108Mbps SuperG Wireless Access Point

User Guide

Contents

Package Contents

Contents of Package:
- Wireless 108Mbps SuperG Access Point
- Power Adapter-DC 5V, 2.0A
- User Guide on CD
- Quick Installation Guide
- Ethernet Cable
- One Set SMA Antenna

If any of the above items are missing, please contact your distributor.

System Requirements for Configuration:
- Computers with Windows, Macintosh, or Linux-based, Operating systems with an installed Ethernet adapter
- Internet Explorer Version 6.0 or Netscape Navigator Version 6.0 and Above

Introduction

Up to 108Mbps in Super G mode, you can work faster and more efficiently, increasing productivity. With the **108Mbps SuperG Wireless Access Point**, bandwidth-intensive applications like graphics or multimedia will benefit significantly because large files are able to move across the network quickly.

The **108Mbps SuperG Wireless Access Point** is capable of operating in one of 5 different modes to meet your wireless networking needs. The Super*G* Access Point can operate as an access point; in access point-to-access point bridging mode; access point-to-multipoint bridging mode; access point client mode; or repeater.

The **108Mbps SuperG Wireless Access Point** is an ideal solution for quickly creating and extending a wireless local area network (WLAN) in offices or other workplaces, trade shows and special events.Unlike most access points, the Super*G* Access Point provides data transfers at up to 108 Mbps in Super G mode when used with other 108Mbps Wireless Super*G* products. The 802.11g standard is backwards compatible with 802.11b devices.

The **108Mbps SuperG Wireless Access Point** has the newest, strongest, most advanced security features available today. When used with other 802.11g WPA (WiFi Protected Access) compatible products in a network with a RADIUS server, the security features include:

WPA:
        Wi-Fi Protected Access which authorizes and identifies users based on a secret key that changes automatically at regular intervals. **WPA** uses **TKIP** (**Temporal Key Integrity Protocol**) to change the temporal key every 10,000 packets (a packet is a kind of message transmitted over a network.) This insures much greater security than the standard WEP security. (By contrast, the previous WEP encryption implementation required the keys to be changed manually.)

For home users that will not incorporate a RADIUS server in their network, the security for the access point, used in conjunction with other WPA-compatible 802.11 products, will still be much stronger than ever before. Utilizing the **Pre-Shared Key mode** of WPA, the SuperG access point will obtain a new security key every time it connects to the 802.11 networks. You only need to input your encryption information once in the configuration menu. No longer will you have to manually input a new WEP key frequently to ensure security. With the SuperG Wireless Access Point, you will automatically receive a new key every time you connect, vastly increasing the safety of your communication.

Connections

Receptor for the **Power Adapter**

Pressing the **Reset Button** restores the Access Point to its original factory default settings.

The **LAN Port** is Auto-MDI/MDIX. You can insert either a straight-through or a crossover Ethernet cable in this port in order to connect the Access Point to the local network.

LEDs

LED stands for Light-Emitting Diode. The **108Mbps Super*G* Wireless Access Point** Wireless Access Point has 3 LEDs as shown below:

Power:
Solid green light indicates connection

LAN:
Blinking green light indicates activity on the Ethernet Port; Solid green light indicates connection

WLAN:
Blinking green light indicates wireless activity; solid green light indicates connection

Features

5 Different Operation modes - Capable of operating in one of five different operation modes to meet your wireless networking requirements: Access Point; AP-to-AP Bridging; AP-to-Multipoint Bridging; Wireless Client; or Repeater.

Faster wireless networking with the 802.11g standard to provide a wireless data rate of up to 54Mbps (108Mbps in Super G mode).

Compatible with the 802.11b standard to provide a wireless data rate of up to 11Mbps - that means you can migrate your system to the 802.11g standard on your own schedule without sacrificing connectivity.

Better security with WPA. The SuperG Wireless Access Point can securely connect to wireless clients on the network using WPA (Wi-Fi Protected Access) providing a much higher level of security for your data and communications than has previously been available. AES is also supported by the SuperG Wireless Access Point to maximize the network security with data encryption.

Utilizes OFDM technology (**O**rthogonal **F**requency **D**ivision **M**ultiplexing)

Operates in the 2.4GHz frequency range

Easy Installation with the Setup Wizard

Web-based interface for Managing and Configuring

Wireless Basics

Our wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home, business or public access wireless networks. Our wireless products will allow you access to the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking brings.

A Wireless Local Area Network (WLAN) is a computer network that transmits and receives data with radio signals instead of wires. WLANs are used increasingly in both home and office environments, and public areas such as airports, coffee shops and universities. Innovative ways to utilize WLAN technology are helping people to work and communicate more efficiently. Increased mobility and the absence of cabling and other fixed infrastructure have proven to be beneficial for many users.

Wireless users can use the same applications they use on a wired network. Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards.

People use WLAN technology for many different purposes:
Mobility - Productivity increases when people have access to data in any location within the operating range of the WLAN. Management decisions based on real-time information can significantly improve worker efficiency.

Low Implementation Costs - WLANs are easy to set up, manage, change and relocate. Networks that frequently change can benefit from WLANs ease of implementation. WLANs can operate in locations where installation of wiring may be impractical.

Installation and Network Expansion - Installing a WLAN system can be fast and easy and can eliminate the need to pull cable through walls and ceilings. Wireless technology allows the network to go where wires cannot go - even outside the home or office.

Inexpensive Solution - Wireless network devices are as competitively priced as conventional Ethernet network devices.

Scalability - WLANs can be configured in a variety of ways to meet the needs of specific applications and installations. Configurations are easily changed and range from Peer-to-Peer networks suitable for a small number of users to larger Infrastructure

networks to accommodate hundreds or thousands of users, depending on the number of wireless devices deployed.

Wireless Basics *(continued)*

The **108Mbps SuperG Wireless Access Point** *is compatible, in default mode, with the following wireless products*:
A. 108Mbps Super*G* Wireless 32bit PC Card
Wireless Cardbus Adapters used with laptop computers
B. 108Mbps Super*G* Wireless PCI Adapter
Wireless PCI cards used with desktop computers
C. 108Mbps SuperG Wireless Access Point is also interoperable with other 802.11g and 802.11b standards-compliant devices.

Standards-Based Technology

The Wireless Access Point utilizes the **802.11b** and the **802.11g** standards.

The IEEE **802.11g** standard is an extension of the **802.11b** standard. It increases the data rate up to 54 Mbps (108Mbps in Super G mode) within the 2.4GHz band, utilizing **OFDM technology.** This means that in most environments, within the specified range of this device, you will be able to transfer large files quickly or even watch a movie in MPEG format over your network without noticeable delays. This technology works by transmitting high-speed digital data over a radio wave utilizing **OFDM** (**O**rthogonal **F**requency **D**ivision **M**ultiplexing) technology. **OFDM** works by splitting the radio signal into multiple smaller sub-signals that are then transmitted simultaneously at different frequencies to the receiver. **OFDM** reduces the amount of **crosstalk** (interference) in signal transmissions. The Wireless Access Point will automatically sense the best possible connection speed to ensure the greatest speed and range possible.

802.11g offers the most advanced network security features available today, including:
WPA , TKIP, AES and Pre-Shared Key mode.

Wireless Basics *(continued)*
Installation Considerations

The 108Mbps SuperG Wireless Access Point lets you access your network, using a wireless connection, from virtually anywhere within its operating range. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

A. Keep the number of walls and ceilings between the 108Mbps SuperG Wireless Access Point and other network devices to a minimum - each wall or ceiling can reduce your SuperG Wireless Access Point's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.

B. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.

C. Building materials can impede the wireless signal - a solid metal door or aluminum studs may have a negative effect on range. Try to position wireless devices and computers with wireless adapters so that the signal passes through drywall or open doorways and not other materials.

D. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.

Start to setup your SuperG Access point

On the following pages we will show you an example of an **Infrastructure Network** incorporating the 108Mbps SuperG Wireless Access Point.

An **Infrastructure** network contains an access point or a wireless router. The **Infrastructure Network** example shown on the following page contains the following Our network devices (your existing network may be comprised of other devices):

A. A wireless access point - **108Mbps SuperG Wireless Access Point**
B. A wireless router - **108Mbps SuperG Wireless Router**
C. A laptop computer with a wireless adapter - **108Mbps SuperG Wireless 32bit PC Card**
D. A desktop computer with a wireless adapter -**108Mbps SuperG Wireless PCI Adapter**

Getting Started (continued)

Setting up a Wireless Infrastructure Network
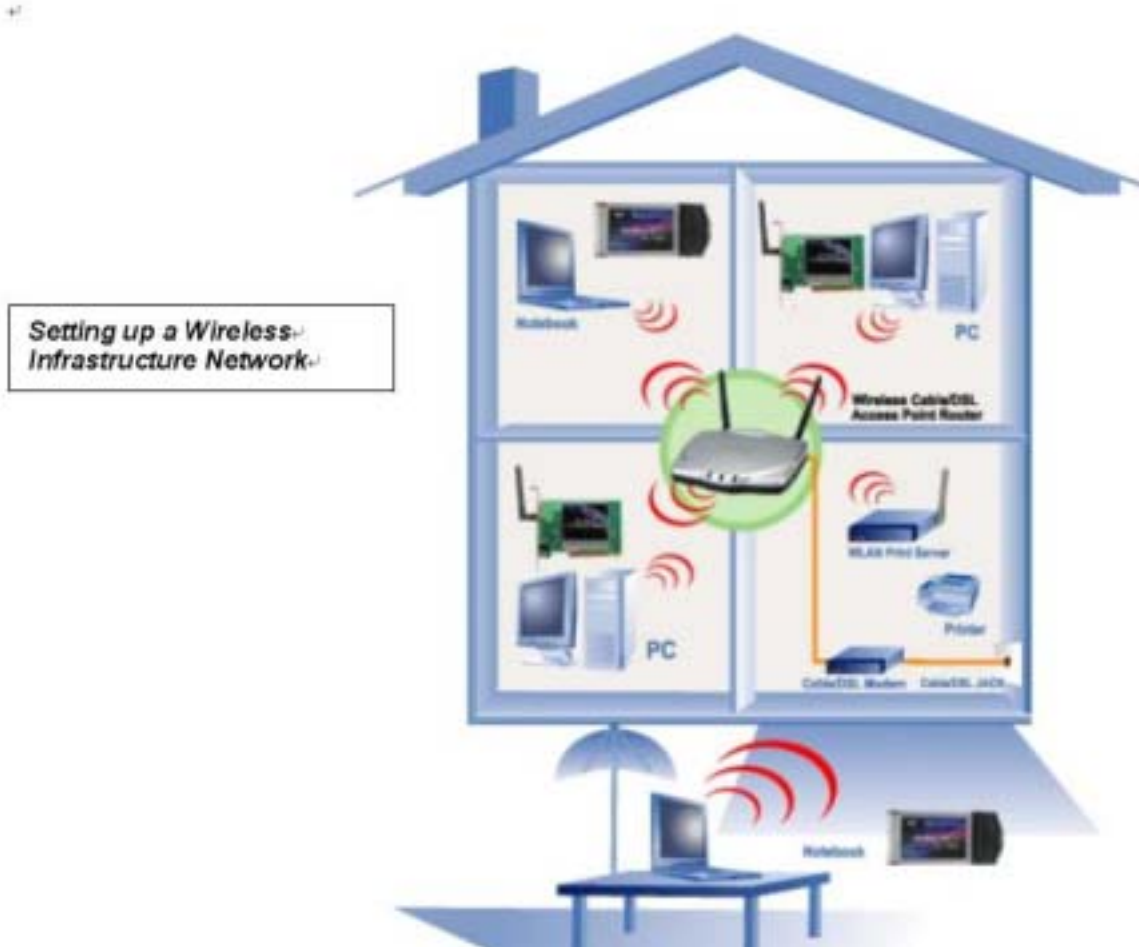
*Please remember that **108Mbps Super G Wireless** devices are preconfigured to connect together, right out of the box, with their default settings.*

For a typical wireless setup at home (as shown above), please do the following:

A. You will need broadband Internet access
(a Cable or DSL-subscriber line into your home or office).

B. Consult with your Cable or DSL provider for proper installation of the modem.

C. Connect the Cable or DSL modem to your Broadband Router

D. Connect the Ethernet Broadband Router to the 108Mbps SuperG Wireless Access Point

E. If you are connecting a desktop computer to your network, install the wireless PCI adapter into an available PCI slot on your desktop computer.

F. Install the drivers for the 108Mbps wireless Cardbus adapter into a laptop computer.

Using the Configuration Menu

After you have completed the *Setup Wizard* you can access the *Configuration* menu at any time

by opening the Web browser and typing in the IP address of the 108Mbps SuperG Wireless Access Point. The 108Mbps SuperG Wireless Access Point   default IP address is shown below:

■ Open the Web browser ■ Type in the **IP address** of the SuperG Wireless Access Point
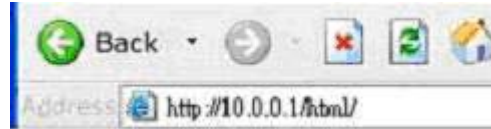
Note: if you have changed the default IP address assigned to the 108Mbps SuperG Wireless Access Point, make sure to enter the correct IP address.

■ Type **admin** in the **User Name** field ■ Leave the **Password** blank ■ Click **OK**.

You can start to manage your Access Point.

Using the Configuration Menu (continued)

Configuration>IP Address

LAN is short for Local Area Network. This is considered your internal network. These are the IP settings of the LAN interface for the 108Mbps SuperG Wireless Access Point. These settings may be referred to as private settings. You may change the LAN IP address if needed. The LAN IP address is private to your internal network and cannot be seen on the Internet.

Get IP From- Select **Static (Manual)** or **Dynamic (DHCP)** as the method you will use to assign an IP address to the 108Mbps SuperG Wireless Access Point.

IP Address- The IP address of the LAN interface. The default IP address is:
10.0.0.1

Subnet Mask   The subnet mask of the LAN interface.
The default subnet mask is **255.0.0.0**

Default Gateway   This field is optional. Enter in the IP address of the router on your network.

Apply   Click **Apply** to save the changes.

Using the Configuration Menu (continued)

Advanced Setup > AP Mode Settings

The 108Mbps SuperG Wireless Access Point can be configured to perform in any of five modes: a Wireless Access Point; a Wireless Client; a Wireless Bridge; a Multi-Point Bridge; or a Repeater.

Access Point   is the default setting. This mode is used to create a wireless LAN.

PtP Bridge   will allow you to connect two LANs together. The wireless bridge will only work with another 108Mbps SuperG Wireless Access Point. Click to enable and enter the MAC address of the remote bridge.

PtMP Bridge   will allow you to connect multiple wireless LANs together. Other wireless LANs must be using 108Mbps SuperG Wireless Access Points. Click to enable and enter up to 8 remote AP MAC addresses.

AP Repeater will allow you to repeat the wireless signal of the root AP. Click to enable and enter the MAC address of the root AP.

AP Client will transform any IEEE 802.3 Ethernet device (e.g., a computer, printer, etc.) into an 802.11b wireless client when it communicates with another 108Mbps SuperG Wireless Access Point that is acting as an AP. Click to enable and enter the MAC address of the root AP.

Apply   Click **Apply** if you have made any changes.

Find the **MAC address** of the SuperG Wireless Access Point that is acting as a **Remote Access Point** or a **Remote Bridge**, by going to **Status > Device Info** in the configuration utility of the remote SuperG Wireless Access Point. There you will find the MAC address.

MAC Address - Media Access Control Address
A unique hardware address that identifies a device on a network. It is assigned at the factory and cannot be changed. Usually you will find this address on a sticker on the device or on the packaging.

Advanced Setup > WLAN Parameter Settings

Wireless Band-Select 802.11g or 802.11b and 802.11g.

SSID-Service Set Identifier (SSID) is the name designated for a specific wireless Local area network (WLAN). The SSID's factory default setting is **default.** The SSID can be easily changed to connect to an existing wireless network or to establish a new wireless network.

SSID Broadcast -Enable or Disable SSID Broadcast. Enabling this feature broadcasts the SSID across the network.

Radio Frequency-The radio frequency will remain at 2.437 GHz

Channel- 6 is the default channel. All devices on the network must share the same channel.

Frequency -The frequency remains at **2.437 GHz**.

Channel-Select from channels **1-11**.

Data Rate- The **Data Rates** are Auto,1Mbps, 2Mbps, 5.5Mbps,6Mbps, 9Mbps, 11Mbps,12Mbps, 18Mbps, 24Mbps,36Mbps, 48Mbps, 54Mbps.

Beacon Interval-Beacons are packets sent by an access point to synchronize a network. Specify a beacon interval value. The default (100) is recommended.

DTIM*(Delivery Traffic Indication Message)-* **3** is the default setting. DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.

Fragment Length-The fragmentation threshold, which is specified in bytes, determines whether packets will be fragmented. Packets exceeding the 2346 byte setting will be fragmented before transmission. 2346 is the default setting

RTS Length- This value should remain at its default setting of 2,346. If you encounter inconsistent data flow, only minor modifications to the value
range between 256 and 2,346 are recommended

Transmit Power- Choose full, half (-3dB), quarter (-6dB), eighth (-9dB), minimum power.

Super G Mode- Super G is a group of performance enhancement features that increase end user application throughput in an 802.11g network. Super G is backwards compatible to standard 802.11g devices. For top performance, all wireless devices on the network should be Super G capable. Select either Disabled, Super G without Turbo, Super G with Dynamic Turbo, or Super G with Static Turbo.

Note:
- **Super G without Turbo -**Capable of Packet Bursting, Fast Frames, Compression, and no Turbo mode.
- **Super G with Dynamic Turbo-**Capable of Packet Bursting, FastFrames, Compression, and Dynamic Turbo. This setting is backwards compatible with non-Turbo (legacy) devices. Dynamic Turbo mode is only enabled when all devices on the wireless network are configured with Super G with Dynamic Turbo enabled.
- **Super G with Static Turbo-** Capable of Packet Bursting, FastFrames, Compression, and Static Turbo. This setting is not backwards compatible with non-Turbo (legacy) devices. Static turbo mode is always on and is only enabled when all the devices on the wireless network are configured with Super G with Static Turbo enabled.

Disabled- Standard 802.11g support, no enhanced capabilities.

Apply- Click Apply to save the changes

Using the Configuration Menu (continued)

Advanced Setup> Access Control Settings

The following fields are available for configuration in this window:

Access Control-
- Select **Disabled** to disable the filters function.
- Select **Accept** to accept only those devices with MAC addresses in the Access Control List.
- Select **Reject** to reject the devices with MAC addresses in the Access Control List.

Access Control List-

The MAC addresses in this list can be accepted or rejected for inclusion in the network, depending upon the Access Control selection.

Save- Click **Apply** to save the changes

Advanced > Security Settings

Hexadecimal
digits consist of the numbers 0-9 and the letters A-F *ASCII* *(American Standard Code for Information Interchange*) is a code for representing English *letters as numbers from 0-127*

Authentication-A. Select **Open System** to communicate the key across the network.

B. Select **Shared Key** to limit communication to only those devices that share the same WEP settings.

C.Select **Open System/Shared Key** to communicate the key and require identical WEP settings to communicate. When you select **WPA**, you will be directed to the screen shown on the next page

Encryption- Select **Disabled** or **Enabled.**

Key Type- Select **HEX** or **ASCII**.

Key Size- Select **64-, 128-, 152-**bits.

Valid Key- Select the **1st** through the **4th** key to be the active key.

Key Table- Input up to **four keys** for encryption. You will select one of these keys in the valid key field.

Apply- Click **Apply** to save changes.

Advanced Setup> Security Settings > WPA

WPA mode-

- Select WPA function

- Then Click Apply

- Select **PSK** (the Pre-Shared Key mode of WPA does not require the inclusion of a RADIUS server in your network) or **EAP** (Extensible Authentication Protocol is a general authentication protocol that is used in conjunction with a RADIUS server in the network).

Passphrase- If you selected PSK you will need to enter a **Passphrase** in this field.

Cipher Type- If you selected **EAP** you will need to select a Cipher (EAP) Type: **Auto**, **AES**, **or TKIP**.

Group Key Update Interval- If you selected PSK you will need to enter a figure in this field.

Security Server Settings (required with EAP)

Domain Name Server IP address- Input the IP address of the DNS server.

Domain Name Server- Enter the domain name of the server.

RADIUS Server- Enter the IP address of the RADIUS server.

RADIUS Port- Enter the port on your AP dedicated to the RADIUS server.

RADIUS Secret- Enter the **secret** phrase.

Apply- Click Apply if you have made any changes.

Using the Configuration Menu (continued)

Advanced Setup > Management

User Name-   Enter a user name; **admin** is the default setting.

Old Password- To change your password, enter your old password here

New Password- Enter your new password here.

Confirm New Password-Enter your new password again.

Using the Configuration Menu (continued)

Advanced Setup > Maintenance
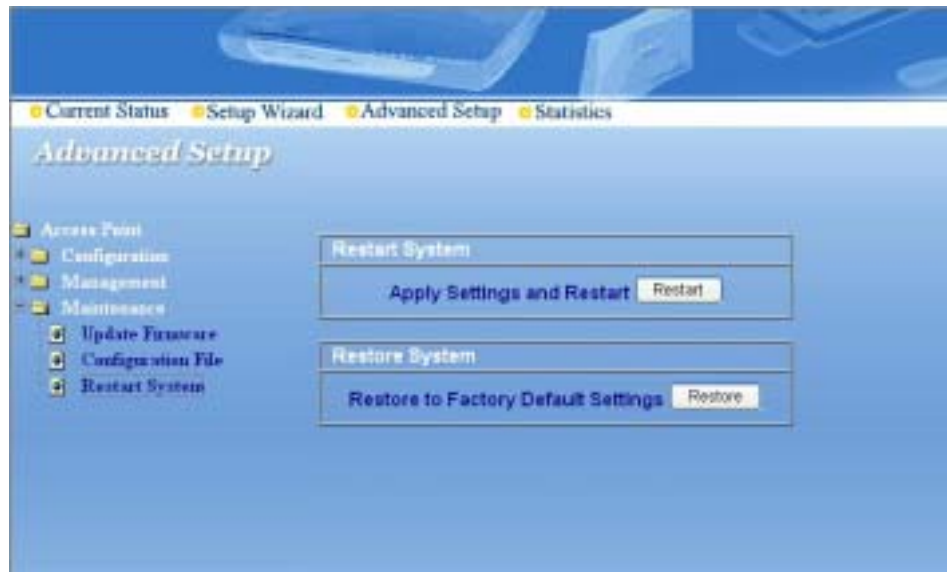
Apply Settings and Restart- Click **Restart** to apply the system settings and restart the 108Mbps SuperG Wireless Access Point.

Restore to Factory Default Settings-Click **Restore** to return the 108Mbps SuperG Wireless Access Point to its factory default settings.

Advanced Setup >Update Firmware
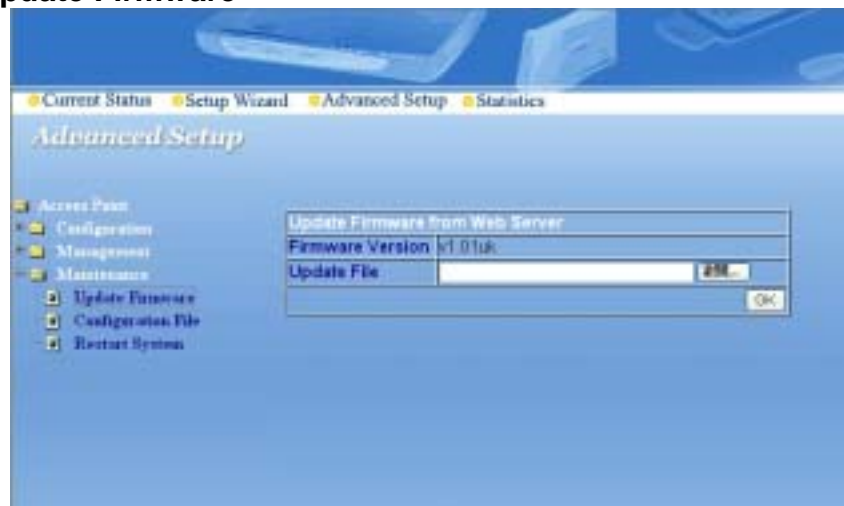
Update File   After you have downloaded the most recent version of the firmware from our Website you can **browse** your hard drive to locate the downloaded file and click **OK** to update the firmware.

Using the Configuration Menu (continued)

Advanced Setup > Configuration File
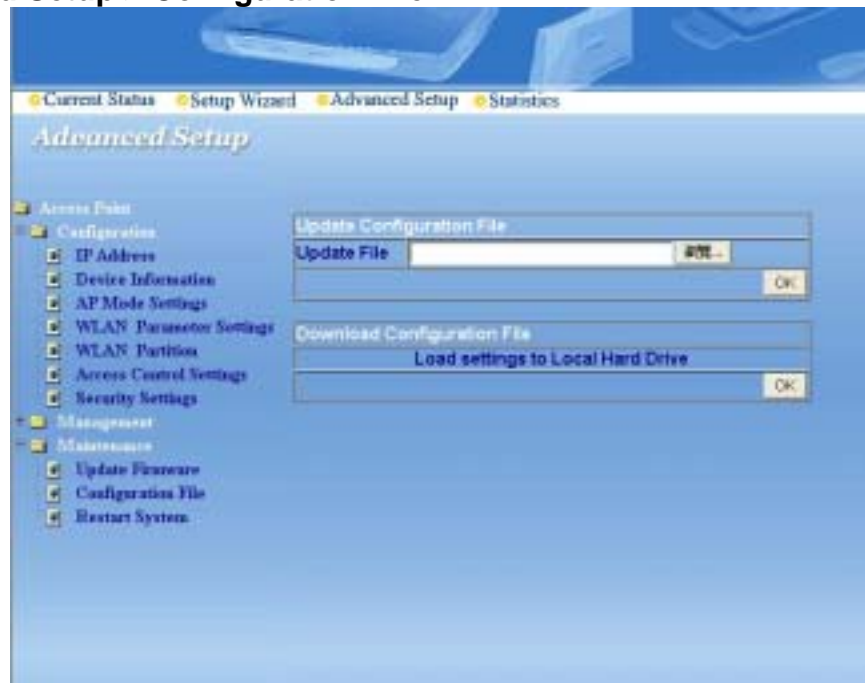
Update File- Browse for the configuration settings that you have saved to your hard drive. Click **OK** when you made your selection.

Load Settings to the Local Hard Drive- Click **OK** to load the selected settings.

Advanced Setup > Misc.
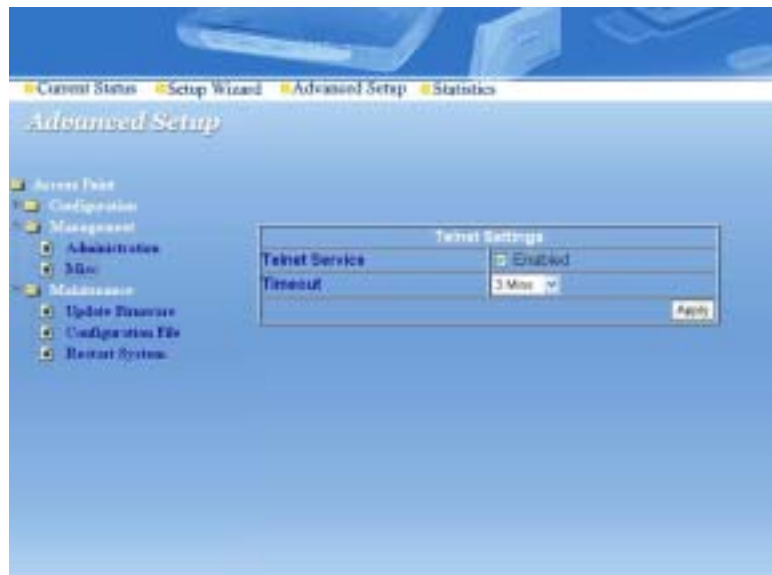
Telnet Settings Status-
Click to Enable a Telnet session.

Timeout-
Select a time period after which a session timeout will occur.

.

Telnet is a program that allows you to control your network from a single PC.

Using the Configuration Menu (continued)
Status > Device Info

This window displays the settings of the 108Mbps SuperG Wireless Access Point, as well as the MAC address and IP Address

Using the Configuration Menu (continued)
Statistics

This window displays the statistics of the wireless local area network
Throughput of WLAN 802.11g

Transmitted Frames Count
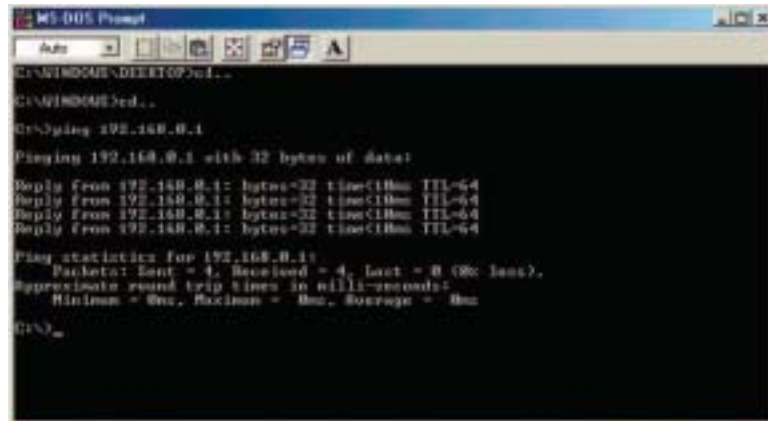
Received Frame Count

Networking Basics

Checking the Wireless Connection by Pinging in Windows XP/ 2000

Go to **Start** > **Run** > type **cmd**. A window similar to this one will appear. Type **ping xxx.xxx.xxx.xxx**, where **xxx** is the **IP address** of the wireless router or access point. A good wireless connection will show four replies from the wireless router or access point, as shown.

Checking the Wireless Connection by Pinging in Windows Me/98

Go to **Start** > **Run** > type **command**. A window similar to this will appear. Type **ping xxx.xxx.xxx.xxx** where **xxx** is the **IP address** of the wireless router or access point. A good wireless connection will show four replies from the wireless router or access point, as shown

Troubleshooting

This Chapter provides solutions to problems that can occur during the installation and operation of the 108Mbps SuperG Wireless Access Point Wireless Access Point. We cover various aspects of the network setup, including the network adapters. Please read the following if you are having problems.

> **Note: It is recommended that you use an Ethernet connection to configure the Wireless Access Point.**

1.The computer used to configure the 108Mbps SuperG Wireless Access Point cannot access the configuration menu.

A. Check that the **Ethernet LED** on the 108Mbps SuperG Wireless Access Point is **ON**. If the **LED** is not **ON**, check that the cable for the Ethernet connection is securely inserted.
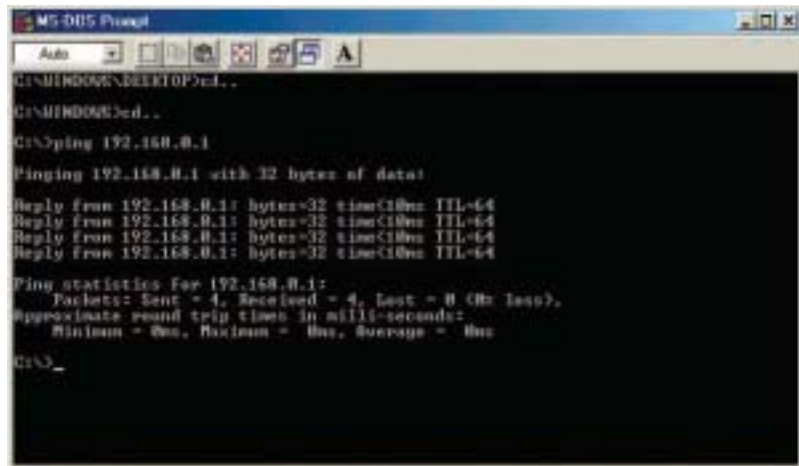
B. Check that the Ethernet adapter is working properly.

C. Check that the **IP address** is in the same range and subnet as the 108Mbps SuperG Wireless Access Point.

Note: The IP address of the 108Mbps SuperG Wireless Access Point is 10.0.0.1. All the computers on the network must have a unique IP address in the same range, e.g., 10.0..0.x. Any computers that have identical IP addresses will not be visible on the network. They must all have the same subnet mask, e.g., 255.0.0.0

D. Do a **Ping test** to make sure that the 108Mbps SuperG Wireless Access Point is responding. Go to **Start**>**Run**>Type **Command**>Type **ping 10.0.0.1** A successful ping will show four replies.

Note: If you have changed the default IP address, make sure to ping the correct IP address assigned to the 108Mbps SuperG Wireless Access Point

Troubleshooting (continued)

2. The wireless client cannot access the Internet in Infrastructure mode.

Make sure the wireless client is associated and joined with the correct access point. To check this connection: **Right-click** on the **local area connection icon** in the taskbar> select **View Available Wireless Networks**. The **Connect to Wireless Network** screen will appear. Please make sure you have selected the correct available network, as shown in the illustration below.

- Check that the **IP address** assigned to the wireless adapter is within the same **IP address range** as the access point and gateway. *(Since the SuperG Access Point has an IP address of 10.0.0.1, wireless adapters must have an IP address in the same range, e.g., 10.0.0.x. Each device must have a unique IP address; no two devices may have the same IP address. The subnet mask must be the same for all the computers on the network.)* To check the **IP address** assigned to the wireless adapter, **double-click** on the **local area connection icon** in the taskbar > select the **Support tab** and the **IP address** will be displayed. *(Please refer to Checking the IP Address in the Networking Basics section of this manual.)*

- If you are entering a **DNS server address** you must also enter the **default gateway address.** *(Remember that if you have a DHCP-capable router, you will not need to assign a static IP address.)*

Troubleshooting (continued)

2. The wireless client cannot access the Internet in the Infrastructure mode (continued).

Check to make sure that the router in your network is functioning properly by pinging it. If the router is not functioning properly, it will not connect to the Internet. If you need to find out how to ping network devices, please refer to **checking the Wireless Connection by pinging** in the **Networking Basics** section of this manual.

Check to make sure that the DNS server in your network is functioning properly by pinging it. If the DNS server is not functioning properly, you may be unable to access the Internet. Typically, your ISP (Internet Service Provider) will be able to give you the DNS server information.

3. Check that the drivers for the network adapters are installed properly.

You may be using different network adapters than those illustrated here, but this procedure will remain the same, regardless of the type of network adapters you are using.

Go to **Start >**
My Computer > Properties

Select the **Hardware Tab**
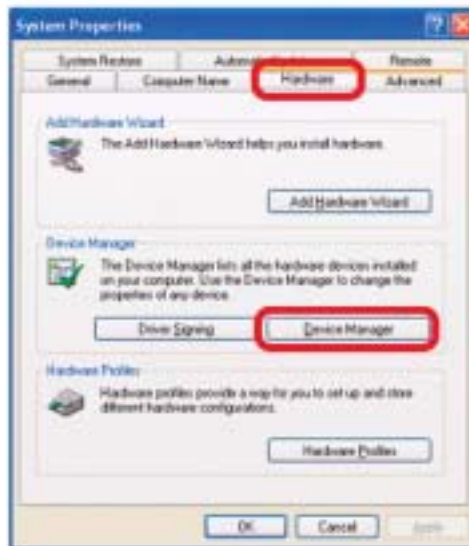
Click **Device Manager**

Troubleshooting (continued)

■ Double-click
on **Network
Adapters**

■ Right-click on **IEE802.11g Cardbus
Wireless Network Adapter-CB31**
(In this example we use the **CB31**;you
may be using other network adapters,
but the procedure will remain the same.)

■ Select **Properties**
to check that the
drivers are installed
properly

■ Look under **Device
Status** to check that the
device is working
properly

■ Click **OK**

Troubleshooting (continued)

4. What variables may cause my wireless products to lose reception?
Our Wireless products let you access your network from virtually anywhere you want. However, the positioning of the products within your environment will affect the wireless range.

5. Why does my wireless connection keep dropping?
Antenna Orientation- Try different antenna orientations for the 108Mbps SuperG Wireless Access Point. Try to keep the antenna at least 6 inches away from the wall or other objects.

If you are using 2.4GHz cordless phones, X-10 equipment or other home security systems, ceiling fans, and lights, your wireless connection will degrade dramatically or drop altogether. Try changing the channel on your router, access point and wireless adapter to a different channel to avoid interference Keep your product away (at least 3-6 feet) from electrical devices that generate RF noise, like microwaves, monitors, electric motors, etc.

When deploying several access points and wireless devices, please make sure that access points in close proximity do not have overlapping channels. Nearby access points should be assigned channels that are at least 4 channels apart to prevent interference. For example, with a group of 3 access points you could assign the first to channel 1, the second to channel 6, and the third to channel 11.

6. Why can't I get a wireless connection?
If you have enabled encryption on the 108Mbps SuperG Wireless Access Point, you must also enable encryption on all wireless clients in order to establish a wireless connection.

The encryption settings are: 64-, 128-, or 152-bit. Make sure that the encryption bit level is the same on the access point and the wireless client. Make sure that the SSID on the access point and the wireless clients are exactly the same. If they are not, wireless connection will not be established. Move the 108Mbps SuperG Wireless Access Point and the wireless client into the same room and then test the wireless connection. Disable all security settings. (WEP, MAC Address Control)

Turn off your 108Mbps SuperG Wireless Access Point and the client. Turn the 108Mbps SuperG Wireless Access Point back on again, and then turn on the client.

Make sure that all devices are set to **Infrastructure** mode.

Check that the LED indicators are indicating normal activity. If not, check that the AC power and Ethernet cables are firmly connected. Check that the IP address, subnet mask, and gateway settings are correctly entered for the network. If you are using 2.4GHz cordless phones, X-10 equipment or other home security systems, ceiling fans, and lights, your wireless connection will degrade dramatically or drop altogether. Try changing the channel on your 108Mbps SuperG Wireless Access Point, and on all the devices in your network to avoid interference.

Keep your product away (at least 3-6 feet) from electrical devices that generate RF noise, like microwaves, monitors, electric motors, etc.

Troubleshooting (continued)

7. I forgot my encryption key.
Reset the 108Mbps SuperG Wireless Access Point to its factory default settings and restore the other devices on your network to their default settings. You may do this by pressing the Reset button on the back of the unit. You will lose the current configuration settings.

Troubleshooting (continued)

After you have tried other methods for troubleshooting your network, you may choose to **Reset** the 108Mbps SuperG Wireless Access Point to the factory default settings.
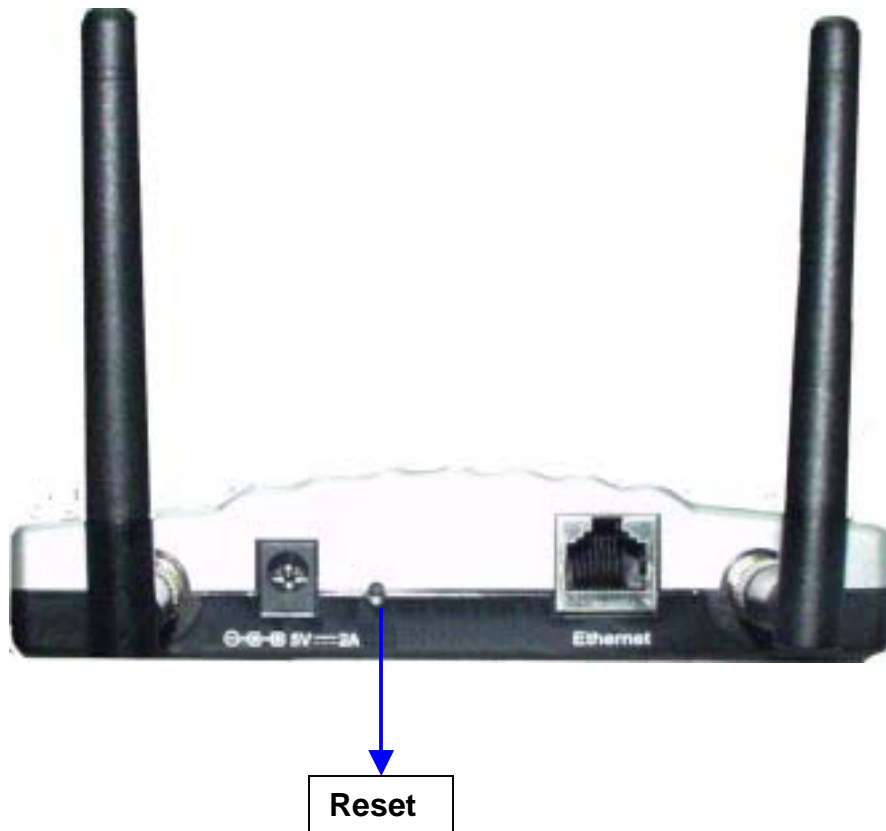
Reset

To hard-reset the 108Mbps Super*G* Wireless Access Point to the Factory Default Settings, please do the following:

A. Locate the **Reset** button on the back of the 108Mbps SuperG Wireless Access Point

B. Use a paper clip to press the **Reset** button

C. Hold for about 5 seconds and then release

D. After the 108Mbps SuperG Wireless Access Point reboots (this may take a few minutes) it will be reset to the factory **Default** settings

Technical Specifications

Standards
- IEEE 802.11g
- IEEE 802.11
- IEEE 802.11b
- IEEE 802.3
- IEEE 802.3u

Device Management
- Web-Based- Internet Explorer v6 or later; Netscape Navigator v6 or later; or other Java-enabled browsers
- DHCP Client

Wireless Operating Range
- Indoors – up to 328 feet (100 meters)
- Outdoors – up to 1312 feet (400 meters)

Temperature
- Operating: 32ºF to 149ºF (0ºC to 55ºC)
- Storing: 4ºF to 167ºF (-20ºC to 75ºC)

Humidity:
- 95% maximum (non-condensing)

Safety and Emissions:
- CE/FCC, UL

Wireless Frequency Range:
- 2.4GHz to 2.4835GHz

Wireless Data Rates with Automatic Fallback:
- 108Mbps(*SuperG Mode*)
- 54 Mbps
- 48 Mbps
- 36 Mbps
- 24 Mbps
- 18 Mbps
- 12 Mbps
- 11 Mbps
- 9 Mbps
- 6 Mbps
- 5.5 Mbps
- 2 Mbps
- 1 Mbps

Technical Specifications (continued)

Receiver Sensitivity:

- 54Mbps OFDM, 10% PER, -68dBm
- 48Mbps OFDM, 10% PER, -68dBm
- 36Mbps OFDM, 10% PER, -75dBm
- 24Mbps OFDM, 10% PER, -79dBm
- 18Mbps OFDM, 10% PER, -82dBm
- 12Mbps OFDM, 10% PER, -84dBm
- 11Mbps CCK, 8% PER, -82dBm
- 9Mbps OFDM, 10% PER, -87dBm
- 6Mbps OFDM, 10% PER, -88dBm
- 5.5Mbps CCK, 8% PER, -85dBm
- 2Mbps QPSK, 8% PER, -86dBm
- 1Mbps BPSK, 8% PER, -89dBm

Physical Dimensions:

- L = 5.6 inches (142mm)
- W = 4.3 inches (109mm)
- H = 1.2 inches (31mm)

Security:

- WPA-WiFi Protected Access (64,128, 152-bit WEP with TKIP, MIC, IV Expansion, Shared Key Authentication)

External Antenna Type:

- 0dBm gain with reverse SMA connector

Modulation Technology:

- Orthogonal Frequency Division Multiplexing (OFDM)
- Complementary Code Keying (CCK)

Media Access Control:

- CSMA/CA with ACK

Power Input:

- Ext. Power Supply DC 5V, 2.0A

Weight:

- 200 g

Warranty:

- 1 year