

# How To | Use The Allied Telesis GUI To Customise The Router And Set Up An Internet Connection



This How To Note describes how to customise an Allied Telesis router and configure its basic LAN and WAN interfaces, using the web-based Graphical User Interface (GUI).

The LAN interface is the router's connection to the PCs and other devices in your private network. The GUI's Basic Setup wizard makes this configuration simple.

The WAN interface is the router's connection to your ISP and therefore to the public Internet. The GUI lets you choose from a number of different WAN connection types and set up the most common features of each.

### What information will you find in this document?

This How To Note begins with the following information:

- "Related How To Notes" on page 2
- "Which products and software version does it apply to?" on page 2

Then it gives the details for setting up a LAN interface with the Basic Setup wizard, in the following sections:

- "The network" on page 3
- "How to connect to the router" on page 3
- "How to customise the router and configure the LAN interface" on page 6

Then it describes how to use the GUI to configure the following popular types of WAN connection:

- "An xDSL connection" on page 15 (a brief overview)
- "A connection over an Eth port" on page 17
- "A PPPoE connection with a dynamically-assigned IP address" on page 22.

Then it gives more information, in the appendixes:

- "Appendix 1: Router commands for dynamic PPPoE configuration" on page 30
- "Appendix 2: How to set the IP address on a PC" on page 31

## **Related How To Notes**

Other How To Notes that describe basic configuration include:

- How To Set Up Your ADSL Router For Typical Network Scenarios
- How To Configure Some Basic Firewall And VPN Scenarios

This How To Note is the first in a series of Notes about using the GUI to configure VPNs on the router. The other Notes in the series are:

- How To Use The Allied Telesis GUI Wizard To Create A Site-to-Site VPN Through A NAT Gateway Device
- How To Use The Allied Telesis GUI Wizard To Create A Site-to-Site VPN Use this Note when the VPN does not go through a NAT gateway device
- How To Create A VPN Between An Allied Telesis And A NetScreen Router
- How To Create A VPN Between An Allied Telesis And A SonicWALL Router, With NAT-T
- How To Troubleshoot A Virtual Private Network (VPN)

All the above How To Notes are available from www.alliedtelesis.com/resources/literature/ howto.aspx.

## Which products and software version does it apply to?

This configuration applies to the following Allied Telesis routers, running Software Version 2.9.1 or later:

- AR415S
- AR440S
- AR441S
- AR442S

The screenshots in this Note are from an Internet Explorer 6.0 browser running on Windows  $XP^{I}$ . In some steps, the Note also describes how to configure Mozilla Firefox  $1.5^{2}$ .

<sup>1.</sup> Internet Explorer and Windows are registered trademarks of Microsoft Corporation in the United States and other countries.

<sup>2.</sup> Firefox is a trademark of the Mozilla Foundation.

# The network

The following diagram shows the router, the LAN, and a possible WAN connection with a fixed public IP address.



### How to connect to the router

To connect to the router via the GUI, you simply connect a PC to it, set the PC's IP address, and use a web browser to browse to the router's IP address. The following steps describe in detail how to do this the first time.

By default, AR415S, AR440S, AR441S, and AR442S routers start up with the following configuration:

- the interface vlan1 has an IP address of 192.168.1.1 and a mask of 255.255.255.0
- the DHCP server is enabled, and assigns IP addresses in the 192.168.1.0 subnet
- all the switch ports belong to the default VLAN (vlan1)

#### I. Connect a PC to the router

Select a standalone PC to configure the router from—a PC that is not connected into any existing LAN.

Connect a NIC on the PC to any of the router's LAN switch ports. These ports have an RJ-45 connector, and you can use a straight-through or crossover cable. The router autodetects the cable type.

#### 2. Set your PC's IP settings

There are two options here. You can:

- give your PC an IP address in the 192.168.1.0 subnet, or
- set your PC to obtain its IP address automatically

We recommend you set the PC to obtain its address automatically, because this simplifies configuration if you change the router's LAN IP address. If your PC obtains its IP address automatically, the router automatically changes the PC's address when the router's subnet changes.

If you set your PC to obtain its address automatically, the router's DHCP server assigns an IP address to the PC when you turn the router on.

For more information about setting the PC's IP address, see "Appendix 2: How to set the IP address on a PC" on page 31.

#### 3. Check your browser configuration

You need to make sure that your browser:

bypasses the proxy for the local addresses, or is not set to access the LAN through a proxy

In Internet Explorer, to check the proxy settings, select the Tools menu, then Internet Options, then the Connections tab, then the LAN settings button.

In Firefox, to check the proxy settings, select the Tools menu, then Options, then the General tab, then the Connection Settings button.

has Javascript enabled. Javascript is enabled by default on most browsers.

#### 4. Log in

Browse to 192.168.1.1 and log in, using the default username and password of:

username: manager password: friend

The GUI displays the configuration Wizards page.

🗿 Allied Telesyn International - Microsoft Internet Explorer
File Edit View Favorites Tools Help
🔾 Back 👻 🕥 👻 📓 🚮 🔎 Search 👷 Favorites 🛛 🔗 😪 🔜 🔜 🦓
Address 🕘 http://192.168.1.1/
AT-AR415S Router
Configuration Wizards
Version 2.9.1 Serial No. D1AS67034
Help Save Wizards Welcome to the Configuration Wizards
£ Configuration          Click a button to run a configuration wizard.
Basic Setup     Set up basic router configuration such as user passwords and LAN settings.      Diagonatics
Site-to-Site VPN Configure a secure VPN connection to another site.
Remote Access VPN Set up the router to allow roaming users to access the LAN via secure VPN connections.
✓ Always start with this Wizards page Apply
A72
Copyright © 2005 Allied Telesyn International. All Rights Reserved.
👸 Done 🌒 👘 Internet

#### 5. Turn off the pop-up blocker for this site

Depending on the operating system and browser version, both Internet Explorer and Firefox are likely to be running a pop-up blocker by default. The GUI displays various messages in pop-up windows, especially error messages, so you need to turn the blocker off for the router's IP address.

In Internet Explorer, select the Tools menu, then Pop-up Blocker, then Pop-up Blocker Settings. Enter the router's address and click the Add button.

In Firefox, select the Tools menu, then Options, then the Content tab, then the Allowed Sites button. Enter the router's address and click the Allow button.

# How to customise the router and configure the LAN interface

The following steps describe how to use the Basic Setup Wizard.

Before you
 start
 Before you start the wizard you may want to check what features licences you already have—
 such as the features that are enabled in the factory—and then decide if you need any other feature licences. To check which feature licences are already installed on the router, select Management in the left-hand menu, then Software, then Licences, then the Feature Licences tab.

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File Edit View Favorites	Tools	Help				<b>1</b>
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Address 🗃 http://192.168.1.1/					✓	Go Links »
AT-AR4159	3 Route	r				<u>~</u>
	Fe	ature Li	cences		A CONTRACTOR	
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Help Save Wizards	Release L	icences Feature L	icences			
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■Monitoring	F	eature Name	Licence Type	Period	Licenced Features	
Configuration Files Configuration Files Software Boot Setup Upgrade Deficience.	0	FACTORY	full	No Expiry	Triple DES Encryption, Secure Shell, FIEKWALL, ISAKMP, PKI, FW SMTP Proxy, FW HTTP Proxy, SSL, AES, Firewall tier sessions licence up to 2000	
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Copyright © 2005 Allied Telesy	n Interna	tional. All Rights Res	erved.			×
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#### What feature licences do you need?

The features you need depend on the network solutions that you want to implement on the router. If you want a VPN solution, you need the following feature licences:

- 3DES and possibly AES encryption
- ISAKMP
- firewall

If these licences are not already enabled from the factory on your router, contact your Allied Telesis representative about getting these licences.

If you have new licence keys you can add them at step 5 of the following Wizard. Alternatively, you can add them by using the GUI page shown above—click on the Add button and enter your new feature name and password.

Return to the Wizards page by clicking on the Wizards button in the left-hand menu.



On the Wizards page, click the Basic Setup button.

The wizard starts by opening a Welcome page. Unless you have advanced configuration on the router that you want to keep, select "Clear all current settings first".

Then click the Next button.

#### 2. Name the router

🗿 http://192.168.1.1 - Basic Setup Wizard - Microsoft Internet Explorer 🛛 🔲 🔯
Basic Setup Wizard
Step 1 of 8: System Name
Please enter a system name that can be used to identify this router, or leave this field blank.
The name can be up to 245 characters long, and any printable characters may be used, including spaces, except that single and double quote characters are not permitted.
System Name
Peer2
Click Next to continue.
🖍 Cancel 🗶 Back Next 义
Done     Done

Enter a suitable name for your router. We recommend choosing a name that describes the company or network location where this router is located.

Then click the Next button.

This router is the second router in the companion How To Note How To Use The Allied Telesis GUI Wizard To Create A Site-to-Site VPN, so we named it Peer2.

#### 3. Change the manager password

🚳 http://192.168.1.1 - WIZ_BASIC_MANAGER_PASSWORD - Microsoft Int 🔳 🗖 🔀
Basic Setup Wizard
Step 2 of 8: Manager Password
The router currently has a Manager-level user configured with username "manager".
If you have not already done so, we strongly recommend you set a new "manager" password now to ensure access to the router's configuration is securely resticted. If you do enter a new password you will be prompted to re-login later.
The password can be from 6 to 32 characters long and is case sensitive. Any printable characters may be used, including spaces, except that single and double quote characters are not permitted.
"manager" Password
secret
Click Next to continue.
🗛 Cancel 🗶 Back 🛛 Next 📡
S pone

Enter a new password for the manager. Do not use the default password of "friend", because it is widely known and leaves you open to hacker attempts.

Then click the Next button.

#### 4. Change the security officer password

3) I	nttp://192.168.1.1 - Basic Setup Wizard - Microsoft Internet Explorer 🛛 🗐 🔲			
	Basic Setup Wizard			
_				
	Step 3 of 8: Security Officer Password			
	If you ever want to set up the security facilities of the router (friewall, VPN etc) you will need to log on as a "security officer" - i.e. as a user with Security Officer privileges.			
	Currently the router has no Security Officer level users configured. If you would like to set one up now, with username 'secoff', enter a password below. Otherwise, to skip this step leave the password field empty and click Next.			
	The password can be from 6 to 32 characters long and is case sensitive. Any printable characters may be used, including spaces, except that single and double quote characters are not permitted.			
	"secoff" Password			
	very-secret			
	Click Next to continue.			
	🔊 🖉 Cancel 🗶 Back 🛛 Next			
) c	one 🥴 Internet			

The security officer (secoff) has a higher level of privilege access than the manager, and can configure and debug VPNs and encryption keys. Enter a new password for secoff.

Then click the Next button.

#### 5. Enable special features

🕙 http://192.168.1.1	- Basic Setup Wizard - Microsoft Internet Explorer 📃 🗖	×
		<b>^</b>
	Basic Setup Wizard	
Step 4 of 8: Speci	al Feature Licences	
If you have purchas been enabled, enter	ed any Special Feature Licences for the router, but they have not yet the passwords to enable them here, or leave these fields blank.	
Note that if you wan need to enable eithe	t to configure any VPN connections with a high level of security you will r the Triple DES or the AES encryption feature.	
Feature 1 Name	Feature 1 Password	
Feature 2 Name	Feature 2 Password	
Feature 3 Name	Feature 3 Password	
Feature 4 Name	Feature 4 Password	
	]	
Click Next to continu	е.	
<b>A1</b> 2	Cancel 🗶 Back 🛛 Next 📡	
Ø .		~
🖉 Done	Internet	.::

If you have bought extra feature licences, enter them here. See "What feature licences do you need?" on page 6 for more information.

Then click the Next button.

#### 6. Set the time and date

🗿 http://192.168.1.1 - Basic Setup Wizard - Microsoft Internet Explorer		
Basic Setup Wizard		
Step 5 of 8: Time and Date		
You should set the correct time and date on the router's clock to ensure logging is accurate.		
The router had the following time and date when this wizard page was opened. Router's Time 2:21		
Router's Date 13-Sep-2006		
Click the checkbox below if you would like the router's time and date to be synchronised to the local time of your PC's clock when these settings are applied to the router.		
✓ Apply PC's time and date to router		
Click Next to continue.		
Cancel 🗶 Back Next 📎		
🖉 Done 🥥 Internet		

If the PC you are using has the correct time and date, set the router's time to synchronise with that of your PC by selecting "Apply PC's time and date to router". Note that this is a one-off synchronisation—it does not enable NTP on the router.

Then click the Next button.

#### 7. Specify the LAN address



In this step, you can change the router's LAN interface address from the default of 192.168.1.1 into an address that suits your LAN. In this example, we give the Allied Telesis router a LAN address of 192.168.2.1 (see "The network" on page 3).

Note that you can use the Tab key to move between fields when entering the address, but should not use the . key (the period).

Then click the Next button.

#### 8. Set up the DHCP server

🗿 http://192.168.1.1 - Basic Setup Wizard - Microsoft Internet Explorer 🛛 🔲 🗙					
Basic Setup Wizard					
Step 7 of 8: DHCP Settings					
The router can be configured to act as a DHCP (Dynamic Host Configuration Protocol) server to automatically allocate IP addresses to the devices on the LAN.					
✓ Configure the Router as a DHCP Server on the LAN					
If you select this option you can specify the range of IP addresses the router can allocate to devices on the LAN, or you can just accept the values that have been suggested by the wizard.					
DHCP Range Start Address     Number of Addresses in Range       192     . 168     . 2     . 100     50					
Click Next to continue.					
Cancel 🗶 Back Next 📎					
🛎 Done 🦉 Internet					

In this step, you can set up the DHCP server on this router so that it assigns IP addresses to devices on your LAN. Check that the wizard has chosen an appropriate range of addresses.

If the range is blank or invalid, you can either enter a range manually, or click the Next button to refresh this page with a valid range.

Once the range is appropriate, then click the Next button to move to the next page of the wizard.

#### 9. Check the settings



Check the summary. If necessary, use the wizard's Back button to return and correct any settings you want to change.

#### 10. Apply the settings

🗿 http://192.168.1.1 - Basic Setup Wizard - Microsoft Internet Explorer		
Basic Setup Wizard		
Rebooting		
The router is now rebooting to apply your settings.		
This can take up to several minutes, after which you may be required to log on again.		
Please wait.		
ATE		
	~	
😂 Done 🥴 🔮 Internet	,	

When all the settings are correct, click the Apply button. The router restarts, which takes about 30 seconds, then updates the PC's address automatically (if the PC is set to obtain an address automatically).

#### II. Log in again

If your PC has a manually-specified IP address, you need to:

- I. give the PC an address in the router's new subnet
- 2. set your browser to bypass the proxy for the new address (if you use a proxy)
- 3. browse to the router's new address

If your PC is set to obtain its address automatically, you need to:

- I. set your browser to bypass the proxy for the new address (if you use a proxy)
- 2. either wait until the browser automatically logs into the new address or manually point your browser to the new address



Log in, using the new Manager password.

#### 12. Disable the pop-up blocker for the new address

The wizard attempts to display a message in a pop-up window, which the browser may block.



Allow pop-ups for the new address. To do this if you are using Internet Explorer, click on the pop-up blocker notification bar and select "Always Allow Pop-ups from This Site".

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File Edit View Favorites Tools Help	an 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 19
🚱 Back 👻 💿 👻 😰 🏠 🔎 Search 🤺 Favorites 🤣 😥 ዿ 🚍 🖄	
Address 🕘 http://192.168.2.1/	💙 🛃 Go 🛛 Links 🎽
😵 Pop-up blocked. To see this pop-up or additional options click here	×
AT-AR415S Rot Aways Allow Pop-ups Aways Allow Pop-ups from This Site Settings Information Bar Help 03	<u> </u>
Help Save Wizards Welcome to the Configuration Wizards	

The wizard's message then appears. Click Finish.

ø	1 http://192.168.2.1 - Basic Setup Wizard - Microsoft Internet Explorer 🛛 🗐 🔀		
	Basic Setup Wizard		
	Basic Setup Completed		
	Congratulations. You have successfully completed Basic Setup of the router.		
	The IP address of the router has changed - from now on you will need to use the following URL to access it via the GUI: http://192.168.2.1		
	Click Finish to exit back to the Wizards page.		
	Finish 🔊		
	· · · · · · · · · · · · · · · · · · ·		
e	Done 🥥 Internet		

#### 13. Connect other LAN devices

Connect the other LAN devices to your router, as required.

**14.** Check the status

From the GUI's left-hand menu, select Monitoring, then System, then Status, to check that all the expected ports are up.

# How to configure the WAN interface

The routers support a number of different WAN connection options, depending on the model and whether you install an optional PIC.

This section describes how to use the GUI to configure three popular WAN connections:

- an xDSL connection (overview)
- a connection over an Eth port, for example to a cable modem (described in detail)
- a PPPoE connection (in detail)

### **GUI Help**

Help is available for every page in the GUI. To see the help information, click the Help button on the top right of the page or in the left-hand menu. A smaller window pops up. Click on Page Element Info to get helpful tips relevant to the item your mouse is hovering over.

The following screenshot shows part of the help for the IP routes page, which points out that a default route is defined with the syntax 0.0.0.

🗿 http://192.168.2.1 - GUI Assistant - Microsoft Internet Explorer	
Network IP Address Enter the destination IP address of the network for this route. An address of 0.0.0.0 indicates the default route. If the router receives data and cannot find a route for it, it will send the data to the default route.	Show me • General Page Info • Page Remark 1sto • Complete Help Page
E Done	Internet 🥂

## An xDSL connection

For details of how to set up an xDSL connection, see *How To Set Up Your ADSL Router For Typical Network Scenarios*. This How To Note is available from www.alliedtelesis.com/resources/literature/howto.aspx.

The GUI has all basic ADSL or SHDSL configuration settings on one convenient page. How to access this page depends on your software version.

#### Versions prior to 2.8.1

The page opens when you first connect to the GUI.

Also, you can access it at any time by clicking on the Quick Start button in the left-hand menu.

#### Version 2.8.1 and later

From the left-hand menu select Configuration, then Layer 2, then either ADSL or SHDSL, depending on your router. This displays the overview page, as the following screenshot shows for an AR440S router.

🕹 Allied Telesyn International - Mozilla Firefox	
Eile Edit View <u>G</u> o Bookmarks Iools <u>H</u> elp	0000 0000
🔶 • 🍦 - 🏂 🔇 🏠 🗋 http://192.168.1.1/	
🐢 Getting Started 🔂 Latest Headlines	
AT-AR440S Router	<u>^</u>
ADSL Connections	
Version 2.8.1 Serial No. 6834747	
Help Save Exit	
Wizards ATM ADSL Link VPI VCI Encapsulation Interface Username IP Address	
DSystem	
⊕ Port ⊕ Layer 2	
- 403. Connections	
DHCP Server	
e bortware QoS ⊞ Firewall	
<b>⊞</b> Monitoring	
Management	_
Diagnostics     Add	
Done	

From the overview page, click the Add button. This displays the page for setting up your connection. The defaults depend on the country setting, which you can change by selecting Configuration from the left-hand menu, then System, then General. Enter the details your ISP has provided you with.

Add ADSL Connection
Нер
General Information
Country
NONE
ISP Profile
PPPoA VPI=0 VCI=35 Encapsulation=VCmux
Connection Information
PPP Login IP Addressing
Username IP Address
Password IP Subnet Mask
Password Lontirmation Primary DNS Server
Secondary DNS Server
Advanced Tuning
Connection Protocol
PPPoA V
ATM Parameters
VPI:     0     VCI:     35     Encapsulation:     VCMUX
Firewall
💌 Enable Firewall
Apply Cancel

## A connection over an Eth port

In this example, we connect to the Internet through a direct cable connection to eth0. The following steps show how to:

- create a WAN interface over eth0 with a fixed IP address
- tell the router to use that interface, by defining a default route over eth0
- specify Domain Name Servers (DNS)

#### I. Open the IP interfaces summary

From the left-hand menu, select Configuration, then Internet Protocol, then Interfaces. This overview displays the vlan1 LAN interface you configured with the Basic Setup wizard.

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File Edit View Favorites Tools Help	
😋 Back 🔹 🐑 - 📓 🙆 🏠 🔎 Search 🤺 Favorites  🙆 - 璗 🚍 🖓	
Address 🙆 http://192.168.2.1/	🔁 Go 🛛 Links 🎽
AT-AR415S Router Configure IP Interfaces	<u> </u>
Help Save IP Interfaces Local Interfaces	
Bystem     Interface IP Address Mask 05PF Metric RIP Metric M'cast Direct B'd     Direct B'd	cast
Universe         vian1         192.168.2.1         255.255.255.0         1         1         Receive         No           Internet Protocol	
Grewall     Add     Modify     Remove	l i
Diagnostics	
Copyright © 2005 Allied Telesyn International. All Rights Reserved.	
🔊 Done 🗔 💿 Inter	net

Then click the Add button.

#### 2. Set up the WAN interface

Give eth0 an appropriate IP address and mask. You can leave other fields with their default values.

🗿 http://192.168.2.1 - Allied Telesyn International - Microsoft Internet Explorer 📃 🗖 🧕					
Add IP	Interface				
	Нер				
Interface configuration					
Interface ethD 💌	IP Address 200 , 200 , 200 , 1				
	Netmask 255 , 255 , 255 , 252				
RIP Metric	Enable Directed Broadcast				
Multicast Receive	0SPF Metric 1 (165534)				
Enable IGMP					
Apply	Cancel				
a Done	Internet				

Then click the Apply button.

#### 3. Check the interface settings

The GUI displays the IP interfaces summary page again. Check that the interfaces are correct. If you need to change either the LAN or the new WAN interface, select the interface and click the Modify button.

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File Edit View Favorites	Tools Help							
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Address 🗃 http://192.168.2.1/							💌 🄁 Go	Links »
AT-AR415	S Router <mark>S n figur</mark> Varian	e IP In	terfaces				1000000000	_
Help Save Wizards	IP Interfaces	Local Interfaces	0. 014301003				AND DOC	-
Configuration System	IP Interfaces Interface	IP Address	Mask	OSPF Metric	RIP Metric	M'cast E	irect B'cast	
Port     Elayer 2	🔘 vlan1	192.168.2.1	255.255.255.0	1	1	Receive	No	
Internet Protocol  General  Routes  Rules  Rule  Multicast  VPN  OSFF  DHCP Server  Software QoS  Format	eth0	200.200.200.1	255.255.255.252	1	1	Receive	No	
Monitoring		Add	M	odify		Remo	ve	
Convicts Co	un International. 4	Ill Pinhte Pacaruad						
E Done	,adonan P				2		💙 Internet	<b>N</b>

#### 4. Open the IP routes summary

In the next few steps, you define a default route. In a typical small network, all your Internet traffic goes over the default route.

The router needs a default route if it has a fixed IP address, like in this example. Note that if your Ethernet connection is instead dynamically assigned an IP address through DHCP, the dynamic settings include a default route.

From the left-hand menu, select Configuration, then Internet Protocol, then Routes.

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File Edit View Favorites Tools Help	<i>.</i>
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Address 👸 http://192.168.2.1/	ks »
AT-AR415S Router	^
Static Routes	
Version 2.9.1 Serial No. D1AS61003	
Help Save Static Routes Dynamic Protocol Preferences	
Configuration Static Routes	
Port Network Netmask Nexthop Interface Preference Metric	
Elayer 2	
- General	
- Interraces	
- RIP Multicact	
w VPN	
t OSPF DHCP Server	
E Software QoS	
Add Modify Remove	
Monitoring	
Management	
■Diagnostics	
A72	
Copyright © 2005 Allied Telesyn International. All Rights Reserved.	V
🛐 Done 💿 🔹 💿 Internet	

Then click the Add button.

5. Define the default route

Specify an IP address and mask of 0.0.0.0, the interface eth0, and a next hop of the IP address of your ISP.

http://192.168.2.1 - Allied Telesyn Intern	national - Microsoft Internet Explorer 📃 🗖 🔀
Add	IP Route
	Help
Static Route         Network IP Address           0         .0         .0           NetMask         .0         .0           0         .0         .0           Next Hop         .00         .0           200         .200         .200	Interface eth0 v Preference (Optional, 165535) Metric (Optional, 116)
Done	

Then click the Apply button.

#### 6. Check the route settings

The Static Routes summary page appears again. Check that the route is correct. If you need to change the route, select it and click the Modify button.

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G Back - 🕥 - 💌	😰 🏠 🔎 Search 🤉	🕂 Favorites  🚱	🔊 · 🎍 🗔	25			~~
Address ど http://192.168.2.1/						💌 🛃 Go	Links »
AT-AR419	is Router Static I	Routes				000-00 000-00 000-00	
Help Save Wizards	Static Routes Dynami Prefere	c Protocol	1003				7
Configuration     System	Static Routes	Netmask	Neythop	Interface	Preference	Metric	
Dirayer 2     Dirayer 2     Dirkernet Protocol     - General     - Internate Protocol     - General     - Interfaces     - Rup     - Multicast     - With     - Open     DHCP Server     Dirticast     Dirticast     Dirticast	0.0.0.0	0.0.0.0	200.200.200.2 Modify	eth0	360 Remov	1	
Copyright © 2005 Allied Teles	yn International. All Rights R	eserved.					
Done				21		Internet	

#### **7.** Specify the DNS

When the router has a fixed IP address, you also need to specify the Domain Name Servers it will use to resolve domain names.

From the left-hand menu, select Configuration, then Internet Protocol, then General. Enter the address of the primary and secondary DNS, which will most likely come from your ISP.

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File Edit View Favorites	Tools Help	
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Interfaces Routes RIP Multicast VPN OSPF 	ICMP Messages           ICMP Messages         Enable Network         Image: Enable Host unreachable         Image: Enable Redirect           MAC Address Logging         Enable MAC/IP         Enable MAC/IP         Enable MAC/IP	]
Monitoring     Management	Apply	1
Diagnostics	n International. All Rights Reserved.	
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#### 8. Save the configuration

We recommend saving your configuration at this point. To do this, click the red Save button at the top of the left-hand menu. Make sure that the configuration saves to the current configuration file (the Wizard's default of wiz.cfg). Select the "Use this config at bootup" option, so that if you restart the router it will run this configuration.



Click the Continue button to save the configuration.

# A PPPoE connection with a dynamically-assigned IP address

The following steps describe how to configure a PPPoE connection from the router to your ISP. The ISP authenticates incoming connections and dynamically allocates an IP address and DNS details.

#### I. Configure the PPP interface

From the left-hand menu, select Configuration, then Layer 2, then PPP. The PPP or PPPoE summary page opens.

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Then click Add to create the PPP interface. Enter an interface number, and the details your ISP has provided you with.

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Add	PPPoE Interface
	Help
PPP Interface 0 (0-1023)	Disable
eth0 v	Description
Username	Password
pppoe_user	alliedtelesis
Link Monitoring	Online Time Limit hours
Apply	Cancel
L	

This example shows a PPPoE link using LQR Link Monitoring. You may instead need to use the "echo" option for Link Monitoring to interoperate with your ISP. If you use the wrong option, your PPP will disconnect and reconnect frequently, which you can see by checking the router log (from the left-hand menu, select Monitoring then Log).

Your ISP might want to authenticate your incoming PPPoE connection. If so, fill in the required username and password on the above page.

#### 2. Configure the IP interface

From the left-hand menu, select Configuration, then Internet Protocol, then Interface. The GUI displays the IP interface overview, which shows the vlan1 LAN interface you configured with the Basic Setup wizard.

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Port Layer 2 VLANs VLANs PPP Internet Protocol General Routes Routes Routes OSPE DHCP Server Software QoS	vlan1 192.168.1.1 255.255.255.0	1 1 Iodíy	Receive No	
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Click the Add button and add a new IP interface over the PPP interface you just created. In this example, the ISP dynamically assigns the IP address, so enter an address and netmask of 0.0.0.

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Add IP	<sup>2</sup> Interface
	Help
Interface configuration	
Interface pppD 💌	IP Address
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Multicast Receive 🛩	0SPF Metric 1 (165534)
Enable IGMP	
Apply	Cancel

Click the Apply button. The GUI displays the IP interface overview again. Check your interface.

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#### 3. Define the default route

From the left-hand menu, select Configuration, then Internet Protocol, then Routes. The GUI displays the IP route overview, which is empty.

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Click the Add button and add a new route, specifying an IP address, netmask and next hop of 0.0.0.0, and the PPP interface.

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Add	IP Route
Challe Barrie	Нер
Network IP Address         0         .0         .0           NetWlask         0         .0         .0         .0           Next Hop         0         .0         .0         .0	Interface ppp0 v Preference (Optional, 165535) Metric (Optional, 116)
Apply	Cancel

#### 4. Specify the DNS (if you have a fixed IP address)

From the left-hand menu, select Configuration, then Internet Protocol, then General. If your ISP dynamically assigns the PPPoE connection an IP address, then the ISP probably also allocates DNS details dynamically. In that case, you can leave the DNS details on this page blank, as shown in the following screenshot. Otherwise, enter the address of the primary and secondary DNS.

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[ ┡ Monitoring	×
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#### 5. Enable remote IP address assignment

If your ISP dynamically assigns the IP address, you need to specify that the router can accept such addresses. From the left-hand menu, select Diagnostics, then Command Line. Enter the command **enable ip remote** and click the Execute button.

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#### **6.** Set a connection timeout

If your connection costs are based on how long you are connected for, we recommend you set the connection to time out after a short idle time, such as 600 seconds. Even if your ISP does not charge this way, we recommend you set a long idle timeout instead, because it is a good way to aid PPP link recovery after any disconnection problems. In this case a suitable value might be 3600 seconds (1 hour) or 86400 seconds (1 day).

To set the timeout, from the left-hand menu, select Diagnostics, then Command Line. To set the timeout to 3600 seconds, enter the command **set ppp=0 idle=3600** and click the Execute button.

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Characteristics Characteristi	Info (1003003): Operation successful.	2
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#### 7. Reset the PPP interface

To force the router to make the above changes to the PPP interface, you may need to reset it. To do this, enter the command **set ppp** and click the Execute button.

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#### 8. Save the configuration

We recommend saving your configuration at this point. To do this, click the Save button at the top of the left-hand menu. Make sure that the configuration saves to the current configuration file (the Basic Setup wizard's default of wiz.cfg). Select the "Use this config at bootup" option, so that if you restart the router it will run this configuration.



Click the Continue button to save the configuration.

#### 9. Restart the router

To validate the saved changes, restart the router. To do this, from the left-hand menu, select Diagnostics, then Command Line. Enter the command **restart router** and click the Execute button.



When the router restarts, the link is initially down. To see this, from the left-hand menu, select Diagnostics, then Command Line. Enter the command **show ppp** and click the Execute button. The following screenshot shows the output. Note the State of CLOSED.

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#### 10. Ping to bring the link up

To bring the link up, ping from a PC behind the router to any Internet destination. To see that the link has come up, from the left-hand menu, select Diagnostics, then Command Line. Enter the command **show ppp** and click the Execute button. Note the State of OPENED

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# Appendix 1: Router commands for dynamic PPPoE configuration

This section lists the configuration commands for the basic setup and PPPoE WAN connection.

You can compare your router configuration against the following commands to help with troubleshooting. To display your router configuration, either:

- log into its CLI and enter the command show config dynamic
- on the GUI, from the left-hand menu, select Diagnostics, then Command Line. Enter the command show config dynamic and click the Execute and Save button. Save the file to a suitable location on your PC.

The relevant commands are:

```
# System configuration
set system name="AlliedTelesis"
# User configuration
set user=manager pass=your-password priv=manager lo=yes
set user=manager telnet=yes desc="Manager Account"
add user=secoff pass=your-password priv=securityOfficer lo=yes
set user=secoff telnet=no netmask=255.255.255.255
# PPP configuration
create ppp=0 description="Link to ISP" idle=3600 over=eth0-any
set ppp=0 iprequest=on username="pppoe_user" password="alliedtelesis"
# IP configuration
enable ip
enable ip remote
ena ip dnsrelav
add ip int=vlan1 ip=192.168.1.1
add ip int=ppp0 ip=0.0.0.0
add ip rou=0.0.0.0 mask=0.0.0.0 int=ppp0 next=0.0.0.0
# DHCP (Post IP) configuration
enable dhcp
create dhcp poli="lan-dhcp" lease=259200
add dhcp poli="lan-dhcp" subn=255.255.255.0
add dhcp poli="lan-dhcp" rou=192.168.1.1
```

create dhcp ran="standard" poli="lan-dhcp" ip=192.168.1.100 num=50

add dhcp poli="lan-dhcp" dnss=192.168.1.1

# Appendix 2: How to set the IP address on a PC

On a PC that is running Windows XP, use the following steps to change the IP address:

I. Access the LAN connection settings

From the Start menu, select Settings then Network Connections. A Network Connections dialog box opens. Open the desired connection.

A dialog box opens that displays information about the connection status.

#### 2. Access the IP settings

Click the Properties button. A dialog box opens that displays the connection properties, including a list of the items it uses.

Select Internet Protocol (TCP/IP) and click the Properties button. The Internet Protocol (TCP/IP) Properties dialog box opens.

#### 3. Change the IP settings

Either manually specify an IP address and DNS server, or set the PC to obtain these automatically.

#### 4. Restart the PC, if necessary

If you set the address manually, you may need to restart the PC to force it to change its address.

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