Wireless 802.11g Access Point

User's Manual

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Introduction

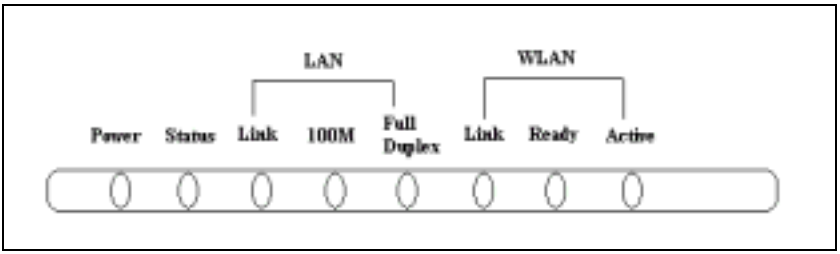
The Wireless 802.11g Access Point is a 54 Mbps Access Point (AP) that can also act as a Media Access Control (MAC) bridge between wired Local Area Networks, and one or more LAN wireless networks. Placed anywhere along with an Ethernet LAN, the Wireless 802.11g Access Point allows up to 200 wireless stations within its area of coverage to access transparently to the corporate network.

Features

- High speed for wireless LAN connection, 54 Mbps.
- Web browser-based configuration utility.
- Wireless security of 128-bit WEP Encryption/ MAC Address Filtering
- AP Visibility Modes
- Firmware upgrades
- Static IP Address or DHCP
- Automatic Device Discovery

LED Indicators

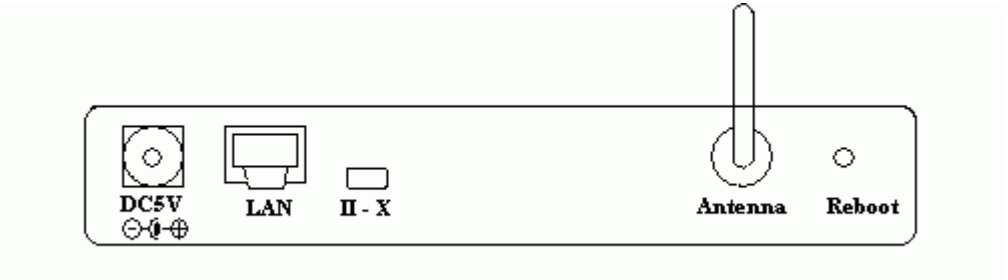
LED Indicators on the Front Panel



LED Indicator	Status	
	Solid	**Dim/ Flashing**
Power	Glows when power is applied to this device, the LED turns solid yellow.	Dim when no power is applied.
Status	Normal	Flashing when upgrading firmware.
LAN-Link	Glows when Ethernet is connected.	Dim when no Ethernet is connected. Flashing when this device is sending/receiving data
LAN-100M	Glows for 100Mbps Ethernet connection.	Dim for 10 Mbps Ethernet connection
LAN-Full Duplex	Glows for Full duplex mode	Dim for half duplex
WLAN-Link	Glows when this device is associated	Dim when it is not associated
WLAN-Ready	Glows when WLAN is connected.	Dim when no WLAN is connected.

		Flashing when trying to connect to WLAN.
WLAN-Active	N/A	Flashing when this device is actively sending/receiving data over the wireless LAN connection.

Ports on the Rear Panel



	Port/button	Functions
A	**5V DC**	Connects the power adapter plug.
B	**LAN**	Connects to your LAN's network device.
C	**II-X**	Switch this button for choosing different wiring scheme LAN connection; **Switch left** to select using a straight Ethernet cable; **Switch right** to use a Crossover Ethernet cable. .
D	**Antenna**	Adjust to have better performance
E	**Reboot**	Use a pin-shape item, for example a pin tip, to press this button to re-boot this device when the device stop working properly. .

Getting Connected

1. **Find a Location**: choose a location to place the Access Point. Usually, the best place for the Access Point is at the center of your wireless network, with line of straight to all your wireless stations.
2. **Adjust the Antenna**: usually the higher the antenna is placed, the better will be the performance.
3. **Connect to your local area network:** connect a straight or a crossover **Ethernet cable** to one of the **Ethernet** port of the Access Point, and the other end to a hub or switch. (If you are using a straight Ethernet cable, make sure the II-X button is switched right; the other way for Cross Ethernet cable.)
4. **Power on the device**: connect the included AC power adapter to the Access Point's power port and the other end to a wall outlet. *Note: use only the power adapter that provided with the Access Point. Using a different power adapter may cause permanent damage to the device.*

AP MODES:

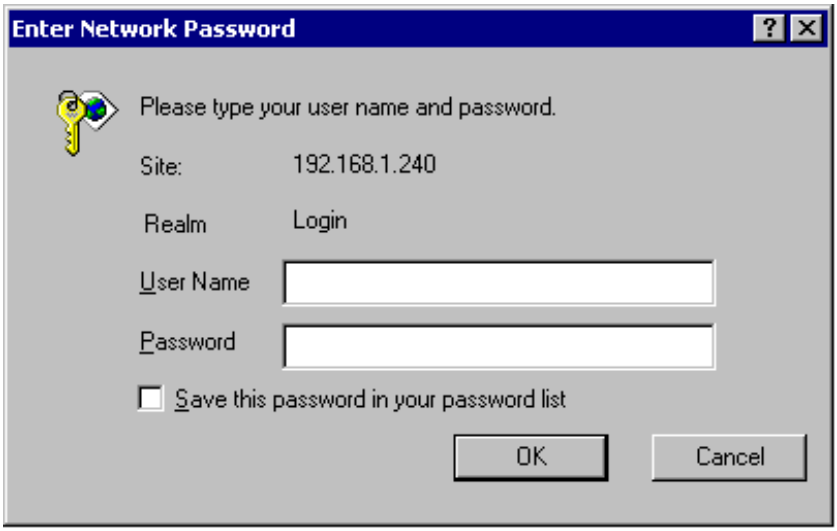
This device is shipped with configuration that can be utilized right out of the box. The default configuration is as a AP/bridge depending on your purchase. If you want to change the settings in order to perform more advanced configuration or just configure into the other mode, namely Access Point to bridge or the other way, you can use the web-based utility provided by the manufacturer as described below.

Configuration via Web

Login

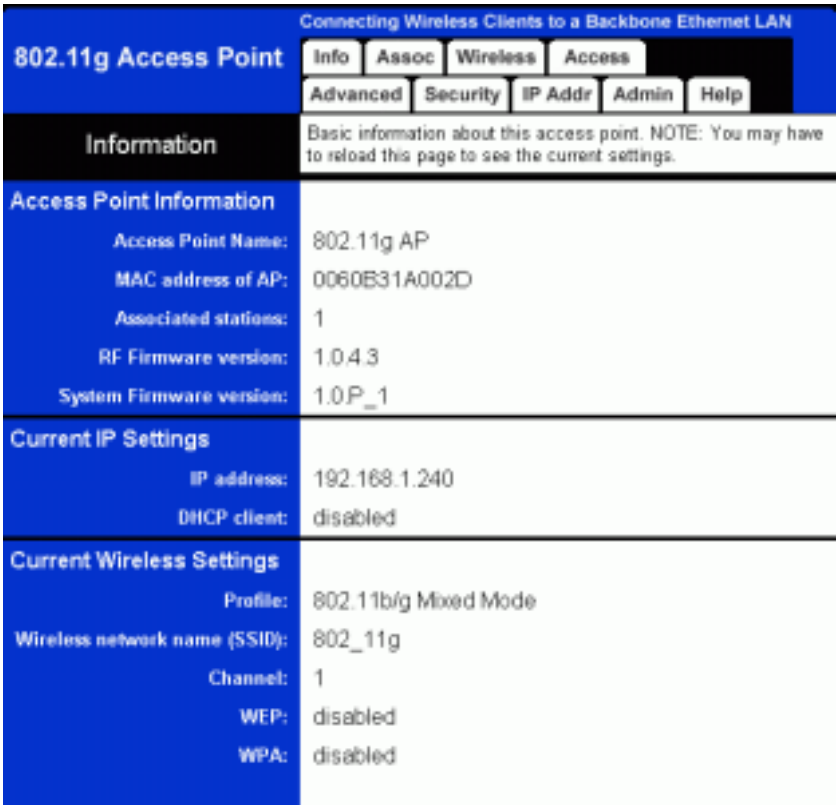
Open the browser, enter the local port IP address of the Device (default at **192.168.1. 240**), and click "**Go**" to get the login page.

The user name and password are not required and should be left blank for the first-time login. Just click **OK** to enter.



Info(Information)

The setup home page will display the information about the current settings of this access point.



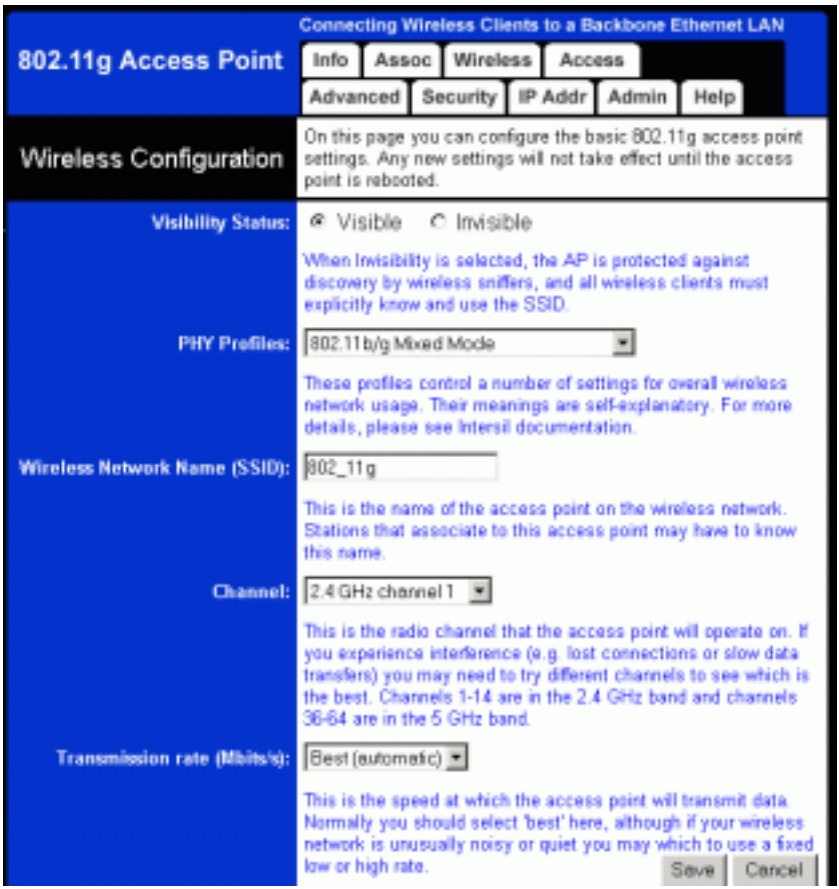
Assoc(Associations)—Only for Access Point mode

This page shows the **MAC addresses** of devices connected to this Wireless 802.11g Access Point.

Wireless (Wireless Configuration)

Here you can set/change wireless configuration including **visibility status, PHY profiles, SSID, channel, transmission rate** … etc. See the description that comes after each function.

When you are done with the change, remember to restart this access point to let the new settings take effect.



Visibility Status	If you select **invisible**, this AP can not be detected by wireless sniffers; which means all the wireless clients can not associated to this AP unless they know/use the SSID.

PHY Profiles	You can select different wireless networking hardware (PHY) to meet your wireless environment or for optimal performance. You can thus choose from the list. 
Wireless Network Name (SSID)	The **SSID** is the unique name shared among all points in your wireless network. The name must be identical for all devices and points attempting to connect to the same network.
Channel	Shows the selected channel that is currently in use. (There are **14** channels available, depending on the country.)
Transmission rate (Mbps)	Shows the current transfer rate There are Best (Automatic), Fixed 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54Mbps.)

Access (Access Control)-Only for Access Point mode

This AP provides MAC Address filtering, which prevents the unauthorized MAC Addresses from accessing your Wireless LAN.

Once you check to enable access control, only MAC addresses entered in following fields are allowed to associate to this AP.

Note:

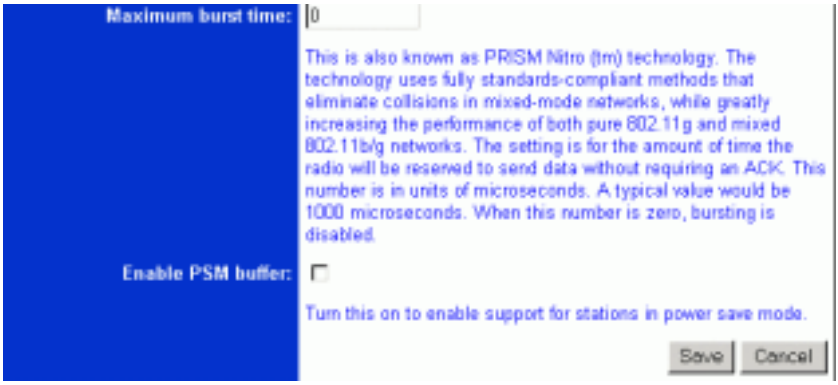
1. You can enter 16 MAC Addresses to associate to this AP.
2. You can copy the MAC addresses shown on the Station List and past them to the MAC address table to save the effort of typing and avoid typo as well.

Figure: Access Control

Advanced (Advanced Wireless)

Maximum associated stations	200
Fragmentation threshold	To fragment MSDU or MMPDU into small sizes of frames for increasing the reliability of frame (The maximum value of **2346** means no fragmentation is needed) transmission. The performance will be decreased as well, thus a noisy environment is recommended.
RTS Threshold	RTS (Request To Send) is a control frame sent from the transmitting station to the

	receiving station requesting permission to transmit. This value is recommended to remain at its default setting of **2432**. Should you encounter inconsistent data flow, only minor modifications of this value are recommended.
Beacon period	This is also called **Beacon Interval**. This value indicates the frequency interval of the beacon. A beacon is a packet broadcast by the AP to synchronize the wireless network. The default value is 100.
DTIM interval	DTIM stands for **Delivery Traffic Indication Message**. A DTIM is a countdown field informing clients of the next window for listening to broadcast and multicast messages. When the access point has buffered broadcast or multicast message for associated clients, it sends the next DTIM with a DTIM Interval value. Access Point clients hear and awaken to receive the broadcast and multicast messages.

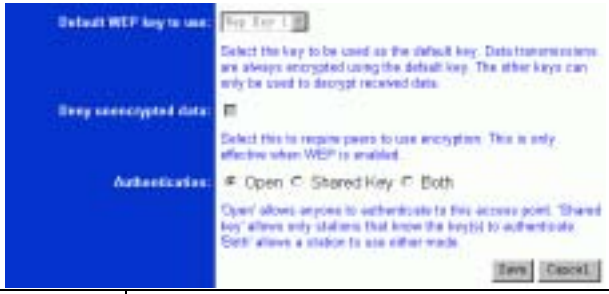


Maximum burst time	The amount of time the radio will be reserved to send data without requiring an ACK. Adding a burst time should help throughput for 802.11g clients when AP is running in mixed mode. This number is in units of microseconds. A typical value would be 1000 microseconds. When this number is zero, bursting is disabled.
Enable PSM buffer	PSM stands for Power Save Mechanisms. Turn this on to enable support for stations in power save mode.

Security

Here you can enable the WEP and set the WEP key, if you enable the WEP, the client PC also need to set the WEP key.

Enable WEP	WEP (Wired Equivalent Privacy) encryption can be used to ensure the security of your wireless network. The window allows you to set to **64bit** or **128bit** Encryption (WEP) by using either **Passphrase** or **Manual Entry** methods. ***Note***: To allow Decryption and communication, all wireless devices must share the identical encryption key on the same network.
WEP key lengths	Select between 64-bit and 128-bit.
WEP key	You can enter WEP key here or use the default settings shown in the next field.



Default WEP key to use	Select one of the four keys to encrypt your data. Only

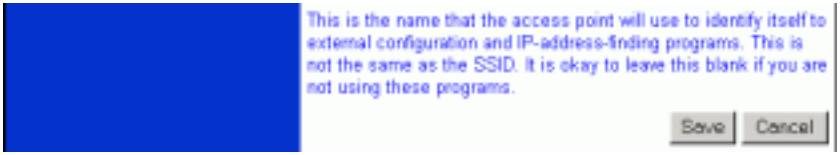
	the key you select it in the “Default WEP key to use” will take effect.
Deny unencrypted data	To access this wireless network clients are required to use encryption. This should be checked together with the item “Enable WEP”.
Authentication	The authentication mode defines configuration options for the sharing of wireless networks to verify identity and access privileges of roaming wireless network cards. You may choose between **Open**, **Shared Authentication**, and **Both**. If the Access Point is using "**Open Authentication**", then the wireless adapter will need to be set to the same authentication mode. **Shared Authentication** is when both the sender and the recipient share a secret key. Select **Both** for the network adapter to select the Authentication mode automatically depending on the Access Point Authentication mode.

IP Addr (IP Address Settings) -Only for Access Point mode

Set the management IP for the Wireless 802.11g Access Point, the default IP address is 192.168.1.240.

IP Address Mode

If you select **DHCP**, DHCP server will automatically assign IP addresses to this device. And the fields that follow will be grayed out and need no settings. If, otherwise you select **Static**, you will have to manually set the device IP address.



Access point name

You can name this Access Point for identification. You can leave it blank without entering anything. However, the name for the access point will be useful for identification especially when there are more than on Access Points in your wireless network.

Admin (Administration)

In this Administration page, you can

Change password.

The device has no password at default. It is recommended that you set a password to ensure that no one can adjust the device's settings;

To set/change password:

1. Enter your password to the first password box.
2. Enter the password again in the next box to confirm.
3. Click **SAVE** to save the setting.

Reboot/Reset this device**.**

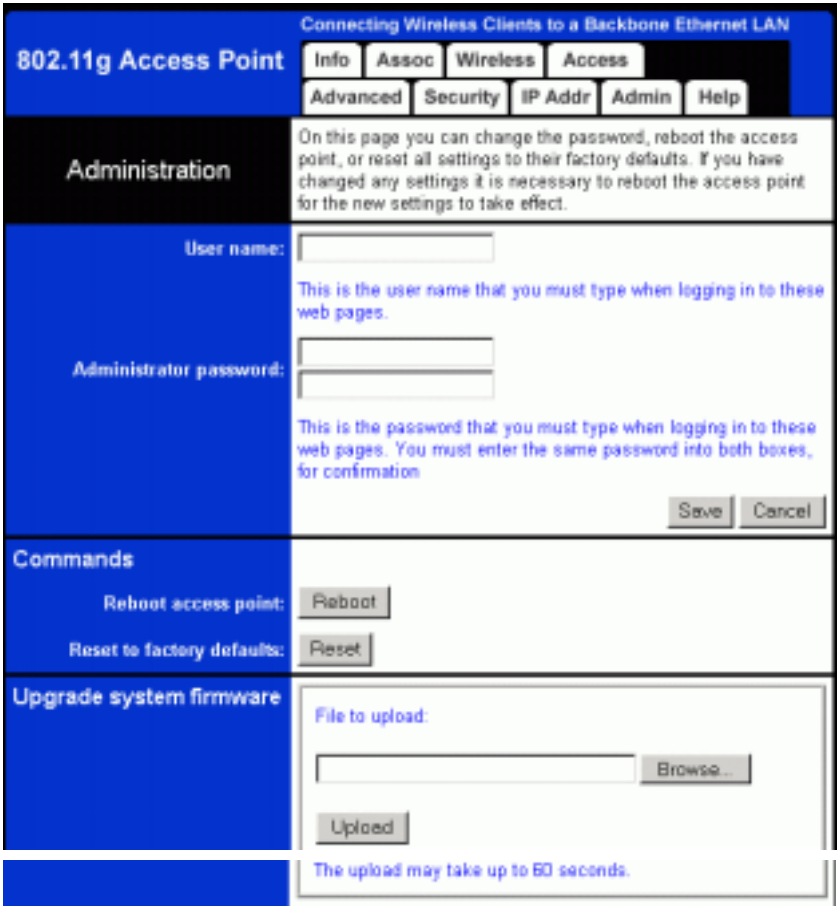
By **Reboot**, the device will re-boot itself and while still keep your original settings. You will probably do this if problems occur with this Access Point.

By **Reset**, the device will reset itself to the factory default settings. (***Note that all your original settings will be replaced by factory default settings.***)

Upgrade system firmware.

To upgrade system firmware,

1. You will have to download the file to your computer.
2. Enter the file name and path in the field next to the Browse button. Or you can click Browse to find the file you previously downloaded.
3. Click the **Upload** button to start upgrading. Wait for about 1 minute for the upgrade.
4. When the firmware upgrade is complete, remember to reboot the device.


802.11g Access Point
Connecting Wireless Clients to a Backbone Ethernet LAN
Info
Assoc
Wireless
Access
Advanced
Security
IP Addr
Admin
Help
Administration
On this page you can change the password, reboot the access point, or reset all settings to their factory defaults. If you have changed any settings it is necessary to reboot the access point for the new settings to take effect.
User name:
This is the user name that you must type when logging in to these web pages.
Administrator password:
This is the password that you must type when logging in to these web pages. You must enter the same password into both boxes, for confirmation.
Save
Cancel
Commands
Reboot access point:
Reboot
Reset to factory defaults:
Reset
Upgrade system firmware
File to upload:
Browse...
Upload
The upload may take up to 60 seconds.

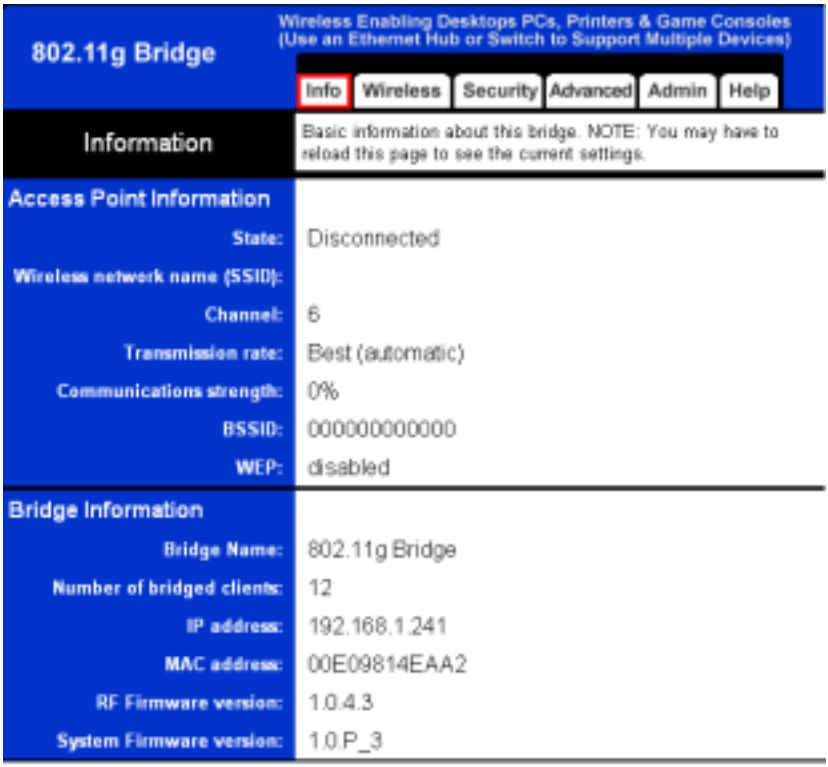
Help


802.11g Access Point
Connecting Wireless Clients to a Backbone Ethernet LAN
Info
Assoc
Wireless
Access
Advanced
Security
IP Addr
Admin
Help
Help
This is where some helpful information will go. There is nothing here right now.

Bridge MODES:

Info(Information)

The setup home page will display the information about the current settings of this access point.



Available access points

SSID	BSSID	Channel	Strength	Mode
CISCO1200AP_B	000D28A45E0B	1	76%	802.11b
Genesis Microchip	009096284335	6	71%	802.11b
Abocom	00E0984C041E	10	73%	802.11g
ATC	0010E7F5C823	1	66%	802.11b
WP	000D28A45E00	6	67%	802.11b

Wireless (Wireless Configuration)

Here you can set/change wireless configuration including **visibility status, PHY profiles, SSID, channel, transmission rate** … etc. See the description that comes after each function.

When you are done with the change, remember to restart this access point to let the new settings take effect.

Wireless Mode	Infrastructure mode: to connect to a AP Ad-hoc mode to connect to other bridge station.

Wireless Network Name (SSID)	The **SSID** is the unique name shared among all points in your wireless network. The name must be identical for all devices and points attempting to connect to the same network.
Channel	Select channel that is currently in use. (There are **14** channels available, depending on the country.) only for Ad-hoc mode
Transmission rate (Mbps)	Shows the current transfer rate There are Best (Automatic), Fixed 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54Mbps.)
PHY Profiles	You can select different wireless networking hardware (PHY) to meet your wireless environment or for optimal performance. You can thus choose from the list. 

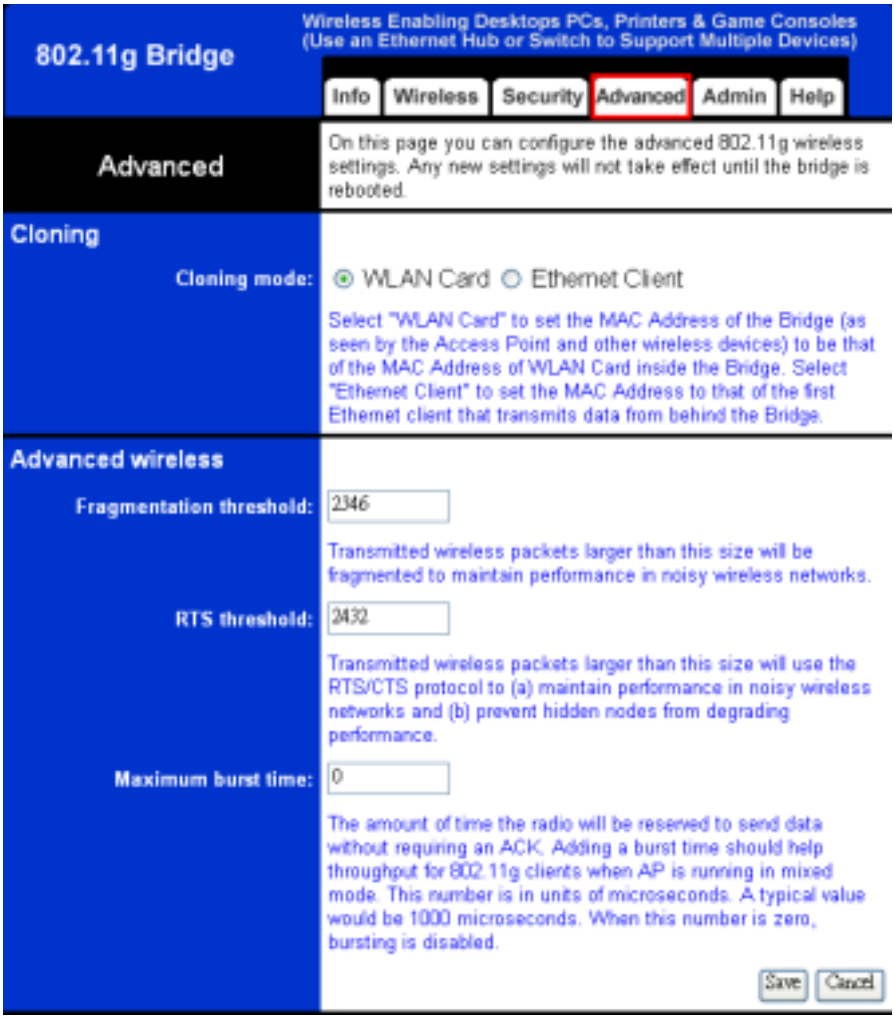
Security

Here you can enable the WEP and set the WEP key, if you enable the WEP, the client PC also need to set the WEP key.

Enable WEP	WEP (Wired Equivalent Privacy) encryption can be used to ensure the security of your wireless network.

	The window allows you to set to **64bit** or **128bit** Encryption (WEP) by using either **Passphrase** or **Manual Entry** methods. ***Note***: To allow Decryption and communication, all wireless devices must share the identical encryption key on the same network.
Default WEP key to use	Select one of the four keys to encrypt your data. Only the key you select it in the “Default WEP key to use” will take effect.
Deny unencrypted data	To access this wireless network clients are required to use encryption. This should be checked together with the item “Enable WEP”.
Authentication	The authentication mode defines configuration options for the sharing of wireless networks to verify identity and access privileges of roaming wireless network cards. You may choose between **Open**, **Shared Authentication**, and **Both**. If the Access Point is using "**Open Authentication**”, then the wireless adapter will need to be set to the same authentication mode. **Shared Authentication** is when both the sender and the recipient share a secret key. Select **Both** for the network adapter to select the Authentication mode automatically depending on the Access Point Authentication mode.
WEP key lengths	Select between 64-bit and 128-bit.
WEP key	Enter WEP key here .

Advanced (Advanced Wireless)



Clonling mode	WLAN Card : set MAC address by internal MAC address, Ethernet Client: Set MAC address as the first LAN client.
Fragmentation threshold	To fragment MSDU or MMPDU into small

	sizes of frames for increasing the reliability of frame (The maximum value of **2346** means no fragmentation is needed) transmission. The performance will be decreased as well, thus a noisy environment is recommended.
RTS Threshold	RTS (Request To Send) is a control frame sent from the transmitting station to the receiving station requesting permission to transmit. This value is recommended to remain at its default setting of **2432**. Should you encounter inconsistent data flow, only minor modifications of this value are recommended.
Maximum burst time	The amount of time the radio will be reserved to send data without requiring an ACK.

Admin (Administration)

In this Administration page, you can

Change device name.

This is the name that the bridge will use to identify itself to external configuration and IP-address-finding programs. It is okay to leave this blank if you are not using these programs

IP address setting.

Set the IP address for this device or use dhcp to get a ip for this device.

Change password.

The device has no password at default. It is recommended that you set a password to ensure that no one can adjust the device's settings;

To set/change password:

4. Enter your password to the first password box.
5. Enter the password again in the next box to confirm.
6. Click **SAVE** to save the setting.

Reboot/Reset this device**.**

By **Reboot**, the device will re-boot itself and while still keep your original settings. You will probably do this if problems occur with this Access Point.

By **Reset**, the device will reset itself to the factory default settings. (***Note that all your original settings will be replaced by factory default settings.***)

Upgrade system firmware.

To upgrade system firmware,

5. You will have to download the file to your computer.
6. Enter the file name and path in the field next to the Browse button. Or you can click Browse to find the file you previously downloaded.
7. Click the **Upload** button to start upgrading. Wait for about 1 minute for the upgrade.
8. When the firmware upgrade is complete, remember to reboot the device.


802.11g Bridge
Wireless Enabling Desktops PCs, Printers & Game Consoles
(Use an Ethernet Hub or Switch to Support Multiple Devices)
Info
Wireless
Security
Advanced
Admin
Help
Administration
On this page you can configure the IP address used by the Web server running on this bridge. For "static" mode, the IP address settings are given here. For "DHCP" mode, these settings are supplied by a DHCP server on your network. You can also change the password, reboot the bridge, or reset all settings to their factory defaults. If you have changed any settings it is necessary to reboot the bridge for the new settings to take effect.
Device name
Device name:
802.11g Bridge
This is the name that the bridge will use to identify itself to external configuration and IP-address-finding programs. This is not the same as the SSID. It is okay to leave this blank if you are not using these programs.
IP settings
IP Address Mode:
Static
DHCP
Select 'DHCP' to get the IP settings from a DHCP server on your network. Select 'Static' to use the IP settings specified on this page.
Default IP address:
192.168.1.241
Type the IP address of your bridge
Default subnet mask:
255.255.255.0
The subnet mask specifies the network number portion of an IP address. The factory default is 255.255.255.0
Default gateway:
192.168.1.1
This is the IP address of the gateway that connects you to the internet. The factory default is 192.168.1.1
Security
User name:
This is the user name that you must type when logging in to these web pages.
Administrator password:
This is the password that you must type when logging in to these web pages. You must enter the same password into both boxes, for confirmation
Save
Cancel
Commands
Reboot bridge:
Reboot
Reset to factory defaults:
Reset
Upgrade system firmware
File to upload:
Upload
The upload may take up to 60 seconds.

FEDERAL COMMUNICATIONS 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 or more 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.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void
the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement

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