



Port Forwarding Setup

(RTA1025W V6)

Port Forwarding

Port forwarding enables programs or devices running on your LAN to communicate with the internet as if they were directly connected.

This is most commonly used for VOIP ATA devices or online gaming (via game console or computer).

Port forwarding works by "forwarding" a specific TCP or UDP port from the modem / router to the computer or device you are using.

You can also restrict which incoming connections will have the rule applied to it. This enables you to specify all incoming connections, from a specific subnet or from an individual IP address.*



Different services and different games all use different TCP or UDP ports.

You will need to consult any information supplied with your service or game in order to find which ports need to be forwarded.



You can only forward a port to **one** location (IP address).

In some cases, this may cause issues when multiple LAN devices (computers, game consoles, or VOIP ATAs) attempt to use online gaming at same time or make multiple VOIP service connections.

In these cases, you would need to use an alternate port for any subsequent connections after the first device.

Please consult your VOIP provider or game manufacturer for assistance with this.

* - If supported by your model of modem / router.

Adding a Port Forwarding Rule

This guide will take you through the steps required to add a port forwarding rule to your modem / router.

Reserving an IP address

It is recommended you reserve an IP address for the device you wish to port forward to so that the IP address assigned to the device by the router does not change each time the device or the router is restarted.

To do this you must know the MAC address of the device. In this example we wish to create a port forwarding rule for the wireless network card of a computer. To find the MAC address:

1. Click **Start > All programs > Accessories > Command prompt**.
2. Enter '**ipconfig /all**' (without quotes) and press enter.

```
C:\WINDOWS\system32\cmd.exe
C:\Documents and Settings\TechSupport>ipconfig /all

Windows IP Configuration

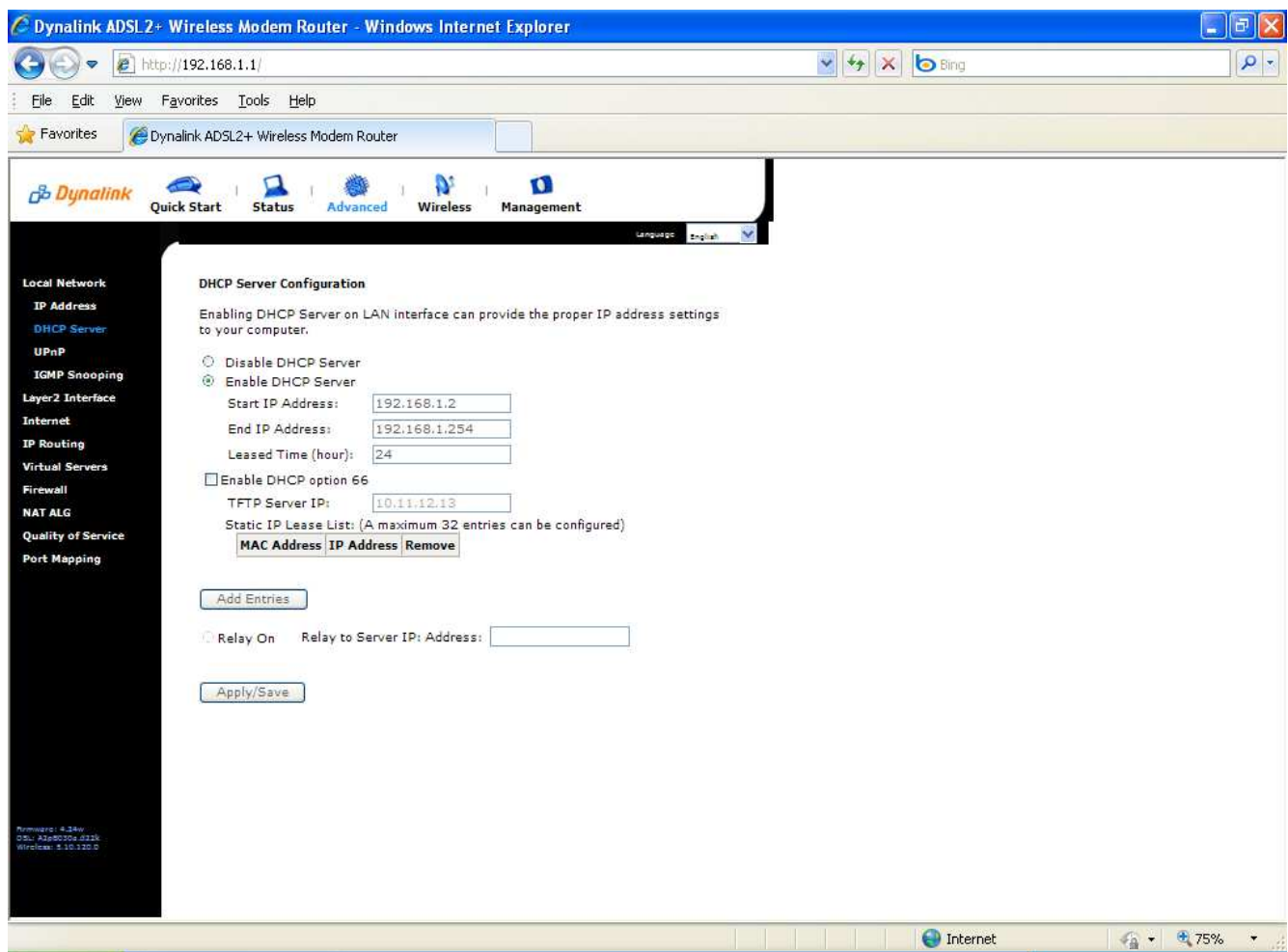
    Host Name . . . . . : techsupport-laptop
    Primary Dns Suffix . . . . . :
    Node Type . . . . . : Unknown
    IP Routing Enabled. . . . . : No
    WINS Proxy Enabled. . . . . : No
    DNS Suffix Search List. . . . . : home
                                        home

Ethernet adapter Wireless Network Connection:

    Connection-specific DNS Suffix . . : home
    Description . . . . . : Broadcom 802.11b/g WLAN
    Physical Address. . . . . : 00-14-A5-7A-63-EE
    Dhcp Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . . : Yes
    IP Address. . . . . : 192.168.1.3
    Subnet Mask . . . . . : 255.255.255.0
    IP Address. . . . . : fe80::214:a5ff:fe7a:63ee%4
    Default Gateway . . . . . : 192.168.1.1
    DHCP Server . . . . . : 192.168.1.1
    DNS Servers . . . . . : 192.168.1.1
                                fec0:0:0:ffff::1%1
                                fec0:0:0:ffff::2%1
                                fec0:0:0:ffff::3%1
    Lease Obtained. . . . . : Wednesday, 15 December 2010 1:08:39
    Lease Expires . . . . . : Thursday, 16 December 2010 1:08:39 p.m.
```

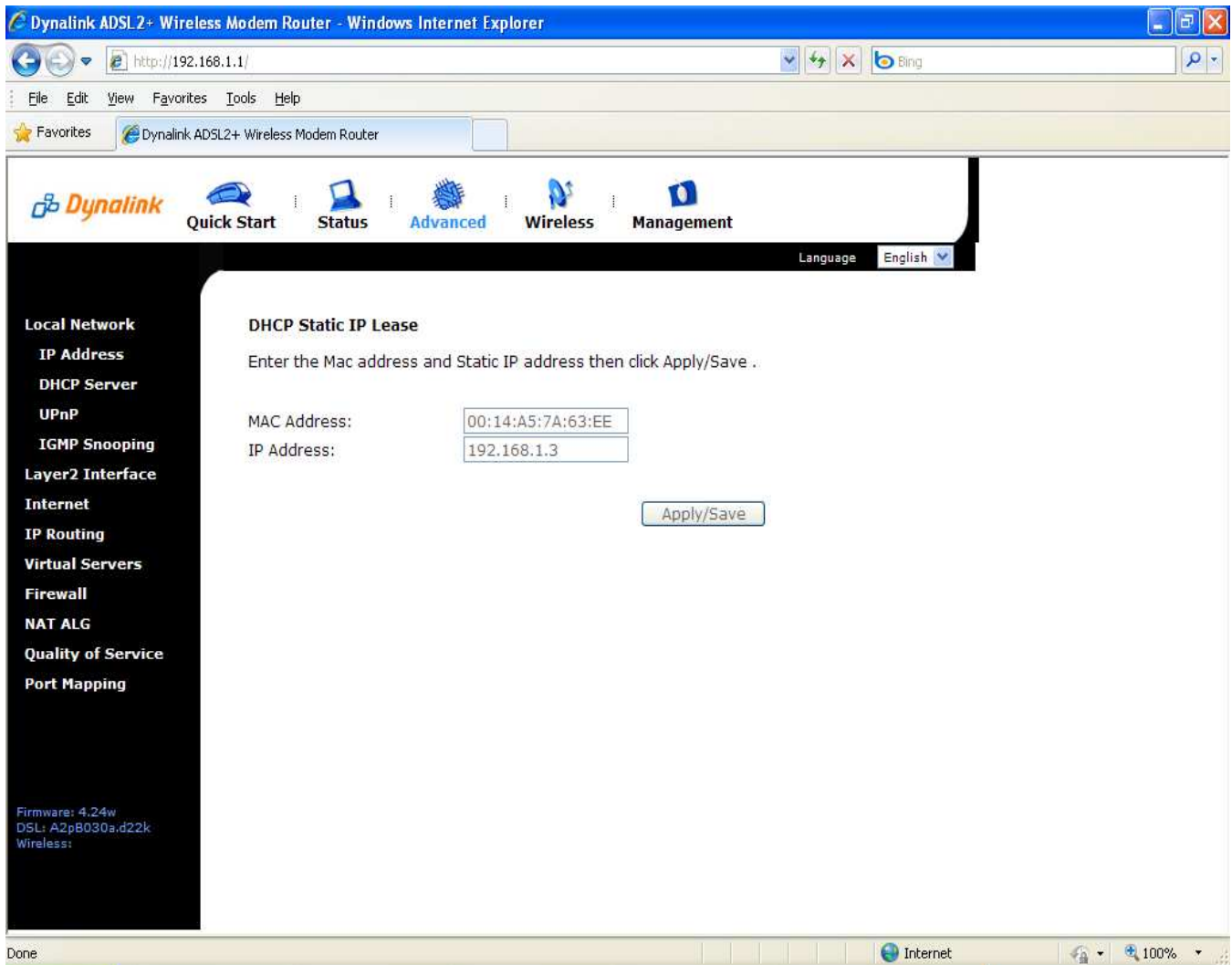
3. The physical address is the MAC address of the Wireless Network Card. You will need this MAC address to reserve an IP address for the device.

- To reserve an IP address for the device on the router navigate to <http://192.168.1.1> in a web browser.
- Enter '**admin**' (without quotes) for both the **username** and **password** and click **Ok**.
- Select **Advanced > Local Network > DHCP Server**.



- Select the **Add Entries** button for the Static IP Lease List.

8. Enter the **MAC address** and the **IP address** of the device you wish to reserve an IP address for. For the MAC address insert a colon ':' between every two characters as shown below.



9. Press **Apply/Save**.

10. The reserved IP address will be shown for the device in the Static IP Lease List as shown below.

The screenshot shows the configuration page for a Dynalink ADSL2+ Wireless Modem Router. The browser address bar shows `http://192.168.1.1/`. The page title is "Dynalink ADSL2+ Wireless Modem Router - Windows Internet Explorer". The navigation menu includes "Quick Start", "Status", "Advanced", "Wireless", and "Management". The left sidebar lists various configuration options: "Local Network", "IP Address", "DHCP Server", "UPnP", "IGMP Snooping", "Layer2 Interface", "Internet", "IP Routing", "Virtual Servers", "Firewall", "NAT ALG", "Quality of Service", and "Port Mapping". The main content area is titled "DHCP Server Configuration" and contains the following settings:

- Disable DHCP Server
- Enable DHCP Server
- Start IP Address:
- End IP Address:
- Leased Time (hour):
- Enable DHCP option 66
- TFTP Server IP:

The "Static IP Lease List" section is highlighted with a red box and contains the following table:

Static IP Lease List: (A maximum 32 entries can be configured)		
MAC Address	IP Address	Remove
00:14:A5:7A:63:EE	192.168.1.3	<input type="checkbox"/>

Below the table are buttons for "Add Entries" and "Remove Entries". At the bottom, there is a "Relay On" option with a "Relay to Server IP: Address:" field and an "Apply/Save" button.

Adding a Port Forwarding Rule

1. Select **Advanced > Virtual Servers > Port Forwarding**.

The screenshot shows the web interface of a Dynalink ADSL2+ Wireless Modem Router. The browser window title is "Dynalink ADSL2+ Wireless Modem Router - Windows Internet Explorer" and the address bar shows "http://192.168.1.1/". The interface includes a navigation menu with "Quick Start", "Status", "Advanced", "Wireless", and "Management". The "Advanced" section is expanded, showing "Virtual Servers" with "Port Forwarding" selected. The "Port Forwarding Setup" page contains a description: "Virtual Server allows you to direct incoming traffic from WAN side (identified by Protocol and External port) to the Internal server with private IP address on the LAN side. The Internal port is required only if the external port needs to be converted to a different port number used by the server on the LAN side. A maximum 32 entries can be configured." Below the text is a table with the following columns: "Server Name", "External Port Start", "External Port End", "Protocol", "Internal Port Start", "Internal Port End", "External IP Address", "Server IP Address", "WAN Interface", and "Remove". An "Add" button is located below the table. The status bar at the bottom shows "http://192.168.1.1/scvrtsrv.cmd?action=view" and "Internet".

Server Name	External Port Start	External Port End	Protocol	Internal Port Start	Internal Port End	External IP Address	Server IP Address	WAN Interface	Remove
<input type="button" value="Add"/>									

2. Press the Add button.

3. To create your own port forwarding rule enter a name for the rule in the **Custom Service** field.
4. Enter the IP address of the local device you wish to port forward to in the **Server IP Address** field.

Port Forwarding

Select the service name, and enter the server IP address and click "Apply/Save" to forward IP packets for this service to the specified server. **NOTE: The "Internal Port End" cannot be modified directly. Normally, it is set to the same value as "External Port End". However, if you modify "Internal Port Start", then "Internal Port End" will be set to the same value as "Internal Port Start".**
Remaining number of entries that can be configured:32

Use Interface: pppoa_0_0_100
Service Name:
 Select a Service: Select One
 Custom Service: VoIP
Internet Host IP Address: ALL
Server IP Address: 192.168.1.3

External Port Start	External Port End	Protocol	Internal Port Start	Internal Port End
5060	5060	TCP/UDP	5060	5060
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		

5. Enter the **port number** or **port range** for the port(s) concerned both externally -over the internet, and internally – locally connected to the router.
6. Enter the **protocol**, either TCP or UDP. If you are unsure use the TCP&UDP option.
7. Press the **Apply/Save** button.

8. The port forwarding rule will be displayed as in the example below.

The screenshot shows the configuration page for a Dynalink ADSL2+ Wireless Modem Router. The browser address bar shows the URL http://192.168.1.1/. The page title is "Dynalink ADSL2+ Wireless Modem Router". The navigation menu includes "Quick Start", "Status", "Advanced", "Wireless", and "Management". The left sidebar lists various configuration options, with "Port Forwarding" selected under "Virtual Servers".

Port Forwarding Setup

Virtual Server allows you to direct incoming traffic from WAN side (identified by Protocol and External port) to the Internal server with private IP address on the LAN side. The Internal port is required only if the external port needs to be converted to a different port number used by the server on the LAN side. A maximum 32 entries can be configured.

Server Name	External Port Start	External Port End	Protocol	Internal Port Start	Internal Port End	External IP Address	Server IP Address	WAN Interface	Remove
VoIP	5060	5060	TCP/UDP	5060	5060	ALL	192.168.1.3	pppoe_0_0_100	<input type="checkbox"/>

Buttons:

System Information: Firmware: 4.24a, DSL: A36000a.d21k, Wireless

9. There are a number of pre-configured port forwarding rules available using the 'Select a Service' field.
10. The example below shows the Telnet server port forwarding rule selected. The only requirement is to enter the IP address of the device you wish to port forward to. The port numbers and protocols are automatically entered.

Select the service name, and enter the server IP address and click "Apply/Save" to forward IP packets for this service to the specified server. NOTE: The "Internal Port End" cannot be modified directly. Normally, it is set to the same value as "External Port End". However, if you modify "Internal Port Start", then "Internal Port End" will be set to the same value as "Internal Port Start".
Remaining number of entries that can be configured:31

Use Interface: pppoa_0_0_100

Service Name:
 Select a Service: Telnet Server
 Custom Service: _____

Internet Host IP Address: ALL

Server IP Address: 192.168.1.3

Apply/Save

External Port Start	External Port End	Protocol	Internal Port Start	Internal Port End
23	23	TCP	23	23
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		

Apply/Save

Done Internet 75%

11. On pressing Apply/Save the port forwarding rule will be saved and displayed as shown below.

Dynalink ADSL2+ Wireless Modem Router - Windows Internet Explorer

http://192.168.1.1/

File Edit View Favorites Tools Help

Dynalink Quick Start Status Advanced Wireless Management

Language: English

Local Network

- Layer2 Interface
- Internet
- IP Routing
- Virtual Servers
 - Port Forwarding
 - Port Triggering
 - DMZ Host
 - Dynamic DNS
 - Static DNS
- Firewall
- NAT ALG
- Quality of Service
- Port Mapping

Port Forwarding Setup

Virtual Server allows you to direct incoming traffic from WAN side (identified by Protocol and External port) to the Internal server with private IP address on the LAN side. The Internal port is required only if the external port needs to be converted to a different port number used by the server on the LAN side. A maximum 32 entries can be configured.

Server Name	External Port Start	External Port End	Protocol	Internal Port Start	Internal Port End	External IP Address	Server IP Address	WAN Interface	Remove
VoIP	5060	5060	TCP/UDP	5060	5060	ALL	192.168.1.3	pppoe_0_0_100	<input type="checkbox"/>
Telnet Server	23	23	TCP	23	23	ALL	192.168.1.3	pppoe_0_0_100	<input type="checkbox"/>

Done

Internet 75%

Please note: Some services require more than one port forwarded. You can do this by specifying a sequential range of ports instead of just one.

For example: 6881-6999.

To do this, you would enter "**6881**" in the "**Port Start**" fields and "**6999**" in the "**Port End**" fields for both the "**External Packet**" and "**Forward to Internal Host**" sections.

You can only forward a port to **one** location (IP address).

In some cases, this may cause issues when multiple LAN devices (computers, game consoles, or VOIP ATAs) attempt to use online gaming at the same time or make multiple VOIP service connections.

In these cases, you would need to use an alternate port for any subsequent connections after the first device.

Please consult your VOIP provider or game manufacturer for assistance with this.

