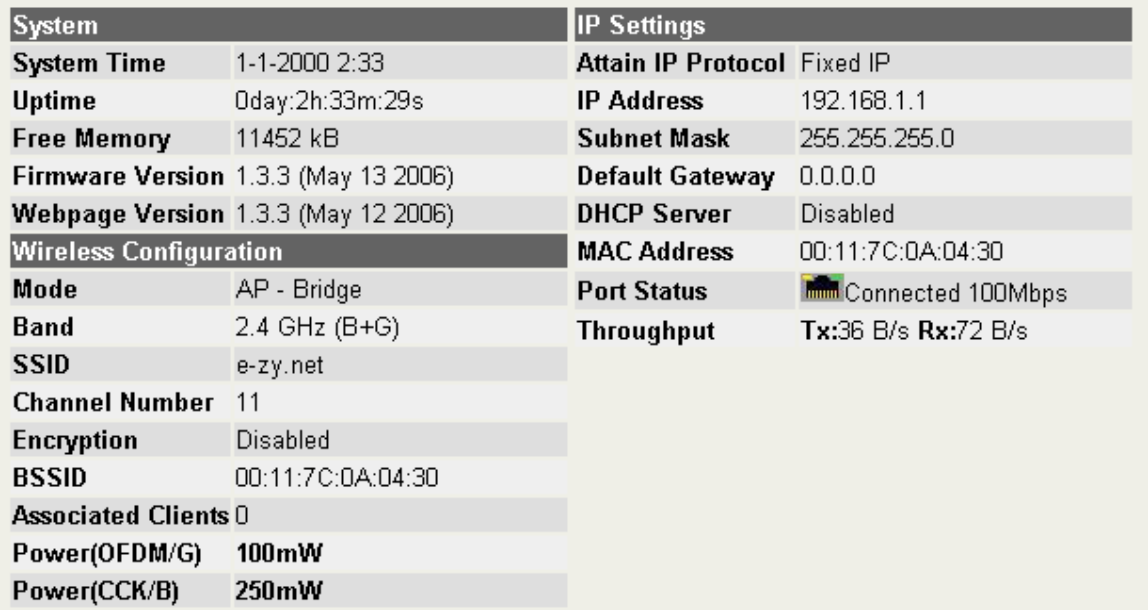
After you login, you will see the following screen. This screen displays the system information. For more information about these settings refer to section **6.2 Status**.



6.2. Status

The System page is the first page that is displayed after logging in. This page displays information about the Access Point. You may refresh this page by clicking on the **Refresh** button on the bottom of the status screen.

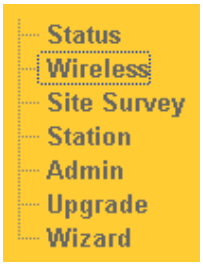
Described below is the information listed when in Access Point mode along with an image.



System		IP Settings	
System Time	1-1-2000 2:33	Attain IP Protocol	Fixed IP
Uptime	0day:2h:33m:29s	IP Address	192.168.1.1
Free Memory	11452 kB	Subnet Mask	255.255.255.0
Firmware Version	1.3.3 (May 13 2006)	Default Gateway	0.0.0.0
Webpage Version	1.3.3 (May 12 2006)	DHCP Server	Disabled
Wireless Configuration		MAC Address	00:11:7C:0A:04:30
Mode	AP - Bridge	Port Status	Connected 100Mbps
Band	2.4 GHz (B+G)	Throughput	**Tx:**36 B/s **Rx:**72 B/s
SSID	e-zy.net		
Channel Number	11		
Encryption	Disabled		
BSSID	00:11:7C:0A:04:30		
Associated Clients	0		
Power(OFDM/G)	100mW		
Power(CCK/B)	250mW		

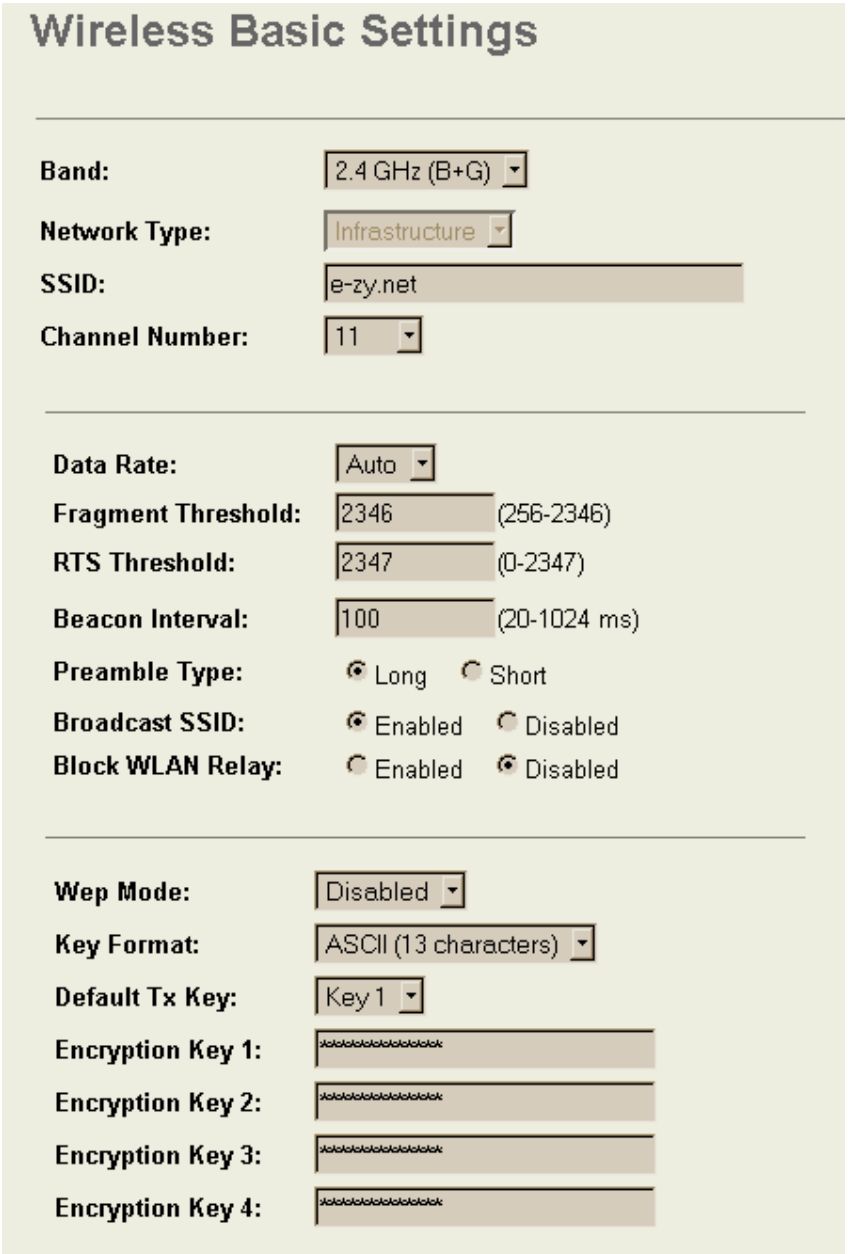
- **System Time:** displays the current time of the system.
- **Uptime:** displays the uptime of the system.
- **Free Memory:** displays the system's free memory.
- **Firmware Version:** displays the system's Firmware Version.
- **Web page Version:** displays the version of the web pages.
- **Mode:** displays the current mode (Bridge or AP).
- **Band:** displays the operating band.
- **SSID:** displays the SSID of the Access Point.
- **Channel Number:** displays the frequency channel currently being used.
- **Encryption:** displays the encryption method used
- **BSSID:** displays the MAC address of the Access Point the Bridge is connected to.
- **Associated Clients:** displays the numbers of clients associate to the Access Point.
- **Power:** displays the current transmission power of the device in .11b and .11g modulations.
- **Attain IP Protocol:** displays the method used for attaining the IP of the Bridge.
- **IP Address:** displays the IP address of the Bridge.
- **Subnet Mask:** displays the Subnet Mask of the Bridge.
- **Default Gateway :** displays the Default Gateway of the Bridge.
- **MAC address of the Bridge:** displays the MAC address of the Bridge.
- **Port Status:** displays the current status and speed of the RJ45 port
- **Throughput:** displays the current throughput of the Bridge

6.3. Wireless



Click on the **Wireless** link on the navigation bar in order to configure the wireless settings of Access Point. The page displays the current wireless settings and allows you to make changes as you choose.

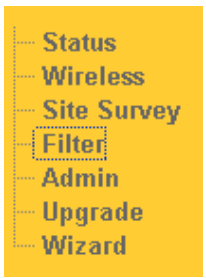
Described below along with an image are details on how to configure the wireless settings of the Access Point.



- **Band:** Choose the operating modulation.
- **SSID:** displays the SSID of the Access Point. The SSID is a unique name shared among all points in your wireless network. The SSID must be identical for all points in the network, and is case-sensitive. Leaving this field blank means using the SSID “any” and connecting to an Access Point with the strongest available signal.
- **Channel:** select a channel from the drop-down list, which is the shared channel among all points in a point-to-point mode. The permissible channels depend on the regulatory domains.
- **Data Rate:** select a supported transmission rate from the drop down list, or select the default (**automatic**) to let the Access Point decide which data rate to use.
- **Fragmentation threshold:** this value indicates how much of the Access Point’s resources are devoted to recovering packet errors. The value should remain at its default setting. If you decrease this value too much you may encounter high packet error rates, however if you increase it too much it will affect overall performance. Therefore, it is recommended to leave this value at its default of 2346.
- **RTS threshold:** transmitted wireless packets larger than this size will use the RTS/CTS protocol to (a) maintain performance in noisy wireless networks and (b) prevent hidden nodes from degrading performance.
- **Beacon Interval:** this value indicates the frequency interval of the beacon. The beacon is a packet broadcasted by the Access Point to keep the network synchronized. A beacon consists of the wireless LAN service area, IP address, broadcast destination address, time stamp, Delivery Traffic Indication Map (DTIM) and Traffic Indicator Message (TIM).
- **Preamble Type:** select a preamble type from the drop-down list, options available are: **long**, or **short**.
- **Broadcast SSID:** select **Enabled** or **Disabled**. If **Disabled** is selected, the Access Point is protected from a discovery or site survey, and all wireless clients must specify the SSID to associate with the Access Point. If **Enabled** is selected, the SSID of the Access Point is broadcasted over the wireless network.
- **Block WLAN Relay:** If **Enabled** the device will block packets between wireless clients (relay) Which means the wireless clients associated to this Access Point will not be able to see each other.
- **WEP mode:** select if you would like to use WEP encryption. WEP is an acronym for Wired Equivalent Privacy, a security protocol for Wireless Local Area Networks (WLANs) defined in the 802.11 standard. WEP is designed to provide the same level of security as a wired LAN.
- **Key Format:** select a WEP key length from the drop-down list. Options available are **64-bit** (13 characters) and **128-bit** (26 characters).
- **Default Tx Key:** select a WEP key to use from the drop-down list.
- **Encryption Key 1~4:** enter the WEP key. If you use WEP you must enter the same key into the Access Points and Clients. For **64-bit** keys you must enter 13 ASCII characters. For **128-bit** keys you must enter 26 hex digits. A hex digit is defined as a number from 0 through 9 or letter from A through F. Leaving this field blank indicates a key of all zeros.

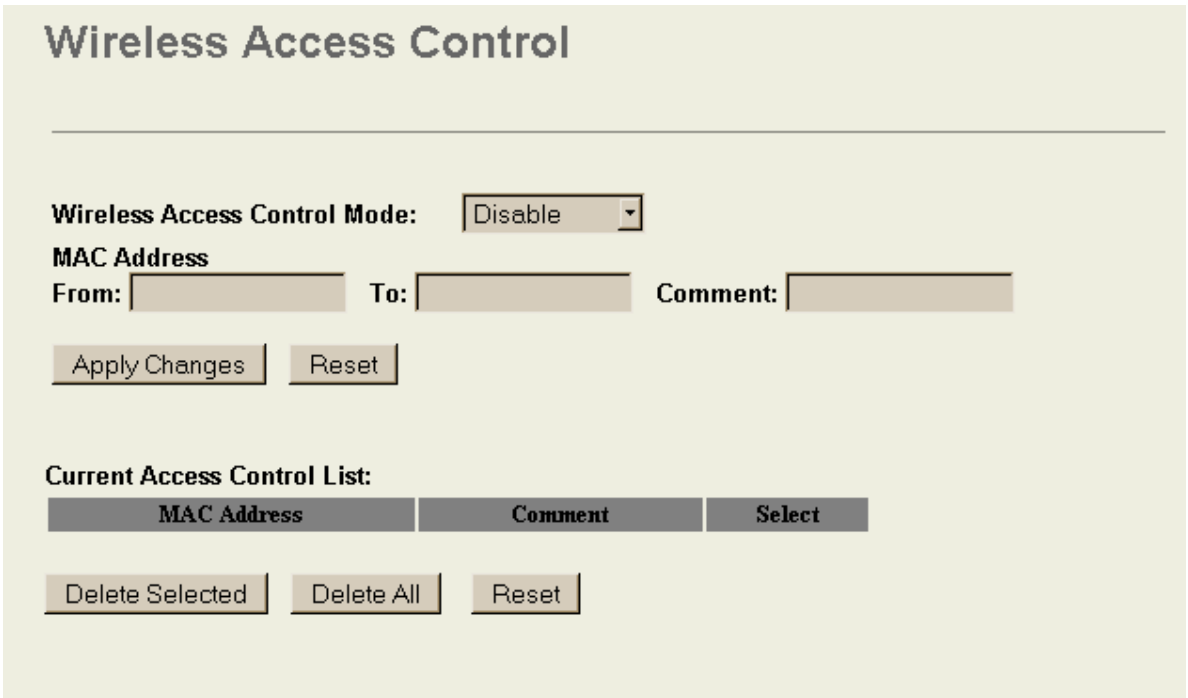
Click on the **Apply Changes** button to confirm the changes.

6.4. Filtering



Click on the **Filtering** link on the navigation bar in order to configure MAC address filters.

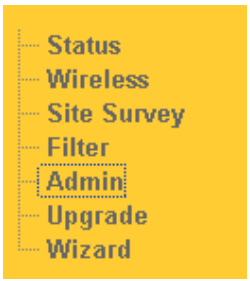
Described below along with an image are details on how to configure the MAC address filters



- **Wireless Access Control Mode:** Choose **Disable, Allow Listed,** or **Deny Listed.**
  By choosing **Disable** any client will be able to associate with the Access Point
  By choosing **Allow Listed** only the clients whose MAC addresses are listed in the fields can associate with the Access Point.
  By choosing **Denny Listed** any client will be able to associate to this Access Point except the ones whose MAC address is listed in the fields.

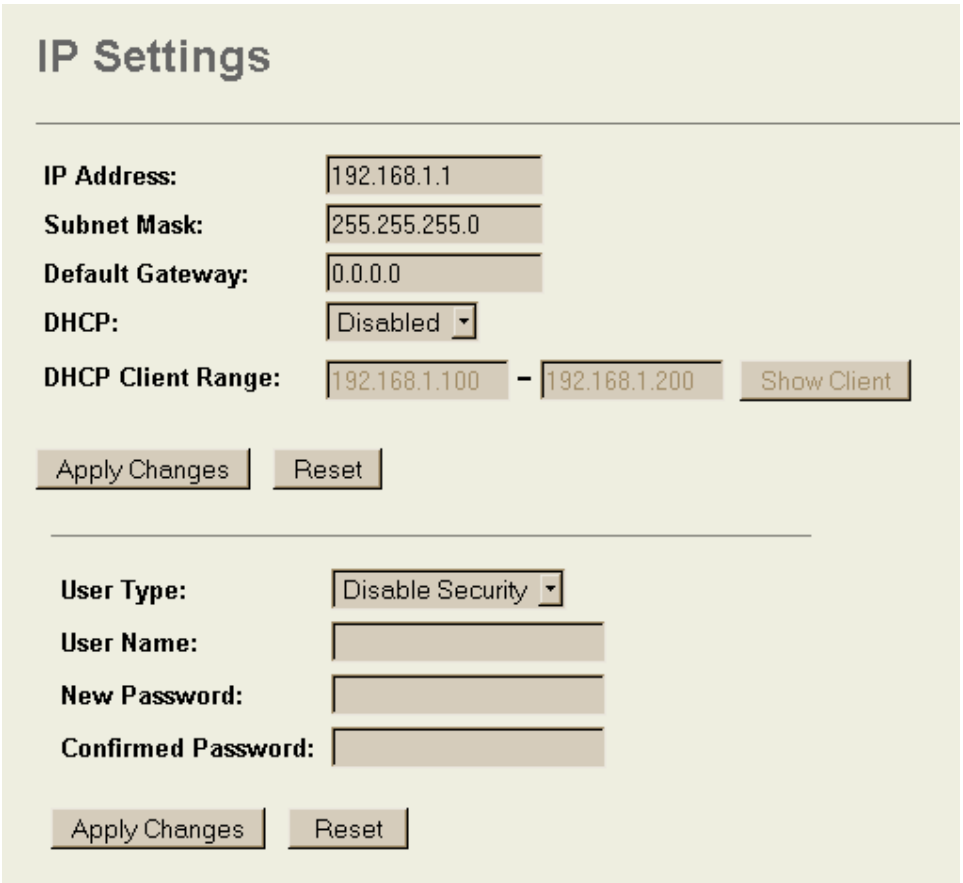
Click on the **Apply Changes** button to confirm the changes.

6.5. Admin



Click on the **Admin** link on the navigation bar in order to configure the user name and password to log into the device. You may also reboot this device and reset the setting back to the factory defaults.

Described below along with an image are details on how to configure the administrative settings.



- **IP address:** enter the IP address of this Bridge.
- **Subnet mask:** enter the subnet mask for this Bridge.
- **Default Gateway:** enter the IP address of the default gateway
- **DHCP:** select **Disabled, Server** or **Client**. If you select **Client** the IP address, subnet mask, and gateway will be assigned to this bridge via a DHCP server. However, if you select **Disable**, or **Server** you are required to enter a default IP address, subnet mask, and gateway. In case you select **Server** the Bridge will also act as a DHCP server passing leases to other devices on the same physical network.
- **DHCP Client Range:** The range of IP addresses to be leased by the Bridge.
- **User Type:** select **Disable Security, Administrator,** or **User.** If you select **Disable Security** there will be no need to fill the **User Name** and **Password fields. Administrator** has both

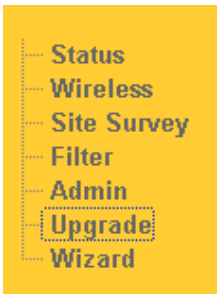
read and write privileges upon login. **User** has only read privileges upon login.

- **User Name:** type in the user name for the relevant user type.
- **Password:** type in the password.
- **Confirm Password:** reenter the password for confirmation purposes.

Click on the **Apply Changes** button to confirm the changes.

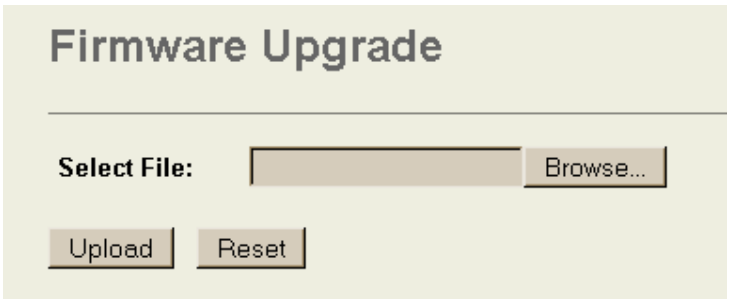
7. Upgrade

7.1. Upgrade



Click on the **Admin** link on the navigation bar in order to configure the user name and password to log into the device. You may also reboot this device and reset the setting back to the factory defaults.

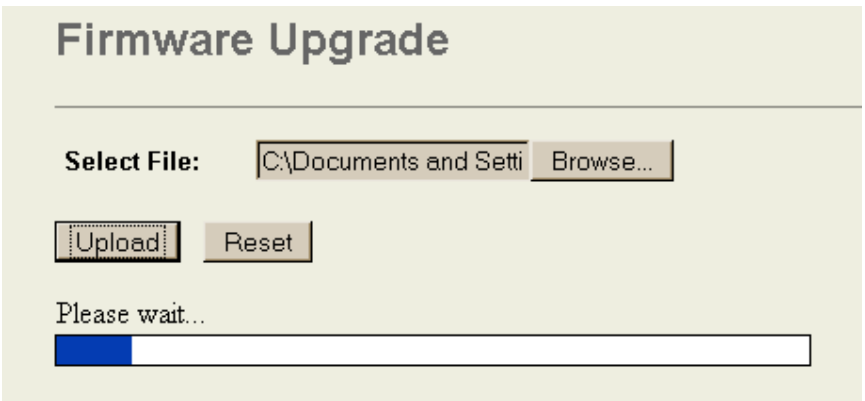
Described below along with an image are details on how to configure the administrative settings.



- **Select File:** Click on the **Browse** button to select the new firmware previously downloaded onto your PC from the official product page..

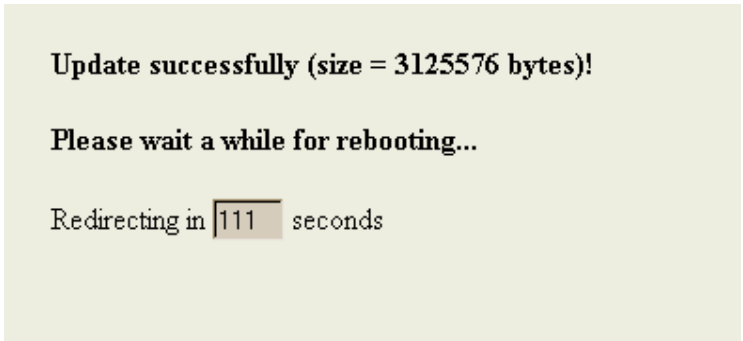
Click on the **Upload** button to begin the firmware upgrade procedure.

A progress bar will appear to inform you of the firmware upgrade status:

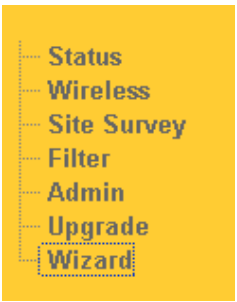


*****IMPORTANT ***** Do not power off the device while upgrading the firmware. Doing so may damage the device.

When the firmware upgrade is complete the unit will auto reboot. A new screen will appear with a counter stating the reboot left over time:

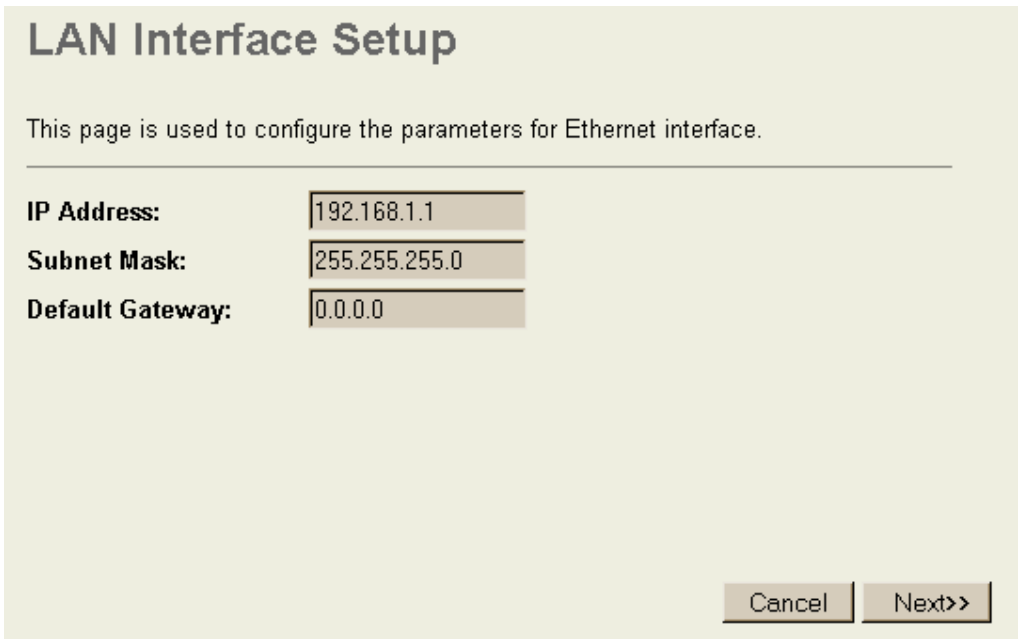


7.2. Wizard



Click on the **Wizard** link on the navigation bar in order to be driven through a quick setup procedure.

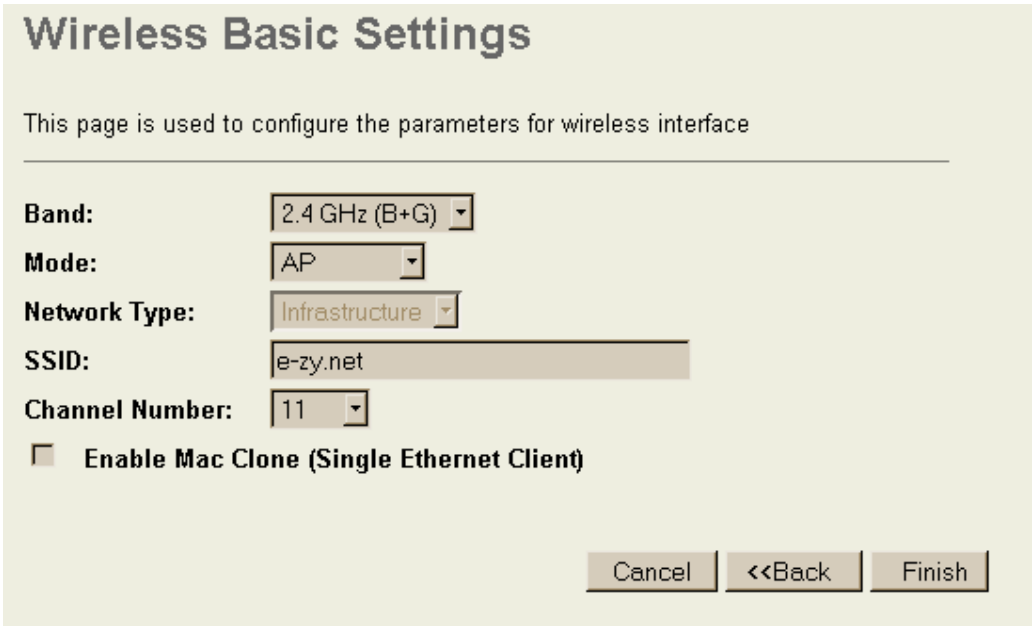
Described below along with an image are details on how to configure the administrative settings.



- **IP address:** enter the IP address of this Bridge.
- **Subnet mask:** enter the subnet mask for this Bridge.
- **Default Gateway:** enter the IP address of the default gateway

Click on the **Next** button

The following screen will appear:



- **Band:** Choose the operating modulation.
- **Mode:** Choose between **Access Point** or **Bridge** modes
- **SSID:** enter the SSID of the Access Point.
- **Channel:** select a channel from the drop-down list, which is the shared channel among all points in a point-to-point mode. The permissible channels depend on the regulatory domains.
- **Enable Mac Clone:** place a check in this box to use MAC cloning. The Bridge will set the wireless interface to use the MAC address of a device from the wired side. Multiple devices can be connected but only the first device will be cloned.

Click on the **Finish** button to commit changes.

The unit will reboot to the new settings. In case the new IP is different from the old you will need to open a new browser according to the IP.

8. Appendix A – Specifications

TECHNICAL SPECIFICATIONS

Data Rates
802.11g: 54 / 48 / 36 / 24 / 12 / 9 / 6 Mbps
802.11b: 11 / 5.5 / 2 / 1 Mbps

Standards
IEEE802.11b, IEEE802.11g, IEEE802.3, IEEE802.3u

Power Requirements
Power Supply: 90 to 240 VDC ± 10% (depends on different countries)
Device: 18 V/ 0.8A

Status LEDs
LAN: Link, WLAN: Link,
Power: on/off

Regulation Certifications
FCC Part 15/UL

RF Information Frequency Band
2.400 ~ 2.497 GHz

Media Access Protocol
Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA)

Modulation Technology
Direct Sequence Spread Spectrum (DSSS)
802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK)
802.11b: DSSS (CCK, DQPSK, DBPSK)

Operating Channels
11 for North America, 14 for Japan,

Receive Sensitivity (Typical)
802.11g: -75 + 2dBm @ 54Mbps
802.11b: -84 + 2dBm @ 11Mbps

Available transmit power (Typical)
802.11b: 100, 150, 200, 250mW.
EIRP : 34dB, 36dB, 37dB, 38dB (including antenna gain)
802.11g: 50, 100mW.
EIRP : 31dB, 34dB (including antenna gain)
(Depend on Different Countries' Regulation)

Antenna
14dB Panel Antenna

Networking Topology
Ad-Hoc, Infrastructure

Operation Mode
AP / AP Client / WDS / WDS+AP / Universal Repeater

Interface
One 10/100Mbps RJ-45 LAN Port

Security
MAC address filtering
WEP encryption (64/128 bit)
Hide SSID in beacons
Layer 2 Isolation

IP Auto-configuration
DHCP client

Management Configuration
Web-based configuration (HTTP)
Console configuration (SSH)
SNMP support

Firmware Upgrade
Upgrade firmware via: web browser

Physical Dimensions (H x W x D)
300(L)mm * 300(W)mm * 50(H)mm

Weight
1750 g

Environmental Temperature Range
Operating: -10°C to 45°C (14°F to 113°F)
Storage: -40°C to 70°C (-40°F to 158°F)

Humidity (non-condensing)
5%~95% Typical

Package Contents
One Radio Device
One Power Adapter
One PoE Injector
One Quick Start Guide
One CD-ROM with User's Manual and Auto-Discovery tool