

4 PORTS ADSL MODEM/ROUTER

User Manual

VER:1.1

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Chapter 1: Introduction

This device is a well-designed high-speed ADSL modem/router.

Features

Four 10/100 Ethernet ports
Friendly GUI for web configuration.
Support Single-Session IPSec and PPTP Pass-Through for Virtual Private Network (VPN)
Several popular games are already pre-configured. Just enable the game and the port settings are automatically configured.
Configurable as a DHCP Server on Your Network
Compatible with virtually all standard Internet applications
Industry standard and interoperable DSL interface
Address Filtering, DMZ Hosting, and Much More
Simple web based status page displays a snapshot of your system configuration, and links to the configuration pages
Downloadable flash software upgrades
Support SNMP V2, RIP v1& RIP v2 , NAT
Support for up to 8 Permanent Virtual Circuits (PVC)
Support for up to 8 PPPOE sessions

Supporting protocols

ITU G.992.1 (G.dmt) Annex A
ITU G.992.2 (G.lite)
ITU G.992.3 ADSL2(G.dmt.bis)
ITU G.992.4 ADSL2 (G.lite.bis)
ANSI T1.413 Issue 2
ITU G.992.5 ADSL2+
Extended Reach(READSL2)

Encapsulation Supports

RFC 1483 bridge
RFC 1483 Router
Classical IP over ATM (RFC 1577)
PPP over ATM (RFC 2364)
PPP over Ethernet (RFC 2516)

System requirements

Recommended system requirements are:
Pentium 233MHZ or above
Memory: 64MB or above
10M Base-T Ethernet or above
WIN9X WIN2000 WINXP WINME WINNT
Ethernet Network Interface Card

Please collect the following information from your ADSL service provider. This information will be very helpful for your ADSL configuration. To keep a record for reference, you can fill in the column as below:

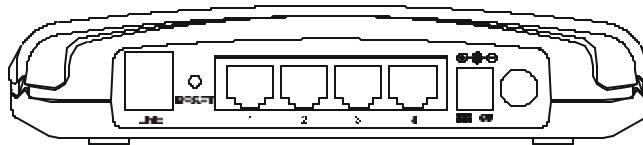
VPI	
VCI	
Encapsulation: VCMUX or	

LLC	
Protocol	
Standard	
User name	
Password	
Password protocol	

LED Status Description

INDICATOR	STATUS	Description
POWER	Off	Power not supplied
	ON	Power supplied
LAN 1-4	ON	Ethernet line is connected
	Blink	Ethernet traffic is flowing
ADSL	Quick Blink	DSL line is training
	ON	DSL line is connected
DATA	Blink	DSL traffic is flowing

Rear Panel Layout Description



Interface	Description
SWITCH	Power on/off switch
Power socket	Plug in for power adaptor
RESET	Modem Reset button Press and hold around 10s to reset the hardware. Modem's LED will be all on then all off except the Power LED, and the modem will auto restart. This action will recover the modem's default configuration.
LAN 1-4	LAN interface for connecting to computer or Switch
LINE	ADSL connector for connecting to ADSL telephone line

Chapter 2: Hardware Installation

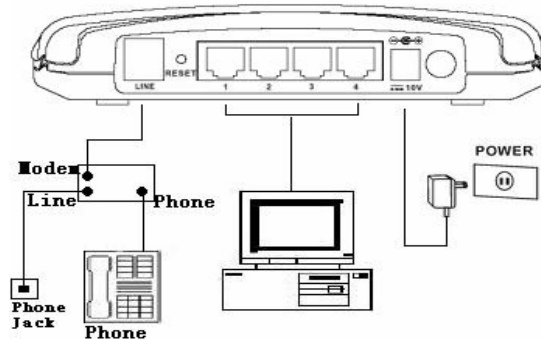
Please connect your ADSL MODEM to computer as the following description:

If connecting to the splitter,

Connect the “Line” splitter to wall jack using one telephone cable

Use the other telephone cable to connect “MODEM” port of the splitter and “LINE” port of the modem. The “phone” port of the splitter can be use to connect the telephone and the splitter by a telephone cable.

Use Ethernet cable to connect “LAN” port of the modem and “LAN” port of your computer.



If do not need to connect to the splitter,

Connect the modem to wall jack using one telephone cable

Use Ethernet cable to connect “LAN” port of the modem and “LAN” port of your computer

Chapter 3: Modem parameters setting

Configuring computer network card IP address

Config your network card's TCP/IP properties to Obtain an IP address automatically to obtain an IP address from modem, or set the computer's IP with the same network mask of the modem.(For example: modem's IP is 192.168.1.1/255.255.255.0,

Then you can set computer's IP to:

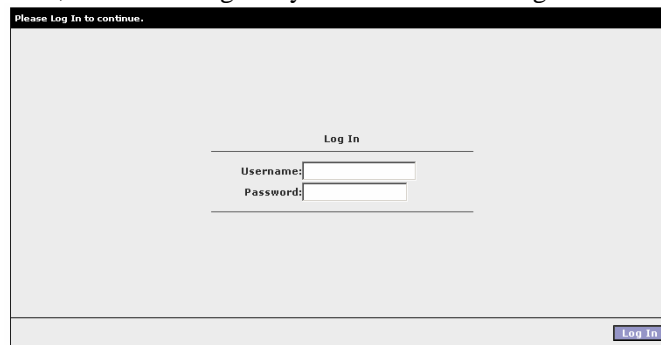
192.168.1.x/255.255.255.0.

The range for x is from 3 to 255)

Web setting interface

Open IE or Netscape Web browser, Input http://192.168.1.1(MODEM default IP address) in the address column, then click <ENTER> BUTTON, access the following setting interface:

Input user name and password, then click Login key to enter WEB setting interface.



Default setting:

IP Address: 192.168.1.1

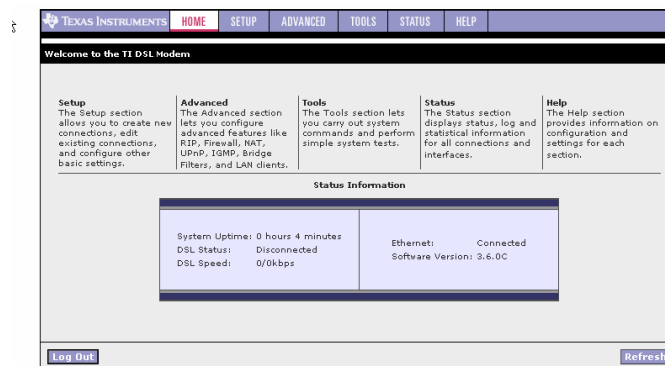
Subnet Mask:255.255.255.0

Username: **Admin**

Password: **Admin**

Main interface

When correct user/password has been typed, the following WINDOW will pop up:



Setup

The Setup section allows you to create new connections, edit existing connections, and configure other basic settings.

Ethernet over ATM (RFC1483 Bridge) (Bridge) setting

To configure the gateway as a bridge, from the Home page, click on Setup and then click on New Connection. The default PPPoE setup is displayed. At the Type field select Bridge and the Bridge connection setup page is displayed. Give your Bridge connection a unique name; the name must not have spaces and cannot begin with numbers. In this case the unique name is called bridge1. Select the encapsulation type (LLC or VC); if you are not sure just use the default mode. Select the VPI and VCI settings; your DSL service provider or your ISP will supply these; in this case the DSL service provider is using 0,35. Also select the quality of service (QOS); leave the default value if you are unsure or the ISP did not provide this information.

The screenshot shows the 'Bridged Connection Setup' page in the Texas Instruments gateway interface. The 'Name' field is set to 'bridge1', 'Type' is 'Bridge', and 'Sharing' is 'Disable'. Under 'Bridge Settings', 'Encapsulation' is set to 'LLC' and 'Select LAN' is 'LAN group 1'. Under 'PVC Settings', 'PVC' is 'New', 'VPI' is '0', 'VCI' is '35', and 'QOS' is 'UBR'. Other settings like PCR, SCR, MBS, and CDVT are set to 0. The 'Auto PVC' checkbox is unchecked. Buttons for 'Apply', 'Delete', and 'Cancel' are at the bottom.

Save configuration

The apply button will temporarily save this connection. To make the change permanent you need to click on **Tools** and select **System Commands**. At the system commands page, click on **Save All**.

The screenshot shows the 'System Commands' page. It contains three main buttons: 'Save All', 'Restart', and 'Restore Defaults'. Each button has a descriptive text block explaining its function and a note about connectivity loss. The 'Save All' button is highlighted in blue.

NOTICE:

If you select Dial-UP link, after configuring your ADSL MODEM, please install the third-party dial up program to access Internet (For example: Ethernet 300/Ethernet 500/WinPoet). If your system is WinXP, you can use its own Internet access program without any other additional dialer.

PPP over Ethernet (RFC2516) PPPoE setting

PPPoE is also known as RFC 2516. It is a method of encapsulating PPP packets over Ethernet. PPP or Point-to-Point protocol is a method of establishing a network connection/session between network hosts. It usually provides a mechanism of authenticating users.

To configure the gateway for PPPoE, click on Setup and then click on New Connection. The default PPPoE setup is displayed. At the Type field select PPPoE and the PPPoE connection setup page is displayed; Give your PPPoE connection a unique name; the name must not have spaces and cannot begin with numbers. In this case the unique name is called PPPoE1. Select the encapsulation type (LLC or VC); if you are not sure just use the default mode. Select the VPI and VCI settings; your DSL service provider or your ISP will supply these;

in this case the DSL service provider is using 8,35. Also select the quality of service (QoS); leave the default value if you are unsure or the ISP did not provide this information.

Following is a description of the different options:

- a. Username: The username for the PPPoE access; this is provided by your DSL service provider or your ISP.
- b. Password: The password for the PPPoE access; this is provided by your DSL service provider or your ISP.
- c. On-Demand: Enables on-demand mode. The connection will disconnect if no activity is detected after the specified idle timeout value.
- d. Idle Timeout: Specifies that PPPoE connection should disconnect if the link has no activity detected for n seconds. This field is used in conjunction with the On-Demand feature. To ensure that the link is always active, enter a 0 in this field.
- e. Keep Alive: When on-demand option is not enable, this value specifies the time to wait without being connected to your provider before terminating the connection. To ensure that the link is always active, enter a 0 in this field.
- f. Default gateway: Specify this connection as the default-route.
- g. MTU: Maximum Receive Unit the DSL connection can receive. It is a negotiated value that asks the provider to send packets of no more than n bytes. The maximum specified value is 1500 although some DSL/ISP providers require a larger value. The minimum MTU value is 128.
- h. Enforce MTU: Check this box if you experience problems accessing the Internet over a PPPoE connection. This feature will force all TCP traffic to conform with PPP MTU by changing TCP Maximum Segment Size to PPP MTU.
- i. Debug: Enables PPPoE connection debugging facilities. Debugging is talked about later.

For example: the information the vendor provided.

VPI:0

VCI: 35

Type: PPPoE.

Username:username

Password: abcd

See the following setting:

Set VPI/VCI: 0/35

- Type: PPPoE
- Username: username
- Password: abcd
- Enforce MTU: select
- Default Gateway: select

The screenshot shows a web-based configuration interface for a network device. The main menu on the left includes LAN Setup, LAN Configuration, Ethernet Switch, WAN Setup, New Connection, Modem, and Log Out. The 'New Connection' menu is expanded, showing 'Modem' as the selected option. The main content area is titled 'PPPoE Connection Setup' and contains the following fields and options:

- Name: PPPoE1
- Type: PPPoE
- Sharing: Disable
- Options: NAT, Firewall
- VLAN ID: 0
- Priority Bits: 0
- PPP Settings:
 - Username: username
 - Password: [masked]
 - Idle Timeout: 30 secs
 - Keep Alive: 10 min
 - Authentication: Auto, CHAP, PAP
 - MTU: 1492 bytes
 - On Demand: Default Gateway:
 - Enforce MTU: Debug:
 - PPP Unnumbered:
- PVC Settings:
 - PVC: New
 - VPI: 0
 - VCI: 35
 - QoS: UBR
 - PCR: 0 cps
 - SCR: 0 cps
 - MBS: 0 cells
 - CDVT: 0 usecs
 - Auto PVC:

Buttons at the bottom include 'Submit', 'Disconnect', 'Apply', 'Delete', and 'Cancel'.

Caution:

Disable the Enforce MRU function will affect the MSN Messenger usage.

Recommend enabling the Enforce MRU when using PPPoE mode.

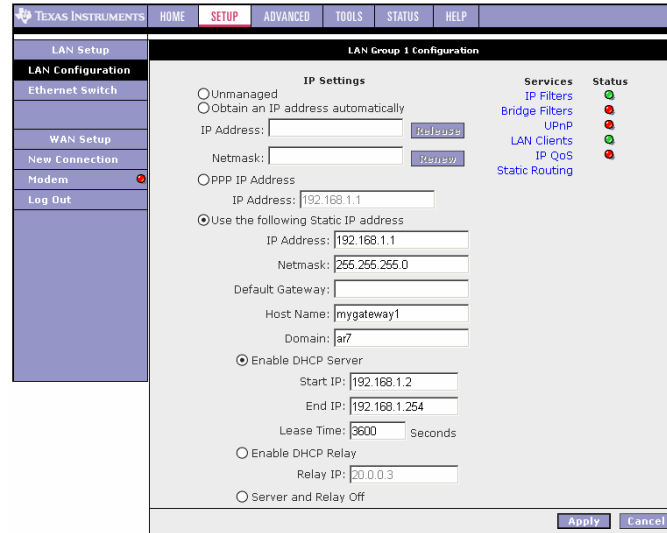
To complete the connection you must now click the apply button. The apply button will temporarily save this connection. To make the change permanent you need to click on **Tools** and select **System Commands**. At the system commands page, click on **Save All**.

DHCP (Dynamic Host Configuration Protocol) setting

The aim of choosing DHCP server is to set modem as a DHCP server and assign IP address to each computer which is connected to the modem

When you are going to modify the IP address of ADSL modem or current IP addresses are not enough to users, you can modify the range of DHCP server.

1. Select LAN configuration in Setup menu and click Configure.



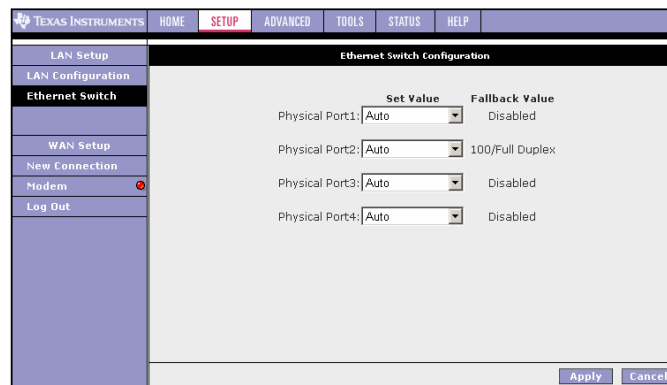
1. Modify the range of IP address which is needed to reassign.
2. Click Apply to save the configuration
3. To make the change permanent you need to click on **Tools** and select **System Commands**. At the system commands page, click on **Save All**.

DHCP Relay

The aim of choosing is to set the modem as a repeater in order to make computer get dynamic IP address from ISP. This configuration can be applied in RFC1483 dynamic IP address

1. Enable DHCP relay in DHCP configuration
2. Click Apply to save configuration
3. To make the change permanent you need to click on **Tools** and select **System Commands**. At the system commands page, click on **Save All**.

Ethernet switch



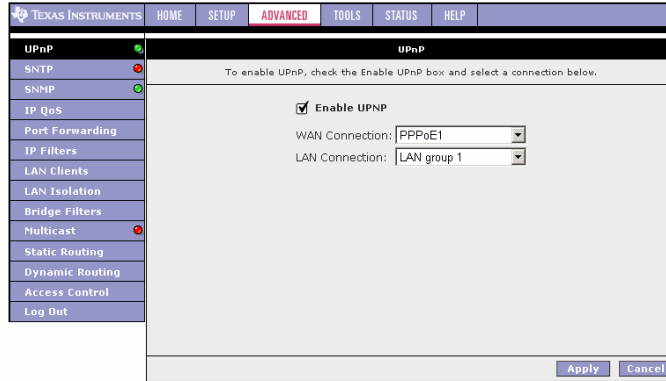
In this section you can modify the fallback value to each port of modem. There are four values can be chose which are 10half/duplex, 10full/duplex, 100half/duplex and 100full/duplex.

Advanced

The Advanced section lets you configure advanced features like RIP, Firewall, NAT, UPnP, IGMP, Bridge Filters, and LAN clients.

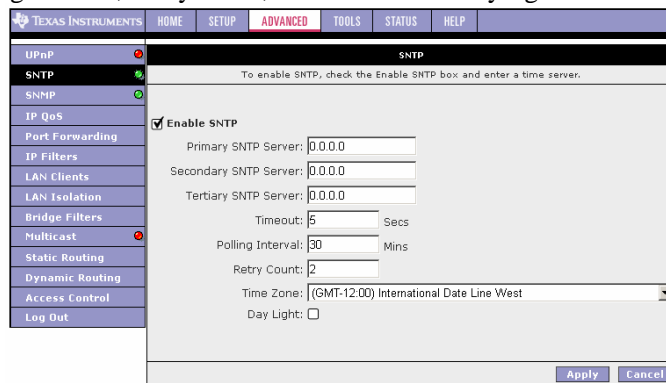
UPnP

Using UPnP, equipments can dynamically access to the network and obtain IP address and transfer function. To enable UPnP, check the Enable box and select the network which you want to access.



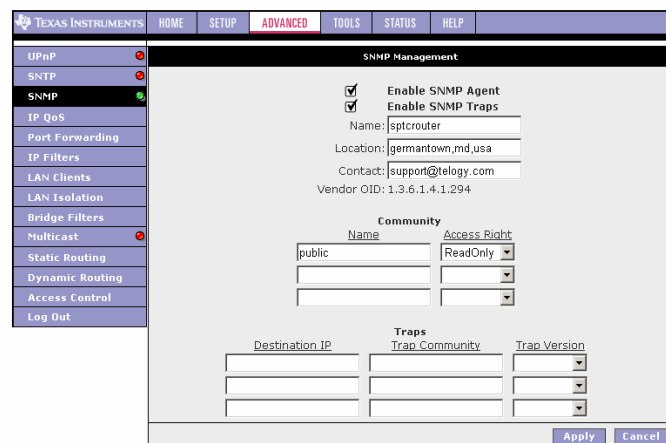
SNTP

SNTP is used for synchronizing computer clocks in the LAN or global Internet. It is strongly recommended that SNTP be used only at the extremities of the synchronization subnet. SNTP clients should operate only at the leaves of the subnet and in configurations where no NTP or SNTP client is dependent on another SNTP client for synchronization. SNTP servers should operate only at the root of the subnet and then only in configurations where no other source of synchronization other than a reliable radio or modem time service is available. To enable SNTP, check the Enable box, input the SNTP server IP address and set the parameters which are Timeout, Polling interval, Retry count, Time Zone and Day light.



SNMP

SNMP is an application layer protocol that facilitates the exchange of management information between network devices. SNMP enables network administrators to manage network performance, find and solve network problems, and plan for network growth. To enable SNMP, select Enable SNMP Agent and Enable Traps and set the parameters.



Port Forwarding

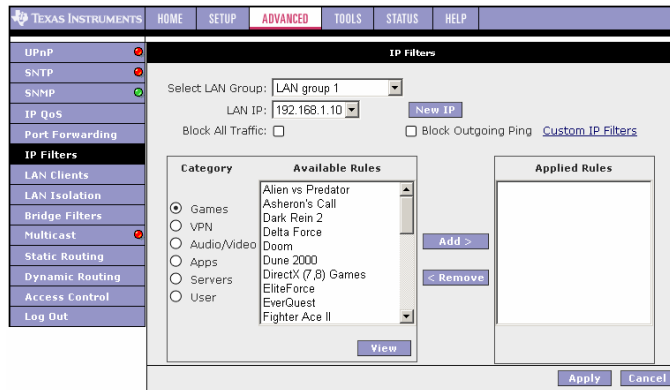
Using the Port Forwarding page, you can provide local services for people on the Internet or play Internet games. Before enabling Port Forwarding, you should set a IP address and a Hostname in LAN Client. To configure a service, game or other application, select the WAN connection, select the computer hosting the service and add the corresponding firewall rule. If you want to add a custom application, select the Custom Port Forwarding. Fill in the protocols, application and some information about destination.

IP QoS

The QoS setup page allows you to configure IP QoS for a connection, to view the configured QoS rules and to add/delete a QoS rule.

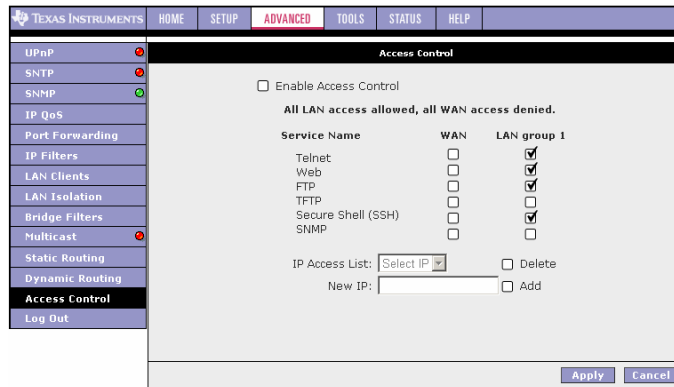
IP Filters

IP Filters allows you to block network access based on a user's computer IP address. You can use this page to block specific traffic or any traffic from a computer on your local network. To configure an IP Filter rule select the computers' IP address and add the corresponding firewall traffic definition from the Firewall Policy Database. If select Block All Traffic, all network traffic from that computer will be blocked. You can also add/edit/delete IP Filter rules without using the pre-defined Firewall Policy Database.



Access Control

Open the access from the WAN or LAN to the router's management ports. There are security risks associated with this action. For this reason remote management is restricted to computers on the network specified in the IP Access Control List that can hold up to 16 IP addresses. If enable the access control, you can select WAN or LAN rules which are allowed to access.

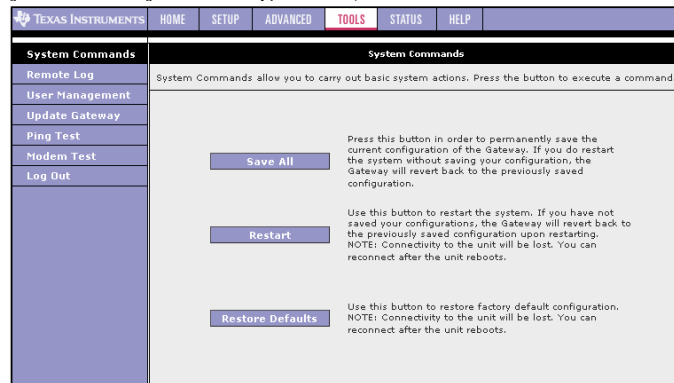


Tools

The Tools section allows you to save the configuration, restart the gateway, update the gateway firmware, setup user and remote log information and run Ping and Modem tests.

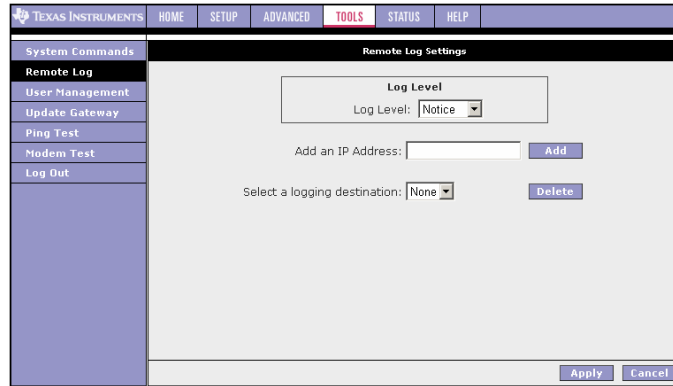
System commands

System command allows you to save your configuration, restart the modem and restore default.



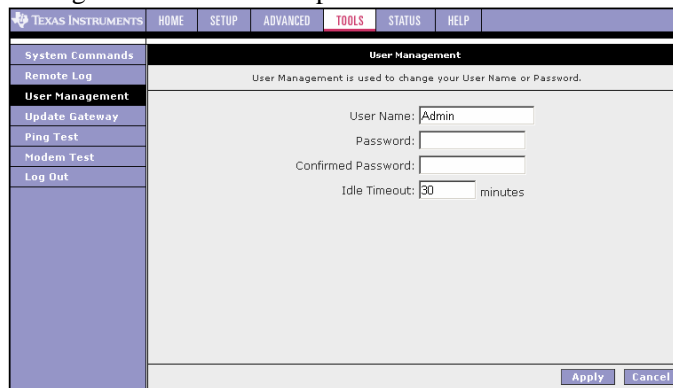
Remote log

This feature allows you to setup the remote log information.



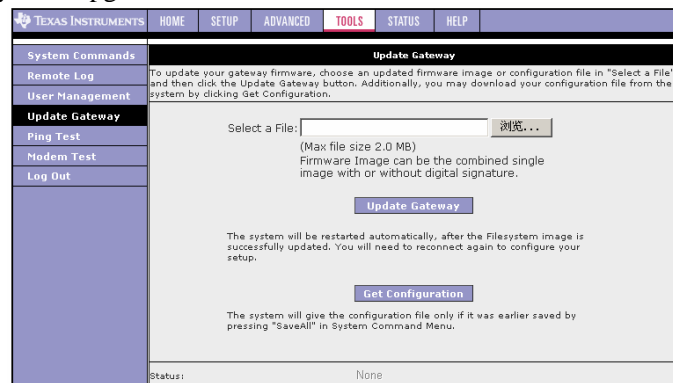
User management

This feature allows you to change the user name and password and set the idle timeout.



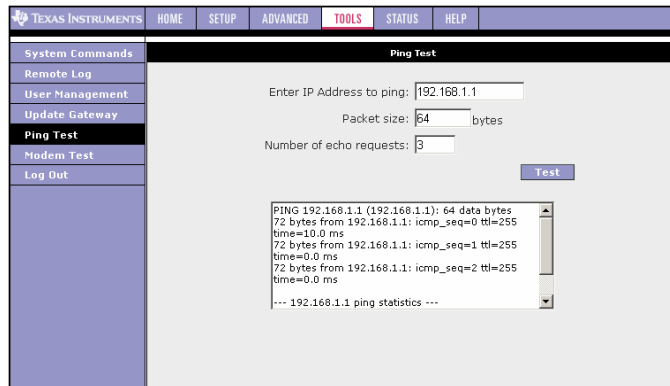
Update gateway

This feature allows you to get the current configuration and download the configuration document on your computer. It also allows you to upgrade the firmware.



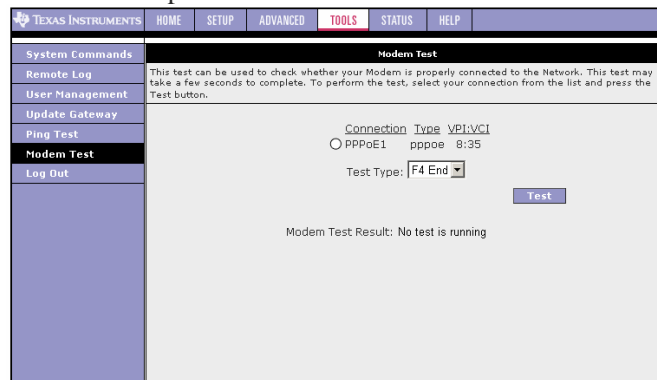
Ping test

It allows you to test whether the devices are connected.



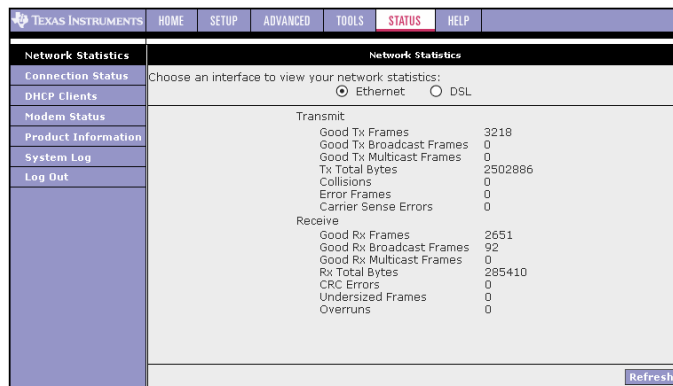
Modem test

This test can be used to check whether your Modem is properly connected to the Network. To perform the test, select your connection from the list and press the Test button.



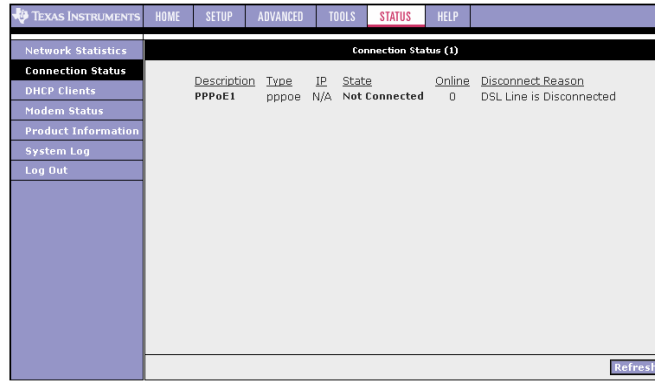
Status

The Status section allows you to view the Status/Statistics of different connections and interfaces. Network Statistics

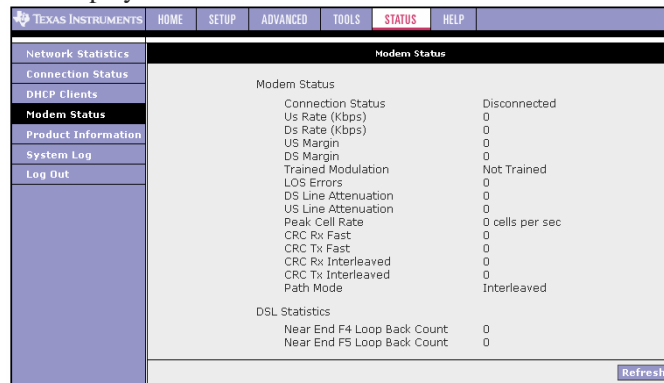


Connection status

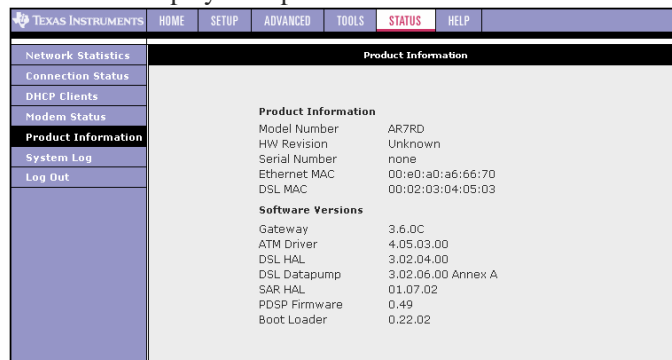
The Connection status displays the connection status, such as link type, IP address, link state, online time and so on.



Modem status: This window displays the whole information about the modem configurations.

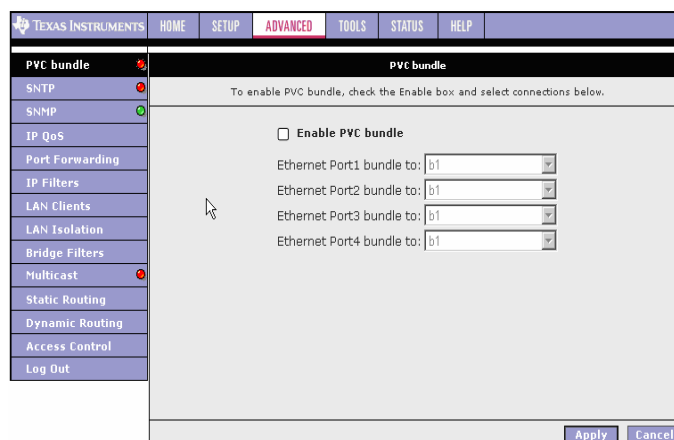


Product information: This window displays the product information and software versions.



Port bundle PVC port mapping

1. Create New connection with different PVC, see the following.



2. Click Advanced and PVC bundle.

TEXAS INSTRUMENTS HOME SETUP **ADVANCED** TOOLS STATUS HELP

PVC bundle

To enable PVC bundle, check the Enable box and select connections below.

Enable PVC bundle

Ethernet Port1 bundle to: b1

Ethernet Port2 bundle to: b1

Ethernet Port3 bundle to: b1

Ethernet Port4 bundle to: b1

Apply Cancel

3. Click the blank to enable PVC bundle, you can configure the connection to each port.

For this modem, one port can only bundle on connection which means each port can only bundle one PVC. However, one connection or one PVC can be shared by more than one port.

Chapter 4: Questions & Answers

Question: Why all LED indicators are off?

Answer:

Check the connection between the power adaptor and the power socket

Check the power switch is on or not

Question: Why LAN LED is not lighting.

Answer:

Check the connection between the ADSL modem and your computer or Hub/Switch

Check your PC or Hub/Switch running status and make sure them are working normally.

Check your network cable for connecting the Modem with other device:

For PC, you should use the crossover cable;

For Hub/Switch, you should use straight through cable.

Question: Why ADSL LED is not lighting.

Answer:

Check the connection between the ADSL “line” port and the wall jack.

Question: Why cannot visit Internet with ADSL LED is on?

Answer: Make sure following information has been input correctly:

VPI/VCI

User/password.

Question: Why cannot open the Modem configuring web page?

Answer:

Follow below steps to check the communication between the computer and Modem:

Click start -> run (input ping demands)-> Ping 192.168.1.1 (MODEM IP ADDRESS).

If cannot reach the modem, please check following configuration:

The type of the network cable

The connection between the modem and computer

Your computer's TCP/IP setting

Question: How to load the default setting after incorrect configuration?

Answer:

Press “reset” button and holds around 10s to load the default configuration. The modem's default IP address:

192.168.1.1/255.255.255.0,

User/password: **Admin/Admin**