



# ADSL Router/Modem

## Quick Setup Guide

RTA230



## Important

This Guide is intended to get you started quickly. We have made the factory default setting of this router suitable for New Zealand<sup>1</sup>. All you need is to follow through the steps we describe here.

This Guide should be read in conjunction with the *RTA23x Series ADSL Router User's Manual*<sup>2</sup>. It is provided as a PDF file on this CD. To view or print the *User's Manual*, go to the previous menu **ADSL Router (RTA230)** and click the **View User Manual** button.

Important safety notes can be found on page III of the *User's Manual*. Advanced users or users who have other setup preferences should also read the *User's Manual*.

If you choose to connect via the Ethernet port, no driver is required. If you choose to connect via the USB port, you will need to load a driver. A driver is only available for Windows 98, ME, 2000 and XP systems. The drivers are found on this CD. To install a driver into Windows, go to the previous menu **ADSL Router (RTA230)** and click the **Modem drivers** button.

*Notes for this page:*

- 1. In New Zealand the majority of ADSL subscribers get PPPoA service by default. Your router is preset to meet this requirement. If your ISP specifies the service as PPPoE, an extra step is then required to configure the router in PPPoE mode. Instructions will follow to take you to Section 6 – Configuration for PPPoE service.*
- 2. The User's Manual available on this CD was written for international users. In Chapter 5 – Connection Mode, only references to PPPoA & PPPoE is relevant to New Zealand users. Ignore all references to the value of VPI or VCI. In New Zealand VPI is 0 and VCI is 100. These numbers are preset as factory default. Do not change, or the router will not connect.*

## 1 Default Configuration for New Zealand

This Router is shipped with the following factory default settings.

Router IP address	192.168.1.1
Subnet mask	255.255.255.0
VPI	0
VCI	100
Connect mode	PPPoA VC-MUX
NAT	enabled
DSL line mode	auto select G.DMT / T1.413
WAN IP	dynamic
DHCP	enabled
DNS relay	on
UPnP IGD	enabled
Firewall incoming	on
Firewall outgoing	off

### Router configuration & management:

User name	admin
Password	admin
Telnet password	admin

*If your ISP specifies that your ADSL service is PPPoE, connect mode must be changed to PPPoE LLC/SNAP. Instructions will follow. Check with your ISP if you are unsure of the type of service you have subscribed to. Advanced users who have other setup preferences should first read the User's Manual.*

## 2 Before you start

Make sure your computer has these installed:

- ⊗ Ethernet or USB port
- ⊗ TCP/IP protocol enabled
- ⊗ A web browser, Internet Explorer 5.0/Netscape 6 or better.

Obtain your Internet account information from your ISP:

- ⊗ Login user name and password
- ⊗ Public IP address (only if you subscribe for static IP)
- ⊗ DNS server IP (only if specified by ISP).

Choose from your connection options:

### 1. Ethernet (for standalone computer, Operating System independent)

Connect the LAN port of the router directly to the Ethernet port of your computer. One Ethernet cable is provided.

2. **Ethernet (for multiple computers, Operating System independent)**

This is for sharing Internet access. You will need to purchase a network hub and extra Ethernet cables. Using the provided Ethernet cable, connect the LAN port of the router to any of the ports available on the hub. Next, connect each of the computers to the network hub.

3. **USB (for standalone Windows 98/ME/2000/XP computers only)**

Connect via Ethernet is the preferred option. If your computer does not have an Ethernet port you may choose this option. You must then install a driver to operate the router. The drivers are found on this CD. To install a driver into Windows, go to the previous menu and click the **Modem drivers** button.

## 3 **Connect the Router**

1. Connect the DSL port of the router directly into your ADSL jackpoint (telephone wall socket) with the provided line cord. Do not connect through a filter, unless the filter has a designated MODEM port for this purpose.
2. Connect the LAN port of the router and the Ethernet port of your computer using the Ethernet cable provided. If you choose to connect via the USB port, there is no need to use the Ethernet cable. **Make no USB connection now.** During driver installation, you will be advised to connect the USB port of the router to your computer.
3. Connect the provided AC/AC power adaptor to the PWR jack of the router. Plug the adaptor into a mains power outlet. Switch on the router. The DIAG light will remain on for a short time indicating self-check in progress. Wait until the DIAG light has turned off before proceeding to the next section. In normal operation these three lights shall be on: PWR, LAN (or USB) and DSL. Section 9 of this Guide explains how these indicator lights work.

## 4 **Configure your computer**

*The description below assumes you are connecting the router via Ethernet. If you are connecting the router via USB, refer to **Chapter 2 - USB Driver Installation** on page 4 of the User's Manual on CD.*

**You have two options.** Following option 1 is simplest. This is the Windows default network setting.

### **OPTION 1    CONFIGURE COMPUTER TO GET IP ADDRESS FROM DHCP**

If your computer is already configured to obtain an IP address automatically (from a DHCP server), do nothing. By default the router is a DHCP server. Now go to **Section 5 – Getting On-Line**. If you are unsure of your computer's network setting refer to *Chapter 3 – Configure PC to get IP address from DHCP* on page 18 of the *User's Manual*.

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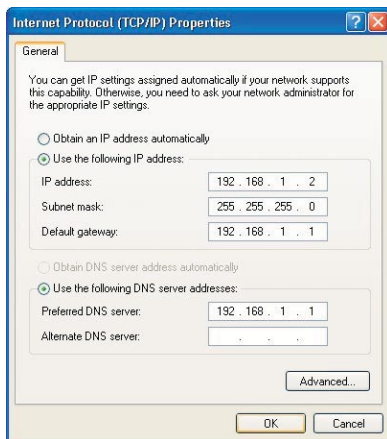
## OPTION 2 MANUALLY ASSIGN IP ADDRESS TO COMPUTER

The router's default address is 192.168.1.1. If you prefer to assign an IP address manually, use **192.168.1.x** (x is a number between **2** and **254**).

### Windows XP/2000:

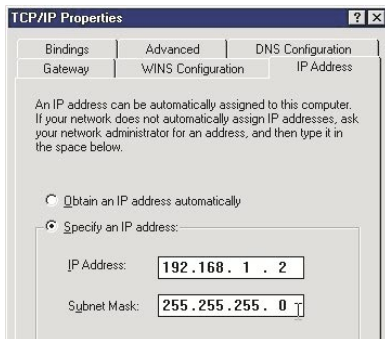
1. Go to **Control Panel – Network Connections**. Open **Local Area Connections** and click **Properties**. Double click **Internet Protocol (TCP/IP)**. Select **Use the following IP address**.
2. Enter **192.168.1.x** (x is a number you pick between **2** and **254**). This is the **IP address** you assign to the computer. **Subnet Mask** is **255.255.255.0**.
3. Enter the router's IP **192.168.1.1** as **Default gateway**, and as **Preferred DNS server**. If your ISP specifies DNS server addresses, enter the specified addresses according to the ISP's instructions.
4. Click **OK** to finish.

**You have now finished with configuring your computer.**

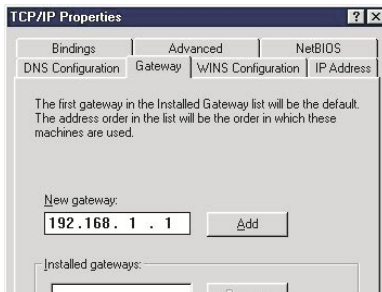


### Windows 98/ME:

1. From **Control Panel**, double click **Network**. Scroll down to highlight **TCP/IP > (your network card)**. Click **Properties**.
2. Select the **IP Address** tab. Specify **192.168.1.x** (x is a number you pick between **2** and **254**). This is the IP address you assign to the computer. **Subnet Mask** is **255.255.255.0**.



3. Select **Gateway** tab. Enter the router's IP address **192.168.1.1**. Click **Add**. If your ISP specifies DNS server addresses, go to the tab **DNS Configuration**. Enter the specified addresses according to the ISP's instructions.
4. Click **OK** & then **OK** to finish. The system may ask to read the Windows CD, and then ask to restart the computer.



**You have now finished with configuring your computer. Go to Section 5 – Getting On-line.**

## 5 Getting On-line

*It takes only 2 easy steps.*

### STEP 1 GO TO THE 'CONNECT TO INTERNET' PAGE

Start your web browser. Enter the default address **http://192.168.1.1**. Type **admin** for both User name and Password.

*See Q1 in Section 11 - Troubleshooting if you cannot get this screen.*

Next you will be in the **Quick Start > Connect to Internet** page.



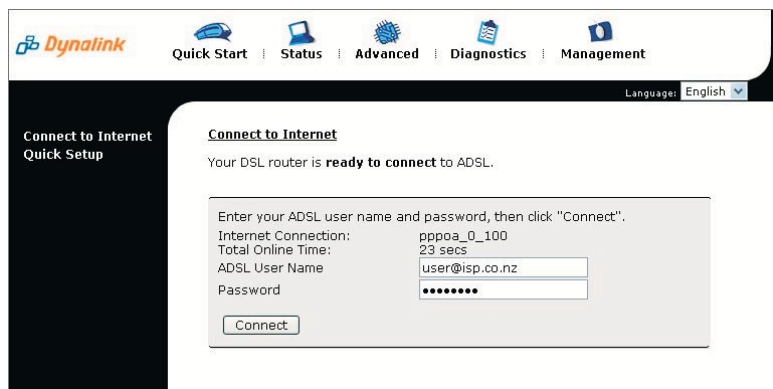
*If your ISP specifies that your ADSL service is PPPoE, you must now follow Section 6 to change the router's connect mode to PPPoE. Check with your ISP if you are unsure of the type of service you have subscribed to.*

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## STEP 2 ENTER INTERNET ACCOUNT DETAILS

Enter your Internet account User Name & Password in the exact format as specified by the ISP. Make sure the page displays **"Your DSL router is ready to connect"** before clicking **Connect**.

See Q2 in Section 11 – Troubleshooting, if after several minutes the message "Your DSL router is not ready to connect" still shows.



**Dynalink** Quick Start | Status | Advanced | Diagnostics | Management

Language: English

**Connect to Internet Quick Setup**

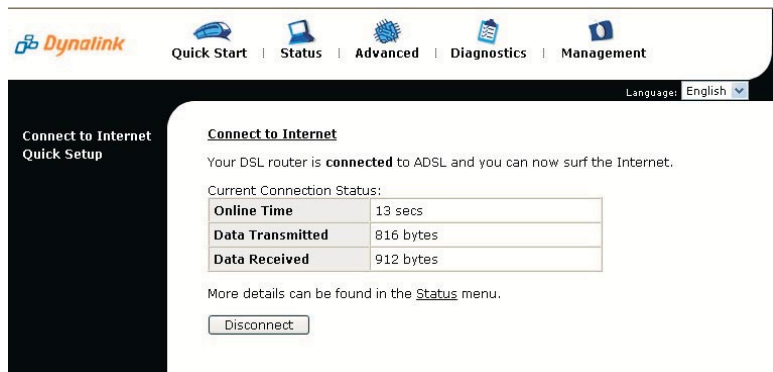
Connect to Internet

Your DSL router is **ready to connect** to ADSL.

Enter your ADSL user name and password, then click "Connect".

Internet Connection:	pppoe_0_100
Total Online Time:	23 secs
ADSL User Name	<input type="text" value="user@isp.co.nz"/>
Password	<input type="password" value="*****"/>

Once connected the screen changes to display the on-line time. Click **Disconnect** only if you wish to disconnect manually.



**Dynalink** Quick Start | Status | Advanced | Diagnostics | Management

Language: English

**Connect to Internet Quick Setup**

Connect to Internet

Your DSL router is **connected** to ADSL and you can now surf the Internet.

Current Connection Status:

Online Time	13 secs
Data Transmitted	816 bytes
Data Received	912 bytes

More details can be found in the [Status](#) menu.

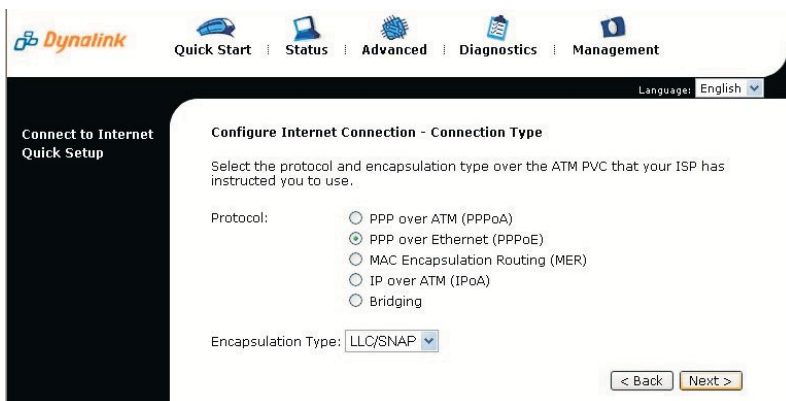
Your Internet account user name & password will be saved automatically.

# 6 Configuration for PPPoE service

Follow this procedure **ONLY** if your ISP specifies the service as PPPoE. Caution - do not set your router to PPPoE mode if your ADSL service is PPPoA. It will not connect. Reset to factory default will restore router to PPPoA mode.

From the **Quick Start** menu click on **Quick Setup** to configure for PPPoE.

1. Untick the **Auto Scan Internet Connection** box. VPI and VCI shall be set to 0 and 100 respectively. Click **Next** for the next page.
2. Select **PPP over Ethernet (PPPoE)**. Encapsulation shall be **LLC/SNAP** as illustrated below. Go to the next page, change nothing and then **Next**.



The screenshot shows the Dynalink router's web interface. At the top, there is a navigation bar with icons and labels for 'Quick Start', 'Status', 'Advanced', 'Diagnostics', and 'Management'. Below this, a sidebar on the left contains the text 'Connect to Internet' and 'Quick Setup'. The main content area is titled 'Configure Internet Connection - Connection Type'. It contains a sub-header 'Select the protocol and encapsulation type over the ATM PVC that your ISP has instructed you to use.' Below this, there is a 'Protocol:' section with five radio button options: 'PPP over ATM (PPPoA)', 'PPP over Ethernet (PPPoE)' (which is selected), 'MAC Encapsulation Routing (MER)', 'IP over ATM (IPoA)', and 'Bridging'. Below the protocol options is an 'Encapsulation Type:' section with a dropdown menu currently showing 'LLC/SNAP'. At the bottom right of the form, there are two buttons: '< Back' and 'Next >'.

3. You can enter your Internet account User Name & Password now. If you leave the space as blank, you will be asked to do it later. Go **Next**.
4. Do not change the network configuration unless you are an advanced user having your own preferences. Go **Next**.
5. A summary of the configuration is displayed. Check carefully that the setting is **VPI/VCI = 0/100**, **Connection Type is PPPoE LLC/SNAP**. Then click **Finish** to confirm the changes. The router will restart itself automatically to activate the new setting.



6. Now follow *Step 2 of Section 5 – Getting On-line*. The screen will show the changes made: pppoe\_o\_100 has replaced the default pppoa\_o\_100.

The screenshot shows the Dynalink router's web interface. At the top, there is a navigation bar with icons and labels for 'Quick Start', 'Status', 'Advanced', 'Diagnostics', and 'Management'. The 'Language' is set to 'English'. On the left, a sidebar indicates 'Connect to Internet Quick Setup'. The main content area is titled 'Connect to Internet' and states 'Your DSL router is ready to connect to ADSL.' Below this, a form prompts the user to 'Enter your ADSL user name and password, then click "Connect".' The form includes fields for 'Internet Connection:' (with 'pppoe\_o\_100' selected and circled), 'Total Online Time:', 'ADSL User Name' (with 'user@isp.co.nz' entered), and 'Password' (masked with dots). A 'Connect' button is at the bottom of the form.

## 7 Some advanced functions of your router

### Firewall, port forwarding, DMZ & traffic restrictions

By default a preset firewall is invoked to block all incoming requests including *Ping* from the Internet to your private network. In the reverse direction all requests sent from your network can freely pass through to the Internet.

If you want servers on your network accessible to Internet users, set up port forwarding in **Advanced > Virtual Servers > Port Forwarding**. Refer to *Chapter 4 – NAT Virtual Servers* on page 43 of the *User's Manual*.

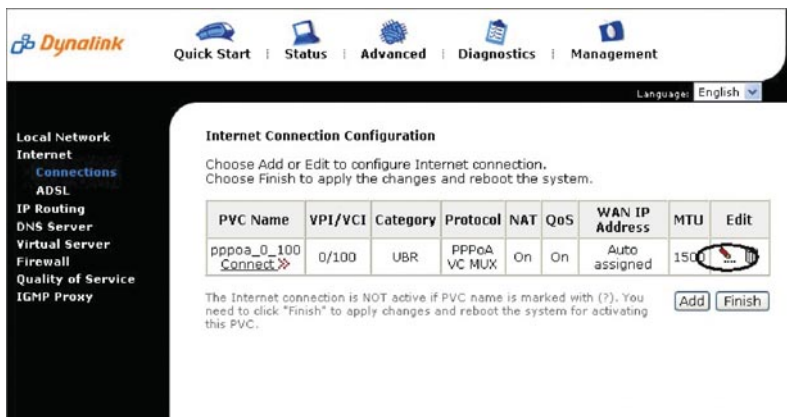
If you run applications that require unrestricted 2-way traffic between computer and the Internet, set computer up as DMZ Host in **Advanced > Virtual Servers > DMZ Host**. Refer to *Chapter 4 – NAT DMZ Host* on page 45 of the *User's Manual*. Caution – any DMZ host computers are no longer protected by the firewall.

You can restrict Internet services to some computers on your network by setting up IP Filtering. Refer to *Chapter 4 – Filtering by IP address* on page 47 of the *User's Manual*.


### IP extension bridging

In IP Extension Mode the ADSL router resembles a modem. Firewall protection and Internet sharing are not available. The router becomes a bridge between WAN & LAN. A computer or network device connected behind it receives a public WAN IP directly. This arrangement is suitable for certain applications that require a computer or network device to receive a public IP.

To set up IP extension, go to **Advanced > Internet**. Click on the "modify icon" under **Edit**:



The screenshot shows the Dynalink web interface. The top navigation bar includes links for Quick Start, Status, Advanced, Diagnostics, and Management. The left sidebar lists various network settings, with 'Internet' selected under 'Local Network'. The main content area is titled 'Internet Connection Configuration'. It instructs the user to choose 'Add' or 'Edit' to configure the Internet connection. Below this is a table with the following data:

PVC Name	VPI/VCI	Category	Protocol	NAT	QoS	WAN IP Address	MTU	Edit
pppoe_0_100 Connect	0/100	UBR	PPPoA VC MUX	On	On	Auto assigned	1500	

Below the table, a note states: 'The Internet connection is NOT active if PVC name is marked with (?). You need to click "Finish" to apply changes and reboot the system for activating this PVC.' At the bottom right of the configuration area are 'Add' and 'Finish' buttons.

The next screen displays VPI and VCI as 0 and 100. Do not change these numbers.

Go **Next**. Select **PPPoA VC MUX** or **PPPoE LLC/SNAP**. If your ISP did not specify PPPoE you can assume it is PPPoA. Go **Next**.

On the next screen untick **Enable NAT**, and tick **PPP IP extension** as illustrated. Go **Next**.



The screenshot shows the 'Configure Internet Connection - WAN IP Settings' page. It instructs the user to enter information provided by their ISP. The configuration options are as follows:

- ☒ Obtain an IP address automatically
- ☐ Use the following IP address:  
WAN IP Address:
- ☐ Enable NAT
- ☐ Enable QoS  
Enabling IP QoS for a PVC can improve performance for selected classes of applications. Please assign the priorities for various applications from the Advanced...Quality of Service menu. Be aware that IP QoS also consumes system resources, the number of created PVCs will be reduced consequently.
- ☒ PPP IP extension

At the bottom, the MTU is set to  (default: 1500). Navigation buttons '< Back' and 'Next >' are at the bottom right.

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Enter your Internet account user name and password. Go **Next**.

The new configuration is displayed. Click **Apply** to confirm changes. The router will restart itself to activate the new setting.

You will notice all NAT or firewall settings disappear from the **Advanced** menu hereafter. Now follow Step 2 of *Section 5 – Getting On-line*.

## Quality of Service (QoS)

The router allows prioritising of upstream traffic (to the Internet) by allowing the user to overwrite the Type of Service (TOS) field in the IP datagram header. TOS parameters such as Precedence, Delay, Throughput & Reliability are described in the RFC791 Internet Protocol specification.

The user specifies the traffic conditions and traffic rules. The router has three queues for traffic priority: high, medium and low. Low priority packets are not sent when there are higher priority queues. When QoS is enabled a received packet has the TOS field in its header overwritten by the traffic rule, subject to traffic conditions are met.

The router supports both Bridge (layer 2) and IP (layer 3) QoS. The difference is how traffic conditions can be set. With Bridge QoS, IEEE 802.1p priorities are used as conditions for a traffic rule to apply. With IP QoS, it is the IP criteria defined by the user that determines the rule to apply.

**Please refer to the *User's Manual* for other advanced functions. Always restart the router to activate any changes to configuration.**



## Tips for security

This Dynalink series of Broadcom chipset powered routers are highly powerful, secure and stable devices. To ensure that you get the maximum benefit from your Dynalink router Dynalink makes the following strong recommendations:

### Do:

- ⑤ Change and keep secret your router's admin user name and password. This will ensure that no unauthorised changes can be made to your settings and will prevent any unauthorised changes to the embedded code. A router has both a processor and memory and unauthorised access is highly undesirable.
- ⑤ Back up your router's configuration. This function can be found in the router's **Management > Backup Config** menu.
- ⑤ Disable UPnP if you don't need this function. Go to **Advanced > Local Network > UPnP** to disable UPnP.
- ⑤ Read about the more advanced functions of this router. They can be found in *Chapter 4* of the *User's Manual* on this CD.

**Don't:**

- Enable any form of remote access to the router unless you are confident in handling the security implications. Beware that an attacker may compromise the router and attempt to exploit the system without your knowledge. Remote administration of the router opens up the opportunity to breach the security of your router and network. Use the built in access control list to restrict access to only authorised Internet hosts.
- Enable IP extension bridging without firewall protection. If the router operating in this mode is connected to a computer, to the minimum use a "personal firewall" (software) to protect the computer.
- Send your router away for repair or replacement without resetting to factory default, or wiping out your Internet account login details. Use the Backup Configuration option to store your router's setting elsewhere. This function can be found in the router's **Management > Backup Config** menu. When a replacement unit is received, restore the original setting from the backup file.

# 9

## Indicator lights

There are 5 indicators on the front panel. Every time the router is powered on or reset, the DIAG light will come on indicating self-test is in progress.

Indicator	Status	Description
PWR	Off Solid	Power off. Power on.
DIAG	Off Flashing Solid	Power off, or initial self-test OK. Firmware uploading or updating Initial self-test failed. The unit is faulty.
LAN	Off Flashing Solid	Power off, or no Ethernet link is present. Data is going through the Ethernet port. The Ethernet link is ready.
USB	Off Flashing Solid	Off - USB link not present. Blinking - Data is going through the USB port. The USB link is ready.
DSL	Off Flashing Solid	Power off, or ADSL line training is in progress. Data are going through the ADSL link. ADSL link is ready.

## 10 *If you need to reset the router to factory default*

The quickest method to restore router to its original setting is reset to factory default. Make sure the router is powered on. Locate the pinhole that contains a hidden reset button next to the power on/off button at the back of the router. Use a suitable tool, push the hidden button and hold for 5 seconds. Release button and the router will reboot to load the factory default.

## 11 *Troubleshooting*

### **Q1. Cannot open the Router control panel from my browser.**

1. Check that the router's LAN (or USB) light is on. If not, check your Ethernet (or USB) cable.
2. Perform a **PING test**. Go to **Start–Programs–MS DOS/Command Prompt** (In Windows XP or 2000 you may click **Start–Run**. Enter **cmd** then **OK**). Type ping **192.168.1.1** then press **Enter**. The response should be:

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time=4ms TTL=30

....

If you see a similar response, the router is communicating with your computer correctly and the problem lies elsewhere. If the result is **Request timed out** or similar failures, there may be a networking problem. Check that the LAN or USB cable is firmly plugged in.

3. Disable any personal firewall or virus checker temporarily. If you are using Internet Explorer, go to **Tools–Internet options–Security**. Reset security level of all 4 icons to **default**. You can revert to your customised settings after configuring the router.
4. If previously the computer had a dialup modem, check browser setting. For example in Internet Explorer, go to **Tools–Internet options–Connections**, and select **Never dial a connection**. Also check **LAN Settings** that the option **Use a Proxy Server** is not selected.
5. If the router is connected to a network hub, try connecting the router directly to the computer in a standalone setup to eliminate any possible problem associated with the hub.
6. The router's private IP address is 192.168.1.1. To access the browser control panel your computer must be on the same subnet as the router. See also Q3.

### ***Q2. Cannot connect to Internet or cannot browse***

1. Check router's DSL light is on. Normally it takes less than one minute to establish a link with the telephone exchange. The link will establish as long as there is signal. If the DSL light does not come on the router is not seeing any signal. Check that:
  - ADSL service has been enabled.
  - If there is a designated ADSL jackpoint for the service, make sure the router is connected directly into this jackpoint. Other jackpoints cannot be used.
  - If there is no designated ADSL jackpoint, any jackpoints may be used. Connect the router directly into a jackpoint, or through the port marked MODEM on a filter.
2. If the router's DSL light is already on, check if router is on line. Go to the *Quick Start* menu as described in *Section 5 – Getting On-line*. If the router reports "Your DSL router is ready to connect", you are not on line. Make sure the user name and password have been entered in the exact format as specified by the ISP.
3. Check the configuration of computer and router. If you still cannot browse, perform a **PING test** as described in Q1-2, using these addresses:
  - (A) Ping **www.dynamalink.co.nz** (or any valid web address)
  - (B) Ping 205.178.180.16 (or any valid public IP address)

If both (A) & (B) reported failed response such as "request time out", and you assigned an IP address to your computer manually. Go to Procedure (2) of *Section 4*. Check that the router's IP (192.168.1.1) is entered as gateway & DNS. If these settings are correct ping the computer's IP (eg. Ping 192.168.1.2). If there is still no reply your network card may be faulty.

If (A) fails but (B) shows a response, this is probably a DNS problem. Go to Procedure (2) of *Section 4*. Enter the router's IP (192.168.1.1) as DNS.

If both (A) & (B) show a response, your router is actually on line. The problem may be with your browser setting. Try returning any custom settings of the browser to default. If you have a personal firewall, disable it to see if it makes any difference. Also you may try shutting down the computer and restarting.

### ***Q3. Need to install router on a network that uses a different subnet***

If the existing network already has a DHCP server, disconnect one computer from the network. Connect the computer to the router. The host computer will be assigned 192.168.1.2. You can change the router's IP so that it is consistent with the network. Disable DHCP on the router.

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## ***Q4. Browsing is fine but I cannot run certain applications.***

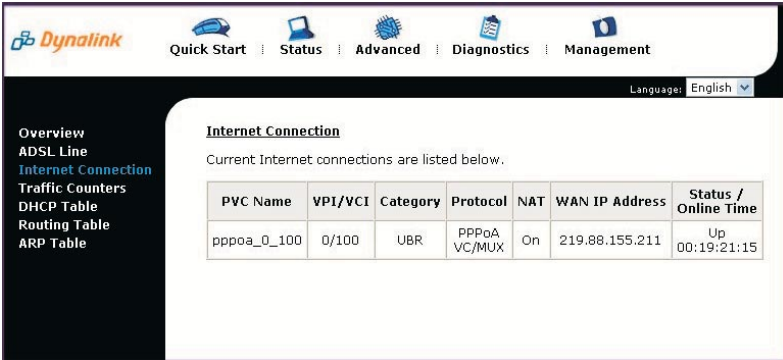
You need to set up virtual servers or DMZ host. See Section 7 on Firewall & traffic restrictions.

## ***Q5. The router's IP and/or administrative password have been modified. But the details have now been forgotten.***

You can restore the router to factory default by pushing a pin into the hidden reset button located next to the power on/off button at the back of the router. Push and hold for 5 seconds then release to reset router.

## ***Q6. I need to know the dynamically assigned WAN IP when the router goes on line***

Go to Status > Internet Connection, the WAN IP is displayed here.



The screenshot shows the Dynalink router's web interface. The top navigation bar includes links for Quick Start, Status, Advanced, Diagnostics, and Management. The left sidebar lists various system pages: Overview, ADSL Line, Internet Connection (highlighted), Traffic Counters, DHCP Table, Routing Table, and ARP Table. The main content area is titled 'Internet Connection' and states 'Current Internet connections are listed below.' It contains a table with the following data:

PVC Name	VPI/VCI	Category	Protocol	NAT	WAN IP Address	Status / Online Time
pppoe_0_100	0/100	UBR	PPPoA VC/MUX	On	219.88.155.211	Up 00:19:21:15

## ***Q.7 How to get information update***

This Quick Guide and User's Manual on CD are the primary source of information about the product. Please check the Dynalink website <http://www.dynalink.co.nz> regularly for updates, links, or to download a more current version of this Quick Set-up Guide.

## Warranty



Dynalink warrants this product against defects in materials and workmanship for a period of twelve months from the original date of purchase. We will, at our discretion, repair or replace the faulty unit, free of charge, provided it is returned to us with proof of purchase from an authorised dealer within the warranty period. Return delivery after repair will be paid for by Dynalink. We reserve the right not to repair or replace goods that:

- ⊕ have been mishandled, abused or not installed according to the guidelines as outlined in the instructions.
- ⊕ have been subjected to a power surge from other equipment or other external factors.
- ⊕ have been altered or modified.

## Help



Always check that your hardware is installed correctly. Check our web site for the latest information and troubleshooting guide. If you have difficulties, contact Dynalink Technical Support for issues relating to installation and operation.

If possible, visit Dynalink's on-line support area at:

**New Zealand** [www.dynalink.co.nz/support](http://www.dynalink.co.nz/support)

**Australia** [www.dynalink.com.au/support](http://www.dynalink.com.au/support)



Contact Dynalink's Technical Support:

**New Zealand**

**Phone** 0800 653 962

**Fax** 0800 503 962

(Monday-Friday: 8:30am-7:30pm)

**Australia**

**Phone** 1800 653 962

**Fax** 1800 063 962

(Monday-Friday: 8:30am-5:30pm)

