Dual Band Wireless LAN Access Point
WAB102

User's Manual

Version 1.0   -   July. 2002

CONTENTS

Introduction

Thank you for purchasing your WAB102 Dual Band Wireless AP.

This manual will assist you with the installation procedure.

The package you have received should contain the following items:

- WAB102 Dual Band Wireless AP…………….…………………………………..x1
- User's Manual…………………………………………………………………x1
- Power Adapter…………………………………………………………………x1

If any of the above items are not included or damaged, please contact your local vendor for support.

Safety Notification

Your Wireless AP should be placed in a safe and secure location. To ensure proper operation, please keep the unit away from water and other damaging elements.

- Please read the user manual thoroughly before you install the device.
- The device should only be repaired by authorized and qualified personnel.
- Please do not try to open or repair the device yourself.
- Do not place the device in a damp or humid location, i.e. a bathroom.
- The device should be placed in a sheltered and non-slip location within a temperature range of +5 to +40 Celsius degree.
- Please do not expose the device to direct sunlight or other heat sources. The housing and electronic components may be damaged by direct sunlight or heat sources.

Hardware Installation

Front Panel

The front panel provides LED's for device status. Refer to the following table for the meaning of each feature.

LED	STATUS	Description
Power	Off	No Power
	On	Power on
Status	Blink	1. Power up 2. firmware upgrade
Ethernet	Off	no Ethernet link detected
	Green On	100Mbps Fast Ethernet link detected. No activity.
	Green Blink	Indicates data traffic on the 100 Mbps LAN
	Amber On	10 Mbps Ethernet link detected but no activity
	Amber Blink	Indicates data traffic on the 10 Mbps LAN
11a	Blink	Indicates the device is linking or active data through wireless links
11b	Blink	Indicates the device is linking or active data through wireless links

Rear Panel

The rear panel features 1 LAN port and Factory Reset button. Refer to the following table for the meaning of each feature.

Power (DC 5v)	Used to connect to the power outlet. Only use the power adapter provided with the device. Use of an unauthorized power adapter may cause damage to your device and violate your warranty.
Reset	Resets the configuration to default settings. There are two ways to Reset the Access Point's factory defaults. Briefly press the Reset Button for approximately ten seconds, or use the setup tab of the Access Point's Web-Based Management Utility.
LAN	The RJ-45 Ethernet ports used to connect your PC, hub, swith or Ethernet network.

WAB102 AP Default Settings

The default settings are shown following.

User Name	**admin**	
Password	**default**	
SystemName	00 60 B3 xx xx xx where xx xx xx are the last six digits of the AP's MAC address	
AP IP Address	**192.168.1.20**	
AP Subnet Mask	255.255.255.0	
ESSID for both 11a&b	**Wireless**	
11a RF Channel	Best	
11b RF Channel	best	
RF Roaming	Enabled	
Encryption	Disabled	

MAKE CORRECT NETWORK SETTINGS OF YOUR COMPUTER

To change the configuration, use Internet Explorer (IE) or Netscape Communicator to connect the WEB management **192.168.1.20**. Administrator's Password default is **default**.

Main Page

Here allow user to configure basic network settings.

AP Setup

Setup

The Setup page allow user to do basic setting. Enter your wireless network's SSID, select the channel at which the network broadcasts its wireless signal, and enter a unique access point name for the Access Point. Press **Apply** to save the settings.

Access Point Name: You may assign any name to the Access Point.
Unique, memorable names are helpful, especially if you are employing multiple access points on the same network.

IP Address: This IP address must be unique to your network. (The default IP address of 192.168.1.20)

Subnet Mask**:** The Access Point's Subnet Mask must be the same as your Ethernet network.

Default Gateway: Specifics the default gateway for the AP.

DHCP Client: If DHCP is enabled, the IP Address field displays the IP Address that is dynamically assigned to the AP by the network DHCP server and the IP Mask field displays the IP Mask utilized by the network DHCP server. Default: **Disable**

SSID: The SSID is the name shared among all points in a wireless network. The SSID must be identical for all points in the wireless network.

It is case sensitive and must not exceed 32 characters, which may be any keyboard character. Make sure this setting is the same for all points in your wireless network.

Channel: Select the appropriate channel from the list provided to correspond with your network settings.

Turbo Mode: When you enable the Turbo Mode, the maximum data rate can up to 72 mbps.

Date Rate: The basic transfer rates should be set depending on the speed of your wireless network Specifies rate of data transmission. Select the desired rate from the drop-down menu. The best selection will adapt the rate to the best available.

Outdoor Channels: Enable the AP to interface with STAs using those specific frequencies which are allowed for outdoor use.

Click the **Reboot** button for changes to take effect. After you click **Reboot** button, the web server will lose connectivity with the AP Web Server as the AP reboots.

To reestablish the connection with the AP Web Server, please wait until the AP has completed rebooting and navigate to the Web Server to resume communication.

Password

Here allow you to change the Access Point's password.

Changing the password for the Access Point is as easy as typing the password into the **New Password** field. Then, type it again into the Retype new password field to confirm.

Click the **Apply** button to save the setting.
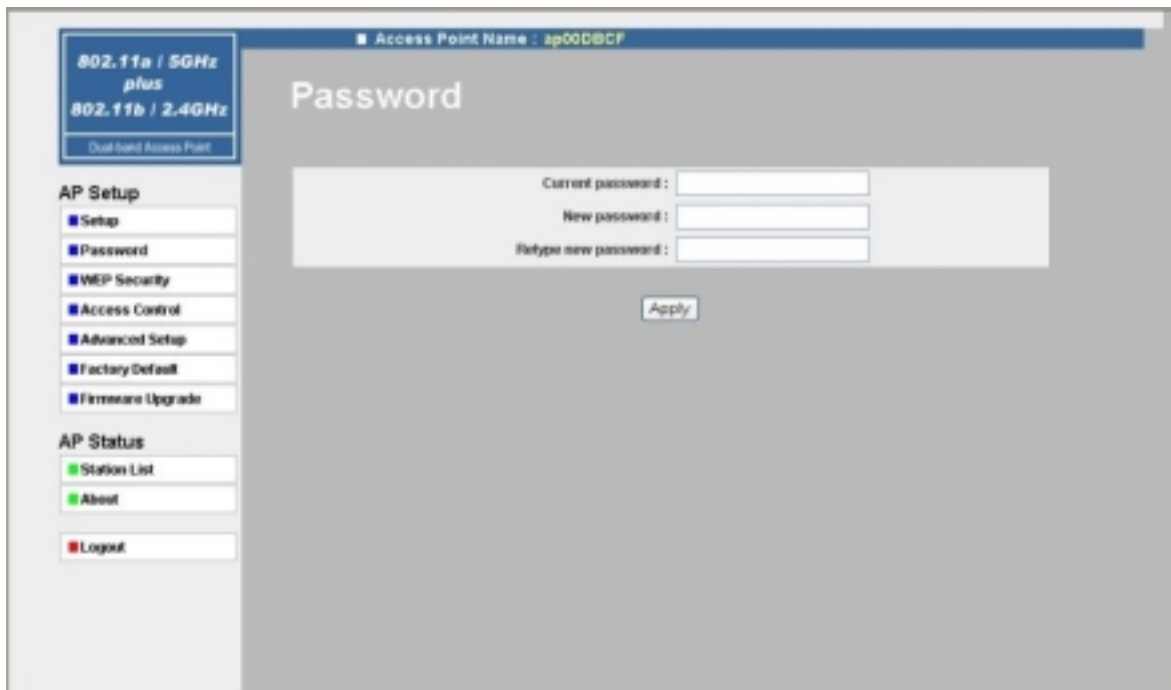
Web Security

To prevent unauthorized wireless stations from accessing data transmitted over the network, the WAB102 Web Security Configuration window offers highly data encryption, known as WEP, making your data transmission over air more secure and allows you to specify Encryption Key(s) if you enable encryption for the AP.

Authentication Type:

Open System: The Authentication Type default is set to **Open System**. It is recommended that you use the default setting.

Shared Key: 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.

WEP: The WEP Encryption method is **Disable** by default. To enable WEP, click the **Enable** radio button.

From the pull-down menu at the top of the screen, select 64-bit, 128-bit, or 152 bit encryption.

The Encryption key is in Hexadecimal format. Hexadecimal characters on your keyboard are the letters "A-F" and the numbers " 0- 9"

Click the **Apply** button to save the setting.
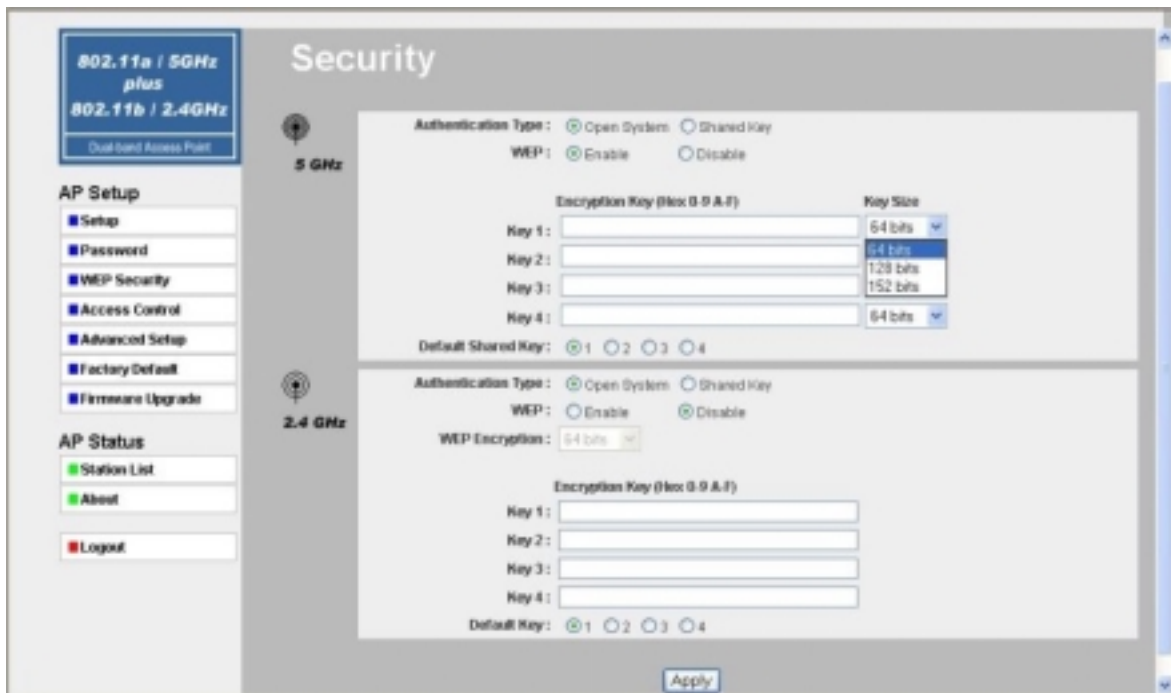
Click the **Reboot** button for changes to take effect. After you click **Reboot** button, the web server will lose connectivity with the AP Web Server as the AP reboots.

Access Control

The Access Control tab, allows you to block or allow certain computers by their MAC Address.

To enable filtering of computers by their MAC Addresses, click the **Allow MAC address(es) in list** radio button.

Enter MAC Address and click **Add** button.

Click **Delete** button if you wish to remove the MAC address from the list.

To disable this feature, click the radio button by **Disabl**e.
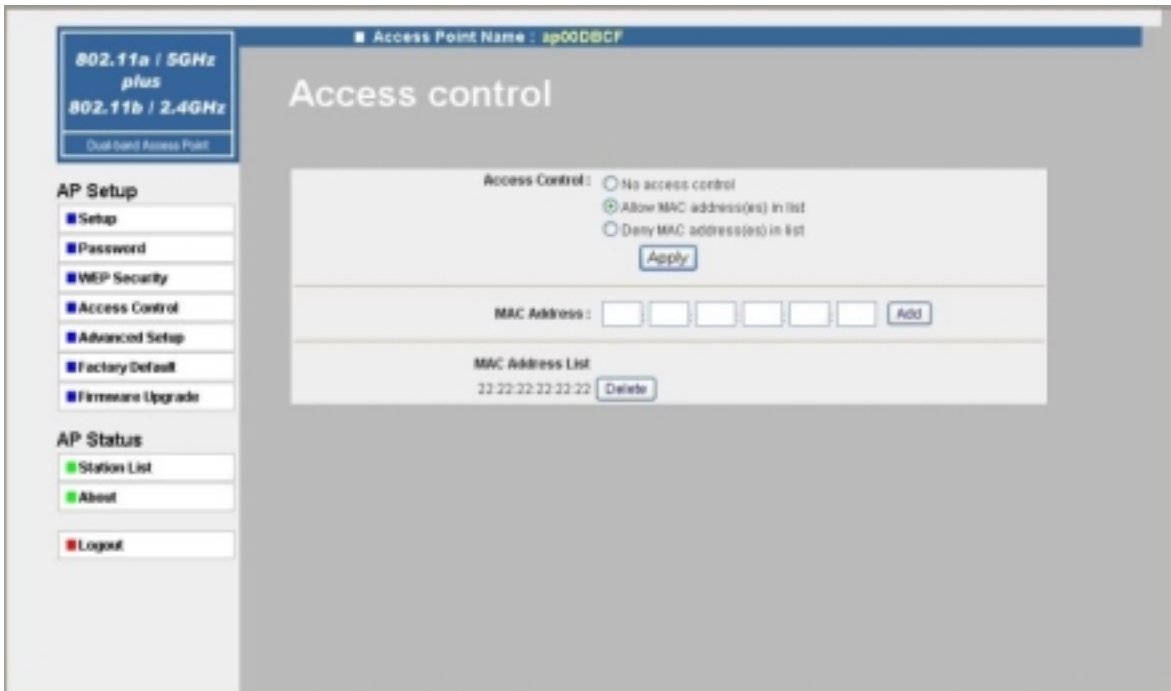
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Advanced Setup

Transmit Power: Specifics the level of transmit power. Specify the value of the transmit power from the dropdown menu. You can set the transmit power for 100%, 50%, 25%,

12.5% and Lowest. Use this command to decrease the transmit power if more than one AP is co-located using the same channel frequency.

Beacon Interval: This value indicates the frequency interval of the beacon.

A beacon is a packet broadcast by the Access Point to keep the network synchronized.

A beacon includes the wireless LAN service area, the AP address, the Broadcast destination addresses, a time stamp, Delivery Traffic Indicator Maps, and the Traffic Indicator Message (TIM).

RTS Threshold: This value should remain at its default setting of 2,346.

Should you encounter inconsistent data flow, only minor modifications are recommended.

Fragmentation Length: This specifies the maximum size a data packet will be before splitting and creating a new packet and should remain at its default setting of 2,346. A smaller setting means smaller packets, which will create more packets for each transmission. Only minor modifications of this value are recommended.

DTIM Interval: This value indicates the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field 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 messages for associated clients, it sends the next DTIM with a DTIM Interval value.

Access Point Clients hear the beacons and awaken to receive the broadcast and multicast messages.

Preamble Type: The preamble defines the length of the CRC block for communication between the Access Point and a roaming Network Card. (High network traffic areas should use the shorter preamble type.) Select the appropriate preamble type and click the **Apply** button to set it. All wireless points (nodes) on your network should use the same preamble type.

Click the **Reboot** button for changes to take effect. After you click **Reboot** button, the web server will lose connectivity with the AP Web Server as the AP reboots.

Factory Default

Restore Factory Default: select **Yes** and press **Apply** button, will make the AP reset to factory default settings.
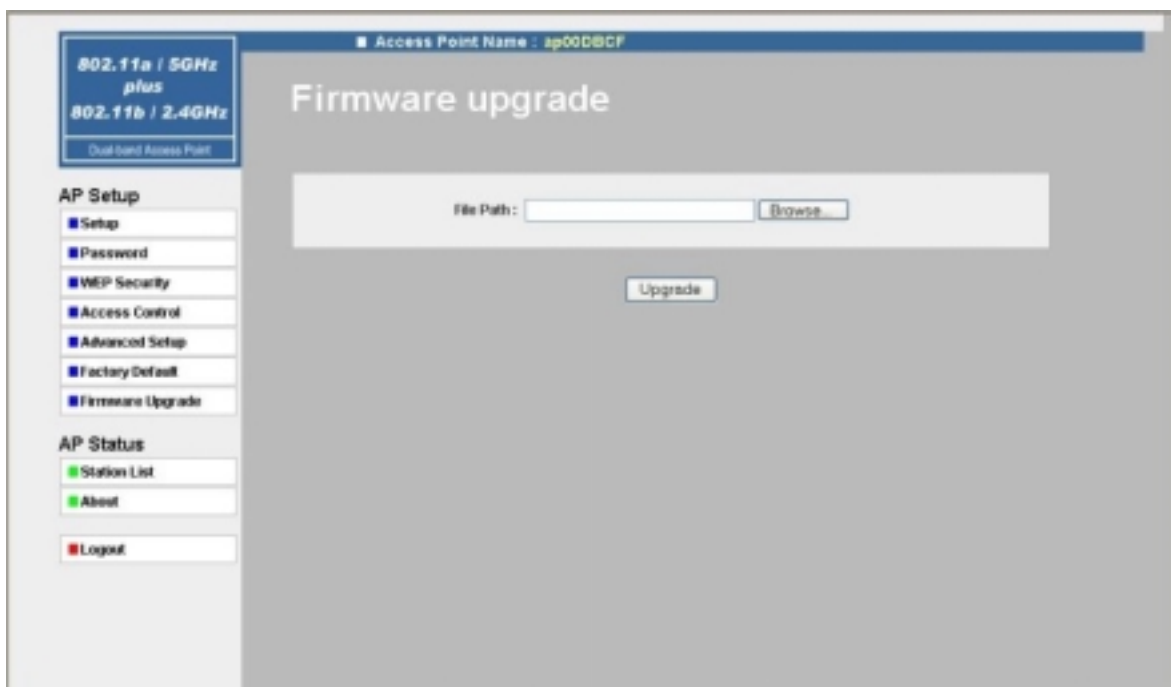

Click the **Reboot** button for changes to take effect. After you click **Reboot** button, the web server will lose connectivity with the AP Web Server as the AP reboots.

Firmware Upgrade

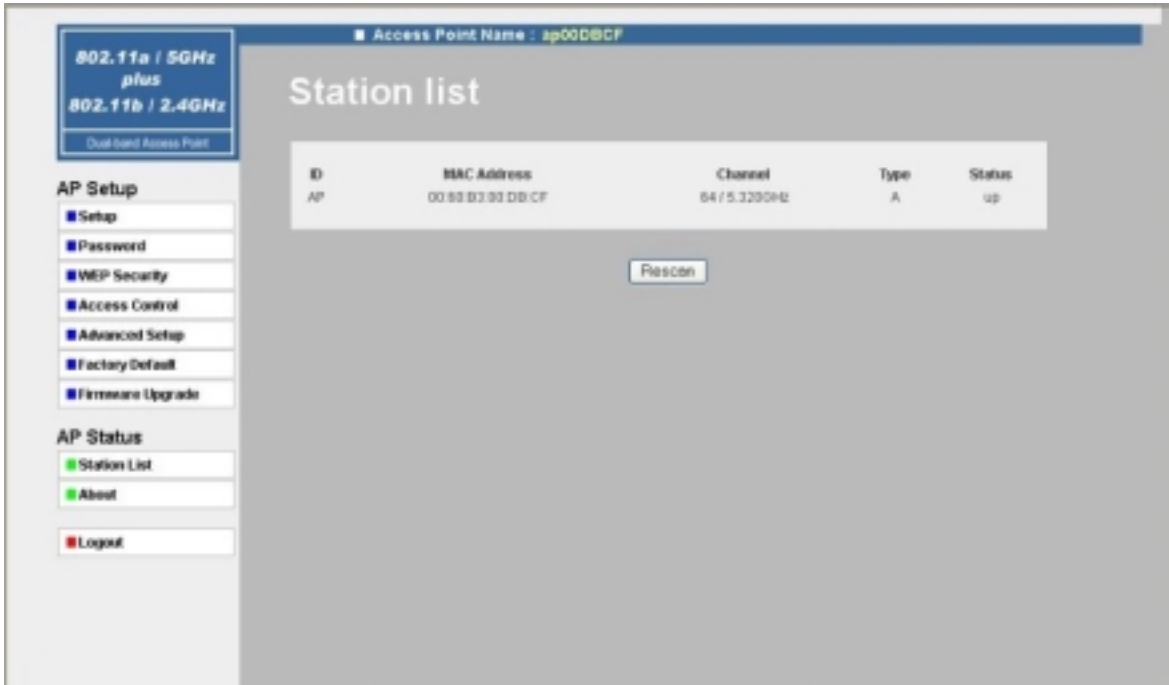User may download the latest firmware from our website and store it in local drive.

Find the firmware from local drive and press the Upgrade button.

AP Status

Station List

The station list page shows the associate status of AP includes ID, MAC Address, Channel, Type and Status and available stations.

About

The about page describes the product information briefly. The product information includes FW, Regulatory Domain, and MAC Address.

If you click **Logout** button, it will back to Login page.

Troubleshooting

Basic Functions

My Wireless AP will not turn on. No LED's light up.

Cause:

- The power is not connected.

Resolution:

- Connect the power adapter to your AP and plug it into the power outlet.

Note: Only use the power adapter provided with your AP. Using any other adapter may damage your SOHO AP Router.

LAN Connection Problems

I can't access my SOHO AP Router.

Cause:

- The unit is not powered on.
- There is not a network connection.
- The computer you are using does not have a compatible IP Address.

Resolution:

- Make sure your AP is powered on.
- Make sure that your computer has a compatible IP Address. Be sure that the IP Address used on your computer is set to the same subnet as the AP. For example, if the APis set to 192.168.1.250, change the IP address of your computer to 192.168.1.15 or another unique IP Address that corresponds to the 192.168.1.X subnet.

  Use the Reset button located on the rear of the AP to revert to the default settings.

I can't connect to other computers on my LAN.

Cause:

- The IP Addresses of the computers are not set correctly.
- Network cables are not connected properly.
- Windows network settings are not set correctly.

Resolution:

- Make sure that each computer has a unique IP Address. If using DHCP through the AP , makes sure that each computer is set to "Obtain an IP Address automatically" and

restart the computer.
- Make sure that the Link LED is on. If it is not, try a different network cable.
- Check each computer for correct network settings.

Wireless Troubleshooting

I can't access the Wireless AP from a wireless network card

Cause:
- Out of range.
- IP Address is not set correctly.

Resolution:
- Make sure that the Mode, SSID, Channel and encryption settings are set the same on each wireless adapter.
- Make sure that your computer is within range and free from any strong electrical devices that may cause interference.
- Check your IP Address to make sure that it is compatible with the Wireless AP.

Performing a Factory Reset

Follow these steps to perform a Factory Reset using the Reset button on the back of the Wireless SOHO AP.

1. With the unit on, press and hold the Reset button with a pen or paper clip.
2. Hold the reset button for about 5 or 6 seconds until the Power/Test LED on the front panel blinks very quickly and then release.
3. Wait a few seconds for the AP to reboot using default settings.

A Factory Reset can also be performed through the web configuration interface. Follow these steps to perform a factory reset using the web configuration interface.

1. Log-in to the Wireless AP web configuration interface.
2. Click on the System Management link at the bottom of the screen.
3. Click on **Restore Default Settings.**
4. You will be asked if you want to restore to default settings. Click OK to restore settings to default configuration or click Cancel to discard any changes.

Technical Specifications

Standards:

IEEE 802.3 10BASE-T Ethernet

IEEE 802.3u 100BASE-TX Fast Ethernet

IEEE 802.11b

IEEE802.11a

Protocols Supported:

TCP

IP

IPX

UDP

DHCP Client

Management:

Web-Based

Ports:

LAN: 10BASE-T/100BASE-TX Fast Ethernet

Wireless AP Specifications

General Wireless Specifications:

IEEE 802.11b /11a Wireless LAN, Wi-Fi Compatible

Access Point Frequency Band:

5GHz (subject to local regulation)

2.4 ~ 2.4835 GHz (subject to local regulation)

Access Point Number of Channel:

11a: USA domain 8 (36,40,44,48,52,52,60,64)

11b:

USA & Canada: 11 (1- 11)

Most European: 13 (1-13)

France   :   4 (10-13)

Japan   :   14 (1-14)

Access Point Data Rate:

11a :

6,9,12,18,24,36,48,54 Mbps.   Turbo: 72 Mbps

11b:

      11 Mbps

      5.5 Mbps

      2 Mbps

      1 Mbps

Data encryption:

   64/128/152 bit WEP and ESSID for Security

Power Specifications :

DC power supply

   Input: DC 100-240   50-60 Hz 1A

   Output: 5V DC 4A converter incl.

FCC Information

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.

Federal Communications Commission (FCC) 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.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user 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 20 centimeters between the radiator and your body.