SNA6500

User Manual

ADSL Wireless Base Station

PWR   XDSL On Line   WL   L1   L2   L3   L4

VERSION 1.0

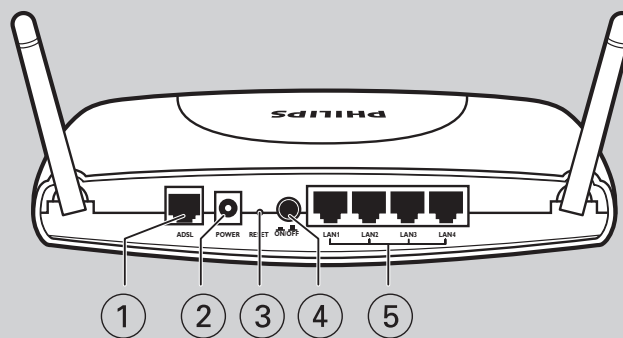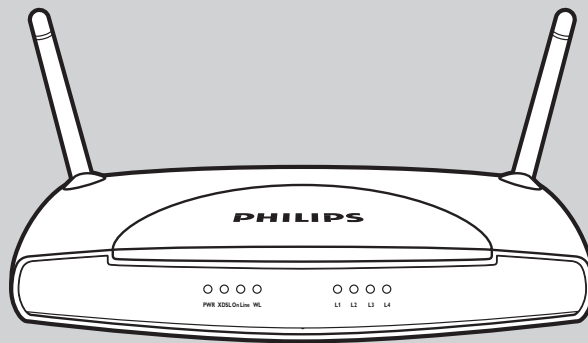**PHILIPS**

☎ Helpline

European Regulations

This product has been designed, tested and manufactured according to the European R&TTE Directive 1999/5/EC.

Following this Directive, this product can be brought into service in the following states:

Hereby, Philips Consumer Electronics, BLC P&A CC, declares that this SNA6500 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

B	✔	DK	✔	E	✔	GR	✔	F	✔
IRL	✔	I	✔	L	✔	NL	✔	A	✔
P	✔	SU	✔	S	✔	UK	✔	N	✔
D	✔	CH	✔						

March 2005

1 ADSL Port
ADSL port (RJ-11). Connect your ADSL line to this port.

2 Power Inlet
Connect the included power adapter to this inlet.
Warning: Using the wrong type of power adapter may damage the
            ADSL Wireless Base Station.

3 Reset Button
Use this button to reset the power and restore the default factory settings. To reset without losing configuration settings, see 'Reset' on page 28-29.

4 On/off
Button to switch unit on/off.

5 LAN Ports
10/100 Ethernet ports (RJ-45). Connect devices on your local area network to these ports (i.e., a PC, hub, or switch).

Table of Contents

SNA6500

Congratulations on your purchase of the Philips ADSL Wireless Base Station, hereafter referred to as the 'ADSL Wireless Base Station'. We are proud to provide you with a powerful yet simple communication device for connecting your local area network (LAN) to the Internet.
For those who want to surf the Internet in the most secure way, this router provides a convenient and powerful solution.

About the ADSL Wireless Base Station
The ADSL Wireless Base Station provides Internet access to multiple users by sharing a single-user account. Support is provided for both wired and wireless devices. New technology provides wireless security via Wired Equivalent Privacy (WEP) encryption, WiFi Protected Access (WPA) encryption and MAC address filtering. It is simple to configure and can be up and running in minutes.

Features and Benefits
* Internet connection to an ADSL line via an RJ-11 ADSL port
* Local network connection via four 10/100 Mbps Ethernet ports
* On-board IEEE 802.11g wireless network adapter
* DHCP for dynamic IP configuration, and DNS for domain name mapping
* Firewall with Stateful Packet Inspection, client privileges, intrusion detection, and NAT
* NAT also enables multi-user Internet access via a single user account, and virtual server functionality (providing protected access to Internet services such as web, FTP, email, and Telnet)
* VPN pass-through (IPSec-ESP Tunnel mode, L2TP, PPTP)
* User-definable application sensing tunnel supports applications requiring multiple connections
* Easy setup through a web browser on any operating system that supports TCP/IP
* Compatible with all popular Internet applications

Applications
Many advanced networking features are provided by the ADSL Wireless Base Station:

Wireless and Wired LAN
The ADSL Wireless Base Station provides connectivity to 10/100 Mbps devices, and wireless IEEE 802.11g compatible devices, making it easy to create a network in small offices or homes.

Internet Access
This device supports Internet access through an ADSL connection. Since many DSL providers use PPPoE or PPPoA to establish communications with end users, the ADSL Wireless Base Station includes built-in clients for these protocols, eliminating the need to install these services on your computer.

Shared IP Address
The ADSL Wireless Base Station provides Internet access for up to 253 users via a single shared IP address. Using only one ISP account, multiple users on your network can browse the web at the same time.

Virtual Server
If you have a fixed IP address, you can set the ADSL Wireless Base Station to act as a virtual host for network address translation. Remote users access various services at your site using a constant IP address. Then, depending on the requested service (or port number), the ADSL Wireless Base Station can route the request to the appropriate server (at another internal IP address). This secures your network from direct attack by hackers, and provides more flexible management by allowing you to change internal IP addresses without affecting outside access to your network.

DMZ Host Support
Allows a networked computer to be fully exposed to the Internet.
This function is used when NAT and firewall security prevent an Internet application from functioning correctly.

Security

The ADSL Wireless Base Station supports security features that deny Internet access to specified users, or filter all requests for specific services that the administrator does not want to serve. The ADSL Wireless Base Station's firewall also blocks common hacker attacks, including IP Spoofing, Land Attack, Ping of Death, IP with zero length, Smurf Attack, UDP port loopback, Snork Attack, TCP null scan, and TCP SYN flooding. WEP (Wired Equivalent Privacy), WPA (WiFi Protected Access), SSID, and MAC filtering provide security over the wireless network.

Important information

- Please install and connect the product in the order as described in the chapter 'Quick Start Guide' only. This assures best installation results with the least technical hassles.
- Please read this guide carefully before using the ADSL Wireless Base Station; and keep it for future reference.
- During set-up and installation, it may be helpful to have the instructions for your PC and other network components at hand.
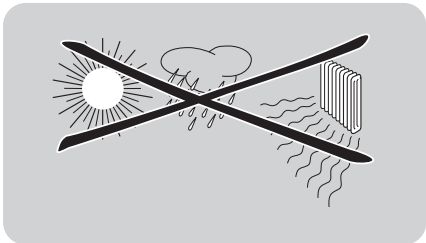
Safety Precautions

- Do not expose the product to excessive moisture, rain, sand or heat sources.
- The product should not be exposed to dripping or splashing. No object filled with liquids, such as vases, should be placed on the product.
- Keep the product away from domestic heating equipment and direct sunlight.
- Allow a sufficient amount of free space all around the product for adequate ventilation.
- Do not open this product. Contact your retailer if you experience technical difficulties.

Environmental information

All redundant packing material has been omitted. We have done our utmost to make the packaging easily separable into three mono materials: cardboard (box), polystyrene foam (buffer) and polyethylene (bags, protective foam sheet). Your set consists of materials that can be recycled if disassembled by a specialised company. Please observe the local regulations regarding the disposal of packing materials, exhausted batteries and old equipment.

Packaging contents

Please check whether all of the following items are present in the box of the Wireless Base Station. These are provided to help you set up and use your Wireless Base Station. Contact your retailer if any items are missing.

- Philips ADSL Wireless Base Station
- Power adapter
- One Category 5 Ethernet cable (RJ-45)
- Telephone patch cable (RJ-11)
- Quick Start Guide
- CD with manual

Disclaimer

This product is provided by 'Philips' 'as is" and without any express or implied warranty of any kind of warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed.

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Philips further does not warrant the accuracy or completeness of the information, text, graphics, illustrative examples links or other items can be deviated of the product.

FCC Radiation Exposure Statement:

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

System Requirements
- ADSL line installed by your Internet Service Provider.
- A computer using a fixed IP address or dynamic IP address assigned via DHCP, as well as a gateway server address and DNS server address from your service provider.
- A computer equipped with a 10/100 Mbps network adapter, a USB-to-Ethernet converter or an IEEE 802.11g wireless network adapter.
- TCP/IP network protocols installed on each PC that will access the Internet.
- A Java-enabled web browser, such as Microsoft Internet Explorer 5.5 or above or Netscape 4.7 or above, installed on one PC at your site for configuring the ADSL Wireless Base Station.

Hardware Description
The ADSL Wireless Base Station contains an integrated ADSL modem and connects to the Internet or to a remote site using its RJ-11 WAN port. It can be connected directly to your PC or to a local area network using any of the four 10/100 Ethernet LAN ports.

Data passing between devices connected to your local area network can run at up to 100 Mbps over the 10/100 Ethernet ports and 54 Mbps over the built-in wireless network adapter.

The ADSL Wireless Base Station includes an LED display on the front panel for system power and port indications that simplifies installation and network troubleshooting. It also provides the following ports on the rear panel:
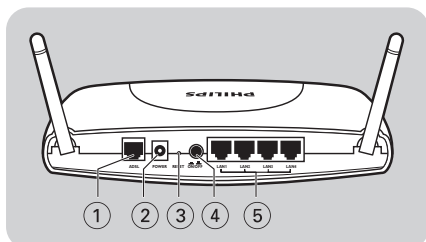
1 **ADSL Port**
   ADSL port (RJ-11). Connect your ADSL line to this port.
2 **Power Inlet**
   Connect the included power adapter to this inlet.
   Warning: *Using the wrong type of power adapter may damage the ADSL Wireless Base Station.*
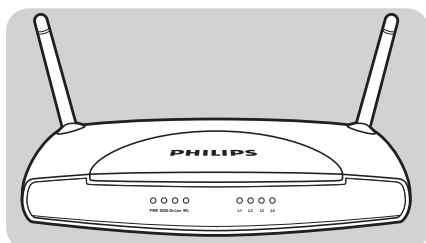3 **Reset Button**
   Use this button to reset the power and restore the default factory settings. To reset without losing configuration settings, see 'Reset' on page 28-29.
4 **ON/OFF**
   Button to switch unit ON/OFF
5 **LAN Ports**
   10/100 Ethernet ports (RJ-45). Connect devices on your local area network to these ports (i.e., a PC, hub, or switch).

LED Indicators
The power and port LED indicators on the front panel are illustrated by the following figure and table.

LED	Status	Description
PWR (Power)	On	Power on, normal operation.
	Off	Power off or failure.
xDSL (DSL sync)	On	ADSL loop is brought UP.
	Blinking	Start up.
	Off	ADSL loop is down.
Online	On	Link is up.
	Blinking	Send/Receive data.
	Off	No data transfering.
WL (Wireless)	On	Link is up.
	Blinking	Send/Receive data.
	Off	No data transfering.
LAN 1-4	On	Ethernet Connection is established.
	Blinking	Send/Receive data.
	Off	Without Link.

ISP Settings
Please collect the following information from your ISP before setting up the ADSL Wireless Base Station:
- ISP account user name and password
- Protocol, encapsulation and VPI/VCI circuit numbers
- DNS server address
- IP address, subnet mask and default gateway (for fixed IP users only)

Connect the System

The ADSL Wireless Base Station can be positioned at any convenient location in your office or home. No special wiring or cooling requirements are needed. You should, however, comply with the following guidelines:
• Keep the ADSL Wireless Base Station away from any heating devices.
• Do not place the ADSL Wireless Base Station in a dusty or wet environment.

You should also remember to turn off the power, remove the power cord from the outlet, and keep your hands dry when you install the ADSL Wireless Base Station.

Connect the ADSL Line

Connect the supplied RJ-11 cable from the ADSL Microfilter/Splitter to the ADSL port on your ADSL Wireless Base Station. When inserting an ADSL RJ-11 plug, be sure the tab on the plug clicks into position to ensure that it is properly seated.

Phone Line Configuration

Installing a Full-Rate Connection

If you are using a full-rate (G.dmt) connection, your service provider will attach the outside ADSL line to a data/voice splitter. In this case you can connect your phones and computer directly to the splitter as shown below:
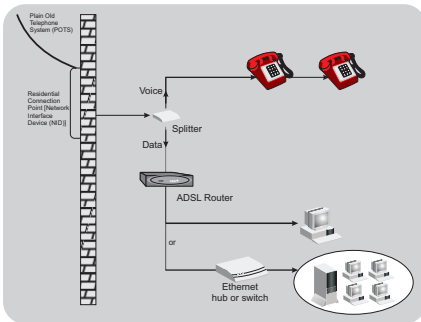
Figure 2-3. Installing with a Splitter

Installing a Splitterless Connection

If you are using a splitterless (G.lite) connection, then your service provider will attach the outside ADSL line directly to your phone system.
In this case you can connect your phones and computer directly to the incoming ADSL line, but you will have to add low-pass filters to your phones as shown below:
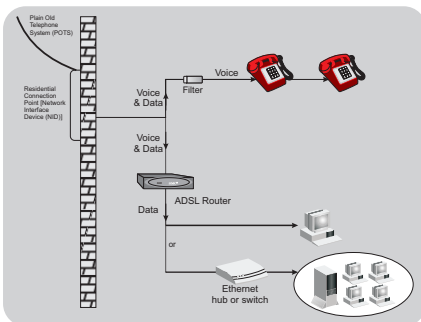
Figure 2-4. Installing without a Splitter

Attach to Your Network Using Ethernet Cabling

The four LAN ports on the ADSL Wireless Base Station auto-negotiate the connection speed to 10 Mbps Ethernet or 100 Mbps Fast Ethernet, as well as the transmission mode to half duplex or full duplex.

Use RJ-45 cables to connect any of the four LAN ports on the ADSL Wireless Base Station to an Ethernet adapter on your PC. Otherwise, cascade any of the LAN ports on the ADSL Wireless Base Station to an Ethernet hub or switch, and then connect your PC or other network equipment to the hub or switch. When inserting an RJ-45 connector, be sure the tab on the connector clicks into position to ensure that it is properly seated.

Warning: *Do not plug a phone jack connector into an RJ-45 port. This may damage the ADSL Wireless Base Station.*

Notes:
– Use 100-ohm shielded or unshielded twisted-pair cable with RJ-45 connectors for all 10/100 ethernet ports. Use Category 3, 4, or 5 for connections that operate at 10 Mbps, and Category 5 for connections that operate at 100 Mbps.
– Make sure each twisted-pair cable length does not exceed 100 meters (328 feet).

Connect the Power Adapter

Plug the power adapter into the power socket on the rear of the ADSL Wireless Base Station, and the other end into a power outlet.

Check the power indicator on the front panel is lit. If the power indicator is not lit, refer to 'Troubleshooting' on page 42.

In case of a power input failure, the ADSL Wireless Base Station will automatically restart and begin to operate once the input power is restored.

After completing hardware setup by connecting all your network devices, you need to configure your computer to connect to the ADSL Wireless Base Station.
See: 'Windows 98/Me' on page 9
                                  'Windows NT 4.0' on page 12
                                  'Windows 2000' on page 14
   'Windows XP' on page 14
                                  'Wireless adapters' on page 17

TCP/IP Configuration

To access the Internet through the ADSL Wireless Base Station, you must configure the network settings of the computers on your LAN to use the same IP subnet as the ADSL Wireless Base Station. The default IP settings for the ADSL Wireless Base Station are:

IP Address	192.168.2.1
Subnet Mask	255.255.255.0
DHCP function	Enable
DHCP IP Pool Range	192.168.2.2 to 192.168.2.254

Note: *These settings can be changed to fit your network requirements, but you must first configure at least one computer to access the ADSL Wireless Base Station's web configuration interface in order to make the required changes. (See 'Configuring the ADSL Wireless Base Station' on page 20 for instruction on configuring the ADSL Wireless Base Station.)*

Windows 98/Me

You may find that the instructions in this section do not exactly match your version of Windows. This is because these steps and screen shots were created from Windows 98. Windows Millennium Edition is similar, but not identical, to Windows 98.
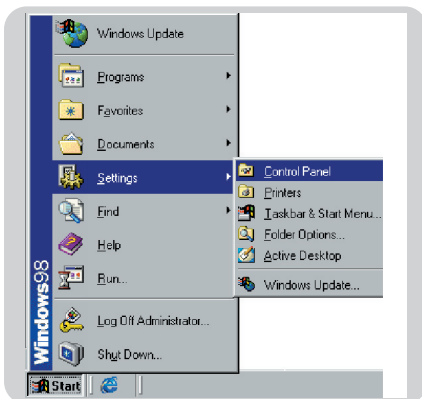
1   On the Windows desktop, click Start/Settings/Control Panel.

2   In Control Panel, double-click the Network icon.
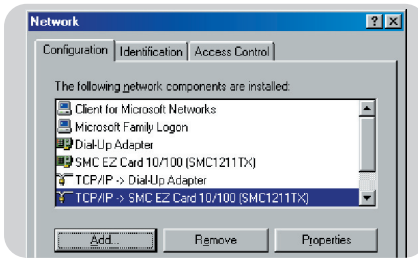
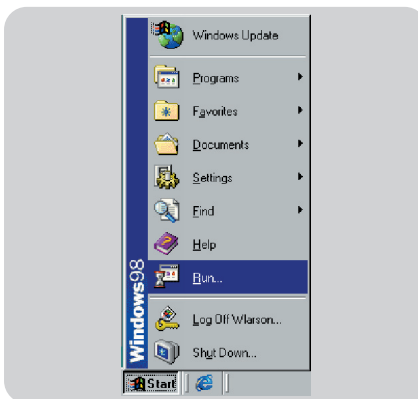3 In the Network window, under the Configuration tab, double-click the TCP/IP item listed for your network card.
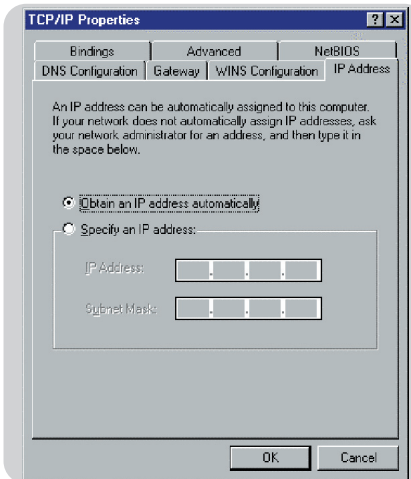
4 In the TCP/IP window, select the IP Address tab. If 'Obtain an IP address automatically' is already selected, your computer is already configured for DHCP. If not, select this option.
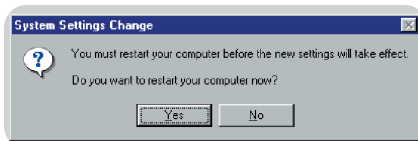
5 Windows may need your Windows 98/Me CD to copy some files. After it finishes copying, it will prompt you to restart your system. Click Yes and your computer will restart.

Obtain IP Settings from Your ADSL Wireless Base Station
Now that you have configured your computer to connect to your ADSL Wireless Base Station, it needs to obtain new network settings. By releasing old DHCP IP settings and renewing them with settings from your ADSL Wireless Base Station, you can also verify that you have configured your computer correctly.

1 On the Windows desktop, click Start/Run...
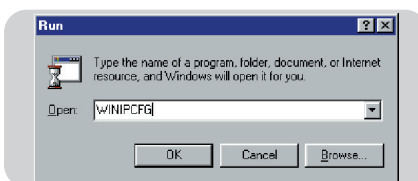
2 Type 'WINIPCFG' and click OK. It may take a second or two for the IP Configuration window to appear.
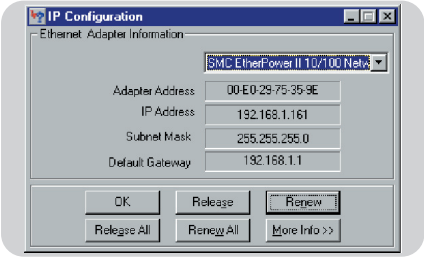
3   In the IP Configuration window, select your network card from the drop-down menu. Click Release and then click Renew. Verify that your IP address is now 192.168.2.xxx, your Subnet Mask is 255.255.255.0 and your Default Gateway is 192.168.2.1. These values confirm that your ADSL Wireless Base Station is functioning. Click OK to close the IP Configuration window.
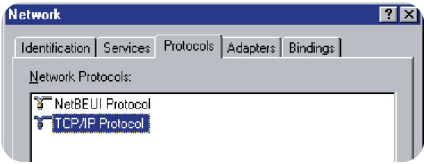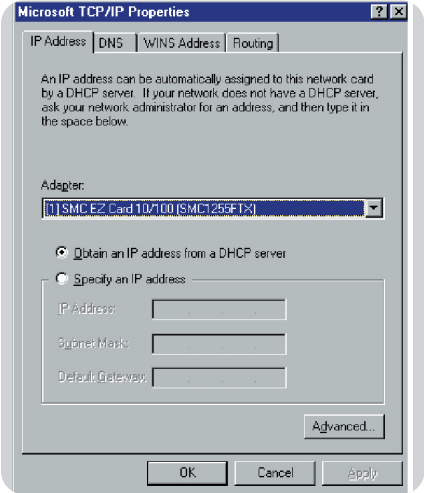
Windows NT 4.0
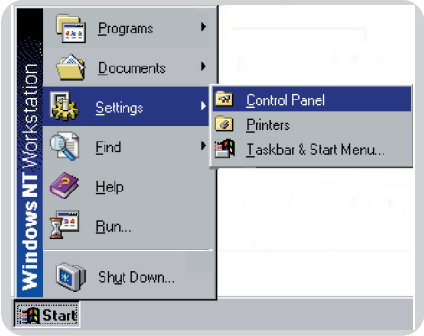
1   On the Windows desktop, click Start/Settings/Control Panel.

2   Double-click the Network icon.

3   In the Network window, select the Protocols tab.
    Double-click TCP/IP Protocol.

4   When the Microsoft TCP/IP Properties window opens, select the IP Address tab.

5   In the Adapter drop-down list, make sure your Ethernet adapter is selected.

6 If 'Obtain an IP address automatically' is already selected, your computer is already configured for DHCP. If not, select this option and click 'Apply.'
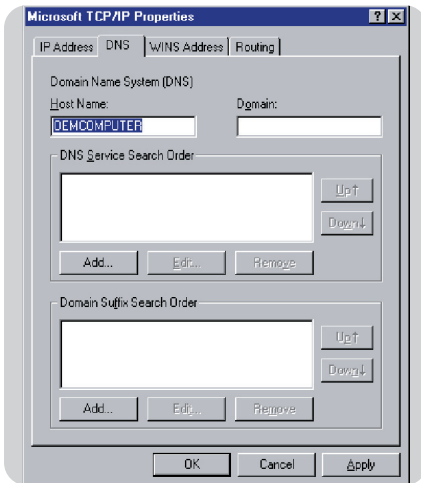
7 Click the DNS tab to see the primary and secondary DNS servers.
Record these values, and then click 'Remove.' Click 'Apply', and then 'OK.'

8 Windows may copy some files, and will then prompt you to restart your system. Click Yes and your computer will shut down and restart.
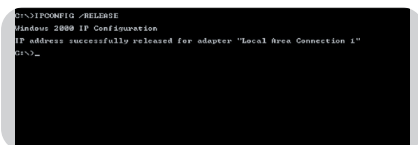
Disable HTTP Proxy
You need to verify that the 'HTTP Proxy' feature of your web browser is disabled. This is so that your browser can view the ADSL Wireless Base Station's HTML configuration pages (refer to 'Internet Explorer' on page 16).

Obtain IP Settings from Your ADSL Wireless Base Station
Now that you have configured your computer to connect to your ADSL Wireless Base Station, it needs to obtain new network settings. By releasing old DHCP IP settings and renewing them with settings from your ADSL Wireless Base Station, you will verify that you have configured your computer correctly.
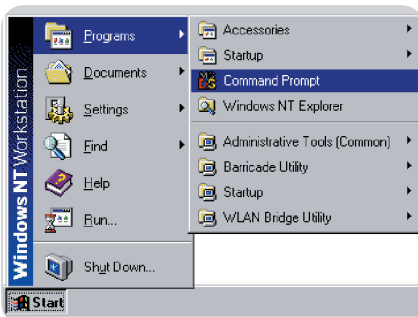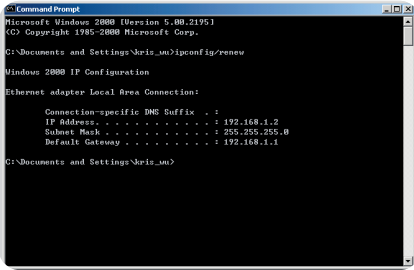

1 On the Windows desktop, click Start/Programs/Command Prompt.

2 In the Command Prompt window, type 'IPCONFIG /RELEASE' and press the ENTER key.

3 Type 'IPCONFIG /RENEW' and press the ENTER key. Verify that your IP Address is now 192.168.2.xxx, your Subnet Mask is 255.255.255.0 and your Default Gateway is 192.168.2.1.
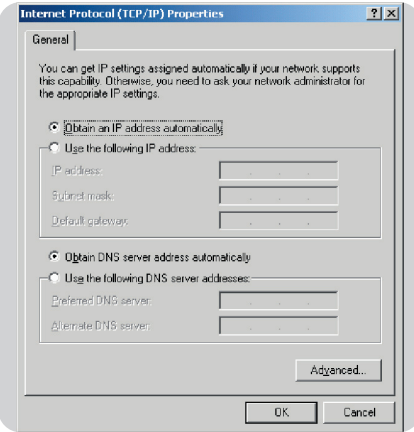These values confirm that your ADSL Wireless Base Station is functioning.

4 Type 'EXIT' and press the ENTER key to close the Command Prompt window.
   Your computer is now configured to connect to the ADSL Wireless Base Station.

Windows 2000

1 On the Windows desktop, click Start/Settings/Network and Dial-Up Connections.

2 Click the icon that corresponds to the connection to your ADSL Wireless Base Station.

3 The connection status screen will open. Click Properties.
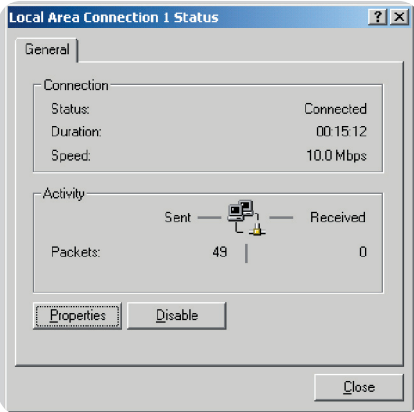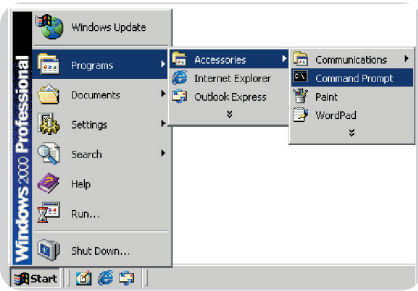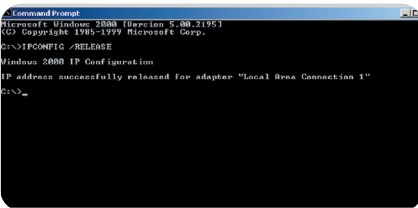
4 Double-click Internet Protocol (TCP/IP).

5 If 'Obtain an IP address automatically' and 'Obtain DNS server address automatically' are already selected, your computer is already configured for DHCP. If not, select this option.

Disable HTTP Proxy
You need to verify that the 'HTTP Proxy' feature of your web browser is disabled. This is so that your browser can view the ADSL Wireless Base Station's HTML configuration pages (refer to 'Internet Explorer' on page 16).

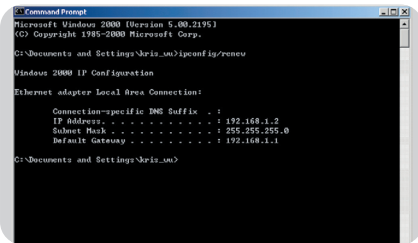**Obtain IP Settings from Your ADSL Wireless Base Station**
Now that you have configured your computer to connect to your ADSL Wireless Base Station, it needs to obtain new network settings. By releasing old DHCP IP settings and renewing them with settings from your ADSL Wireless Base Station, you can verify that you have configured your computer correctly.

1   On the Windows desktop, click Start/Programs/Accessories/Command Prompt.

2   In the Command Prompt window, type 'IPCONFIG/RELEASE' and press the ENTER key.

3   Type 'IPCONFIG /RENEW' and press the ENTER key. Verify that your IP Address is now 192.168.2.xxx, your Subnet Mask is 255.255.255.0 and your Default Gateway is 192.168.2.1.

These values confirm that your ADSL Wireless Base Station is functioning.

4   Type 'EXIT' and press the ENTER key to close the Command Prompt window.

Your computer is now configured to connect to the ADSL Wireless Base Station.

Windows XP

1   On the Windows desktop, click Start/Control Panel.

2   In the Control Panel window, click Network and Internet Connections.

3   The Network Connections window will open. Double-click the connection for this device.

4   On the connection status screen, click Properties.

5   Double-click Internet Protocol (TCP/IP).

6   If 'Obtain an IP address automatically' and 'Obtain DNS server address automatically' are already selected, your computer is already configured for DHCP. If not, select this option.

Disable HTTP Proxy
You need to verify that the 'HTTP Proxy' feature of your web browser is disabled. This is so that your browser can view the ADSL Wireless Base Station's HTML configuration pages (refer to 'Internet Explorer' on page 16).

Obtain IP Settings from Your ADSL Wireless Base Station
Now that you have configured your computer to connect to your ADSL Wireless Base Station, it needs to obtain new network settings. By releasing old DHCP IP settings and renewing them with settings from your ADSL Wireless Base Station, you can verify that you have configured your computer correctly.

1   On the Windows desktop, click Start/Programs/Accessories/Command Prompt.

2   In the Command Prompt window, type 'IPCONFIG/RELEASE' and press the ENTER key.

14

3   Type 'IPCONFIG /RENEW' and press the ENTER key. Verify that your IP Address is now 192.168.2.xxx, your Subnet Mask is 255.255.255.0 and your Default Gateway is 192.168.2.1. These values confirm that your ADSL Wireless Base Station is functioning.
Type 'EXIT' and press the ENTER key to close the Command Prompt window.

Your computer is now configured to connect to the ADSL Wireless Base Station.

Configuring Your Macintosh Computer

You may find that the instructions here do not exactly match your operating system. This is because these steps and screen shots were created using Mac OS 10.2. Mac OS 7.x and above are similar, but may not be identical to Mac OS 10.2.

Follow these instructions:

1   Pull down the Apple Menu. Click System Preferences.
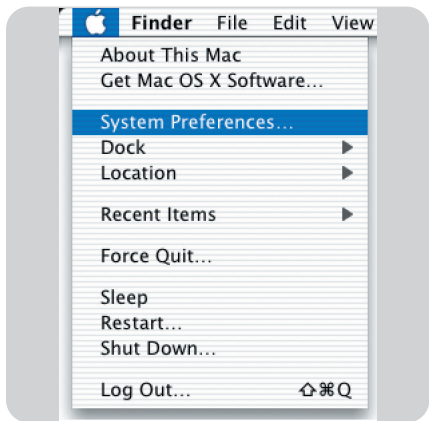
2   Double-click the Network icon in the Systems Preferences window.
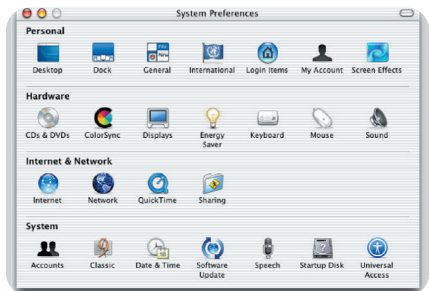
3   If 'Using DHCP Server' is already selected in the Configure field, your computer is already configured for DHCP. If not, select this Option.
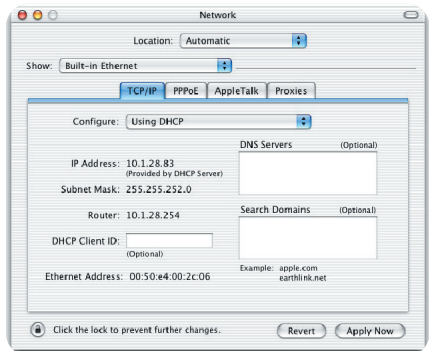
4   Your new settings are shown on the TCP/IP tab. Verify that your IP Address is now 192.168.2.xxx, your Subnet Mask is 255.255.255.0 and your Default Gateway is 192.168.2.1. These values confirm that your ADSL Wireless Base Station is functioning.
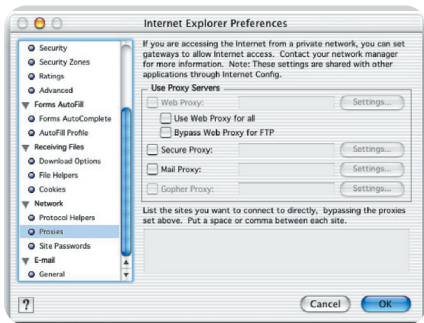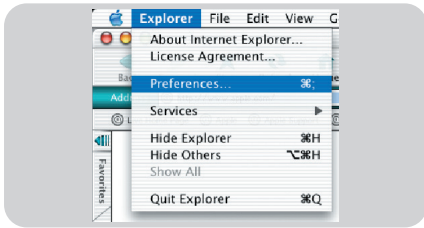
5   Close the Network window.

Now your computer is configured to connect to the ADSL Wireless Base Station.

Disable HTTP Proxy
You need to verify that the 'HTTP Proxy' feature of your web browser is disabled.
This is so that your browser can view the ADSL Wireless Base Station's HTML
configuration pages. The following steps are for Internet Explorer.

Internet Explorer

1   Open Internet Explorer and click the Stop button.
    Click Explorer/Preferences.

2   In the Internet Explorer Preferences window, under Network, select Proxies.

3   Uncheck all check boxes and click OK.

Configuring your wireless adapter

You can make a wireless connection with the SNA6500 using a Wi-Fi wireless
adapter. Please read the manual of your Wi-Fi wireless adapter on how to connect to
the SNA6500.

Disable HTTP Proxy
You need to verify that the 'HTTP Proxy' feature of your web browser is disabled.
This is so that your browser can view the ADSL Wireless Base Station's HTML
configuration pages. The following steps are for Internet Explorer.

Internet Explorer

1   Open Internet Explorer.

2   Click the Stop ◉ button, then click Tools/Internet Options.
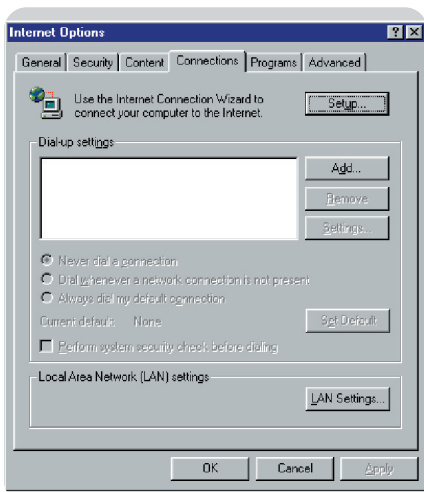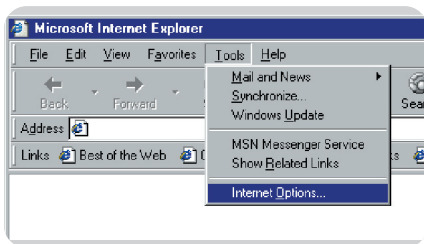
3   In the Internet Options window, click the Connections tab.
    Next, click the LAN Settings... button.

16
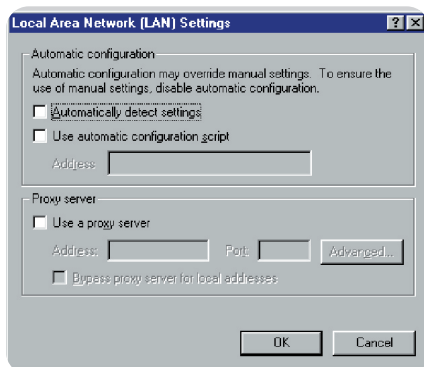
4   Clear all the check boxes.

5   Click OK, and then click OK again to close the Internet Options window.

6   Browse to the ADSL Wireless Base station by entering http://192.168.2.1 in the URL address.

Setup Wizard

Getting Started

Make sure that you have a working ADSL subscription and that the ADSL wireless base station is connected to the ADSL phone line. You can verify that the cable is connected correctly by looking at the light on the front of the ADSL wireless base station. The 'ASDL' light should be on solid after approximately 1 minute.
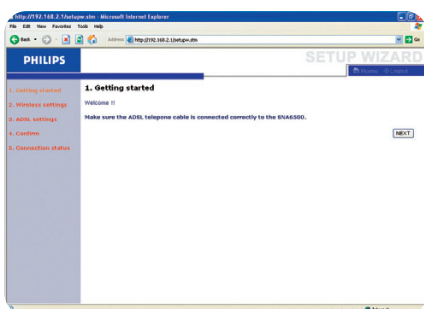
Wireless settings

In step 2 you can change the Wireless settings of the ADSL wireless base station. For easy installation it is advised to keep the default settings. If you later would like to change any of the wireless settings you can do so via the menu in the ADSL wireless base station.
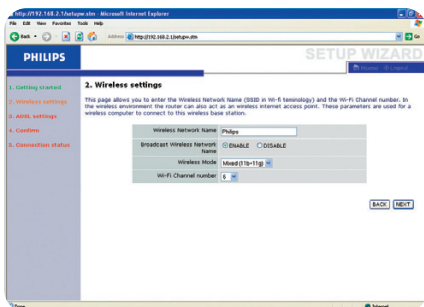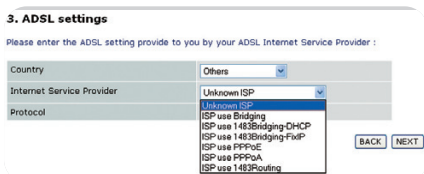
ADSL settings

In step 3 you have to enter the settings applicable to your ADSL Internet Service Provider (ISP) subscription. For easy installation you can select your ISP from a list of predefined ADSL ISP's per country.
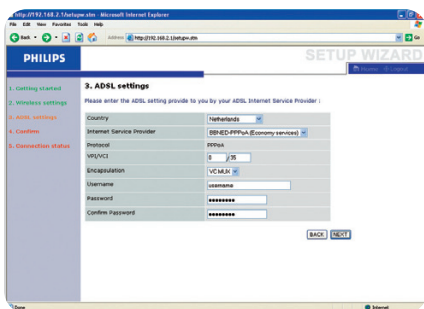
If you cannot find your ISP in the list you can enter the settings manually. To do so select as 'Country' 'others' and select from the 'Internet Service Provider' list the ADSL protocol your ISP is using (this should be mentioned in the documentation you received from your ISP).

Confirm

Step 4 displays the ADSL settings you've entered and that will be used to configure the ADSL wireless base station. Please check that the settings comply with the information you received from your ADSL ISP subscription. If you want to make changes click the 'Back' button to go back to Step 3.
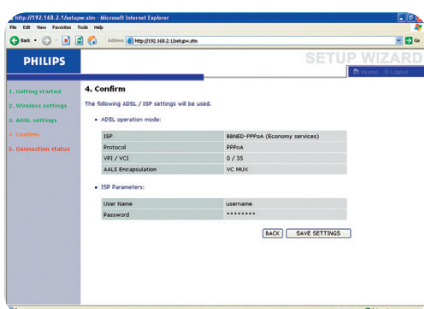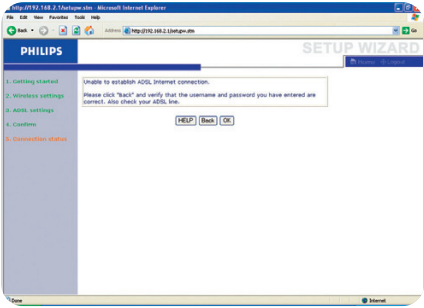
After you've clicked 'SAVE SETTINGS' a message will appear 'Your data is being saved'.
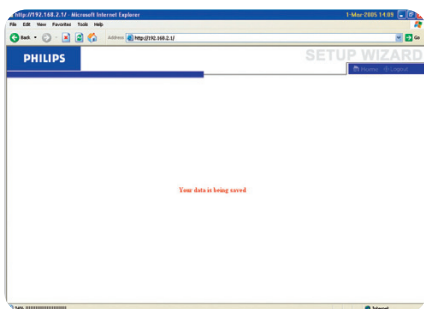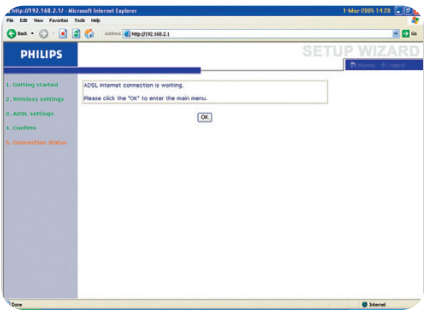
Connection Status
Step 5 shows if you have internet connection or not.

If you have connection you will see the following message.

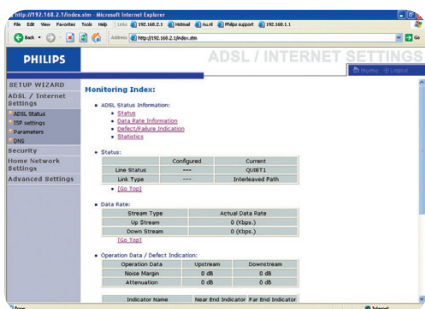If the connection failed you will see the following message.

Please check that your ADSL line is active and
that you've entered the correct ISP settings.
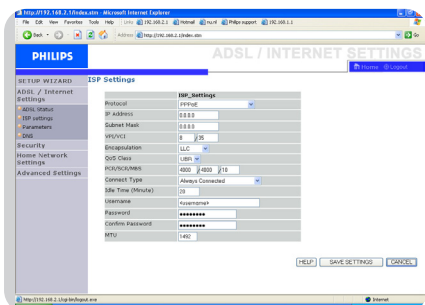
ADSL / Internet settings

ADSL Status

Click on 'ADSL Status' which is located on the left side of the screen. The left-hand side displays the main menu and the right-hand side shows descriptive information.
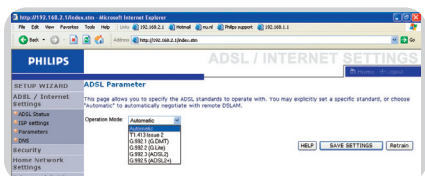
ISP settings

Enter the ATM (Asynchronous Transfer Mode) virtual connection parameters here.

Parameters

This page allows you specify the ADSL standards to operate with. You may explicitly set specific standard, or choose 'Automatic' to automatically negotiate with remote DSLAM.

DNS

Domain Name Servers (DNS) are used to map a domain name (e.g., www.philips.com) with the IP address (e.g., 64.147.25.20). The DNS address is usually configured automatically. If this is not the case, one or more DNS address will be provided to you by your ISP.
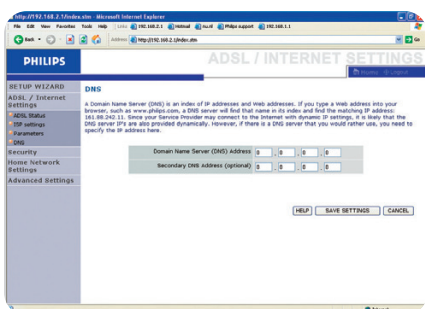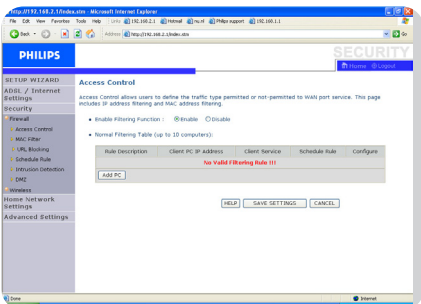
Security

Firewall

The ADSL Wireless Base Station's firewall inspects packets at the application layer, maintains TCP and UDP session information including time-outs and the number of active sessions, and provides the ability to detect and prevent certain types of network attacks.

Network attacks that deny access to a network device are called Denial-of-Service (DoS) attacks. DoS attacks are aimed at devices and networks with a connection to the Internet. Their goal is not to steal information, but to disable a device or network so users no longer have access to network resources.

The ADSL Wireless Base Station firewall function protects against the following DoS attacks: IP Spoofing, Land Attack, Ping of Death, IP with zero length, Smurf Attack, UDP port loopback, Snork Attack, TCP null scan, and TCP SYN flooding.

The firewall does not significantly affect system performance, so we advise leaving it enabled to protect your network. Select Enable and click the 'SAVE SETTINGS' button to open the Firewall submenus.
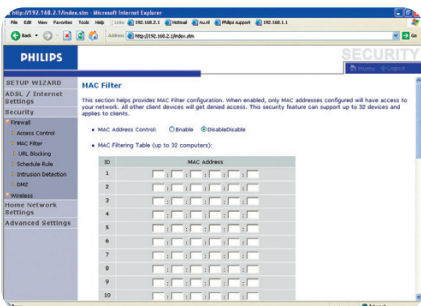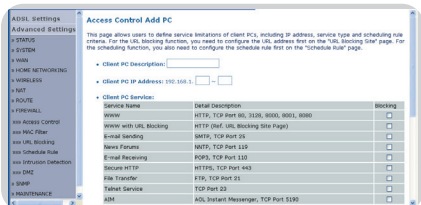
Access Control

Access Control allows users to define the outgoing traffic permitted or not-permitted through the WAN interface. The default is to permit all outgoing traffic.

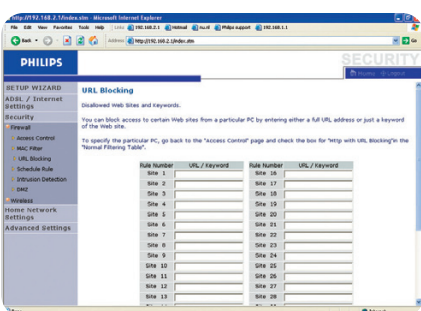To add the PC to the filtering table:

1 Click 'Add PC' on the Access Control screen.

2 Define the appropriate settings for client PC services.

3 Click 'OK' and then click 'SAVE SETTINGS' to save your settings.

MAC Filter

The ADSL Wireless Base Station can also limit the network access based on the MAC address. The MAC Filtering Table allows the ADSL Wireless Base Station to enter up to 32 MAC addresses that are not allowed access to the WAN port.

1 Click Yes to enable, or No to disable this function.
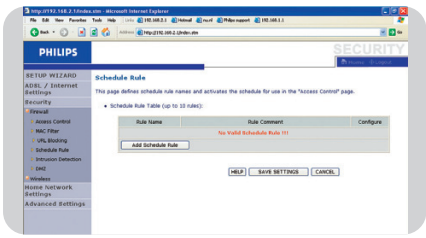
2 Enter the MAC address in the space provided and click 'Save Settings' to confirm.

URL Blocking

The ADSL Wireless Base Station allows the user to block access to web sites by entering either a full URL address or just a keyword. This feature can be used to protect children from accessing violent or pornographic web sites.

You can define up to 30 sites here.

Schedule Rule
You may filter Internet access for local clients based on rules. Each access control rule may be activated at a scheduled time. Define the time schedule on this page, and apply the rule on the Access Control page.
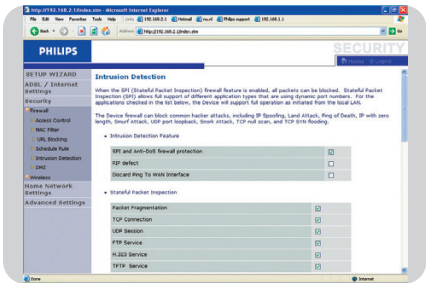
Intrusion Detection

Intrusion Detection Feature
Stateful Packet Inspection (SPI) and Anti-DoS firewall protection
(Default: Enabled) - The Intrusion Detection Feature of the ADSL Wireless Base Station limits access for incoming traffic at the WAN port. When the SPI feature is turned on, all incoming packets will be blocked except for those types marked in the Stateful Packet Inspection section.

RIP Defect (Default: Disabled) - If an RIP request packet is not acknowledged to by the router, it will stay in the input queue and not be released. Accumulated packets could cause the input queue to fill, causing severe problems for all protocols. Enabling this feature prevents the packets from accumulating.

Discard Ping to WAN (Default: Disabled) - Prevent a ping on the ADSL Wireless Base Station's WAN port from being routed to the network.

Scroll down to view more information.
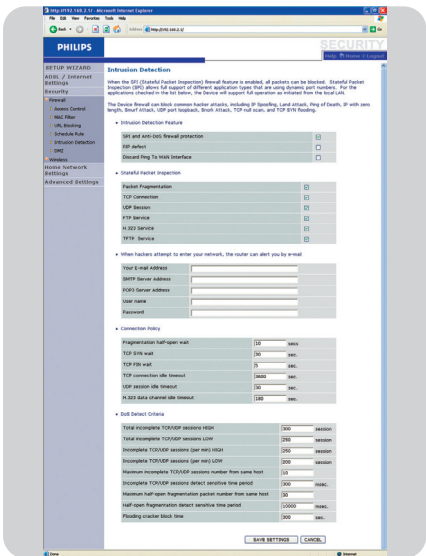
Stateful Packet Inspection
This is called a 'stateful' packet inspection because it examines the contents of the packet to determine the state of the communications; i.e., it ensures that the stated destination computer has previously requested the current communication. This is a way of ensuring that all communications are initiated by the recipient computer and are taking place only with sources that are known and trusted from previous interactions. In addition to being more rigorous in their inspection of packets, stateful inspection firewalls also close off ports until connection to the specific port is requested.

When particular types of traffic are checked, only the particular type of traffic initiated from the internal LAN will be allowed. For example, if the user only checks 'FTP Service' in the Stateful Packet Inspection section, all incoming traffic will be blocked except for FTP connections initiated from the local LAN.

Stateful Packet Inspection allows you to select different application types that are using dynamic port numbers. If you wish to use the Stateful Packet Inspection (SPI) to block packets, click on the Yes radio button in the 'Enable SPI and Anti-DoS firewall protection' field and then check the inspection type that you need, such as Packet Fragmentation, TCP Connection, UDP Session, FTP Service, H.323 Service, or TFTP Service.
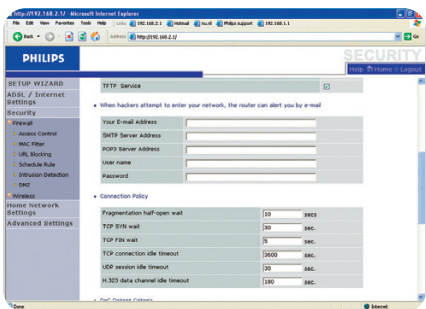
When hackers attempt to enter your network, the SNA6500 can alert you by e-mail

If the mail server needs to authenticate your identification before sending out any e-mail, please fill related information in POP3 server, username and password fields. Otherwise leave the three fields blank.

Connection Policy
Enter the appropriate values for TCP/UDP sessions as described in the following table.

Note: *The firewall does not significantly affect system performance, so we advise enabling the prevention features to protect your network.*
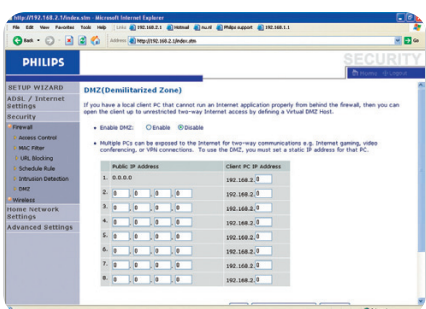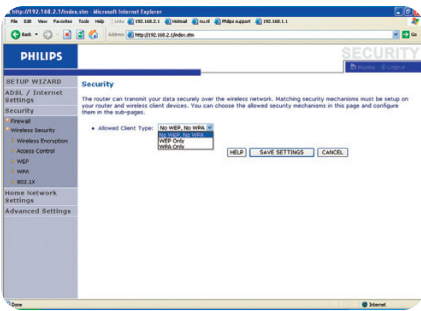
DMZ
If you have a client PC that cannot run an Internet application properly from behind the firewall, you can open the client up to unrestricted two-way Internet access. Enter the IP address of a DMZ (Demilitarized Zone) host on this screen. Adding a client to the DMZ may expose your local network to a variety of security risks, so only use this option as a last resort.
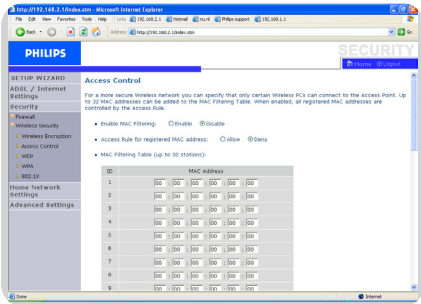
Wireless security

Wireless Encryption
To make your wireless network safe, you should turn on the security function. The ADSL Wireless Base Station supports WEP (Wired Equivalent Privacy), WPA (Wi-Fi Protected), and 802.1x security mechanisms.

Access Control
Access Control allows users to define the outgoing traffic permitted or not-permitted through the WAN interface. The default is to permit all outgoing traffic.
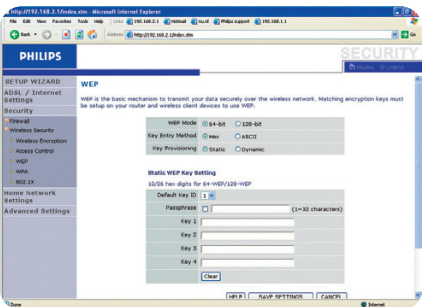
To add the PC to the filtering table:

1   Click 'Add PC' on the Access Control screen.

2   Define the appropriate settings for client PC services.

3   Click 'OK' and then click 'SAVE SETTINGS' to save your settings.

MAC Filter
The ADSL Wireless Base Station can also limit the network access based on the MAC address. The MAC Filtering Table allows the ADSL Wireless Base Station to enter up to 32 MAC addresses that are not allowed access to the WAN port.
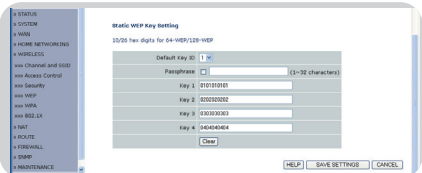
1   Click Yes to enable, or No to disable this function.

2   Enter the MAC address in the space provided and click 'Save Settings' to confirm.

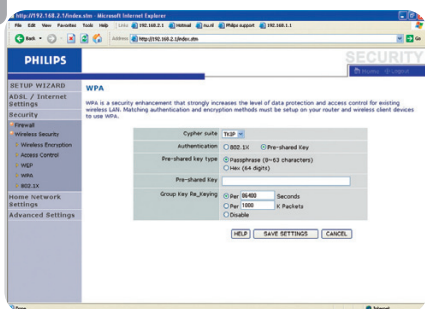**Note:** *Also see 'Finding the MAC address of a network card' on page 32.*

WEP
If you use WEP to protect your wireless network, you need to set the same parameters for the ADSL Wireless Base Station and all your wireless clients.
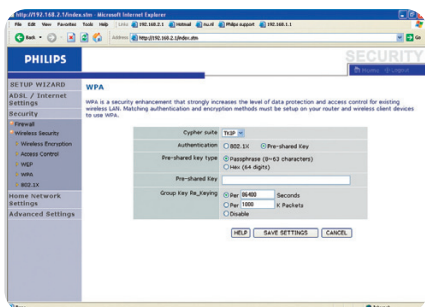
You may automatically generate encryption keys or manually enter the keys. To generate the key automatically with passphrase, check the Passphrase box, enter a string of characters. Select the default key from the drop down menu. Click 'SAVE SETTINGS'.

Note: *The passphrase can consist of up to 32 alphanumeric characters.*

To manually configure the encryption key, enter five hexadecimal pairs of digits for each 64-bit key, or enter 13 pairs for the single 128-bit key.
(A hexadecimal digit is a number or letter in the range 0-9 or A-F.)
Note that WEP protects data transmitted between wireless nodes, but does not protect any transmissions over your wired network or over the Internet.

WPA
Wi-Fi Protected Access (WPA) combines temporal key integrity protocol (TKIP) and 802.1x mechanisms. It provides dynamic key encryption and 802.1x authentication service.


802.1X
If 802.1x is used in your network, then you should enable this function for the ADSL Wireless Base Station. These parameters are used for the ADSL Wireless Base Station to connect to the authentication server.

Home network settings

Status

The Status page displays WAN/LAN connection status, firmware, and hardware version numbers, illegal attempts to access your network, as well as information on DHCP clients connected to your network. The security log may be saved to a file by clicking 'Save' and choosing a location.
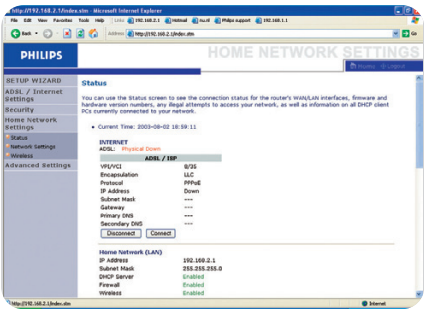
Network settings

Use the Home Networking menu to configure the LAN IP address and to enable the DHCP server for dynamic client address allocation.
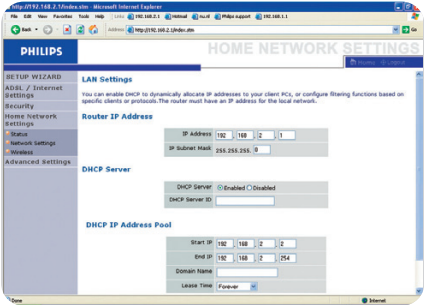
Note: *Remember to configure your client PCs for dynamic IP address allocation. (See page 11 for details.)*

Wireless

The ADSL Wireless Base Station also operates as a wireless access point, allowing wireless computers to communicate with each other. To configure this function, you need to enable the wireless function, define the radio channel, the domain identifier, and the security options.
Check Enable and click 'SAVE SETTINGS'.
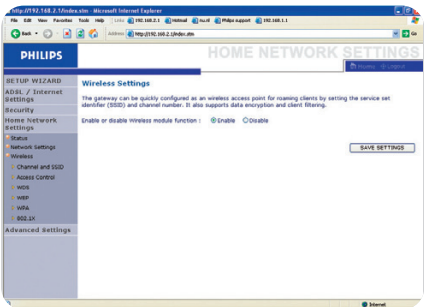
Channel and SSID

You must specify a common radio channel and SSID (Service Set ID) to be used by the ADSL Wireless Base Station and all of its wireless clients.
Make sure you configure all of its clients to the same values.
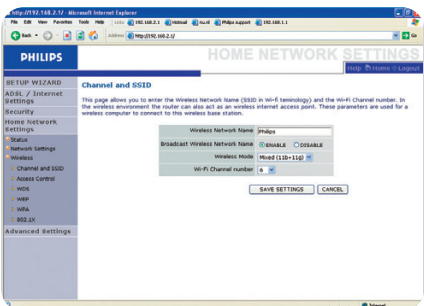
Access Control

Access Control allows users to define the outgoing traffic permitted or not-permitted through the WAN interface. The default is to permit all outgoing traffic.
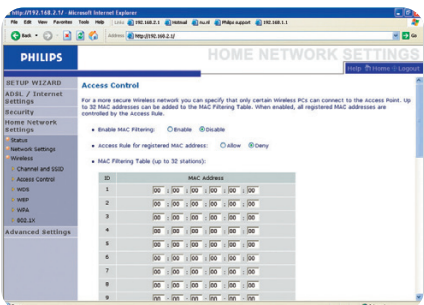
To add the PC to the filtering table:

1 Click 'Add PC' on the Access Control screen.

2 Define the appropriate settings for client PC services.

3 Click 'OK' and then click 'SAVE SETTINGS' to save your settings.

WDS

If the signal strength of a single wireless base station is not sufficient due to a large coverage area or attenuation due to walls, with WDS the range of a wireless base station can be extended.
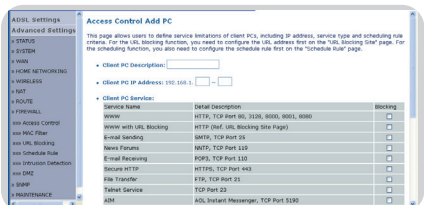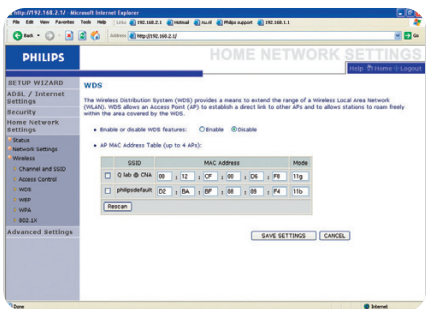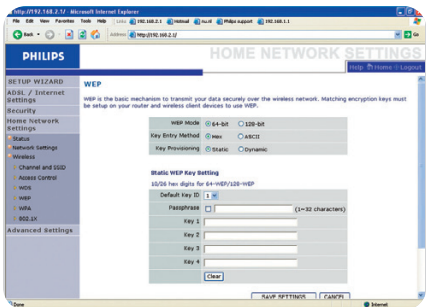
All base stations in a Wireless Distribution System must be configured with the same radio channel, and encryption type (WEP / WPA) if that is used.

Note: *The WDS feature is not completely specified in IEEE or Wifi standards. Therefore it cannot be guaranteed that WDS will work with products of different vendors.*

WEP

If you use WEP to protect your wireless network, you need to set the same parameters for the ADSL Wireless Base Station and all your wireless clients.
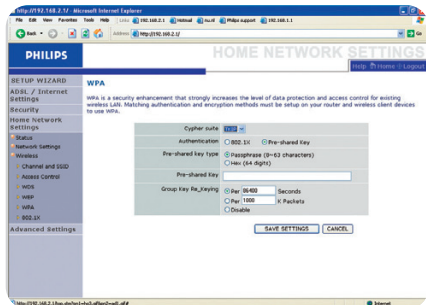
You may automatically generate encryption keys or manually enter the keys. To generate the key automatically with passphrase, check the Passphrase box, enter a string of characters. Select the default key from the drop down menu. Click 'SAVE SETTINGS'.

Note: *The passphrase can consist of up to 32 alphanumeric characters.*

To manually configure the encryption key, enter five hexadecimal pairs of digits for each 64-bit key, or enter 13 pairs for the single 128-bit key.
(A hexadecimal digit is a number or letter in the range 0-9 or A-F.)
Note that WEP protects data transmitted between wireless nodes, but does not protect any transmissions over your wired network or over the Internet.

WPA

Wi-Fi Protected Access (WPA) combines temporal key integrity protocol (TKIP) and 802.1x mechanisms. It provides dynamic key encryption and 802.1x authentication service.

802.1X

If 802.1x is used in your network, then you should enable this function for the ADSL Wireless Base Station. These parameters are used for the ADSL Wireless Base Station to connect to the authentication server.

Advanced settings

NAT
Network Address Translation allows multiple users to access the Internet sharing one public IP.

Address Mapping
Allows one or more public IP addresses to be shared by multiple internal users. This also hides the internal network for increased privacy and security. Enter the Public IP address you wish to share into the Global IP field. Enter a range of internal IPs that will share the global IP into the 'from' field.
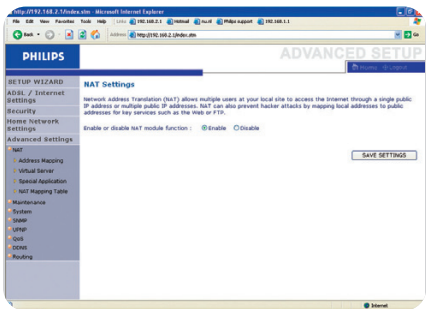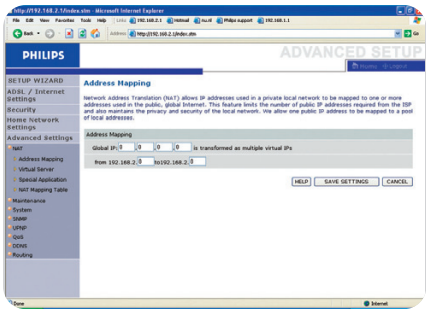
Virtual Server
If you configure the ADSL Wireless Base Station as a virtual server, remote users accessing services such as web or FTP at your local site via public IP addresses can be automatically redirected to local servers configured with private IP addresses. In other words, depending on the requested service (TCP/UDP port number), the ADSL Wireless Base Station redirects the external service request to the appropriate server (located at another internal IP address).
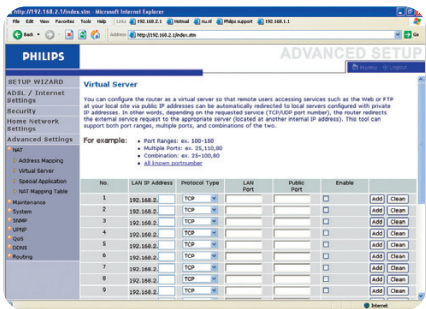
For example, if you set Type/Public Port to TCP/80 (HTTP or web) and the Private IP/Port to 192.168.2.2/80, then all HTTP requests from outside users will be transferred to 192.168.2.2 on port 80. Therefore, by just entering the IP address provided by the ISP, Internet users can access the service they need at the local address to which you redirect them.

A list of ports is maintained at the following link:
http://www.iana.org/assignments/port-numbers.

Special Applications
Some applications require multiple connections, such as Internet gaming, video-conferencing, and Internet telephony.

These applications may not work when Network Address Translation (NAT) is enabled. If you need to run applications that require multiple connections, use these pages to specify the additional public ports to be opened for each application.
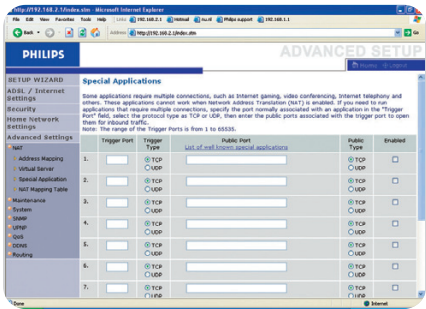
NAT Mapping Table
This page displays the current NAPT (Network Address Port Translation) address mappings.
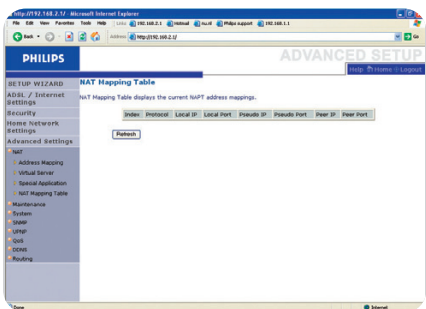
Maintenance
Use the Maintenance menu to backup the current configuration, restore a
previously saved configuration, restore factory settings, update firmware,
and reset the ADSL Wireless Base Station.
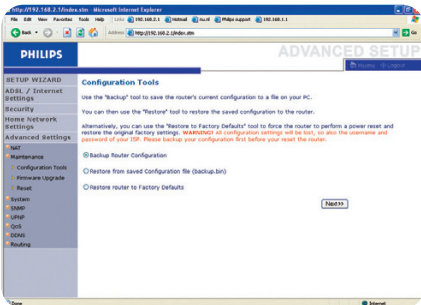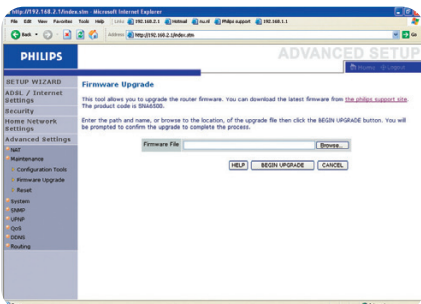
Configuration Tools
Choose a function and click Next.

Backup allows you to save the ADSL Wireless Base Station's configuration to a file.
Restore can be used to restore the saved backup configuration file. Restore to
Factory Defaults resets the ADSL Wireless Base Station to the original settings. You
will be asked to confirm your decision.

Firmware Upgrade
Use the Firmware Upgrade screen to update the firmware or user interface
to the latest versions. Download the upgrade file from www.philips.com/support
(Model SNA6500), and save it to your hard drive. Then click 'Browse...' to look for
the downloaded file. Click 'BEGIN UPGRADE'. Check the Status page Information
section to confirm that the upgrade process was successful.

Reset
Click 'REBOOT ROUTER' to reset the ADSL Wireless Base Station.

If you perform a reset from this page, the configurations will not be changed back to
the factory default settings.

Note: *If you use the Reset button on the rear panel, the ADSL Wireless Base Station*
performs a power reset. Press the button for over five seconds, and the factory
default settings will be restored.
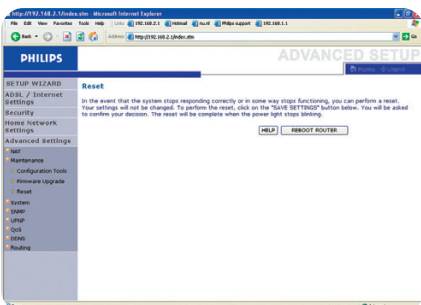
System

Time Settings
Select your local time zone from the drop down list. This information is used for log
entries and client filtering.

For accurate timing of log entries and system events, you need to set the time zone.
Select your time zone from the drop down list.

If you want to automatically synchronize the ADSL Wireless Base Station with a
public time server, check the box to Enable Automatic Time Server Maintenance.
Select the desired servers from the drop down menu.
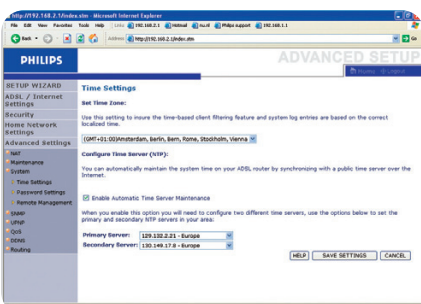
Password Settings
Use this page to change the password for accessing the management interface of the
ADSL Wireless Base Station.

Passwords can contain from 3~12 alphanumeric characters and are case sensitive.

Note: *If you lost the password, or you cannot gain access to the user interface, press the*
blue reset button on the rear panel, holding it down for at least five seconds to
restore the factory defaults. By default, there is no password to login to the user
interface.
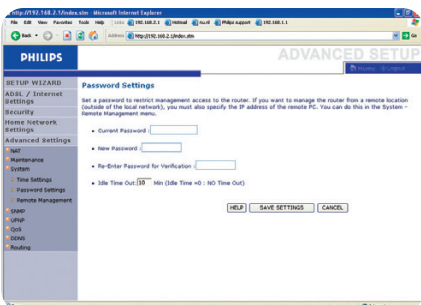
WARNING!
When you reset the ADSL wireless base station using the blue reset button all configuration settings will be lost, also your ISP settings.

Enter a maximum Idle Time Out (in minutes) to define a maximum period of time for which the login session is maintained during inactivity.
If the connection is inactive for longer than the maximum idle time,
it will perform system logout, and you have to log in again to access the management interface. (Default: 10 minutes)

Remote Management
By default, management access is only available to users on your local network. However, you can also manage the ADSL Wireless Base Station from a remote host by entering the IP address of a remote computer on this screen. Check the Enabled check box, and enter the IP address of the Host Address and click 'SAVE SETTINGS'.
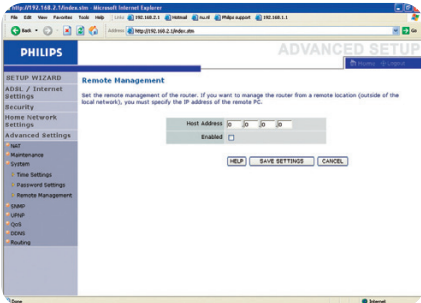
Note: *If you check Enable and specify an IP address of 0.0.0.0, any remote host can manage the ADSL Wireless Base Station.*

For remote management via WAN IP address you need to connect using port 8080. Simply enter WAN IP address followed by :8080, for example, 212.120.68.20:8080.

SNMP
Use the SNMP configuration screen to display and modify parameters for the Simple Network Management Protocol (SNMP).
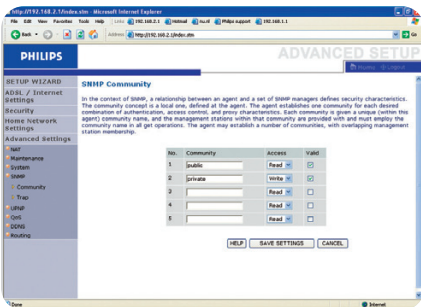
SNMP Community
A computer attached to the network, called a Network Management Station (NMS), can be used to access this information. Access rights to the agent are controlled by community strings. To communicate with the ADSL Wireless Base Station, the NMS must first submit a valid community string for authentication.

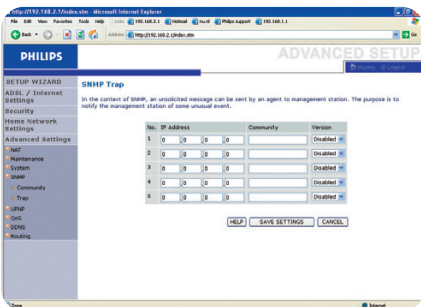| Parameter	Description
Community	A community name authorized for management access.
Access	Management access is restricted to Read Only (Read) or Read/Write (Write).
Valid	Enables/disables the entry.

Note: Up to five community names may be entered.

SNMM Trap
Specify the IP address of the NMS to notify when a significant event is detected by the agent. When a trap condition occurs, the SNMP agent sends an SNMP trap message to any NMS specified as a trap receiver.
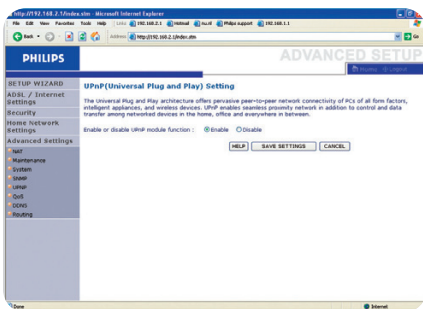
UPNP (Universal Plug and Play) settings

With Universal Plug and Play, a device can automatically dynamically join a network, obtain an IP address, communicate its capabilities, and learn about the presence and capabilities of other devices. Devices can then directly communicate with each other. This further enables peer-to-peer networking

QoS

The QoS Settings page allows the user to configure the bandwidth allocation for each forwarding behavior. The QoS settings are described below;

Name   - Displays the name of the forwarding method, i.e., Best Effort, Assured Forwarding or Expedited Forwarding.
Description   - Briefly describes the forwarding method employed.
Priority   - Best Effort will have lowest priority as it is a basic connectivity service with no guarantees. Expedited Forwarding will have highest priority. It provides low delay, low jitter and low loss delivery of packets.
Bandwidth Allocation   - You choose the minimum bandwidth for each forwarding method. '
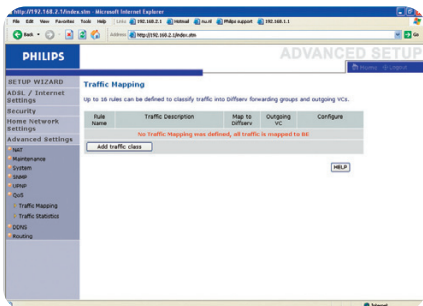

Traffic mapping

Traffic Mapping allows you to describe up to 16 rules to classify traffic into forwarding groups. You must specify the traffic type, the forwarding method and the outgoing virtual connection (VC) that this traffic will be routed to.
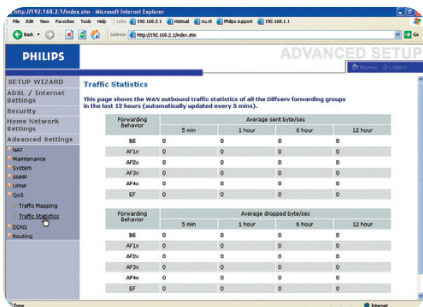
Traffic statistics

The Traffic Statistics screen displays the outbound traffic statistics for all forwarding methods over a 12 hour period.
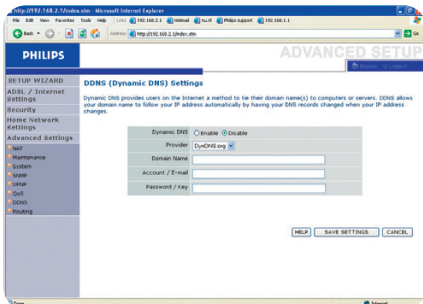
DDNS (Dynamic DNS) settings

DDNS text 'Domain Name' is a series of alphanumeric strings separated by periods that maps to the address of a network connection and identifies the owner of the address.

Dynamic DNS provides users on the Internet with a method to tie their domain name to a computer or server. DDNS allows your domain name to follow your IP address automatically by having your DNS records changed when your IP address changes.

The Server Configuration section automatically opens the TCP port options checked in the Virtual Server section. Simply enter in the IP Address of your server, such as a web server, and then click on the port option HTTP Port 80 so users can access your web server from the Internet connection.

This DNS feature is powered by a DDNS service provider. With a DDNS connection you can host your own web site, email server, FTP site, and more at your own location even if you have a dynamic IP address. (Default: Disable)
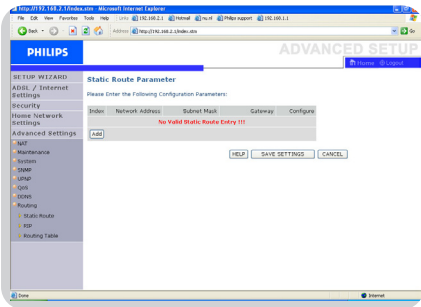
Routing
These pages define routing related parameters, including static routes and RIP (Routing Information Protocol) parameters.

Static route parameter
1   Click 'Add' to add a new static route to the list.

2   Click 'Save Settings' to save the configuration.
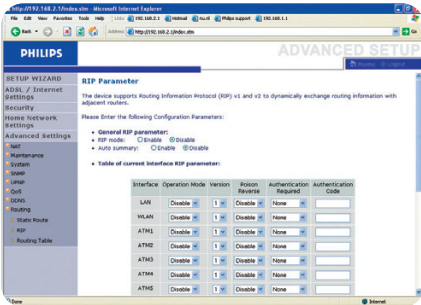
RIP parameter

RIP sends routing-update messages at regular intervals and when the network topology changes. When a router receives a routing update that includes changes to an entry, it updates its routing table to reflect the new route. RIP routers maintain only the best route to a destination.

After updating its routing table, the router immediately begins transmitting routing updates to inform other network routers of the change.
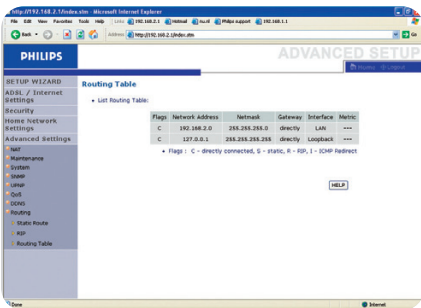
Routing table

Windows 98/ME
Click Start/Run. Type 'winipcfg' and press 'ENTER'.

The MAC address is in the 'Adapter Address' section.

Windows NT4/2000/XP
Click Start/Programs/Command Prompt. Type 'ipconfig /all' and press 'ENTER'.

The MAC address is listed as the 'Physical Address.'

Macintosh
Click System Preferences/Network.

The MAC address is listed as the 'Ethernet Address' on the TCP/IP tab.

Linux
Run the command '/sbin/ifconfig.'

MAC address
The MAC address can be used to prevent unwanted access to your wireless base station. How to do this is explained in MAC Filter on page 23.
The MAC address has the format of xx:xx:xx:xx:xx:xx where x can be in the range of [0...9, A...F]

How to set-up a computer network?

The next pages will show you an example of how to set-up a computer network using the Philips ADSL Wireless Base Station.

Warning: The ADSL Wireless Base Station only establishes a connection between your wireless network devices. How you use this connection is up to you.

Setting-up a computer network is to be seen as an independent application that requires networking software from other manufacturers.
For example, the networking software that has been incorporated in the Windows Operating System by Microsoft.

Therefore, the description below is to be seen as an example only.

WHAT IS YOUR WINDOWS VERSION?

1. Start setting-up your network with the computer that has the latest operating system. The order of preference being: Windows XP, Windows 2000, Windows Me, and finally Windows 98SE.
2. Use its Networking Setup Wizard and allow it to make a networking setup diskette.
3. With this diskette, set-up your remaining computers.

For Windows XP and Windows 2000.
See further on in this chapter for Windows Me and Windows 98SE.

Click the Windows Start button, and click 'Control Panel' from the list.
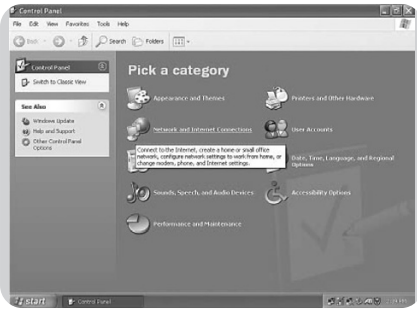
Double-click the 'Network and Internet connections' icon.
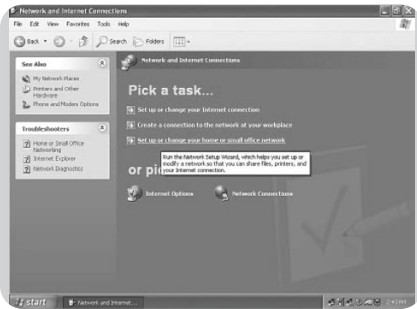
Click in the list to the left on 'Setting-up a home network or small business network'.
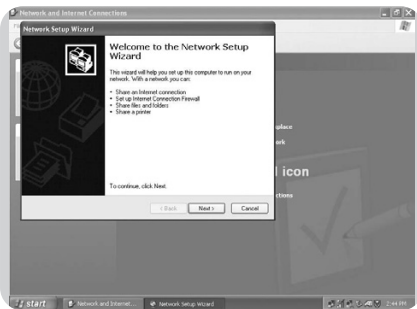
The Wizard Network Setup appears. Click 'Next' to continue.

Wizard Network Settings

1. Please, carefully read the instructions the Wizard gives you, and adapt your choices to the type of network you want to set-up. Use the Help feature within the Wizard if you need more information while using the Wizard.
2. In each window, click 'Next' to go to the next step.
3. Below, we will describe some of the crucial steps of this Wizard.

Place a check mark to ignore any broken network connections before clicking 'Next' to continue.

1. Enter a description that helps you recognize the computer.
2. Enter a name that is different for each computer.
3. Click 'Next' to continue.
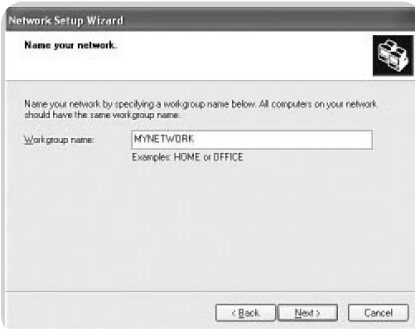
Enter the same workgroup name for all computers in the network, then click 'Next' to continue.

Choose to make a networking setup disk. Then click 'Next'.

Click 'Finish' to close the Wizard, and then use the disk you made to set-up your other computers.
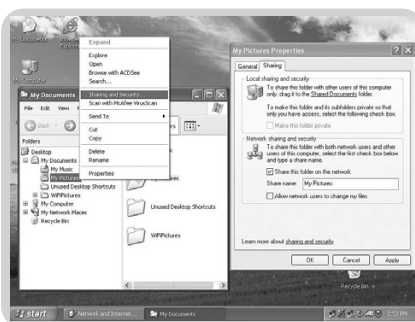
To share folders with the network: Start Windows Explorer and right-click the folder you wish to share with the network. Click the 'Sharing' tab and adapt the settings.

To explore the network: Double-click the Network Environment icon on the desktop.
If you need more information, consult Windows Help.

For Windows 98SE and Windows Me.
See earlier on in this chapter for Windows XP and Windows 2000.

Click the Windows Start button, click 'Settings', and click 'Control Panel' from the list.

Double-click the 'Network' icon.
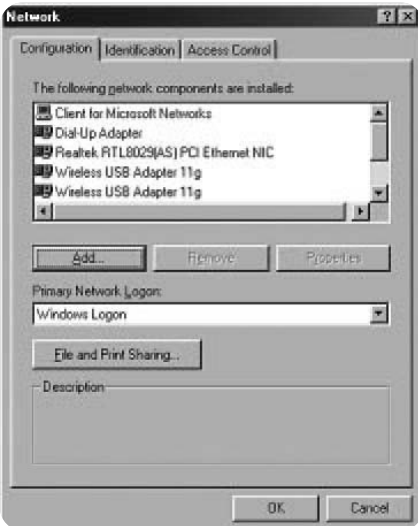
Click the 'Identification' tab.
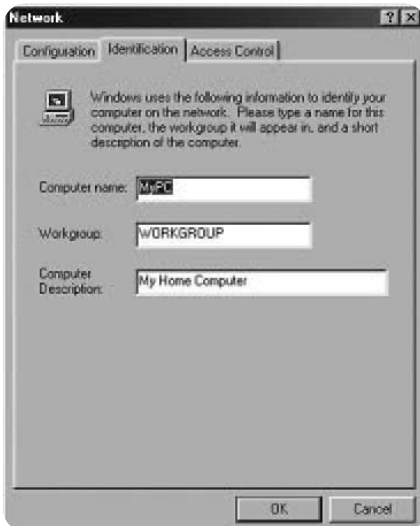
1. Enter a name that is different for each computer.
2. Enter the same workgroup name for all computers in the network.
3. Enter a description that helps you recognize the computer.
4. Click on the 'Configuration' tab to continue.
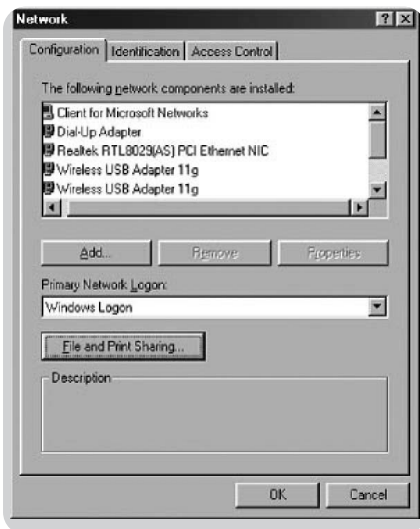
Click the 'Sharing files and printers' button.
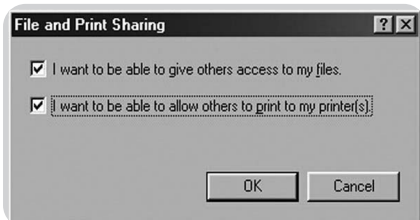
Select the access options you want, and click 'OK' to continue.
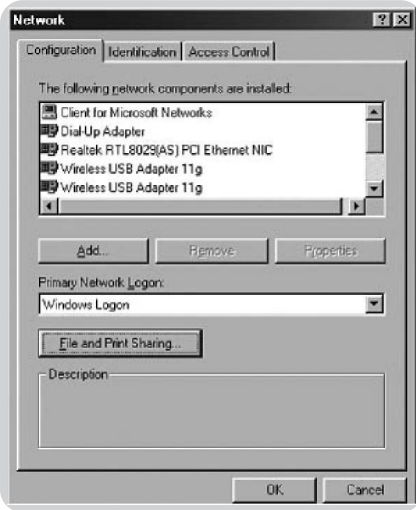
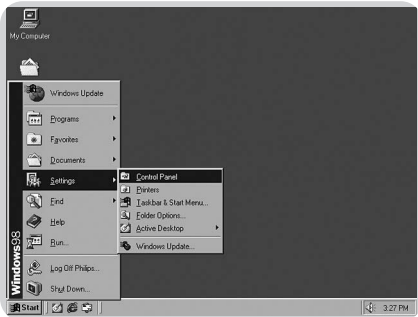Click 'OK' to accept the changes.

To share folders with the network: Start Windows Explorer and right-click the folder you wish to share with the network. Click the 'Sharing' tab and adapt the settings.
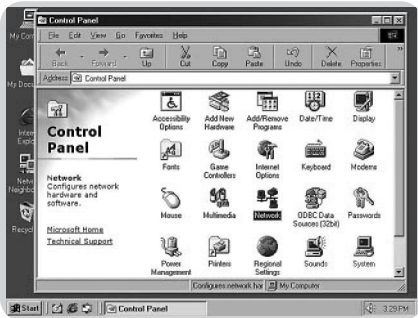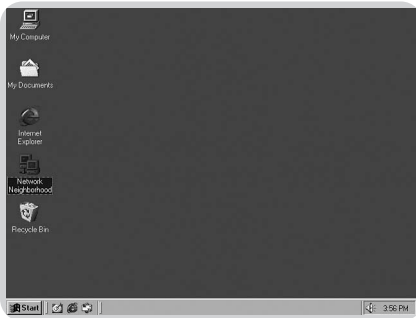

To explore the network: Double-click the Network Environment icon on the desktop.
If you need more information, consult Windows Help.

Troubleshooting

This section describes common problems you may encounter and possible solutions to them. The ADSL Wireless Base Station can be easily monitored through panel indicators to identify problems.

Problem

Solution

Power LED is Off
• Check connections between the ADSL Wireless Base Station, the external power supply, and the wall outlet.
• If the power indicator does not turn on when the power cord is plugged in, you may have a problem with the power outlet, power cord, or external power supply. However, if the unit powers off after running for a while, check for loose power connections, power losses, or surges at the power outlet.

If you still cannot isolate the problem, then the external power supply may be defective. In this case, contact Technical Support for assistance.

Link LED is Off
• Verify that the ADSL Wireless Base Station and attached device are powered on.
• Be sure the cable is plugged into both the ADSL Wireless Base Station and the corresponding device.
• Verify that the proper cable type is used and that its length does not exceed the specified limits.
• Make sure that the network interface on the attached device is configured for the proper communication speed and duplex mode.
• Check the adapter on the attached device and cable connections for possible defects.
Replace any defective adapter or cable if necessary.

Cannot ping the ADSL Wireless Base Station from the attached LAN
• Verify that the IP addresses are properly configured.
For most applications, you should use the ADSL Wireless Base Station's DHCP function to dynamically assign IP addresses to hosts on the attached LAN. However, if you manually configure IP addresses on the LAN, verify that the same network address (network component of the IP address) and subnet mask are used for both the ADSL Wireless Base Station and any attached LAN devices.
• Make sure the device you want to ping (or from which you are pinging) has been configured for TCP/IP.

Cannot connect using the web browser
• Be sure to have configured the ADSL Wireless Base Station with a valid IP address, subnet mask, and default gateway.
• Check that you have a valid network connection to the ADSL Wireless Base Station and that the port you are using has not been disabled.
• Check the network cabling between the management station and the ADSL Wireless Base Station.

Forgot or lost the password
• Press the Reset button on the rear panel (holding it down for at least five seconds) to restore the factory defaults.

WARNING!
When you reset the ADSL wireless base station using the blue reset button all configuration settings will be lost, also your ISP settings.

A wireless PC cannot associate with the ADSL Router
• Make sure the wireless PC has the same SSID settings as the ADSL Wireless Base Station. See 'Channel and SSID' on page 25.
• You need to have the same security settings on the clients and the ADSL Wireless Base Station. See 'Security' on page 21.

The wireless network is often interrupted
• Move your wireless PC closer to the ADSL Wireless Base Station to find a better signal. If the signal is still weak, change the angle of the antenna.
• There may be interference, possibly caused by a microwave ovens or wireless phones. Change the location of the interference sources or of the ADSL Wireless Base Station.
• Change the wireless channel on the ADSL Wireless Base Station. See 'Channel and SSID' on page 25.
• Check that the antenna, connectors, and cabling are firmly connected.

The ADSL Wireless Base Station cannot be detected by a wireless client
• The distance between the ADSL Wireless Base Station and wireless PC is too great.
• Make sure the wireless PC has the same SSID and security settings as the ADSL Wireless Base Station. See ADSL Wireless Base Station.
See 'Channel and SSID' on page 25 and 'Security' on page 21.

Physical Characteristics

Ports
– Four 10/100Mbps RJ-45 Ports
– One ADSL RJ-11

ADSL Features
– Supports DMT line modulation
– Supports Annex A Full-Rate ADSL: up to 8 Mbps downstream,
  up to 1 Mbps upstream (G.992.1 &T1.413, Issue 2)
– Supports G.Lite ADSL: up to 1.5 Mbps downstream, up to 512 Kbps upstream
– Dying GASP support

ATM Features
– RFC1483 Encapsulation (IP, Bridging and encapsulated routing)
– PPP over ATM (LLC &VC multiplexing) (RFC2364)
– Classical IP (RFC1577)
– Traffic shaping (UBR, CBR)
– OAM F4/F5 support
– PPP over Ethernet Client

Management Features
– Firmware upgrade via web based management
– Web based management (configuration)
– Power indicators
– Event and history logging
– Network ping

Security Features
– Password protected configuration access
– User authentication (PAP/CHAP) with PPP
– Firewall NAT NAPT
– VPN pass through (IPSec-ESP Tunnel mode,L2TP, PPTP)

LAN Features
– IEEE 802.1d (self-learning transparent Bridging)
– DHCP Server
– DNS Proxy
– Static Routing, RIPv1 and RIP

Radio Features
– Wireless RF module Frequency Band
– 802.11g Radio: 2.4GHz
– 802.11b Radio: 2.4GHz
Europe - ETSI
– 2412~2472MHz (Ch1~Ch13)

Modulation Type
– OFDM, CCK

Operating Channels IEEE 802.11b compliant:
– 13 channels (ETSI)

Operating Channels IEEE 802.11g compliant:
– 13 channels (Europe)

RF Output Power Modulation Rate-Output Power (dBm)
802.11b - 1Mbps (16 dBm)
802.11b - 2Mbps (16 dBm)
802.11b - 5.5Mbps (16 dBm)
802.11b - 11Mbps (16 dBm)

Modulation Rate-Output Power (dBm)
802.11g - 6Mbps (15 dBm)
802.11g - 9Mbps (15 dBm)
802.11g - 12Mbps (15 dBm)
802.11g - 18Mbps (15 dBm)
802.11g- 24Mbps (15 dBm)
802.11g - 36Mbps (15 dBm)
802.11g- 48Mbps (15 dBm)
802.11g - 54Mbps (15 dBm)

**Sensitivity Modulation Rate-
Receiver 2.412 ~ 2.484 HGz Sensitivity (dBm)**
802.11b - 1Mbps - (90 dBm)
802.11b - 2Mbps - (88 dBm)
802.11b - 5.5Mbps - (85 dBm)
802.11b- 11Mbps - (84 dBm)

Modulation Rate-Receiver Sensitivity Typical (dBm)
802.11g - 6Mbps - (88 dBm)
802.11g - 9Mbps - (87 dBm)
802.11g - 12Mbps - (84 dBm)
802.11g - 18Mbps - (82 dBm)
802.11g - 24Mbps - (79 dBm)
802.11g - 36Mbps - (75 dBm)
802.11g - 48Mbps - (68 dBm)
802.11g - 54Mbps - (68 dBm)

Environmental
Complies with the following standards:

Temperature: IEC 68-2-14
0 to 50 degrees C (Standard Operating)
-40 to 70 degree C (Non-operation)

Humidity
10% to 90% (Non-condensing)

Vibration
IEC 68-2-36, IEC 68-2-6

Shock
IEC 68-2-29

Drop
IEC 68-2-32

Input Power
12 V 1 A

IEEE Standards
IEEE 802.3, 802.3u, 802.11g, 802.1d
ITU G.dmt
ITU G.Handshake
ITU T.413 issue 2 - ADSL full rate

Standards Conformance Electromagnetic Compatibility
CE, ETSI, R&TTE, ETS 300 328, ETS 300 826

Safety
EN60950

Internet Standards
RFC 826 ARP
RFC 791 IP
RFC 792 ICMP
RFC 768 UDP
RFC 793 TCP
RFC 783 TFTP
RFC 1483 AAL5 Encapsulation
RFC 1661 PPP
RFC 1866 HTML
RFC 2068 HTTP
RFC 2364 PPP over ATM

AQ95-56F-592KR-2nd
(report No.)

EC DECLARATION OF CONFORMITY

We , Philips Consumer Electronics B.V., P&A CC: Building SBP6
(manufacturer's name)

P.O.Box 80002, 5600 JB Eindhoven, The Netherlands
(manufacturer's address)

declare under our responsibility that the electrical product:

Philips   SNA6500 -/00 -/05
(name)   *(type or model)*

ADSL Wireless Base Station
(product description)

to which this declaration relates is in conformity with the following standards:

EN 300 328 v1.4.1 (04-2003)
EN 301 489-1 v1.3.1 (09-2001)
EN 301 489-17 v1.2.1 (08-2002)
EN61000-3-2:2000
EN61000-3-3:1995 +A1:2001
EN55022:1998 + A1:2000 + A2:2003
EN55024:1998 + A1:2001 + A2:2003
EN60950-1 :2001

(title and/or number and date of issue of the standards)

following the provisions of 1999/5/EC (R&TTE Directive)
and is produced by a manufacturing organisation on ISO 9000 level.

Eindhoven, 02/06/2005   K.Rysman
                                     Approbation manager
(place, date)   *(signature, name and function)*