



OfficeConnect®

Wireless 54Mbps/108Mbps 11g Cable/DSL Router User Guide

3CRWER100-75(Model:WL-537)

3CRWER200-75(Model:WL-537S)

<http://www.3com.com/>



3Com Corporation
350 Campus Drive
Marlborough, MA
USA 01752-3064

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ABOUT THIS GUIDE

This guide describes how to install and configure the OfficeConnect Wireless 54Mbps/108Mbps 11g cable/DSL Router(3CRWER100-75 and 3CRWER200-75).

This guide is intended for use by those responsible for installing and setting up network equipment; consequently, it assumes a basic working knowledge of LANs (Local Area Networks) and Internet Router systems.



If a release note is shipped with the OfficeConnect Wireless 54Mbps/108Mbps 11g cable/DSL Router and contains information that differs from the information in this guide, follow the information in the release note.

Most user guides and release notes are available in Adobe Acrobat Reader Portable Document Format (PDF) on the 3Com World Wide Web site:

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Naming Convention

Throughout this guide, the OfficeConnect Wireless 54Mbps/108Mbps 11g Cable/DSL Router is referred to as the “Router”.

Category 3 and Category 5 Twisted Pair Cables are referred to as Twisted Pair Cables throughout this guide.

Conventions

Table 1 and Table 2 list conventions that are used throughout this guide.

Table 1 Notice Icons

Icon	Notice Type	Description
	Information note	Information that describes important features or instructions.
	Caution	Information that alerts you to potential loss of data or potential damage to an application, system, or device.
	Warning	Information that alerts you to potential personal injury.

Table 2 Text Conventions

Convention	Description
The words “enter” and “type”	When you see the word “enter” in this guide, you must type something, and then press Return or Enter. Do not press Return or Enter when an instruction simply says “type.”
Keyboard key names	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press Ctrl+Alt+Del
Words in <i>italics</i>	Italics are used to: ■ Emphasize a point. ■ Denote a new term at the place where it is defined in the text. ■ Identify menu names, menu commands, and software button names. Examples: From the <i>Help</i> menu, select <i>Contents</i>. Click <i>OK</i>.

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Your suggestions are very important to us. They will help make our documentation more useful to you. Please e-mail comments about this document to 3Com at:

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Example:

- OfficeConnect Wireless 54Mbps/108Mbps 11g cable/DSL Router User Guide
- Part Number DUA0554-TAAA02
- Page 24



Do not use this e-mail address for technical support questions. For information about contacting Technical Support, please refer to the Support and Safety Information sheet.

Related Documentation

In addition to this guide, each Router document set includes one Installation Guide. This guide contains the instructions you need to install and configure your Router.

1

INTRODUCING THE ROUTER

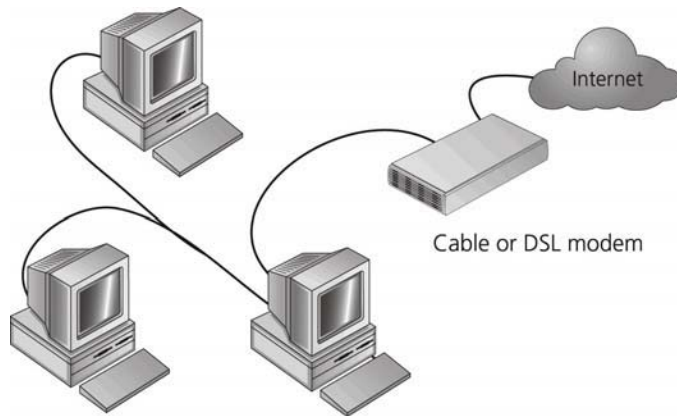
Welcome to the world of networking with 3Com®. In the modern business environment, communication and sharing information is crucial. Computer networks have proved to be one of the fastest modes of communication but, until recently, only large businesses could afford the networking advantage. The OfficeConnect® product range from 3Com has changed all this, bringing networks to the small office.

The products that compose the OfficeConnect range give you, the small office user, the same power, flexibility, and protection that has been available only to large corporations. Now, you can network the computers in your office, connect them all to a single Internet outlet, and harness the combined power of all of your computers.

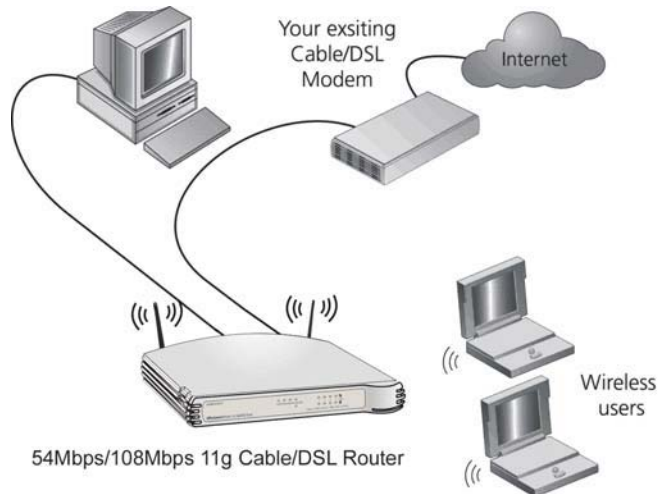
OfficeConnect Wireless 54Mbps/108Mbps 11g cable/DSL Router

The OfficeConnect Wireless 54Mbps/108Mbps 11g cable/DSL Router is designed to provide a cost-effective means of sharing a single broadband Internet connection amongst several wired and wireless computers. The Router also provides protection in the form of an electronic “firewall”, preventing anyone outside of your network from seeing your files or damaging your computers. The Router can also prevent your users from accessing Web sites which you find unsuitable.

[Figure 1](#) shows an example network without a Router. In this network, only one computer is connected to the Internet. This computer must always be powered on for the other computers on the network to access the Internet.

Figure 1 Example Network Without a Router

When you use the Router in your network ([Figure 2](#)), it becomes your connection to the Internet. Connections can be made directly to the Router, or to an OfficeConnect Switch or Hub, expanding the number of computers you can have in your network.

Figure 2 Example Network Using a Wireless 11g Cable/DSL Router

Router Advantages

The advantages of the Router include:

- Shared Internet connection for both wired and wireless computers
- High speed 802.11g wireless networking
- No need for a dedicated, “always on” computer serving as your Internet connection
- Cross-platform operation for compatibility with Windows, Unix and Macintosh computers
- Easy-to-use, Web-based setup and configuration
- Provides centralization of all network address settings (DHCP)
- Acts as a Virtual server to enable remote access to Web, FTP, and other services on your network
- Security — Firewall protection against Internet hacker attacks and encryption to protect wireless network traffic
- Filtered access of inappropriate Web sites using the built-in URL filter

Package Contents

The Router kit includes the following items:

- One OfficeConnect Wireless 54Mbps/108Mbps 11g cable/DSL Router
- One power adapter for use with the Router
- Four rubber feet
- One Ethernet cable
- One CD-ROM containing the Quick Installation Guide and this User Guide
- Installation Guide
- One Support and Safety Information Sheet
- One Warranty Flyer

If any of these items are missing or damaged, please contact your retailer.

Minimum System and Component Requirements

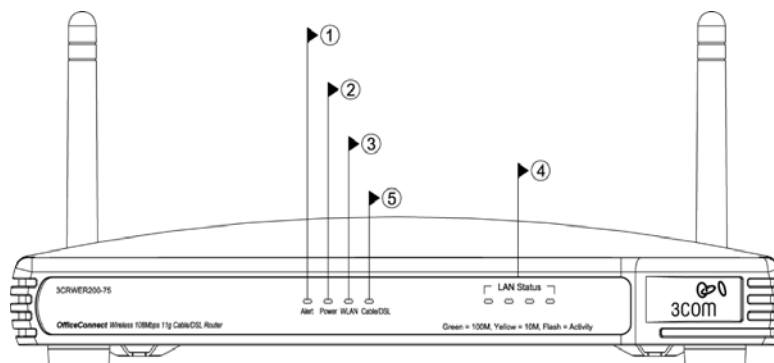
Your Router requires that the computer(s) and components in your network be configured with at least the following:

- A computer with an operating system that supports TCP/IP networking protocols (for example Windows 95/98/NT/Me/2000/XP, Unix, Mac OS 8.5 or higher).
- An Ethernet 10Mbps or 10/100 Mbps NIC for each computer to be connected to the four-port switch on your Router.
- An 802.11b or 802.11g wireless NIC.
- A cable modem or DSL modem with an Ethernet port (RJ-45 connector).
- An active Internet access account.
- A Web browser that supports JavaScript, such as Netscape 4.7 or higher, Internet Explorer 5.0 or higher, or Mozilla 1.2.1 or higher.

Front Panel

The front panel of the Router contains a series of indicator lights (LEDs) that help describe the status of various networking and connection operations.

Figure 3 Router - Front Panel



1 Alert LED

Orange

Indicates a number of different conditions, as described below.

Off - The Router is operating normally.

Flashing quickly - Indicates one of the following conditions:

- The Router has just been started up and is running a self-test routine, or
- The administrator has invoked the *Reset to Factory Defaults* command, or
- The system software is in the process of being upgraded

In each of these cases, wait until the Router has completed the current operation and the alert LED is Off.

Flashing slowly - The Router has completed the *Reset to Factory Defaults* process, and is waiting for you to reset the unit. To do this, remove power, wait 10 seconds and then re-apply power. The Router will then enter the start-up sequence and resume normal operation.

On for 2 seconds, and then off - The Router has detected and prevented a hacker from attacking your network from the Internet.

Continuously on - A fault has been detected with your Router during the start-up process. Refer to [Chapter 6 "Troubleshooting"](#).

2 Power LED

Green

Indicates that the Router is powered on.

3 Wireless LAN (WLAN) Status LED

Yellow

If the LED is on it indicates that wireless networking is enabled. If the LED is flashing, data is being transmitted or received. If the LED is off, the Wireless LAN has been disabled in the Router, or there is a problem. Refer to [Chapter 6 "Troubleshooting"](#).

4 Four LAN Status LEDs

Green (100 Mbps link) / yellow (10 Mbps link)

If the LED is on, the link between the port and the next piece of network equipment is OK. If the LED is flashing, the link is OK and data is being transmitted or received. If the LED is off, nothing is connected, the connected device is switched off, or there is a problem with the connection (refer to [Chapter 6 "Troubleshooting"](#)). The port will automatically adjust to the correct speed and duplex.

5 Cable/DSL Status LED

Green (100 Mbps link) / yellow (10 Mbps link)

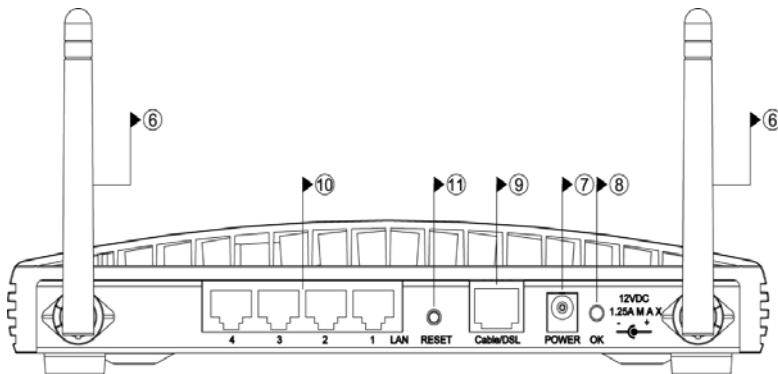
If the LED is on, the link between the Router and the cable or DSL modem is OK. If the LED is flashing, the link is OK and data is being transmitted or received. If the LED is off, nothing is connected, the modem is switched off or there is a problem (refer to [Chapter 6 "Troubleshooting"](#)).

Rear Panel

The rear panel ([Figure 4](#)) of the Router contains four LAN ports, one Ethernet Cable/DSL port, a power adapter OK LED, and a power adapter socket.

Figure 4 Router - Rear Panel

6 Wireless Antennae



The antennae on the product should be placed in a 'V' position when initially installed.



CAUTION: Do not force the antennae beyond their mechanical stops. Rotating the antennae further may cause damage.

7 Power Adapter Socket

Only use the power adapter supplied with this Router. Do not use any other adapter.

8 Power Adapter OK LED

Green

Indicates that the power adapter is supplying power to the Router. If the LED is off, there may be a problem with the power adapter or adapter cable.

9 Ethernet Cable/DSL port

Use the supplied patch cable to connect the Router to the Ethernet port on your cable or DSL modem. The port will automatically adjust to the correct speed and duplex, and will set itself to MDI or MDIX depending on the device to which they are connected and the type of cable used.

10 Four 10/100 LAN ports

Using suitable RJ-45 cable, you can connect your Router to a computer, or to any other piece of equipment that has an Ethernet connection (for example, a hub or a switch). The LAN ports will automatically set themselves to MDI or MDIX depending on the device to which they are connected and the type of cable used.

2

HARDWARE INSTALLATION

Introduction

This chapter will guide you through a basic installation of the Router, including:

- Connecting the Router to the Internet.
- Connecting the Router to your network.
- Setting up your computers for networking with the Router.

Safety Information



WARNING: Please read the [“Safety Information”](#) section in [Appendix D](#) before you start.



VORSICHT: Bitte lesen Sie den Abschnitt [“Wichtige Sicherheitshinweise”](#) sorgfältig durch, bevor Sie das Gerät einschalten.



AVERTISSEMENT: Veuillez lire attentivement la section [“Consignes importantes de sécurité”](#) avant de mettre en route.

Positioning the Router

You should place the Router in a location that:

- is conveniently located for connection to the cable or DSL modem that will be used to connect to the Internet.
- is centrally located to the wireless computers that will connect to the Router. A suitable location might be on top of a high shelf or similar furniture to optimize wireless connections to computers in both horizontal and vertical directions, allowing wider coverage.
- allows convenient connection to the computers that will be connected to the four LAN ports on the rear panel, if desired.
- allows easy viewing of the front panel LED indicator lights, and access to the rear panel connectors, if necessary.

When positioning your Router, ensure:

- It is out of direct sunlight and away from sources of heat.
- Cabling is away from power lines, fluorescent lighting fixtures, and sources of electrical noise such as radios, transmitters and broadband amplifiers.
- Water or moisture cannot enter the case of the unit.
- Air flow around the unit and through the vents in the side of the case is not restricted. 3Com recommends you provide a minimum of 25 mm (1 in.) clearance.

Using the Rubber Feet

Use the four self-adhesive rubber feet to prevent your Router from moving around on your desk or when stacking with other flat top OfficeConnect units. Only stick the feet to the marked areas at each corner of the underside of your Router.

Stacking the Router

If you are stacking your Router with other OfficeConnect units, install the Router at the top of the stack. Refer to the documentation supplied with your other OfficeConnect unit for details on using the stacking clip.



A stacking clip is not supplied with the Router. Use the stacking clip supplied with another stackable OfficeConnect unit.

Wall Mounting

There are two slots on the underside of the Router that can be used for wall mounting.



When wall mounting the unit, ensure that it is within reach of the power outlet.

You will need two suitable screws to wall mount the unit. To do this:

- 1 Ensure that the wall you use is smooth, flat, dry and sturdy and make two screw holes which are 150 mm (5.9 in.) apart.
- 2 Fix the screws into the wall, leaving their heads 3 mm (0.12 in.) clear of the wall surface.
- 3 Remove any connections to the unit and locate it over the screw heads. When in line, gently push the unit on to the wall and move it downwards to secure.



When making connections, be careful not to push the unit up and off the wall.



CAUTION: *Only wall mount single units, do not wall mount stacked units.*

Before you Install your Router

Before you install and configure your Router, you need the following additional information. If you do not have this information, contact your Internet Service Provider (ISP). Space is provided below for you to record this information.

If you have a DSL connection and your ISP allocates IP information dynamically over PPPoE, you need a User Name and Password:

PPPoE User Name : _____

PPPoE Password : _____

PPPoE Service Name : _____



You only need a PPPoE Service Name if your ISP requires one. Do not enter anything if your ISP does not require this information.

If you have a DSL connection and your ISP allocates IP information dynamically over PPTP, you need a User Name, Password and PPTP Server Address:

PPTP User Name : _____

PPTP Password : _____

PPTP Server Address : _____._____._____._____

If your ISP allocates fixed or static IP information, you need the following information:

IP Address	:	____.____.____.____
Subnet Mask	:	____.____.____.____
Default Router address	:	____.____.____.____
DNS address	:	____.____.____.____



If your ISP allocates IP information dynamically over a protocol other than PPPoE, you do not need any further information. This configuration is typical of cable connections.

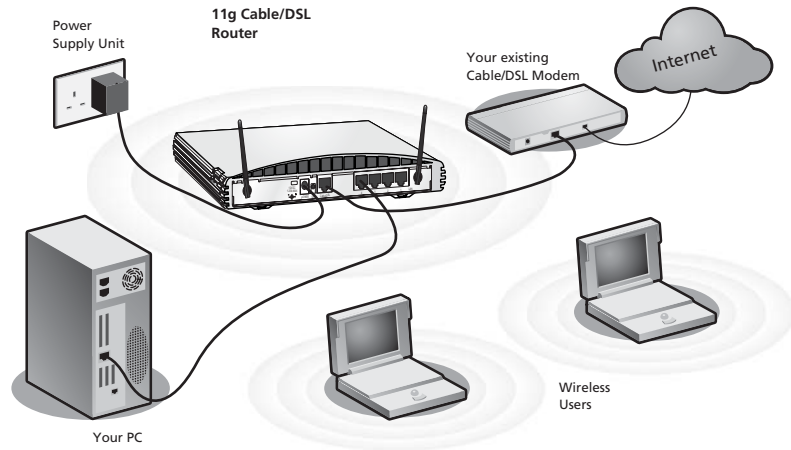
Powering Up the Router

To power up the Router:

- 1 Plug the power adapter into the power adapter socket located on the back panel of the Router.
- 2 Plug the power adapter into a standard electrical wall socket.

Connecting the Router

The first step for installing your Router is to physically connect it to a cable or DSL modem and then connect it to a computer in order to be able to access the Internet. See [Figure 5](#):

Figure 5 Connecting the Router

To use your Router to connect to the Internet through an external cable or DSL modem:

- 1** Insert one end of the supplied Ethernet (RJ-45 Category 5) cable into the Cable/DSL port on the rear panel of the Router.
- 2** Insert the other end of the cable into the RJ-45 port on your cable or DSL modem. Check that the Cable/DSL status LED lights on the Router.
- 3** Connect the cable or DSL modem to the Internet.
- 4** Connect your computer to one of the four LAN ports on the Router using a Category 5 twisted pair cable. Check that the corresponding LAN status LED on the Router lights.

You have now completed the hardware installation of your Router. Next you need to set up your computers so that they can make use of the Router to communicate with the Internet.

3Com recommends that you perform the initial Router configuration from a computer that is directly connected to one of the LAN ports.

If you configure the Router from a wireless computer, note that you may lose contact with the Router if you change the wireless configuration.

To communicate wirelessly with your Router, your wireless NIC should be set as follows:

- Encryption — none
- Service Area Name/SSID — 3Com
- Channel — 11

3

SETTING UP YOUR COMPUTERS

The Router has the ability to dynamically allocate network addresses to the computers on your network, using DHCP. However, your computers need to be configured correctly for this to take place. To change the configuration of your computers to allow this, follow the instructions in this chapter. If your computers are configured with fixed or static addresses and you do not wish to change this, then you should use the Discovery program on the Router CD-ROM to detect and configure your Router. Refer to [Appendix A](#) for information on using the Discovery program.

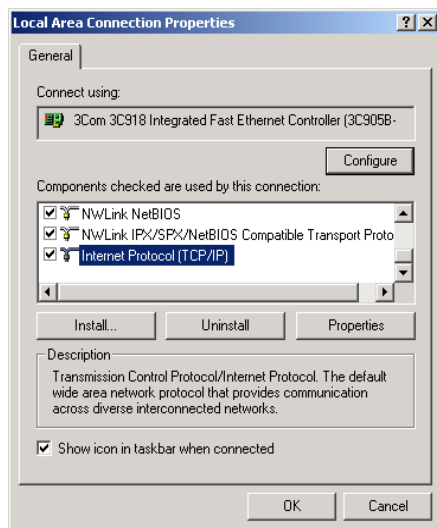
Obtaining an IP Address Automatically

Refer to the section below which relates to your operating system for details on how to obtain an IP address automatically.

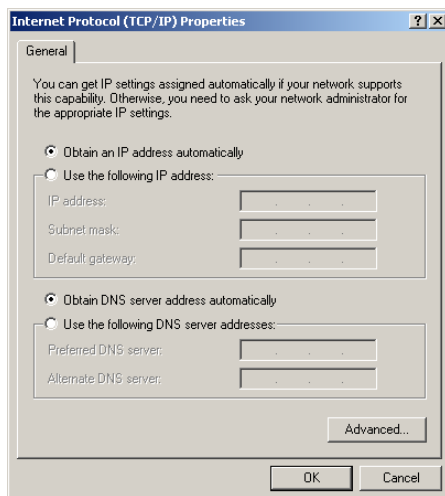
Windows 2000

If you are using a Windows 2000-based computer, use the following procedure to change your TCP/IP settings:

- 1 From the Windows *Start* Menu, select *Settings > Control Panel*.
- 2 Double click on *Network and Dial-Up Connections*.
- 3 Double click on *Local Area Connection*.
- 4 Click on *Properties*.
- 5 A screen similar to [Figure 6](#) should be displayed. Select *Internet Protocol TCP/IP* and click on *Properties*.

Figure 6 Local Area Properties Screen

- 6 Ensure that the options *Obtain an IP Address automatically*, and *Obtain DNS server address automatically* are both selected as shown in [Figure 7](#). Click OK.

Figure 7 Internet Protocol (TCP/IP) Properties Screen

- 7 Restart your computer.

Windows XP If you are using a Windows XP computer, use the following procedure to change your TCP/IP settings:

- 1 From the Windows *Start* menu, select *Control Panel*.
- 2 Click on *Network and Internet Connections*.
- 3 Click on the *Network Connections* icon.
- 4 Double click on *LAN or High Speed Connection* icon. A screen titled *Local Area Connection Status* will appear.
- 5 Select *Internet Protocol TCP/IP* and click on *Properties*.
- 6 Ensure that the options *Obtain an IP Address automatically*, and *Obtain DNS servers automatically* are both selected. Click *OK*.
- 7 Restart your computer.

Windows 95/98/ME If you are using a Windows 95/98/ME computer, use the following procedure to change your TCP/IP settings:

- 1 From the Windows *Start* Menu, select *Settings > Control Panel*.
- 2 Double click on *Network*. Select the *TCP/IP* item for your network card and click on *Properties*.
- 3 In the TCP/IP dialog, select the *IP Address* tab, and ensure that *Obtain IP address automatically* is selected. Click *OK*.

Macintosh If you are using a Macintosh computer, use the following procedure to change your TCP/IP settings:

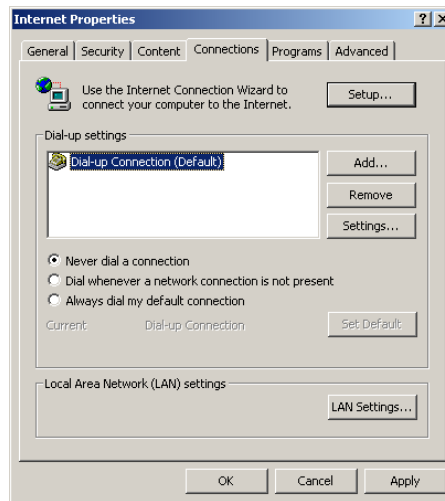
- 1 From the desktop, select *Apple Menu*, *Control Panels*, and *TCP/IP*.
- 2 In the *TCP/IP* control panel, set *Connect Via:* to "Ethernet".
- 3 In the TCP/IP control panel, set *Configure:* to "Using DHCP Server."
- 4 Close the *TCP/IP* dialog box, and save your changes.
- 5 Restart your computer.

Disabling PPPoE and PPTP Client Software

If you have PPPoE or PPTP client software installed on your computer, you will need to disable it. To do this:

- 1 From the Windows *Start* menu, select *Settings > Control Panel*.
- 2 Double click on *Internet Options*.
- 3 Select the *Connections* Tab. A screen similar to [Figure 8](#) should be displayed.
- 4 Select the *Never Dial a Connection* option.

Figure 8 Internet Properties Screen



You may wish to remove the PPPoE client software from your computer to free resources, as it is not required for use with the Router.

Disabling Web Proxy

Ensure that you do not have a web proxy enabled on your computer.

Go to the *Control Panel* and click on *Internet Options*. Select the *Connections* tab and click *LAN Settings* at the bottom. Make sure that the *Use Proxy Server* option is unchecked.

4

RUNNING THE SETUP WIZARD

Accessing the Wizard

The Router setup program is Web-based, which means that it is accessed through your Web browser (Netscape Navigator 4.7 or higher, Internet Explorer 5.0 or higher, or Mozilla 1.2.1 or higher).

To use the Setup Wizard:

- 1 Ensure that you have at least one computer connected to the Router. Refer to [Chapter 2](#) for details on how to do this.
- 2 Launch your Web browser on the computer.
- 3 Enter the following URL in the location or address field of your browser: <http://192.168.1.1> ([Figure 9](#)). The Login screen displays.

Figure 9 Web Browser Location Field (Factory Default)



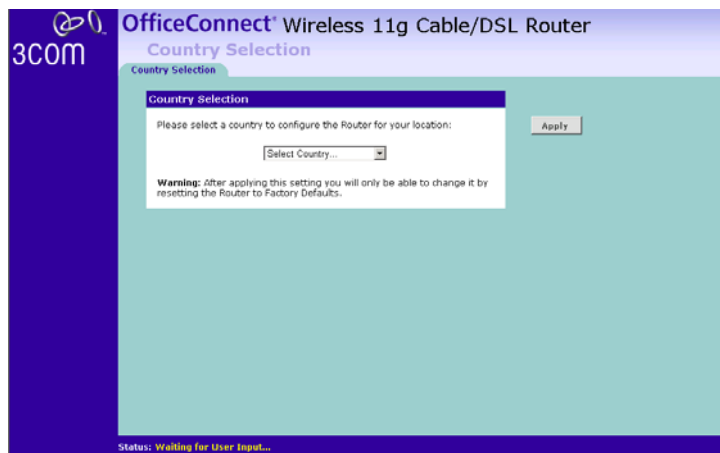
- 4 To log in as an administrator, enter the password (the default setting is admin) in the *System Password* field and click *Log in* ([Figure 10](#)).

Figure 10 Router Login Screen

- 5 If the password is correct, the *Country Selection* screen will appear. Select the country you wish to configure the Router for, then click *Apply*. (Figure 11)



If you purchased your Router in the United States, you do not see this screen, as it is automatically set.

Figure 11 Country Selection Screen

- 6 When you have selected a country either:
 - The *Welcome* screen will appear ([Figure 12](#)). Select the *Wizard* tab and click *Wizard*.
 - or
 - If your Router has not been configured before, the Wizard will launch automatically (refer to [Figure 13](#)).
- 7 Click *Next*.
- 8 You will be guided step by step through a basic setup procedure.

Figure 12 Welcome Screen



Figure 13 Wizard Screen

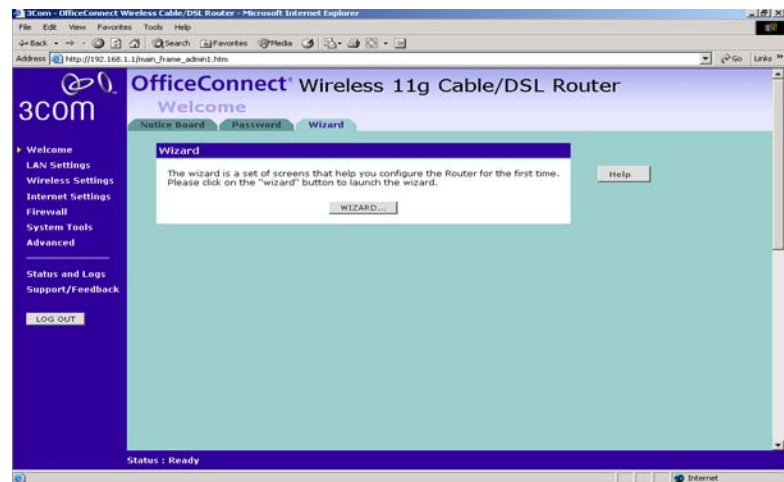


Figure 14 Change Administration Password Screen

Change Administration Password

To ensure the security of your Router, it is recommended that you choose a new password - this should be a mix of letters and numbers, and not easily guessed by others.
To leave the password unchanged, leave the fields blank and press 'Next'

Old Password

New Password

Confirm Password

Note: Password is case sensitive

<<Back Next>> Cancel

When the *Change Administration Password* screen (Figure 14) appears, type the *Old Password*, then a new password in both the *New Password* and *Confirm Password* boxes.



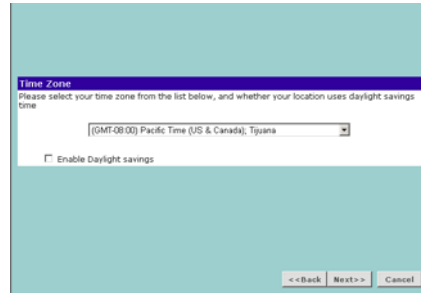
3Com recommends entering a new password when setting up the Router for the first time. The Router is shipped from the factory with a default password, **admin**.

1. Password is case sensitive.

2. Write the new password down and keep it in a safe place, so that you can change your settings in the future.

Click *Next* to display the *Time Zone* setup screen ([Figure 15](#)).

Time Zone **Figure 15** Time Zone Screen

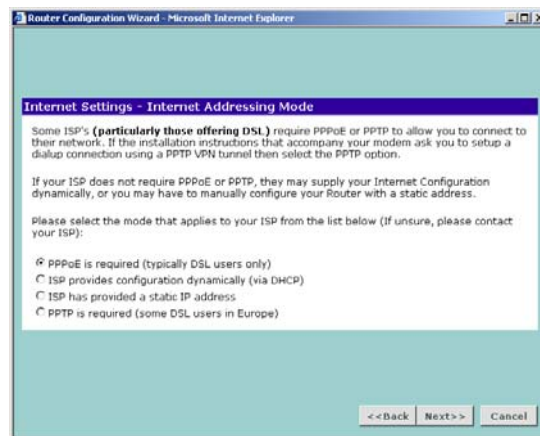


Select your time zone from the pull-down menu, check the daylight savings option if required, and then click *Next*.



The Daylight Savings option advances the system clock by one hour. It does not cause the system clock to be updated for daylight savings time automatically.

WAN Settings **Figure 16** Internet Settings Screen



This *Internet Addressing Mode* window allows you to set up the Router for the type of Internet connection you have. Before setting up your

Internet connection mode, have the modem setting information from your ISP ready.

Select an Internet Addressing mode from the following:

- PPPoE is required (typically DSL users only)
- ISP provides configuration dynamically (via DHCP)
- ISP has provided a static IP address
- PPTP is required (some DSL users in Europe)

and click *Next*.

PPPoE Mode

Figure 17 PPPoE Screen

Router Configuration Wizard - Microsoft Internet Explorer

Internet Settings - PPPoE

Please enter your PPPoE settings as provided by your ISP, below. If you have not been provided with a PPPoE Service Name, leave this field blank.

PPPoE User Name

PPPoE Password

PPPoE Service Name (optional)

MTU (576-1492)

Maximum Idle Time

<<Back Next>> Cancel

To setup the Router for use with a PPP over Ethernet (PPPoE) connection, use the following procedure:

- 1 Enter your PPP over Ethernet user name in the *PPPoE User Name* text box.
- 2 Enter your PPP over Ethernet password in the *PPPoE Password* text box.
- 3 Enter your PPP over Ethernet service name in the *PPPoE Service Name* text box.



Do not enter anything in this box if your ISP does not require a service name.

- 4 Enter the MTU value supplied by your ISP in the *MTU* text box. If your ISP has not supplied an MTU value, leave this at the default value. The default is 1454.
- 5 Select an idle time from the *Maximum Idle Time* drop down list. This is the amount of time without Internet activity that you want to allow before the Router ends the PPPoE session.
- 6 Check all of your settings, and then click *Next*.

Dynamic IP Address Mode

To setup the Router for use with a dynamic IP address connection:

- 1 Select the *ISP provides configuration dynamically (via DHCP)* and then click *Next*.

Figure 18 Hostname Screen

- 2 Some ISPs require a host name. If your ISP has this requirement, enter the host name in the *Host Name* text box ([Figure 18](#)) and click *Next*. The Clone MAC Address screen displays.

Figure 19 Clone MAC Address Screen

- 3 If your ISP requires an assigned MAC address, select *Yes, I would like to enter a MAC address manually* and enter the values for a MAC address if required ([Figure 19](#)). If the computer you are now using is the one that was previously connected directly to the cable modem, choose *Yes, please clone the MAC address from the PC I'm currently using*.

Static IP Mode

To setup the Router for use with a static IP address connection, use the following procedure:

- 1 Select *ISP has provided a static IP address*, (see [Figure 16](#)) and then click *Next*. [Figure 20](#) displays.

Figure 20 Static IP Mode Screen

- 2 Enter your IP Address in the *IP Address* text box.
- 3 Enter your subnet mask in the *Subnet Mask* text box.
- 4 Enter your ISP Router address in the *Internet (ISP) Gateway Address* text box.
- 5 Enter your primary DNS address in the *Primary DNS Address* text box.
- 6 Enter your secondary DNS address in the *Secondary DNS Address* text box.

This step is optional. Not all ISPs require a secondary DNS address.

- 7 Check all of your settings, and then click *Next*.

PPTP Mode

Figure 21 PPTP Mode Screen

To setup the Router for use with a PPTP connection, use the following procedure:

- 1 Enter your PPTP server address in the *PPTP Server Address* text box.
- 2 Enter your PPTP user name in the *PPTP User Name* text box.
- 3 Enter your PPTP password in the *PPTP Password* text box.
- 4 Enter your *Primary DNS Address* and *Secondary DNS address*.

Your ISP may provide you with primary and secondary DNS addresses. If they have been provided, enter the addresses in the appropriate text boxes. If not, leave *0.0.0.0* in the boxes.

- 5 Enter the value supplied by your ISP in the *MTU* text box. If your ISP has not supplied an MTU value, leave this at the default value. The default is 1460.
- 6 Select an idle time from the *Maximum Idle Time* drop-down list. This is the amount of time without Internet activity that you want to allow before the Router ends the PPTP session.
- 7 Check all of your settings, and then click *Next*. [Figure 22](#) displays.

Figure 22 PPTP IP Settings

Internet Settings - PPTP Mode

You must specify some IP settings to be used when establishing the PPTP connection. If your ISP has provided you with these settings, then you should use them. Otherwise, if the PPTP server is located in your DSL modem, you can use the Suggest button to generate suitable values for you.

Initial IP Address: 10.0.0.1

Initial Subnet Mask: 255.255.255.0

Suggest

<< Back Next >> Cancel

- 8 IP settings must be used when establishing a PPTP connection. Fill in the *Initial IP Address* and the *Initial Subnet Mask* fields if your ISP has provided you with these settings. Alternatively, if the PPTP server is located in your DSL modem, click *Suggest* to select an IP address on the same subnet as the PPTP server.

Heart Beat Signal Mode(For Australia only)

Figure 23 Heart Beat Signal Mode Screen

Internet Settings - Heart Beat Signal (Bigpond/Telstra) Mode

Please enter your Heart Beat account settings, as provided by your ISP, below.

The Heart Beat Server is typically located in your DSL modem.

Host Name: (optional)

Heart Beat Server:

Heart Beat User Name:

Heart Beat Password:

MTU (576-1492):

<<Back Next>> Cancel

To set up the Router for use with an L2TP connection, use the following procedure:

- 1** IT is a service used in Australia only. If you are using Heart Beat Signal connection, check with your ISP for the necessary setup information.
- 2** Enter the User Name and Password you use when logging onto your ISP through a Heart Beat connection.

LAN Settings **Figure 24** LAN IP Address Screen

LAN Settings - LAN IP Address

The fields below show a suggested LAN IP address and subnet mask for your Router. If these values are not suitable, please change them, and then press "Next" to continue.

IP Address:

Subnet Mask:

<<Back Next>> Cancel

This screen displays a suggested LAN IP address and subnet mask of the Router. It also allows you to change the IP address and subnet mask.

DHCP The Router contains a Dynamic Host Configuration (DHCP) server that can automatically configure the TCP/IP settings of every computer on your network.

Figure 25 DHCP Server Setup Screen

LAN Settings - DHCP Server Setup

The OfficeConnect Cable/DSL Router can act as a DHCP Server, to provide IP addresses to the PCs on your LAN. This option should only be enabled if there are no other DHCP servers on your LAN.

☐ Do not enable the DHCP server

☒ Enable the DHCP server with the following settings:

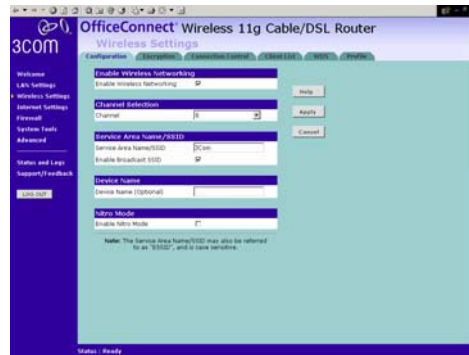
The fields below have been pre-filled with the optimal address range for your network.

IP Pool Start Address:

IP Pool End Address:

<<Back Next>> Cancel

To activate the DHCP Server option, select *Enable the DHCP server with the following settings:* and specify the IP pool range. The largest available continuous IP pool will be automatically entered; if this is not appropriate, make your required changes. To disable DHCP, select *Do not enable the DHCP server*. Click *Next* when you have finished.

Wireless Settings **Figure 26** Wireless Configuration Screen

This screen displays the Channel and Service Area Name. It also allows you to change these settings. There are a maximum of 14 channels, the number available to you is dependent on the country you reside in. Selecting *Clear Channel Select* from the *Channel* drop-down list allows the Router to automatically select an available channel when first powered on.

The Service Area Name default for 3Com products is "3Com". Up to 32 (case sensitive) characters can be entered for the Service Area Name.

3Com strongly recommends that you change the SSID to something other than the default.

Click *Next* when you have finished.



If you are configuring the Router from a wireless computer any changes you make to the wireless configuration will result in communication between the Router and your computer being lost. This is why 3Com strongly recommends that you configure the Router from a wired computer.



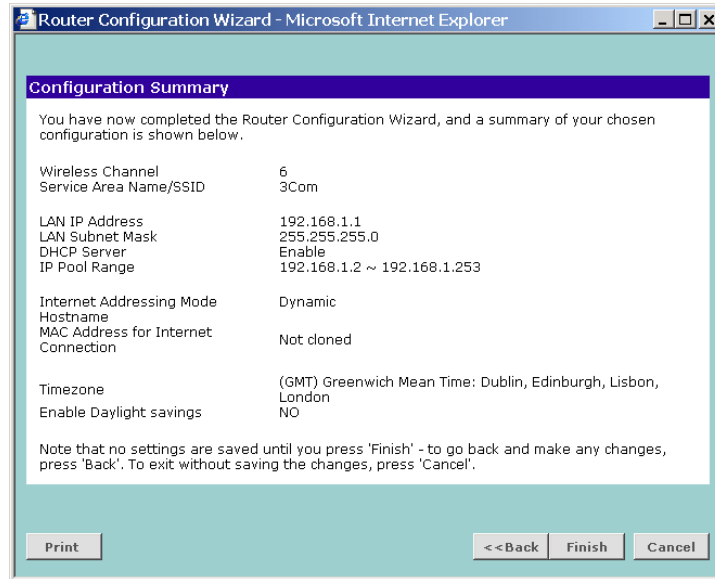
It is very important that you set up your wireless clients to use the same Service Area Name or SSID as the one you use on this screen. If your clients use a different Service Area Name then they will not be able to communicate with the Router.



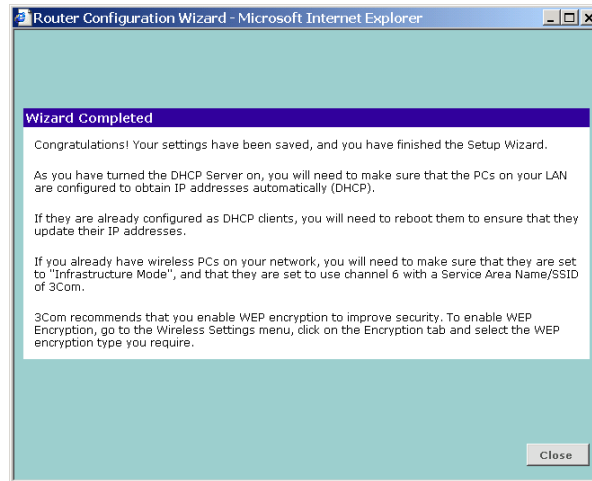
The choice of channel is less important as Clients will generally search all of the available channels. You should however make a note of the

channel you select as this may be useful if you experience problems with your clients.

Summary **Figure 27** Configuration Summary Screen



When you complete the Setup Wizard, a configuration summary will display. 3Com recommends that you verify the configuration information of the Router and then print this page for your records. Click *Finish* to display the Wizard completed screen, shown in [Figure 28](#)

Figure 28 Wizard Completed Screen

If you have made changes to the LAN Settings or wireless configuration options, you may need to reconfigure the computer you are using in order to make contact with the Router again.

Your Router is now configured and ready for use.

See [Chapter 5](#) for a detailed description of the Router configuration screens.

5

ROUTER CONFIGURATION

Navigating Through the Router Configuration Pages

This chapter describes all the screens available through the Router configuration pages, and is provided as a reference. To get to the configuration pages, browse to the Router by entering the URL in the location bar of your browser. The default URL is `http://192.168.1.1` but if you changed the Router LAN IP address during initial configuration, use the new IP address instead. When you have browsed to the Router, log in using your system password (default admin).

Main Menu

At the left side of all screens is a main menu, as shown in [Figure 29](#) on [page 46](#). When you click on a topic from the main menu, that page will appear in the main part of the screen.

- Welcome — displays the firmware version of the Router, allows you to change your password, and launch the Wizard
- LAN Settings — allows you to configure IP address and subnet mask information, set up DHCP server parameters, and display the DHCP client list.
- Wireless Settings — enables /disables access from wireless computers, configures WPA or WEP encryption, and provides facilities for improving the security of the wireless network.
- Internet Settings — sets up Internet addressing modes such as PPPoE and PPTP connections, allows you to clone the Router's MAC address, and set up dynamic IP address allocation and static IP address settings.
- Firewall — allows configuration of the Router's firewall features: Virtual Servers, Special Applications, PCs Privileges, URL Filtering, Content Filtering and SPI options
- System Tools — allows the administrator to perform maintenance activities on the Router.

- **Advanced** — allows you to monitor and configure the Router's advanced features, including RIP, DDNS and Security.
- **Status and Logs** — displays the current status and activity logs of the Router.
- **Support/Feedback** — contains a comprehensive online help system and allows you to provide 3Com with feedback on your Router.

Option Tabs

Each corresponding menu page may also provide sub-sections which are accessed through the use of tabs (see [Figure 29](#) for example). To access a sub-section, simply click on the required tab.

Getting Help

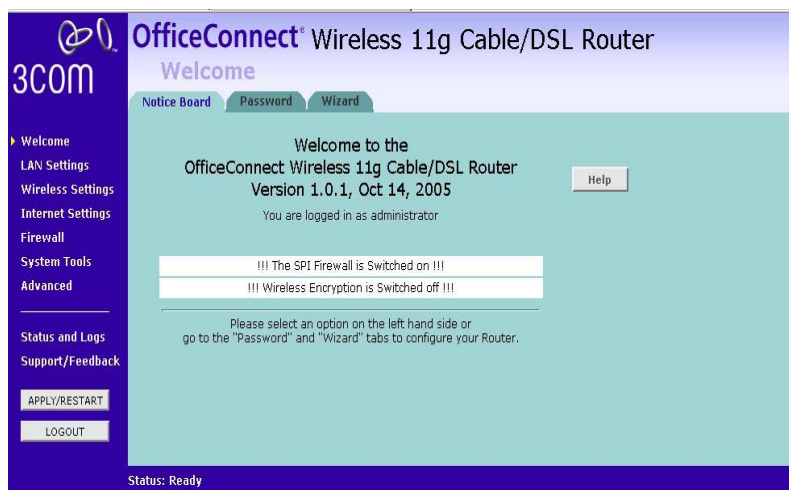
On every screen, a Help button is available which provides access to the context-sensitive online help system. Click *Help* for further assistance and guidance relating to the current screen.

Welcome Screen

The *Welcome* section allows you to view the Notice board and to change your Password. You can also gain access to the Configuration Wizard.

Notice Board

Figure 29 Notice Board Screen



The Notice Board is used to display configuration warning messages. For example, you would be warned if you had disabled wireless networking or wireless encryption.

Password **Figure 30** Password Screen

Changing the Administration Password

You can change the password to prevent unauthorized access to the Administration System. To do this:

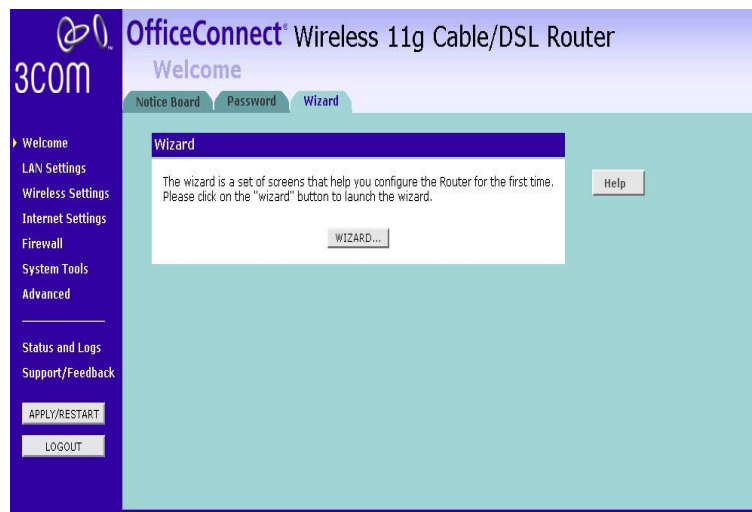
- 1 Enter the current password in the *Old Password* field
- 2 Enter the new password in the *New Password* field
- 3 Enter the new password again in the *Confirm Password* field
- 4 Click *Apply* to save the new password



The password is case sensitive.



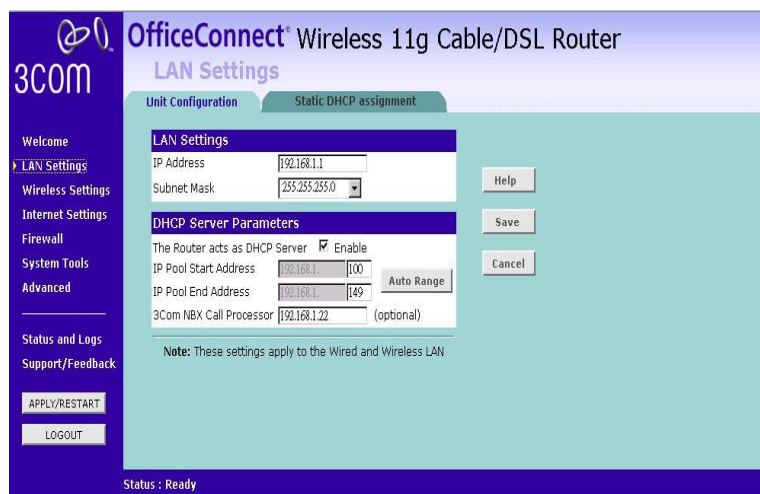
If you have forgotten your password you need to reset the Router.

Wizard **Figure 31** Wizard Screen

Click *WIZARD...* to launch the configuration wizard. Refer to [Chapter 4](#) for information on how to run the wizard.

LAN Settings

The LAN Settings menu provides the following options:

Unit Configuration **Figure 32** Unit Configuration Screen

The LAN Settings screen is used to specify the LAN IP address of your Router, and to configure the DHCP server.

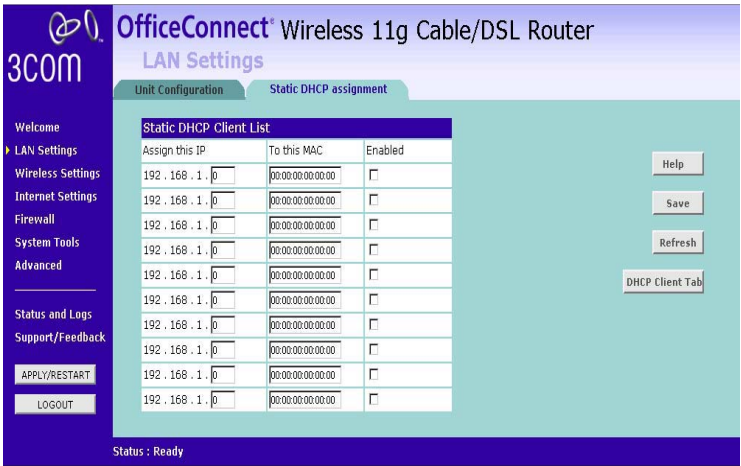
- 1 Select *Unit Configuration* and then specify the Router *IP Address* and *Subnet Mask* in the LAN Settings section. The default IP address of the Router is 192.168.1.1.
- 2 If you want to use the Router as a DHCP Server, check the *Enable* check box.
- 3 Clicking *Auto Range* will automatically choose the largest available range of addresses for your network. Alternatively, you can change the address range by changing the last digit(s) of the *IP Pool Start Address*, or the *IP Pool End Address*, or both.
- 4 If you use 3Com NBX telephones, enter the IP address of the NBX call processor at *3Com NBX Call Processor*.
- 5 Check all of your settings, and then click *Apply*.



The DHCP server will give out addresses to both wired and wireless clients.

Static DHCP Assignment

Figure 33 Static DHCP Assignment Screen



DHCP Clients List

Click on the **DHCP Client Tab** to display a list of all the DHCP clients in your network.

Wireless Settings

The Wireless Settings menu provides options described in the following sections.



To improve the security of your wireless network, 3 Com recommends that you:

- 1. Change the SSID from its default value*
- 2. Enable Encryption*
- 3. Enable Connection Control*

Configuration

Figure 34 Configuration Screen

OfficeConnect Wireless 11g Cable/DSL Router
Wireless Settings

Configuration | Encryption | Wmm | Connection Control | Client List | Advanced Wireless Settings

Enable Wireless Networking
 Enable Wireless Networking ☒ Help

Wireless Mode
 Mode Mixed Save

Channel Selection
 Channel 6-2.437GHz Cancel

Service Area Name/SSID
 Service Area Name/SSID Default
 Enable Broadcast SSID ☒

APPLY/RESTART LOGOUT

Status : Ready

Enable Wireless Networking

Use this check box to enable or disable the wireless section of your LAN. When disabled, no wireless PCs can gain access to either the internet or other PCs on your Wired or Wireless LAN through this Router.

Channel Selection

Select a number from the drip-down list to specify which Channel the Router will transmit and receive on. If another access point or Router nearby is using the same Channel as you, there will be a reduction in the performance of your network. If this seems to be the case, you should select a different channel number. Usually the Wireless computers will scan to find the correct channel, but if they don't you must configure them to use the same Channel number as the Router.

Choose the *Clear Channel Select* option to automatically choose the clearest channel. The Router will check for the clearest channel whenever it is rebooted, powered up, and when the *Clear Channel Select* option is first applied.



Valid channels are country dependent.

Service Area Name/SSID

This allows you to name your Wireless network. The *Service Area Name/SSID* field will accept any alphanumeric string and has a maximum length of 32 characters. Your Wireless computers must be configured with exactly the same name or you will not establish a connection. The Service Area Name may also be referred to as "ESSID" depending on your networking vendor. By default the Router uses the name "3Com". 3Com recommends that you change the default name.



In order that your wireless computers can connect to the Router, you must:

- *Use Infrastructure Mode not Ad hoc Mode*
- *Have the same Service Area Name as the Router.*
- *Have the same Channel number as the Router.*
- *Use the same encryption type and keys as the Router.*
- *Ensure that the PC is included in the aauthorized Wireless PCs list if Connection Control is enabled.*

Enable Broadcast SSID

Disable this feature after you have installed your wireless network to improve the security of your network. When the check box is checked, the Router will broadcast the Service Area Name/SSID of your wireless network, which reduces the security of your Router as it allows any wireless client to see your wireless LAN.

If you have a wireless client that can detect all the available SSIDs in your area, your client will not list the Router SSID unless this feature is enabled. The clients will still be able to connect, provided that they are supplied with the SSID.

3Com recommends that you install your wireless network with this feature enabled and than disable it once you have set up the Router and wireless clients.

SSID

If required, enter a name that you want to use to uniquely identify the device at the *SSID* prompt.

Encryption

When setting up wireless networks, it is important to remember that with encryption disabled, anyone with a Wireless PC can eavesdrop on your network. 3Com recommends that you get the network working with encryption disabled first and then enable it as the last step. This will simplify setting up your network.

You can configure wireless security such as WEP or WPA encryption on this screen. **Note:** it is recommended that you use WPA encryption over WEP if your wireless clients support WPA. All of the wireless clients must use the same security settings in order to connect to the router.

- WPA — Wi-Fi Protected Access (WPA) is a 256 bit encryption method with keys that change over time.
- WEP — Wireless Equivalent Privacy (WEP) is a 64 bit or 128 bit encryption method with user configurable fixed keys.



WPA provides a higher level of security, provided by its longer key and dynamic changes made to the key over time. 3Com recommends that you use WPA with any clients which support it.



If you enable encryption on the Router, you must reconfigure your wireless PCs to use exactly the same Encryption Type and Keys otherwise the devices will not understand each other.



The encryption methods used by the Router secure data transmitted through wireless communications between the Router and its wireless clients. Enabling encryption has no security effect on data transmitted through wired (Ethernet) connections or through your connections to the Internet.

WEP

To enable WEP, select **WEP** from the **Security Mode**.

The screenshot shows the configuration interface for a 3COM OfficeConnect Wireless 11g Cable/DSL Router. The page is titled "Wireless Settings" and has tabs for Configuration, Encryption, WMM, Connection Control, Client List, and Advanced. The "Encryption" tab is selected. On the left is a navigation menu with links: Welcome, LAN Settings, Wireless Settings (highlighted), Internet Settings, Firewall, System Tools, Advanced, Status and Logs, and Support/Feedback. At the bottom of the menu are buttons for "APPLY/RESTART" and "LOG OUT".

The main content area is titled "Encryption" and contains the following fields and controls:

- Security mode:** A dropdown menu set to "WEP".
- Encryption:** A dropdown menu set to "64 bits".
- Passphrase:** A text input field with a "Generate" button next to it.
- Show generated key :** An unchecked checkbox.
- WEP Key 1:** A text input field.
- WEP Key 2:** A text input field.
- WEP Key 3:** A text input field.
- WEP Key 4:** A text input field.
- TX Key:** A dropdown menu set to "1".

On the right side of the form are three buttons: "Help", "Save", and "Cancel".

Below the form, a **Note** states: "Wireless PCs may only use one form of encryption, either WPA or WEP."

Encryption: Choose from **64 bits** or **128 bits**

Passphrase: You can enter a passphrase and click on the **Generate** button and the router will automatically generate four WEP keys for you.

WEP Key1-4: Manually assign a passphrase for each key. If you selected **64 bits** encryption, enter **10** HEX characters (0-F) for each key. If you selected **128 bits** encryption, enter **26** HEX characters (0-F) for each key.

TX Key: Select a key to be the active key.

Click **Save** to save the setting

WPA

To enable WPA, select **WPA-PSK** or **WPA2-PSK** from the **Security Mode**.

The screenshot shows the configuration interface for a 3COM OfficeConnect Wireless 11g Cable/DSL Router. The left sidebar contains navigation links: Welcome, LAN Settings, Wireless Settings (selected), Internet Settings, Firewall, System Tools, Advanced, Status and Logs, and Support/Feedback. At the bottom of the sidebar are buttons for 'APPLY/RESTART' and 'LOG OUT'. The main content area is titled 'OfficeConnect® Wireless 11g Cable/DSL Router' and 'Wireless Settings'. It features several tabs: Configuration, Encryption (selected), WMM, Connection Control, Client List, and Advanced. The 'Encryption' tab is active, showing a form with the following fields: 'Security mode' (set to 'WPA.Pre-Shared Key'), 'Encryption Methods' (set to 'TKIP'), 'Passphrase' (an empty text box), and 'Key Renewal' (set to '1500' seconds). To the right of the form are buttons for 'Help', 'Save', and 'Cancel'. A note at the bottom of the form states: 'Note: Wireless PCs may only use one form of encryption, either WPA or WEP.'

Encryption Methods: Select either **TKIP** or **AES** as the encryption method.

Passphrase: Enter a passphrase between 8 to 63 characters long.

Key Renewal: Enter the desired key renewal time in seconds.

Click **Save** to save the setting.

WPA with RADIUS

If you are using a RADIUS server in your network for authentication, you may choose **WPA** or **WPA2** from the **Security Mode**.

The screenshot shows the configuration interface for an OfficeConnect Wireless 11g Cable/DSL Router. The left sidebar contains navigation links: Welcome, LAN Settings, Wireless Settings (selected), Internet Settings, Firewall, System Tools, Advanced, Status and Logs, and Support/Feedback. The main content area is titled 'Wireless Settings' and has tabs for Configuration, Encryption (selected), WMM, Connection Control, Client List, and Advanced. The 'Encryption' tab is active, showing the following settings:

- Security mode: WPA.RADIUS (dropdown menu)
- Encryption: TKIP (dropdown menu)
- RADIUS Server: 0 . 0 . 0 . 0 (IP address fields)
- RADIUS Port: 1812 (text field)
- Shared Key: (empty text field)
- Key Renewal: 3600 seconds (text field)

Buttons for Help, Save, and Cancel are located on the right side of the form. A note at the bottom states: 'Note: Wireless PCs may only use one form of encryption, either WPA or WEP.'

Encryption Methods: Select either **TKIP** or **AES** as the encryption method.

RADIUS Server: Enter the IP Address of your RADIUS server.

RADIUS Port: Enter the port number of your RADIUS server.

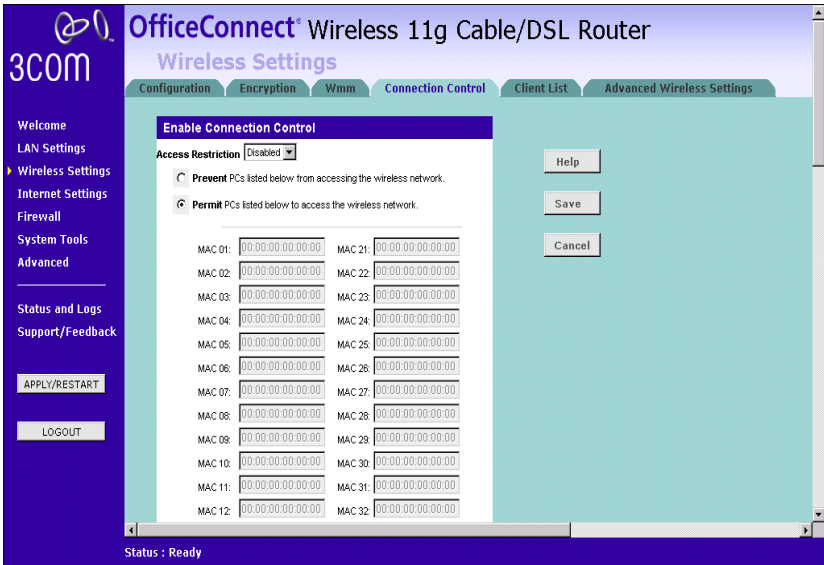
Shared Key: Enter the shared key.

Key Renewal: Enter the desired key renewal time in seconds.

Click Save to save the setting.

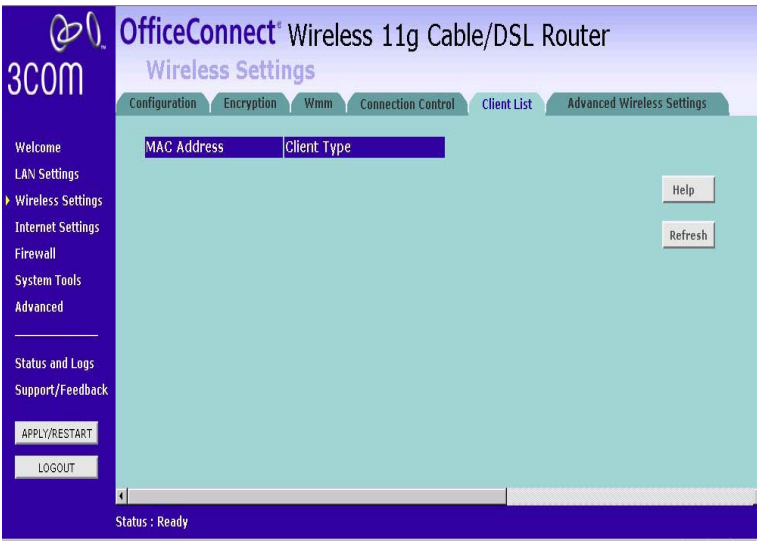
Connection Control

You can restrict certain wireless clients from accessing the router by specifying their MAC address and enabling access restrictn.



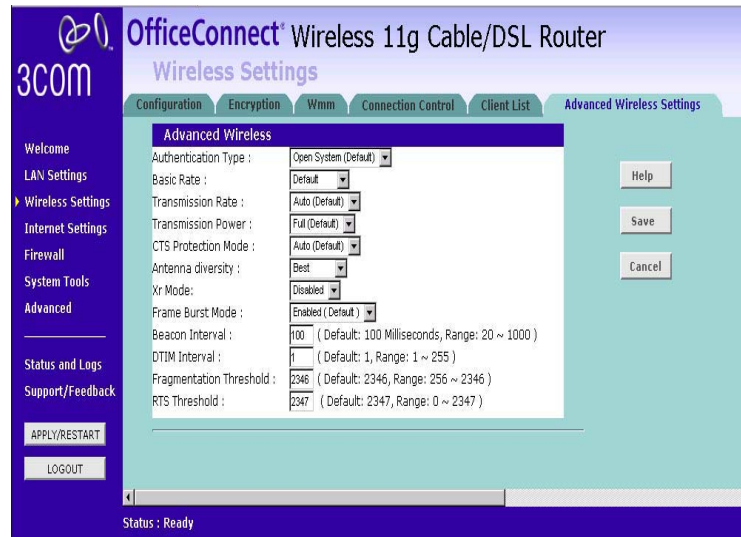
Select **Enabled** from the drop-down menu and choose whether the specified wireless clients will be prevented or permitted to access the wireless network. Enter their MAC address in the fields below and click **Save** to save the setting.

Client List Client List Screen



The Wireless Client List provides details on the devices that are connected to the Wireless LAN. The list is only created when Wireless Networking is enabled. For each device that is connected to the Wireless Lan, the MAC address and Connection Speed of that device is displayed. As you connect more devices to the Wireless LAN, the client list will grow to a maximum of 32 (the maximum number of wireless devices that the Router can support).

Advanced Wireless Settings Advanced Wireless Settings Screen



You can configure various advanced wireless settings on this screen. Click **Save** to save the setting.

Internet Settings

Before you can configure the Router, you need to know the IP information allocation method used by your ISP. There are four different ways that ISP can allocate IP information, as described below:

1 Static IP Address (DSL or Cable)

The ISP provides the IP addressing information for you to enter manually. To configure the Router you will need to know the following:

- IP Address
- Subnet Mask
- ISP Router
- DNS address(es)

2 Dynamic IP Address (DSL or Cable)

Dynamic IP addressing (or DHCP) automatically assigns the Router IP information. This method is popular with Cable providers. This method is also used if your modem has a built in DHCP server.

3 PPPoE (DSL only)

If the installation instructions that accompany your modem ask you to install a PPPoE client on your PC, then select this option. To configure the

Router you will need to know the following:

- User name
- Password
- Service Name(ifrequired by your ISP)

When you install the Router, you will not need to use the PPPoE software on your PC.



4 PPTP (DSL or Cable)

PPTP is only used by some European providers. If the installation instructions that accompany your modem ask you to setup a dialup connection using a PPTP VPN tunnel then select this option. To configure the Router you will need to know the following:

- User name
- Password
- VPN Server address(usually your modem)



When you install the Router, you will not need to use the dialup VPN on your PC anymore.

5 Heart Beat Signal(For Australia only)

It is a service used in Australia only. If you are using Heart Beat Signal connection, check with your ISP for the necessary setup information.

User Name and Password

Enter the User Name and Password you use when logging onto your ISP through a Heart Beat Signal connection.

Connection to ISP

Before beginning this section, ensure you have the required information from your ISP.

Select *Internet Settings* from the main menu to display *Connection to ISP*. Choose an *IP Allocation Mode* from the drop down box.

Select an IP Allocation Mode from the following:

- Static IP address (to be specified manually)
- Dynamic IP address (automatically allocated)
- PPPoE (used by DSL providers only)
- PPTP (used by some European providers)
- Heart Beat Signal(supported by some ISPs)

Static IP Address

Connection Parameters Screen - Static IP

The screenshot shows the 'OfficeConnect Wireless 11g Cable/DSL Router' web interface. The left sidebar contains a navigation menu with options: Welcome, LAN Settings, Wireless Settings, Internet Settings (highlighted), Firewall, System Tools, Advanced, Status and Logs, and Support/Feedback. Below the menu are 'APPLY/RESTART' and 'LOG OUT' buttons. The main content area is titled 'Internet Settings' and 'Connection to ISP'. It features a 'Connection Parameters' section with a dropdown menu set to 'Static IP address (to be specified manually)'. Below this are five text input fields: 'IP Address', 'Subnet Mask', 'ISP Gateway Address', 'Primary DNS Address', and 'Secondary DNS Address' (with '(optional)' text next to it). All fields contain '0.0.0.0'. To the right of the form are three buttons: 'Help', 'Save', and 'Cancel'.

To setup the Router for use with a Static IP address connection:

- 1 Select *Static IP Address (to be specified manually)* in the *IP Allocation Mode* field.
- 2 Enter your IP Address in the *IP Address* text box.
This information, along with the rest of the information in this screen, should be provided to you by your ISP. If the information is already entered, your ISP has pre-configured your Router, and you should go to [step 7](#).
- 3 Enter your subnet mask in the *Subnet Mask* text box.
- 4 Enter your ISP Router address in the *ISP Gateway Address* text box.
- 5 Enter your primary DNS address in the *Primary DNS Address* text box.
- 6 Enter your secondary DNS address in the *Secondary DNS Address* text box.
This step is optional. Not all ISPs require a secondary DNS address.
- 7 Check all of your settings, and then click *Save*.

Dynamic IP Address

Figure 35 Connection Parameters Screen - Dynamic IP

OfficeConnect[®] Wireless 11g Cable/DSL Router
Internet Settings

Connection to ISP

Connection Parameters

IP Allocation Mode:

Host Name: (optional)

Clone MAC Address

Some ISPs require you to register your MAC address with them. If you have done this, the MAC address of the Router must be changed to the MAC address that you supplied to your ISP.

☒ Use the Router's original MAC address (00:03:7f:fe:00:03)

☐ Use this PC's MAC address (00:06:1B:CE:8C:13)

☐ Enter a new MAC address manually:

- - - - -

Status: Ready

If this mode is selected, your IP Address, Subnet Mask, and DNS Address will be obtained automatically from your ISP. They are not displayed on this screen, but may be viewed on the Status screen (click on *Status and Logs* on the left hand menu bar).

To setup the Router for use with a dynamic IP address connection:

- 1 Select *Dynamic IP Address (automatically allocated)* in the *IP Allocation Mode* field.
- 2 Enter the *Host Name*(optional).

Some ISP srequire a host name. If your ISP has this requirement, enter the host name in the Host Name text box.

- 3 If you use 'Cable', your ISP may use your MAC address to authenticate you. If this is the case, you will need to 'Clone' your MAC address. There are three options:
 - *Use the Router's original Internet MAC address* - This field is selected by default and is automatically filled in with the MAC address of the Router.

- *Use this PC's MAC address* - This field is automatically filled in with the MAC address of the PC you are using to configure the Router. You should use this address only if you were previously using this computer to connect directly to your modem.
 - *Enter a new MAC address manually* - Use this option if you want to specify a new MAC address. Enter the new MAC address.
- 4 Check all settings and click **Save**.

PPP over Ethernet

PPPoE Setup Screen

The screenshot shows the 'Internet Settings' page for an OfficeConnect Wireless 11g Cable/DSL Router. The left sidebar contains navigation links: Welcome, LAN Settings, Wireless Settings, Internet Settings (highlighted), Firewall, System Tools, and Advanced. Below these are links for Status and Logs, Support/Feedback, APPLY/RESTART, and LOGOUT. The main content area is titled 'Connection to ISP' and contains a 'Connection Parameters' box with the following fields: IP Allocation Mode (set to 'PPPoE (used by DSL providers only)'), Host Name (optional), PPPoE User Name, PPPoE Password, MTU (576-1492) set to 1500, and Maximum Idle Time set to 1 minute. To the right of the form are buttons for Help, Save, and Cancel. At the bottom left of the main area is a button for APPLY/RESTART, and at the bottom right is a button for LOGOUT. The status bar at the very bottom indicates 'Status : Ready'.

To setup the Router for use with a PPP over Ethernet connection, use the following procedure:

- 1 Select *PPP over Ethernet* in the *IP Allocation Mode* field.
- 2 Enter the *Host Name* (optional).

Some ISPs require a host name. If your ISP has this requirement, enter the host name in the *Host Name* text box.

- 3 Enter your PPP over Ethernet user name in the *PPPoE User Name* text box.
- 4 Enter a password in the *PPPoE Password* text box.
- 5 Enter your PPP over Ethernet service name in the *PPPoE Service Name* text box. Not all ISPs require a PPPoE service name. Only enter a service name if your ISP requires this.
- 6 Enter the *MTU* value supplied by your ISP. If you do not know this, leave it at the default value. The default is 1454.
- 7 Select an idle time from the *Maximum Idle Time* drop-down list.

This value will correspond to the amount of idle time (no Internet activity) that will pass before the Router automatically ends your PPP over Ethernet session.



Since the Router contains its own PPPoE client, you no longer need to run PPPoE client software on your computer to access the Internet.

PPTP

PPTP Setup Screen

The screenshot shows the 'Internet Settings' page for a 3COM OfficeConnect Wireless 11g Cable/DSL Router. The left sidebar contains navigation links: Welcome, LAN Settings, Wireless Settings, Internet Settings (selected), Firewall, System Tools, Advanced, Status and Logs, and Support/Feedback. Below these are buttons for 'APPLY/RESTART' and 'LOGOUT'. The main content area is titled 'Connection to ISP' and contains two sections: 'Connection Parameters' and 'Initial IP Parameters'. The 'Connection Parameters' section includes fields for 'IP Allocation Mode' (set to 'PPTP (used by some European providers)'), 'PPTP Server Address' (0.0.0.0), 'PPTP User Name', 'PPTP Password', 'MTU (576-1492)' (1500), and 'Maximum Idle Time' (1 minute). The 'Initial IP Parameters' section includes fields for 'Initial IP Address' (0.0.0.0) and 'Initial Subnet Mask' (0.0.0.0). On the right side of the form are buttons for 'Help', 'Save', and 'Cancel'. At the bottom left, the status is 'Status: Ready'.

To setup the Router for use with a PPTP connection, use the following procedure:

- 1 Select *PPTP (used by some European providers)* in the *IP Allocation Mode* field.
- 2 Enter your PPTP server address in the *PPTP Server Address* text box (this is typically the address of your modem).
- 3 Enter your PPTP user name in the *PPTP User Name* text box.
- 4 Enter your password in the *PPTP Password* text box.
- 5 Enter the *MTU* value supplied by your ISP. If you do not know this, leave it at the default value. The default is 1460.
- 6 Select an idle time from the *Maximum Idle Time* drop-down list.
This value will correspond to the amount of idle time (no Internet activity) that will pass before the Router automatically ends your PPTP session.
- 7 IP settings must be used when establishing a PPTP connection. To obtain an IP address
 - Fill in the *Initial IP Address*, *Initial Subnet Mask* fields if your ISP has provided you with these settings.

Check all of your settings, and then click Save.

Heart Beat Signal

The screenshot shows the 'OfficeConnect Wireless 11g Cable/DSL Router' web interface. The 'Internet Settings' tab is selected, and the 'Connection to ISP' sub-tab is active. The 'Connection Parameters' section contains the following fields:

- IP Allocation Mode:** A dropdown menu with 'Heart Beat Signal' selected.
- Host Name:** A text box with '(optional)' as a placeholder.
- Heart Beat Server:** A text box.
- Heart Beat User Name:** A text box.
- Heart Beat Password:** A text box.
- MTU (576-1492):** A text box.
- Maximum Idle Time:** A dropdown menu with '1 minute' selected.

On the right side of the form are three buttons: 'Help', 'Save', and 'Cancel'. On the left side of the interface is a navigation menu with links: Welcome, LAN Settings, Wireless Settings, Internet Settings (highlighted), Firewall, System Tools, Advanced, Status and Logs, and Support/Feedback. At the bottom of the menu are 'APPLY/RESTART' and 'LOGOUT' buttons. A status bar at the bottom of the page reads 'Status : Requesting information from the Router'.



Check with your ISP to make sure they support Heart Beat Signal.

To set up the Router for use with a *Heart Beat Signal* connection, use the following procedure:

- 1** Select *Heart Beat Signal* (For Australia only) in the *IP Allocation Mode* field.
- 2** Enter the *Host Name*(optional).
Some ISPs require a host name. If your ISP has this requirement, enter the host name in the *Host Name* text box.
- 3** Enter your Heart Beat Signal user name in the *Heart Beat Signal User Name* text box.
- 4** Enter your *Heart Beat Signal* password in the *Heart Beat Signal Password* text box.
- 5** Enter the *MTU* value supplied by your ISP. If you do not know this, leave it at the default value. The default is 1440.
- 6** Select an idle time from the *Maximum Idle Time* drop-down list.

This value will correspond to the amount of idle time(no Internet activity) that will pass before the Router automatically ends your PPTP session.

Check all of your settings, and then click *Save*.

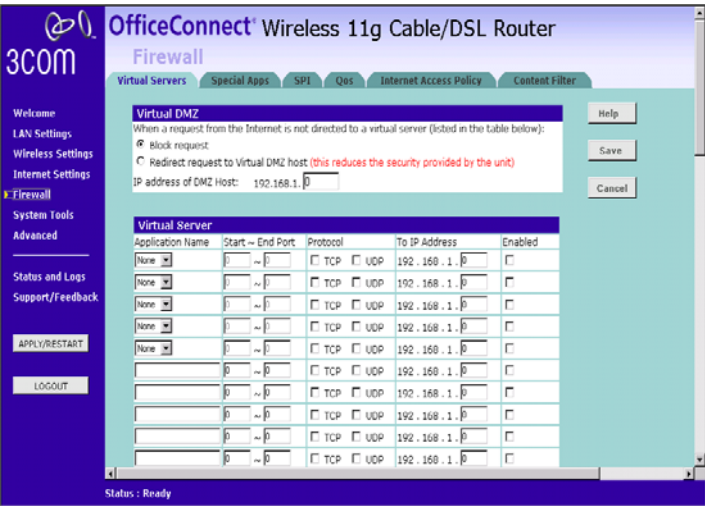
Firewall

On the main frame of the *Firewall* setup screen is a menu with six tabs: *Virtual Servers*, *Special Applications*, *PCs Privileges*, *URL Filter*, *Content Filter* and *SPI*.

Virtual Servers

Selecting the *Firewall* option on the main menu displays the Virtual Servers setup screen.

Virtual Servers Screen



Virtual DMZ

DMZ (De-Militarized Zone) Host is a computer without the protection of the firewall. This feature allows a single computer to be exposed to unrestricted 2-way communication from outside of your network. This feature should be used only if the Virtual Server or Special Applications options do not provide the level of access needed for certain applications.

To configure one of your computers as a DMZ host, enter the last digit(s) of the IP address of the computer in the *IP Address of DMZ Host* text box, and then click *Save*.

Virtual Server

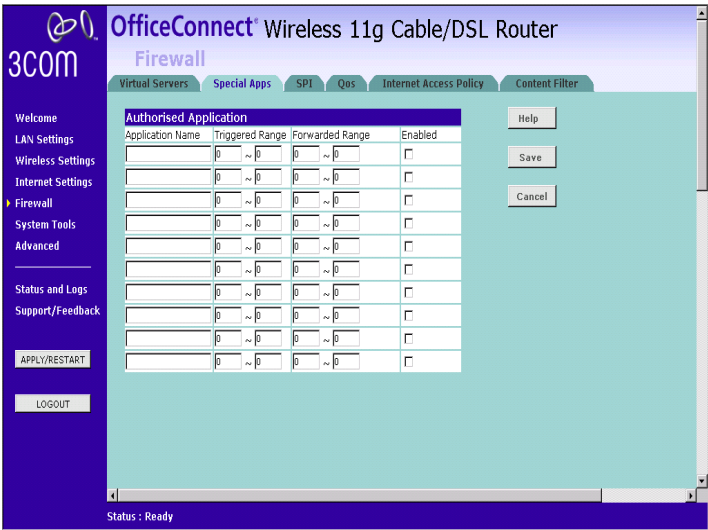
Activating and configuring a virtual server allows one or more of the computers on your network to function as a public server. For example, one of your computers could be configured as an FTP server, allowing others outside of your office network to download files of your choosing. Or, if you have created a Web site, you can configure one of your computers as a Web server, so that others can view your Web site.

If you want to host ftp server or online gaming, you must open up ports on the router. This page allows you to setup port forwarding for the specified applications.

Before using forwarding, you should assign static IP addresses to the designated PCs.

Click Save to save the settings.

Special Applications Special Applications Screen



Select *Special Apps* tab to display *Authorized Application* setup screen.

Some software applications require special or multiple connections to the Internet and these would normally be blocked by the firewall. For example Internet Telephony or Video conferences require multiple connections.

So that these special applications can work properly and are not blocked, the firewall needs to be told about them. In each instance there will be a trigger port and incoming port(s), where traffic on the trigger port tells the firewall to open the incoming ports.



Each defined Special Application only supports a single computer user, and up to 10 Special Applications can be defined. Any incoming ports opened by a Special Application trigger will be closed after five minutes of inactivity.

Special Application allows the router to keep track of outgoing data for specific port numbers. The router remembers which computer sends out what data, so when the requested data returns through the router, the data is sent back to the proper computer by way of IP address and port mapping rules.

Click **Save** to save the setting.



Only one computer on your network can use the special application at any one time.

SPI Select Firewall from the main menu, then select the SPI to display the SPI screen. SPI Screen



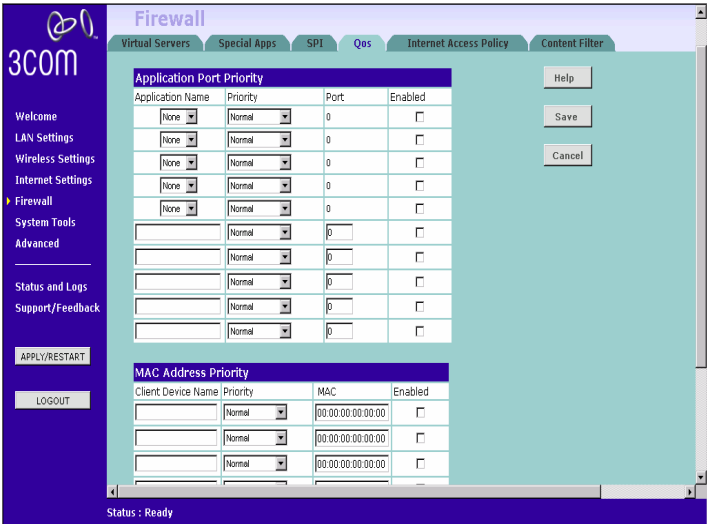
Check the *Enable SPI and Anti-Dos* Firewall protection check box to enable SPI. When this feature is enabled, all incoming packets will be blocked except for those types that you allow in the Stateful Packet Inspection section.

Web Filters: You can select to filter Proxy, Java, ActiveX, and/or Cookies.

Click **Save** to save the setting.

QOS

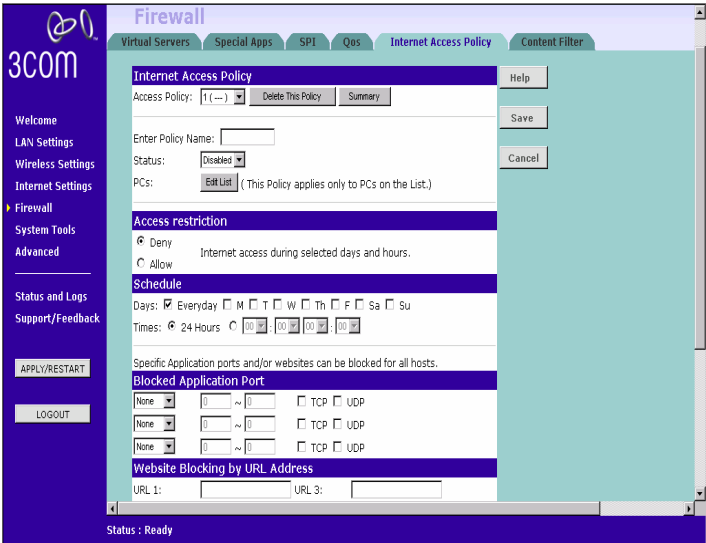
QoS(Quality of Service) manages information as it is transmitted and received. It ensures better service to those application with a higher priority.



Click **Save** to save the setting.

Internet Access Policy

You can setup policies that deny or allow specific clients to access the Internet.



Enter Policy Name: Enter a name for the policy.

Status: Choose to enable or disable the selected policy.

PCs: Click on the **Edit List** button to specify the network clients. Policy only applies to the PCs that are in the list.

Internet Access PCs List - Microsoft Internet Explorer

MAC Address

01	00:00:00:00:00:00
02	00:00:00:00:00:00
03	00:00:00:00:00:00
04	00:00:00:00:00:00
05	00:00:00:00:00:00
06	00:00:00:00:00:00
07	00:00:00:00:00:00
08	00:00:00:00:00:00
09	00:00:00:00:00:00
10	00:00:00:00:00:00

IP Address

01	192.168.1.0
02	192.168.1.0
03	192.168.1.0
04	192.168.1.0
05	192.168.1.0
06	192.168.1.0

IP Address Range

01	192.168.1.0 ~ 0
03	192.168.1.0 ~ 0
03	192.168.1.0 ~ 0
04	192.168.1.0 ~ 0

Close

Save

You can specify each client by its MAC Address or IP Address. You can also specify a group of clients by entering their IP Address Range. Once you have specified all the clients, click **Save**.

Access Restrictions: Select to **Deny** or **Allow** the specified clients to access the Internet by **Day** and **Time**.

Access restriction

☒ Deny
☐ Allow

Internet access during selected days and hours.

Schedule

Days: ☒ Everyday ☐ M ☐ T ☐ W ☐ Th ☐ F ☐ Sa ☐ Su

Times: ☒ 24 Hours ☐ : :

Blocked Application Port

Select which application port to block, if any, when the specified PCs have Internet access.

For your convenience, 11 preset applications and their ports are listed. If you have a Custom application, select **Custom** and manually enter its port number.

Specific Application ports and/or websites can be blocked for all hosts.

Blocked Application Port					
None		~		☐ TCP	☐ UDP
None		~		☐ TCP	☐ UDP
None		~		☐ TCP	☐ UDP

Website Blocking

You can block the specified clients from accessing certain websites by URL or Keyword.

Website Blocking by URL Address			
URL 1:		URL 3:	
URL 2:		URL 4:	

Website Blocking by Keyword			
Keyword 1:		Keyword 3:	
Keyword 2:		Keyword 4:	

Enter the URL or the Keyword you wish to block.

Click **Save** to save the setting.

To view all the policies, click the **Summary** button.

Content Filter You can subscribe to the 3Com Content Filter Service, which enables you to block or allow the URL of a number of pre-defined categories.



The Router comes with a 14-day free trial of the 3Com Content Filter Service. To activate the 14-day free trial of the service, you must first register your Router at www.3com.com. To continue using the service after the trial period, you must purchase the Full 3Com Content Filter Service(3CS8CFS).

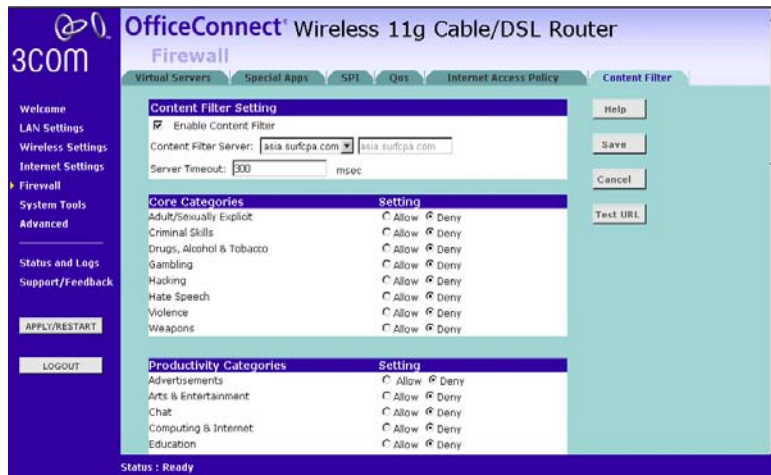


URL Filtering rules supersede content filtering rules. If the 3Com Content Filter is blocking certain Web sites that you want to allow, you can add these sites to URL Filter's allow list.

To activate Content Filtering:

- 1 Select Firewall from the main menu, then select the Content Filter tab. The Content Filter screen displays.

Figure63 Content Filter Screen

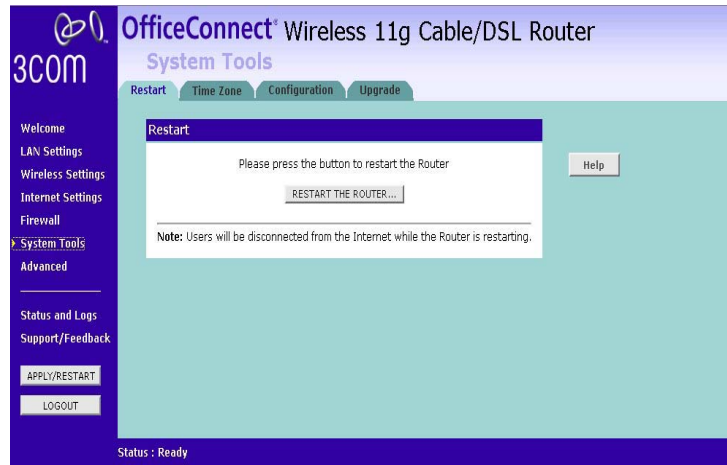


- 2 Make sure the *Enable Content Filter* check box is checked.
- 3 Select the *Content Filter Server* that you require from the drop-down list. If you select *custom entry*, enter the server IP address in the text box.
- 4 Select the *Server Timeout* value in milliseconds. The default is 3000 milliseconds (3 seconds).
- 5 Select *Allow* or *Deny* for each displayed category, as required. Click *Apply* to save the settings. Click *Save* to save the settings.

System Tools

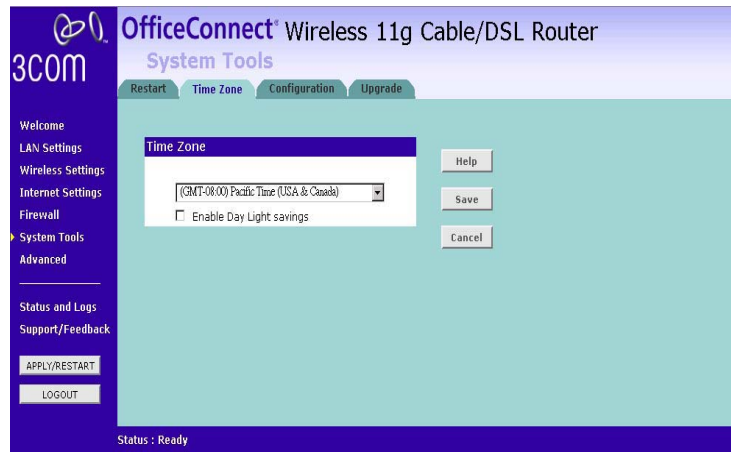
The main frame of the System Tools screen includes four administration items: *Restart*, *Time Zone*, *Configuration*, and *Upgrade*.

Restart Restart Screen



If your Router is not operating correctly, you can choose to restart the Router by selecting *Restart the Router*, simulating the effect of power cycling the unit. No configuration information will be lost but the log files will be erased. this function may be of use if you are experiencing problems and you wish to re-establish your Internet connection. Any network users who are currently accessing the Internet will have their access interrupted whilst the restart takes place, and they may need to reboot thier computers when the restart has completed and the Router is operational again.

Time Zone Time Zone Screen

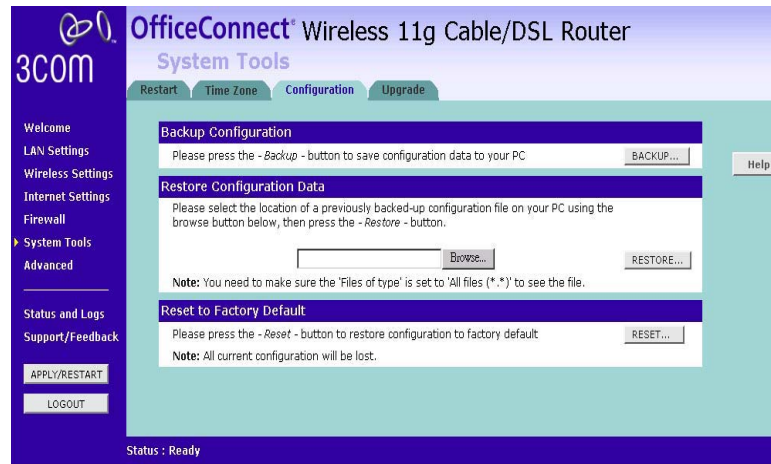


Choose the time zone that is closest to your actual location. The time zone setting is used by the system clock when displaying the correct time in the log files.

If you use Daylight saving tick the *Enable Day Light savings* box, and then click *Save*.

The Router reads the correct time from NTP servers on the Internet and sets its system clock accordingly. The Daylight Savings option merely advances the system clock by one hour. It does not cause the system clock to be updated for daylight savings time automatically.

Configuration Configuration Screen



Select the *Configuration* tab to display the *Configuration* screen .

Backup Configuration

Click *BACKUP* to save the current Router configuration. You will be prompted to download and save a file to disk.

Restore Configuration Data

If you want to reinstate the configuration settings previously saved to a file, press *Browse* to locate the backup file on your computer, and then click *RESTORE* to copy the data into the Router's memory.

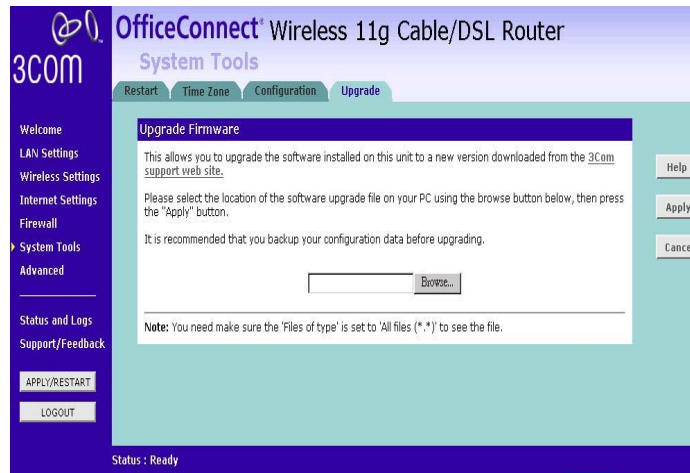


The password will remain unchanged.

Reset to Factory Default

If you want to reset the settings on your Router to those that were loaded at the factory, click *RESET*. You will lose all your configuration changes. The Router LAN IP address will revert to 192.168.1.1, and the DHCP server on the LAN will be enabled. You may need to reconfigure and restart your computer to re-establish communication with the Router.

Upgrade Upgrade Screen



The Upgrade facility allows you to install on the Router any new releases of system software that 3Com may make available. To install new software, you first need to download the software from the 3Com support web site to a folder on your computer. Once you have done this, select *Browse* to tell your web browser where this file is on your computer, and then click *Apply*. The file will be copied to the Router, and once this has completed, the Router will restart. Although the upgrade process has been designed to preserve your configuration settings, it is recommended that you make a backup of the configuration beforehand, in case the upgrade process fails for any reason (for example, the connection between the computer and the Router is lost while the new software is being copied to the Router).

The upgrade procedure can take up to two minutes, and is complete when the Alert LED has stopped flashing and is permanently off. Make sure that you do not interrupt power to the Router during the upgrade procedure; if you do, the software may be corrupted and the Router may not start up properly afterwards. .

Advanced

Selecting *Advanced* from the main menu displays the following five tabs in your Web browser window: *Static Route*, *RIP*, *Security* and *Syslog*.

Static Route

The Router supports static route functionality. Select the *Static Route* tab to display the screen.

Static Route screen

Index	Network Address	Subnet Mask	Gateway

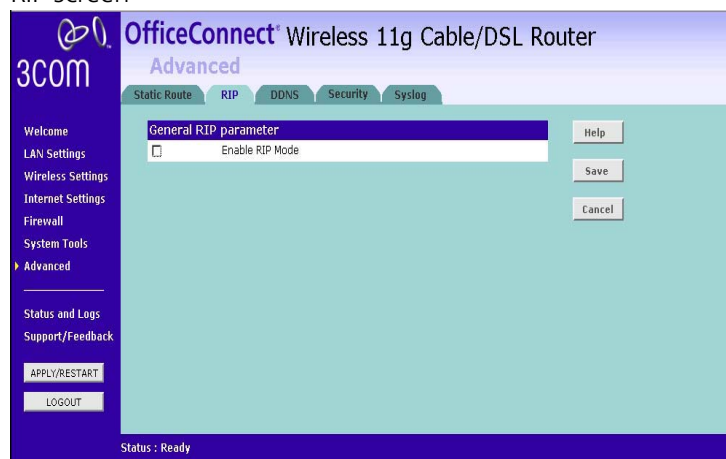
The following information is displayed for each static route:

- Index - the index of the static route
- Network Address - the network address of the route. If network address and subnet mask are both set to 0.0.0.0, this is the default route.
- Subnet Mask - the subnet mask of the route. If network address and subnet mask are both set to 0.0.0.0, this is the default route.
- Gateway - the gateway used to route data to the network specified by the network address.

RIP The Router supports the Routing Information Protocol (RIP). RIP allows you to set up routing information on one RIP enabled device, and have that routing information replicated to all RIP enabled devices on the network. LAN and WAN interfaces can be configured independently of each other.

Select the RIP tab to display the screen .

RIP screen



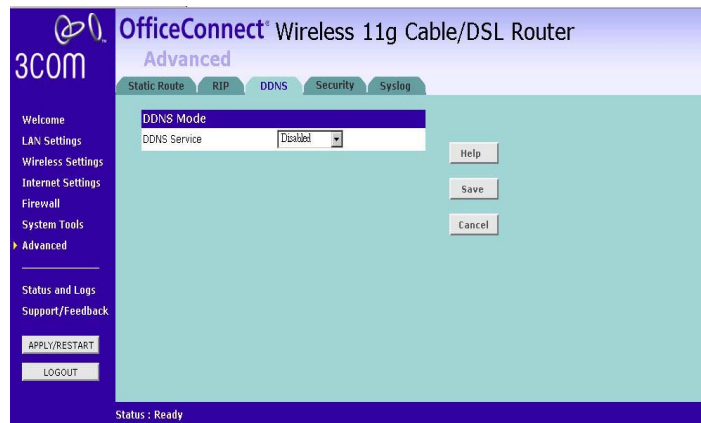
Check the *Enable RIP Mode* check box to configure RIP on the Router.

DDNS Dynamic Domain Name Server (DDNS) enables you to map a static domain name to a dynamic IP address. The Router supports two DDNS providers, TZO.com and DYNDNS.org. Before you can set up DDNS, you must obtain an account, password and static domain name from your DDNS provider. DDNS is disabled by default.

To set up DDNS:

- 1 Select *Advanced* from the main menu, then select the *DDNS* tab. The DDNS screen displays.

DDNS screen



- 2 Select a *DDNS Service* provider from the drop-down list. This can be either TZO.com or DynDNS.org.

TZO.com

If you select TZO.com:

- 1 In the *Domain Name* text box, enter the domain name.
- 2 In the *E-mail* text box, enter the account name.
- 3 In the *Key* text box, enter the account password.
- 4 Click **Save** to make this service active.

The screenshot shows the 'OfficeConnect Wireless 11g Cable/DSL Router' configuration interface. The 'Advanced' tab is selected, and the 'DDNS' sub-tab is active. The 'DDNS Mode' section shows 'DDNS Service' set to 'TZO.com'. Below this, the 'Service Configuration' section contains fields for 'Domain Name', 'E-mail', 'Key', 'Internet IP Address' (set to 0.0.0.0), and 'Status' (set to Disconnect). Buttons for 'Help', 'Save', and 'Cancel' are on the right. A left sidebar lists various settings categories, with 'Advanced' highlighted. At the bottom, there are 'APPLY/RESTART' and 'LOGOUT' buttons, and a status indicator showing 'Status: Ready'.

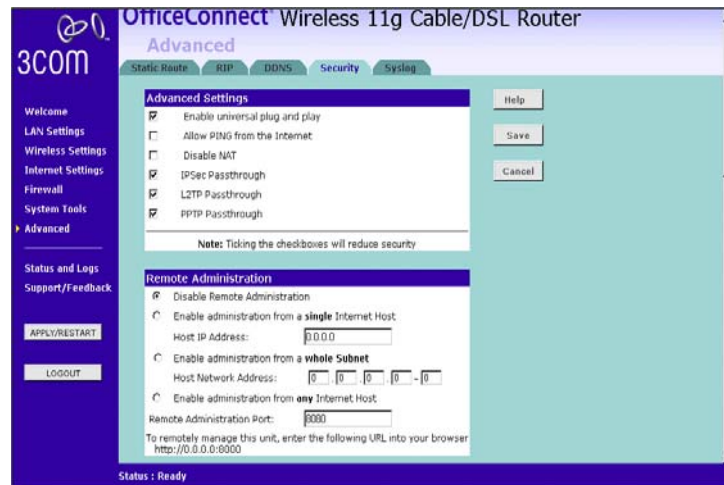
DynDNS.org

If you select DYNDNS.org:

- 1 In the *Host Name* text box, enter the host name.
- 2 In the *Username* text box, enter the account name.
- 3 In the *Password* text box, enter the account password.
- 4 Click **Save** to make this service active.

Security Select *Security* to display the Security screen.

Security Screen



The Internet connects millions of computer users throughout the world. The vast majority of the computer users on the Internet are friendly and have no intention of breaking into, stealing from, or damaging your network. However, there are hackers who may try to break into your network. The options in the *Security* tab features help you to protect your network.

Advanced Settings

The Advanced Settings section of the Security screen displays the following options:

- Enable universal plug and play - Universal plug and play allows compatible software to read and change some the Router's firewall settings. This reduces the configuration required but lessens your control of the Router's firewall.

Check on the check box to enable this feature, and then select *Apply*.



3Com recommends that you leave this feature disabled for maximum security.

- Allow PING from the Internet - PING is a utility, which is used to determine whether a device is active at the specified IP address. PING is normally used to test the physical connection between two devices, to ensure that everything is working correctly.

By default the Router has PING disabled in order to make the device more difficult to find on the Internet and less prone to attack.

Check on the check box to enable this feature, and then select *Save*.



3Com recommends that you leave this feature disabled for maximum security.

- Disable NAT - Network Address Translation (NAT) is the method by which the Router shares the single IP address assigned by your ISP with the computers on the network. Only disable NAT if your ISP assigns you multiple IP addresses or you need NAT disabled for an advanced system configuration. If you have a single IP address and your turn NAT off, the computers on your network will not be able to access the Internet. Other problems may also occur.

Check on the check box to disable NAT, and then select *Save*.



3Com recommends that you leave this feature enabled for maximum security.

Enabling Remote Administration

It is possible to administer the Router remotely. Select one of the following options for remote administration:

- *Disable Remote Administration* - This option is set as default.
- *Enable administration from a **single** Internet Host* - Only the specified Host IP Address can manage the Router. Any other users will be rejected.
- *Enable administration from a **whole subnet*** - This option allows a number of users within the specified Host Network Address and Subnet Mask to administer the Router.
- *Enable administration from **any** Internet Host* - This option allows any host to access the administration pages.

To remotely administer your Router, enter

http://xxx.xxx.xxx.xxx:8000 in the location bar of the browser running on the remote computer, where xxx.xxx.xxx.xxx is the Internet IP address of the Router. You may then login using the administration password.



Your Internet IP address can be found at the bottom of the screen. .

Syslog

Select Syslog to display the syslog screen.

The screenshot shows the 'Syslog' configuration page of a 3COM OfficeConnect Wireless 11g Cable/DSL Router. The page has a purple header with the 3COM logo and 'OfficeConnect Wireless 11g Cable/DSL Router' text. Below the header is a navigation bar with tabs: Static Route, RIP, DDNS, Security, and Syslog (which is selected). The main content area is titled 'Syslog Sever' and contains a checkbox labeled 'Enable Syslog Server' which is checked. Below the checkbox is a text field for 'Server IP Address' with the value '0.0.0.0'. To the right of the checkbox and text field are buttons for 'Help', 'Save', and 'Cancel'. On the left side of the page is a vertical menu with links: Welcome, LAN Settings, Wireless Settings, Internet Settings, Firewall, System Tools, Advanced (which is highlighted with a yellow arrow), Status and Logs, and Support/Feedback. At the bottom of the left menu are buttons for 'APPLY/RESTART' and 'LOGOUT'. The status bar at the bottom of the page indicates 'Status : Ready'.

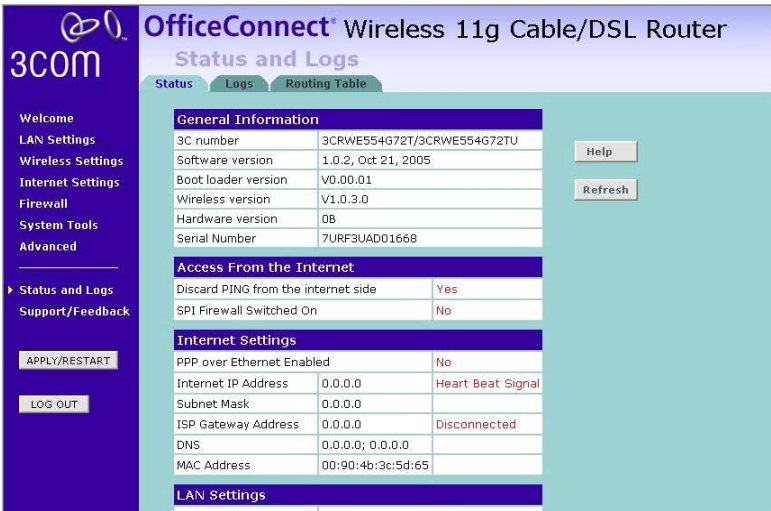
Check on the check box to enable this feature, and then click Save.

Status and Logs

Selecting *Status and Logs* from the main menu displays the *Status*, *Logs*, and Routing Table in yur Web browser window.

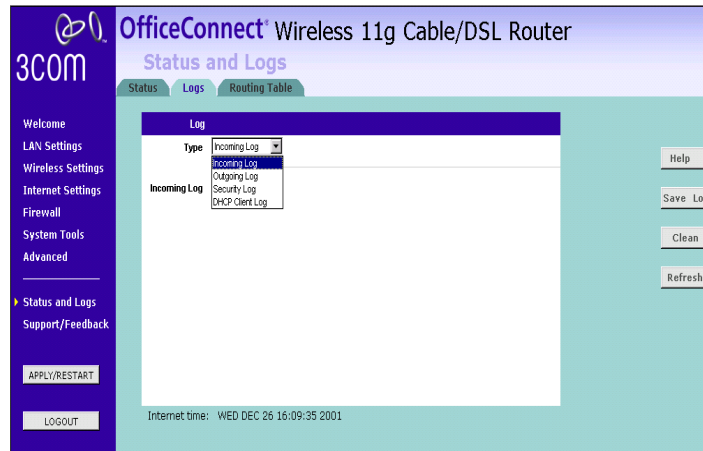
Status The *Status* screen displays a tabular representation of your network and Internet connection.

Status Screen



Logs Logs will allow you to view both the normal events, and security threats logged by the Router.

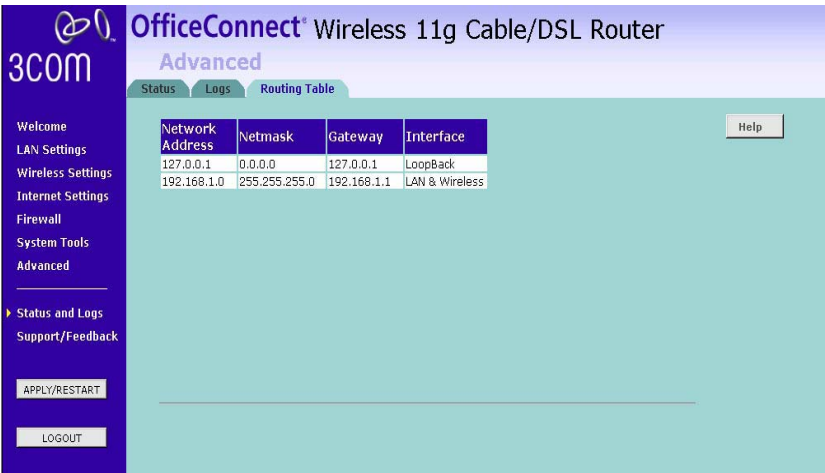
Logs Screen



Select Incoming Log or Outgoing Log from the *Type* drop-down menu. The Incoming Log will display a temporary log of the Source IP Addresses and Destination Port Numbers for the incoming Internet traffic. Click the Save Log button to save this information to a file on your PC's hard drive. Click the Refresh button to update the log. Click the Clean button to clear all the information that is displayed.

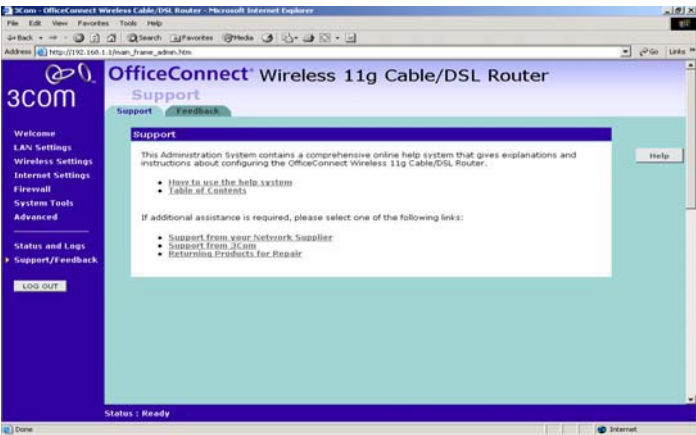
The Outgoing Log will display a temporary log of the LAN IP Addresses, Destination URLs or IP Addresses, Destination URLs or IP Address, and Service or Port Numbers for the outgoing Internet traffic. Click the Save Log button to save this information to a file on your PC's hard drive. Click the Refresh button to update the log. Click the Clean button to clear all the information that is displayed.

Routing Table Select the Routing table tab to display routing information used by the Router. The information is displayed in the form at shown as below.



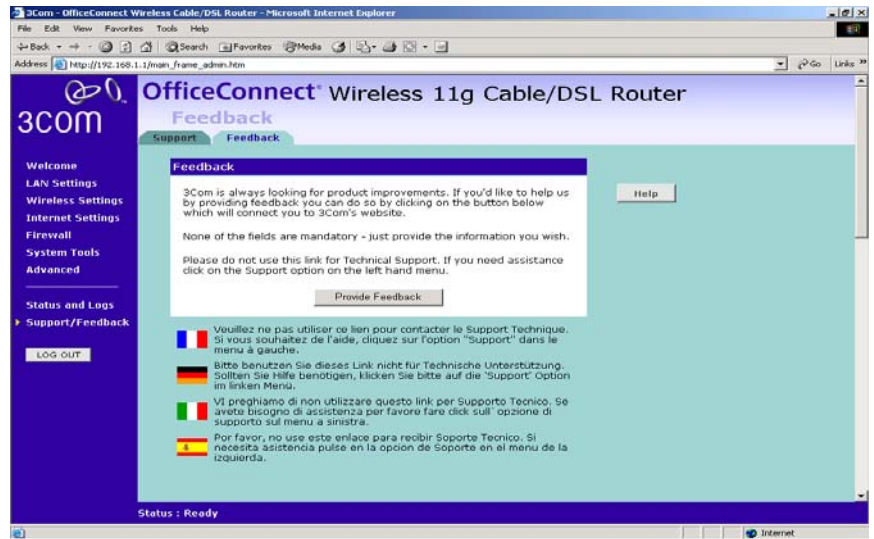
Support/Feedback Selecting *Support/Feedback* from the main menu displays the *Support* and *Feedback* screens.

Support Support Screen



Selecting the *Support* option on the main menu displays the support links screen, which contains a list of Internet links that provide information and support concerning the Router .

Feedback Feedback Screen



Selecting the *Feedback* option displays the Feedback screen and allows you to provide feedback to 3Com on the operation of your Router . This screen should not be used to obtain technical support.

6

TROUBLESHOOTING

Basic Connection Checks

- Check that the Router is connected to your computers and to the cable/DSL modem, and that all the equipment is powered on. Check that the LAN Status and Cable/DSL Status LEDs on the Router are illuminated, and that any corresponding LEDs on the cable/DSL modem and the NIC are also illuminated.
- Ensure that the computers have completed their start-up procedure and are ready for use. Some network interfaces may not be correctly initialized until the start-up procedure has completed.
- If the link status LED does not illuminate for a port that is connected, check that you do not have a faulty cable. Try a different cable.

Browsing to the Router Configuration Screens

If you have connected your Router and computers together but cannot browse to the Router configuration screens, check the following:

- Confirm that the physical connection between your computer and the Router is OK, and that the LAN Status LEDs on the Router and NIC are illuminated and indicating the same speed (10Mbps or 100Mbps). Some NICs do not have status LEDs, in which case a diagnostic program may be available that can give you this information.
- Ensure that you have configured your computer as described in [Chapter 3, Setting Up Your Computers](#). Restart your computer while it is connected to the Router to ensure that your computer receives an IP address.
- When entering the address of the Router into your web browser, ensure that you use the full URL including the http:// prefix (e.g. `http://192.168.1.1`).
- Ensure that you do not have a Web proxy enabled on your computer. Go to the *Control Panel* and click on *Internet Options*. Select the

Connections tab and click on the *LAN Settings* button at the bottom. Make sure that the *Proxy Server* option is unchecked.

- If you cannot browse to the Router, use the *winipcfg* utility in Windows 95/98/ME to verify that your computer has received the correct address information from the Router. From the *Start* menu, choose *Run* and then enter **winipcfg**. Check that the computer has an IP address of the form 192.168.1.xxx (where xxx is in the range 2-254), the subnet mask is 255.255.255.0, and the default Router is 192.168.1.1 (the address of the Router). If these are not correct, use the *Release* and *Renew* functions to obtain a new IP address from the Router. Under Windows 2000, use the *ipconfig* command-line utility to perform the same functions.
- If you still cannot browse to the Router, then use the Discovery program on the accompanying CD-ROM as described in [Appendix A](#).

Connecting to the Internet

If you can browse to the Router configuration screens but cannot access sites on the Internet, check the following:

- Confirm that the physical connection between the Router and the cable/DSL modem is OK, and that the link status LEDs on both Router and modem are illuminated.
- Confirm that the connection between the modem and the cable/DSL interface is OK.
- Ensure that you have entered the correct information into the Router configuration screens as required by your Internet Service Provider. Use the "Internet Settings" screen to verify this.
- For DSL users, check that the PPPoE or PPTP user name, password and service name are correct, if these are required. Only enter a PPPoE service name if your ISP requires one.
- For cable users, check whether your ISP requires a fixed MAC (Ethernet) address. If so, use the *Clone MAC Address* feature in the Router to ensure that the correct MAC address is presented.
- For cable users, check whether your ISP requires a fixed *Host Name*. If so, enter the required *Host Name* in the *Internet Settings* screen.
- Ensure that your computers are not configured to use a Web proxy. On Windows computers, this can be found under *Control Panel > Internet Options > Connections*.

Forgotten Password and Reset to Factory Defaults

If you can browse to the Router configuration screen but cannot log on because you do not know or have forgotten the password, follow the steps below to reset the Router to its factory default configuration.



CAUTION: All your configuration changes will be lost, and you will need to run the configuration wizard again before you can re-establish your Router connection to the Internet. Also, other computer users will lose their network connections whilst this process is taking place, so choose a time when this would be convenient.

- 1 Remove power from the Router.
- 2 Disconnect all your computers and the cable/DSL modem from the Router.
- 3 Using a straight through Ethernet cable, connect the Ethernet Cable/DSL port on the rear of the Router to any one of the LAN ports.
- 4 Re-apply power to the Router. The Alert LED will flash as the Router starts up, and after approximately 30 seconds will start to flash more slowly (typically 2 seconds on, 2 seconds off). Once the Alert LED has started to flash slowly, remove power from the Router.
- 5 Remove the cable connecting the Cable/DSL port to the LAN port, and reconnect one of your computers to one of the Router LAN ports.
- 6 Re-apply power to the Router, and when the start-up sequence has completed, browse to:

`http://192.168.1.1`

and run the configuration wizard. You may need to restart your computer before you attempt this.

- 7 When the configuration wizard has completed, you may reconnect your network as it was before.

Wireless Networking

- Ensure that you have an 802.11b or 802.11g wireless adapter for each wireless computer, and that it is correctly installed and configured. Verify that each Wireless computer has either Windows 95 or higher or MAC OS 8.5 or higher.
- Verify that your wireless computers are configured to work in Infrastructure mode and not Ad Hoc mode. The Router contains an Access Point that is designed to operate in Infrastructure mode. Ad Hoc mode is not supported by the Router.

- If you have a wired and a wireless NIC in the same computer, ensure that the wired NIC is disabled.
- Check the status of the Router Wireless LED, it should be lit if wireless is enabled and will flash when there is wireless activity. If not lit go to [“Wireless Settings”](#) and enable wireless networking.
- Ensure that the TCP/IP settings for all devices are correct.
- Ensure that the Wireless Clients are using the same SSID or Service Area Name as the Router. The SSID is case-sensitive
- Ensure that the encryption method and level that you use on your clients are the same as those configured on the Router. The Router can simultaneously support WPA and WEP encryption, but can only support one configuration of each.
- Ensure that you have the Wireless computer enabled in the list of allowed MAC addresses if you are using Wireless Connection control on the Router.
- If you are having difficulty connecting or are operating at a low speed try changing the antenna positions on the rear of the Router. For more effective coverage you can try reorientating your antennae. Place one antenna vertically and one horizontally to improve coverage. Additionally consider moving the wireless computer closer to the Router to confirm that the building structure or fittings are not adversely affecting the connectivity. If this resolves the problem consider relocating the Wireless computer or the Router, or trying a different channel on the Router.
- Sources of interference: The 2.4Ghz ISM band is used for 802.11b and 802.11g. This is generally a licence free band for low power applications, and you may have other devices at your location that operate in this frequency band. You should take care to ensure that there are no devices like microwave ovens for example close to the Router or wireless computers as this could affect receiver sensitivity and reduce the performance of your network. If you are unsure try relocating both the wireless computers and the Router to establish whether this problem exists.
- Most wireless computer Adapters will scan the channels for the wireless Router. If a wireless computer has not located the Router then try initiating a search manually if the client software supports this feature or manually set the channel on your wireless computer to correspond to the Router channel number. Please refer to your Wireless computer adapter documentation and vendor to do this.

- Speed of connection: The 802.11b and 802.11g standards will automatically choose the best speed depending on the quality of your connection. As the signal quality weakens then the speed falls back to a lower speed. The speeds supported by 802.11g are 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, and 6 Mbps. The speeds supported by 802.11b are 11 Mbps, 5.5 Mbps, 2 Mbps and 1 Mbps. In general the closer you are to the Router the better the speed. If you are not achieving the speed you had anticipated then try moving the antenna on the Router or moving the Wireless computer closer to the Router. In an ideal network the Router should be located in the centre of the network with Wireless computers distributed around it. Applications are generally available with the computer wireless card to carry out a site survey. Use this application to find the optimal siting for your wireless computer. Consult your Computer Card documentation and vendor for more details.

Power LED or Power Adapter OK LED Not Lit

- Check that your Router is receiving power by looking at the status of the Power LED on the front panel and the Power Adapter OK LED on the rear panel:
 - If both LEDs are lit green then the unit is receiving power.
 - If both LEDs are unlit then no power is being supplied to the unit. Check that the power adapter is plugged into a working mains outlet and that the mains outlet is supplying power. If the mains socket is supplying power then the power adapter or power adapter connection may be faulty. See ["Replacement Power Adapters"](#) below.
 - If the Power Adapter OK LED is lit but the Power LED is unlit then there may be a fault with your unit. Contact 3Com Technical Support.
- Check that you are using the correct power adapter for your Router. You should only use the power adapter supplied with your Router.

Replacement Power Adapters

If both the Power Adapter OK LED and Power LED are off, check your power adapter connection. If the mains outlet is working and is capable of supplying power to other devices, contact 3Com Technical Support and ask for a replacement power adapter. Please quote the power adapter part number shown on the OfficeConnect power adapter you are using.

Alternatively, quote the part number for your region:

Power Adapter Part Numbers

Part Number	Region
3C16760	US and Canada
3C16761	UK
3C16762	Europe and Middle East
3C16763	Australasia (except Japan and Korea)
3C16764	South Africa
3C16766	Japan
3C16767	Korea
3C16768	Argentina

Alert LED

The Alert LED will flash when the Router unit is first powered up while the system software checks the hardware for proper operation. Once the Router has started normal operation, the Alert LED will go out.

- If the Alert LED does not go out following start up, but illuminates continuously, this indicates that the software has detected a possible fault with the hardware. Remove power from the Router, wait 10 seconds and then re-apply power. If the Alert LED comes on continuously again, then a fault has been detected. Locate the copy of the Router software on the accompanying CD-ROM or 3Com web site (<http://www.3com.com>) and upload it to the Router to see if this clears the fault (refer to “Recovering from Corrupted Software” below). If this does not fix the problem, contact your supplier for further advice.
- During normal operation, you may notice the Alert LED lighting briefly from time to time. This indicates that the Router has detected a hacker attack from the Internet and has prevented it from harming your network. You need take no specific action on this, unless you decide that these attacks are happening frequently in which case you may wish to discuss this with your ISP. The Router logs such attacks, and this information is available through the Status and Logs screens.

Recovering from Corrupted Software

If the Alert LED remains permanently on following power-up, it is possible that the system software has become corrupted. In this condition, the

Router will enter a “recovery” state; DHCP is disabled, and the LAN IP address is set to 192.168.1.1. Follow the instructions below to upload a new copy of the system software to a Router unit in this state.

Ensure that one of your computers has a copy of the new software image file stored on its hard disk or available on CD-ROM.



The latest software is available on 3Com's Web site at:

`www.3com.com`.

- 1 Remove power from the Router and disconnect the Cable/DSL modem and all your computers, except for the one computer with the software image.
- 2 You will need to reconfigure this computer with the following static IP address information:
 - IP address: 192.168.1.2
 - Subnet mask: 255.255.255.0
 - Default Router address: 192.168.1.1
- 3 Restart the computer, and re-apply power to the Router.
- 4 Using the Web browser on the computer, enter the following URL in the location bar:

http://192.168.1.1.

This will connect you to the Microcode Recovery utility in the Router.
- 5 Follow the on-screen instructions. Enter the path and filename of the software image file.
- 6 When the upload has completed, the Router will restart, run the self-test and, if successful, resume normal operation. The Alert LED will go out.
- 7 Refer to the Installation Guide to reconnect your Router to the Cable/DSL modem and the computers in your network. Do not forget to reconfigure the computer you used for the software upload.

If the Router does not resume normal operation following the upload, it may be faulty. Contact your supplier for advice.

How many computers on the LAN does the Router support?

A maximum of 253 computers on the LAN are supported.

How many wireless clients does the Cable/DSL Router support?

A maximum of 128 wireless clients are supported.

There are only 4 LAN ports on the Router. How are additional computers connected?

You can expand the number of connections available on your LAN by using hubs, switches and wireless access points connected to the Router. 3Com wireless access points and OfficeConnect hubs and switches provide a simple, reliable means of expanding your network; contact your supplier for more information, or visit:

<http://www.3com.com/>

Does the Router support virtual private networks (VPNs)?

The Router supports VPN passthrough, which allows VPN clients on the LAN to communicate with VPN hosts on the Internet. It is also possible to set up VPN hosts on your LAN that clients elsewhere on the Internet can connect to, but this is not a recommended configuration.

Where can I download software updates for the Router?

Updates to the Router software are posted on the 3Com support web site, accessible by visiting:

<http://www.3com.com>

What other online resources are there?

The 3Com Knowledgebase at:

<http://knowledgebase.3com.com>

is a database of technical information covering all 3Com products. It is updated daily with information from 3Com technical support services, and it is available 24 hours a day, 7 days a week.

A

USING DISCOVERY

Running the Discovery Application

3Com provides a user friendly Discovery application for detecting the Router on the network.

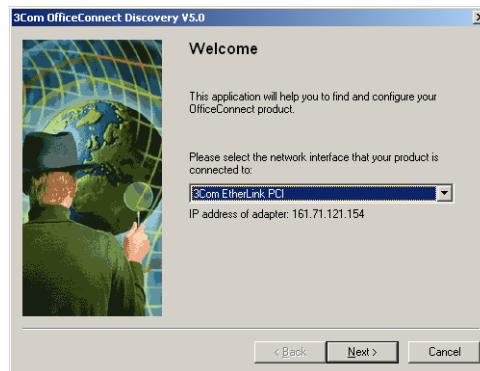
Windows Installation (95/98/2000/Me/NT)

- 1 Insert the Router CD-ROM in the CD-ROM drive on your computer. A menu will appear; select *Router Discovery*.



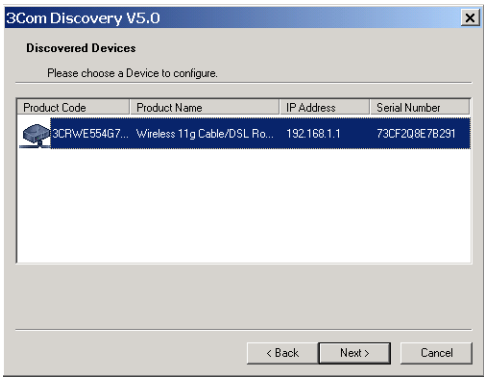
Discovery will find the Router even if it is unconfigured or misconfigured.

Discovery Welcome Screen



- 2 When the *Welcome* screen is displayed click on *Next* and wait until the application discovers the Routers connected to your LAN.

Discovered Router Screen



- 3 Highlight the *Cable/DSL Router* by clicking on it, and press *Next*.

Discovered Finish Screen



- 4 Click on *Finish* to launch a web browser and display the login page for the Router.

B

IP ADDRESSING

The Internet Protocol Suite

The Internet protocol suite consists of a well-defined set of communications protocols and several standard application protocols. Transmission Control Protocol/Internet Protocol (TCP/IP) is probably the most widely known and is a combination of two of the protocols (IP and TCP) working together. TCP/IP is an internationally adopted and supported networking standard that provides connectivity between equipment from many vendors over a wide variety of networking technologies.

Managing the Router over the Network

To manage a device over the network, the Router must be correctly configured with the following IP information:

- An IP address
- A Subnet Mask

IP Addresses and Subnet Masks

Each device on your network must have a unique IP address to operate correctly. An IP address identifies the address of the device to which data is being sent and the address of the destination network. IP addresses have the format n.n.n.x where n is a decimal number between 0 and 255 and x is a number between 1 and 254 inclusive.

However, an IP Address alone is not enough to make your device operate. In addition to the IP address, you need to set a subnet mask. All networks are divided into smaller sub-networks and a subnet mask is a number that enables a device to identify the sub-network to which it is connected.

For your network to work correctly, all devices on the network must have:

- The same sub-network address.
- The same subnet mask.



The only value that will be different is the specific host device number. This value must always be unique.

An example IP address is '192.168.100.8'. However, the size of the network determines the structure of this IP Address. In using the Router, you will probably only encounter two types of IP Address and subnet mask structures.

Type One

In a small network, the IP address of '192.168.100.8' is split into two parts:

- Part one ('192.168.100') identifies the network on which the device resides.
- Part two ('.8') identifies the device within the network.

This type of IP Address operates on a subnet mask of '255.255.255.0'.

See an example about how a network with three computers and a Router might be configured.

Table 4 IP Addressing and Subnet Masking

Device	IP Address	Subnet Mask
PC 1	192.168.100.8	255.255.255.0
PC 2	192.168.100.33	255.255.255.0
PC 3	192.168.100.188	255.255.255.0
Router	192.168.100.72	255.255.255.0

Type Two

In larger networks, where there are more devices, the IP address of '192.168.100.8' is, again, split into two parts but is structured differently:

- Part one ('192.168') identifies the network on which the device resides.
- Part two ('.100.8') identifies the device within the network.

This type of IP Address operates on a subnet mask of '255.255.0.0'.

See an example about how a network (only four computers represented) and a Router might be configured.

IP Addressing and Subnet Masking

Device	IP Address	Subnet Mask
PC 1	192.168.100.8	255.255.0.0
PC 2	192.168.201.30	255.255.0.0
PC 3	192.168.113.155	255.255.0.0
PC 4	192.168.002.230	255.255.0.0
Router	192.168.002.72	255.255.0.0

How does a Device Obtain an IP Address and Subnet Mask?

There are three different ways to obtain an IP address and the subnet mask. These are:

- Dynamic Host Configuration Protocol (DHCP) Addressing
- Static Addressing
- Automatic Addressing (Auto-IP Addressing)

DHCP Addressing

The Router contains a DHCP server, which allows computers on your network to obtain an IP address and subnet mask automatically. DHCP assigns a temporary IP address and subnet mask which gets reallocated once you disconnect from the network.

DHCP will work on any client Operating System such as Windows® 95, Windows 98 or Windows NT 4.0. Also, using DHCP means that the same IP address and subnet mask will never be duplicated for devices on the network. DHCP is particularly useful for networks with large numbers of users on them.

Static Addressing

You must enter an IP Address and the subnet mask manually on every device. Using a static IP and subnet mask means the address is permanently fixed.

Auto-IP Addressing

Network devices use automatic IP addressing if they are configured to acquire an address using DHCP but are unable to contact a DHCP server.

Automatic IP addressing is a scheme where devices allocate themselves an IP address at random from the industry standard subnet of 169.254.x.x (with a subnet mask of 255.255.0.0). If two devices allocate themselves the same address, the conflict is detected and one of the devices allocates itself a new address.

Automatic IP addressing support was introduced by Microsoft in the Windows 98 operating system and is also supported in Windows 2000.



TECHNICAL SPECIFICATIONS

This section lists the technical specifications for the OfficeConnect Wireless 11g Cable/DSL Router.

Wireless 11g Cable/DSL Router

Interfaces

Cable/DSL modem connection — 10Mbps/100Mbps dual speed Ethernet port (10BASE-T/100BASE-TX)

LAN connection — four 10Mbps/100Mbps dual speed Ethernet ports (10BASE-T/100BASE-TX)

WLAN Interfaces

Standard IEEE 802.11g, Direct Sequence Spread Spectrum (DSSS)

Transmission rate: 54Mbps, automatic fallback to 48, 36, 24, 18, 12, or 6 Mbps

Maximum channels: 14 (3Com declares that WL-537 and WL-537S (FCC: O9C-WL537 & O9C-WL-537S and Taiwan DGT) is limited in CH1~CH11 for 2.4 GHz by specified firmware)

Range up to 304.8m(1000ft)

Frequency: (US/Canada/Europe) 2.400-2.4835 GHz

Sensitivity: 6, 12, 18, 24, 36, 48 Mbps: -85 dBm;
54 Mbps -66 dBm typical

Modulation: CCK, BPSK, QPSK, OFDM

Encryption: 40/64 bit WEP, 128 bit WEP, WPA

Maximum clients: 128

O/P Power: 18dBm

Standard IEEE 802.11b, Direct Sequence Spread Spectrum (DSSS)

Transmission rate: 11bps, automatic fallback to 5.5, 2, or 1 Mbps

Maximum channels: 14 (FCC & Taiwan is limited in Ch1~Ch11)

Range up to 304.8m (1000ft)

Frequency: (US/Canada/Europe) 2.400-2.4835 GHz

Sensitivity: 1, 2, 5.5 Mbps: -85 dBm; 11 Mbps -82 dBm typical
Modulation: CCK, BPSK, QPSK, OFDM
Encryption: 40/64 bit WEP, 128 bit WEP, WPA
Maximum clients: 128
O/P Power: 19dBm

Operating Temperature

0 °C to 40 °C (32 °F to 105 °F)

Power

7VA, 23.9 BThU/hr

Humidity

0% to 90% (non-condensing) humidity

Dimensions

- Width = 220 mm (8.7 in.)
- Depth = 135 mm (5.3 in.)
- Height = 24 mm (1 in.)

Weight

Approximately 500 g (1.1 lbs)

Standards	Functional:	ISO 8802/3 IEEE 802.3 IEEE 802.11b, 802.11g, Wi-Fi
	Safety:	UL60950 CSA 22.2 #60950 IEC 60950 EN 60950
	EMC:	EN 55022 Class B EN 55024 CISPR 22 FCC Part 15 Class B* ICES-003 Class B CNS 13438 Class A ETSI EN 301 489-17

Radio CFR 47 FCC Part 15.207, 15.209, 15.247 and 15.249.
 ETS 300 328 (2.4 GHz ISM band wide band transmission
 systems.
 RSS-210

Environmental: EN 60068 (IEC 68)

*See ["Regulatory Information\(Page 139\)"](#) on for conditions of operation.

System Requirements Operating Systems

The Router will support the following Operating Systems:

- Windows 95/98
- Windows NT 4.0
- Windows ME
- Windows 2000
- Windows XP
- Mac OS 8.5 or higher
- Unix

Ethernet Performance The Router complies to the IEEE 802.3i, u and x specifications.

Wireless Performance The Router has been designed to conform to the Wi-Fi interoperability test standard.



Cable Specifications The Router supports the following cable types and maximum lengths:

- Category 3 (Ethernet) or Category 5 (Fast Ethernet or Dual Speed Ethernet) Twisted Pair — shielded and unshielded cable types.
- Maximum cable length of 100m (327.86 ft).

D

SAFETY INFORMATION

Important Safety Information



WARNING: Warnings contain directions that you must follow for your personal safety. Follow all directions carefully. You must read the following safety information carefully before you install or remove the unit:



WARNING: The Router generates and uses radio frequency (rf) energy. In some environments, the use of rf energy is not permitted. The user should seek local advice on whether or not rf energy is permitted within the area of intended use.



WARNING: Exceptional care must be taken during installation and removal of the unit.



WARNING: Only stack the Router with other OfficeConnect units.



WARNING: To ensure compliance with international safety standards, only use the power adapter that is supplied with the unit.



WARNING: The socket outlet must be near to the unit and easily accessible. You can only remove power from the unit by disconnecting the power cord from the outlet.



WARNING: This unit operates under SELV (Safety Extra Low Voltage) conditions according to IEC 60950. The conditions are only maintained if the equipment to which it is connected also operates under SELV conditions.



WARNING: There are no user-replaceable fuses or user-serviceable parts inside the Router. If you have a physical problem with the unit that cannot be solved with problem solving actions in this guide, contact your supplier.



WARNING: Disconnect the power adapter before moving the unit.



WARNING: RJ-45 ports. These are shielded RJ-45 data sockets. They cannot be used as telephone sockets. Only connect RJ-45 data connectors to these sockets.

Wichtige Sicherheitshinweise



VORSICHT: Warnhinweise enthalten Anweisungen, die Sie zu Ihrer eigenen Sicherheit befolgen müssen. Alle Anweisungen sind sorgfältig zu befolgen.

Sie müssen die folgenden Sicherheitsinformationen sorgfältig durchlesen, bevor Sie das Gerts installieren oder ausbauen:



VORSICHT: Der Router erzeugt und verwendet Funkfrequenz (RF). In manchen Umgebungen ist die Verwendung von Funkfrequenz nicht gestattet. Erkundigen Sie sich bei den zustndigen Stellen, ob die Verwendung von Funkfrequenz in dem Bereich, in dem der Bluetooth Access Point eingesetzt werden soll, erlaubt ist.



VORSICHT: Bei der Installation und beim Ausbau des Gerts ist mit hchster Vorsicht vorzugehen.



VORTSICHT: Stapeln Sie das Gerts nur mit anderen OfficeConnect Gertes zusammen.



VORSICHT: Aufgrund von internationalen Sicherheitsnormen darf das Gert nur mit dem mitgelieferten Netzadapter verwendet werden.



VORSICHT: Die Netzsteckdose mu in der Nhe des Gerts und leicht zugnglich sein. Die Stromversorgung des Gerts kann nur durch Herausziehen des Gertenetzkabels aus der Netzsteckdose unterbrochen werden.



VORSICHT: Der Betrieb dieses Gerts erfolgt unter den SELV-Bedingungen (Sicherheitskleinstspannung) gem IEC 60950. Diese Bedingungen sind nur gegeben, wenn auch die an das Gert angeschlossenen Gerte unter SELV-Bedingungen betrieben werden.



VORSICHT: Es sind keine von dem Benutzer zu ersetzende oder zu wartende Teile in dem Gerät vorhanden. Wenn Sie ein Problem mit dem Router haben, das nicht mittels der Fehleranalyse in dieser Anleitung behoben werden kann, setzen Sie sich mit Ihrem Lieferanten in Verbindung.



VORSICHT: Vor dem Ausbau des Geräts das Netzadapterkabel herausziehen.



VORSICHT: RJ-45-Anschlüsse. Dies sind abgeschirmte RJ-45-Datenbuchsen. Sie können nicht als Telefonanschlußbuchsen verwendet werden. An diesen Buchsen dürfen nur RJ-45-Datenstecker angeschlossen werden.

Consignes importantes de sécurité



AVERTISSEMENT: Les avertissements présentent des consignes que vous devez respecter pour garantir votre sécurité personnelle. Vous devez respecter attentivement toutes les consignes. Nous vous demandons de lire attentivement les consignes suivantes de sécurité avant d'installer ou de retirer l'appareil:



AVERTISSEMENT: La Router fournit et utilise de l'énergie radioélectrique (radio fréquence -rf). L'utilisation de l'énergie radioélectrique est interdite dans certains environnements. L'utilisateur devra se renseigner sur l'autorisation de cette énergie dans la zone prévue.



AVERTISSEMENT: Faites très attention lors de l'installation et de la dépose du groupe.



AVERTISSEMENT: Seulement entasser le moyer avec les autres moyeux OfficeConnects.



AVERTISSEMENT: Pour garantir le respect des normes internationales de sécurité, utilisez uniquement l'adaptateur électrique remis avec cet appareil.



AVERTISSEMENT: La prise secteur doit se trouver à proximité de l'appareil et son accès doit être facile. Vous ne pouvez mettre l'appareil hors circuit qu'en débranchant son cordon électrique au niveau de cette prise.



AVERTISSEMENT: L'appareil fonctionne à une tension extrêmement basse de sécurité qui est conforme à la norme CEI 60950. Ces conditions ne sont maintenues que si l'équipement auquel il est raccordé fonctionne dans les mêmes conditions.



AVERTISSEMENT: Il n'y a pas de parties remplaçables par les utilisateurs ou entretenues par les utilisateurs à l'intérieur du moyeu. Si vous avez un problème physique avec le moyeu qui ne peut pas être résolu avec les actions de la résolution des problèmes dans ce guide, contacter votre fournisseur.



AVERTISSEMENT: Débranchez l'adaptateur électrique avant de retirer cet appareil.



AVERTISSEMENT: Ports RJ-45. Il s'agit de prises femelles blindées de données RJ-45. Vous ne pouvez pas les utiliser comme prise de téléphone. Branchez uniquement des connecteurs de données RJ-45 sur ces prises femelles.



END USER SOFTWARE LICENSE AGREEMENT

IMPORTANT: READ BEFORE INSTALLING THE SOFTWARE 3Com END USER SOFTWARE LICENSE AGREEMENT

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3Com Corporation

350 Campus Drive,

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ISP INFORMATION

Information Regarding Popular ISPs

WAN Types	Characteristics	Popular ISPs
Dynamic IP (Clone MAC)	Cable modem ISP, non-hostname based. Need to clone the MAC address in the Advanced tab of the Internet Settings page.	MediaOne, RoadRunner, Optimum Online, Time Warner, Charter, Adelphia, Metrocast.
Dynamic IP (Hostname)	Cable ISP, Requires Hostname to authenticate ie. cx213818-B. Need to enter the hostname in the Internet Settings page.	@Home Network, Cogoco, ComCast, Cox, Excite, Rogers, Shaw, Insight, Videotron
PPPoE (DSL)	Usually special software installed on PC, MacPOET/WinPOET, EnterNet 300. The Router has this software built in and you can remove it from your PC. You will need to enter the user name and password that your ISP provided to you in the PPPoE page of the Router. Leave the service name blank unless your ISP requires it.	Bell*, Century Tel, Citizens, Primus, Prodigy, Snet, Sprint FC, Verizon, First World, Brightnet, Earthlink, Ameritech, Covad, Mindspring, Sympatico DSL, USwest, Owest, SNet
PPTP	Cable or DSL, always on. Some European ISPs require a PPTP tunnel to authenticate their network.	KPN (Netherlands), Austria Telecom

Static (DSL)	DSL Modem, always on. Need to enter ALL IP information from ISP in the Static IP address section of the Internet Settings page.	CableSpeed, Cnet, Direct Link, Drizzle, DSL Extreme, Earthlink Wireless, Fast Point, Flashcom, GTE-WhirlWind, Heavenet, HSA Corp, I-55, InterAccess, LinkLine, Mission, Nauticom, NAS, Omitel, Onterra, Phatpipe, Rhythms, Speakeasy, Sterling, XO, Zyan
Static (Cable)	Cable Modem, Always on, ISP assigns specific IP information which needs to be entered on the "Fixed IP" page of the Router.	Cox Cable, Sprint, US Cable, Cable-Cable

*Bell includes Bell Advantage, Bell Canada, Bell South, PacBell and Southwestern Bell.

GLOSSARY

802.11b The IEEE specification for wireless Ethernet which allows speeds of up to 11 Mbps. The standard provides for 1, 2, 5.5 and 11 Mbps data rates. The rates will switch automatically depending on range and environment.

802.11g The IEEE specification for wireless Ethernet which allows speeds of up to 54 Mbps. The standard provides for 6, 12, 24, 36, 48 and 54 Mbps data rates. The rates will switch automatically depending on range and environment.

10BASE-T The IEEE specification for 10 Mbps Ethernet over Category 3, 4 or 5 twisted pair cable.

100BASE-TX The IEEE specification for 100 Mbps Fast Ethernet over Category 5 twisted-pair cable.

Access Point An Access Point is a device through which wireless clients connect to other wireless clients and which acts as a bridge between wireless clients and a wired network, such as Ethernet. Wireless clients can be moved anywhere within the coverage area of the access point and still connect with each other. If connected to an Ethernet network, the access point monitors Ethernet traffic and forwards appropriate Ethernet messages to the wireless network, while also monitoring wireless client radio traffic and forwarding wireless client messages to the Ethernet LAN.

Ad Hoc mode Ad Hoc mode is a configuration supported by most wireless clients. It is used to connect a peer to peer network together without the use of an access point. It offers lower performance than infrastructure mode, which is the mode the Router uses. (see also Infrastructure mode.)

Auto-negotiation Some devices in the OfficeConnect range support auto-negotiation. Auto-negotiation is where two devices sharing a link, automatically

configure to use the best common speed. The order of preference (best first) is: 100BASE-TX full duplex, 100BASE-TX half duplex, 10BASE-T full duplex, and 10BASE-T half duplex. Auto-negotiation is defined in the IEEE 802.3 standard for Ethernet and is an operation that takes place in a few milliseconds.

Bandwidth The information capacity, measured in bits per second, that a channel can transmit. The bandwidth of Ethernet is 10 Mbps, the bandwidth of Fast Ethernet is 100 Mbps. The bandwidth for 802.11b wireless is 11Mbps.

Category 3 Cables One of five grades of Twisted Pair (TP) cabling defined by the EIA/TIA-586 standard. Category 3 is voice grade cable and can only be used in Ethernet networks (10BASE-T) to transmit data at speeds of up to 10 Mbps.

Category 5 Cables One of five grades of Twisted Pair (TP) cabling defined by the EIA/TIA-586 standard. Category 5 can be used in Ethernet (10BASE-T) and Fast Ethernet networks (100BASE-TX) and can transmit data up to speeds of 100 Mbps. Category 5 cabling is better to use for network cabling than Category 3, because it supports both Ethernet (10 Mbps) and Fast Ethernet (100 Mbps) speeds.

Channel Similar to any radio device, the OfficeConnect Cable/DSL Router allows you to choose different radio channels in the wireless spectrum. A channel is a particular frequency within the 2.4GHz spectrum within which the Router operates.

Client The term used to described the desktop PC that is connected to your network.

DDNS Dynamic Domain Name Server. A method that enables Internet users to tie their domain name(s) to computers or servers. DDNS enables a domain name to follow an IP address automatically when the IP address changes.

DHCP Dynamic Host Configuration Protocol. This protocol automatically assigns an IP address for every computer on your network. Windows 95, Windows 98 and Windows NT 4.0 contain software that assigns IP addresses to workstations on a network. These assignments are made by the DHCP server software that runs on Windows NT Server, and Windows

95 and Windows 98 will call the server to obtain the address. Windows 98 will allocate itself an address if no DHCP server can be found.

- DNS Server Address** DNS stands for Domain Name System, which allows Internet host computers to have a domain name (such as 3com.com) and one or more IP addresses (such as 192.34.45.8). A DNS server keeps a database of host computers and their respective domain names and IP addresses, so that when a domain name is requested (as in typing "3com.com" into your Internet browser), the user is sent to the proper IP address. The DNS server address used by the computers on your home network is the location of the DNS server your ISP has assigned.
- DSL modem** DSL stands for digital subscriber line. A DSL modem uses your existing phone lines to send and receive data at high speeds.
- Encryption** A method for providing a level of security to wireless data transmissions. The OfficeConnect Cable/DSL Router and Wireless Cable/DSL Router offer a choice of encryption methods. See "WPA" and "WEP" for details.
- ESSID** Extended Service Set Identifier. The ESSID is a unique identifier for your wireless network. You must have the same ESSID entered into the Router and each of its wireless clients.
- Ethernet** A LAN specification developed jointly by Xerox, Intel and Digital Equipment Corporation. Ethernet networks use CSMA/CD to transmit packets at a rate of 10 Mbps over a variety of cables.
- Ethernet Address** See MAC address.
- Fast Ethernet** An Ethernet system that is designed to operate at 100 Mbps.
- Firewall** Electronic protection that prevents anyone outside of your network from seeing your files or damaging your computers.
- Full Duplex** A system that allows packets to be transmitted and received at the same time and, in effect, doubles the potential throughput of a link.

- Router** A device that acts as a central hub by connecting to each computer's network interface card and managing the data traffic between the local network and the Internet.
- Half Duplex** A system that allows packets to be transmitted and received, but not at the same time. Contrast with full duplex.
- Hub** A device that regenerates LAN traffic so that the transmission distance of that signal can be extended. Hubs are similar to repeaters, in that they connect LANs of the same type; however they connect more LANs than a repeater and are generally more sophisticated.
- IEEE** Institute of Electrical and Electronics Engineers. This American organization was founded in 1963 and sets standards for computers and communications.
- IETF** Internet Engineering Task Force. An organization responsible for providing engineering solutions for TCP/IP networks. In the network management area, this group is responsible for the development of the SNMP protocol.
- Infrastructure mode** Infrastructure mode is the wireless configuration supported by the Router. You will need to ensure all of your clients are set up to use infrastructure mode in order for them to communicate with the Access Point built into your Router. (see also Ad Hoc mode)
- IP** Internet Protocol. IP is a layer 3 network protocol that is the standard for sending data through a network. IP is part of the TCP/IP set of protocols that describe the routing of packets to addressed devices. An IP address consists of 32 bits divided into two or three fields: a network number and a host number or a network number, a subnet number, and a host number.
- IP Address** Internet Protocol Address. A unique identifier for a device attached to a network using TCP/IP. The address is written as four octets separated with periods (full-stops), and is made up of a network section, an optional subnet section and a host section.

ISP	Internet Service Provider. An ISP is a business that provides connectivity to the Internet for individuals and other businesses or organizations.
LAN	Local Area Network. A network of end stations (such as PCs, printers, servers) and network devices (hubs and switches) that cover a relatively small geographic area (usually not larger than a floor or building). LANs are characterized by high transmission speeds over short distances (up to 1000 metres).
MAC	Media Access Control. A protocol specified by the IEEE for determining which devices have access to a network at any one time.
MAC Address	Media Access Control Address. Also called the hardware or physical address. A layer 2 address associated with a particular network device. Most devices that connect to a LAN have a MAC address assigned to them as they are used to identify other devices in a network. MAC addresses are 6 bytes long.
NAT	Network Address Translation. NAT enables all the computers on your network to share one IP address. The NAT capability of the Router allows you to access the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.
Network	A Network is a collection of computers and other computer equipment that are connected for the purpose of exchanging information or sharing resources. Networks vary in size, some are within a single room, others span continents.
Network Interface Card (NIC)	A circuit board installed into a piece of computing equipment, for example, a computer, that enables you to connect it to the network. A NIC is also known as an adapter or adapter card.
Protocol	A set of rules for communication between devices on a network. The rules dictate format, timing, sequencing and error control.
PPPoE	Point-to-Point Protocol over Ethernet. Point-to-Point Protocol is a method of data transmission originally created for dial-up connections; PPPoE is for Ethernet connections.

- PPTP** Point-to-Point Tunneling Protocol is a method of secure data transmission between two remote sites over the internet.
- RIP** Routing Information Protocol. RIP allows an administrator to set up routing information on one RIP enabled device, and have that routing information replicated to all RIP enabled devices on the network.
- RJ-45** A standard connector used to connect Ethernet networks. The "RJ" stands for "registered jack".
- Server** A computer in a network that is shared by multiple end stations. Servers provide end stations with access to shared network services such as computer files and printer queues.
- SPI** Stateful Packet Inspection. This feature requires the firewall to remember what outgoing requests have been sent and only allow responses to those requests back through the firewall. This way, un-requested attempts to access the network will be denied.
- SSID** Service Set Identifier. Some vendors of wireless products use SSID interchangeably with ESSID.
- Subnet Address** An extension of the IP addressing scheme that allows a site to use a single IP network address for multiple physical networks.
- Subnet mask** A subnet mask, which may be a part of the TCP/IP information provided by your ISP, is a set of four numbers configured like an IP address. It is used to create IP address numbers used only within a particular network (as opposed to valid IP address numbers recognized by the Internet, which must assigned by InterNIC).
- Subnets** A network that is a component of a larger network.
- Switch** A device that interconnects several LANs to form a single logical LAN that comprises of several LAN segments. Switches are similar to bridges, in that they connect LANs of a different type; however they connect more LANs than a bridge and are generally more sophisticated.

TCP/IP	Transmission Control Protocol/Internet Protocol. This is the name for two of the most well-known protocols developed for the interconnection of networks. Originally a UNIX standard, TCP/IP is now supported on almost all platforms, and is the protocol of the Internet. TCP relates to the content of the data travelling through a network — ensuring that the information sent arrives in one piece when it reaches its destination. IP relates to the address of the end station to which data is being sent, as well as the address of the destination network.
Traffic	The movement of data packets on a network.
universal plug and play	Universal plug and play is a system which allows compatible applications to read some of their settings from the Router. This allows them to automatically configure some, or all, of their settings and need less user configuration.
URL Filter	A URL Filter is a feature of a firewall that allows it to stop its clients from browsing inappropriate Web sites.
WAN	Wide Area Network. A network that connects computers located in geographically separate areas (for example, different buildings, cities, or countries). The Internet is an example of a wide area network.
WDS	Wireless Distribution System. A system that can be comprised of a bridging and/or a repeater mode. In wireless bridging, APs communicate only with each other to bridge together two separate networks. In wireless repeating, APs rebroadcast received signals to extend reach and range, at the expense of throughput. The Router uses wireless repeating.
WECA	Wireless Ethernet Compatibility Alliance. An industry group formed to certify cross vendor interoperability and compatibility of 802.11b and 802.11g wireless networking products and to promote the standard for enterprise, small business and home environments. (see also 802.11b, 802.11g, Wi-Fi)
WEP	Wired Equivalent Privacy. A shared key encryption mechanism for wireless networking. Encryption strength is 40/64 bit or 128 bit.

Wi-Fi	Wireless Fidelity. This is the certification granted by WECA to products that meet their interoperability criteria. (see also 802.11b, WECA)
Wireless Client	The term used to describe a desktop or mobile PC that is wirelessly connected to your wireless network
Wireless LAN Service Area	Another term for ESSID (Extended Service Set Identifier)
Wizard	A Windows application that automates a procedure such as installation or configuration.
WLAN	Wireless Local Area Network. A WLAN is a group of computers and devices connected together by wireless in a relatively small area (such as a house or office).
WPA	Wi-Fi Protected Access. A dynamically changing encryption mechanism for wireless networking. Encryption strength is 256 bit.

**REGULATORY
INFORMATION**

3Com OfficeConnect Wireless 54Mbps/108Mbps 11g Cable/DSL Router (WL-537, WL-537S) must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.



This product contains encryption. It is unlawful to export out of the U.S. without obtaining a U.S. Export License.

This product does not contain any user serviceable components. Any unauthorized product changes or modifications will invalidate 3Com's warranty and all applicable regulatory certifications and approvals.

This product can only be used with the supplied antenna(s). The use of external amplifiers or non-3Com antennas may invalidate regulatory certifications and approvals.

**CAUTION: EXPOSURE TO
RADIO FREQUENCY
RADIATION.**

This device generates and radiates radio-frequency energy. In order to comply with FCC radio-frequency exposure guidelines for an uncontrolled environment, this equipment must be installed and operated while maintaining a minimum body to antenna distance of 20 cm (approximately 8 in.).

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website www.hc-sc.gc.ca/rpb..

This product must maintain a minimum body to antenna distance of 20 cm. Under these conditions this product will meet the Basic Restriction limits of 1999/519/EC [Council Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)].

**US – Radio Frequency
Requirements**

This device must not be co-located or operated in conjunction with any other antenna or transmitter.

**USA-FEDERAL
COMMUNICATIONS
COMMISSION (FCC)**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it 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 tuning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the distance between the equipment and the receiver
- Connect the equipment to outlet on a circuit different from that to which the receiver is connect
- Consult the dealer or an experienced radio/TV technician for help

The user may find the following booklet prepared by the Federal Communications Commission helpful: *The Interference Handbook*

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402. Stock No. 004-000-0034504.

3Com is not responsible for any radio or television interference caused by unauthorized modification of the devices included with this 3Com OfficeConnect Wireless 54Mbps/108Mbps 11g Cable/DSL Router (WL-537, WL-537S), or the substitution or attachment of connecting cables and equipment other than specified by 3Com.

The correction of interference caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.

**MANUFACTURER'S
DECLARATION OF
CONFORMITY**

3Com Corporation
350 Campus Drive
Marlborough, MA 01752-3064, USA
(800) 527-8677

Date: 03,20 2006

Declares that the Product:

Brand Name: 3Com Corporation

Model Number: WL-537, WL-537S

Equipment Type: 3Com OfficeConnect Wireless 54Mbps/108Mbps 11g Cable/DSL Router

Complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



3Com OfficeConnect Wireless 54Mbps/108Mbps 11g Cable/DSL Router
Model WL-537, WL-537S

**CANADA – INDUSTRY
CANADA (IC)**

This device complies with RSS 210 of Industry Canada.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device."

IMPORTANT NOTE

IC Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

L' utilisation de ce dispositif est autorisée seulement aux conditions suivantes: (1) il ne doit pas produire de brouillage et (2) l' utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

The term "IC" before the equipment certification number only signifies that the Industry Canada technical specifications were met.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication. To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Pour empêcher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit être utilisé à l'intérieur et devrait être placé loin des fenêtres afin de fournir un écran de blindage maximal. Si le matériel (ou son antenne d'émission) est installé à l'extérieur, il doit faire l'objet d'une licence.

**INDUSTRY CANADA (IC)
EMISSIONS COMPLIANCE
STATEMENT**

This Class B digital apparatus complies with Canadian ICES-003.

**AVIS DE CONFORMITÉ À LA
RÉGLEMENTATION
D'INDUSTRIE CANADA**

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

**SAFETY COMPLIANCE
NOTICE**

This device has been tested and certified according to the following safety standards and is intended for use only in Information Technology Equipment which has been tested to these or other equivalent standards:

- UL Standard 60950-1
- CAN/CSA C22.2 No. 60950-1
- IEC 60950-1
- EN 60950-1

**EUROPE – EU
DECLARATION OF
CONFORMITY**



Usage restrictions apply.
See documentation

This equipment may be operated in							
AT	BE	CY	CZ	DK	EE	FI	FR
DE	GR	HU	IE	IT	LV	LT	LU
MT	NL	PL	PT	SK	SI	ES	SE
GB	IS	LI	NO	CH	BG	RO	TR

Intended use: IEEE 802.11g/b radio LAN device

NOTE: To ensure product operation is in compliance with local regulations, select the country in which the product is installed. Refer to 3Com OfficeConnect Wireless 54Mbps/108Mbps 11g Cable/DSL Router User Guide.

**EUROPE - DECLARATION
OF CONFORMITY IN
LANGUAGES OF THE
EUROPEAN COMMUNITY**

English	Hereby, <i>3Com Corporation</i> , declares that this <i>RLAN device</i> is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Finnish	<i>3Com Corporation</i> vakuuttaa täten että <i>RLAN device</i> tyypinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Dutch	Hierbij verklaart <i>3Com Corporation</i> dat het toestel <i>RLAN device</i> in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG Bij deze verklaart <i>3Com Corporation</i> dat deze <i>RLAN device</i> voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC.
French	Par la présente <i>3Com Corporation</i> déclare que l'appareil <i>RLAN device</i> est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE Par la présente, <i>3Com Corporation</i> déclare que ce <i>RLAN device</i> est conforme aux exigences essentielles et aux autres dispositions de la directive 1999/5/CE qui lui sont applicables
Swedish	Härmed intygar <i>3Com Corporation</i> att denna <i>RLAN device</i> står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Danish	Undertegnede <i>3Com Corporation</i> erklærer herved, at følgende udstyr <i>RLAN device</i> overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF
German	Hiermit erklärt <i>3Com Corporation</i> , dass sich <i>dieser/diese/dieses RLAN device</i> in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMW) Hiermit erklärt <i>3Com Corporation</i> die Übereinstimmung des Gerätes <i>RLAN device</i> mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 1999/5/EG. (Wien)

Greek	<i>3Com Corporation RLAN device 1999/5/</i>
Italian	Con la presente <i>3Com Corporation</i> dichiara che questo <i>RLAN device</i> è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Spanish	Por medio de la presente <i>3Com Corporation</i> declara que el <i>RLAN device</i> cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE
Portuguese	<i>3Com Corporation</i> declara que este <i>RLAN device</i> está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Malti	Hawnhekk, <i>3Com Corporation</i> , jiddikjara li dan <i>RLAN device</i> jikkonforma mal-tiijiet essenzjali u ma provvedimenti orajn rilevanti li hemm fid-Direttiva 1999/5/EC
Estonian	Käesolevaga kinnitab <i>3Com Corporation</i> seadme <i>RLAN device</i> vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
Hungarian	Alulírott, <i>3Com Corporation</i> nyilatkozom, hogy a <i>RLAN device</i> megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Slovak	<i>3Com Corporation</i> týmto vyhlasuje, že <i>RLAN device</i> spa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Czech	<i>3Com Corporation</i> tímto prohlašuje, že tento <i>RLAN device</i> je ve shod se základními požadavky a dalšími příslušnými ustanoveními smrnice 1999/5/ES.
Slovene	Šiuo <i>3Com Corporation</i> deklaruoja, kad šis <i>RLAN device</i> atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Lithuanian	Šiuo <i>3Com Corporation</i> deklaruoja, kad šis <i>RLAN device</i> atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Latvian	Ar šo <i>3Com Corporation</i> deklar, ka <i>RLAN device</i> atbilst Direktvas 1999/5/EK btiskajm prasbm un citiem ar to saisttajiem noteikumiem.

A copy of the signed Declaration of Conformity can be downloaded from the Product Support web page for the 3CRWER100-75(WL-537) at <http://www.3com.com>.

Also available at http://support.3com.com/doc/WL-537_EU_DOC.pdf

A copy of the signed Declaration of Conformity can be downloaded from the Product Support web page for the 3CRWER200-75(WL-537S) at <http://www.3com.com>.

Also available at http://support.3com.com/doc/WL-537S_EU_DOC.pdf

EUROPE – RESTRICTIONS FOR USE OF 2.4GHz FREQUENCIES IN EUROPEAN COMMUNITY COUNTRIES

- This device may be operated **indoors or outdoors** in all countries of the European Community using the 2.4GHz band: Channels 1 – 13, except where noted below.
- **In Italy** the end-user must apply for a license from the national spectrum authority to operate this device outdoors.
- **In Belgium** outdoor operation is only permitted using the 2.46 – 2.4835 GHz band: Channel 13.
- **In France** outdoor operation is only permitted using the 2.4 – 2.454 GHz band: Channels 1 – 7.

Brazil RF Compliance

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não causar interferência a sistema operando em caráter primário.