

**IG-4165**  
**ZoomAir Internet**  
**Gateway**  
**User Guide**

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# 1

## Getting Started

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### 1.1 Package Contents

Check that your package includes the following items:

- One Internet Gateway with built-in dual-diversity antennas
- One CD-ROM
- One power adapter
- One Ethernet cable
- Installation instructions, including a Quick Start for cable modem users, and this User Guide.

If anything is missing or damaged, please contact your supplier.

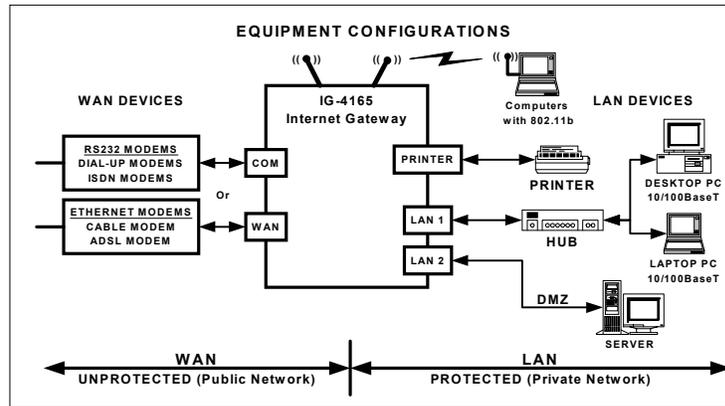
### 1.2 You Will Also Need

The IG-4165 is compatible with computers using the Windows, Macintosh, and Unix operating systems.

Optionally, you can use your Gateway as a print server and share a parallel port printer connection among multiple PCs. (Note: This option is only for Windows computers.) If you want to use your Gateway as a print server, you will need a standard parallel printer and cable.

## 1.3 Installation Road Map

The following diagram depicts the different setups that are possible with your ZoomAir IG-4165 Internet Gateway.



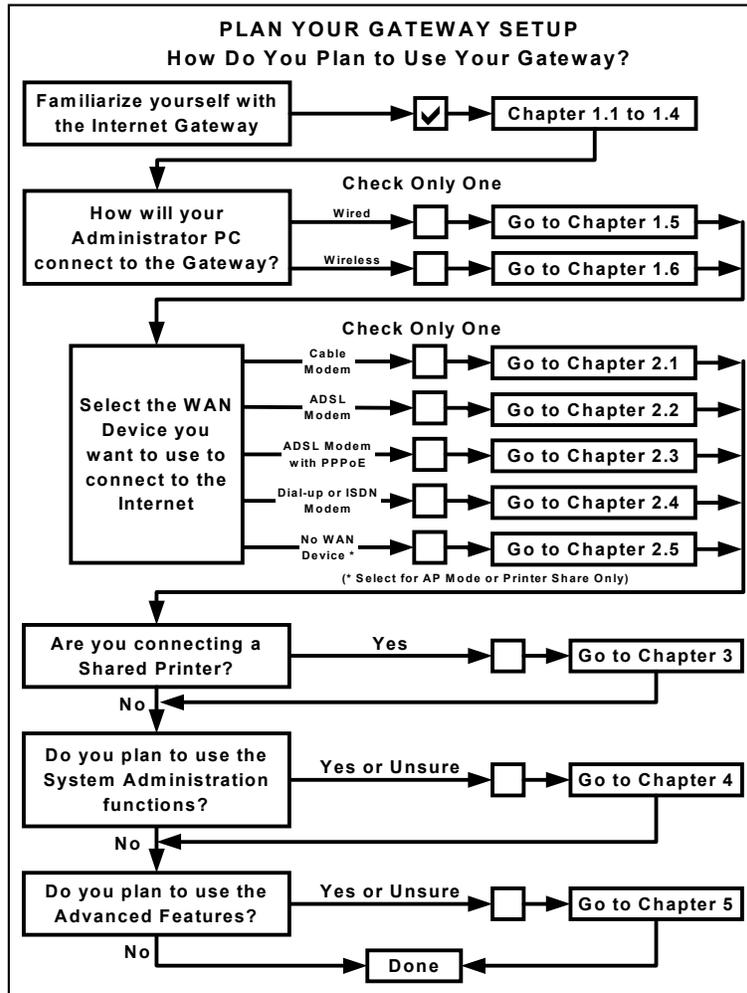
The first step is to decide what type of WAN device you intend to use to access the Internet. (Your choices are depicted on the left-hand side of the diagram above).

Once you've made that decision, the key stages to set up and use your Gateway are as follows:

- 1** Connect the hardware.
- 2** Establish wired or wireless communication with the Gateway using a PC that we'll call the Administrator PC.
- 3** Configure your Internet access method using the Administrator PC.
- 4** Connect to the Internet.

Using the following flowchart as a road map should simplify the process of setting up your Gateway. You can also keep this flowchart as a handy reference, should you ever want to modify your Gateway setup.

In this manual we also describe additional options and features available to you. For example, you can connect a printer to your Gateway and share it among multiple users. You can also add more sophisticated capabilities to the Gateway. For instance, you can modify its built-in firewall protection to accommodate special gaming or video applications. The flowchart also includes these additional chapters.



## 1.4 Familiarizing Yourself with Your Gateway

For the best wireless performance, place your Internet Gateway in the center of your office or home, away from any potential source of interference, such as a metal wall or microwave oven.

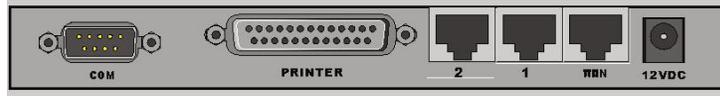
Remember, you need to locate it close to power and network connections. Adjust its antennas to ensure the best signal to your wireless PCs.

The Gateway has LED indicators on its front panel so you can monitor its operation and perform troubleshooting if necessary.

The table below defines these LEDs and how to interpret them. This table is for reference only and is not required for IG-4165 installation.

LED	Function	Color	Status	Description
<b>POWER</b>	Power indicator	Green	On	Power is on.
<b>SYS</b>	System status	Orange	Blinking @ 1 sec. intervals	Gateway is functioning properly.
			Rapid blinking	Gateway is resetting to factory defaults.
<b>WAN</b>	WAN port activity	Green	On	WAN port is linked.
			Blinking	WAN port is sending or receiving data.
<b>AIR</b>	Wireless port activity	Green	Blinking	Wireless port is sending or receiving data.
<b>Link/Act 1~2</b>	Wired LAN port link activity status	Green	On	LAN port is connected. No data is flowing.
			Blinking	LAN port is connected. Data is flowing.
			Off	LAN port is not connected.
<b>100BaseT 1~2</b>	Wired LAN port data rate	Green	On	Data rate=100Mbps
			Off	Data rate=10Mbps

The back panel of your Gateway looks like this.



The table below explains the purpose of these back panel ports, or jacks. When you connect your modem to your Gateway, all connections will originate from this back panel.

Port	Description
<b>COM</b>	Serial port in case you want to connect a dial-up or ISDN modem
<b>PRINTER</b>	Parallel printer port for optional printer
<b>1</b>	A LAN port for connecting networked computers and other 10/100BaseT Ethernet LAN devices
<b>2</b>	A second LAN port for connecting networked computers and other 10/100BaseT Ethernet LAN devices
<b>WAN</b>	In case you want to connect an Ethernet cable or DSL modem
<b>12VDC</b>	Power: DC 12V, 1.5A (minimum)

Before connecting your modem and Gateway, be sure to review the pre-installation checklist on the following page. You must decide whether to use a wired or wireless PC to configure your Gateway.

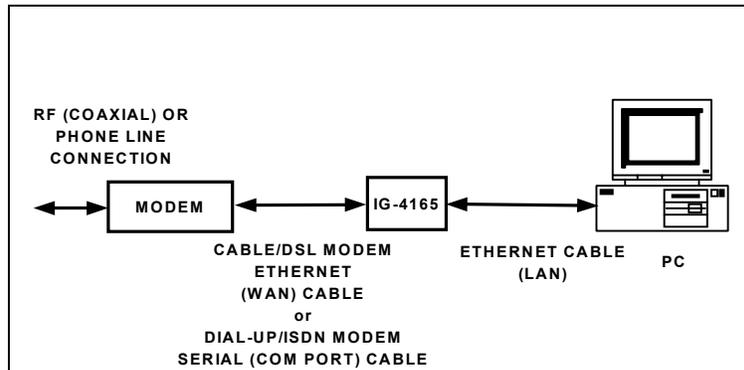
## **PRE-INSTALLATION CHECKLIST**

*Review this checklist before setting up your Gateway and modem*

- ✓ Check with your service provider: If you have a cable modem, you may have to register your Gateway's WAN MAC address before setting up the Gateway. Note: The WAN MAC Address is printed on the Gateway's bottom case label.
- ✓ Is your Internet or online service working properly? If necessary, refer to the instructions provided by your service provider.
- ✓ Do you plan to set up a **wired** connection? If so, check that an Ethernet NIC card is already installed in your PC, then turn to page 10.
- ✓ Do you plan to set up a **wireless** connection? If so, check that a wireless interface card is already installed on your PC or laptop, then turn to page 12.

## 1.5 For a Wired Connection Between the PC and IG-4165

This section explains how to establish a **wired** connection between the PC and IG-4165.



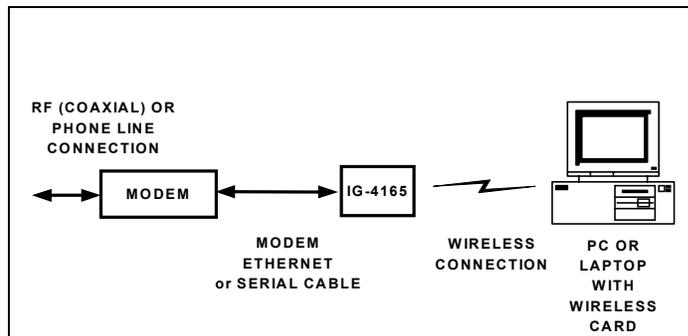
- A** Before you begin, be sure you've completed the pre-installation checklist on page 6.  
Shut off your computer. Don't plug the Gateway in yet.
- B** Turn off your modem.
- C** **For cable and DSL modems:**  
Unplug the Ethernet cable from your PC and plug it into the **WAN** port on the back of the Gateway. Don't unplug the Ethernet cable plugged into the modem.  
**For dial-up and ISDN modems:**  
Unplug the serial cable from the PC and plug it into the **COM** port on the back of the Gateway. Don't unplug the serial cable plugged into the modem.
- D** Using the Ethernet cable supplied with the Gateway, plug one end into a **LAN** port (labeled **1** and **2**) on the back of the Gateway and plug the other end into the PC.
- E** Turn the modem back on. If you are using a cable or DSL modem, wait until it synchronizes itself with the modem service. (You'll know it's synchronized when the cable modem's light goes from blinking to steady.)

- F** Plug the Gateway in: Plug one end of its power adapter into the **12VDC** power jack on the back of the Gateway and then plug the other end into a wall outlet. The Gateway's **SYS** indicator will come **ON** for about 10 seconds, and then it will flash rapidly a few times. When the indicator flashes continuously once per second, the start-up process is complete, and your Gateway is ready.
- G** **Note:** If you are using a cable modem and your service provider has instructed you to call back with your Gateway's WAN MAC Address, now is the time to do so. Turn your computer back on and restart it.

## 1.6 For a Wireless Connection Between the PC and IG-4165

This section explains how to establish a **wireless** connection between the PC and IG-4165.

**Note :** You must have a wireless NIC card, such as a ZoomAir Model 4100, 4105, or 4115, installed in your Windows PC.



- A** Before you begin, be sure you've completed the pre-installation checklist on page 6.
- Shut off your computer. Don't plug the Gateway in yet.
- B** Turn off your modem.
- C** **For cable and DSL modems:**  
Unplug the Ethernet cable from your PC and plug it into the **WAN** port on the back of the Gateway. Don't unplug the Ethernet cable plugged into the modem.
- For dial-up and ISDN modems:**  
Unplug the serial cable from the PC and plug it into the **COM** port on the back of the Gateway. Don't unplug the serial cable plugged into the modem.
- D** Turn the modem back on. If you are using a cable or DSL modem, wait until it synchronizes itself with the modem service. (You'll know it's synchronized when the cable modem's light goes from blinking to steady.)

**E** Plug the Gateway in: Plug one end of its power adapter into the **12VDC** power jack on the back of the Gateway and then plug the other end into a wall outlet. The Gateway's **SYS** indicator will come **ON** for about 10 seconds, and then it will flash rapidly a few times. When the indicator flashes continuously once per second, the start-up process is complete.

**F** **Note:** If you are using a cable modem and your service provider has instructed you to call back with your Gateway's WAN MAC Address, now is the time to do so.

Restart the PC or laptop that has the wireless card installed.

**G** On the righthand side of the Windows taskbar, double-click (or right-click) the wireless card icon to display the **Configuration** or **Profile** dialog box. (Note: Refer to your wireless card documentation if you need additional help.)

Make sure that the **Mode**, **SSID**, and **WEP** entries match the ones below.

**SSID** or **Network Name** = **default**

**Mode** = **Infrastructure** or **AP**

**WEP** = **disabled**

Click **OK** or **Apply**.

Your wireless client icon will change color, indicating a connection to the Gateway. *(Icon colors vary, depending on the type of client you have.)*

**H** Restart your PC.

# 2

## Configuring Your Internet Access Method

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*This chapter explain how to configure your Internet access method, or WAN type, which is the next step in the installation process. Note: The Gateway's default Internet access method is Cable or DSL Modem using a Dynamic IP Address.*

**Note:** If you prefer to set up your Gateway using an interactive online guide, please refer to the accompanying ZoomAir CD and the Smart Start Interview Assistant.

Now that you have connected your modem and Gateway, you are ready to communicate with the Gateway and configure your WAN type.

- 1** Launch your Web browser on the Administrator PC, type the Gateway's default IP address—**192.168.123.254**—and press **Enter**.
- 2** The **Login** screen displays. Type the system password in the **System Password** field (default is **admin**), and click the **Login** button.

Note: If the **Login** screen doesn't display, perform the following in this order:

- Recheck all connections.
- Restart the Gateway.
- Check your wireless settings (if applicable). (See page 12.)
- Perform a “hard” reset. (See page 48.)

**3** The **System Status** screen displays.



This screen provides details about the type of WAN device you are using, or how you are connected to the Internet. (Refer to **Chapter 5 System Administration** for more information about the **System Status** screen.)

**Note:** Click the **Refresh** button to update the contents of the status display.

The default Internet access method is **Cable Modem** or **DSL Modem (Dynamic IP Address)**. If you want to connect to the Internet using a different WAN type, click the **Change** button or the **Basic Setup** icon at the top of the user interface.

**4** The **Basic Setup** screen displays.



In addition to **Cable Modem** or **DSL Modem (Dynamic IP Address)** (see below), your choices are as follows:

- **DSL Modem with Static IP Address** (turn to page 18)
- **DSL Modem with PPPoE** (turn to page 19)
- **Dial-up or ISDN Modem** (turn to page 21)
- **No WAN Internet Access** (turn to page 23).

To change your WAN type, select the correct button, then click **View/Configure WAN Settings**.

## 2.1 Using a Cable or DSL Modem with a Dynamic IP Address

- The Gateway's default Internet access method is **Cable or DSL Modem with a Dynamic IP Address**. If this is your Internet access method, you don't necessarily have to make any changes. To review your settings, click **View/Configure WAN Settings** from the Gateway's **Basic Setup** screen.

Item	Setting
▶ WAN Type	Dynamic IP Address
▶ Host Name	<input type="text"/> (optional)
▶ Renew IP Forever	<input type="checkbox"/> Enable (Auto-reconnect)

Save Undo Cancel

<b>Host Name (Optional)</b>	May be required by some service providers. If so, your service provider will provide details.
<b>Renew IP Forever</b>	<b>Disabled</b> by default. Check the <b>Enable (Auto-reconnect)</b> box if you want the Gateway to renew the IP address automatically when the IP address lease is about to expire. This option also allows the Gateway to automatically connect to your service provider after the Gateway is restarted or if the connection is interrupted.

- If you change any settings, click **Save** (and **Restart** if you are prompted to do so).

Return to the road map on page 6 to review your setup plan.

## 2.2 Using a DSL Modem with a Static IP Address

- From the Gateway's **Basic Setup** screen, select the **DSL Modem (Static IP Address)** button and then click **View/Configure WAN Settings**. A screen displays with several fields to fill in.

Item	Setting
▶ WAN Type	<b>Static IP Address</b>
▶ WAN IP Address	<input type="text" value="0.0.0.0"/>
▶ WAN Subnet Mask	<input type="text" value="255.255.255.0"/>
▶ WAN Gateway	<input type="text" value="0.0.0.0"/>
▶ Primary DNS	<input type="text" value="0.0.0.0"/>
▶ Secondary DNS	<input type="text" value="0.0.0.0"/>

Save Undo Cancel

<b>WAN IP Address</b>	Type the IP Address your service provider has given you.
<b>WAN Subnet Mask</b>	Type the mask your service provider has given you.
<b>WAN Gateway</b>	Type your service provider's Gateway IP Address. Provided by your service provider.
<b>Primary DNS*</b>	Domain Name Server IP Address. Provided by your service provider.
<b>Secondary DNS*</b>	Backup Domain Name Server IP Address. Provided by your service provider.

\*Primary and Secondary DNS addresses are the addresses of the initial server and the backup server assigned to request a Web-name-to-IP-address lookup, respectively. Note: If you set these addresses as 0.0.0.0, they will be automatically assigned.

- Once you have filled in all the information, click **Save** (and **Restart** if you are prompted to do so).

Return to the road map on page 6 to review your setup plan.

## 2.3 Using a DSL Modem with PPPoE

- From the Gateway's **Basic Setup** screen, select the **DSL Modem with PPPoE** button and then click **View/Configure WAN Settings**. A screen displays with several fields to fill in. These fields control your shared PPPoE session, which is active whenever any computer on your LAN must access the Internet.

**View / Configure WAN Type**

Internet Access using DSL Modem with PPPoE

Item	Setting
▶ WAN Type	PPPoE (PPP over Ethernet)
▶ PPPoE Account Name	<input type="text"/>
▶ PPPoE Password	<input type="password"/>
▶ Maximum Idle Time	<input type="text" value="300"/> sec (0-99999, 0=Never) <input type="checkbox"/> Auto-reconnect (permanent session)
▶ PPPoE Service Name	<input type="text"/> (optional)
▶ Assigned IP Address	<input type="text" value="0.0.0.0"/> (optional)

<b>PPPoE Account Name</b>	Type the name your service provider has given you.
<b>PPPoE Password</b>	The Password is also provided by your service provider. After the Password is set, this field will appear empty.
<b>Maximum Idle Time (seconds)</b> <b>0=never disconnect</b> <b>1-999=allowed</b> <b>default=300</b>	The length of time you can be idle before your service provider will disconnect your dial-up session. If <b>Auto-reconnect</b> is enabled, the Gateway will automatically connect to your service provider after the Gateway is restarted or the connection is interrupted.
<b>PPPoE Service Name (Optional)</b>	Only type a Service Name if your service provider requires it.
<b>Assigned IP Address (Optional)</b>	Required by those service providers that provide PPPoE session control with a Static IP Address.

- Once you have filled in all the information, click **Save** (and **Restart** if you are prompted to do so).

Return to the road map on page 6 to review your setup plan.

## 2.4 Using a Dial-up or ISDN Modem

- From the Gateway's **Basic Setup** screen, select the **Dialup (56k, 33.6k) or ISDN Modem** button and then click **View/Configure WAN Settings**. A screen displays with several fields to fill in. These fields control your shared PPP (Point to Point Protocol) session, which is active whenever any computer on your LAN must access the Internet.

Item	Setting
▶ WAN Type	Dialup / ISDN
▶ Dialup Telephone Number	<input type="text"/>
▶ Dialup Account Name	<input type="text"/>
▶ Dialup Password	<input type="text"/>
▶ Maximum Idle Time	300 seconds
▶ Connection Type	<input type="radio"/> Permanent Connection <input type="radio"/> Redial on Data Traffic Demand <input type="radio"/> Manually Dial the Connection
▶ Baud Rate	57600 bps
▶ Primary DNS	0.0.0.0
▶ Secondary DNS	0.0.0.0
▶ Extra Settings (Initialization String)	<input type="text"/>

Save Undo Cancel

<b>Dial-up Telephone Number</b>	Type the number your service provider has given you. Note: Make sure you include all dialing characters for your location. Refer to your modem manual for dial-string programming.
<b>Dial-up Account Name</b>	Type the name your service provider has given you.
<b>Dial-up Password</b>	The Password is also assigned by your service provider. Note: After the Password is set, this field will appear empty.

<b>Maximum Idle Time (seconds)</b> <b>0=Never disconnect</b> <b>1-999=allowed</b> <b>default=300</b>	The length of time you can be idle before the Gateway will disconnect your dial-up session. Set it to 0 or click the <b>Permanent Connection</b> button to disable this feature.
<b>Connection Type: Permanent Connection</b>	Connection is always on. The Gateway will automatically connect to your service provider after you restart the Gateway or if the connection is interrupted.
<b>Connection Type: Redial on Data Traffic Demand</b>	A dial-up session will be re-established if any computer on your LAN needs Internet access.
<b>Connection Type: Manually Dial the Connection</b>	A dial-up session will be established only when the system administrator clicks the <b>dial</b> button on the <b>System Status</b> screen.
<b>Baud Rate (serial COM port)</b>	The communication speed on the COM port or serial cable between the Gateway and dial-up modem or ISDN TA.
<b>Primary DNS*</b>	Domain Name Server IP Address. Provided by your service provider.
<b>Secondary DNS*</b>	Backup Domain Name Server IP Address. Provided by your service provider.
<b>Extra Settings (Optional)</b>	You can add an initialization string and send it to your modem or ISDN TA to optimize the quality of your communication. Refer to your modem manual for instructions.

\*Primary and Secondary DNS addresses are the addresses of the initial server and the backup server assigned to request a Web-name-to-IP-address lookup, respectively. Note: If you set these addresses as 0.0.0.0, they will be automatically assigned.

- Once you have filled in all the information, click **Save** (and **Restart** if you are prompted to do so).

Return to the road map on page 6 to review your setup plan.

## **2.5 Using the Gateway Without any WAN Access**

You can also use the Gateway to share a printer among multiple PCs and/or as an access point, rather than as a means of accessing the Internet.

- To configure your Gateway to operate this way, from the Gateway's **Basic Setup** screen, click the **No WAN Internet Access** button and then click **View/Configure WAN Settings**. You will see a confirming screen prompting you to save your choice. Click **Save** (and **Restart** if you are prompted to do so).

Return to the road map on page 6 to review your setup plan.

# 3

## Setting up the Gateway as a Print Server

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If you have a Windows PC, you can use your Gateway to share a printer. Setting up your Gateway as a print server is a three-stage process.

- 1** Connecting the printer to the Gateway.
- 2** Running the installation software from the ZoomAir CD on all PCs that will share the printer.
- 3** Configuring the print server function.

Configuration instructions differ slightly, depending on your PC's operating system.

### 3.1 Connecting the Printer to the Gateway

To connect a printer to the Gateway, you need a standard parallel printer and cable.

On the back panel of the Gateway, plug the 25-pin end of the printer cable into the jack labeled **Printer**. Plug the other end of the cable into the jack on the back of the printer.



The next stage is to run the installation software.

## 3.2 Running the Installation Software

- 1 Insert the ZoomAir CD-ROM into your computer's CD-ROM drive.

The following dialog box should display automatically. If it doesn't, double-click the **setup.exe** icon in the CD-ROM's folder.

Click the **ZoomAir Software** button.



- 2 Click the **Install Print Server** button. The installation will proceed.
- 3 When the **Welcome** dialog box displays, click the **Next** button.
- 4 Select the destination folder and click **Next**. The setup program will install the Print Server in the destination folder.
- 5 When prompted, click **Finish**.
- 6 When prompted, select the entry, **Yes, I want to restart my computer now**, and click **OK**. Once you restart your computer, the software installation is complete.

The final stage is to configure the print server function.

### 3.3 Configuring the Print Server Function

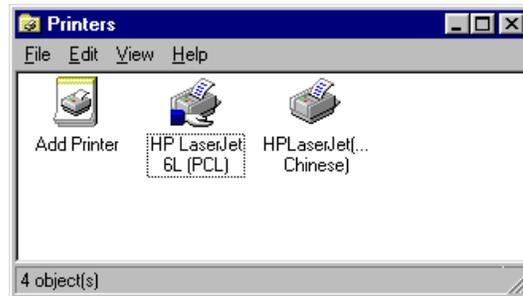
To configure the Gateway's Print Server function, you must choose one of two sets of instructions:

- If you have already set up the printer that is connected to the Gateway, follow the steps below.
- If you don't have the printer that is connected to the Gateway set up on this computer, follow the steps on page XX\*\*\*.

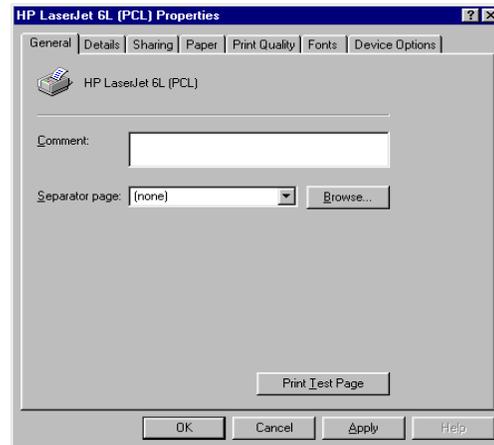
#### ***If You Have an Existing Printer***

**Note:** The illustrations here are representative. Depending on your PC's operating system, your printer dialog boxes may look slightly different.

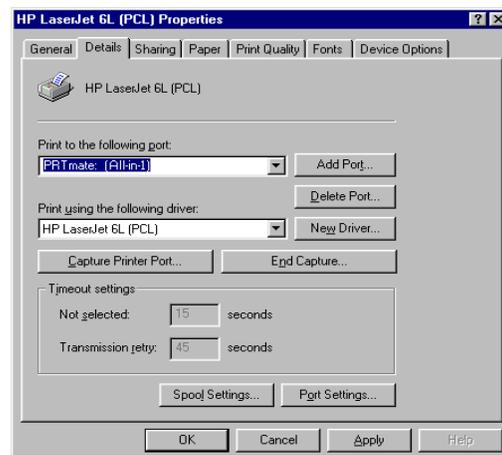
- 1 From the PC's desktop, click **Start | Settings | Printers**. Because you have a previously installed printer, you will see its icon in the **Printers** folder. In our example, it is the **HP LaserJet 6L**.



- 2** Right-click the printer icon, and select **Properties** to display the **Properties** dialog box.



- 3** Click the **Details** or **Ports** tab.



- 4** Choose **PRTmate: (All-in-1 IP-Share)** from the **Print To...** list. If **PRTmate: (All-in-1 IP-Share)** is not in the list, click **Add Port – Other** and select **PRTmate port**.

- 5 Click the **Port Settings** or **Configure Port** button. You will be prompted to type the Gateway's IP address. Type it in (the default is 192.168.123.254), and click **OK**.



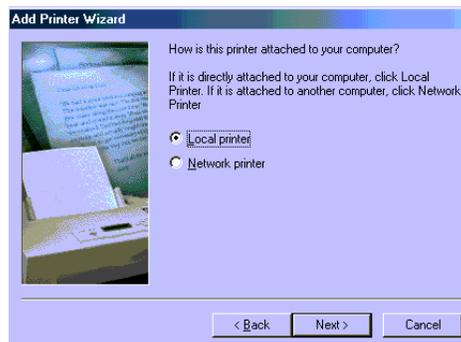
- 6 If prompted again, click **OK** or **Finish**. That's it. Now your Print Server is ready.

### ***If You Don't Have an Existing Printer***

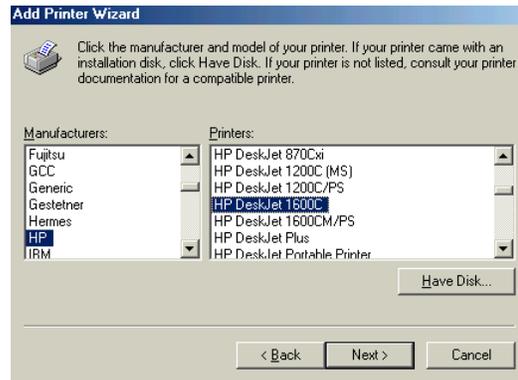
If you want to configure your Gateway's Print Server function, but don't have a printer installed yet, follow the instructions below.

**Note:** The illustrations here are representative. Depending on your PC's operating system, your printer dialog boxes may look slightly different.

- 1 From the PC's desktop, click **Start | Setting | Printers**, and double-click **Add Printer** to display the **Add Printer Wizard** dialog box. Click **Next**.
- 2 The following dialog box displays. You must select **Local Printer**. Then click **Next**.



- 3** Scroll the displayed list, select the manufacturer and model of your printer, and click **Next**.



**Note:** If you can't locate your printer on the list, refer to the CD-ROM, floppy disk, or documentation that came with your printer.

- 4** A dialog box displays, prompting you for the name of the port that you want to use for this printer. Select **PRTmate: All-in-1 IP-Sharer**, and then click the **Configure Port** or **Port Settings** button.

You will be prompted to enter the Gateway's IP address. Type it in (the default is 192.168.123.254), and click **OK**.



- 5** Continue to click **Next** until the process is complete, when you will be prompted to click **Finish**. Now your Print Server is ready.

## 3.4 Uninstalling the Print Server

Should you want to remove the Gateway's Print Server, follow these steps.

- 1** From the PC's desktop, click **Start | Settings | Control Panel** and then double-click **Add/Remove Programs**.
- 2** From the resulting displayed dialog box, select **Print Server** and click the **Change/Remove** or **Add/Remove** button. (Depending on your operating system, the button may have a slightly different label.)
- 3** When prompted to **Confirm File Deletion**, click **Yes**.
- 4** Once the uninstall process is complete, you will be prompted to click **OK**. Then click **OK** again and **Close** to close the **Add/Remove Programs** folder.
- 5** Restart your PC.

# 4

## Advanced Setup Options

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*In addition to its basic setup options, the ZoomAir Internet Gateway includes options for specialized, or advanced, settings.*

*If you are like most users, you will not need these options. Your Gateway is designed so that the basic and wireless setup settings are sufficient for most users. This chapter is applicable to you only if you need to perform sophisticated tasks such as those listed below:*

- *Modify the firewall to permit access to special applications, such as games or videoconferencing.*
- *Make changes to the DHCP server.*
- *Implement a Virtual Server.*
- *Change the DMZ Host's IP Address.*
- *Use a non-standard FTP port.*
- *Configure the LAN MAC Address Control option.*
- *Configure the Router Access Control option.*
- *Disable the WAN Ping Response feature.*
- *Use the Clone MAC Address option.*

### 4.1 Modifying Firewall Settings

If you want to use special applications such as certain Internet games, videoconferencing, and Internet telephony, you often have to use nonstandard ports or multiple open ports. A port is an endpoint to a logical connection; the port number identifies the logical channel being used; for example, port 21 is associated with FTP (File Transport Protocol). By definition, your Gateway's firewall prevents unauthorized access to any open ports. Some applications require access to ports that your firewall would normally deny. You must modify the Gateway's firewall settings if you want to accommodate these types of applications.

## Specifying Special Application Settings

To make it easier to use, your Gateway includes some preprogrammed special application settings—for example, MSN Gaming Zone and Battle.net. To enable one of these preprogrammed applications, follow these steps.

- 1 Open the Gateway's **Basic Setup** screen by clicking the same-named icon at the top of the main interface window, and click the **Modify Firewall** button to display the following screen.

ID	Trigger	Incoming Ports	Enable
1	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
2	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
3	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
4	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
5	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
6	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
7	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
8	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

- 2 Select the application you want from the dropdown list, and select the **ID** number you want to associate it with. The ID number is a convenient way to remember and use a particular combination of **Trigger** and **Incoming Ports**; for example, if you frequently use the same gaming application, you might want to associate it with ID 1.
- 3 Click **Copy**. The **Trigger** and **Incoming Ports** will automatically appear alongside the **ID** number, and the **Enable** box will be checked.
- 4 Click **Save** to save your changes, or click **Undo** to start over.

**Note:** To disable a special application, uncheck the **Enable** box.

If you want to use a special application that isn't on the Gateway's preprogrammed list, we recommend that you first visit this web site:

[www.practicallynetworked.com/sharing/specialapps.htm](http://www.practicallynetworked.com/sharing/specialapps.htm).

This site contains easy-to-understand instructions about special applications. It also includes a list of open ports, which you will need to manually set triggers and incoming ports.

A trigger is the numeric name for an outbound port. If you send an outbound packet that is associated with a particular trigger, the Gateway will monitor this packet; when it sees an inbound packet associated with this trigger, it will allow the inbound packet through the firewall.

An incoming port is the numeric name for an inbound port. Incoming ports are always associated with certain triggers. The Gateway “binds” single or multiple inbound packets to certain triggers, and allows those specified packets through the firewall, once they are “triggered” by the outbound ports.

**Note:** Only one computer at a time can use a special application and open port(s).

For some specialized applications, modifying the firewall settings in the way described above will not suffice. Some applications—NetMeeting, for example—require completely unrestricted access. For these applications, you should use the alternative method of changing the IP address of the **DMZ Host**, described below.

## Changing the DMZ Host’s IP Address

- 1 Open the Gateway’s **Advanced Setup** screen by clicking the same-named icon at the top of the main interface window.

The screenshot shows the 'Advanced Setup' interface. It is divided into two main sections: LAN Setup and WAN Setup. The LAN Setup section includes a table with columns 'LAN Setup Item' and 'Setting/Description'. The WAN Setup section includes a table with columns 'WAN Setup Item' and 'Setting/Description'. At the bottom, there are 'Save' and 'Undo' buttons.

LAN Setup Item	Setting/Description
▶ Non-standard FTP port (Standard Port = 21, Range = 1-65,535)	21
▶ IP Address of DMZ Host (1-254)	192.168.123 <input type="checkbox"/> Enable <input type="checkbox"/>
DHCP Server	Configure the LAN DHCP Server.
Virtual Server	Configure a LAN Virtual Server.
LAN MAC Address Control	Configure the LAN MAC Address Control.
Router Access Control	Configure the Router Access Control.

WAN Setup Item	Setting/Description
▶ WAN Ping Response	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Clone	Current WAN MAC Address: FF-FF-FF-FF-FF-FF Factory WAN MAC Address: AA-AA-AA-AA-AA-AA

Save Undo

**2** In the **LAN Setup Items** list, next to the entry **IP Address of DMZ Host**, there is an **IP Address** box. Type the IP address of the computer you want to have unrestricted Internet access, and check the **Enable** box.

**3** Click **Save** to save your changes, or click **Undo** to start over.

**CAUTION!** Use the **DMZ** (Demilitarized Zone) **Host** feature only with the utmost care. It opens up the computer's entire contents to the Internet; there is no firewall protection whatsoever.

### **Using a Non-standard FTP Port**

In certain cases, you may want to access an FTP server via a port different than the standard FTP port of 21. To change the FTP port number, follow these steps.

**1** Open the Gateway's **Advanced Setup** screen by clicking the same-named icon at the top of the main interface window.

**2** In the **LAN Setup Items** list, next to the entry **Non-standard FTP Port**, highlight the **Non-standard FTP** field and type in the number you want to use.

**3** Click **Save** to save your changes (or **Undo** to start over).

**Note:** For security reasons, specifying the use of a nonstandard FTP port is a temporary setting. It will be lost when you restart the computer.

## **4.2 Configuring the LAN DHCP Server**

If your LAN has a lot of computers, it can be a time-consuming task to configure each one. DHCP (Dynamic Host Configuration Protocol) offers a rather simple approach to handling all the requisite computer settings. A DHCP server automatically issues IP addresses to computers on the network. Each computer retains the use of that IP address for a specific time period defined by the system administrator.

The Gateway's DHCP server is enabled by default and will assign as many as 100 IP addresses.

To modify the configuration of the LAN DHCP server for your Gateway, follow these steps.

- 1 Open the Gateway's **Advanced Setup** screen by clicking the same-named icon at the top of the main interface window and click the **DHCP Server** button to display the **DHCP Server** screen.

Item	Setting
DHCP Server (LAN)	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
IP Pool Starting Address	<input type="text" value="100"/> (1-239)
IP Pool Ending Address	<input type="text" value="199"/> (2-240)
Domain Name (LAN)	<input type="text"/>
Gateway IP Address	<input type="text" value="0.0.0.0"/> (optional)

[View DHCP Clients List](#) Click here to view IP Addresses assigned to LAN Devices.

- 2 Define the range of IP addresses you want to use by filling in the **IP Pool Starting and Ending Address** fields.

Note: You need only type the last three digits of the IP addresses. (The first nine will be automatically entered based on your Gateway address.)

- 3 **Optional Entries: Domain Name and Gateway Address.**

Using a domain name is a means of easily identifying your network.

The Gateway IP Address would be the IP address of an alternate Gateway (if you were to use one).

- 4 Click **Save** to save your changes (or **Undo** to start over).

If you want to review the list of users connected to the DHCP server or see what IP addresses are in use, click **DHCP Clients List**.

## 4.3 Configuring a Virtual Server

Your Gateway includes the ability to support a virtual server. By implementing a virtual server, a system administrator can give users who are outside the firewall access to Web, FTP, or other Internet services that are provided inside the firewall. This is done on a case-by-case basis.

To simplify the task of setting up a virtual server, the Gateway includes a preprogrammed list of well-known Internet services. To enable one of these preprogrammed services, follow these steps.

- 1 Open the Gateway's **Advanced Setup** screen by clicking the same-named icon at the top of the main interface window and click the **Virtual Server** button to display the **Virtual Server** screen.

ID	Service Port	Server IP	Enable
1	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>
2	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>
3	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>
4	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>
5	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>
6	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>
7	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>
8	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>
9	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>
10	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>
11	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>
12	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>

- 2 From the **Select Service** dropdown list, select the service you want for that particular user—for example, SMTP. (The port number appears in parentheses.)
- 3 Click the ID number you want to associate with that service and click **Copy**.

The ID number is a convenient way to refer to a particular service—for example, if you frequently associate one service with a certain user, you might want to assign it ID 1.

**4** Under **Server IP**, type the last three numbers of that particular user's IP Address. (The available range is 1-254.) The **Enable** box will be checked automatically. You can disable any application by unchecking the **Enable** box.

**5** Click **Save** to save your changes (or **Undo** to start over).

If you want to use a special service that isn't on the Gateway's preprogrammed list, you can do so manually. Before you do so, however, we recommend that you visit this web site:

**<http://www.practicallynetworked.com/sharing/specialapps.htm>**. This site contains easy-to-understand instructions about special services. It also includes a list of open ports, which you will need to set up a virtual server.

Once you have determined which **Service Port** you want to use, type in the number, then type the last three numbers of that particular user's IP Address and check **Enable**. (The available range is 1-254.)

## 4.4 Configuring the LAN MAC Address Control

The Gateway's **LAN MAC Address Control** option gives a system administrator control over each individual computer's network privileges. This feature is also useful as an additional security measure, because you can restrict access to known computers on the network. The **LAN MAC Address Control** option uses a 12-digit alphanumeric string to uniquely identify each network hardware device.

The **Connection Control** item allows control over which wired and wireless clients have access to the Gateway. You have two choices: **allow** or **deny**. If you deny a client a connection, it cannot access any Internet, print server, or administrative functions.

The **Association Control** item specifies which wireless clients may link to the Gateway. The process of association involves the exchange of information between the wireless clients and the

Gateway to establish a link. A wireless client can transmit to and receive data from the Gateway only *after* you have successfully completed the association process.

**Note:** Association Control has no effect on wired clients.

To set up **LAN MAC Address Control** parameters, follow the steps below. Refer to the accompanying table if you need additional information regarding the differences in privileges.

- 1** Open the Gateway’s **Advanced Setup** screen by clicking the same-named icon at the top of the main interface window, click the **LAN MAC Address Control** button, and check the **Enable** button.
- 2** Specify which devices you want to be able to connect or associate with the Gateway by checking the accompanying **Enable** boxes and selecting **allow** or **deny** from the dropdown lists.

Item	Enable	Setting
▶ MAC Address Control	<input type="checkbox"/>	Enable LAN MAC Address Control to define which devices can connect to the Gateway.
▶ Connection Control	<input type="checkbox"/>	Wireless and wired clients with <b>CONN.</b> checked can connect to this device, and <b>allow</b> unspecified MAC addresses to connect.
▶ Association Control	<input type="checkbox"/>	Wireless clients with <b>ASSOC.</b> checked can associate to the wireless LAN, and <b>deny</b> unspecified MAC addresses to associate with the gateway.

DHCP clients:

ID	MAC Address	IP Address	CONN	ASSOC
1	<input type="text" value="192.168.123"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="text" value="192.168.123"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="text" value="192.168.123"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>

- 3** Define the LAN MAC Address and IP Address pairs. Use the **Prev Page** and **Next Page** buttons to scroll the list of pairs. (The Gateway can hold a maximum of 32 pairs.) Use the **DHCP clients** dropdown list to find LAN MAC Addresses known to the DHCP server. Check the **Conn.** (connection) or **Assoc.** (association) boxes as for each LAN client.
- 4** Click **Save** to save your changes (or **Undo** to start over).

The following table lists what a client can and cannot do when **Conn.** and **Assoc.** are enabled or disabled:

<b>Type of Client</b>	<b>Connection/Association</b>	<b>Definition</b>
Wired	Connection*	Full access to Internet and all network resources
Wired	No Connection*	Can communicate with other wired LAN clients, but cannot connect to Internet, use print server function, communicate with wireless LAN clients, or communicate with Gateway
Wireless	Association & Connection	Full access to Internet and all network resources
Wireless	Association/No Connection	Can communicate with other wireless LAN clients but cannot communicate with any wired LAN clients, connect to the Internet, use the print server function, or communicate with Gateway
Wireless	No Association	Cannot communicate with any other LAN clients (wired or wireless), connect to the Internet, use the print server function, or communicate with Gateway

\*Association Control has no effect on wired clients.

## 4.5 Configuring the Router Access Control

The **Router Access Control** option allows a system administrator to give clients or groups of clients specific access rights to Internet services. To set up this feature, follow the steps below.

**Note:** We recommend that you define the LAN MAC-address to LAN IP-address relationships before beginning the process of configuring Router Access Control. Click the **LAN MAC Address Control** button to proceed.

- 1** Open the Gateway's **Advanced Setup** screen by clicking the same-named icon at the top of the main interface window, click the **Router Access Control** button, and check the **Enable** box.
- 2** Divide users into different groups. Users are identified by their IP addresses. You can assign members in three Groups. Any unassigned members belong to the Default Group.
- 3** Assign the access rights of each group. You have a choice to **allow** or **block** access to specified TCP and UDP ports and Internet services. The table below shows an example of **Router Access Control**.

Group	Members	Access Right	Definition
Default	-	Allow ()	No access rights (allow nothing)
Group 1	50-99	Allow (25,53)	Can browse(80), receive(110) and send(25) email only
Group 2	100-199	Block (21,119)	Cannot read net news(119) and FTP(21) only
Group 3	1-9,20	Block ()	Full access (block nothing)

- 4** Click **Save** to save your changes (or **Undo** to start over).

## 4.6 Changing the WAN Ping Response

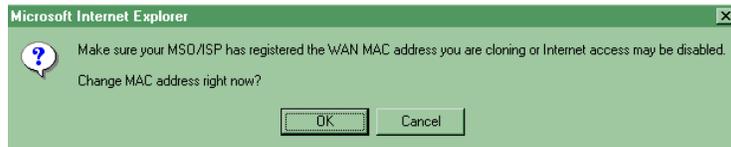
The Gateway's **WAN Ping Response** feature is enabled by default. That way, anyone can “ping,” your Gateway. Ping stands for Packet INternet Groper. It is an Internet utility used to determine whether a particular IP address is online. It is used to test and debug a network by sending out a packet and waiting for a response.

If you want to prevent anyone from outside the LAN from pinging your Gateway, click **Disable** from the **Advanced Setup** screen.

## 4.7 The Clone MAC Feature

Clicking the **Clone** button copies your computer's MAC address to the Gateway's WAN's MAC address. Thus, you can keep using your computer's MAC address, if you've already given it to your service provider. This function is useful when your service provider records the MAC address of your computer. Cloning it avoids delays due to re-registering MAC addresses.

Note: As a safety precaution, you may see the following dialog box when you click the **Clone** button. Be sure that your service provider has recorded your computer's WAN MAC address.



# 5

## System Administration

Using a Web-based browser such as Netscape Communicator or Internet Explorer, you can monitor and administer the IG-4165. This Web-based approach works with any Windows, Macintosh, or Unix computer. Using any PC, launch your browser and type the Gateway's IP address: 192.168.123.254.

### 5.1 Monitoring System Status

From the **System Status** screen, you can review the Gateway's current network settings. This screen also provides details about the status of your WAN type, or how you are connected to the Internet (cable modem, dial-up modem, etc.).

From the **Login** screen, type the system password (default is **admin**) and click **Login** to display the **System Status** screen. Clicking the **Refresh** button updates the contents of the status display. Clicking the **Change** button or the **Basic Setup** icon lets you change your WAN type.

Item	Status	Notes/Controls
WAN Type	Dynamic IP	<a href="#">Change</a>
WAN MAC Address	FF:FF:FF:FF:FF:FF	
WAN IP Address	0.0.0.0	
Subnet Mask	0.0.0.0	
Gateway	0.0.0.0	
Domain Name Server	0.0.0.0	
Remaining IP Lease Time	00:00:00	<a href="#">Renew</a>
LAN IP Address	192.168.123.254	
Printer	Not ready	
Firmware Version	R1.93k2	

The **System Status** screen displays the following types of information.

- **WAN MAC Address:** This is the MAC Address of the WAN port of the Gateway. This MAC address may be needed by your service provider to register your connection. It is printed on the Gateway's bottom label.
- **WAN IP Address:** This IP Address is assigned to your account by your service provider.
- **Subnet Mask:** This is the IP address subnet mask assigned to your account by your service provider.
- **Gateway:** This is the IP Address of the Internet WAN Gateway and is assigned by your service provider.
- **Domain Name Server (DNS):** This is the address of the first server assigned to process a Web-Name-to-IP-Address lookup.
- **Remaining IP Lease Time:** The IP lease time is the amount of time that your account has to "lease," or use, an IP address to access the Internet. Typically, IP lease times are measured in hours or days. This field shows how much time is left before the current "lease" expires. Click **Renew** to begin your lease anew. You can opt to have the lease automatically renew itself.

The **System Status** screen also provides details about any attached peripherals, such as a printer or dial-up modem. It displays information such as the

- **LAN IP address** (if applicable).
- **Firmware Version.**
- **Printer:** If you are connected to a printer, the status will be **Ready**, **Paper out** or **Not ready**. A **Kill** button may appear, so you can stop a print job in progress.
- **Dial-up Modem:** If you are using a dial-up modem, the status will be **Ready**, **Not ready**, or **Dialing**. When there is a connection, the connection speed will be displayed. When the modem is ready, you will see a button to manually "dial-up" the connection. When the modem is connected, you will see a button to manually "hang-up" the modem.

## 5.2 Changing Your Wireless Settings

To view or change your wireless settings, click the **Wireless** icon at the top of any Gateway user interface screen. The **Wireless Setting** screen displays.

TX	KEY	KEY VALUE
<input checked="" type="radio"/>	KEY-1 (default)	
<input type="radio"/>	KEY-2	
<input type="radio"/>	KEY-3	
<input type="radio"/>	KEY-4	

From here, you can adjust wireless and security-related parameters such as

- **Network ID (SSID):** The **Network ID**, also called **SSID** (Service Set Identifier), is required to identify the wireless LAN. All wireless devices must have the same SSID to associate to. The factory default SSID is **default**.
- **Operational RF Channel:** The radio channel over which the wireless devices communicate. All devices must be set to the same channel. Permissible channels range from 1 to 14 and depend on the country you are operating in. The default channel setting is **6** for the U.S., Great Britain, Europe, and Japan. Channel **10** is default for Spain and Channel **8** is default for France.
- **WEP Key Security:** WEP (Wired Equivalent Privacy) is an optional security feature intended to safeguard against wireless eavesdropping. By default, WEP is **disabled**. If you want to enable WEP, the wireless device(s) you are using will dictate your choice: All devices must be set to the same data encryption method and use the same key; some devices offer either 64- or 128-bit encryption. Note: With 64-bit WEP, key

length is 10 hexadecimal characters; with 128-bit WEP, key length is 26 hexadecimal characters.

- **Hex (no conversion):** If you select the **Hex** method, type the **Key Values** (0-9, A-F) in the corresponding fields.
- **Passphrase Conversion Method:** You can also enter a key as a text string (Passphrase or Password). Passphrases are converted to Hex strings using either an Intersil Prism or an Orinoco/Apple method. Select the conversion method your wireless client computers use. Then, type the Passphrase in the **Passphrase Key** field. The **Key Values** are automatically entered in the corresponding field as you type.
- **TX Key Selection:** In 128-bit encryption, only one key is enabled for transmit (TX) and receive (RX), so you don't have to select a key. In 64-bit encryption, all four keys are enabled for receive decryption. You must select one key for transmit encryption (TX). Your clients must be able to decrypt data with this encryption key.

## 5.3 Performing System Administration Tasks

Clicking the **Toolbox** icon at the top of any Gateway user interface screen brings up the **Administrator Toolbox**, from which you can monitor or change several system administration-type settings.

The screenshot displays the **Administrator Toolbox** interface. It is divided into several sections:

- Change Administrator's Password:** Contains three input fields for "Old Password", "New Password", and "Confirm New Password". There are "Clear" and "OK" buttons.
- Administration Item / Setting/Description:** A table-like section with two columns. It includes:
  - Administrator Timeout:** A dropdown menu set to "600" with a description "Seconds (1-9999, 0 to Disable)".
  - Remote Administrator Host:** An input field containing "0.0.0.0" and an "Enable" checkbox.
  - View System Log:** A button with the text "Click here to view the System Log".
- System Firmware and System Settings Set Management:** Contains:
  - System Firmware Version:** Shows "Current: R1.93k2" and an "Upgrade Now" button.
  - System Settings:** Three buttons: "Backup" (Current System Settings), "Restore" (Saved System Settings), and "Default" (Reset Default System Settings).
  - At the bottom, there are "Save", "Undo", and "Restart" buttons.

For example, you can

- Change the **Administrator's password**.

To do so, type the existing password, then type the new password twice (once for verification purposes). If you change your password and then forget it, your only recourse is to reset it to the default password by performing a “hard” system reset (see page 48 for instructions).

- Change the duration of the **Administrator Timeout** setting.

**Administrator Timeout** is the length of time that an administrator connected to the Gateway can be idle before being automatically logged out. The default is **600 seconds** (10 minutes). To disable this feature, type **0**. The maximum timeout is 9,999 seconds (2 hours, 46 minutes).

- Change the IP Address of the **Remote Administrator Host**.

Check the **Enable** box next to the **Remote Administrator Host** item if you want to perform administration tasks from outside your private LAN. The default is **0.0.0.0**, which means that any host can connect to the Gateway to take care of administrative tasks. By entering a specific IP address, only that computer can perform remote administration. If you want to specify a group of trusted users' IP addresses, use subnet mask bits and */m* notation; for example, 10.1.2.0...10.1.2.24. Note: When you enable **Remote Administration Host**, the web server port will be shifted to 88 (the default is **80**).

- View **System Log**.

Click this button to view a log of system activity.

- View current **System Firmware Version**.

Check which system firmware version the Gateway is using.

- Clicking the **Upgrade Now** button displays a screen from which you can upgrade the Gateway's firmware. Note: You must first download the upgrade (for example, from our web site or from a floppy disk). Then click **Browse** and select the file location and upgrade filename. Alternatively, you can type a pathname and filename of your choosing. The upgrade file should have a .bin (binary) extension.

**VERY IMPORTANT!**  
Do not shut off power to the Gateway while you are upgrading it.

- **Backup** your Gateway **System Settings** to the Administrator's computer.

Click the **Backup** button to save your current settings to a file on your computer. If you want to tinker with the system settings, this feature lets you save a backup of the current settings should you ever want to reinstate them.

- **Restore** Saved System Settings.

Click this button to retrieve a backup file containing a complete set of system settings. Note: A file of this type would be stored on your PC.

- Revert back to **Default**.

Clicking the **Default** button lets you return your Gateway to its factory defaults. Follow the onscreen directions to reload factory settings.

The Gateway's user interface uses four basic buttons, which are listed in the table below.

BUTTON	FUNCTION
<b>Save</b>	To save changes.
<b>Undo</b>	To undo any changes and start over.
<b>Restart</b>	To restart the Gateway. <b>Tip:</b> You must restart the Gateway if you have changed your type of Internet access method (WAN type). In all other instances, you will be prompted if you need to restart the Gateway.
<b>Help</b>	Clicking the <b>Help</b> icon at the top of any screen displays the Gateway's context-sensitive help.

**Note:** We strongly recommend that you change the administrator password to safeguard the security of your network.

## 5.4 Resetting the Gateway to Its Default Settings

If you lose your Gateway link and cannot communicate with it, you can re-establish a connection by performing a “hard” reset to the factory default settings.

- Unplug the Gateway’s power adapter.
- Using a paper clip, press the **Reset** button on the Gateway’s front panel. While holding in the **Reset** button, plug the power adapter back in, count to 8, and then release the button. The Gateway’s **SYS** LED will blink quickly eight to ten times and then it will blink slowly, about once per second. You are now guaranteed that all system settings are set to the Gateway’s factory defaults.

Note: The Gateway’s default IP address is **192.168.123.254**.

# Appendix

## Regulatory Information

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### FCC Part 15 B Emissions 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 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.

### Declaration of Conformity

The manufacturer declares under sole responsibility that this equipment is compliant to Directive 1999/5/EC (R&TTE Directive) via the following standards:

<u>Standards</u>	<u>Dates</u>
EN 55022:	1998
EN 55024:	1998
EN 61000-3-2	1995
EN 61000-3-3	1995

The product is CE Marked.

## **FCC Warning**

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

Caution: For the purpose of satisfying FCC RF exposure compliance requirements, antennas should be positioned in such a way that a separation distance of at least 20cm is maintained between the transmitter's radiating structures and the body of the user or nearby persons.

## **FCC Part 15 C Statement**

This equipment is approved under Subpart C of FCC Part 15, under the FCC Identifier MXF-C900323/MXF-C900626.

## **Department of Commerce End User Statement**

This item falls under the jurisdiction of the Department of Commerce, and as such, the requirement set forth in section 740-17 of the Export Administration Regulation must be complied with. See the following Web sites for more information:

- ❑ Bureau of Export Administration  
<http://www.bxa.doc.gov/DPL/Default.shtm>  
<http://www.bxa.doc.gov/Entities/>
- ❑ Code of Federal Regulations  
[http://w3.access.gpo.gov/bxa/ear/ear\\_data.html](http://w3.access.gpo.gov/bxa/ear/ear_data.html)

Federal law prohibits the sale or distribution of certain products to certain individuals and organizations. Denied persons or organizations may not, directly or indirectly, participate in any way in any transaction involving any commodity, software or technology exported or to be exported from the United States that is subject to Export Administration Regulations. The above Web sites provide a detailed list of individuals and organizations that have been determined to present an unacceptable risk of diversion to developing weapons of mass destruction or missiles used to deliver those weapons.

## **Electrostatic Discharge Statement**

The unit may require resetting after a severe electrostatic discharge event.

## Intended Use

The intended use for this RLAN equipment is operation in the 2.4GHz frequency band.

<b>AUSTRIA</b>	<b>BELGIUM</b>	<b>DENMARK</b>	<b>FINLAND</b>
<b>FRANCE</b>	<b>GERMANY</b>	<b>GREECE</b>	<b>IRELAND</b>
<b>ITALY</b>	<b>LUXEMBOURG</b>	<b>NETHERLANDS</b>	<b>PORTUGAL</b>
<b>SPAIN</b>	<b>SWEDEN</b>	<b>UK</b>	

**Note:** Member states in the EU with restrictive use for this device are grayed out in the table above.

This device is also authorized for use in all EFTA member states (Switzerland, Iceland, Liechtenstein, Norway).



### Important Notice:

This device is a 2.4GHz low-power RF device intended for office and home use in all EU and EFTA member states except in France where restrictive use applies.

In France, use is limited to the following frequency band: 2446.5 - 2483.5 MHz. This frequency band correlates to Channels 8 – 13.

