Users Manual

jetSpeed 520

ADSL

ADSL Router with USB and Ethernet Interfaces

INTRACOM

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1 GETTING STARTED

1.1 OVERVIEW

jetSpeed 520 is a multi-mode **ADSL Router**, compliant with:

- ANSI T1.413 Issue 2
- ITU G.992.1 (G.dmt)
- G.992.2 (G.lite)

jetSpeed 520 provides high-speed Internet access via one WAN port over ATM over ADSL and also connects to the corporate network via one 10/100BaseT Ethernet port and one USB port. jetSpeed 520 allows service providers to deploy ADSL rapidly over existing wire infrastructure (POTS or ISDN line).

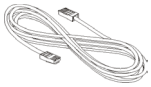
Features

- High Speed Asymmetrical Data Transmission on a Single Twisted Copper Pair
- Full rate operation up to 8Mbps downstream and up to 1Mbps upstream. G.lite operation up to 1.5Mbps downstream rate and 512Kbps upstream rate
- One 10/100BaseT Ethernet Port and one USB Port for PC connection
- DHCP server supported for easy LAN IP address management
- Supports PPPoE (RFC2516), PPP (RFC2364) and IP (RFC 2225/RFC1577) over ATM over ADSL
- RFC2684 (RFC1483) Bridged/Routed for both LLC/VC MUX
- Allows LAN users to access Internet through Network Address Translation (NAT, IP sharing) simultaneously
- Local OAM&P through command line interface via RJ-45 Ethernet port or RS-232 Craft port (optional)
- Configuration and management via local Telnet and web browser through the Ethernet interface and remotely through ADSL interface
- Supports applications such as TFTP, DHCP, Telnet, HTTP and FTP
- Firmware upgradeable through TFTP
- Interoperability complies with TR-48, U-R2

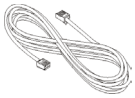
1.2 PACKAGING

This package consists of the following items:

jetSpeed 520 ADSL Device Unit



RJ-45 Cable (Ethernet Cable)



RJ-11 Cable (Telephone Cable)

USB Cable

AC Adapter

CD-ROM includes User's Manual and USB Driver

Line Filter

Splitter

Line filters for jetSpeed 520 or a central splitter for jetSpeed 520i and an additional RJ-11 Cable

1.3 APPEARANCE

1.3.1 FRONT PANEL

Fig. 1-1

	LABEL	LED STATUS	COLOR	DESCRIPTION
1	**LAN**	ON	Green	Ethernet port is connected
2	**USB**	ON	Green	USB port is connected
3	**PWR**	ON	Green	Power supply is connected
4	**WAN**	Blinking	Green	Synchronization with DSLAM
		ON	Green	ADSL link is ready
5	**ALM**	Blinking	Red	Booting up
		ON	Red	Error

Table 1-1

1.3.2 REAR PANEL

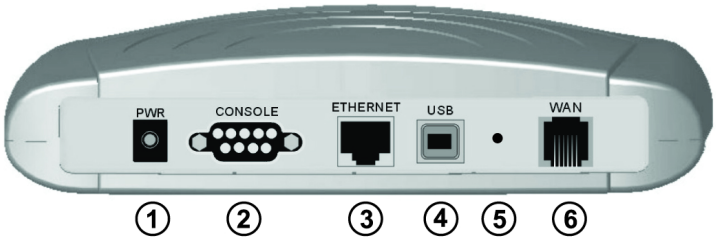


Fig. 1-2

	LABEL	DESCRIPTION
1	**PWR**	Power jack; connect to a power adapter
2	**CONSOLE**	Serial port; connect to an ASCII data terminal
3	**ETHERNET**	RJ-45 port; connect to a PC or LAN
4	**USB**	USB port; connect to a PC
5	**RESET**	Resets jetSpeed 520 to its factory default settings
6	**WAN**	RJ-11port; connect to the ADSL outlet

Table 1-2

1.4 HARDWARE INSTALLATION

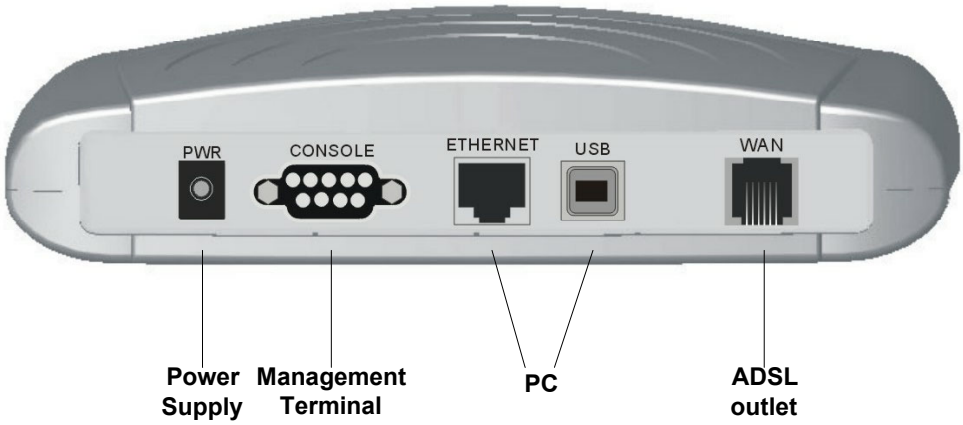


Fig. 1-3

Step	Action
1.	Connect one end of the ADSL cable to the WAN port of jetSpeed 520 and the other end to the ADSL wall outlet.
2.	In case jetSpeed 520 is installed, connect the telephone devices in any socket placing a microfilter. In case jetSpeed 520i is installed, connect the telephone devices to the "TEL" output of the central splitter.
3.	Use a RJ-45 cable to connect one end to the Ethernet port of the jetSpeed 520 and the other end to the LAN or a PC with an Ethernet adapter installed. You may also connect a USB cable from the USB port to a PC.
4.	Use a 9-pin RS-232 cable to connect the Console port to a serial port of a terminal such as PC with data terminal emulation software (Hyper Terminal) installed, in order for local management.
5.	Plug in the AC adapter to the AC power socket and the other end into the PWR inlet of the jetSpeed 520.

NOTE: Be sure to use a RJ-45 crossover cable while connecting to a hub.

1.5 MANAGEMENT

jetSpeed 520 supports simple, flexible and easy-to-operate methods for management purposes. jetSpeed 520 can be managed via the following paths:

- **Console port:** Use a RS-232 cable for connecting jetSpeed 520 to a terminal or a PC running a terminal emulation program, such as Hyper Terminal. (For further details, see paragraph 1.8 Console Setup)
- **Local Ethernet Port (Telnet):** Connect the Ethernet port to your local network or to directly to a PC. From the command window type "telnet 192.168.1.1".
- **Local Ethernet Port (Web Browser):** Connect the Ethernet port to your local network or directly to a PC. Start the web browser and enter default local Ethernet IP address "**192.168.1.1**" on the address bar.
- **Remote Management:** While jetSpeed 520 is running, you can remotely type “telnet <wan address>” from a workstation, which is connected to a ADSL network or in general on the Internet.

NOTE: As operating an ADSL device requires technical know-how and experience. It is recommended that only qualified technical staffs manage the jetSpeed 520. Therefore, a password authentication is required when you enter the web interface. To obtain the password, see paragraph 1.6 Default Values.

1.6 DEFAULT VALUES

jetSpeed 520 is pre-configured with the following parameters:

Default Mode: Bridge	**User Name: admin**
	Password: admin
Bridge Mode Setting	**WAN and ADSL**
Ethernet (local) IP: 192.168.1.1	Local Line Code: Auto
USB Interface (local) IP: 192.168.2.1	
Subnet Mask: 255.255.255.0	Trellis Mode: Enable
Full Duplex: Auto	FDM Mode: Fdm
Protocol: RFC1483, Bridge Mode	Coding Gain: Auto
VPI/VCI: 8/35	Transmit Power Atten:
0dB	
Class (QoS): UBR	
Spanning Tree: Disable	
Packet Filter: Any	
Router Mode Setting	**DHCP Server:** Enabled
Ethernet (local) IP: 192.168.1.1	**DNS Relay:** Enabled
USB Interface (local) IP: 192.168.2.1	
Subnet Mask: 255.255.255.0	

You may also re-load the default parameters by rebooting the router into the Default configuration from the web browser.

NOTE: The User Name and Password are case-sensitive

1.7 SOFTWARE UPGRADE

You may easily upgrade the jetSpeed 520 embedded software by obtaining the firmware image file from the service provider then following the steps:

Step	Action
1.	Extract the ZIP file for updated firmware (if it is compressed).
2.	Connect jetSpeed 520 via one of the 2 local ports (Ethernet, USB) or remote ADSL link. Make sure that the jetSpeed 520 IP address and your terminal is properly configured, then you can successfully “ping” jetSpeed 520. The default local IP address is 192.168.1.1.
3.	Under DOS prompt, execute FTP command “open <IP address of jetSpeed 520>”, then input user name and password.
4.	Execute upload command “put tepatch.bin“. This upgrading process might last as long as 60 seconds.
5.	Finally, reboot jetSpeed 520 with new software.

NOTE: The jetSpeed 520 software may also be upgraded through the web interface. See paragraph 2.3.7 Admin, Image Upgrade.

NOTE: Strictly maintain stable power to the jetSpeed 520 while upgrading its software. If the power fails during the upgrading process, contents in the memory could be destroyed and the system may hang. In such a case, you must call the dealer or system integrator for repairs.

1.8 CONSOLE SETUP

Connect the RS-232 console port to an ASCII data terminal or a PC with Widows serial Terminal mode of VT-100 (Hyper Terminal). To start the Hyper-terminal, follow the steps below:

Step	Action
1.	Start "Hyper-terminal" program.
2.	On Windows 98 or Windows NT, click on the **Start** button → **Programs** → **Accessories** → **Hyper Terminal Group** → Double Click "**Hypertrm.exe**" → Enter **Connection Name** → Select Icon → Click on the **OK** button
3.	Select COM port to communicate with the jetSpeed 520. Choose direct to COM1 or COM2 and click on the OK button.
4.	Set **Port Properties** according to the next table:

PORT PROPERTIES AREA	PORT PROPERTY	VALUE
Port Setting	Bit per second	38400
	Data bits	8
	Stop bits	2
	Parity bits	None
	Flow Control	None
Settings	Function, arrow and ctrl keys act as Windows keys	
	Emulation	Auto-detect
	Back-scroll buffer lines	500
ASCII Setup	Echo typed characters locally	
	Line delay	0 milliseconds
	Character line feeds incoming line ends	Enable

Table 1-3

2 WEB INTERFACE MANAGEMENT

2.1 OVERVIEW

jetSpeed 520 provides the capability on operating the ADSL function through the web GUI environment. It provides much easier way to configure and manage the Bridge/Router function to accommodate into your personal or business needs. The web GUI operation gives the advantage of quick configuration and easy access. The following section will describe the detailed settings on various ADSL configurations.

2.2 PREPARATION

To start the Web Management, proceed as follows:

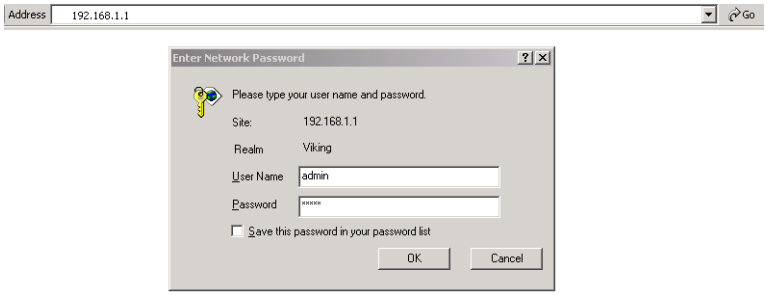
Step	Action
1.	Open the Web Browser in any of each PC.
2.	Type in the **IP Address** http:/192.168.1.1 for Ethernet and http:/192.168.2.1 for USB connection in the address bar.
3.	Click **Enter** to enter the Web management page.

NOTE: jetSpeed 520 IP and PC's IP should be under in the same subnet.
For example: jetSpeed 520 IP: 192.168.1.1
PC IP: 192.168.1.2

NOTE: A DHCP server running on the jetSpeed 520 will provide you with the necessary IP settings. This procedure will be done automatically and completely transparently to the user.

2.3 LOGIN

The window **Enter Network Password** pops up while starting the configuration.

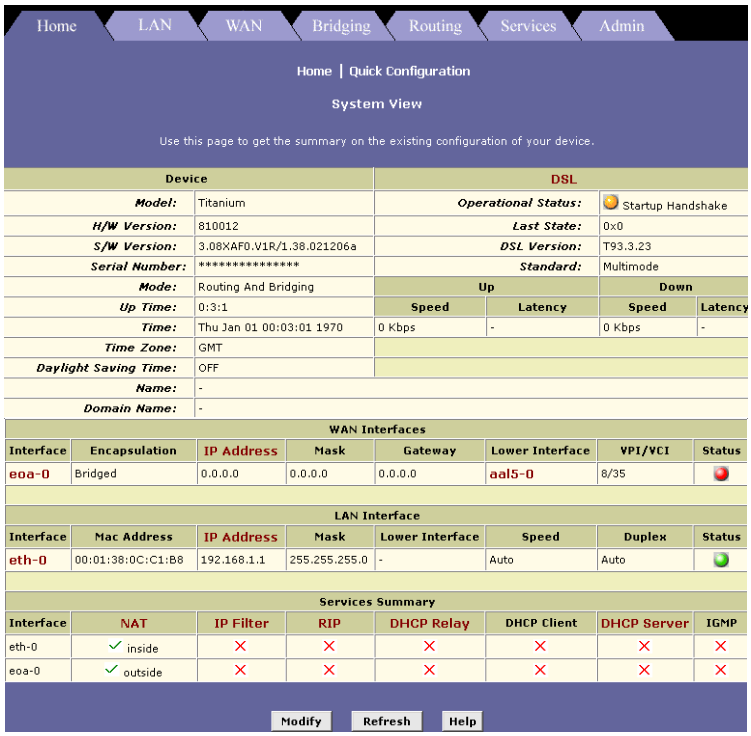
Step	Action
1.	With the window open, type **admin** for both the **User Name** and the **Password**. You can also change the **User Name** and **Password** or add new users. (For further details, see paragraph 2.3.7 Admin, User Config) 
2.	Click **OK** to start the web management Operation.

After you log into the web interface, you will notice that it is divided into seven different sections or tabs. From this point on, each tab is described in detail along with instructions for configuration. The seven tabs are:

- Home
- LAN
- WAN
- Bridging
- Routing
- Services
- Admin

2.3.1 HOME

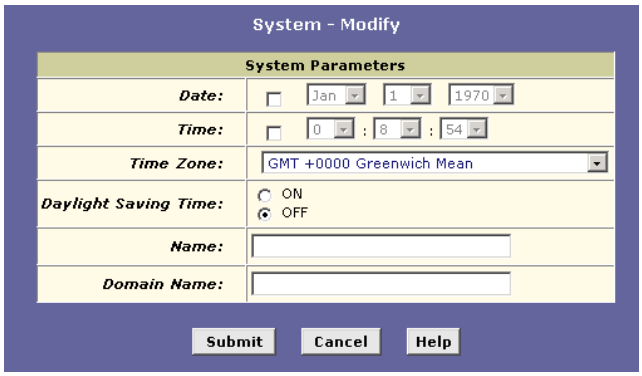
After logging in, the first tab that is displayed is the **Home** tab. Under this tab, the **System View** page is displayed. This page displays a summary of the interfaces and their settings.



This page is divided into five sections. The table below describes each section:

SECTION NAME	DESCRIPTION
Device	Displays model name, hardware/software version, device mode, uptime, current time, time zone, daylight savings time and domain name.
DSL	Displays operation status, last state, DSL version and DSL standard.
WAN Interface	Displays the WAN interface name, encapsulation type, IP address, subnet mask, lower interface, VPI/VCI values and operational status.
LAN Interface	Displays the LAN interface name, MAC address, IP address, subnet mask, lower interface, transmission speed, duplex type and operational status.
Services Summary	Displays the interface name and enabled/disabled features, such as: NAT, IP filter, RIP, DHCP relay, DHCP client, DHCP server and IGMP.

Table 2-1

Step	Action
1.	Click on the interface name to add, change or remove any of the interface settings.
2.	Click on the **Modify** button to set the device date, time, time zone and other related settings. Click on the **Submit** button when completed. 

2.3.2 LAN

Click on the **LAN** tab to view its sub-menu's and configure the LAN settings.

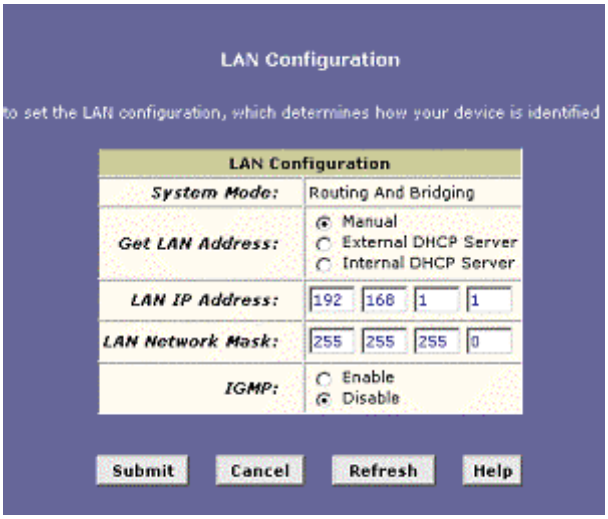
The four sub-menu's are:

- LAN Config
- DHCP Mode
- DHCP Server
- DHCP Relay

Each sub-menu is described below.

LAN Config

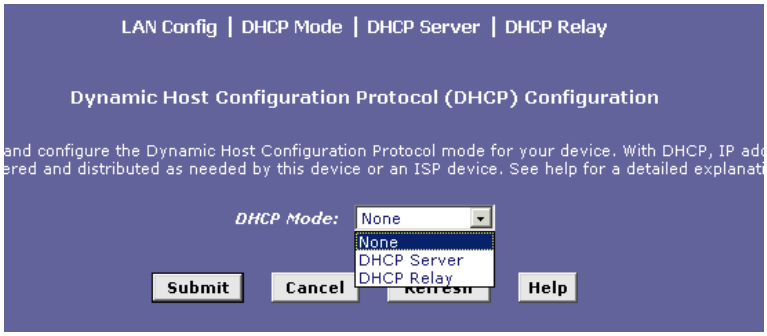
Click on the **LAN Config** link to change the LAN IP address/ subnet mask, decide where the LAN is getting its IP address from and enable or disable IGMP.



Follow the steps below in order to set up the LAN:

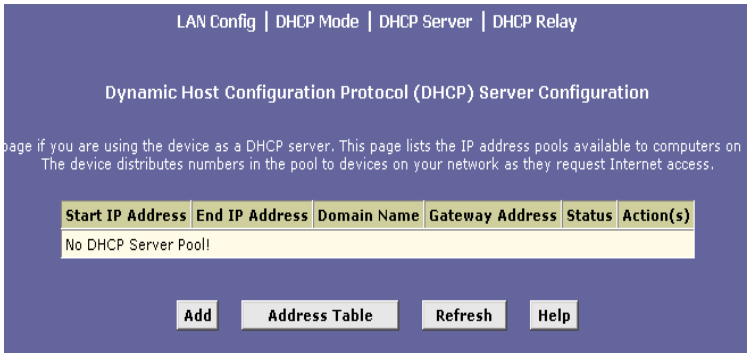
Step	Action
1.	In the **Get LAN Address** area: – Select **Manual** if you would like to enter your own IP address. – Select **External DHCP Server** if a DHCP server other than this device assigns the IP addresses. – Select **Internal DHCP Server** if you would like this device to assign the IP addresses.
2.	In the **LAN IP Address** area, enter the LAN IP address into these text boxes.
3.	In the **LAN Network Mask** area, enter the subnet mask of the LAN IP address into these text boxes.
4.	Depending on your ISP's settings choose to enable or disable IGMP, in the **IGMP** area.
5.	Click on the **Submit** button when completed.

DHCP Mode

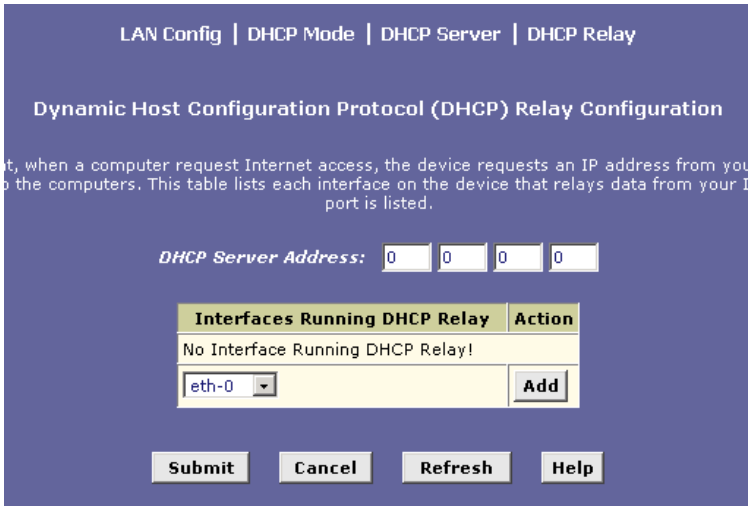
Step	Action
1.	Click on the **DHCP Mode** link to select a DHCP setting. 
2.	From the drop down list, select **DHCP Server**, **DHCP Relay** or **None.**
3.	Click on the **Submit** button when completed.

NOTE: jetSpeed 520 DHCP feature is by default selected to operate as DHCP server.

DHCP Server

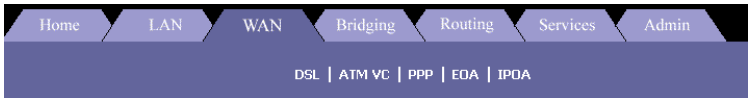
Step	Action
1.	Click on the **DHCP Server** link to view the DHCP Server settings. The table displays the DHCP server settings: Start IP, End IP, Domain Name, Gateway Address and Status. 
2.	Click on the **Add** button to enable a DHCP server and fill in the IP information based on your settings.

DHCP Relay

Step	Action
1.	Click on the **DHCP Relay** link to view the DHCP Relay settings. 
2.	Fill in the DHCP server IP address in the text boxes and select an interface name from the drop down list.
3.	Click on the **Add** button to complete the DHCP Relay configuration.

2.3.3 WAN

Click on the **WAN** tab to view its sub-menu's and configure the WAN settings.

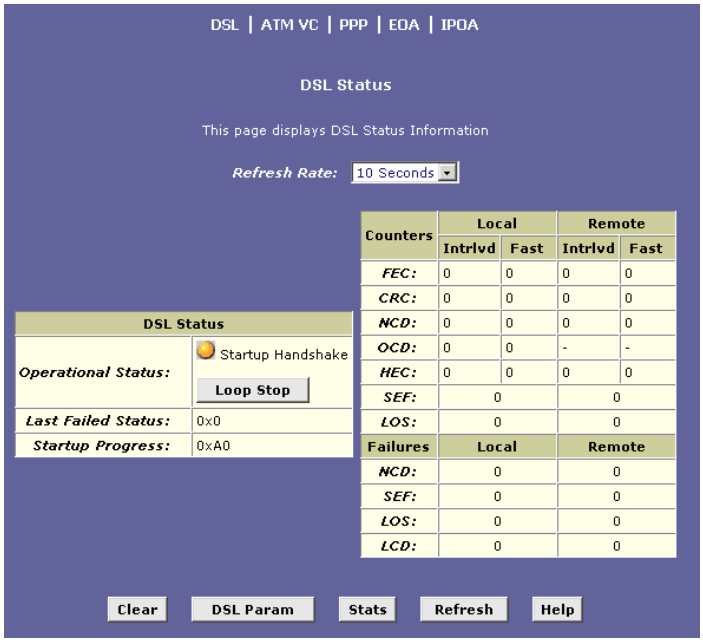


The five sub-menu's are:

- DSL
- ATM VC
- PPP
- EoA
- IPoA

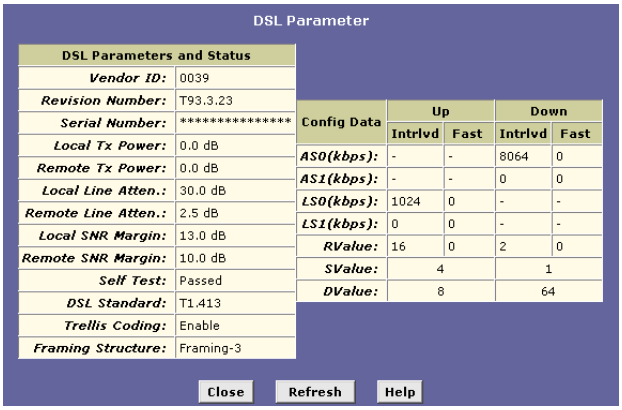
Each sub-menu is described below.

DSL

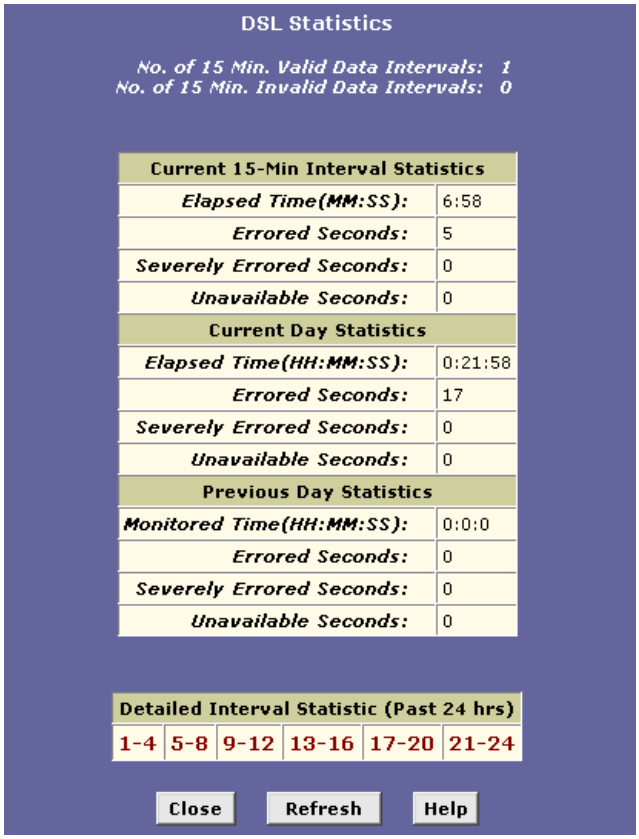
Step	Action
1.	Click on the **DSL** link to view the DSL status. 
2.	Click on the **DSL Param** button to view the DSL parameters and the **Stats** button to view the DSL statistics. Both the **DSL Parameters** and **DSL Statistics** are described below.
3.	Click on the **Clear** button to clear and refresh the DSL status. You may also change the page refresh rate by selecting a different time period from the **Refresh Rate** drop down list.

DSL Parameters

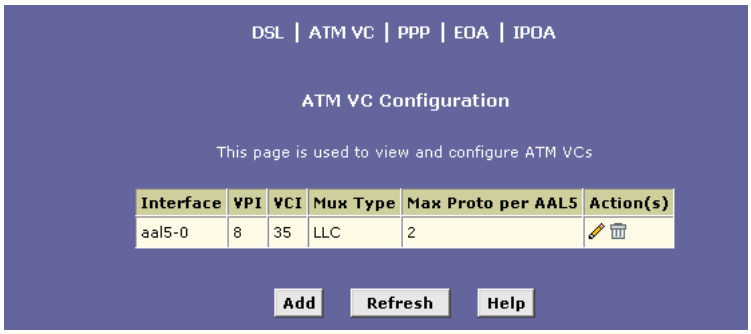
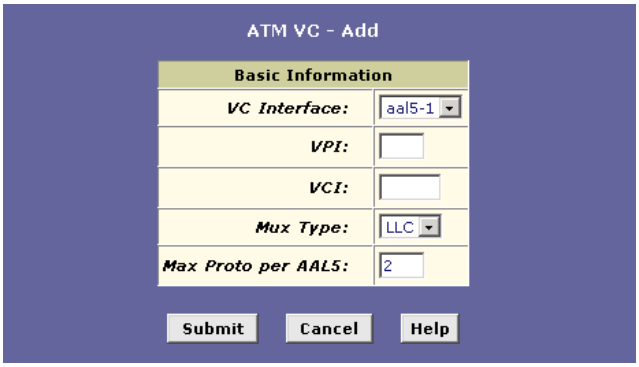
Step	Action
1.	Click on the **DSL Param** button to view the DSL parameters. Another window will then display the DSL parameters, which may be different due to the type and speed of the network.
2.	Click on the **Close** button to close the window or click on the **Refresh** button to refresh the status.



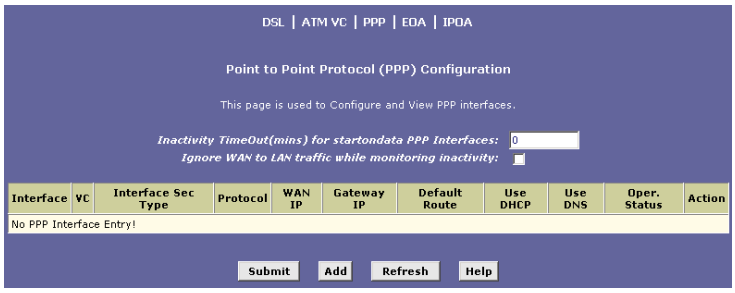
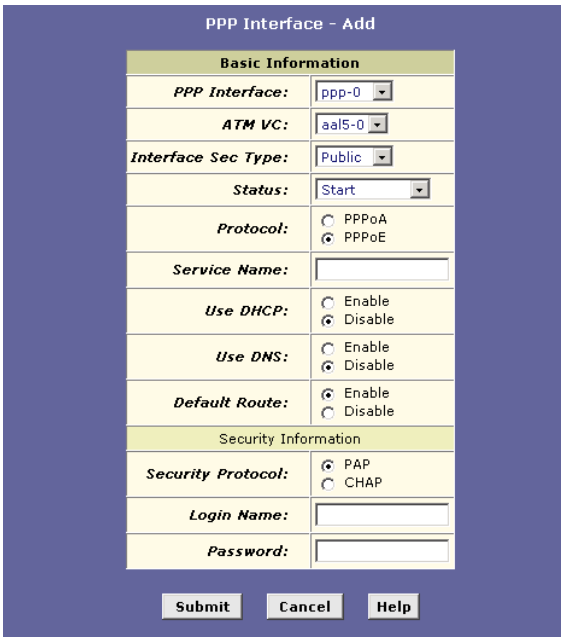
DSL Stats

Step	Action
1.	Click on the **Stats** button to view the DSL status. Another window will then display the DSL status, which may be different due to the type and speed of the network. 
2.	Click on the **Close** button to close the window or click on the **Refresh** button to refresh the status.

ATM VC

Step	Action
1.	Click on the **ATM VC** link to view the ATM VC table. This table displays the interface name, VPI/VCI values, Mux type and maximum protocols per AAL5. 
2.	Click on the **trash can** icon to delete the current interface or edit the current interface by clicking on the **pencil** icon.
3.	Click on the **Add** button to another interface.
4.	After you click on the **Add** button, another window will pop-up. First select a VC interface from the drop down list. 
5.	Enter the VPI, VCI values into the text box. Select a Mux type from the drop down list and then enter the number of protocols per AAL5 in the text box.
6.	Click on the **Submit** button when completed.

Point-to-Point Protocol (PPP)

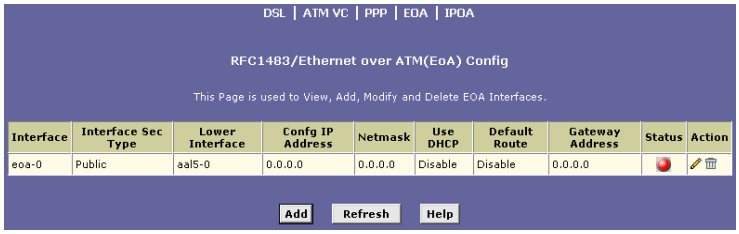
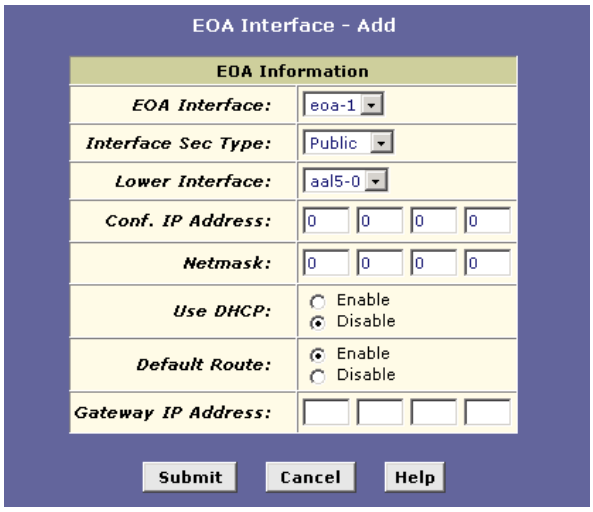
Step	Action
1.	Click on the **PPP** link to view the PPP configuration table. This table displays PPP information such as: interface name, interface type, protocol, WAN IP, gateway IP, default route, DHCP, DNS and operation status. 
2.	Click on the **trash can** icon to delete the current interface or edit the current interface by clicking on the **pencil** icon.
3.	Click on the **Add** button to another interface.
4.	After you click on the **Add** button, another window will pop-up. 

The following is a list of field names and their descriptions. After filling in the table, click on the **Submit** button when completed.

FIELD NAME	DESCRIPTION
PPP Interface	Select an interface name from the drop down list.
ATM VC	Select an ATM VC from the drop down list.
Interface Sec Type	Select between public, private or DMZ.
Status	Select start, stop or start on data.
Protocol	Select between PPPoA and PPPoE.
Service Name	Enter a name for this service in the text box.
Use DHCP	Select between enable and disable.
Use DNS	Select between enable and disable.
Default Route	Select between enable and disable.
Security Protocol	Select between PAP or CHAP.
Login Name	Enter the username for this service.
Password	Enter the password for this service.

Table 2-2

Ethernet over ATM (EoA)

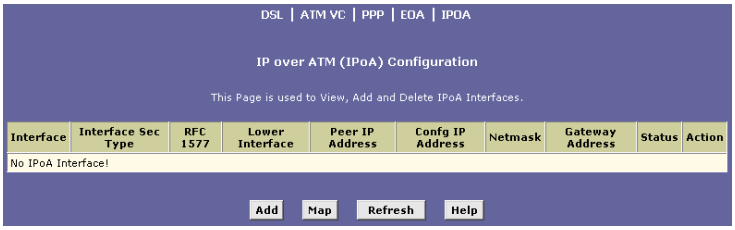
Step	Action
1.	Click on the EOA link to view the RFC1483/EoA configuration table. This table displays EoA information such as: interface name, interface security type, lower interface, config IP, network IP, DHCP, default route, gateway IP and status. 
2.	Click on the **trash can** icon to delete the current interface or edit the current interface by clicking on the **pencil** icon.
3.	Click on the **Add** button to add another interface.
4.	After you click on the **Add** button, another window will pop-up. 

The following is a list of field names and their descriptions. After filling in the table, click on the **Submit** button when completed.

FIELD NAME	DESCRIPTION
EoA Interface	Select an interface name from the drop down list.
Interface Sec Type	Select between public, private or DMZ.
Lower Interface	Select a lower interface name from the drop down list.
Conf IP Address	Enter the LAN IP address here.
Netmask	Enter the subnet mask here.
Use DHCP	Select between enable or disable.
Default Route	Select between enable or disable.
Gateway IP Address	Enter the gateway IP address here.

Table 2-3

IP over ATM (IPoA)

Step	Action
1.	Click on the IPoA link to view the IP over ATM configuration table. This table displays IPoA information such as: interface name, interface security type, lower interface, config IP, network IP, subnet mask gateway IP and status. 
2.	Click on the **trash can** icon to delete the current interface or edit the current interface by clicking on the **pencil** icon.
3.	Click on the **Add** button to add another interface.
4.	After you click on the **Add** button, another window will pop-up.

The following is a list of field names and their descriptions. After filling in the table, click on the **Submit** button when completed.

FIELD NAME	DESCRIPTION
IPoA Interface	Select an interface name from the drop down list.
Conf IP Address	Enter the LAN IP address here.
Interface Sec Type	Select a lower interface name from the drop down list.
Netmask	Enter the subnet mask here.
RFC 1577	Select between Yes or No to use RFC 1577.
Use DHCP	Select between enable or disable.
Default Route	Select between enable or disable.
Gateway IP Address	Enter the gateway IP address here.

Table 2-4

2.3.4 BRIDGING

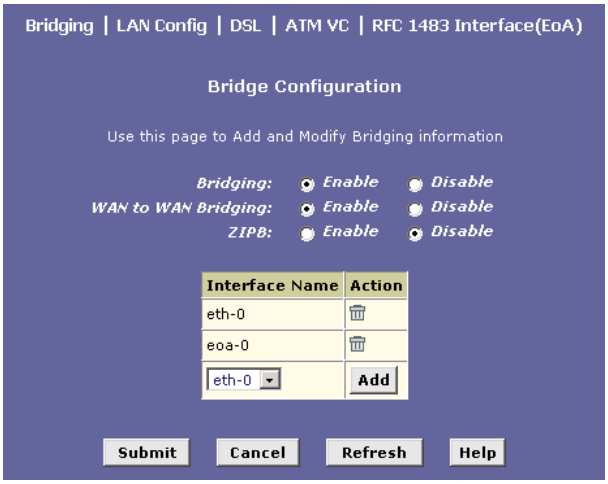
Click on the **Bridging** tab to view its sub-menu's and configure the bridge settings.

The five sub-menu's are:

- Bridging
- LAN Config
- DSL
- ATM VC
- RFC 1483 Interface (EoA)

The bridging sub-menu is described below. (Each of the other sub-menus is described in the earlier sections).

Bridging

Step	Action
1.	Click on the Bridging link to view the Bridge configuration. This table displays bridge information such as the **Interface Name**. 
2.	Click on the **trash can** icon to delete the current interface or edit the current interface by clicking on the **pencil** icon.
3.	There are three radio buttons on this page. In order to use bridging, you must enable **Bridging** and **WAN to WAN Bridging**.
4.	Click on the **Submit** button when completed.

2.3.5 ROUTING

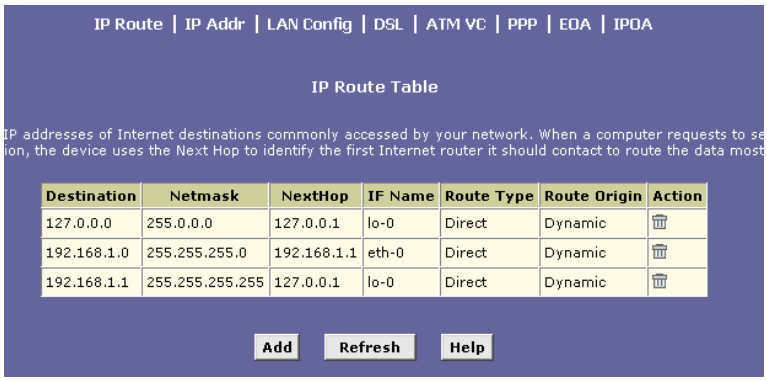
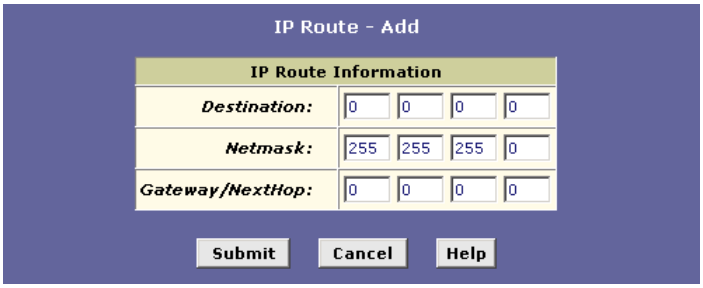
Click on the **Routing** tab to view its sub-menu's and configure the routing settings.

The eight sub-menu's are:

- IP route
- IP address
- LAN Config
- DSL
- ATM VC
- PPP
- EoA
- IPoA

The IP route sub-menu is described below. (*Each of the other sub-menus is described in the earlier sections.)*

IP Route

Step	Action
1.	Click on the **IP Route** link to view the IP route table. This table displays IP route information such as: destination, net mask, next hop, interface name, route type and route origin. This table lists IP addresses of Internet destinations commonly accessed by your network. When a computer requests to send data to a listed destination, the device uses the Next Hop to identify the first Internet router it should contact to route the data most efficiently. 
2.	After you click on the **Add** button, another window will pop-up. 

The following is a list of field names and their descriptions. After filling in the table, click on the **Submit** button when completed.

FIELD NAME	DESCRIPTION
Destination	Enter the destination IP address of the router.
Netmask	Enter the subnet mask of the IP address.
Gateway/Next Hop	Enter the IP address of the gateway or the next router hop

Table 2-5

2.3.6 SERVICES

Click on the **Services** tab to view its sub-menu's and configure the service settings.

The six sub-menu's are:

- NAT
- RIP
- Firewall
- IP filter
- DNS
- Blocked Protocols

Each one is described in detail below.

NAT

Step	Action
1.	Click on the NAT link to view the NAT global information table. The table displays the idle times for several protocols; you may change the times and click on the **Submit** button.
2.	The NAT feature offers three sections. First, click on the **Enable** radio box, to enable the NAT feature. Then select a NAT option from the drop down list.

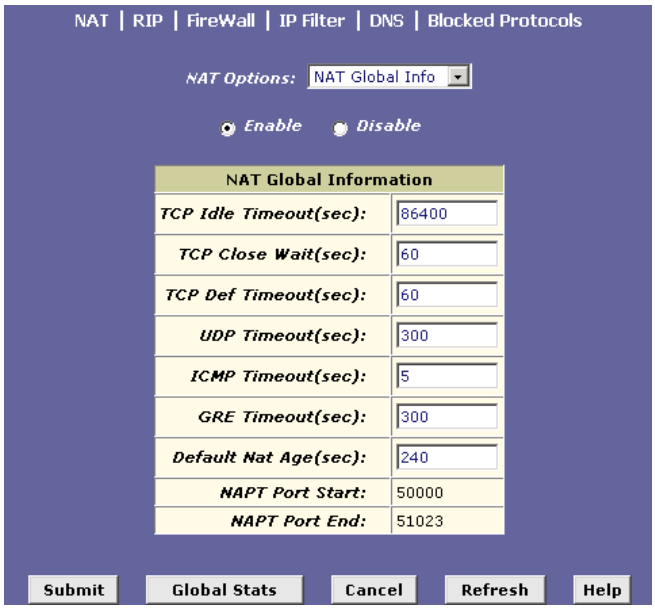
The three options are:

- NAT Global Info
- NAT Rule Entry
- NAT translations

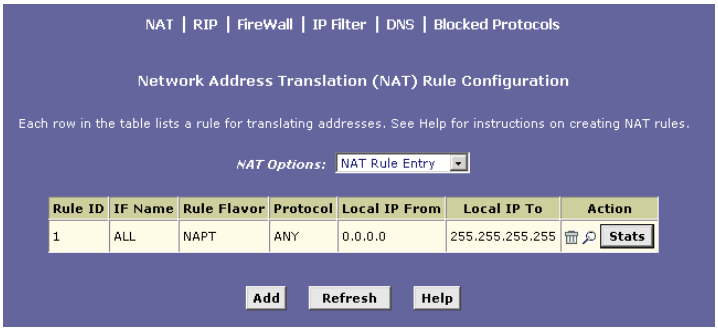
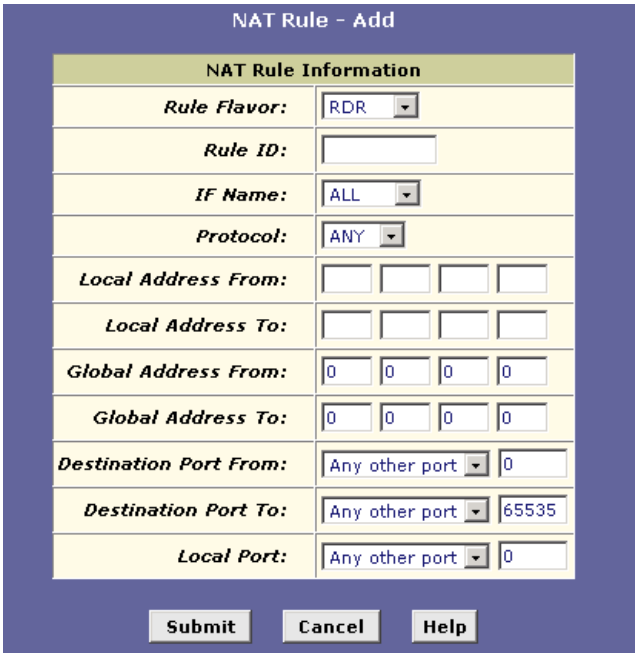
Each one is described below:

NAT Global Info

The table displays the idle times for several protocols. You may change the times and click on the **Submit** button.



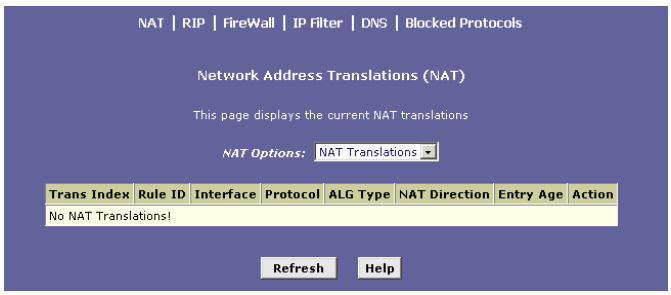
NAT Entry Rule

Step	Action
1.	The table displays NAT route configuration. Click on the **trash can** icon to delete the current rule or click on the **Add** button to add another rule. 
2.	After you click on the **Add** button, another window will pop-up. 

FIELD NAME	DESCRIPTION
Rule Flavor	Select a rule from the drop down list.
Rule ID	Enter a rule ID into this text box.
IF Name	Select an interface name from the drop down list.
Protocol	Select a protocol from the dorp down list.
Local Address From	Enter a local IP address from where NAT will be used.
Local Address To	Enter a local IP address to where NAT will be used.
Global Address From	Enter an Internet IP address from where NAT will be used.
Global Address To	Enter an Internet IP address to where NAT will be used.
Destination Port From	Select a destination port from the drop down list or enter it into the text box.
Destination Port To	Select a destination port from the drop down list or enter it into the text box.
Local Port	Select a local port from the drop down list or enter it into the text box.

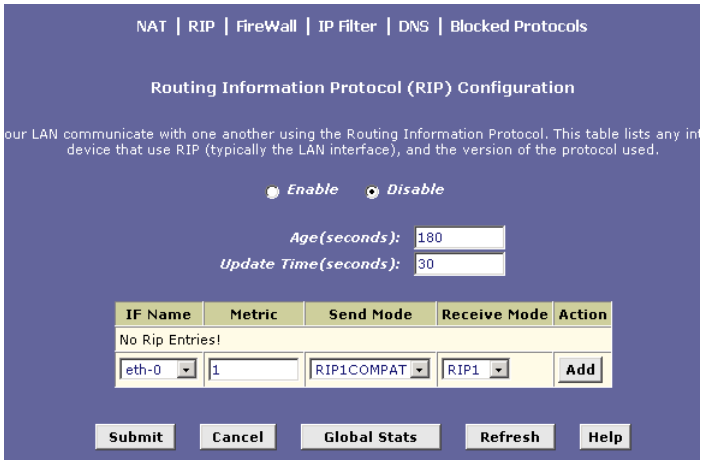
Table 2-6

NAT Translations

Step	Action
1.	The table displays the current NAT translations, if any exist. 
2.	Click on the **trash can** icon to delete a translation or click on the **Refresh** button to refresh the page.

RIP

Click on the **RIP** link to view the Routing Information Protocol (RIP) Configuration table. Routers on your LAN communicate with one another using the Routing Information Protocol.



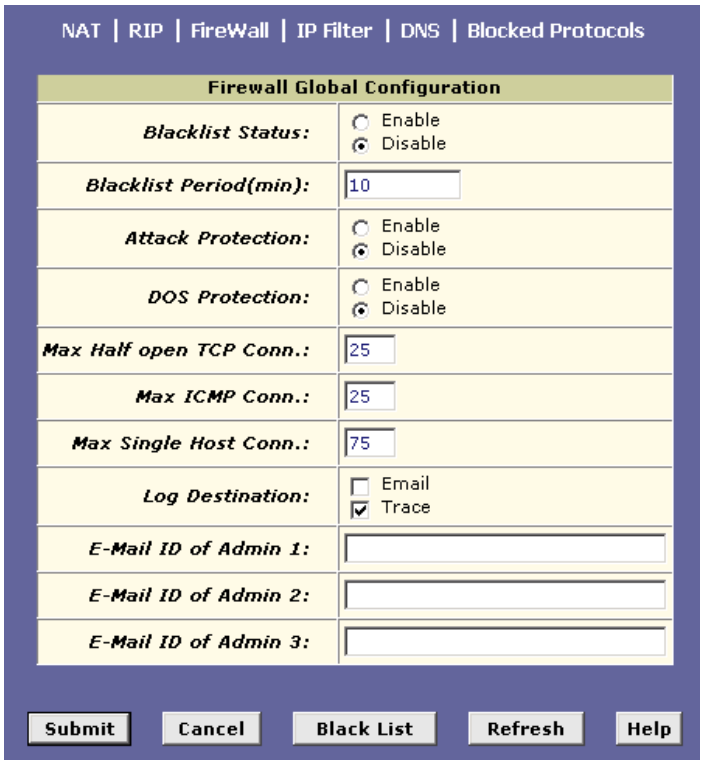
This table lists any interfaces on your device that use RIP (typically the LAN interface) and the version of the protocol used.

In order to add a RIP configuration, follow the steps below:

Step	Action
1.	First, click on the **Enable** radio box, to enable the RIP configuration
2.	Select an **interface name** from the drop down list.
3.	Enter the number of router hops into the **metric** text box
4.	Select a send mode from the drop down list.
5.	Select a receive mode from the drop down list.
6.	Click on the **Add** button.
7.	Click on the **trash can** icon to delete a RIP interface.
8.	Click on the **Global Stats** icon to view the NAT statistics. This table will open in a new window.

Firewall

Click on the **Firewall** link to view the Firewall Configuration table. The Firewall adds security to your network by protecting it from Internet intruders.



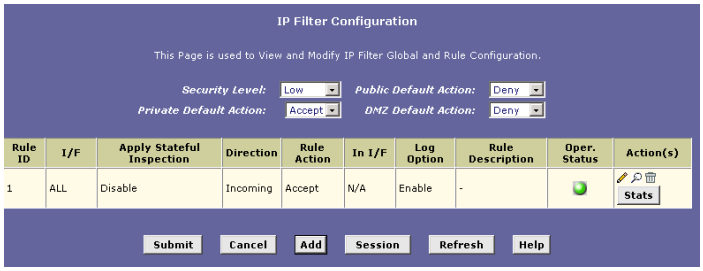
The following is a list of field names and their descriptions. After filling in the table, click on the **Submit** button.

FIELD NAME	DESCRIPTION
Blacklist Status	Select enable or disable blacklist.
Blacklist Period	Enter a time period to hold the blacklist.
Attack Protection	Select enable or disable Attach protection.
DOS Protection	Select enable or disable DoS protection.
Max half open TCP Conn.	Enter the maximum number of TCP connections.
Max ICMP Conn.	Enter the maximum number of ICMP connections.
Max Single Host Conn.	Enter the maximum number of host connections.
Log Destination	Select a destination for the log file.
Email ID of admin	Enter the email addresses of up to three administrators.

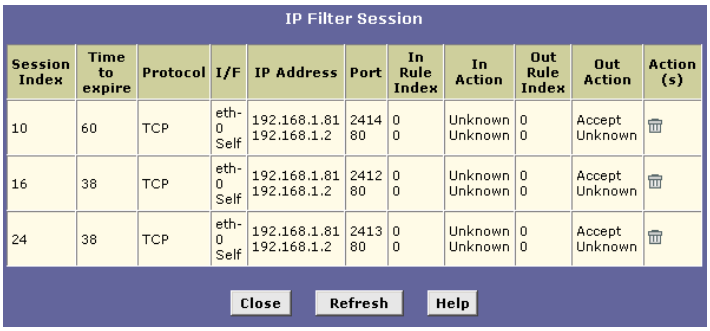
Table 2-7

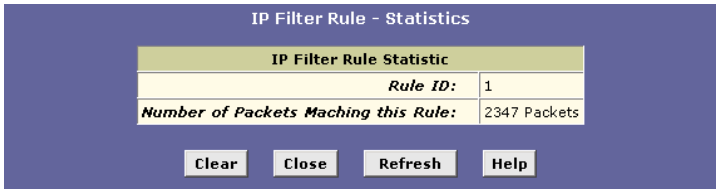
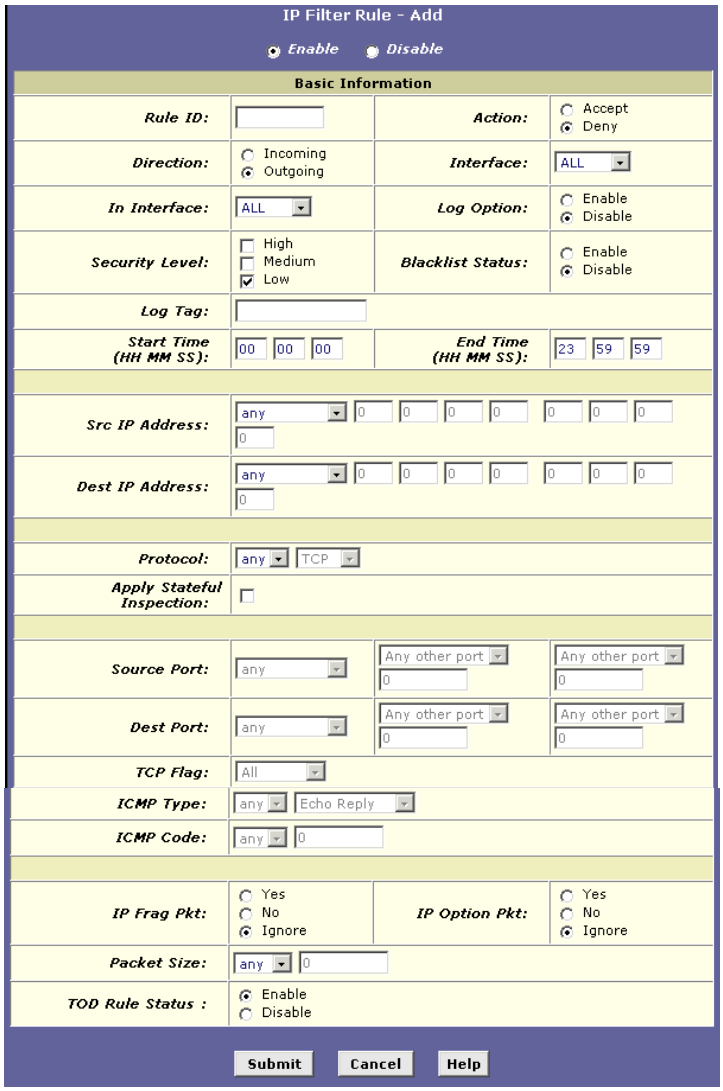
IP Filter

Click on the **IP Filter** link to view the IP Filter Configuration table.



In order to configure the IP filter function, follow the steps below:

Step	Action
1.	Select a **security level** from the drop down list. The options available are: Low, Medium and High.
2.	Select if you would like to accept or deny the **private default action**. This will apply the security level to the private domain.
3.	Select if you would like to accept or deny the **public default action**. This will apply the security level to the public domain.
4.	Select if you would like to accept or deny the **DMZ default action**. This will apply the security level to the DMZ domain.
5.	Click on the **Session** to view the IP filter sessions. 
6.	You may delete a session by clicking on the **trash can** icon.
7.	Click on the **Close** button to close the window.

8.	Click on the **Stats** button to view the IP filter rule statistics. You may click on the **Clear** button to clear the table or click on the **Close** button to close the window.  IP Filter Rule - Statistics IP Filter Rule Statistic Rule ID: 1 Number of Packets Maching this Rule: 2347 Packets Clear Close Refresh Help
9.	To add an IP filter rule, click on the **Add** button. The table will pop-up in a new window.  IP Filter Rule - Add Enable Disable Basic Information Rule ID: / Action: Accept Deny Direction: Incoming Outgoing / Interface: ALL In Interface: ALL / Log Option: Enable Disable Security Level: High Medium Low / Blacklist Status: Enable Disable Log Tag: Start Time (HH MM SS): 00 00 00 / End Time (HH MM SS): 23 59 59 Src IP Address: any 0 0 0 0 0 0 0 0 Dest IP Address: any 0 0 0 0 0 0 0 0 Protocol: any TCP Apply Stateful Inspection: Source Port: any / Any other port 0 / Any other port 0 Dest Port: any / Any other port 0 / Any other port 0 TCP Flag: All ICMP Type: any Echo Reply ICMP Code: any 0 IP Frag Pkt: Yes No Ignore / IP Option Pkt: Yes No Ignore Packet Size: any 0 TOD Rule Status : Enable Disable Submit Cancel Help

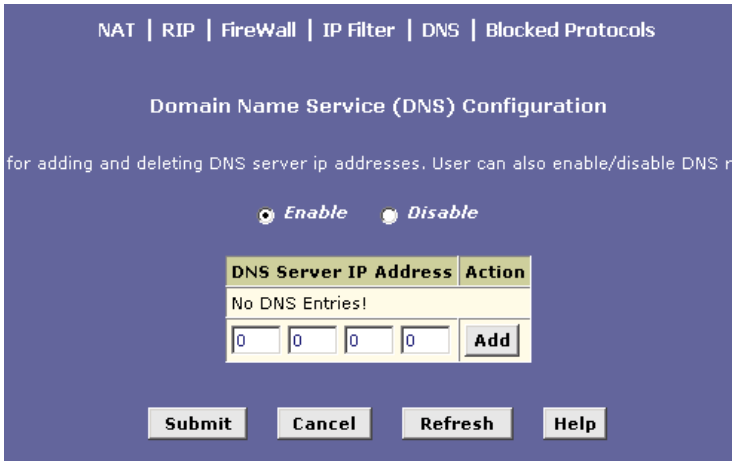
The following is a list of field names and their descriptions. After filling in the table, click on the **Submit** button.

FIELD NAME	DESCRIPTION
Rule ID	Enter a Rule ID.
Direction	Select an *incoming* or *outgoing* direction.
In Interface	Select an incoming interface from the drop down list.
Security Level	Select a security level: *high*, *medium* or *low*.
Log Tag	Enter a name for the log.
Start Time	Enter a start time for the IP filter.
Action	Select *accept* or *deny* incoming IPs.
Interface	Select an outgoing interface from the drop down list.
Log Option	Select to *enable* or *disable* logging.
Blacklist status	Select to *enable* or *disable* the blacklist.
End time	Select an end time for the IP filter.
Src IP Address	Enter the source IP address range.
Dest IP Address	Enter the destination IP address range.
Protocol	Select a protocol from the drop down list.
Apply Stateful Inspection	Check this box if you would like to enable *Stateful* Inspection. If you decide to use Stateful Inspection, you must supply the source/destination port, TCP flag, ICMP type and ICMP code.
IP Frag Pkt	Select *Yes*, *No* or *Ignore* packet fragmenting.
Packet Size	Enter the packer size into the text box or select *any* from the drop down list.
TOD Rule Status	Select to *enable* or *disable* time-out detection.

Table 2-8

Domain Name Service (DNS)

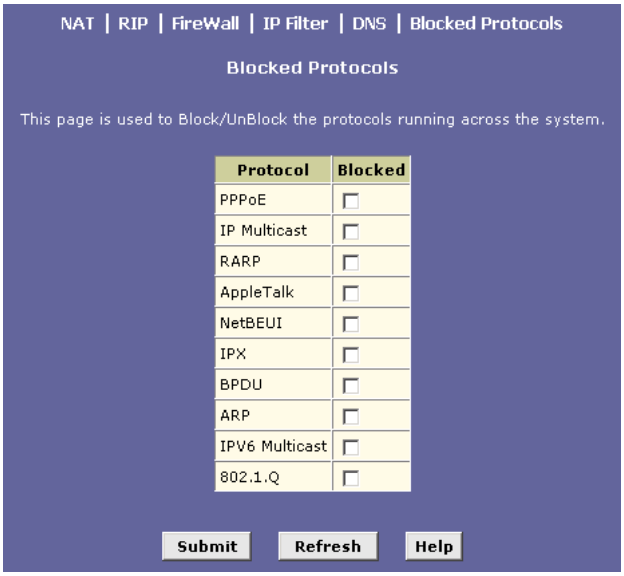
Click on the **DNS** link to view the DNS Configuration table. This page is used for adding and deleting DNS server IP addresses. You may also enable/disable DNS relay from this page.



In order to add a DNS server IP addresses follow the steps below:

Step	Action
1.	Select the **enable** radio box to enable the DNS server function.
2.	Enter the IP address of the DNS server and click on the **Add** button.
3.	You may also delete an IP address by clicking on the **trash can** icon.

Blocked Protocols

Step	Action
1.	Click on the **Blocked Protocols** link to view the list of protocols. This page is used to block or unblock protocols running across the system. 
2.	Check the box if you would like the protocol blocked, un-check the box to allow the protocol.
3.	Click on the **Submit** button when completed.

2.3.7 ADMIN

Click on the **Admin** tab to view its sub-menu's and configure the admin settings.

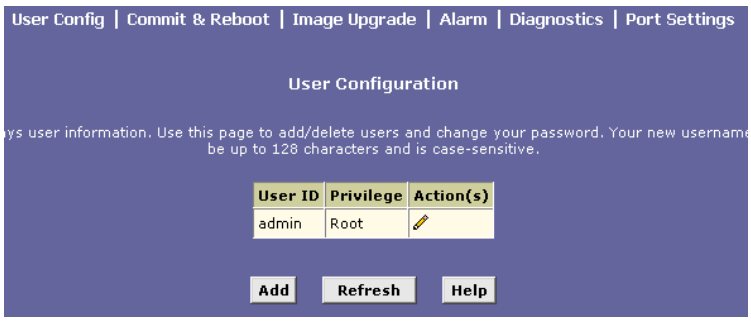
The six sub-menu's are:

- User Config
- Commit & Reboot
- Image Upgrade
- Alarm
- Diagnostics
- Port Settings

Each one is described in detail below.

User Config

Click on the **User Config** link to view the list of users. This page displays user information. Use this page to add/delete users and change your password. Your new username and password can be up to 128 characters and is case-sensitive.

Step	Action
1.	To add a new user click on the **Add** button or click on the **pencil** icon to edit the settings of an existing user. 
2.	After you click on the **Add** button, another window will pop-up.

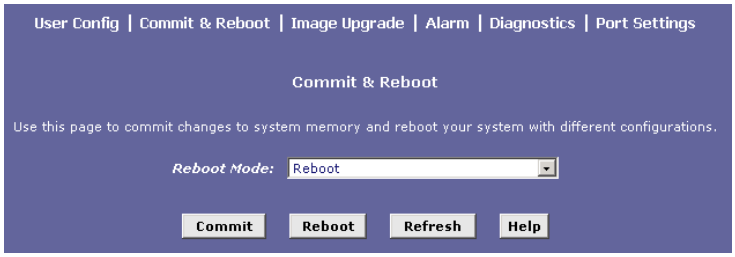
The following information is required in order to create a new user. Click on the **Submit** button when completed.

FIELD NAME	DESCRIPTION
User ID	Enter the username here
Privilege	Select a privilege, *root or user*.
Password	Enter the password here
Confirm Password	Re-enter the password here

Table 2-9

Commit & Reboot

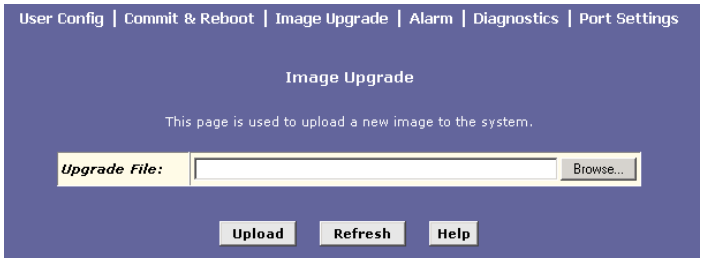
Click on the **Commit & Reboot** link to view the reboot options. This page is used to save the changes into the device's memory and reboot the device using different options.



Step	Action
1.	Click on the **Commit** button to save the changes.
2.	In order to reboot the device, select an option from the drop down list. The six options are: – Reboot – Reboot from default configuration – Reboot from backup configuration – Reboot from last configuration – Reboot from clean configuration – Reboot from minimum configuration
3.	Click on the **Reboot** button.

Image Upgrade

Click on the **Image Upgrade** link to upgrade the software on the modem.

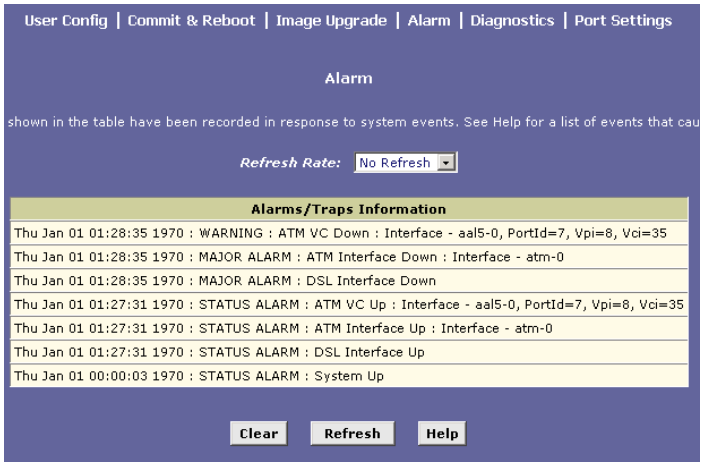


You may easily upgrade jetSpeed 520 embedded software by obtaining the compressed upgrade firmware file from the service provider and then follow the steps:

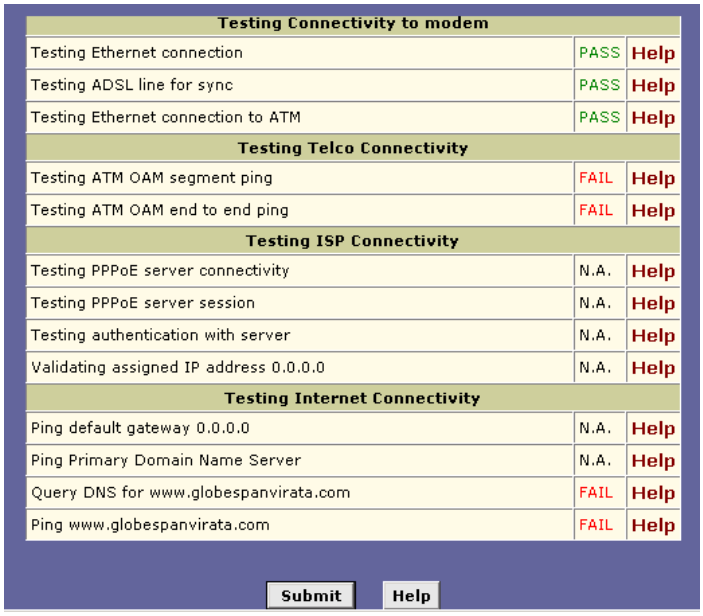
Step	Action
1.	Click on the **Browse** button to select the upgrade file (tepatch.bin).
2.	Click on the **Upload** button to upload the file into the modem. This process may last as long as 60 seconds.

NOTE: The device software may also be upgraded through the DOS prompt. For more details, see 1.7 Software Upgrade.

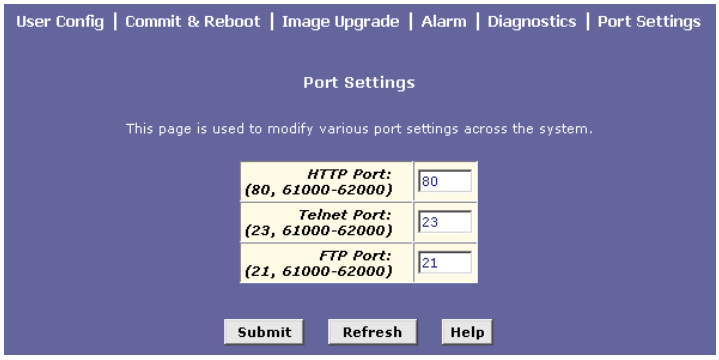
Alarm

Step	Action
1.	Click on the **Alarm** link to view the list of alarms. The alarms shown in the table have been recorded in response to system events. 
2.	Click on the **Clear** button to clear the alarms.

Diagnostics

Step	Action
1.	Click on the **Diagnostics** link to test the device. Results will be displayed as pass, fail or N.A, depending on your settings. 
2.	Click on the **Submit** button to begin the diagnostic tests.

Port Settings

Step	Action
1.	Click on the **Port Settings** link to change the port settings on the device. 
2.	Change the settings by entering the new value into the text box and click on the **Submit** button when completed

3 QUICK PROTOCOL SETUP

This chapter provides quick steps on setting up the protocols on this device. From this point on, configuration steps are listed for each of the protocols in their respective sections. The seven sections are:

- RFC 1483 Bridge
- PPPoE Route Configuration
- RFC 1483 + NAT
- PPPoA Route Configuration
- IPoA Route Configuration
- DHCP Configuration
- NAT Configuration

NOTE: The settings/parameters listed in the next few sections only provide an example to setting up the protocols. Contact your ISP for the actual settings.

3.1 RFC 1483 BRIDGE

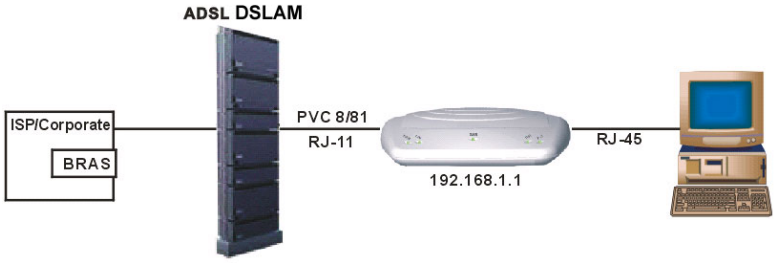
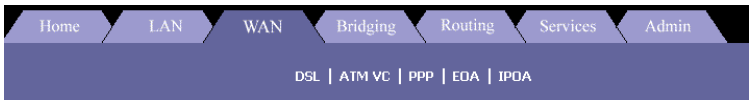
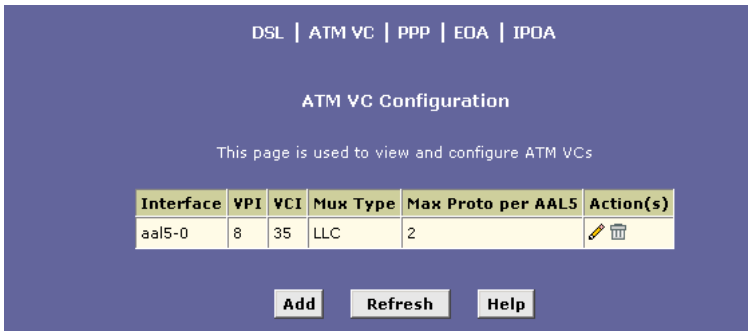
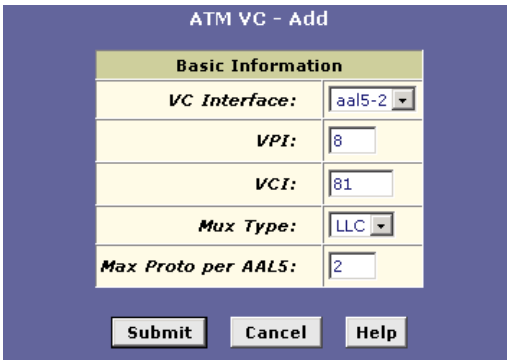
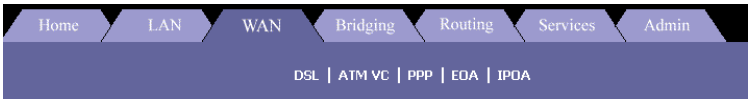
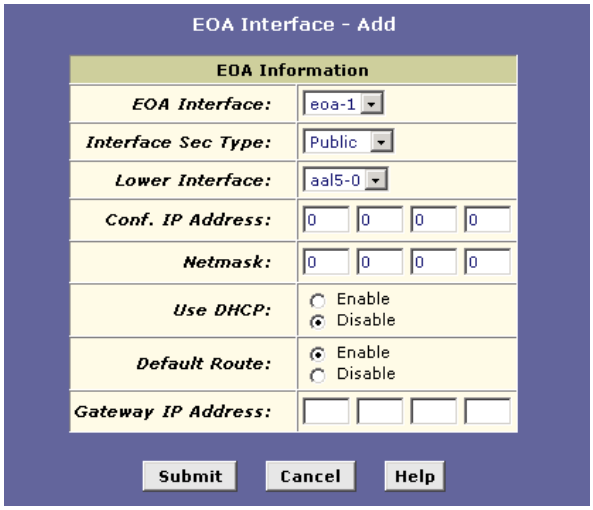


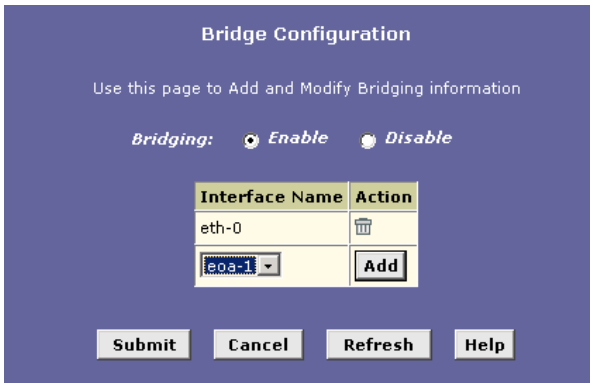
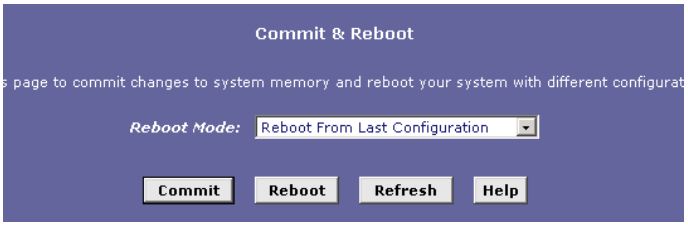
Fig. 3-1

Protocol	RFC1483 Bridge Mode
WAN IP	The ISP assigns the IP address or have an IP address assigned from an external/internal DHCP server.
Modem IP	192.168.1.1 (192.168.2.1 if USB is used)
Gateway IP	None
VPI/VCI	8/81

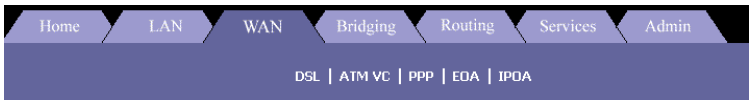
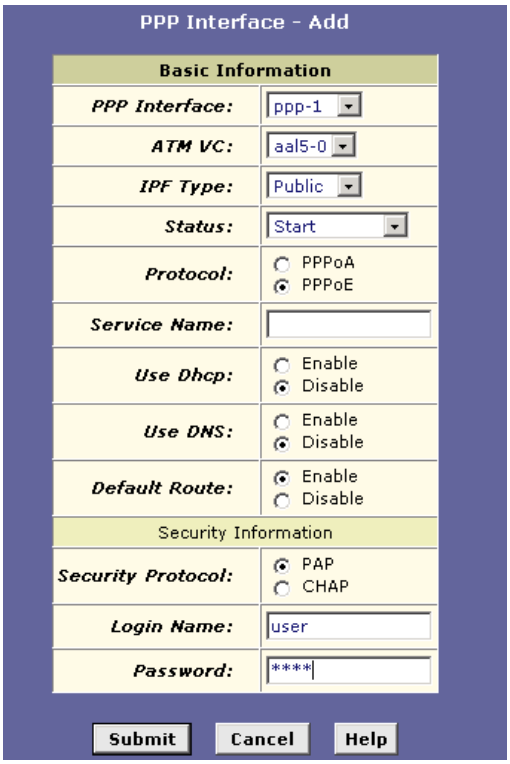
Table 3-1

Step	Action
1.	Click on the **WAN** tab to view its sub-menu's and configure the WAN settings, then click on the **ATM VC** link below it. 
2.	The ATM VC Configuration table appears. Click on the **Add** button to add a new VPI/VCI setting. 

3.	Enter the VPI/VCI values (8/81) into the VPI and VCI text boxes. Then click on the **Submit** button to confirm the changes. 
4.	Click on the **EoA** link below the **WAN** tab. 
5.	Enter the IP address and subnet mask based on your ISP settings. The default gateway is not required in RFC 1483 bridge mode. Then click on the **Submit** button to confirm the changes. 
6.	Click on the **Bridging** tab to view its sub-menu's and configure the bridging settings, then click on the **Bridging** link below it.

7.	Select **EOA-1** from the drop down list and click on the **Add** button. Then click on the **Submit** button to confirm the changes. 
8.	Click on the **Admin** tab to view its sub-menu's and configure the bridging settings, then click on the **Commit & Reboot** link below it.
9.	Select the **Reboot From Last Configuration** option from the drop down list and the click on the **Commit** and **Reboot** button. 

3.2 PPPoE ROUTE CONFIGURATION

Step	Action
1.	Click on the **WAN** tab to view its sub-menu's and configure the WAN settings, then click on the **PPP** link below it. 
2.	The PPP Configuration table appears. Click on the **Add** button to add a new **PPPoE** setting.  – Select an **Interface Name**: PPP-1 – Select a **Protocol**: PPPoE – Select **Default Route**: Disable – Select **Security Protocol**, PAP or CHAP – **Login Name**: Enter username here (from ISP) – **Password**: Enter password here (from ISP)
3.	Click on the **Submit** button to confirm the changes.

3.3 RFC 1483 + NAT

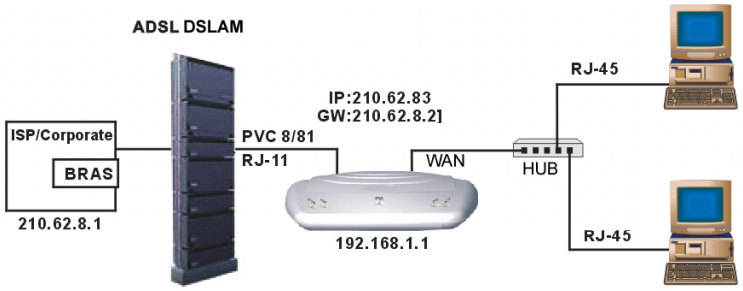
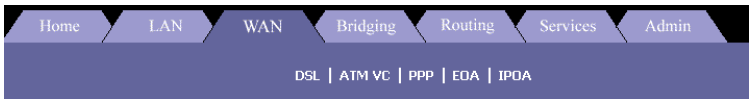
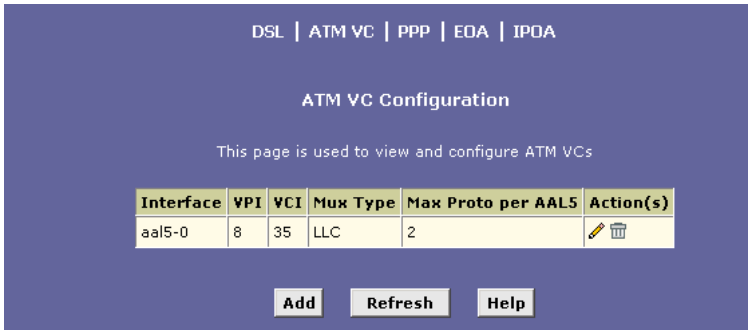
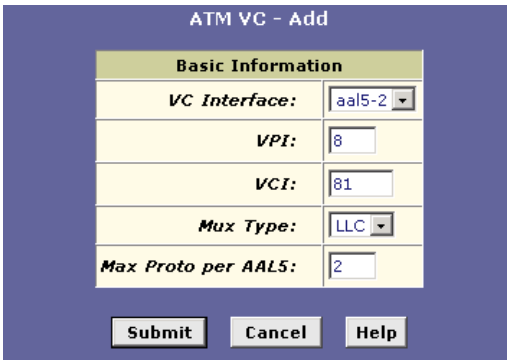
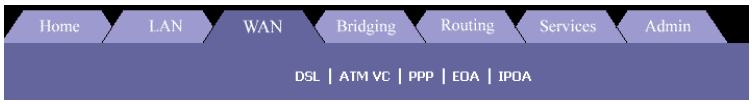
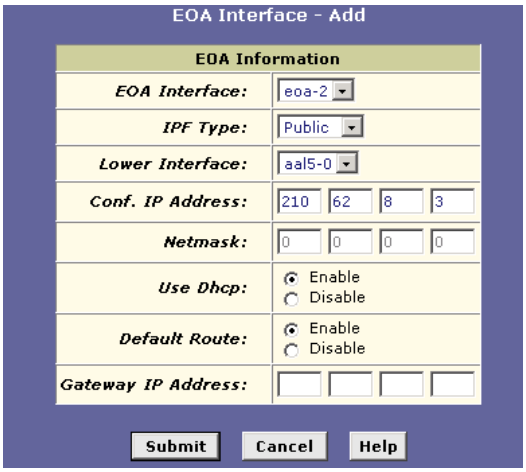


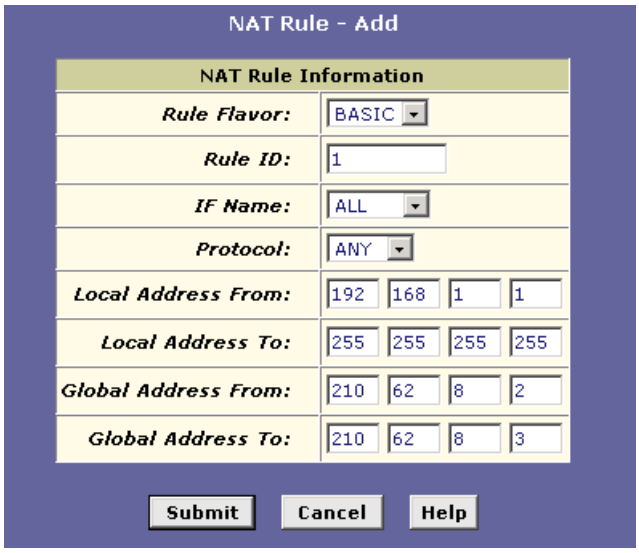
Fig. 3-2

Protocol	RFC1483 Bridge Mode.
WAN IP	The ISP assigns the IP address or have an IP address assigned from an external/internal DHCP server.
Modem IP	192.168.1.1
Gateway IP	None.
VPI/VCI	8/81

Table 3-2

Step	Action
1.	Click on the **WAN** tab to view its sub-menu's and configure the WAN settings, then click on the **ATM VC** link below it. 
2.	The ATM VC Configuration table appears. Click on the **Add** button to add a new VPI/VCI setting. 

3.	Enter the VPI/VCI values (8/81) into the VPI and VCI text boxes. Then click on the **Submit** button to confirm the changes. 
4.	Click on the **EoA** link below the **WAN** tab 
5.	Enter the **IP address** and **subnet mask** based on your ISP settings.
6.	Enable **DHCP** and **Default Route** and click on the **Submit** button. 
7.	Click on the **Services** tab to view its sub-menu's and configure the **NAT** settings, then click on the **NAT** link below it.

8.	Select **NAT Entry Rule** from the NAT configuration drop down list. Then click on the **Add** button to add a NAT entry.  – Select a **Rule Flavor** from the drop down list (Basic) – **Rule ID**: Enter a number here – **Local Address From**: Address from where this device will receive IPs – **Local Address to**: 255.255.255.255 (broadcast) or other – **Login Name**: Enter username here (from ISP) – **Global Address From**: Global Address from where this device will receive IPs – **Global Address To**: Global Address where this device will send its packets
9.	Click on the **Submit** button to confirm the changes.

3.4 PPPoA ROUTE CONFIGURATION

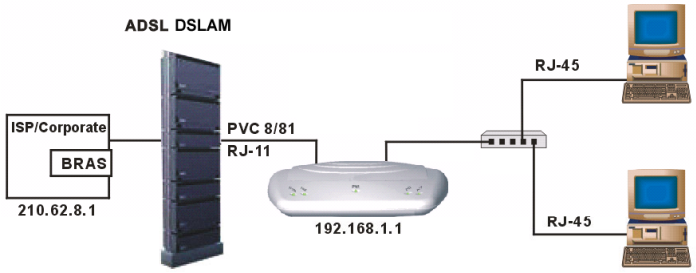
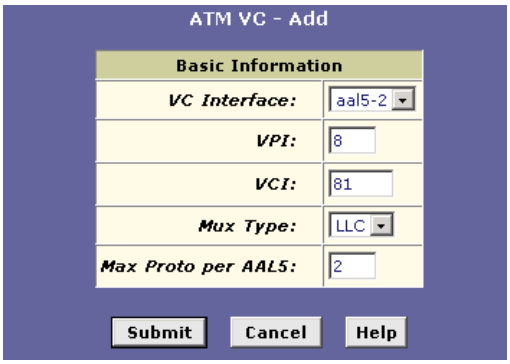
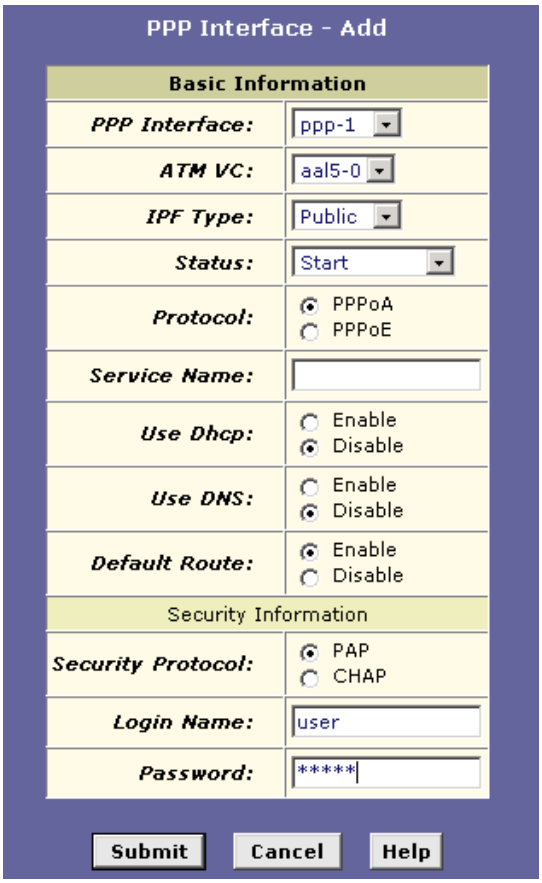


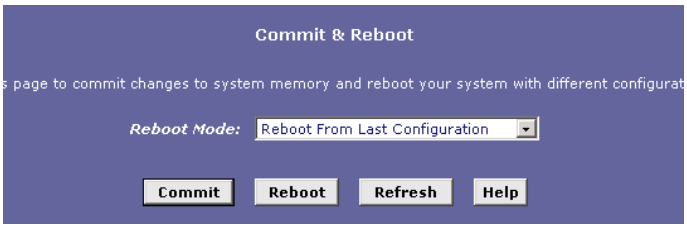
Fig. 3-3

Protocol	PPPoA Route Mode
LAN IP	192.168.1.xxx
Modem IP	192.168.1.1
Gateway IP	Not required
VPI/VCI	8/81
Username	From ISP
Password	From ISP

Table 3-3

Step	Action
1.	Click on the **Routing** tab to view its sub-menu's and configure the Routing settings, then click on the **ATM VC** link below it.
2.	The ATM VC Configuration table appears. Click on the **Add** button to add a new VPI/VCI setting.

3.	Enter the VPI/VCI values (8/81) into the VPI and VCI text boxes. Then click on the **Submit** button to confirm the changes 
4.	Click on the **PPP** link in the **Routing** tab and then click on the **Add** button to add a **PPPoA** configuration.  – **Select an Interface Name:** PPP-1 – **Select a Protocol:** PPPoA – **Default Route:** Enable – **Security Protocol:** Select PAP or CHAP

	– **Login Name:** Enter username here (from ISP) – **Password:** Enter password here (from ISP)
5.	Click on the **Submit** button to confirm the changes.
6.	Click on the **Admin** tab to view its sub-menu's and configure the bridging settings, then click on the **Commit & Reboot** link below it.
7.	Select the **Reboot from last configuration** option from the drop down list and the click on the **Commit** and **Reboot** button. 

3.5 IPoA ROUTE CONFIGURATION

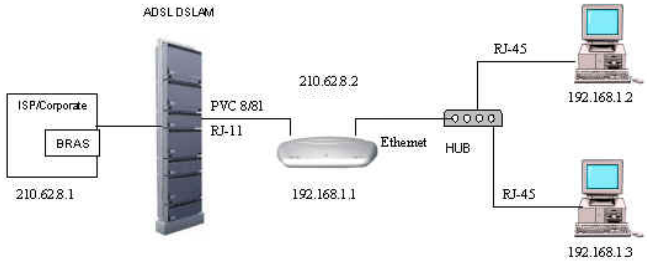
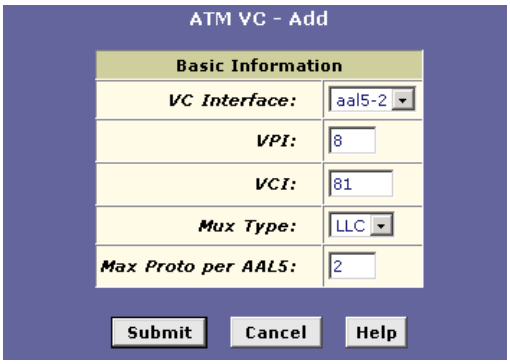
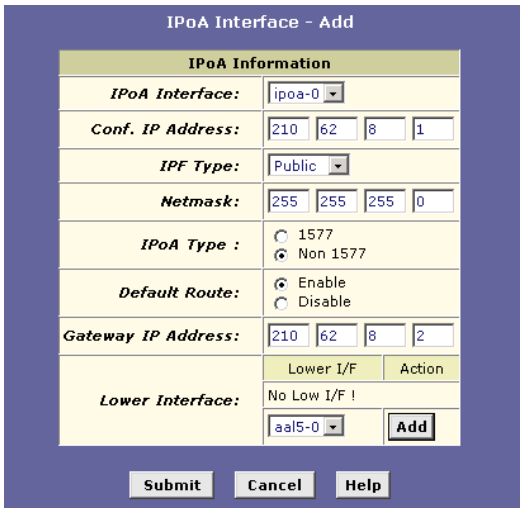


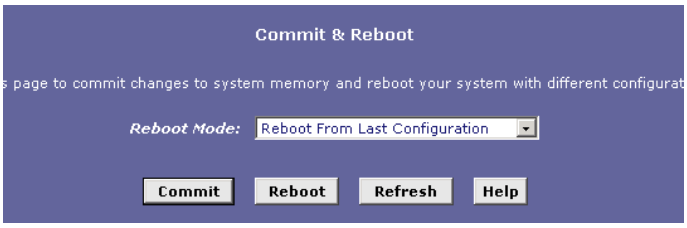
Fig. 3-4

Protocol	IPoA Route Mode
LAN IP	192.168.1.xxx
Modem IP	192.168.1.1
Gateway IP	210.62.8.1
VPI/VCI	8/81
WAN IP	210.62.8.2

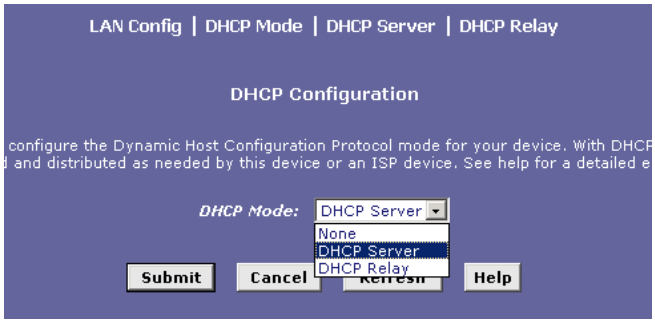
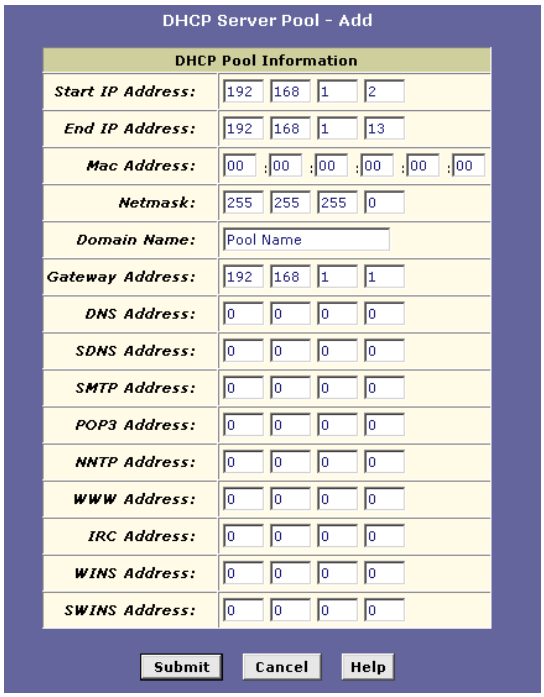
Table 3-4

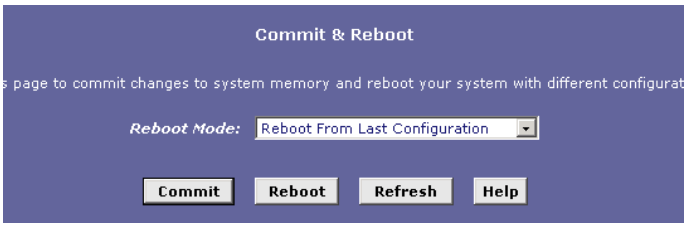
Step	Action
1.	Click on the **Routing** tab to view its sub-menu's and configure the Routing settings, then click on the **ATM VC** link below it.
2.	The ATM VC Configuration table appears. Click on the **Add** button to add a new VPI/VCI setting.

3.	Enter the VPI/VCI values (8/81) into the VPI and VCI text boxes. Then click on the **Submit** button to confirm the changes 
4.	Click on the **IPoA** link in the **Routing** tab and then click on the **Add** button to add an **IPoA** configuration.  – Select an **Interface Name**: IPoA-0 – **Conf. IP Address**: From ISP – **Net mask**: From ISP – **Gateway IP Address**: From ISP – **Login Name**: Enter username here (from ISP) – **Lower Interface**: Select aal5-0
5.	Click on the **Submit** button to confirm the changes.

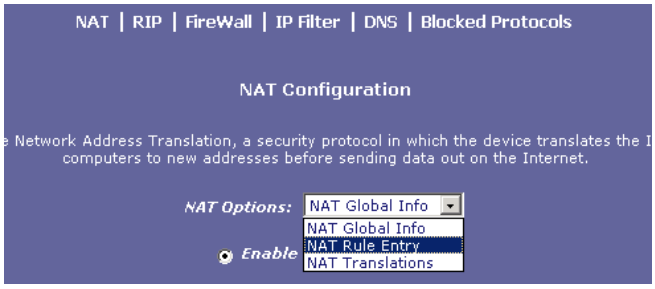
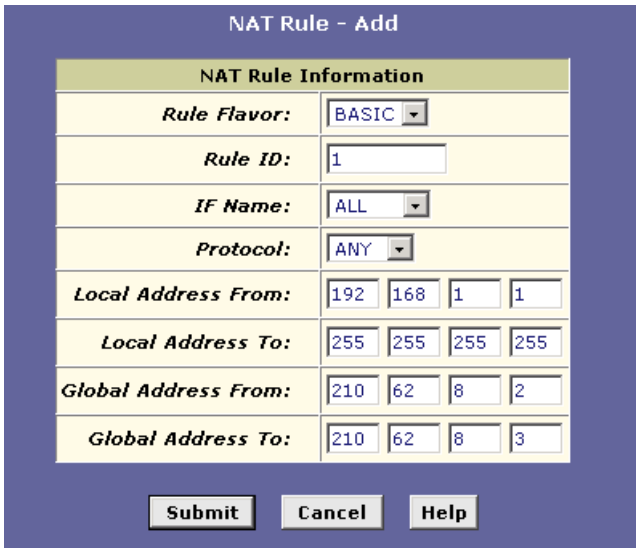
6.	Click on the **Admin** tab to view its sub-menu's and configure the bridging settings, then click on the **Commit & Reboot** link below it
7.	Select the **Reboot from last configuration** option from the drop down list and the click on the **Commit** and **Reboot** button. 

3.6 DHCP CONFIGURATION

Step	Action
1.	Click on the **LAN** tab to view its sub-menu's and configure the **LAN** settings, then click on the **DHCP Mode** link below it.
2.	From the drop down list, select **DHCP Server** and click on the **Submit** button. 
3.	Click on the **DHCP Server** link under the LAN tab and click on the **Add** button. 

	Ethernet – **Start IP Address**: Enter the Start IP Address (192.168.1.2) – **End IP Address**: Enter the End IP Address (192.168.1.33) – **Net mask**: Based on IP address (255.255.255.0) – **Domain Name**: Enter a name here – **Gateway IP Address**: Enter a Gateway IP Address here **USB** – **Start IP Address**: Enter the Start IP Address (192.168.2.2) – **End IP Address**: Enter the End IP Address (192.168.2.33) – **Net mask**: Based on IP address (255.255.255.0) – **Domain Name**: Enter a name here – **Gateway IP Address**: Enter a Gateway IP Address here
4.	Click on the **Submit** button to confirm the changes.
5.	Click on the **Admin** tab to view its sub-menu's and configure the bridging settings, then click on the **Commit & Reboot** link below it.
6.	Select the **Reboot from last configuration** option from the drop down list and the click on the **Commit** and **Reboot** button. 

3.7 NAT CONFIGURATION

Step	Action
1.	Click on the **Services** tab to view its sub-menu's and configure the **NAT** settings, then click on the **NAT** link below it.
2.	From the **NAT Options** drop down list, select **NAT Rule Entry**. 
3.	Click on the **Add** button to add a new **NAT Rule Entry**.  – **Rule Flavor**: Select a Rule flavor from the drop down list (Basic) – **Rule ID**: Enter a number here – **Local Address From**: Address from where this device will receive IPs – **Local Address To**: 255.255.255.255 (broadcast) or other

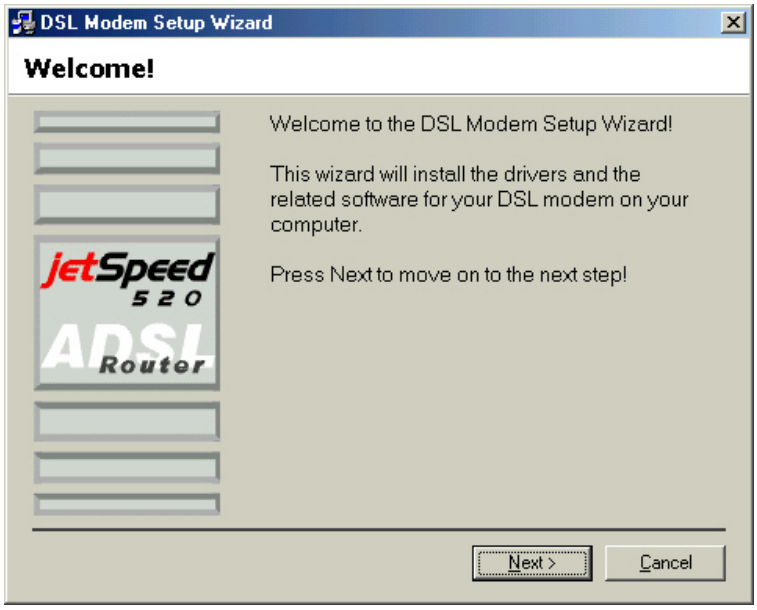
	– **Login Name**: Enter username here (from ISP) – **Global Address From**: Global Address from where this device will receive IPs – **Global Address To**: Global Address where this device will send its packets
4.	Click on the **Submit** button to confirm the changes.

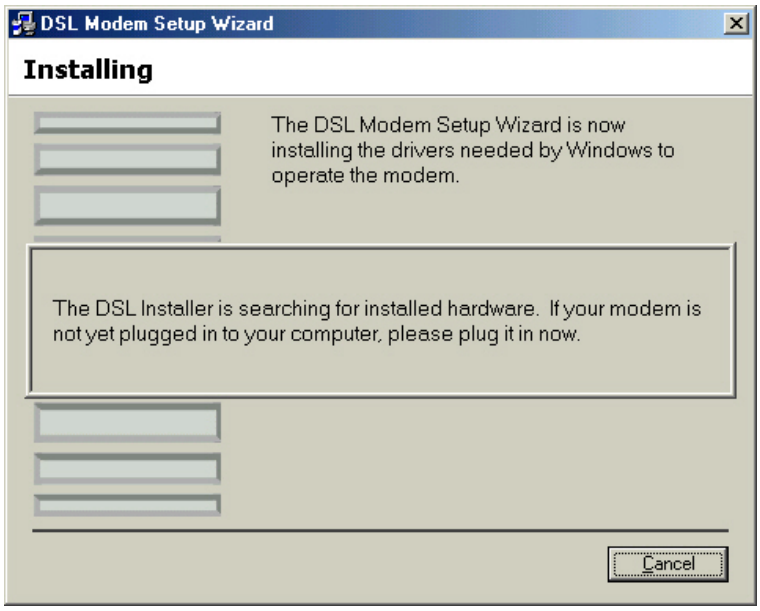
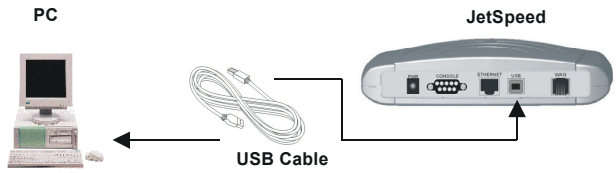
4 USB DRIVER INSTALLATION

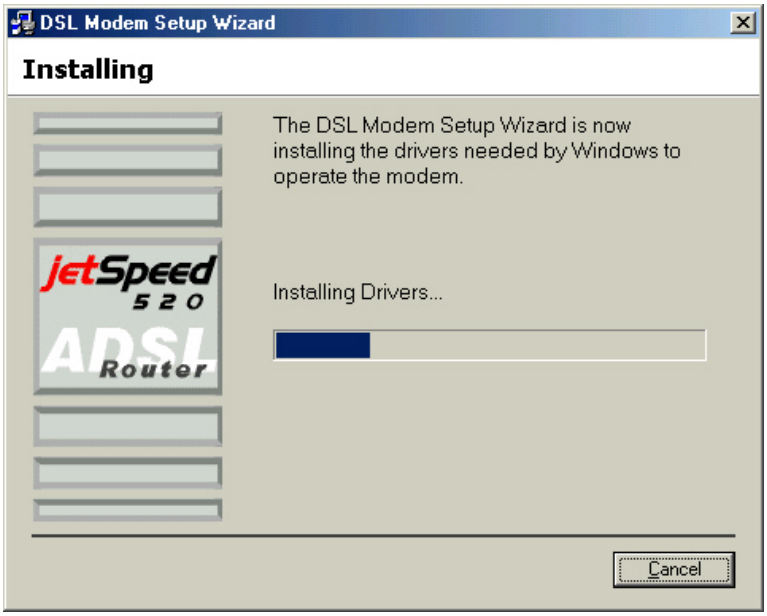
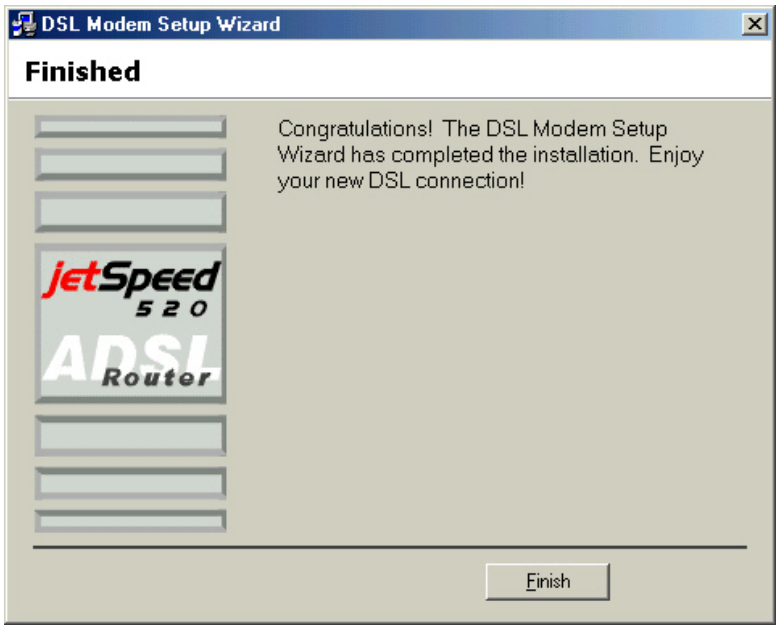
4.1 INSTALLATION

The jetSpeed 520 installation procedure is same for Windows 98 (Second Edition)/ ME/ 2000/ XP.

Follow the steps below in order to install the USB driver.

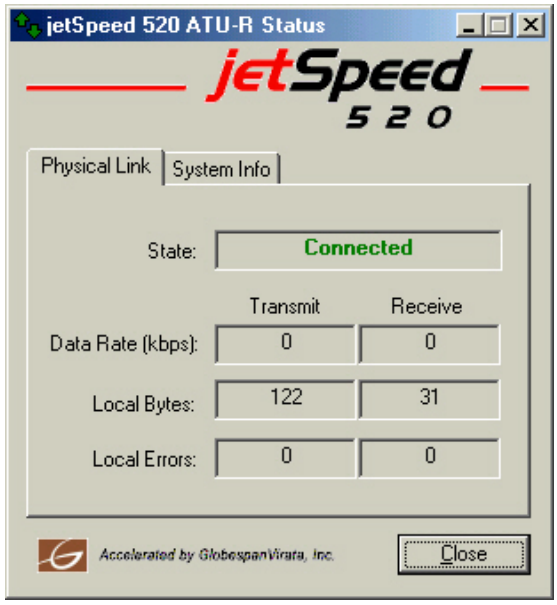
Step	Action
1.	Insert the Installation CD into your CD-ROM drive. The installation begins automatically and the **Welcome** screen appears. **NOTE:** If the installation does not begin automatically, right click on **Start** and choose **Explore**. Then select your CD-ROM drive from the list and double click on the **setup.exe** file. The installation process begins and the **Welcome** screen appears. 

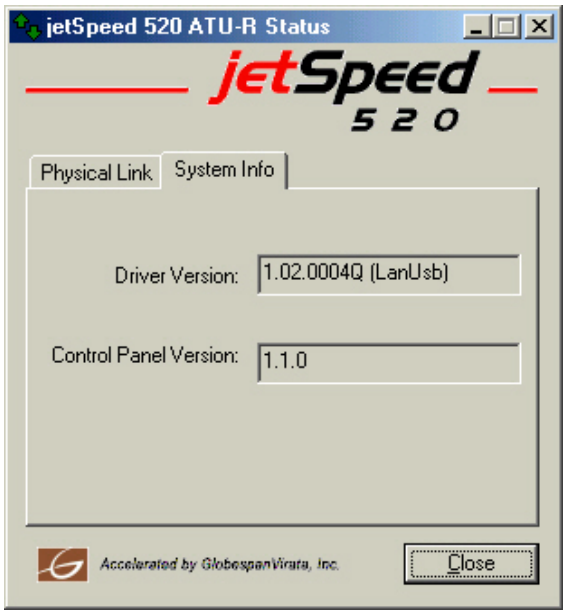
2.	Click on the **Next** button to continue. The **Installing** screen appears. 
3.	The DSL installer prompt you to plug in the USB cable into the device. Plug in the rectangular end of the USB cable in the USB port of your PC and the square end of the USB cable into the port labelled **USB** on the jetSpeed 520. 

4.	The ADSL installer will continue to install the USB driver. After a few seconds, a new screen will inform you that you must reboot your computer. Click on the **Close** to reboot your computer. 
5.	As soon as the system starts, the **Finished** screen appears. Click on the **Finish** button to complete the installation. 

4.2 ADSL STATUS

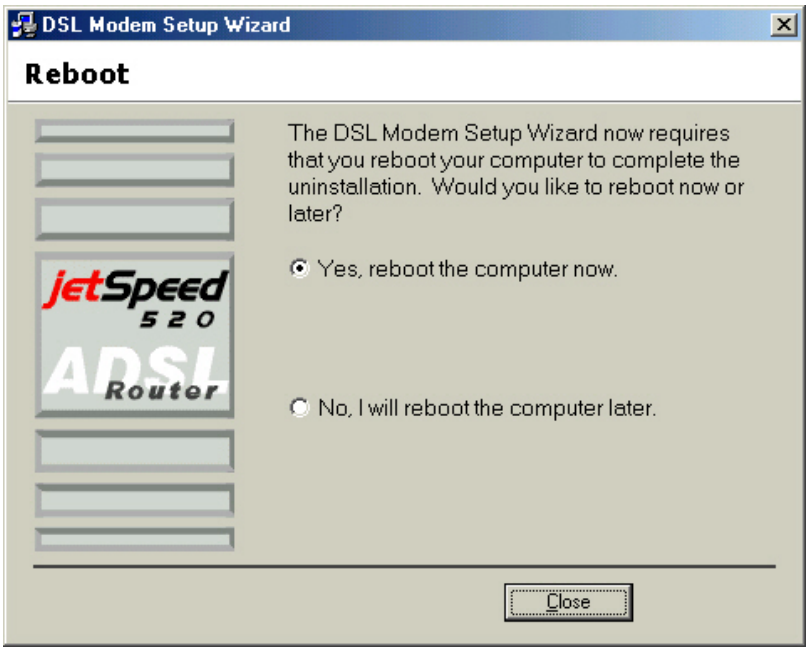
In order to view the status of this device you need to run the control panel that is provided with this device.

Step	Action
1.	To run the control panel click on the **Start** button **> Programs > jetSpeed 520 ADSL Modem > ADSL Status.** The following screen appears.  The **Physical Link** tab displays the connection state, data rate, bytes transferred and errors.

2.	Click on the **System Info** tab to view the USB driver and control panel version. 
3.	Click on the **Close** button when completed.

4.3 UNINSTALLATION

Step	Action
1.	In order to uninstall this device click on the **Start** button **> Programs > DSL Modem > Uninstall.** The following message appears.
2.	Click on the **Yes** button to confirm the uninstallation. You will then se the following message.
3.	The above message is to remind you not to unplug the device until the uninstallation is complete. Click on the **OK** button to continue. The uninstallation will then continue.
4.	The following message will then appear:

5.	At this point, unplug the modem and then click on the **OK** button. The **Reboot** screen appears. 
6.	Select the **Yes, reboot the computer now** radio box and then click on the **Close** button. This will then restart you computer. The USB driver is now been successfully uninstalled.

APPENDIX – SPECIFICATIONS

Hardware Specifications

LAN Interface

Supported Interfaces	IEEE 802.3 Ethernet 10/100 BaseT (RJ-45)
	USB, specification 1.1

WAN ADSL Line Interface

Supported Standards • **For POTS line** • **For ISDN Line**	 ITU G.992.1 (G.dmt) Annex A ITU G.992.2 (G.lite) ANSI T1.413 issue 2 ITU G.992.1 (G.dmt) Annex B ETSI TS 101 388 Deutsche Telekom U-R2
Line Impedance	100 Ω
Connection Loop	One Pair (2-wire)
Connector	RJ-11 for Annex A RJ-45 for Annex B
Automatic-rate Adaptation	

Indicators

PWR (Green LED)	Power Status
USB (Green LED)	USB Link Status
LAN (Green LED)	LAN Link Status
WAN (Green LED)	ADSL Data Link Status
ALM (Green LED)	Data Error and Operation Status

OAM&P

Local	RS-232, Telnet via Ethernet or Web management
Remote	Telnet or Web management

Environmental Conditions

Operation Temperature	0°C ~ 45°C
Operation Humidity	5% ~ 95%
Storage Temperature	-20 ~ +85°C
Storage Humidity	5%~95%

Power Requirements

AC Adapter • **Input** • **Output**	 230VAC/50Hz 15VAC 1A
Power Consumption	5% ~ 95%

Mechanical Specifications

Width	180 mm
Depth	143 mm
Height	42 mm

Certificates

Certificates	CE CB FCC Part 15 Class B UL

Software Specifications

ATM

- ATM Cell over ADSL, AAL5
- Supports UBR/GFR, CBR, VBR-rt and VBR-nrt
- VPI Range (0-4095) and VCI range (1-65535)
- Supports up to 8 PVCs (Bridge Mode), 5 PVCs (Router Mode)
- Support OAM F4/F5, AIS, RDI and loopback cells
- Supports Bit Swap
- Payload Encapsulation
  - RFC2684 (RFC1483), multi-protocol over ATM
  - RFC2225 (RFC1577), IPoA
  - RFC2364, PPP over ATM (CHAP and PAP supported)
  - RFC2516, PPPoE (PPP over Ethernet) over ATM

Bridging

- Transparent Bridging (IEEE 802.1D)
- RFC2684 (RFC1483) Bridged
- Spanning Tree Protocol (IEEE 802.1D)
- Supporting IP, IGMP v1/v2 and PPPoE packets filter function

Routing

- Routing Information Protocol (RIP) v1/v2 and Static Routing
- NAT/PAT – RFC1631 (basic firewall support)
- Supports Point-to-Point Protocol (PPP)
- PAP or CHAP for user authentication
- RFC2684 (RFC1483) Routed
- DNS relay

Security

- Raw IP filtering, SPI,
- VPN supports IPSec Pass through, L2TP Client/Server & L2TP/PPTP Pass Through
- DoS(UDP/TCP), Detection of Known Attacks
- Detects port attack
- ID Password Authentication

Configuration and Network Management

- DHCP server for IP management
- FTP, TFTP, Telnet for local or remote management
- TFTP for firmware upgrade
- Web configuration
- SNMP v1 and MIB II (RFC 1213)
- Auto Detect – VCI/VPI Setup
- Auto Detect – PPPoA Setup
- Command Line Interface

DECLARATION OF CONFORMITY

Hereby, INTRACOM S.A. declares that the jetSpeed 520/520i is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

For further information please visit the web page **http://emc.intracom.gr./**

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