

**Lucent Technologies**  
Bell Labs Innovations



# **CellPipe<sup>®</sup> 22A-GX Series**

## **User Guide**

September 2004

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- Product name, model, and serial number
- Software version or release number
- Software and hardware options. If supplied by your carrier, service profile identifiers (SPIDs) associated with your line
- Your local telephone company's switch type and operating mode, such as AT&T 5ESS Custom or Northern Telecom National ISDN-1
- Whether you are routing or bridging with your Lucent product
- Type of computer you are using
- Description of the problem

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## Preventing static discharge damage

Semiconductor devices can be easily and permanently damaged due to electrostatic discharge during installation or removal. A person walking across a floor can generate electrostatic voltages in excess of 5000V. Although you might not notice a discharge of less than 3500V, discharges below 100V can damage semiconductor components.

You can destroy a component without noticing any electrostatic discharge. Because these discharges have very little current, they are harmless to people.

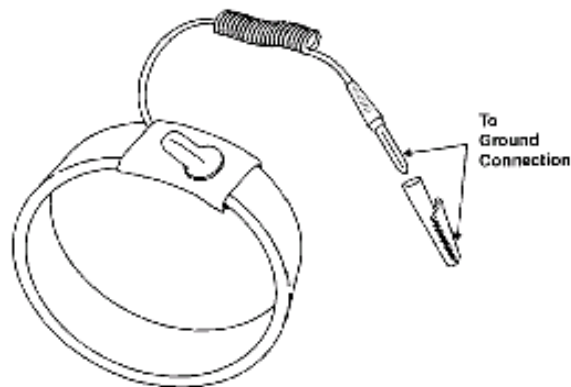
To prevent damage to components from electrostatic discharge, always follow the proper guidelines for equipment handling and storage.

### Use a wrist strap

To reduce the static potential on your body by proper grounding, wear an approved antistatic wrist strap when installing, removing, or handling any Lucent device containing semiconductor components.



**CAUTION: Correct use of an approved antistatic wrist strap is the only reliable way to prevent damage to components by electrostatic discharge from your body.**



*Wrist grounding strap*

To minimize entanglement, right-handed people can wear the strap on the left hand. Plug the other end of the wrist strap into a grounding jack if available. If a grounding jack is not available, use an alligator clip to connect the strap to electrical ground.

Use the following two simple tests to verify that the wrist strap is functioning properly:

- Measure the resistance between the wrist strap and its grounding plug. Overall resistance between these two points must be approximately 1 megohm. If it is not, replace the strap.
- Physically examine the strap for visible damage. If you see any damage, replace the strap.

## **Remove plastics from your work area**

Work areas must be kept clear of common plastics, such as the following items:

- Polystyrene packing containers
- Clear plastic bags
- Plastic drinking cups
- Food wrappers
- Clear cellophane tape

These types of common plastic materials can carry a static charge that is not easily discharged to ground and must not make direct contact with any solid state components.

## **Store components properly**

Protect components when not in use by storing them in their original factory packing materials. Storage in approved antistatic packaging is acceptable when factory packaging is unavailable.



**CAUTION: Never place unprotected components directly on ungrounded metal shelving or on ungrounded carts without insulating surfaces.**

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# 1 Getting Started

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## Overview

The CellPipe 22A-GX is multi-mode ADSL Router, compliant with ANSI T1.413 Issue 2, ITU G.992.1 (G.dmt) Annex A, G.992.2 (G.lite). CellPipe 22A-GX provides high-speed Internet access via one WAN port over ATM over ADSL, and also connects to a corporate network via one 10/100BaseTX Ethernet port and one USB port. CellPipe 22A-GX allows the service provider to deploy ADSL rapidly over existing wire infrastructure (POTS or ISDN line).

## Features

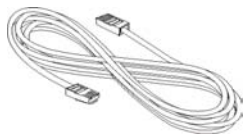
- High speed asymmetrical data transmission on a single twisted copper pair
- Full rate operations up to 8Mbps downstream (12Mbps to be provided) and up to 1Mbps upstream. G.lite operation up to 1.5Mbps downstream and 512Kbps upstream
- One 10/100BaseTx Ethernet port and one USB port for PC connection
- DHCP server support 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 the 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 Telnet and Web browser through the Ethernet and ADSL interfaces
- Supports applications such as TFTP, DHCP, Telnet, HTTP, and FTP
- Firmware upgradeable through TFTP
- Interoperability complies with TR-48, U-R2
- Supports dying gasp detection (optional)

## Packaging

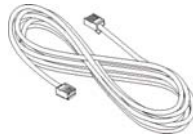
This package contains the following items:



CellPipe 22A-GX ADSL device unit



RJ-45 Cable



RJ-11 Cable



AC Adapter



User's Manual CD

FRONTIER 188 C  
FRONTIER 188 B  
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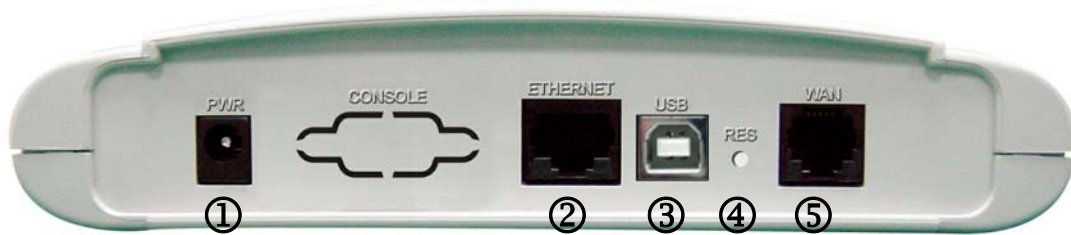
## Appearance

### Front Panel



	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	Training with DSLAM.
		ON	Green	ADSL link is ready.
⑤	ALM	Blinking	Red	Booting up.
		ON	Red	Error.

## Rear Panel



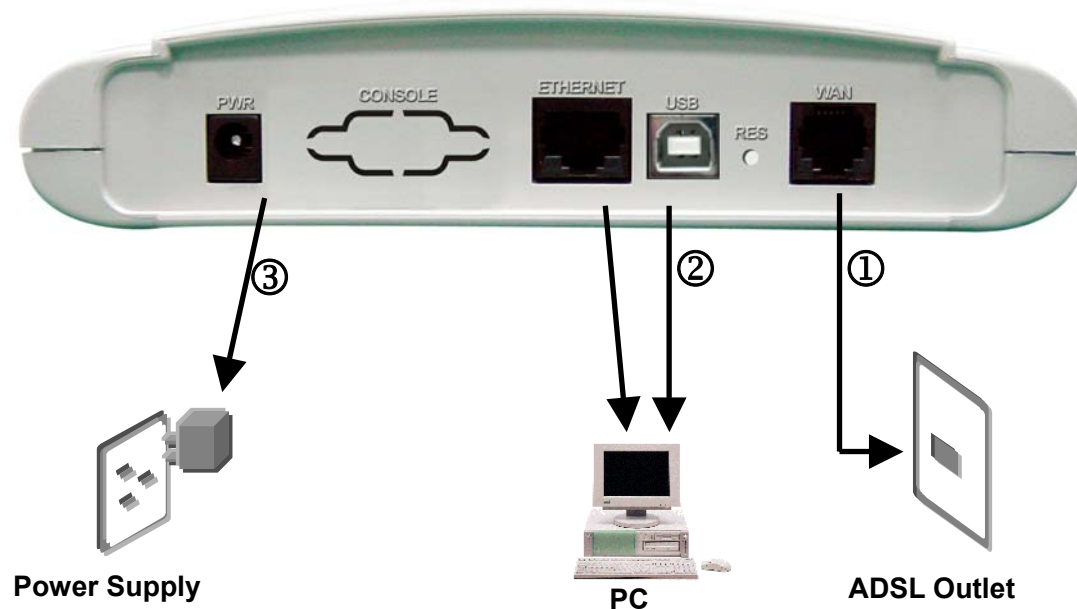
	Label	Description
①	PWR	Power jack; connect to a power adapter
②	ETHERNET	RJ-45 port; connect to a PC or LAN
③	USB	USB port; connect to a PC
④	RESET	Reset the modem back to factory settings by holding down on this button
⑤	WAN	RJ-11 or RJ-45 port; connect to the ADSL outlet.

## Hardware Installation

The following section describes how to set up CellPipe 22A-GX with a single computer.

As shown in the diagram below, both the USB and Ethernet ports can be used at the same time. However it is recommended that you use only one port during setup. Once you have verified that you can access the Internet, you can then connect a second computer.

- Step 1: Connect one end of the ADSL cable to the WAN port of CellPipe 22A-GX and the other end to the ADSL wall outlet.
- Step 2: Use a RJ-45 cable to connect one end to the Ethernet port of CellPipe 22A-GX, 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.
- Step 4: Plug in the AC adapter to the AC power socket, and the other end into the PWR inlet of CellPipe 22A-GX.



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

## Management

CellPipe 22A-GX supports simple, flexible, and easy-to-operate methods for management purposes. CellPipe 22A-GX can be managed via the following paths:

- ✓ **Local Ethernet Port (Telnet)** – connect the Ethernet port to your local area network or to directly to a PC. “*Telnet*” CellPipe 22A-GX from any workstation in the LAN. The default local Ethernet IP address is “**192.168.1.1**”.
- ✓ **Local Ethernet Port (Web Browser)** – connect the Ethernet port to your local area network or directly to a PC. Launch your web browser and enter default local Ethernet IP address “**192.168.1.1**” into the address bar.
- ✓ **ADSL Port from Remote Site** – while the ADSL connection is in service, you may remotely “*Telnet*” CellPipe 22A-GX from a workstation connected to the CO equipment.

**Note:** As operating an ADSL device requires technical know-how and experience. It is recommended that only qualified technical staffs manage CellPipe 22A-GX. Therefore, a password authentication is required when you enter the web interface. To obtain the password, see the *Default Values* section.



## Default Values

CellPipe 22A-GX is pre-configured with the following parameters; you may also re-load the default parameters by rebooting the router into the Default configuration from the web browser.

<b>Default Mode: Bridge</b>	<b>User Name: root</b>
	<b>Password: root</b>
<b>Bridge Mode Setting</b>	<b>WAN and ADSL</b>
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	
<b>Router Mode Setting</b>	<b>DHCP Server: Disable</b>
Ethernet (local) IP: 192.168.1.1	<b>DNS Relay: Disable</b>
USB Interface (local) IP: 192.168.2.1	
Subnet Mask: 255.255.255.0	

**Note:** The User Name and Password are case-sensitive

## Software Upgrade

You may easily upgrade CellPipe 22A-GX embedded software by obtaining the compressed upgrade kit from the service provider then following the steps:

- ✓ Extract the ZIP file for updated firmware.
- ✓ Connect CellPipe 22A-GX via the local ethernet port or remote ADSL link. Make sure that the CellPipe 22A-GX IP address and your terminal is properly configured, then you can successfully “ping” CellPipe 22A-GX. The default local IP address is 192.168.1.1.
- ✓ Under DOS prompt, execute FTP command “**open <IP address of CellPipe 22A-GX>**”, then input user name and password.
- ✓ Execute upload command “**put teimage.bin**”.
- ✓ This upgrading process might last as long as 60 seconds.
- ✓ Then reboot CellPipe 22A-GX with new software.

**Note 1:** CellPipe 22A-GX software may also be upgraded through the web interface.

**Note 2:** Strictly maintain stable power to CellPipe 22A-GX 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.

## Console Setup

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

1. Start "Hyper-terminal" program

### **On Windows 98 or Windows NT**

Click on the **Start** button → **Programs** → **Accessories** → **Hyper Terminal Group** → Double Click "**Hyperterm.exe**" → Enter Connection Name → Select Icon → Click on the **OK** button.

2. Select COM port to communicate with CellPipe 22A-GX.

Choose direct to COM1 or COM2 and click on the **OK** button.

3. Set Port Properties --

▶ 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

## 2 Web Interface Management

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### Overview

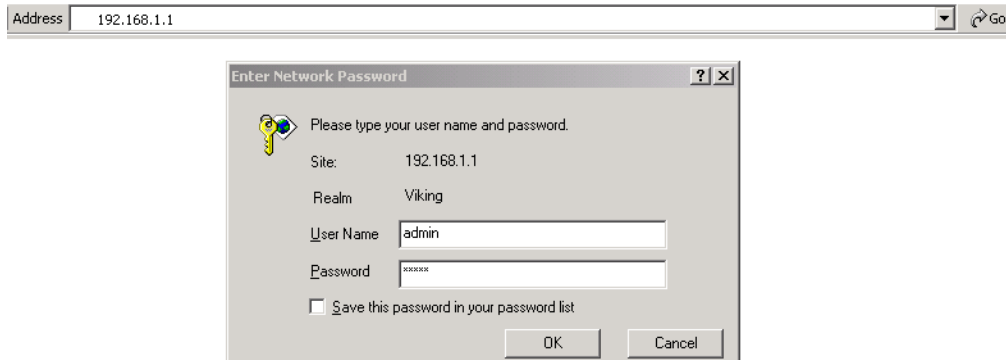
The Web management is provided in order to manage the ADSL device as easily as possible. It provides a very user-friendly configuration and graphical interface through a Web based platform. You can configure a bridge or a router, as you feel appropriate. In the section below, each configuration item is described in detail.

### Preparation

- 1) Please refer the hardware installation procedure to install modem.
- 2) You should configure the PC to the same IP subnet as the modem.  
For example: The modem: 192.168.1.1  
Your PC: 192.168.1.x
- 3) Let your PC access the modem, and make sure that the PING function is working properly. The default IP address of this modem could be found in the default settings section.
- 4) Open the Web browser (Internet explorer or Netscape), enter the default IP address “**192.168.1.1**” for the website address to access the web management page.
- 5) The **Login** dialog box will pop up first.

## Login

- ▶ The window **Enter Network Password** will pop up while starting the configuration. With the window open, type **admin** for both **User Name** and the **Password**. You can also edit the Username and Password or add new users.



- ▶ 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**

# HOME

- ▶ After logging in, the first tab that will be 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.

Home
LAN
WAN
Bridging
Routing
Services
Admin

Home | System Mode | Quick Configuration

## System View

Use this page to get the summary on the existing configuration of your device.

Device		DSL			
<b>Model:</b>	Titanium	<b>Operational Status:</b>		Startup Handshake	
<b>H/W Version:</b>	81001a	<b>Last State:</b>		0x0	
<b>S/W Version:</b>	3.66XAT0.8124A/138030331a10	<b>DSL Version:</b>		Y1.4.8	
<b>Serial Number:</b>	xxxxxxxxxxxx	<b>Standard:</b>		Multimode	
<b>Mode:</b>	Routing And Bridging	<b>Up</b>		<b>Down</b>	
<b>Up Time:</b>	0:1:15	<b>Speed</b>	<b>Latency</b>	<b>Speed</b>	<b>Latency</b>
<b>Time:</b>	Thu Jan 01 00:01:15 1970	0 Kbps	-	0 Kbps	-
<b>Time Zone:</b>	GMT				
<b>Daylight Saving Time:</b>	OFF				
<b>Name:</b>	-				
<b>Domain Name:</b>	-				

**WAN Interfaces**

Interface	Encapsulation	IP Address	Mask	Gateway	Lower Interface	VPI/VCI	Status
<b>eea-0</b>	Bridged	0.0.0.0	0.0.0.0	0.0.0.0	<b>aal5-0</b>	8/35	

**LAN Interface**

Interface	Mac Address	IP Address	Mask	Lower Interface	Speed	Duplex	Status
<b>eth-0</b>	00:01:38:13:21:C9	192.168.1.1	255.255.255.0	-	100BT	Full	
<b>usb-0</b>	-	192.168.1.2	255.255.255.0	-	-	-	

**Services Summary**

Interface	NAT	IP Filter	RIP	DHCP Relay	DHCP Client	DHCP Server	IGMP
eth-0	✓ inside	✗	✗	✗	✗	✗	✗
eea-0	✓ outside	✗	✗	✗	✗	✗	✗
usb-0	✓ inside	✗	✗	✗	✗	✗	✗

Modify
Refresh
Help

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

- ▶ To add, change, or remove any of the interface settings, click on the interface name.
- ▶ Click on the **Modify** button to set the device date, time, time zone, and other related settings. Click on the **Submit** button when completed.

System - Modify

System Parameters	
<i>Date:</i>	<input type="checkbox"/> Jan 1 1970
<i>Time:</i>	<input type="checkbox"/> 0 : 8 : 54
<i>Time Zone:</i>	GMT +0000 Greenwich Mean
<i>Daylight Saving Time:</i>	<input type="radio"/> ON <input checked="" type="radio"/> OFF
<i>Name:</i>	<input type="text"/>
<i>Domain Name:</i>	<input type="text"/>

## LAN

Click on the **LAN** tab to view its sub-menu and configure the LAN settings. The four sub-menu are: LAN Config, DHCP Mode, DHCP Server, and 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 configure the LAN settings.

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



### LAN Configuration

the LAN configuration, which determines how your device is identified on the network.

LAN Configuration	
<b>System Mode:</b>	Routing And Bridging
<b>Get LAN Address:</b>	<input checked="" type="radio"/> Manual <input type="radio"/> External DHCP Server <input type="radio"/> Internal DHCP Server
<b>LAN IP Address:</b>	<input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="1"/> <input type="text" value="1"/>
<b>LAN Network Mask:</b>	<input type="text" value="255"/> <input type="text" value="255"/> <input type="text" value="255"/> <input type="text" value="0"/>
<b>Speed:</b>	100BT
<b>Duplex:</b>	Full
<b>IGMP:</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

USB Configuration	
<b>USB IP Address:</b>	<input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="1"/> <input type="text" value="2"/>
<b>USB Network Mask:</b>	<input type="text" value="255"/> <input type="text" value="255"/> <input type="text" value="255"/> <input type="text" value="0"/>
<b>IGMP:</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

## DHCP Mode

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

LAN Config | DHCP Mode | DHCP Server | DHCP Relay

### Dynamic Host Configuration Protocol (DHCP) Configuration

and configure the Dynamic Host Configuration Protocol mode for your device. With DHCP, IP addresses are dynamically assigned and distributed as needed by this device or an ISP device. See help for a detailed explanation.

DHCP Mode:

## DHCP Server

Click on the **DHCP Server** link to view the DHCP Server settings. The table displays the DHCP server settings, including start IP, end IP, domain name, gateway address, and status. Click on the **Add** button to enable a DHCP server and fill in the IP information based on your ISP settings.

LAN Config | DHCP Mode | DHCP Server | DHCP Relay

### Dynamic Host Configuration Protocol (DHCP) Server Configuration

This page is used to configure the DHCP server settings. This page lists the IP address pools available to computers on your network. The device distributes numbers in the pool to devices on your network as they request Internet access.

Start IP Address	End IP Address	Domain Name	Gateway Address	Status	Action(s)
No DHCP Server Pool!					

## DHCP Relay

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

LAN Config | DHCP Mode | DHCP Server | DHCP Relay

### Dynamic Host Configuration Protocol (DHCP) Relay Configuration

When a computer requests Internet access, the device requests an IP address from your DHCP server and relays the request to the computers. This table lists each interface on the device that relays data from your DHCP server. The interface name and port is listed.

DHCP Server Address:

Interfaces Running DHCP Relay	Action
No Interface Running DHCP Relay!	
<input type="text" value="eth-0"/>	<input type="button" value="Add"/>

## WAN

Click on the **WAN** tab to view its sub-menu and configure the WAN settings. The five sub-menu are: DSL, ATM VC, PPP, EOA, and IPOA. Each sub-menu is described below.



## DSL

- ▶ Click on the **DSL** link to view the DSL status. 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** will be described below.
- ▶ 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 | ATM VC | PPP | EOA | IPOA

DSL Status

This page displays DSL Status Information

Refresh Rate: 10 Seconds ▾

Counters	Local		Remote	
	Intrlvd	Fast	Intrlvd	Fast
FEC:	0	0	0	0
CRC:	0	0	0	0
NCD:	0	0	0	0
OCD:	0	0	-	-
HEC:	0	0	0	0
SEF:	0		0	
LOS:	0		0	
Failures	Local		Remote	
NCD:	0		0	
SEF:	0		0	
LOS:	0		0	
LCD:	0		0	

DSL Status	
Operational Status:	Startup Handshake <input type="button" value="Loop Stop"/>
Last Failed Status:	0x0
Startup Progress:	0xA0

## DSL Parameters

Click on the **DSL Param** button to view the DSL parameters. Another window will then display the DSL parameters, which may be different from the one

DSL Parameter							
DSL Parameters and Status							
<b>Vendor ID:</b>	00B5GSPN						
<b>Revision Number:</b>	Y1.4.8						
<b>Serial Number:</b>	XXXXXXXXXXXXXX						
<b>Local Tx Power:</b>	0.0 dB	Config Data	Up		Down		
<b>Remote Tx Power:</b>	0.0 dB		Intrlvd	Fast	Intrlvd	Fast	
<b>Local Line Atten.:</b>	0.5 dB		<b>AS0(kbps):</b>	-	-	0	0
<b>Remote Line Atten.:</b>	0.5 dB		<b>AS1(kbps):</b>	-	-	0	0
<b>Local SNR Margin:</b>	0.0 dB		<b>LS0(kbps):</b>	0	0	-	-
<b>Remote SNR Margin:</b>	0.0 dB		<b>LS1(kbps):</b>	0	0	-	-
<b>Self Test:</b>	Passed		<b>RValue:</b>	0	0	0	0
<b>DSL Standard:</b>	T1.413		<b>SValue:</b>	0		0	
<b>Trellis Coding:</b>	Disable		<b>DValue:</b>	0		0	
<b>Framing Structure:</b>	Framing-0						

shown below, due to the type and speed of the network. Click on the **Close** button to close the window, or click on the **Refresh** button to refresh the status.

## DSL Stats

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. Click on the **Close** button to close the window, or click on the **Refresh** button to refresh the status.

DSL Statistics					
No. of 15 Min. Valid Data Intervals: 1					
No. of 15 Min. Invalid Data Intervals: 0					
Current 15-Min Interval Statistics					
<b>Elapsed Time(MM:SS):</b>	6:58				
<b>Errored Seconds:</b>	5				
<b>Severely Errored Seconds:</b>	0				
<b>Unavailable Seconds:</b>	0				
Current Day Statistics					
<b>Elapsed Time(HH:MM:SS):</b>	0:21:58				
<b>Errored Seconds:</b>	17				
<b>Severely Errored Seconds:</b>	0				
<b>Unavailable Seconds:</b>	0				
Previous Day Statistics					
<b>Monitored Time(HH:MM:SS):</b>	0:0:0				
<b>Errored Seconds:</b>	0				
<b>Severely Errored Seconds:</b>	0				
<b>Unavailable Seconds:</b>	0				
Detailed Interval Statistic (Past 24 hrs)					
<b>1-4</b>	<b>5-8</b>	<b>9-12</b>	<b>13-16</b>	<b>17-20</b>	<b>21-24</b>
<input type="button" value="Close"/> <input type="button" value="Refresh"/> <input type="button" value="Help"/>					

## ATM VC

- ▶ 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.
- ▶ Click on the **trash can** icon to delete the current interface, or edit the current interface by clicking on the **pencil** icon.
- ▶ Click on the **Add** button to another interface.

DSL | ATM VC | PPP | EDA | IPOA

ATM VC Configuration

This page is used to view and configure ATM VCs

Interface	VPI	VCI	Mux Type	Max Proto per AAL5	Action(s)
aal5-0	8	35	LLC	2	

Add Refresh Help

- ▶ After you click on the **Add** button, another window will pop-up. First, select a VC interface from the drop down list. Then, 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.
- ▶ Click on the **Submit** button when completed.

ATM VC - Add

Basic Information

VC Interface:

VPI:

VCI:

Mux Type:

Max Proto per AAL5:

Submit Cancel Help

## Point to Point Protocol (PPP)

- ▶ 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.
- ▶ Click on the **trash can** icon to delete the current interface, or edit the current interface by clicking on the **pencil** icon.
- ▶ Click on the **Add** button to another interface.

DSL | ATM VC | **PPP** | EOA | IPOA

Point to Point Protocol (PPP) Configuration

This page is used to Configure and View PPP interfaces.

*Inactivity TimeOut(mins) for startondata PPP Interfaces:*

*Ignore WAN to LAN traffic while monitoring inactivity:*

Interface	VC	Interface Sec Type	Protocol	WAN IP	Gateway IP	Default Route	Use DHCP	Use DNS	Oper. Status	Action
No PPP Interface Entry!										

- ▶ After you click on the **Add** button, another window will pop-up.

PPP Interface - Add

Basic Information	
<i>PPP Interface:</i>	<input type="text" value="ppp-0"/>
<i>ATM VC:</i>	<input type="text" value="aal5-0"/>
<i>Interface Sec Type:</i>	<input type="text" value="Public"/>
<i>Status:</i>	<input type="text" value="Start"/>
<i>Protocol:</i>	<input type="radio"/> PPPoA <input checked="" type="radio"/> PPPoE
<i>Service Name:</i>	<input type="text"/>
<i>Use DHCP:</i>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<i>Use DNS:</i>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<i>Default Route:</i>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Security Information	
<i>Security Protocol:</i>	<input checked="" type="radio"/> PAP <input type="radio"/> CHAP
<i>Login Name:</i>	<input type="text"/>
<i>Password:</i>	<input type="text"/>

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

## Ethernet over ATM (EoA)

- ▶ 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.
- ▶ Click on the **trash can** icon to delete the current interface, or edit the current interface by clicking on the **pencil** icon.
- ▶ Click on the **Add** button to add another interface.

Interface	Interface Sec Type	Lower Interface	Config IP Address	Netmask	Use DHCP	Default Route	Gateway Address	Status	Action
eoa-0	Public	aal5-0	0.0.0.0	0.0.0.0	Disable	Disable	0.0.0.0		

- ▶ After you click on the **Add** button, another window will pop-up.



**EOA Interface - Add**

EOA Information	
<i>EOA Interface:</i>	<input type="text" value="eoa-1"/>
<i>Interface Sec Type:</i>	<input type="text" value="Public"/>
<i>Lower Interface:</i>	<input type="text" value="aal5-0"/>
<i>Conf. IP Address:</i>	<input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>
<i>Netmask:</i>	<input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>
<i>Use DHCP:</i>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<i>Default Route:</i>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
<i>Gateway IP Address:</i>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

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

## IP over ATM (IPoA)

- ▶ 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.
- ▶ Click on the **trash can** icon to delete the current interface, or edit the current interface by clicking on the **pencil** icon.
- ▶ Click on the **Add** button to add another interface.

DSL | ATM VC | PPP | EDA | IPOA

IP over ATM (IPoA) Configuration

This Page is used to View, Add and Delete IPoA Interfaces.

Interface	Interface Sec Type	RFC 1577	Lower Interface	Peer IP Address	Config IP Address	Netmask	Gateway Address	Status	Action
No IPoA Interface!									

Add Map Refresh Help

- ▶ 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.

IPoA Interface - Add

IPoA Information	
<i>IPoA Interface:</i>	ipoa-0
<i>Conf. IP Address:</i>	210 62 8 1
<i>Interface Sec Type:</i>	Public
<i>Netmask:</i>	255 255 255 0
<i>RFC 1577:</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No
<i>Use DHCP:</i>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<i>Default Route:</i>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
<i>Gateway IP Address:</i>	210 62 8 2

Submit Cancel Help

---

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

## Bridging

Click on the **Bridging** tab to view its sub-menu and configure the bridge settings. The six sub-menu are: Bridging, LAN Config, DSL, ATM VC, and RFC 1483 Interface (EoA). The bridging sub-menu is described below. (*Each of the other sub-menus is described in the earlier sections.*)



## Bridging

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

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

### Bridge Configuration

Use this page to Add and Modify Bridging information

**Bridging:**     *Enable*     *Disable*  
**WAN to WAN Bridging:**     *Enable*     *Disable*  
**ZIPB:**     *Enable*     *Disable*

Interface Name	Action
eth-0	
eoA-0	
eth-0	<input type="button" value="Add"/>

## Routing

Click on the **Routing** tab to view its sub-menu and configure the routing settings. The eight sub-menu are: IP route, IP address, LAN Config, DSL, ATM VC, PPP, EoA, and IPoA. The IP route sub-menu is described below. (*Each of the other sub-menus is described in the earlier sections.*)



### IP Route

- ▶ 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 and the device uses the Next Hop to identify the first Internet router, it should contact to route the data most efficiently.
- ▶ Click on the **trash can** icon to delete the current destination or click on the **Add** button to add another destination.

IP Route | IP Addr | LAN Config | DSL | ATM VC | PPP | EOA | IPOA

IP Route Table

addresses of Internet destinations commonly accessed by your network. When a computer request the device uses the Next Hop to identify the first Internet router it should contact to route the dat

Destination	Netmask	NextHop	IF Name	Route Type	Route Origin	Action
127.0.0.0	255.0.0.0	127.0.0.1	lo-0	Direct	Dynamic	
192.168.1.0	255.255.255.0	192.168.1.1	eth-0	Direct	Dynamic	
192.168.1.1	255.255.255.255	127.0.0.1	lo-0	Direct	Dynamic	
192.168.1.2	255.255.255.255	127.0.0.1	lo-0	Direct	Dynamic	

Add Refresh Help

- ▶ After you click on the **Add** button, another window will pop-up.

IP Route - Add

IP Route Information				
<i>Destination:</i>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
<i>Netmask:</i>	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="0"/>
<i>Gateway/NextHop:</i>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

- ▶ 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
<b>Destination</b>	Enter the destination IP address of the router.
<b>Netmask</b>	Enter the subnet mask of the IP address.
<b>Gateway/Next Hop</b>	Enter the IP address of the gateway or the next router hop

## Services

Click on the **Services** tab to view its sub-menu's and configure the service settings. The six sub-menu are: NAT, RIP, Firewall, IP filter, DNS, and Blocked Protocols. Each one is described in detail below.



### NAT

- ▶ 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.
- ▶ 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, and NAT translations. Each one is described below.

## NAT Global Info

The table displays the idle times for several protocols; you may change the times by clicking on the **Submit** button.

NAT | RIP | FireWall | IP Filter | DNS | Blocked Protocols

Network Address Translation (NAT) Configuration

Network Address Translation, a security protocol in which the device translates the addresses of computers to new addresses before sending data out on the Internet.

NAT Options: NAT Global Info

Enable  Disable

NAT Global Information	
TCP Idle Timeout(sec):	86400
TCP Close Wait(sec):	60
TCP Def Timeout(sec):	60
UDP Timeout(sec):	300
ICMP Timeout(sec):	5
GRE Timeout(sec):	300
ESP Timeout(sec):	300
Default Nat Age(sec):	240
NAPT Port Start:	50000
NAPT Port End:	51023

Submit Global Stats Cancel Refresh Help

## NAT Entry Rule



- ▶ 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.

NAT | RIP | FireWall | IP Filter | DNS | Blocked Protocols

Network Address Translation (NAT) Rule Configuration

Each row in the table lists a rule for translating addresses. See Help for instructions on creating NAT rules.

NAT Options: NAT Rule Entry

Rule ID	IF Name	Rule Flavor	Protocol	Local IP From	Local IP To	Action
1	ALL	NAPT	ANY	0.0.0.0	255.255.255.255	  <b>Stats</b>

Add Refresh Help

- ▶ After you click on the **Add** button, another window will pop-up.



**NAT Rule - Add**

NAT Rule Information	
<i>Rule Flavor:</i>	<input type="text" value="RDR"/>
<i>Rule ID:</i>	<input type="text"/>
<i>IF Name:</i>	<input type="text" value="ALL"/>
<i>Protocol:</i>	<input type="text" value="ANY"/>
<i>Local Address From:</i>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
<i>Local Address To:</i>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
<i>Global Address From:</i>	<input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>
<i>Global Address To:</i>	<input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>
<i>Destination Port From:</i>	<input type="text" value="Any other port"/> <input type="text" value="0"/>
<i>Destination Port To:</i>	<input type="text" value="Any other port"/> <input type="text" value="65535"/>
<i>Local Port:</i>	<input type="text" value="Any other port"/> <input type="text" value="0"/>

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

	down list, or enter it into the text box.
<b>Local Port</b>	Select a local port from the drop down list, or enter it into the text box.

### ***NAT Translations***

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

NAT | RIP | FireWall | IP Filter | DNS | Blocked Protocols

Network Address Translations (NAT)

This page displays the current NAT translations

NAT Options: NAT Translations

Trans Index	Rule ID	Interface	Protocol	ALG Type	NAT Direction	Entry Age	Action
No NAT Translations!							

Refresh Help

## 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:
  - a. First, click on the **Enable** radio box to enable the RIP configuration
  - b. Select an **interface name** from the drop down list.
  - c. Enter the number of router hops into the **metric** text box
  - d. Select a send mode from the drop down list.
  - e. Select a receive mode from the drop down list.
  - f. Click on the **add** button
- ▶ Click on the **trash can** icon to delete a RIP interface
- ▶ Click on the **Global Stats** icon to view the NAT statistics. This table will open in a new window.

NAT | RIP | FireWall | IP Filter | DNS | Blocked Protocols

### Routing Information Protocol (RIP) Configuration

our 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.

*Enable*     *Disable*

Age(seconds):   
 Update Time(seconds):

IF Name	Metric	Send Mode	Receive Mode	Action
No Rip Entries!				
<input type="text" value="eth-0"/>	<input type="text" value="1"/>	<input type="text" value="RIP1COMPAT"/>	<input type="text" value="RIP1"/>	<input type="button" value="Add"/>

## 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.

NAT | RIP | FireWall | IP Filter | DNS | Blocked Protocols

Firewall Global Configuration	
<b>Blacklist Status:</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<b>Blacklist Period(min):</b>	<input type="text" value="10"/>
<b>Attack Protection:</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<b>DOS Protection:</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<b>Max Half open TCP Conn.:</b>	<input type="text" value="25"/>
<b>Max ICMP Conn.:</b>	<input type="text" value="25"/>
<b>Max Single Host Conn.:</b>	<input type="text" value="75"/>
<b>Log Destination:</b>	<input type="checkbox"/> Email <input checked="" type="checkbox"/> Trace
<b>E-Mail ID of Admin 1:</b>	<input type="text"/>
<b>E-Mail ID of Admin 2:</b>	<input type="text"/>
<b>E-Mail ID of Admin 3:</b>	<input type="text"/>

Submit Cancel Black List Refresh 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
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.

## 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:
  - a. Select a **security level** from the drop down list.
  - b. Select if you would like to accept or deny the **private default action**.
  - c. Select if you would like to accept or deny the **public default action**.
  - d. Select if you would like to accept or deny the **DMZ default action**.

IP Filter Configuration

This Page is used to View and Modify IP Filter Global and Rule Configuration.

*Security Level:*




*Private Default Action:*

*Public Default Action:*

*DMZ Default Action:*

Rule ID	I/F	Apply Stateful Inspection	Direction	Rule Action	In I/F	Log Option	Rule Description	Oper. Status	Action(s)
1	ALL	Disable	Incoming	Accept	N/A	Enable	-	<span style="color: green;">●</span>	 Stats

- ▶ Click on the **Session** to view the IP filter sessions.
- ▶ You may delete a session by clicking on the **trash can** icon.
- ▶ Click on the **Close** button to close the window.

IP Filter Session										
Session Index	Time to expire	Protocol	I/F	IP Address	Port	In Rule Index	In Action	Out Rule Index	Out Action	Action (s)
10	60	TCP	eth-0 Self	192.168.1.81 192.168.1.2	2414 80	0 0	Unknown Unknown	0 0	Accept Unknown	
16	38	TCP	eth-0 Self	192.168.1.81 192.168.1.2	2412 80	0 0	Unknown Unknown	0 0	Accept Unknown	
24	38	TCP	eth-0 Self	192.168.1.81 192.168.1.2	2413 80	0 0	Unknown Unknown	0 0	Accept Unknown	

- ▶ 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	
<b>IP Filter Rule Statistic</b>	
<i>Rule ID:</i>	1
<i>Number of Packets Matching this Rule:</i>	2347 Packets

- ▶ 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			
<b>Rule ID:</b>	<input type="text"/>	<b>Action:</b>	<input type="radio"/> Accept <input checked="" type="radio"/> Deny
<b>Direction:</b>	<input type="radio"/> Incoming <input checked="" type="radio"/> Outgoing	<b>Interface:</b>	ALL <input type="button" value="v"/>
<b>In Interface:</b>	ALL <input type="button" value="v"/>	<b>Log Option:</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<b>Security Level:</b>	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<b>Blacklist Status:</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<b>Log Tag:</b>	<input type="text"/>		
<b>Start Time (HH MM SS):</b>	00 00 00	<b>End Time (HH MM SS):</b>	23 59 59
<b>Src IP Address:</b>	any <input type="button" value="v"/> 0 0 0 0 0 0 0 0 0 0 <input type="text"/>		
<b>Dest IP Address:</b>	any <input type="button" value="v"/> 0 0 0 0 0 0 0 0 0 0 <input type="text"/>		
<b>Protocol:</b>	any <input type="button" value="v"/> TCP <input type="button" value="v"/>		
<b>Apply Stateful Inspection:</b>	<input type="checkbox"/>		
<b>Source Port:</b>	any <input type="button" value="v"/>	Any other port <input type="button" value="v"/> <input type="text"/>	Any other port <input type="button" value="v"/> <input type="text"/>
<b>Dest Port:</b>	any <input type="button" value="v"/>	Any other port <input type="button" value="v"/> <input type="text"/>	Any other port <input type="button" value="v"/> <input type="text"/>
<b>TCP Flag:</b>	All <input type="button" value="v"/>		
<b>ICMP Type:</b>	any <input type="button" value="v"/> Echo Reply <input type="button" value="v"/>		
<b>ICMP Code:</b>	any <input type="button" value="v"/> 0 <input type="text"/>		
<b>IP Frag Pkt:</b>	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Ignore	<b>IP Option Pkt:</b>	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Ignore
<b>Packet Size:</b>	any <input type="button" value="v"/> 0 <input type="text"/>		
<b>TOD Rule Status :</b>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable		

- ▶ 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 <i>incoming</i> or <i>outgoing</i> direction.
In Interface	Select an incoming interface from the drop down list.
Security Level	Select a security level: <i>high</i> , <i>medium</i> , or

	<i>low.</i>
Log Tag	Enter a name for the log.
Start Time	Enter a start time for the IP filter.
Action	Select <i>accept</i> or <i>deny</i> incoming IPs.
Interface	Select an outgoing interface from the drop down list.
Log Option	Select to <i>enable</i> or <i>disable</i> logging.
Blacklist status	Select to <i>enable</i> or <i>disable</i> 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 <i>Stateful</i> 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 <i>Yes</i> , <i>No</i> , or <i>Ignore</i> packet fragmenting.
Packet Size	Enter the packer size into the text box, or select <i>any</i> from the drop down list.
TOD Rule Status	Select to <i>enable</i> or <i>disable</i> time-out detection.



## 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.
  - a. Select the **enable** radio box to enable the DNS server function.
  - b. Enter the IP address of the DNS server and click on the **Add** button.
  - c. You may also delete an IP address by clicking on the **trash can** icon.

NAT | RIP | FireWall | IP Filter | DNS | Blocked Protocols

### Domain Name Service (DNS) Configuration

for adding and deleting DNS server ip addresses. User can also enable/disable DNS r

Enable  Disable

DNS Server IP Address	Action
No DNS Entries!	
<input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>	<input type="button" value="Add"/>

## Blocked Protocols

- ▶ 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.
- ▶ Check the box, if you would like the protocol blocked, un-check the box to allow the protocol.
- ▶ Click on the **Submit** button when completed.

NAT | RIP | FireWall | IP Filter | DNS | Blocked Protocols

### Blocked Protocols

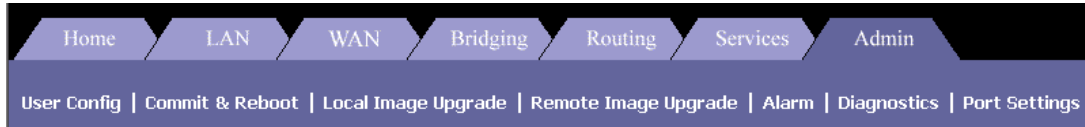
This page is used to Block/UnBlock the protocols running across the system.

Protocol	Blocked
PPPoE	<input type="checkbox"/>
IP Multicast	<input type="checkbox"/>
RARP	<input type="checkbox"/>
AppleTalk	<input type="checkbox"/>
NetBEUI	<input type="checkbox"/>
IPX	<input type="checkbox"/>
BPDU	<input type="checkbox"/>
ARP	<input type="checkbox"/>
IPV6 Multicast	<input type="checkbox"/>
802.1.Q	<input type="checkbox"/>

**Submit**   **Refresh**   **Help**

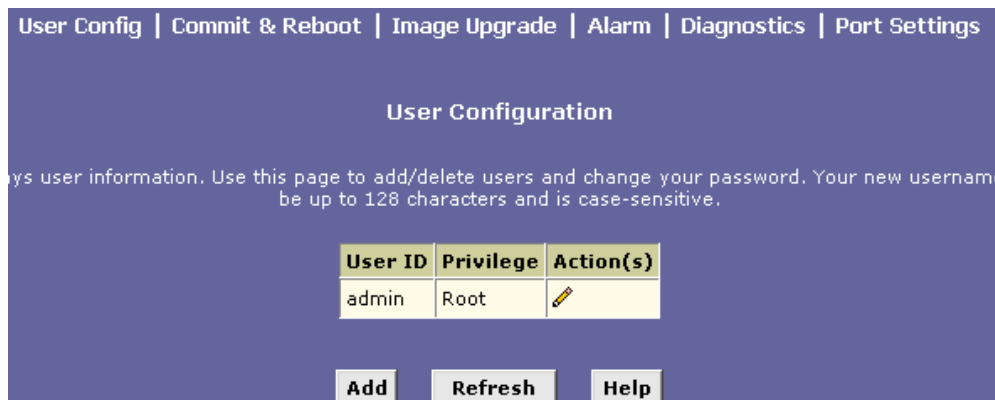
## Admin

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, Local Image Upgrade, Remote Image Upgrade Alarm, Diagnostics, and 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.
- ▶ To add a new user, click on the **Add** button, or click on the **pencil** icon to edit the settings of an existing user.



- ▶ 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, <i>root</i> , or <i>user</i> .
Password	Enter the password here
Confirm Password	Re-enter the password here



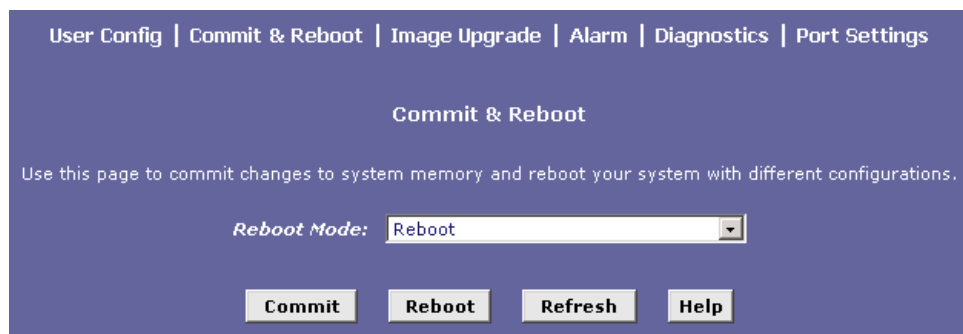
The image shows a web form titled "User Config - Add". It contains a section for "New User Information" with the following fields:

New User Information	
User ID:	john
Privilege:	<input type="radio"/> Root <input checked="" type="radio"/> User
Password:	*****
Confirm Password:	*****

At the bottom of the form are three buttons: "Submit", "Cancel", and "Help".

## 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.
- ▶ Click on the **Commit** button to save the changes.
- ▶ In order to reboot the device, select an option from the drop down list. The options are:
  - a. Reboot
  - b. Reboot from default configuration
- ▶ Click on the **Reboot** button after you have made your choice.



The image shows a web page titled "Commit & Reboot". It contains the following elements:

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

Commit & Reboot

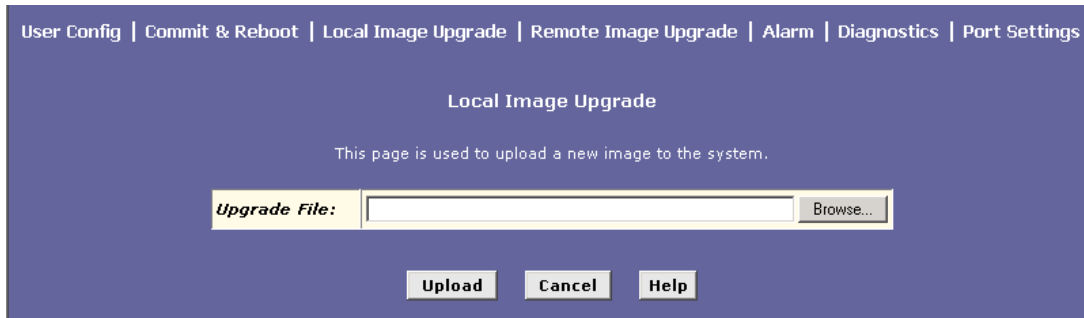
Use this page to commit changes to system memory and reboot your system with different configurations.

Reboot Mode:

At the bottom of the page are four buttons: "Commit", "Reboot", "Refresh", and "Help".

## Local Image Upgrade

- ▶ Click on the **Local Image Upgrade** link to upgrade the software on the modem from Local site.
- ▶ You may easily upgrade CellPipe 22A-GX embedded software by obtaining the compressed upgrade kit from the service provider and then following the steps:
  - a. Click on the **Browse** button to select the upgrade file (tepatch.bin).
  - b. Click on the **Upload** button to upload the file into the modem
  - c. This process may last as long as 60 seconds.



The screenshot shows a web interface for 'Local Image Upgrade'. At the top, there is a navigation bar with links: 'User Config | Commit & Reboot | Local Image Upgrade | Remote Image Upgrade | Alarm | Diagnostics | Port Settings'. The main heading is 'Local Image Upgrade'. Below the heading, a message states: 'This page is used to upload a new image to the system.' There is a form field labeled 'Upgrade File:' with a 'Browse...' button next to it. Below the form field are three buttons: 'Upload', 'Cancel', and 'Help'.

**Note:** The device software may also be upgraded through the DOS prompt.

## Remote Image Upgrade

- ▶ Click on the **Remote Image Upgrade** link to upgrade the software on the modem.
- ▶ Enter the IP address where the software is located, the name of the software, and the User name and password of the site.

The screenshot shows a web interface for 'Remote Image Upgrade'. At the top, there is a navigation bar with tabs for Home, LAN, WAN, Bridging, Routing, Services, and Admin. Below this is a secondary navigation bar with links for User Config, Commit & Reboot, Local Image Upgrade, Remote Image Upgrade, Alarm, Diagnostics, and Port Settings. The main content area is titled 'Remote Image Upgrade' and contains the text: 'This page is used to upload a new image to the system from a remote location.' Below this text is a form with four input fields: 'IP Address' (a four-digit numeric input), 'Upgrade File' (a text input), 'Username' (a text input), and 'Password' (a text input). At the bottom of the form are three buttons: 'Upload', 'Cancel', and 'Help'.

<i>IP Address:</i>	<input type="text"/>
<i>Upgrade File:</i>	<input type="text"/>
<i>Username:</i>	<input type="text"/>
<i>Password:</i>	<input type="text"/>

## Alarm

- ▶ 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.
- ▶ Click on the **Clear** button to clear the alarms.

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

### Alarm

shown in the table have been recorded in response to system events. See Help for a list of events that cau

Refresh Rate:

Alarms/Traps Information	
Thu Jan 01 01:28:35 1970	WARNING : ATM VC Down : Interface - aal5-0, PortId=7, Vpi=8, Vci=35
Thu Jan 01 01:28:35 1970	MAJOR ALARM : ATM Interface Down : Interface - atm-0
Thu Jan 01 01:28:35 1970	MAJOR ALARM : DSL Interface Down
Thu Jan 01 01:27:31 1970	STATUS ALARM : ATM VC Up : Interface - aal5-0, PortId=7, Vpi=8, Vci=35
Thu Jan 01 01:27:31 1970	STATUS ALARM : ATM Interface Up : Interface - atm-0
Thu Jan 01 01:27:31 1970	STATUS ALARM : DSL Interface Up
Thu Jan 01 00:00:03 1970	STATUS ALARM : System Up

## Diagnostics

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

Testing Connectivity to modem		
Testing Ethernet connection	PASS	Help
Testing ADSL line for sync	PASS	Help
Testing Ethernet connection to ATM	PASS	Help
Testing Telco Connectivity		
Testing ATM OAM segment ping	FAIL	Help
Testing ATM OAM end to end ping	FAIL	Help
Testing ISP Connectivity		
Testing PPPoE server connectivity	N.A.	Help
Testing PPPoE server session	N.A.	Help
Testing authentication with server	N.A.	Help
Validating assigned IP address 0.0.0.0	N.A.	Help
Testing Internet Connectivity		
Ping default gateway 0.0.0.0	N.A.	Help
Ping Primary Domain Name Server	N.A.	Help
Query DNS for www.globespanvirata.com	FAIL	Help
Ping www.globespanvirata.com	FAIL	Help



## Port Settings

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

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

### Port Settings

This page is used to modify various port settings across the system.

<b>HTTP Port:</b> (80, 61000-62000)	<input type="text" value="80"/>
<b>Telnet Port:</b> (23, 61000-62000)	<input type="text" value="23"/>
<b>FTP Port:</b> (21, 61000-62000)	<input type="text" value="21"/>

## 3 Quick Protocol Setup

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### Overview

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:

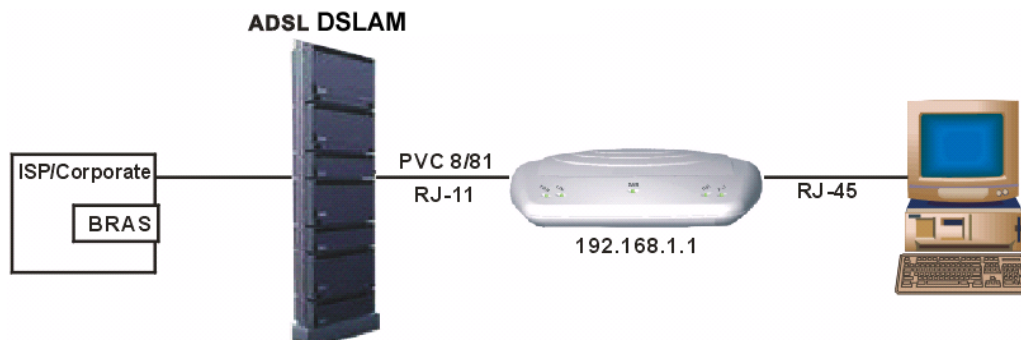
- **RFC 1483 Bridge**
- **PPPoE Route Configuration**
- **RFC 1483 + NAT**
- **PPPoA Route Configuration**
- **IPoA Route Configuration**
- **DHCP Configuration**
- **NAT Configuration**

**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

## RFC 1483 Bridge

### Configuration Table:

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





1. Click on the **WAN** tab to view its sub-menu and configure the WAN settings, then click on the **ATM VC** link below it.



2. You will then see the ATM VC Configuration table. Click on the **Add** button to add a new VPI/VCI setting.

The screenshot shows the 'ATM VC Configuration' page. At the top, there is a navigation bar with 'DSL | ATM VC | PPP | EDA | IPOA'. Below this, the page title is 'ATM VC Configuration'. A descriptive text says 'This page is used to view and configure ATM VCs'. Below the text is a table with the following data:

Interface	VPI	VCI	Mux Type	Max Proto per AAL5	Action(s)
aal5-0	8	35	LLC	2	 

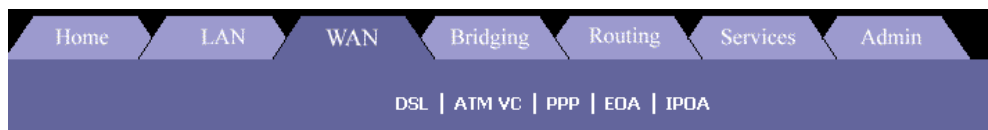
Below the table, there are three buttons: 'Add', 'Refresh', and 'Help'.

- Another window will then appear. Enter the VPI/VCI values (8/81) into the VPI and VCI text boxes. Then click on the **Submit** button to confirm the changes.

Basic Information	
<i>VC Interface:</i>	aal5-2
<i>VPI:</i>	8
<i>VCI:</i>	81
<i>Mux Type:</i>	LLC
<i>Max Proto per AAL5:</i>	2

Submit Cancel Help

- Click on the **EOA** link below the **WAN** tab.



- 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.

EOA Information	
<i>EOA Interface:</i>	eoa-1
<i>Interface Sec Type:</i>	Public
<i>Lower Interface:</i>	aal5-0
<i>Conf. IP Address:</i>	0 0 0 0
<i>Netmask:</i>	0 0 0 0
<i>Use DHCP:</i>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<i>Default Route:</i>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
<i>Gateway IP Address:</i>	

Submit Cancel Help

6. Click on the **Bridging** tab to view its sub-menu and configure the bridging settings, then click on the **Bridging** link below it.



7. Select **eo-a-1** from the drop down list, and click on the **Add** button. Then click on the **Submit** button to confirm the changes.

The screenshot shows the 'Bridge Configuration' page. It includes a heading 'Bridge Configuration' and a sub-heading 'Use this page to Add and Modify Bridging information'. Below this, there are radio buttons for 'Bridging: Enable' (selected) and 'Disable'. A table with two columns, 'Interface Name' and 'Action', is shown. The first row contains 'eth-0' and a trash icon. The second row contains a dropdown menu with 'eo-a-1' selected and an 'Add' button. At the bottom of the page, there are four buttons: 'Submit', 'Cancel', 'Refresh', and 'Help'.

Interface Name	Action
eth-0	
eo-a-1	<b>Add</b>

8. Click on the **Admin** tab to view its sub-menu and configure the bridging settings. 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.

The screenshot shows the 'Commit & Reboot' page. It includes a heading 'Commit & Reboot' and a sub-heading 'Use this page to commit changes to system memory and reboot your system with different configuration'. Below this, there is a dropdown menu for 'Reboot Mode' with 'Reboot From Last Configuration' selected. At the bottom of the page, there are four buttons: 'Commit', 'Reboot', 'Refresh', and 'Help'.

## PPPoE Route Configuration

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. You will then see the PPP Configuration table. Click on the **Add** button to add a new PPPoE setting.

PPP Interface - Add

Basic Information	
<i>PPP Interface:</i>	<input type="text" value="ppp-1"/>
<i>ATM VC:</i>	<input type="text" value="aal5-0"/>
<i>IPF Type:</i>	<input type="text" value="Public"/>
<i>Status:</i>	<input type="text" value="Start"/>
<i>Protocol:</i>	<input type="radio"/> PPPoA <input checked="" type="radio"/> PPPoE
<i>Service Name:</i>	<input type="text"/>
<i>Use Dhcp:</i>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<i>Use DNS:</i>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<i>Default Route:</i>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Security Information	
<i>Security Protocol:</i>	<input checked="" type="radio"/> PAP <input type="radio"/> CHAP
<i>Login Name:</i>	<input type="text" value="user"/>
<i>Password:</i>	<input type="text" value="****"/>

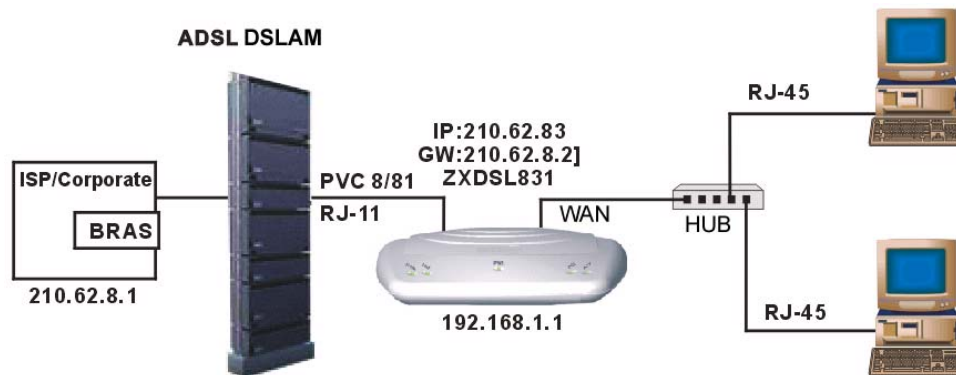
Submit Cancel Help

3. Select an interface name: *PPP-1*.
4. Select a protocol: *PPPoE*.
5. Default Route: *Disable*.
6. Security Protocol: Select *PAP* or *CHAP*.
7. Login Name: Enter *username* here (from ISP).
8. Password: Enter *password* here (from ISP).
9. Click on the **Submit** button to confirm the changes.

## RFC 1483 + NAT

### Configuration Table:

Protocol	RFC1483 Mode + NAT
LAN IP	192.168.1.xxx or assigned by DHCP server
Modem IP	192.168.1.1
WAN IP	210.62.8.3
VPI/VC Value	8/81





1. Click on the **WAN** tab to view its sub-menu and configure the WAN settings. Click on the **ATM VC** link below it.



2. You will then see the ATM VC Configuration table. Click on the **Add** button to add a new VPI/VCI setting.

The screenshot shows the ATM VC Configuration page. The breadcrumb trail is **DSL | ATM VC | PPP | EOA | IPOA**. The page title is **ATM VC Configuration**. Below the title, it says "This page is used to view and configure ATM VCs". The table below shows the current configuration:

Interface	VPI	VCI	Mux Type	Max Proto per AAL5	Action(s)
aal5-0	8	35	LLC	2	 

At the bottom of the page, there are three buttons: **Add**, **Refresh**, and **Help**.



- Another window will then appear. Enter the VPI/VCI values (8/81) into the VPI and VCI text boxes. Then click on the **Submit** button to confirm the changes.

Basic Information	
<i>VC Interface:</i>	aal5-2
<i>VPI:</i>	8
<i>VCI:</i>	81
<i>Mux Type:</i>	LLC
<i>Max Proto per AAL5:</i>	2

Submit Cancel Help

- Click on the **EoA** link below the **WAN** tab.



- Enter the **IP address** and **subnet mask** based on your ISP settings.
- Enable **DHCP** and **Default Route** and click on the **Submit** button.

EOA Information	
<i>EOA Interface:</i>	eoa-2
<i>IPF Type:</i>	Public
<i>Lower Interface:</i>	aal5-0
<i>Conf. IP Address:</i>	210 62 8 3
<i>Netmask:</i>	0 0 0 0
<i>Use Dhcp:</i>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
<i>Default Route:</i>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
<i>Gateway IP Address:</i>	

Submit Cancel Help

7. Click on the **Services** tab to view its sub-menu and configure the **NAT** settings. Click on the **NAT** link below it.



8. Select **NAT Entry Rule** from the NAT configuration drop down list, and then click on the **Add** button to add a NAT entry.

**NAT Rule - Add**

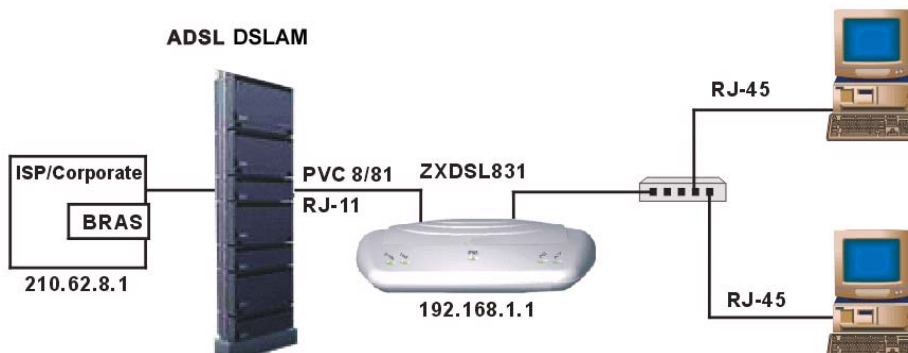
NAT Rule Information				
<b>Rule Flavor:</b>	<input type="text" value="BASIC"/>			
<b>Rule ID:</b>	<input type="text" value="1"/>			
<b>IF Name:</b>	<input type="text" value="ALL"/>			
<b>Protocol:</b>	<input type="text" value="ANY"/>			
<b>Local Address From:</b>	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="1"/>	<input type="text" value="1"/>
<b>Local Address To:</b>	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="255"/>
<b>Global Address From:</b>	<input type="text" value="210"/>	<input type="text" value="62"/>	<input type="text" value="8"/>	<input type="text" value="2"/>
<b>Global Address To:</b>	<input type="text" value="210"/>	<input type="text" value="62"/>	<input type="text" value="8"/>	<input type="text" value="3"/>

9. Rule Flavor: Select a *Rule flavor* from the drop down list (Basic).
10. Rule ID: *Enter a number here.*
11. Local Address From: *Address from where this device will receive IPs.*
12. Local Address to: *255.255.255.255 (broadcast) or other.*
13. Login Name: Enter *username* here (from ISP).
14. Global Address From: *Global Address from where this device will receive IPs.*
15. Global Address From: *Global Address from where this device will send its packets.*
16. Click on the **Submit** button to confirm the changes.

## PPPoA Route Configuration

### Configuration Table:

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

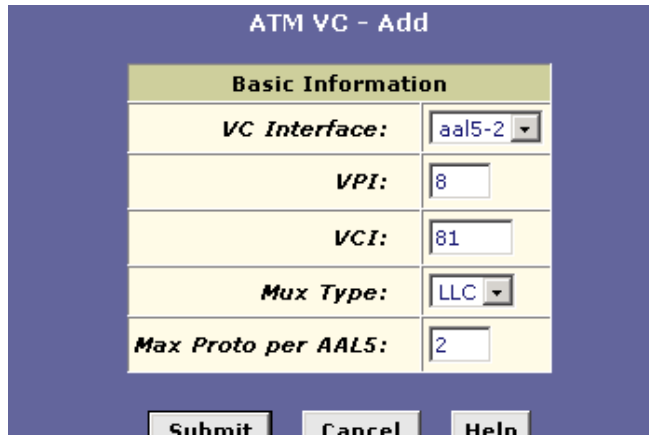


1. Click on the **Routing** tab to view its sub-menu and configure the Routing settings. Click on the **ATM VC** link below it.



2. You will then see the ATM VC Configuration table. Click on the **Add** button to add a new VPI/VCI setting.

- Another window will then appear. Enter the VPI/VCI values (8/81) into the VPI and VCI text boxes. Then click on the **Submit** button to confirm the changes.



The screenshot shows a dialog box titled "ATM VC - Add" with a "Basic Information" section. The fields are as follows:

Basic Information	
<i>VC Interface:</i>	aal5-2
<i>VPI:</i>	8
<i>VCI:</i>	81
<i>Mux Type:</i>	LLC
<i>Max Proto per AAL5:</i>	2

At the bottom of the dialog box, there are three buttons: "Submit", "Cancel", and "Help".

- Click on the **PPP** link in the **Routing** tab, and then click on the **Add** button to add a **PPPoA** configuration.

**PPP Interface - Add**

Basic Information	
<b>PPP Interface:</b>	<input type="text" value="ppp-1"/>
<b>ATM VC:</b>	<input type="text" value="aal5-0"/>
<b>IPF Type:</b>	<input type="text" value="Public"/>
<b>Status:</b>	<input type="text" value="Start"/>
<b>Protocol:</b>	<input checked="" type="radio"/> PPPoA <input type="radio"/> PPPoE
<b>Service Name:</b>	<input type="text"/>
<b>Use Dhcp:</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<b>Use DNS:</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<b>Default Route:</b>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Security Information	
<b>Security Protocol:</b>	<input checked="" type="radio"/> PAP <input type="radio"/> CHAP
<b>Login Name:</b>	<input type="text" value="user"/>
<b>Password:</b>	<input type="text" value="*****"/>

- 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).
- Click on the **Submit** button to confirm the changes.

- Click on the **Admin** tab to view its sub-menu and configure the bridging settings. Click on the **Commit & Reboot** link below it.



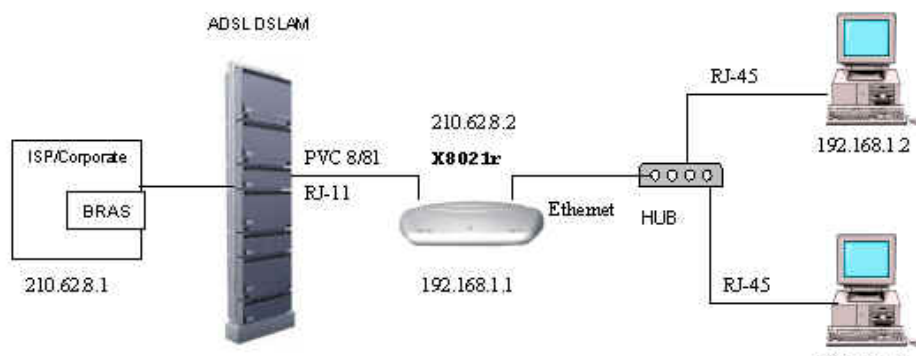
- Select the **Reboot from last configuration** option from the drop down list, and then click on the **Commit** and **Reboot** buttons.



## IPoA Route Configuration

### Configuration Table:

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



1. Click on the **Routing** tab to view its sub-menu and configure the Routing settings. Click on the **ATM VC** link below it.



2. You will then see the ATM VC Configuration table. Click on the **Add** button to add a new VPI/VCI setting.

- Another window will then appear. Enter the VPI/VCI values (8/81) into the VPI and VCI text boxes. Then click on the **Submit** button to confirm the changes.

The screenshot shows a configuration window titled "ATM VC - Add". It contains a table with the following fields:

Basic Information	
<i>VC Interface:</i>	aal5-2
<i>VPI:</i>	8
<i>VCI:</i>	81
<i>Mux Type:</i>	LLC
<i>Max Proto per AAL5:</i>	2

At the bottom of the window are three buttons: "Submit", "Cancel", and "Help".

- Click on the **IPoA** link in the **Routing** tab, and then click on the **Add** button to add an IPoA configuration.

The screenshot shows a configuration window titled "IPoA Interface - Add". It contains a table with the following fields:

IPoA Information	
<i>IPoA Interface:</i>	ipoa-0
<i>Conf. IP Address:</i>	210 62 8 1
<i>Interface Sec Type:</i>	Public
<i>Netmask:</i>	255 255 255 0
<i>RFC 1577:</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No
<i>Use DHCP:</i>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<i>Default Route:</i>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
<i>Gateway IP Address:</i>	210 62 8 2

At the bottom of the window are three buttons: "Submit", "Cancel", and "Help".



5. Select an interface name: *IPoA-0*.
6. Conf. IP Address: *From ISP*.
7. Net mask: *From ISP*.
8. Gateway IP Address: *From ISP*.
9. Login Name: Enter *username* here (from ISP).
10. Lower Interface: Select *aal5-0*.
11. Click on the **Submit** button to confirm the changes.
12. Click on the **Admin** tab to view its sub-menu and configure the bridging settings. Click on the **Commit & Reboot** link below it.



13. Select the **Reboot from last configuration** option from the drop down list, and the click on the **Commit** and **Reboot** button.

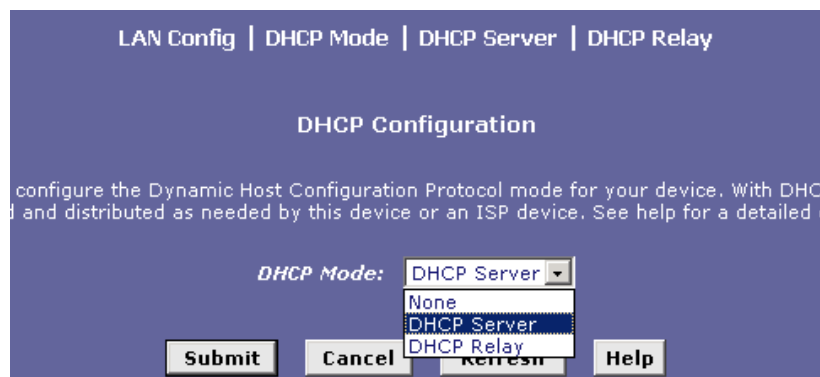


## DHCP Configuration

1. Click on the **LAN** tab to view its sub-menu and configure the LAN settings. Click on the **DHCP Mode** link below it.



2. From the drop down list, select **DHCP Server**, and click on the **Submit** button.



- Click on the **DHCP Server** link under the **LAN** tab, and click on the **Add** button.

DHCP Server Pool - Add

DHCP Pool Information				
Start IP Address:	192	168	1	2
End IP Address:	192	168	1	13
Mac Address:	00	:00	:00	:00 :00 :00
Netmask:	255	255	255	0
Domain Name:	Pool Name			
Gateway Address:	192	168	1	1
DNS Address:	0	0	0	0
SDNS Address:	0	0	0	0
SMTP Address:	0	0	0	0
POP3 Address:	0	0	0	0
NNTP Address:	0	0	0	0
WWW Address:	0	0	0	0
IRC Address:	0	0	0	0
WINS Address:	0	0	0	0
SWINS Address:	0	0	0	0

- Start IP Address: Enter the *Start IP Address* (192.168.1.2).
- End IP Address: Enter the *End IP Address* (192.168.1.13).
- 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.
- Click on the **Submit** button to confirm the changes.
- Click on the **Admin** tab to view its sub-menu and configure the bridging settings, and then click on the **Commit & Reboot** link below it.



11. Select the **Reboot from last configuration** option from the drop down list, and then click on the **Commit** and **Reboot** button.



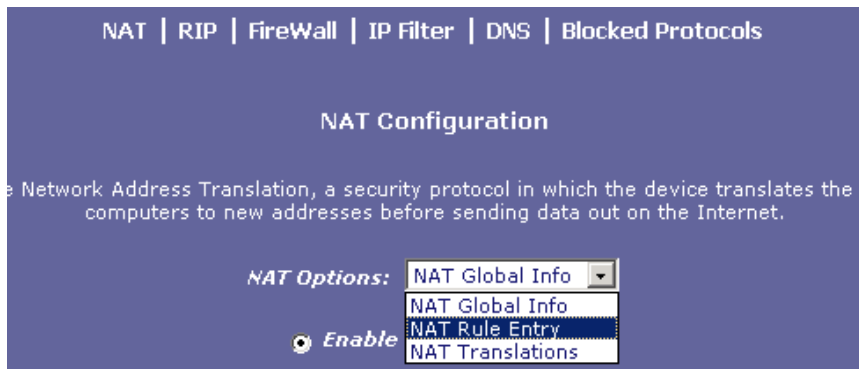
The screenshot shows a web interface titled "Commit & Reboot". Below the title, there is a line of text: "This page to commit changes to system memory and reboot your system with different configurat". Below this text is a label "Reboot Mode:" followed by a dropdown menu. The dropdown menu is currently set to "Reboot From Last Configuration". At the bottom of the interface, there are four buttons: "Commit", "Reboot", "Refresh", and "Help".

## NAT Configuration

1. Click on the **Services** tab to view its sub-menu and configure the **NAT** settings. 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.

The screenshot shows the "NAT Rule - Add" configuration form. The form is titled "NAT Rule - Add" and contains the following fields:

NAT Rule Information				
<b>Rule Flavor:</b>	BASIC			
<b>Rule ID:</b>	1			
<b>IF Name:</b>	ALL			
<b>Protocol:</b>	ANY			
<b>Local Address From:</b>	192	168	1	1
<b>Local Address To:</b>	255	255	255	255
<b>Global Address From:</b>	210	62	8	2
<b>Global Address To:</b>	210	62	8	3

At the bottom of the form, there are three buttons: Submit, Cancel, and Help.

4. Rule Flavor: Select a *Rule flavor* from the drop down list (Basic).
5. Rule ID: *Enter a number here.*
6. Local Address From: *Address from where this device will receive IPs.*
7. Local Address to: *255.255.255.255 (broadcast) or other.*
8. Login Name: Enter *username* here (from ISP).
9. Global Address From: *Global Address from where this device will receive IPs.*
10. Global Address From: *Global Address from where this device will send its packets.*
11. Click on the **Submit** button to confirm the changes.

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# Appendix A – Specifications

## Hardware Specifications

- Local Interface
  - One 10/100BaseT Ethernet port, IEEE 802.3, RJ-45 connector
  - One port USB pin type for series B, supports USB 1.1
- WAN ADSL Line Interface
  - For ADSL over POTS, compliant with ITU G.992.1 (G.dmt) Annex A, ITU G.992.2 (G.lite), and ANSI T1.413 issue 2
  - Interoperability complies with TR-48 and U-R2
  - Line Impedance: 100  $\Omega$
  - Connection Loop: Single pair (2-wire)
  - Connector: RJ-11 for Annex A, RJ-45 for Annex B
  - Automatic-rate adaptation
- Indicators
  - PWR – Green LED, indicates power status
  - USB – Green LED, indicates USB link status
  - LAN – Green LED, indicates LAN link status
  - WAN – Green LED, indicates ADSL data link status
  - ALM – Red LED, indicates data error and operation status
- OAM&P
  - Local: RS-232, Telnet via Ethernet or Web management
  - Remote: Telnet or Web management
- Environment
  - Operation Temperature: 0°C ~ 45°C
  - Operation Humidity: 5% ~ 95%
  - Storage Temperature: -20 ~ +85°C
  - Storage Humidity: 5%~95%
- Power
  - AC Adapter: Input 120 VAC/60Hz or 230VAC/50Hz; Output 15VAC 1A
  - Power Consumption: Less than 10 Watts
- Physical Dimensions
  - 180mm x 143mm x 42mm (W x D x H)
- 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
  - 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 and configuration
  - Web configuration
  - SNMP v1 and MIB II (RFC 1213)
  - Auto Detect – VCI/VPI Setup
  - Auto Detect – PPPoA Setup
  - Command Line Interface

# Appendix B – Regulations

## **FCC Part 15 Notice**

**Warning:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 to the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is unlikely to cause harmful interference. But if it does, the user will be required to correct the interference at his or her own expense. The authority to operate this equipment is conditioned by the requirement that no modifications will be made to the equipment unless Lucent expressly approves the changes or modifications.

## IC CS-03 Notice

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements as prescribed in appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee that the equipment will operate to the user's satisfaction.

Before installing this equipment, users should make sure that it is permissible to be connected to the facilities of the local telecommunications company. An acceptable method of connection must be used to install the equipment. The customer should be aware that compliance with the above conditions might not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

<p><b>Warning:</b> Users should not attempt to make such connections themselves, but should contact appropriate electric inspection authority, or electrician, as appropriate.</p>
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## UL Notice

**The following markings and instructions are provided as bellow.**

"Disconnect TNV circuit connector before removing cover" or equivalent.

"Disconnect TNV circuit connector(s) before disconnecting power."

(Instruction)

Including the following:

-Do not use this product near water for example, near a bathtub, washbowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.

-Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.

-Do not use the telephone to report a gas leak in the vicinity of the leak.

-Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.

No. 26 AWG Telephone Line Cord shall either be provided with the equipment or shall be described in the safety instruction, if Fuse (F1) is not present. The caution statement list below:

"CAUTION: To reduce the risk of fire, use only No. 26 AWG or larger UL Listed or CSA Certified Telecommunication Line Cord"