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1. ABOUT THE ROUTER

The router offers an easy way of integrating the computer and other network devices into a single network. Here are some of the benefits obtained from using the router in the home or office:

Integrated Modem Feature: This modem supports ADSL and ADSL2+ to provide Internet access at speeds of up to 24Mbps. The secure wireless connection and four Ethernet ports are offered to ensure easy integration with the existing network.

Top Notch Security: The router utilizes built-in firewall security to block service attacks. For added flexibility, it can be modified to allow specific applications to pass through while blocking intrusive threats at the same time.

Intuitive User Interface: Applying changes on the router settings can be done easily using a Web browser. A simplified user interface is used for applying the wanted configurations of the features of the router.

The router will serve as the central device in establishing the local area network (LAN) by using a combination of hardware and software. The hardware includes the cables, wireless access points and Ethernet ports that create the path to connect the devices. The software includes the applications that manage the flow of information in these devices.

Advanced features like port forwarding will help in creating your own web server to store your website. Dynamic DNS allows access to the local network from the Internet, and remote access enables configuration of the router settings from different locations.

Once installation is complete, it will be easier to enjoy voice communication, high speed Internet, and data/audio/video sharing within the network.

2. REQUIREMENTS

2.1. ADSL Installation requirements

Before starting the installation, please ensure the following:

- 1) The ADSL service must be activated on the telephone line.
- 2) An active DSL Internet account (PPP username and Password for Internet access) is obtained from your ISP (Internet Service Provider).

3. CONTACT INFORMATION

Telkom ADSL Support: 0800 375 375
Operating 24hrs - & 7 days a week

Modem Support

For setup related problems.

Mon to Thurs 8:00 - 16:45 or Friday 8:00 - 15:00.

SharedCall Helpdesk: 0860 22 43 57 (or 0860 2C HELP)

Website: www.telkomphones.co.za

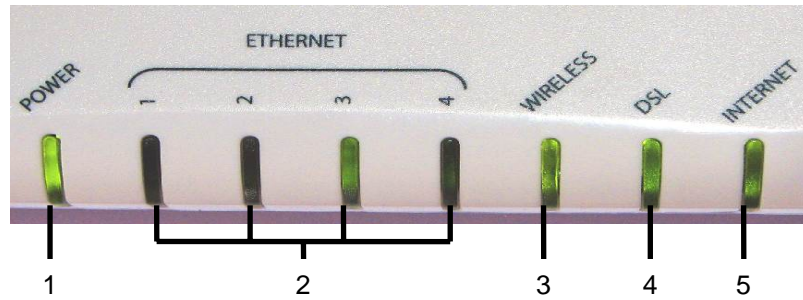
4. PACKAGE CONTENTS

Package contents are listed below. For any missing items, please contact your Telkom outlet immediately



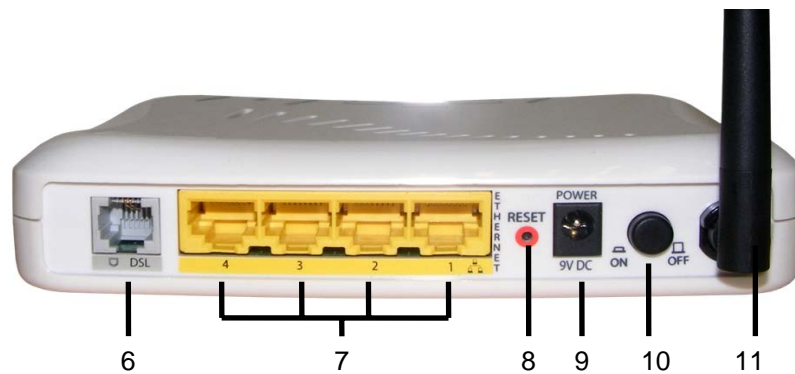
5. DEVICE DESIGN

5.1. Front LEDs



	Label	Action	Description
1	POWER	Off	No power is supplied to the device
		Green	Connected to an AC power supply
		Red	Booting in progress
2	ETHERNET 1-4	Off	No Ethernet connection
		Lit	Connected to an Ethernet port
		Flashing	Transmitting/Receiving data
3	WiFi	Off	Access point is disabled
		Lit	Access point is enabled
		Flashing	Transmitting/Receiving data
4	DSL	Off	No ADSL signal
		Flashing	Establishing ADSL connection
		Lit	ADSL Connection is established
5	INTERNET	Off	No Internet connection
		Green	Connected to the Internet
		Flashing Green	Transmitting/Receiving data
		Red	Cannot establish Internet connection

5.2. Rear Ports



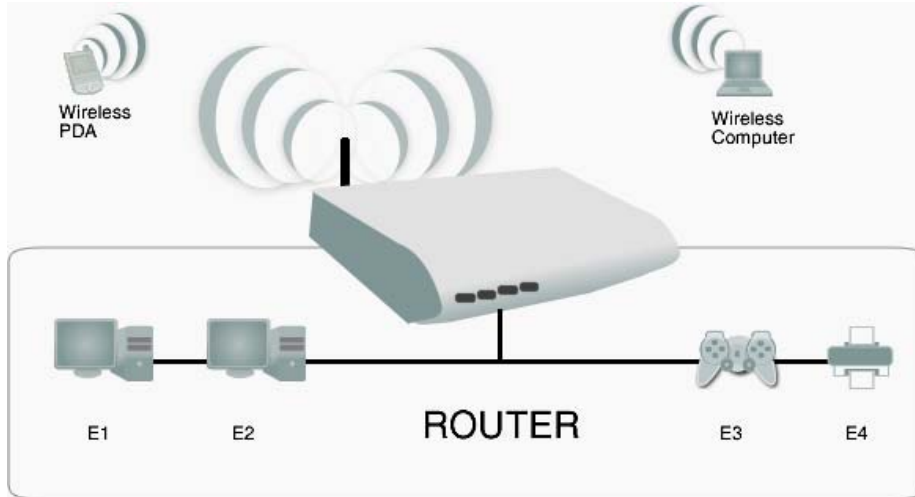
	Label	Description
6	DSL	Connection for ADSL enabled telephone line
7	ETHERNET 1-4	Connecting with computers/devices through Ethernet cable
8	RESET	Resetting the device. Press for 10 seconds to reset to factory default
9	POWER	Power Supply (PSU) plugs in here
10	ON/OFF	Switching the device on/off
11	Antenna	Sending/receiving wireless signals

6. GENERAL PREPARATION

Configuration methods described in this chapter are based on Windows and Internet Explorer as indicated and may differ in the case of another operating system and web browser.

6.1. Planning Your Network

Before setting up the network, it is a good idea to draw out a network diagram to help identify the network devices and plan how each device will be connected. The illustration below is an example of a network diagram.



To create a network diagram:

For wireless devices, identify the wireless devices to be included in the network.

For wired devices, identify which router port will be used for each device.

6.2. Remove or Disable Conflicts

To make sure the router installation proceeds smoothly, you need to remove or disable conflicts that may interfere with the installation. Probable conflicts may include:

- 1) Internet sharing applications
- 2) Proxy software
- 3) Security software
- 4) TCP/IP settings
- 5) Internet properties
- 6) Temporary Internet files

6.3. Internet Sharing, Proxy, and Security Applications

Internet sharing, proxy software, and firewall applications may interfere with the router installation. These should be removed or disabled before installation.

If you have any of the following or similar applications installed on your computer, remove or disable them according to the manufacturer's instructions.

Internet Sharing Applications	Proxy Software	Security Software
Microsoft Internet Sharing	Wingate	Symantec
	WinProxy	Zone Alarm

6.4. Configuring TCP/IP Settings

(Based on Windows)

Check if the computer uses the default TCP/IP settings.

To check/set the TCP/IP properties:

- 1) Select Start > Run. This opens the Run dialog box.
- 2) Enter control ncpa.cpl and then click "OK". This opens the Network Connections window on your computer.
- 3) Right-click "LAN" and then select "Properties". This opens the Local Area Connection Properties dialog box.
- 4) Select Internet Protocol (TCP/IP) and then click "Properties". This opens the Internet Protocol (TCP/IP) dialog box.
- 5) Select "Obtain an IP address automatically".
- 6) Click "OK" to close the Internet Protocol (TCP/IP) dialog box.
- 7) Click "OK" to close the Local Area Connection Properties dialog box.

6.5. Configuring Internet Properties

(Based on Internet Explorer)

To set the Internet Properties:

- 1) Select Start > Run. This opens the Run dialog box.
- 2) Enter control inetcpl.cpl and then click "OK". This opens Internet Properties.
- 3) Click "Connections" tab.
- 4) In the Dial-up and Virtual Private Network settings pane, select "Never dial a connection".
- 5) Click "OK" to close Internet Properties.

6.6. Removing Temporary Internet Files

(Based on Internet Explorer)

Temporary Internet files are files from Web sites that are stored on your computer. Delete these files to clean the cache and remove footprints left by the Web pages you previously visited.

To remove temporary Internet files:

- 1) Select Start > Run. This opens the Run dialog box.
- 2) Enter control and then click "OK". This opens Control Panel.
- 3) Double-click "Internet Options". This opens Internet Options.
- 4) In the Temporary Internet Files pane, Click "Delete Cookies".
- 5) Click "Delete Files".
- 6) Click "OK" to close Internet Properties.

7. INSTALLATION PROCEDURE

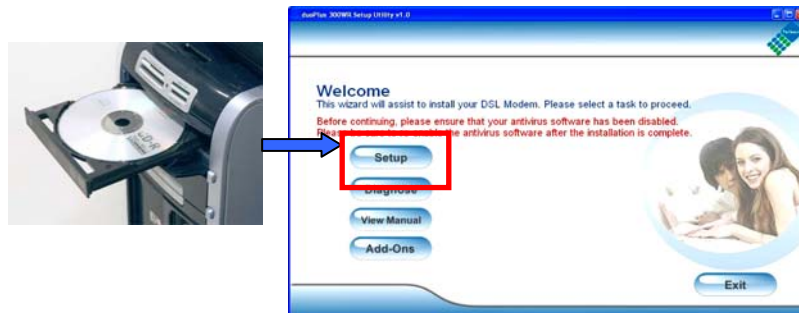
There are two different methods that can be used to configure the router. The Self Install CD can be used if the computer used runs a Windows operating system. The second method is a manual setup procedure using the router's "built in utility" which can be used for other operating systems.

7.1. Installation Procedure (Using the Self Install CD)

Warning: The CD-ROM is only compatible with the following operating systems: Windows Vista, Windows XP, Windows 2000, Windows ME, Win89SE.

(Non-Windows users can follow the procedure in the next section.)

Minimum PC Requirement: Internet Explorer4 or Netscape Navigator3.02, CD-Rom drive, Ethernet adapter and a 233MHz Processor.



- 1) Ensure that antivirus software on the PC is disabled before installing the router and enabled once installation is completed.
- 2) Insert the utility CD into your CD-ROM
- 3) If the utility does not launch automatically, select Start > Run, enter D:\Setup.exe (where D: is your CD-ROM drive), and then click OK. This opens the Setup Utility.
- 4) Follow the onscreen installation procedure which includes a hardware installation guide.

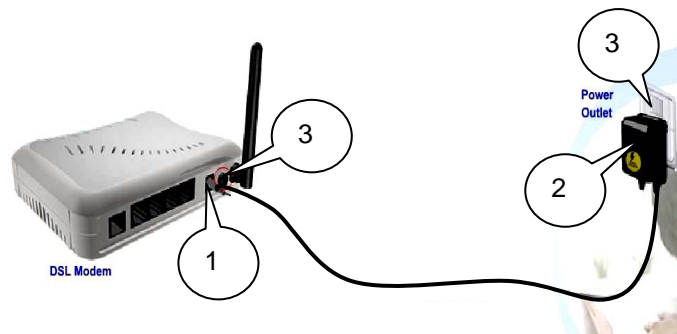
7.2. Installation Procedure (Manual Method)

7.2.1. CONNECTING ROUTER HARDWARE

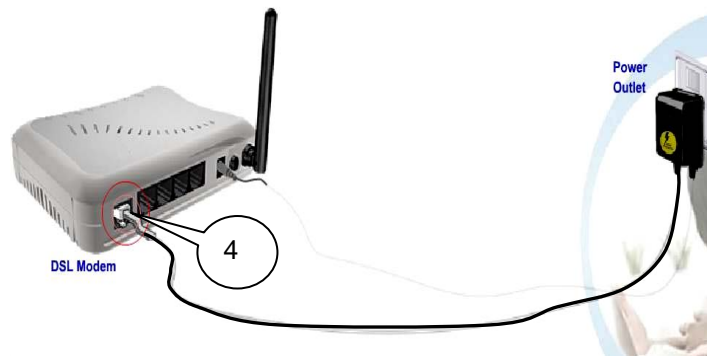
The router should be installed in an area where there is access to the ADSL line and a mains power outlet socket.

Power Adapter connection to Router:

- 1) Connect the power adapter's DC Power outlet cable to the router's power socket.
- 2) Plug the power adapter into a mains power outlet.
- 3) Switch the power on at the mains outlet and on the router.

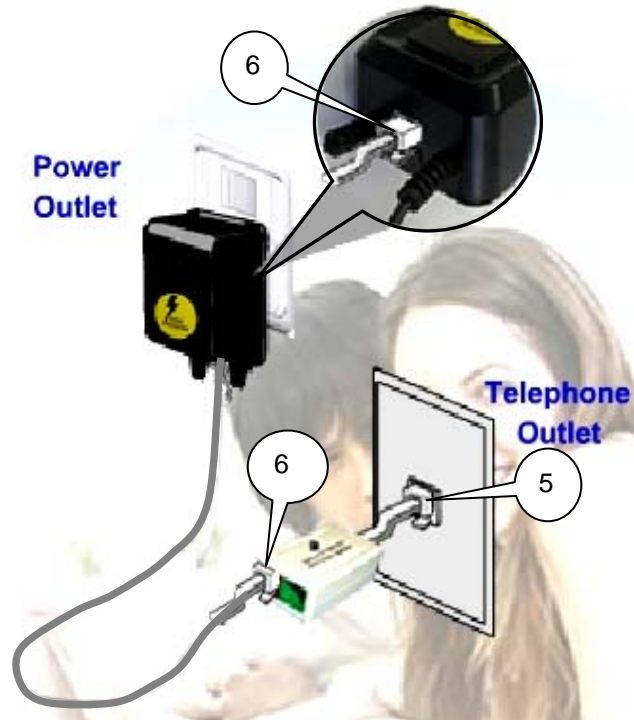


- 4) Connect the ADSL line (Line OUT) from the Power adapter to the ADSL Port on your router.



ADSL Line Connection

- 5) Plug the ADSL splitter (micro filter with the 2 ports) into the ADSL enabled telephone outlet (wall-box).
- 6) Plug the **grey telephone cable** into the **red outlet** on the Micro filter (labelled ADSL), and the other end of the grey telephone cable into the phone socket (Line IN) on the Power adapter.



MICROFILTER

Please be sure to use a Microfilter not only on telephones, but also on fax, answering machines and telephone connected Burglar alarms.

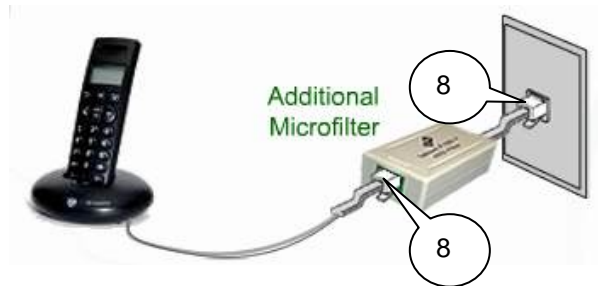
Note : There are 2 Micro-filters in the router box. The one provides 2 outlets – one for a phone and one for an ADSL router. This should be used where the router is connected. The second filter contains only a single telephone outlet, and should be used only if there is more than one phone on the ADSL enabled telephone line.

Phone Connection

- 7) Plug the telephone cable from the telephone into the **green outlet** on the Micro filter (labelled phone).

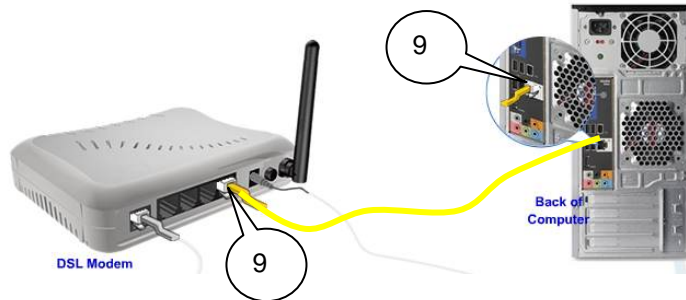


- 8) The second filter contains only a single telephone outlet, and should be used only if there is more than one phone on the ADSL enabled telephone line.

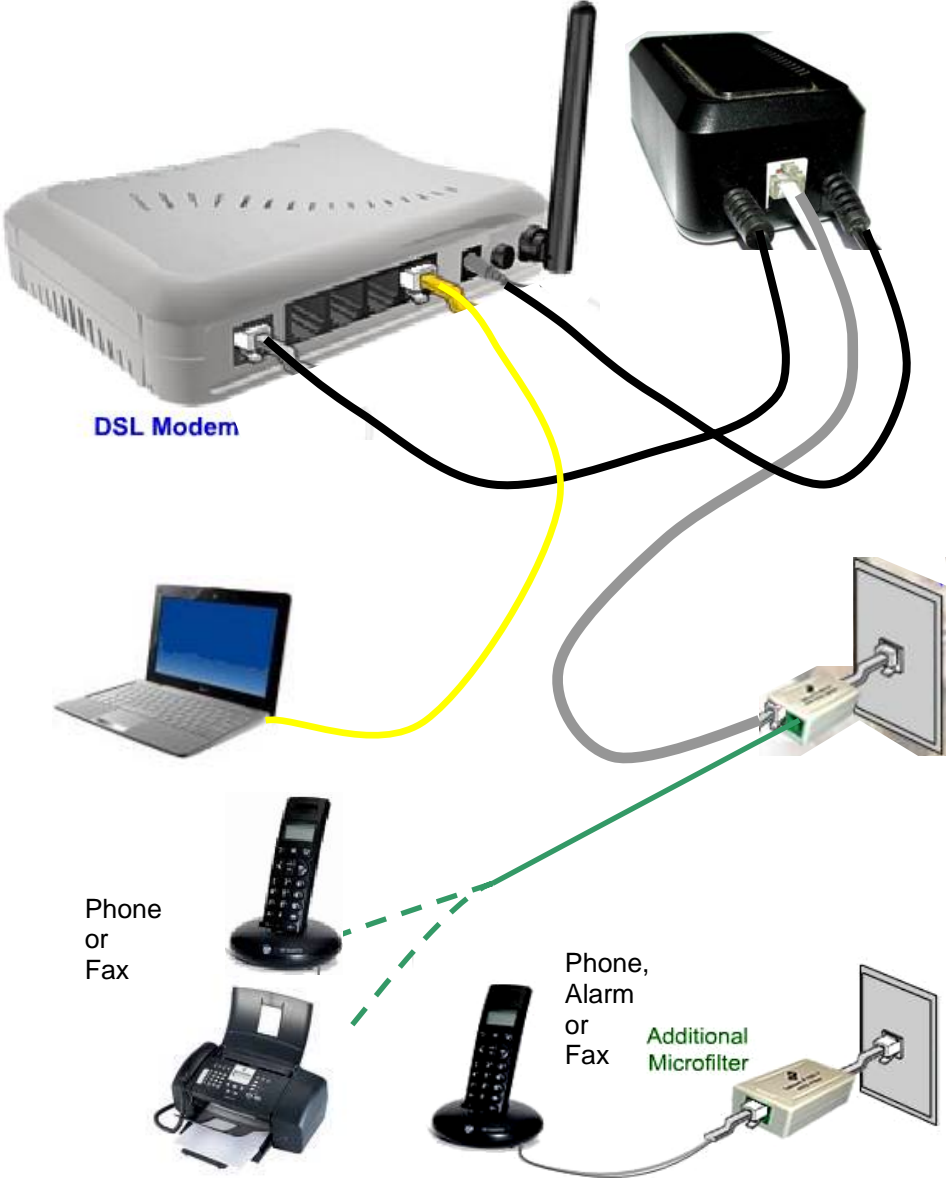


Ethernet Connection

- 9) Plug one end of the Ethernet cable into any of the available ETHERNET ports on the router and then plug the other end of this cable into the Ethernet port in the computer. Repeat this step for all devices that require a cable Ethernet connection to the router



Connection Overview



7.2.2. CONFIRMING CONNECTIONS

Confirm correct installation and that the telephone line is ADSL enabled by looking at the Internet Light on the right hand side of the router. If it is Green, then all is OK. If it is not lit, then either the telephone line connections are incorrect, or the line is not ADSL enabled. If this light is red, please call the helpdesks listed in the Contact Information section for support.

7.2.3. ADSL SERVICE VERIFICATION

Before doing any configuration changes on the router, please confirm that the hardware has been correctly installed and that the **ADSL service is verified online.**

Verification of the ADSL service is required to ensure correct installation of the router and for activation of the ADSL service on the line. Telkom will not allow full internet access until the verification procedure was completed. The router is pre-configured with a guest account. While this account will allow connection to the Telkom website, it will not allow access to the Internet. This account is only intended to assist during configuration.

To verify the account:

Either :

Open your web browser.

Type "www.telkom.co.za/verifyadsl" into the address bar of your browser and follow the onscreen instructions. (This is the preferred option.)

OR

If this preferred online procedure fails, the account still needs to be verified before continuing. This can be done by calling 0800 375 375.

7.2.4. CONFIGURING THE ROUTER

A configuration utility has been built into your routers firmware for easy configuration. This can be accessed through a web browser.

To configure the router via the Web Interface:

- 1) Open your browser.
- 2) Enter **10.0.0.2** in the address field and then press "Enter".
- 3) A username and password is required to access the router's Web interface. This is NOT your ISP or Internet account details, but a separate username and password for the router. The default settings are "**admin**" for both username and password. This can be changed during the installation procedure. Once logged in, the following web interface setup page will be seen:

Setup

The following steps help you to configure the device.

[>> Step 1 : Internet Login Account Setting](#)

- 4) Click on "Step 1: Internet Login Account Setting". This opens the Internet Login Account Setting page.

Internet Login Account Setting

This information should be provided by your Internet Service Provider.

User ID	<input type="text" value="online1066107@dsl512telkomsa.net"/> <small>Example: user@ispname</small>
Password	<input type="password" value="....."/> <small>Provided by your ISP.</small>
Protocol	<input type="text" value="PPPoE LLC"/>
VPI	<input type="text" value="8"/>
VCI	<input type="text" value="35"/>

[<< Previous](#) To continue, please click Next. [Next >>](#)

- 5) Enter the Username and Password as provided by your ISP. Protocol, VPI, and VCI are all preset and should not be changed.

- 6) Click "Next". This opens the Wireless LAN Configuration Page
- 7) The wireless configuration can be skipped by clicking on "Next" if wireless connection is not required at this stage. To do the configurations enter an SSID. This is the name that your Wireless Access Point will be known as.

Wireless LAN Configuration

This is to specify the network name of your wireless local area network.

Wireless Network Name / SSID
Enter a name (SSID) for your wireless network.

OR

Request Setup Wizard to generate a unique SSID for you.

Country Standard

Wireless Channel

Hide your Wireless Network Name / SSID

Security Type WPA-PSK

Security Key (PSK string must be between 8 and 63 characters for ascii and 64 characters for hexadecimal characters)

Note:

1. Your system's wireless network adapter must have the same SSID as the wireless router to access the network wirelessly
2. You can also make your Wireless Network Name/ SSID invisible to other wireless users by hiding your SSID.
3. Specify the wireless channel for your network. All wireless clients must use the same channel to access to the router.
4. The default wireless security key can be found on the label underneath the router.

[<< Previous](#) To Continue, Click Next..... [Next >>](#)

- 8) Select "Yes" or "No" to specify if you want to hide your wireless network name or not.
- 9) The wireless security will be enabled by default for security reasons. The Security used is WPA-PSK and the type of encryption is TKIP. (Different wireless encryption types are available in the Wireless configuration of the router. Refer to the user manual on the CD.)

- 10) The default existing Security Key, which is unique to each router is found on the label underneath the router. For increased security, we recommend that you select your own key that is known only to yourself.
- 11) Click "Next". This opens the System Password Page.

System Password

System Password is used to change your User Name or Password.

Enable Authentication

User Name:

Password:

Confirmed Password:

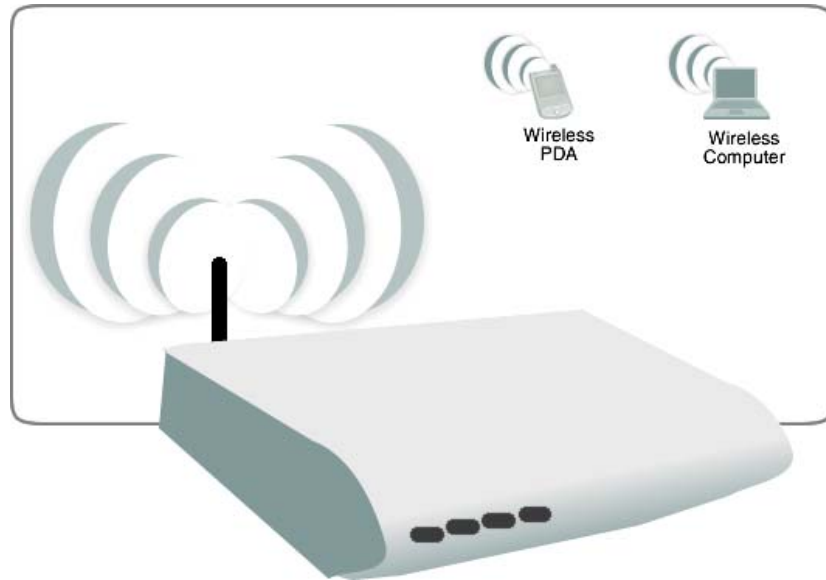
Idle Timeout: minutes

[<< Previous](#)To Continue, Click Next.....[Next >>](#)

- 12) Select "Enable Authentication" then enter the User Name, Password, and Confirm Password. This is the new login information to access the routers interface in future.
- 13) Click "Next". This opens the Summary page
- 14) Click "Finish".
- 15) Click "OK" when a dialog box opens asking if you want to save and restart. The router will take about two minutes to save the settings and establish a connection with the ISP (Internet service provider). Afterwards, the Basic Home page opens to give a summary of the account settings.
- 16) If the Internet LED is green, the router is ready for browsing the Internet. If the Internet LED is red, check that the username and password provided by your ISP is entered correctly.

7.3. Connecting Wireless Devices

After setup by either the Self install CD or the manual method, other devices with wireless capabilities can be connected. Wireless capability eliminates the task of laying out LAN cables for Internet connection from your router.



To connect with wireless devices:

- 1) Ensure the wireless on the router is enabled by seeing if the wireless light on the front panel is lit. If the router's Wireless access point was turned off during installation, it could be enabled by redoing the setup choice again and choose to configure the Wireless interface.
- 2) Ensure that the wireless capability is enabled and turned on for the device which needs the wireless connection to the internet.
- 3) Use the device's configuration software according to the manufacturer's instructions to detect a wireless connection. This will vary according to the specific device.
- 4) Once open, the connection settings will be requested. These settings are defined in your router during setup.
- 5) If the settings have not been altered from the default value during the setup, the default Access key (WPA key / passphrase) could be found on the printed label underneath the router.

For more details about wireless connections, please refer to Wireless Menu on the router, or to the soft copy of the user manual on the self install CD.

8. TROUBLESHOOTING

Problem	Solution
Forgot the Router's username and Password	<ol style="list-style-type: none">1) The router login information can not be retrieved. Use a pin (or paperclip) to press and hold Reset (see section on Router rear ports) on the back of the router for 10 seconds.2) The router configuration is now back to factory default – repeat the installation procedure.

Problem	Solution
ADSL does not sync (ADSL LED keeps flashing)	<ol style="list-style-type: none">1) Ensure that the ADSL splitter (micro filter with the 2 ports) is plugged into the ADSL enabled telephone outlet (wall-box).2) Ensure the grey telephone cable is plugged into the red outlet on the Micro filter (labelled ADSL), and the other end of the grey telephone cable into the phone socket (Line IN) on the Power adapter.3) Ensure that the ADSL service has been activated on the telephone line.4) Ensure that micro-filters are fitted on all additional devices (fax, phones and alarm dialler).5) If the problem persists phone the ADSL support line on 0800 375 375.

Problem	Solution
Internet light is Green, but no internet connection possible.	<ol style="list-style-type: none"> 1) If this is a new installation and Internet access have not worked at any time from this router yet, It is possible that the ISP information has not been entered during setup. (The router still has the guest ISP account loaded.) Repeat the setup procedure and be sure to enter the correct ISP account information. 2) If this is a new installation and Internet access have not worked at any time from this router yet, it is possible that the ADSL service verification was not done. Phone the ADSL support line on 0800 375 375. 3) If internet access worked on this router after setup but it no longer works, use the Diagnostic utility on the CD. 4) Ensure that the correct ISP details are entered on the router. If www.telkom.co.za can open, it is an indication that either: <ol style="list-style-type: none"> a. the router may have been defaulted after setup - In this case, repeat the setup procedure b. the CAP limit has been reached – Contact your ISP to recharge your account. 5) If the problem persists, phone the ADSL support line on 0800 375 375

Problem	Solution
Internet light is Red - no internet connection	<ol style="list-style-type: none"> 1) If this is a new installation and Internet access have not worked at any time from this router yet, it is possible that the incorrect ISP information has been entered during setup. Repeat the installation procedure and be sure to enter the correct ISP account information during Setup. 2) If the problem persists, phone your ISP support line.

9. SAFETY PRECAUTIONS



Note:

- Do not open, service, or change any component.
- Only qualified technical specialists are allowed to service the equipment.
- Observe safety precautions to avoid electric shock.
- Check voltage before connecting to the power supply.
- Connecting to the wrong voltage will damage the equipment.

10. ADSL TROUBLE SHOOTER

If your ADSL router was working and you are suddenly no longer able to connect to the Internet Please follow these steps before reporting your ADSL service as out of order:

- Verify that the ADSL telephone line has dial-tone.
- Make sure all the required Micro filters are in place and correctly connected.
- Ensure the Router is powered on by checking the power LED.
- Check the connection between the computer/server and the router. At least one of the green LED's, marked 1, 2, 3 or 4 on the modem should be burning (as long as you are connecting to your router via an Ethernet cable – we do however not recommend following this procedure whilst connected over Wi-Fi).
- Ensure that the DSL LED is burning. If the LED is flashing the ADSL line may be faulty. If the LED is off, the Telephone line may not be correctly connected or may not be ADSL enabled.
- Verify that the Internet LED is Green. If the LED is red, your username/password may be incorrect. If the LED is not burning, your configuration may be incorrect. Check the configuration with your ISP.
- Resynchronize the connection by turning off the router power for at least 30 seconds and then turning it on again.
- Ensure your Firewall settings are correct, since it may prevent or block connections to the Internet or other applications e.g. FTP.
- Ensure no viruses are present on the computer/server. Viruses can exhaust memory and resources, causing slow or no access the Internet (applications).
- Reboot the computer/server if possible.

If your ADSL connection is still not working after following these steps, please contact the Telkom ADSL Helpline on 0800 375 375 or 0800 DSL DSL.