SmartAX MT882 ADSL Router

User Manual

HUAWEI

SmartAX MT882 ADSL Router

User Manual

V200R001

Huawei Technologies Proprietary

SmartAX MT882 ADSL Router

User Manual

Manual Version V2.10

Product Version V200R001C01B021

Huawei Technologies Co., Ltd. provides customers with comprehensive technical support and service. Please feel free to contact our local office or company headquarters.

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About This Manual

Release Notes

The product version corresponds to the manual is SmartAX MT882 ADSL Router V200R001C01B021.

Organization

- **1 MT882 Overview** provides a brief description of MT882 and a list of features.
- **2 Hardware Installation** introduces the hardware installation of MT882.
- **3 Before Configuring MT882** introduces the preparation procedures before configuring the MT882.
- **4 Web-based Management** describes how to use the embedded Web-based management software to configure the MT882.
- **5 Service Configuration** describes the detailed configuration procedures for 6 applications.
- **6 Troubleshooting** lists several FAQs and trouble-locating methods.
- **7 Technical Specifications** gives the technical specifications of the MT882.
- **8 Appendix** gives the abbreviation list and default factory settings for MT882.

Intended Audience

The manual is intended for the following readers:

- Marketing staff
- Installation engineers & technicians
- Operation & maintenance personnel

Conventions

The manual uses the following conventions:

I. General conventions

Convention	Description
Arial	Normal paragraphs are in Arial.
Boldface	Headings are in **Boldface**.
`Courier New`	Terminal Display is in `Courier New`.

II. Symbols

Eye-catching symbols are also used in this manual to highlight the points worthy of special attention during the operation. They are defined as follows:

⚠ **Caution:** Means reader be extremely careful during the operation.

📖 **Note:** Means a complementary description.

Environmental Protection

This product has been designed to comply with the requirements on environmental protection. For the proper storage, use and disposal of this product, national laws and regulations must be observed.

Table of Contents

1 MT882 Overview

In this chapter you will learn about the appearance and features of the MT882.

1.1 Appearance

MT882 provides the small and private network with simple, secure, and cost-efficient ADSL Internet connection. It enables many interactive multi-media applications such as video conferencing. Figure 1-1 shows the appearance of the MT882.

Figure 1-1 Appearance

1.2 Parts of MT882

1.2.1 Front Panel

Place the MT882 in a location where the LED indicators can be easily viewed.

The LEDs on the front panel of the MT882 are shown as below:

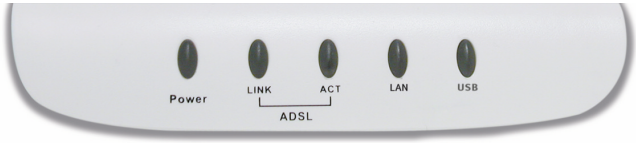


Figure 1-2 LED indicators on the front panel

The meanings of LEDs are listed as follows:

LED indicator	Status	Description
Power	Steady green light	The unit is powered on.
ADSL LINK	Steady green light	A valid ADSL connection.
ADSL ACT	Blinking green light	There is traffic over ADSL line.
LAN	Steady green or orange light	A valid LAN connection.
	Blinking green or orange light	There is traffic over Ethernet.
	Steady or blinking green light	The speed of data transfer is 10Mbit/s.
	Steady or blinking orange light	The speed of data transfer is 100Mbps.

LED indicator	Status	Description
USB	Steady green light	A valid USB connection.
	Blinking green light	There is traffic over USB.

1.2.2 Rear Panel

All cables are connected to the rear panel of MT882.

The ports and switch on the rear panel of MT882 are shown as below:

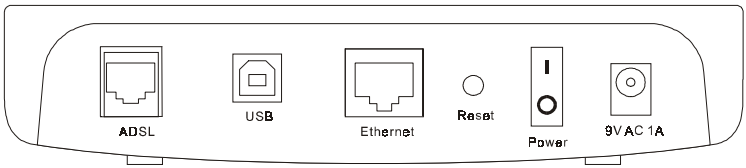


Figure 1-3 Rear panel cable and power connections

The meaning of ports and switch are listed as follows:

- **ADSL:** ADSL port, connecting to the splitter
- **USB:** USB port, connecting to PC or hub
- **Ethernet:** Ethernet port, connecting to PC or hub
- **Reset:** press this button for 3 seconds to restore the default setting. This operation will let you lose your customized setting. Please be careful when using Reset button.

- **Power:** power switch
- **9V AC 1A:** power input plug

🕮 **Note:**

Different adapters are used in according to regions. Make sure your power adapter is comply with the sign in the rear panel (9V AC 1A or 9V DC 1A).

1.2.3 External Splitter

Using the splitter can reduce disturbance signals in the telephone line. The MT882 has to use an external splitter, which has three ports: LINE, PHONE and MODEM.

- **LINE:** connect to the telephone jack
- **PHONE:** connect to the telephone
- **MODEM:** connect to ADSL modem with RJ-11 telephone line

1.3 MT882 Features

- Data rates up to 24 Mbps for downstream and 1.2 Mbps for upstream
- Friendly Web-Based graphical user interface for configuration and management
- Supporting up to eight simultaneous virtual connections
- Widest range of DSLAM interoperability
- Built-in MIBs for SNMP management

- Upgradeable firmware through TFTP
- Easy to install and use

2 Hardware Installation

In this chapter you will learn about the various connections you need to make in order to use the MT882.

1) Preparations
2) Connecting the MT882
3) Powering on the MT882

2.1 Preparations

2.1.1 Checking Computer Configuration

Item	Requirement
OS	Web browser, such as IE, is installed.
Web browser type	Microsoft Internet Explorer®5.0 or Netscape Navigator®4.7 or above.
Web browser settings	Enable JavaScript
Ethernet port	NIC adapter Enable TCP/IP

2.1.2 Collecting ISP Information

- VPI, VCI
- Encapsulation type
- Protocol type

- Modulation type
- User name, password

2.2 Fixing of the MT882

TheMT882 can be put in a horizontal or a vertical position as well as being hung on the wall. Place the MT882 in a location where the LED indicators can be easily viewed.

2.3 Connecting MT882

2.3.1 Installing USB Driver

You should install the USB driver into your PC before using USB connection. For different system, the process of USB driver installing is different. Following is instruction for three systems: Linux, MAC OS 9/ 10, and Windows:

I. Install USB driver for Linux

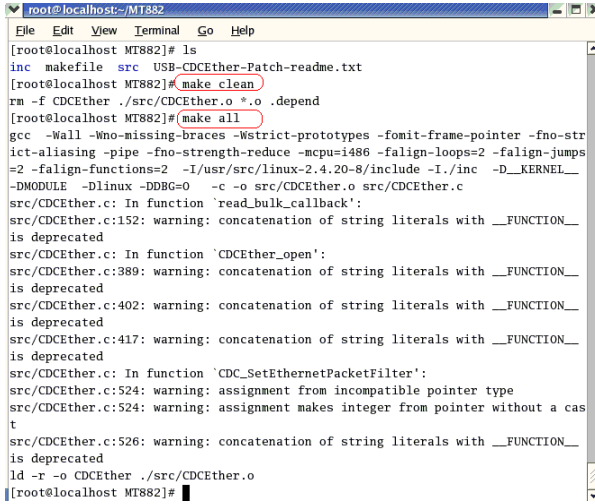
1) Firstly start RedHat 8.0, and then select “install all”.
2) Log in under **root**.
3) #cd /usr/src

#ln –s linux-2.4.18-14 linux

4) Copy original codes to **/root/MT882**.
5) #cd /root/MT882

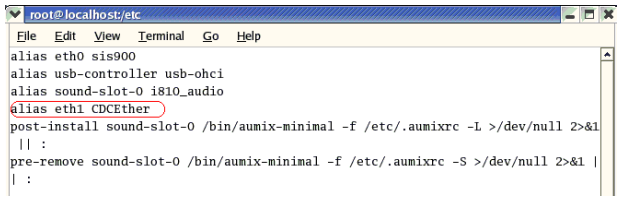
make clean

make all



6) Add alias eth1 VKGEther to /etc/modules.conf.

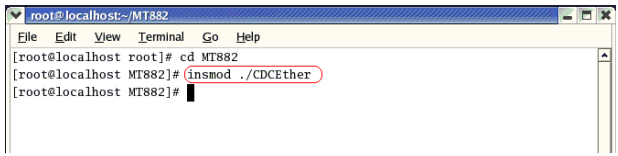
vi /etc/modules.conf



7) Reboot linux, connect USB cable to ADSL.

8) #cd /root/MT882

insmod ./VKGEther



9) #ifconfig eth0 down

ifconfig eth1 192.168.1.3 up

II. Install USB driver for MAC OS X

1. Install MT882 USB Driver for MAC OS X

1) Firstly click on **Installer**, a screen with welcome information will be opened, shown as below:

2) Press “Next” button to enter the **Authentication** screen, shown as below:

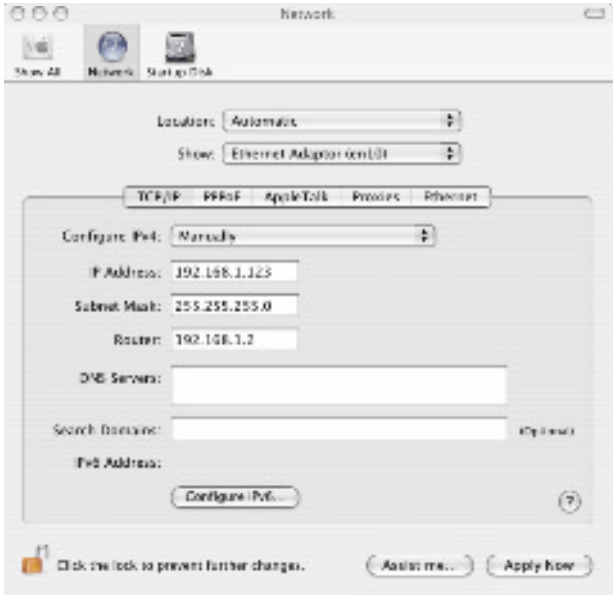
3) Type in the administrator's account and password and then press <OK> button to enter the next screen.

4) Please read the content of License Agreement. If you agree with the License Agreement, press <Accept> button to start the installation.

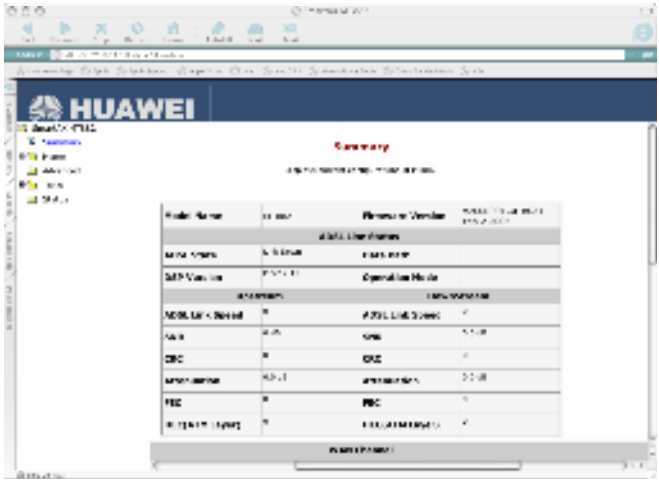
5) After completed the installation, click to select the option **Restart now**, and press <Finish> button. Your computer will be rebooted.

2. Configure MAC Network

1) Click Apple Menu -> scroll down to select **System Preference** -> select **Network**, the opened screen as below:



2) Enter the proper value for each parameter and click on <Apply Now> button.
3) Start your Web Browser and Key in http://192.168.1.1 at the URL/Address field to open up the Login Page for the user. Key in the username and password and click <OK> button to enter the Web GUI of MAC OS.



3. Uninstall MT882 USB Driver for MAC

1) Click and select **Applications**.

2) Click to select **MT882 Modem**.

3) Select **Uninstall.app**.

4) Press <Next> button to start the uninstalling process.

5) Type in the administrator's account and password, press <OK> button.

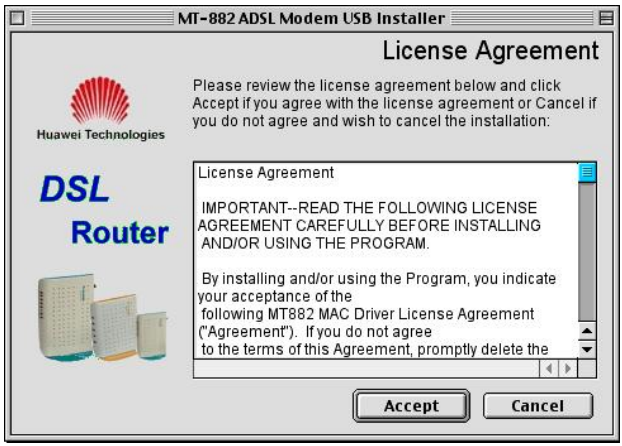
6) After the end of uninstalling process, select the option **Restart Now** and then click on <Finish> button to reboot your computer.

III. Install USB driver for Mac OS 9.2

1. Install MT882 USB Driver for MAC OS 9.2

1) Firstly click on **Installer.app**, a screen with welcome information will be opened, shown as below:

2) Press “Next” button to enter the next screen, shown as below:

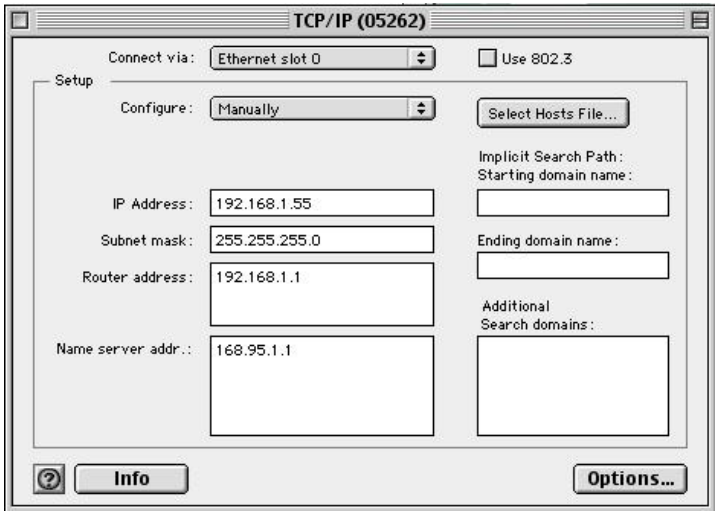


3) Please read the content of License Agreement. If you agree with the License Agreement, press <Accept> button to start the installation.

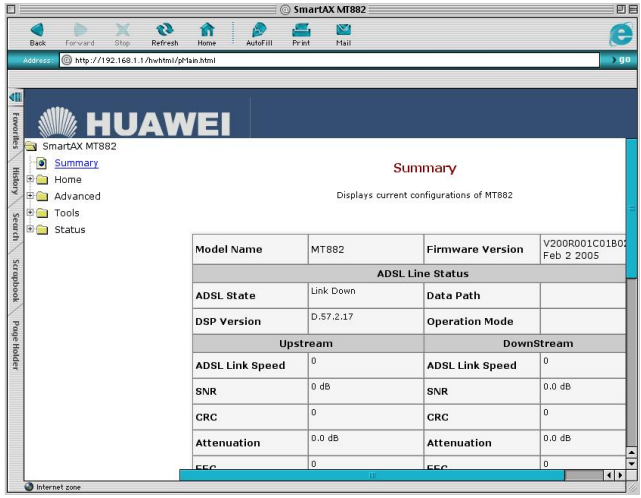
4) After completed the installation, press <Finish> button. You can enjoy your DSL modem now!

2. Configure MAC Network

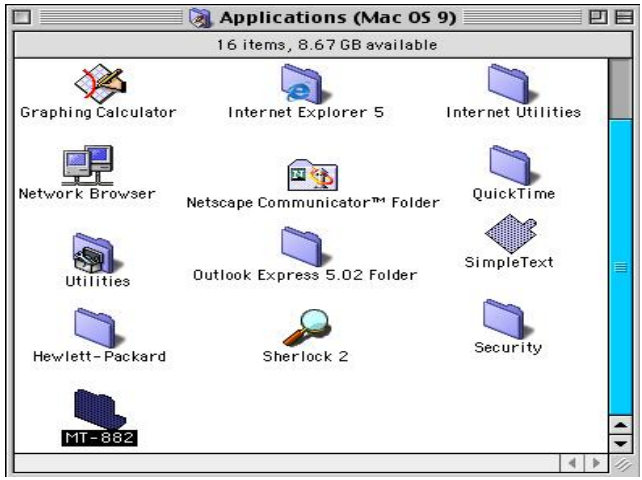
1) Click Apple Menu -> scroll down to select **System Preference** -> select **Network** -> select **TCP/IP**, the opened screen as below:



2) Enter the proper value for each parameter and click on <Options…> button.
3) Start your Web Browser and Key in http://192.168.1.1 at the URL/Address field to open up the Login Page for the user. Key in the username and password and click <OK> button to enter the Web GUI of MAC OS 9.2.



3. Uninstall MT882 USB Driver for MAC



1) Click to select **MT882 Modem**.

2) Select Uninstall.app.

3) Press <Next> button to start uninstalling the process.

4) If the USB cable is not unplugged when the software is removed from your computer, the message will be appeared. Unplug the cable and click <OK> button.

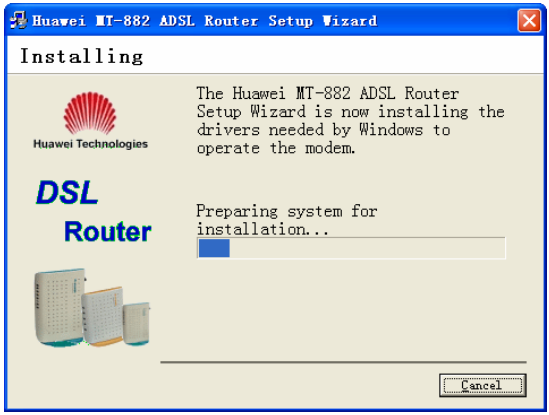
5) After the end of uninstalling process, select the option **Restart Now** and then click on <Finish> button to reboot your computer.

IV. Install USB driver for Windows

To install the USB driver in Windows system, you must execute “MT882Driver.exe” contained on the CD-ROM, which is provided with the modem.

1) Double click “MT882Driver.exe” to open the Setup Wizard window.

2) Click <Next> button and ready to install.



During the installation, it doesn't need any interference from your side. If you are using Windows XP/2000, a new "Local Area Connection" will be built for USB port while the installing completed.

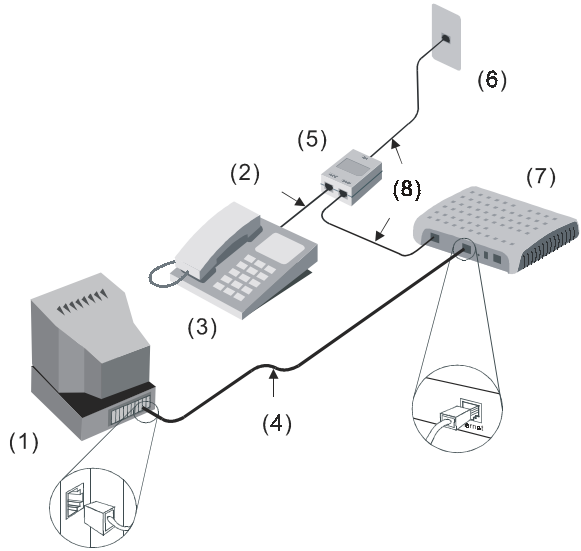
2.3.2 Connecting ADSL Line

Simply plug one end of the telephone line into the Modem port of the splitter and insert the other end into the ADSL port on the rear panel of the MT882.

Use another telephone line to connect the splitter and the phone jack on the wall.

2.3.3 Connecting the Computer to the MT882

Use a straight-through cable to connect your PC and the MT882. You can connect the MT882 directly to a 10/100Base-TX Ethernet adapter card on your PC with the provided Ethernet cable as shown in Figure 2-1



(1) Computer
(2) RJ-11 Tel line
(3) Phone
(4) RJ-45 Ethernet cable
(5) Splitter
(6) Phone jack
(7) MT882
(8) RJ-11 Tel Cable

Figure 2-1 cable connection

2.3.4 Connecting Ethernet LAN to the MT882

MT882 may be connected to any 10/100Base-TX Ethernet port. When connecting the MT882 to any Ethernet device that is capable of operating at speeds higher than 10Mbps, be sure that the device has auto-negotiation mode enabled for the connecting port.

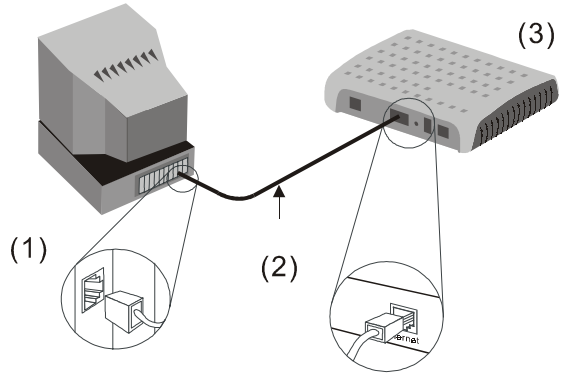
Use a cross-over cable to connect the MT882 and the upstream port of a switch or hub. Be sure that the cable connecting the LAN to the MT882 does not exceed 100 meters.

2.4 Powering On the MT882

1) Plug the provided power adapter into a suitable power source nearby.
2) You will see the Power LED indicator lights up, which indicates the device is powered on.
3) After a few seconds, observe the LAN LINK indicator. Make sure the light is steady light, which indicates a valid connection between the router and your PC.

3 Before Configuring the MT882

In this chapter you will learn to connect the MT882 to PC. Use provided straight-through cable when connecting.



(1) Computer (2) RJ-45 Ethernet Cable (3) MT882

Figure 3-1 Connection between a computer and the MT882

3.1 When to Configure the MT882

The factory default settings of MT882 have optimized all functions, and made it run in most network conditions. Usually, the default setting values can meet basic requirements of users with simple network topology, and need no change.

If network condition is changed by the modification of security, scale, line of communication, protocol and topology, for example, a

demand of particular VPI and VCI, you need to adjust the default settings accordingly so as to adapt to the changes.

3.2 Configuring IP Settings on Your Computer

Follow these steps to configure the IP settings:

1) Understand the default IP settings for the MT882: IP address (192.168.1.1), subnet mask (255.255.255.0).
2) Make sure your computer has the TCP/IP protocol installed and enabled.

- If you have an Ethernet port on your computer, it probably already has TCP/IP protocol installed.
- If you are using Windows XP, the TCP/IP is enabled by default for standard installations.

3) Configure the IP address and subnet mask of your computer. The computer shall work in the same subnet as that of the MT882. for example, IP address: 192.168.1.100, subnet mask: 255.255.255.0.

For computers running non-Windows operating systems, follow the instructions for your OS to configure the IP setting to occupy the same subnet as MT882.

3.3 Accessing the Web-based Configuration Manager

Once your PC's IP settings allow it to access the Web-Based configuration manager, you can change the factory default settings to enable the MT882 to connect to Internet.

3.3.1 Checking for Proxy Service

If the browser software on the computer is configured to use a proxy server for Internet access, it is necessary to first disable the proxy connection.

In Internet Explorer, you can check whether a proxy server is enabled using the following procedures:

1) In the Explorer window, select **Tools→Internet Options** to display **Internet Options** dialog box.
2) In the **Internet Options** dialog box, click the **Connections** tab and click on the **LAN Settings**.
3) Make sure the "Use proxy server" option is not checked. If it is checked, click on the checked box to deselect the option and click **OK**.

3.3.2 Applying the LAN IP Address of MT882

To access the Web-based configuration manager, launch your Web browser and enter the LAN IP address of the MT882. For the first access, the default LAN IP address of the MT882 is used. Type in "**http://**" followed by the default IP address, "**192.168.1.1**" in the address bar of the browser. The URL in the address bar should read: **http://192.168.1.1**.

3.3.3 Inputting the User Name and Password

A new dialog box appears prompting you to input the user name and password required to access the Web-based configuration manager.

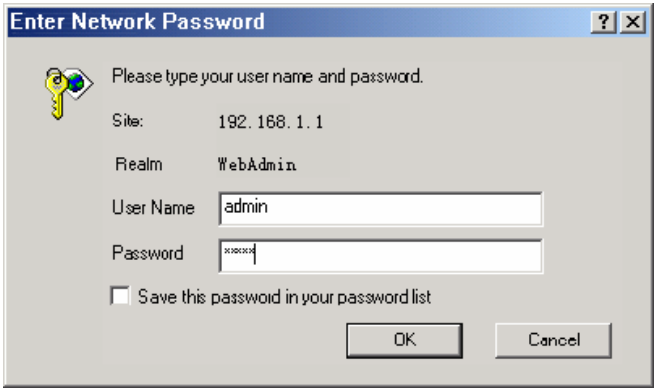


Figure 3-2 Enter user name and password

Use the default user name **admin** and password **admin** for first setup. You can change the password once you have opened the Web-based configuration manager. The user name and password allows any computer on the same subnet as the MT882 to access the Web-based configuration manger. And this password can also be used to Telnet to the device through the Ethernet or Internet interfaces. To change this password, see 4 Web-Based Management.

🕮 **Note:**

Do not confuse the user name and password used to access the Web-based manager with the ADSL account and password needed for PPP connections to access your ISP's network.

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4 Web-Based Management

In this chapter you will learn how to use the Web-based management software to configure the MT882, which introduces the significations of parameters and method of setting in the configuration interface. The order of sectors is listed according to the functional configuration interfaces.

4.1 Manager Interface Layout

The MT882 initially presents the **summary** page shown as below when you first log in.

- The left part of the page is wizard column, and you can enter the Web page of configuration or management through the hyperlink in wizard column.
- The right part of the page is the practical domain of configuration and management.

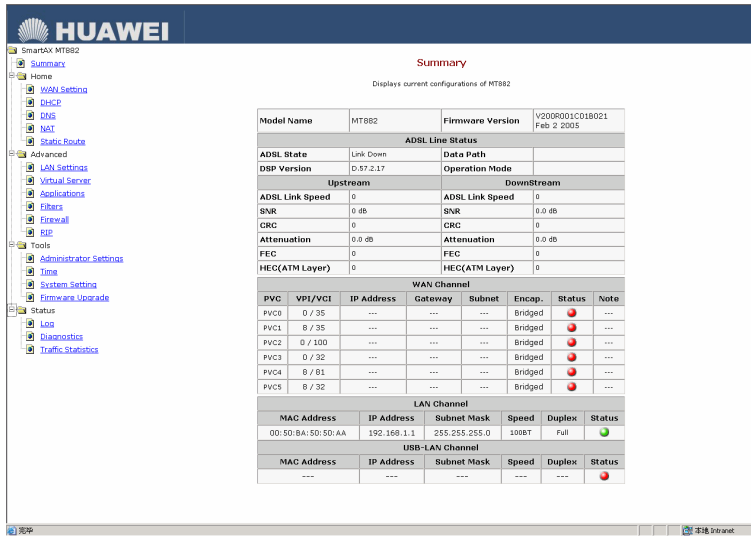

Figure 4-1 GUI of Web-based configuration manager

4.2 System View (Home Page)

Summary

Displays current configurations of MT882

Model Name	MT882	Firmware Version	V200R001C01B021 Feb 2 2005
ADSL Line Status			
ADSL State	Link Down	Data Path	
DSP Version	D.57.2.17	Operation Mode	
Upstream		DownStream	
ADSL Link Speed	0	ADSL Link Speed	0
SNR	0 dB	SNR	0.0 dB
CRC	0	CRC	0
Attenuation	0.0 dB	Attenuation	0.0 dB
FEC	0	FEC	0
HEC(ATM Layer)	0	HEC(ATM Layer)	0

WAN Channel							
PVC	VPI/VCI	IP Address	Gateway	Subnet	Encap.	Status	Note
PVC0	0 / 35	---	---	---	Bridged		---
PVC1	8 / 35	---	---	---	Bridged		---
PVC2	0 / 100	---	---	---	Bridged		---
PVC3	0 / 32	---	---	---	Bridged		---
PVC4	8 / 81	---	---	---	Bridged		---
PVC5	8 / 32	---	---	---	Bridged		---

LAN Channel					
MAC Address	IP Address	Subnet Mask	Speed	Duplex	Status
00:50:BA:50:50:AA	192.168.1.1	255.255.255.0	100BT	Full	

USB-LAN Channel					
MAC Address	IP Address	Subnet Mask	Speed	Duplex	Status
---	---	---	---	---	

Figure 4-2 Home Page – System View Display

The System View read-only table on the Home Page displays a summary of various system settings and functions as described below.

- **ADSL Line Status**: displays the ADSL State, Data Path, DSP version, Operation Mode, and the status of Upstream and Downstream of the ADSL line.

- **WAN Channel**: displays the names and settings for the device WAN interfaces. Multiple software-defined interfaces may be configured to use the DSL connection. The PVC number, gateway, IP address, mask, VPI/VCI, encapsulation and status will be displayed in the WAN interface.
- **LAN Channel**: displays the names and various settings of LAN interface, which include MAC address, IP address, Mask, speed, duplex and status.

4.3 WAN Setting

Click the **WAN Setting** of **Home** in the wizard column to carry out the WAN Setting. WAN Setting includes three modes: RFC2684 Bridged, RFC2684 Routed and PPP.

4.3.1 RFC2684 Bridged Connection

Bridged connections include three modes: Pure Bridge, Static Bridge and DHCP.

- **PVC:** system provides 7 PVCs. Generally you can keep the default value 0. This option is also used to create and configure new PVCs.
- **VPI:** if you need any modification, please enter the VPI value provided by ISP. See the attached table for all the VPI default values of PVC.
- **VCI:** if you need any modification, please enter the VCI value provided by ISP. See the attached table for all the VCI default value of PVC.
- **Encapsulation:** you can select LLC or VC MUX.

I. Pure Bridge

The setting page displayed as below will appear while you choose **Pure Bridged** mode. The gray item means it can be operated without any configuration.

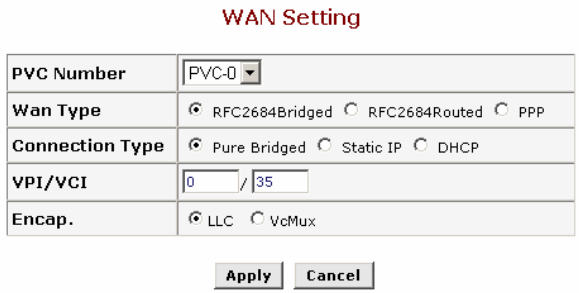

Figure 4-3 RFC2684 Bridged Connection-Application of Pure Bridge

II. Static IP

The setting page displayed as below will appear while you select **Static IP** setting mode. Please fill the corresponding field with the IP address and network mask provided by ISP. The default setting of route is “Disabled”, and the Gateway IP address is null. The recommended setting is to enable default route and enter the Gateway IP address provided by ISP.

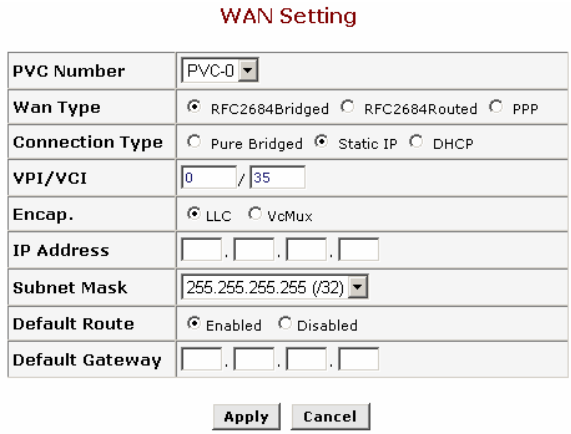

Figure 4-4 RFC2684 Bridged Connection-application of Static IP

- **IP Address** and **Subnet Mask:** enter the IP address and subnet mask provided by ISP for the WAN interface of your MT882.
- **Default Gateway:** enter the Gateway address provided by ISP.
- **Default Route:** this setting specifying the IP address above is used for default route of LAN. The data will be sent through WAN interface whenever a client in LAN accesses the Internet. The default setting of default route is “Disabled”.

III. DHCP

The setting page displayed below will appear if you select **DHCP** mode, which means you can automatically acquire IP address from the DHCP sever of ISP.

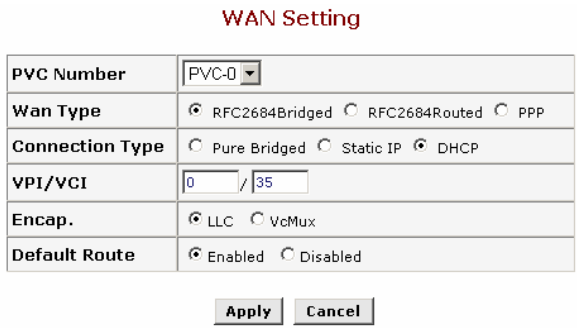

Figure 4-5 RFC2684 Bridged Connection-application of DHCP

- **Default Route:** this setting will allow you to automatically acquire IP address from the DHCP sever of ISP. The data will be sent through WAN interface whenever a client LAN computer accesses the Internet. The default setting of default route is “Disabled”.

IV. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and then click **Save & Restart** button to save new settings.

4.3.2 RFC2684 Routed Configuration

I. Configuration page

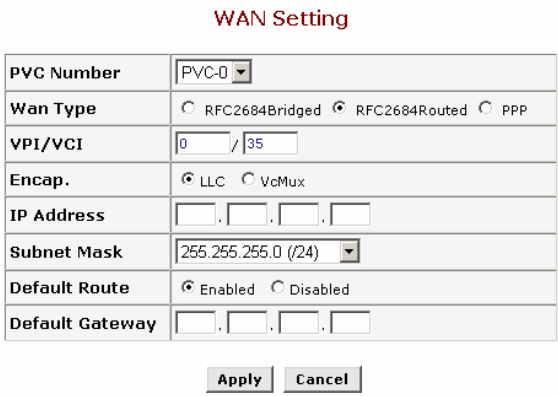

Figure 4-6 RFC2684 Routed (IPoA) Configuration

II. Parameters eaplanation

- **PVC:** the system provides 7 PVCs. Generally you can leave this set at the default value 0. This option is also used to create and configure new PVCs.
- **VPI:** if you need any modification, please enter the VPI value provided by ISP. See the attached table for all the VPI default values of PVCs.
- **VCI:** if you need any modification, please enter the VCI value provided by ISP. See the attached table for all the VCI default values of PVCs.
- **Encapsulation:** you can select the mode LLC or VC MUX.

- **IP Address** and **Subnet Mask:** enter the IP address and subnet mask provided by ISP for the WAN interface of your MT882.
- **Default Route:** this setting specified the IP address below is using for default route of LAN. The data will be sent through WAN interface whenever a client LAN computer accesses the Internet. The default setting of route is “Disabled”, and the recommended setting is “Enabled”.
- **Default Gateway:** enter the Gateway address provided by ISP.

III. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.3.3 PPP Configuration

I. Configuration page

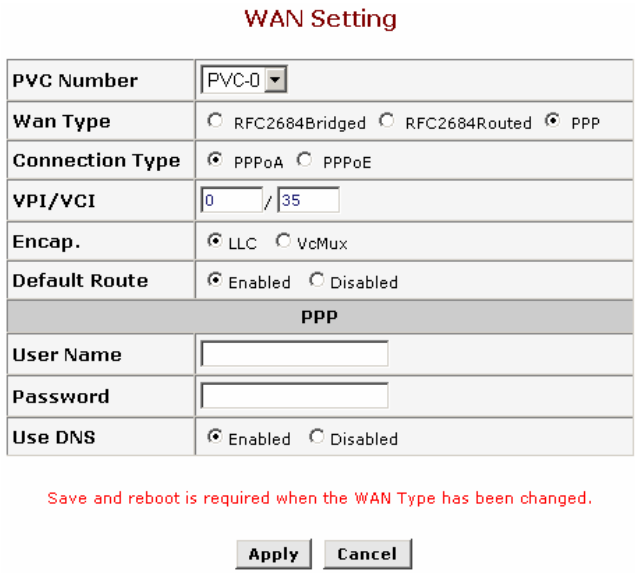

Figure 4-7 PPP configuration

II. Parameter explanation

There are two options for PPP configuration: PPPoA and PPPoE. The parameters that need to be configured are described as below:

- **PVC:** the system provides 7 PVCs. Generally you can leave this set at the default value 0. This option is also used to create and configure new PVCs.

- **VPI:** if you need any modification, please enter the VPI value provided by ISP. See the attached table for all the VPI default value of PVC.
- **VCI:** if you need any modification, please enter the VCI value provided by ISP. See the attached table for all the VCI default value of PVC.
- **Encapsulation:** you can select the mode LLC or VC MUX.
- **Default Route:** this setting specified the default IP address of MT882 is using for default route of LAN.
- **Username** and **Password:** enter the username and password provided by ISP.
- **Use DNS:** it is recommended to keep this option as *Enable,* indicating that when PPP dial applies for IP and gateway, it also tries for DNS server IP at the same time. On the other hand, keep this option as *disable,* indicating that obtaining DNS server not from PPP dial, and needed to manually type in the addresses of primary DNS server and secondary DNS server on the DNS configuration page.

III. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.4 DHCP Configuration

Click the **DHCP** of **Home** in the Wizard Column to set the DHCP configuration. MT882 can be set as DHCP server.

I. Configuration page

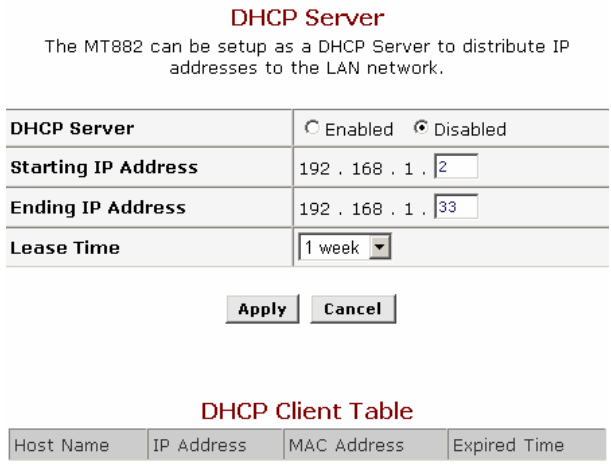

Figure 4-8 DHCP Configuration

II. Parameter explanation

- **DHCP Server:** choose ”Enable” to configure MT882 as DHCP server of LAN. Then the ADSL Router shall provide IP settings for your PC.
- **Starting/Ending IP Address:** enter the starting and ending IP address that will be provided through DHCP service.
- **Lease Time:** Select the lease time from the drop-down menu. It will determine how long your PC can use the IP address provided by DHCP server.

III. Save

- Click the **Apply** button to save the settings in the RAM. The system will prompt you to reboot the device. The added DHCP clients will be listed in the DHCP Client Table after the device has been rebooted.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.5 DNS Configuration

Click the **DNS** of **Home** in the Wizard Column to set the DNS. Multiple DNS addresses are useful to provide alternatives when one of the servers is down or encountering heavy traffic. ISPs typically provide primary and secondary DNS addresses, and may provide additional addresses.

I. Configuration page

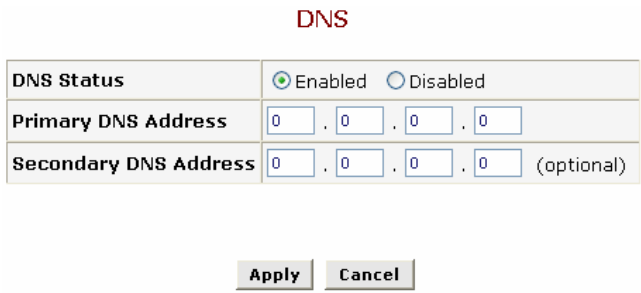

Figure 4-9 DNS Configuration

II. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.6 NAT Configuration

Network Address Translation (NAT) is a method for disguising the private IP addresses on your LAN as the public IP address on the Internet. You define NAT rules that specify exactly how and when to translate between public and private IP addresses.

Click the **NAT** of **Home** in the Wizard Column to set the NAT. NAT is enabled by default. You can enable or disable NAT by selecting the **Enabled** or **Disabled** option in the configuration page and applying the settings.

I. Configuration page

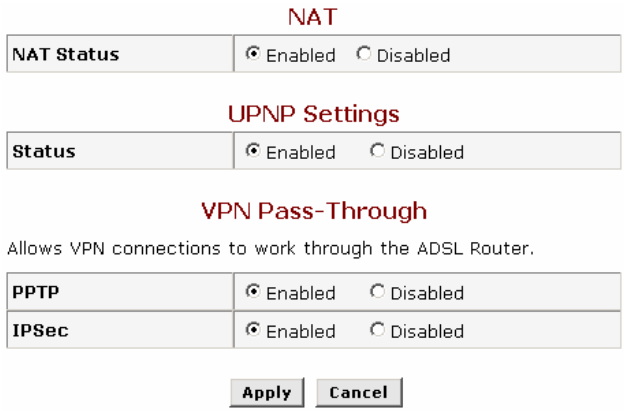

Figure 4-10 NAT Configuration

II. Parameter explanation

The explanation of parameters in the above windows is as below.

- **NAT:** select it to enable or disable the NAT. By default, it is enabled.
- **UPNP Setting:** select it to enable or disable the UPNP (Universal Play and Plug). By default, it is enabled.
- **VPN Pass-Trough:** select it to enable or disable the VPN Pass-through with PPTP protocol and IPSec protocol. By default, it is enabled.

III. Save

- Click the **Apply** button to save the settings in the RAM.

- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.7 Static Route

Click the **Static Route** of **Home** in the Wizard Column to set the static route for connection. Use Static Routing to specify a route used for data traffic within your Ethernet LAN or to route data on the WAN. This is used to specify that all packets destined for a particular network or subnet using a predetermined gateway.

I. Configuration page

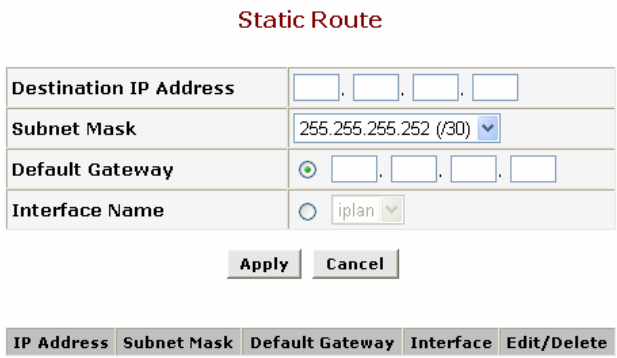

Figure 4-11 Static Route Configuration

II. Parameter explanation

The explanation of parameters in the above windows is as below.

- **Destination IP Address** and **Subnet Mask:** enter the destination IP address and subnet mask provided by ISP for the WAN interface of your MT882.
- **Default Gateway:** enter the gateway address provided by ISP. The data is forwarded to the destination through the gateway you set. Or you can choose an **Interface Name** to route data traffic.
- **Interface Name:** check this option to select an interface name from the drop-down list to replace the default gateway. The generation of the interface depends on how you set the PVCs.

III. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.8 LAN Setting

Click the **LAN Setting** of **Advanced** in the Wizard Column to set the LAN interface. The LAN IP address identifies the LAN port (eth-0) as a node on your network; that is, its LAN IP address must be in the same subnet as the computers in your LAN.

You can change the default LAN IP address and Net Mask to suit for your LAN.

I. Configuration page

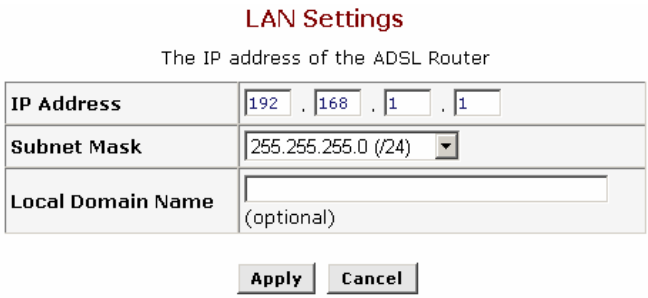

Figure 4-12 LAN Configuration

II. Parameter explanation

- **IP Address:** type in the IP address for the Ethernet LAN interface. The default IP address is 192.168.1.1
- **Subnet Mask:** type in the Subnet Mask for the Ethernet LAN IP interface. The default mask is 255.255.255.0
- **Local Domain Name:** enter the local domain name if it exists.

Note:

The public IP address that ISP assigned is not LAN IP address. The public IP address identifies the WAN interface that the ADSL router connects to Internet.

III. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

🕮 **Note:**

If you change the IP address, you need login again.

4.9 Virtual Server

Click the **Virtual Server** of **Advanced** in the Wizard Column to set the virtual server. A Virtual Server can allow remote users to access services to PCs on your LAN such as FTP for file transfers or SMTP and POP3 for e-mail. The MT882 will accept remote requests for these services at your Global IP Address (the one assigned to your account by your ISP), using the specified TCP or UDP protocol and port number, and then redirect these requests to the server on your LAN with the Private IP address you specify

I. Configuration page

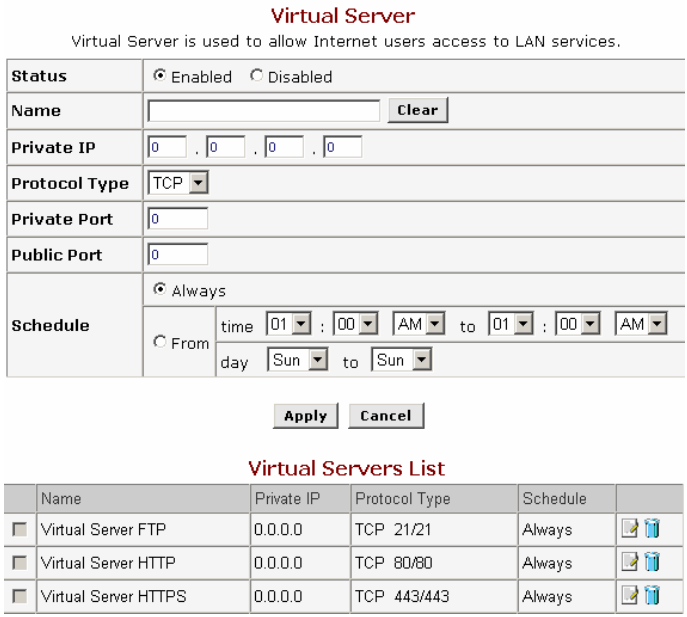

Figure 4-13 Virtual Server Configuration

II. Parameter explanation

- **Status:** select it to enable virtual server or not, the default is “Enabled”.
- **Name:** enter the name of the virtual server to be added. Click **Clear** button to delete the entered server name.
- **Private IP:** enter the IP address of local PC providing the service of virtual server.
- **Protocol Type:** select the protocol to be applied. User can select a protocol from TCP and UDP, or both.

- **Private Port:** the port of local PC to be applied, providing the service of virtual server
- **Public Port:** the port applied by Internet user to access the LAN
- **Schedule:** select the time period for Internet user to access virtual server.

🕮 **Note:**

In the list, click icon  to edit the relative virtual service.

Click icon  to delete the relative virtual service.

III. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.10 Applications

Click the **Applications** of **Advanced** in the Wizard Column to configure the special applications. Some special applications, such as network game, video conference, net phone, can be operated pass through the NAT.

I. Configuration page

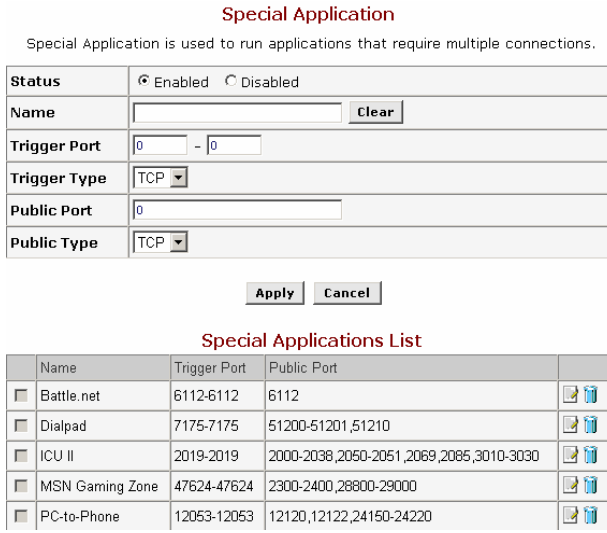

Figure 4-14 Special Application Configuration

II. Parameter explanation

- **Status:** select it to enable or disable the applications, the default is “Enabled”.
- **Name:** enter the name of the application to be added. Click **Clear** button to delete the entered name.
- **Trigger Port:** enter the number of port which is to trigger the special application. The entered port number can be a single port, or a group of ports.
- **Trigger Type:** select the protocol while the special applications are to be triggered.

- **Public Port:** The port number of public network, which is used to access the special applications. User can specify a single port number or a group of port numbers. Using common to separate multiple port numbers.
- **Public Type:** The protocol that to be applied while to enable the public port for special application.

🕮 **Note:**

In the list, click icon  to edit the relative special application.

Click icon  to delete the relative special application.

III. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.11 Filters

Click the **Filters** of **Advanced** in the Wizard Column to set the IP filter. Filters are used to deny or allow LAN computers to access the Internet. The unit can refuse some computers with the assigned IP or MAC addresses to access the Internet. Or it also may block users to access the restricted Web sites.

4.11.1 IP Filters

Use IP Filters to deny particular LAN IP addresses to access the Internet. You can deny specific port numbers or all ports for a specific IP address. The well-known ports are displayed on the "IP filter list". Please click the edit icon to enable them. You will only need to enter the LAN IP address of the computer(s) that will be denied to access Internet.

I. Configuration page

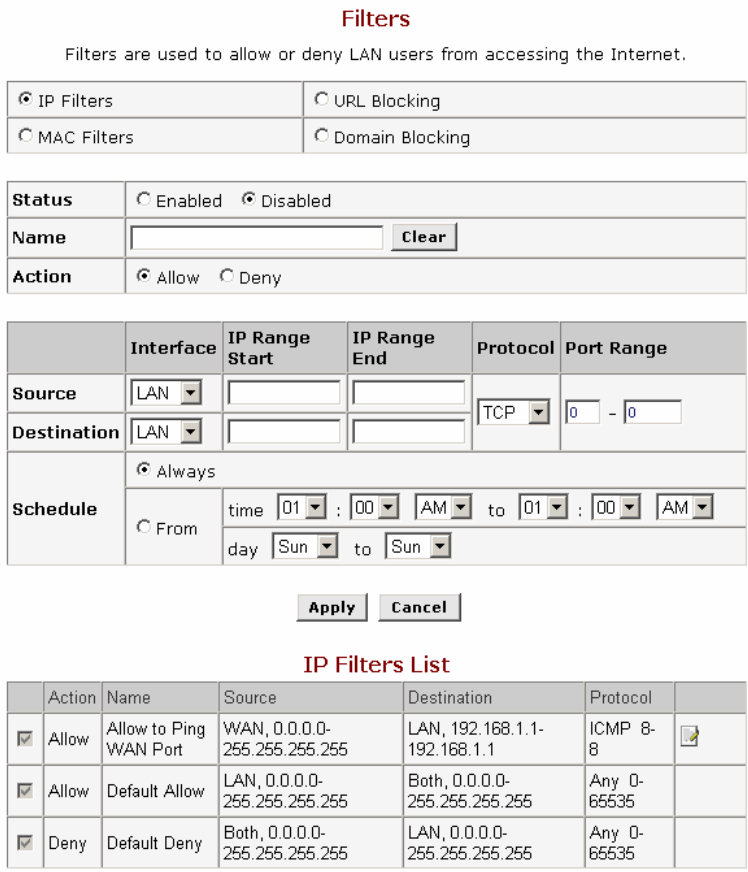

Figure 4-15 IP Filters Configuration

II. Parameter explanation

- **Status:** select it to enable or disable IP filter, the default is "Enabled".
- **Name:** enter a name for the rule, for easier identification later. Click **Clear** button to delete the entered name.
- **Action:** select "Allow" to permit packets to pass through the MT882 if they meet the criteria of this rule, and "Deny" to drop packets that do not meet the criteria of this rule.
- **Source:** when LAN is specified in the Interface drop-down menu, this filter will apply to packets that have one of the specified IP addresses as their source, and are sent from a PC on your LAN. When WAN is specified in the Interface drop-down menu, this filter will apply to packets that have one of the specified IP addresses as their source, and are sent from a PC on the WAN (Internet). If both are selected, then this rule will apply to packets that are sent from PCs on both the WAN and LAN.
- **Destination:** when LAN is specified in the Interface drop-down menu, this filter will apply to packets that have one of the specified IP addresses as their destination, and are being sent to a PC on your LAN. When WAN is specified in the Interface drop-down menu, this filter will apply to packets that have one of the specified IP addresses as their destination, and are being sent to a PC on the WAN (Internet). If both are selected, then this rule will apply to packets that are being sent to PCs on both the WAN and your LAN.
- **Schedule:** select the time period for Internet user to access virtual server.

🕮 **Note:**

In the list, click icon  to edit the relative IP filter rule.

III. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.11.2 MAC Filters

This is to deny LAN computers to access the Internet. You can either manually add a MAC address or select the MAC address from the list of clients that are currently connected to the unit.

I. Configuration page

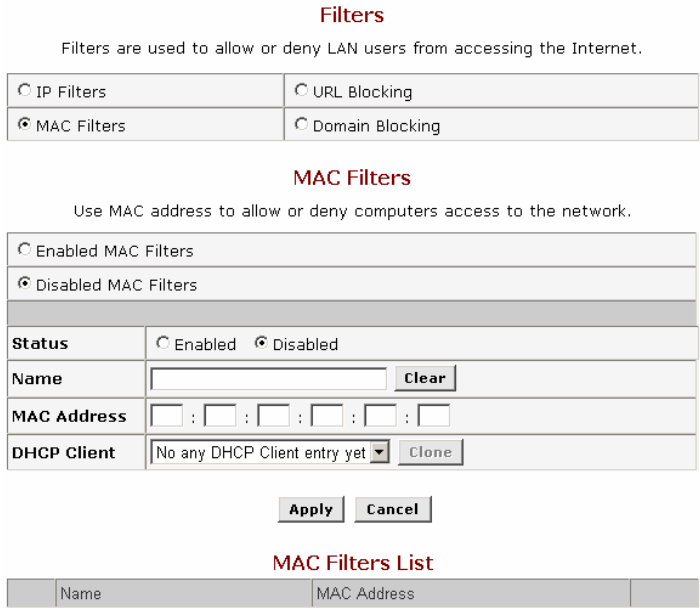

Figure 4-16 MAC Filters Configuration

II. Parameter explanation

- **Status:** select it to enable or disable IP filter, the default is “Enabled”.
- **Name:** enter a name for the rule, for easier identification later. Click **Clear** button to delete the entered name.
- **MAC Address:** the MAC address of the computer on the LAN side.
- **DHCP Client:** you may read the DHCP client's host name and MAC address listed here. Select the client computer

which you want to add on the MAC filter list and then click Apply button. Or you may click **Clone** to automatically add computer's MAC address to the **MAC Address** section when the system detects the DHCP client automatically.

III. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.11.3 URL Blocking

URL Blocking is used to deny the computers within the LAN accessing to the specific Web sites. And it is rejected by its Uniform Resource Locator (URL). A URL is a specially formatted text string that defines a location on the Internet. If any part of the URL contains the blocked word, the site will not be accessed and the Web page will not be displayed as well.

I. Configuration page

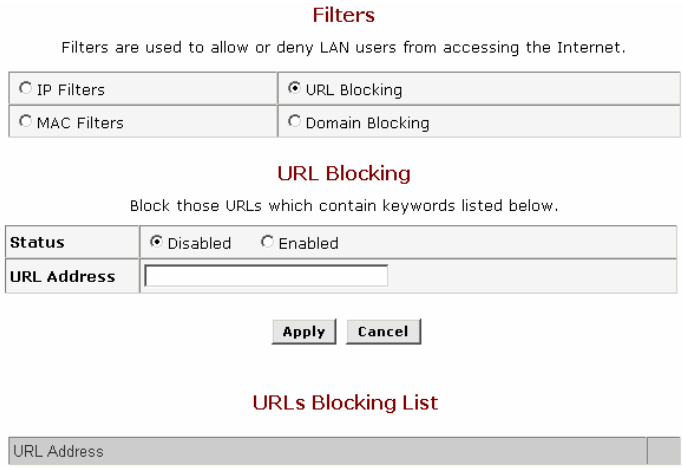

Figure 4-17 URL Blocking Configuration

II. Parameter explanation

- **Status:** select it to enable or disable IP filter, the default is "Enabled".
- **URL Address:** enter the URL that is to be blocked.

III. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.11.4 Domain Blocking

Domain Blocking is used to deny or allow the computers within the LAN accessing specific domains on the Internet. That is, it will deny or allow all requests such as http and ftp to a specific domain.

I. Configuration page

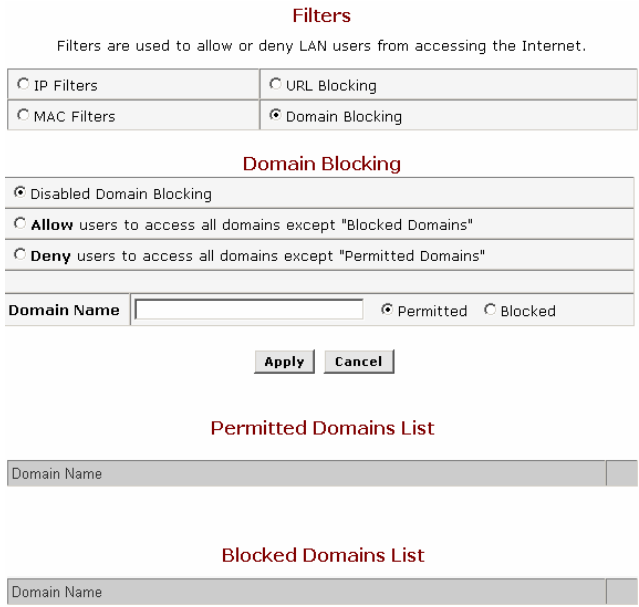

Figure 4-18 Domain Blocking Configuration

II. Parameter explanation

- **Disabled Domain Blocking:** choose to it to disable Domain Blocking.

- **Allow:** select it for allowing users to access all domains except "Blocked Domains" if you allow the users to access all domains except the domains on the Blocked Domains list.
- **Deny:** select it for denying users to access all domains except "Permitted Domains" if you only want the users to access Permitted Domains.
- **Domain Name:** enter the domain name that is needed to be allowed or denied.

III. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.12 Firewall Rules

Click the **Firewall Rules** of **Advanced** in the Wizard Column to set the rules of firewall. The Firewall enables you to protect the system against denial of service (DoS) attacks and other types of malicious accesses to your LAN. You can also specify how to monitor attempted attacks, and who should be automatically notified.

I. Configuration page

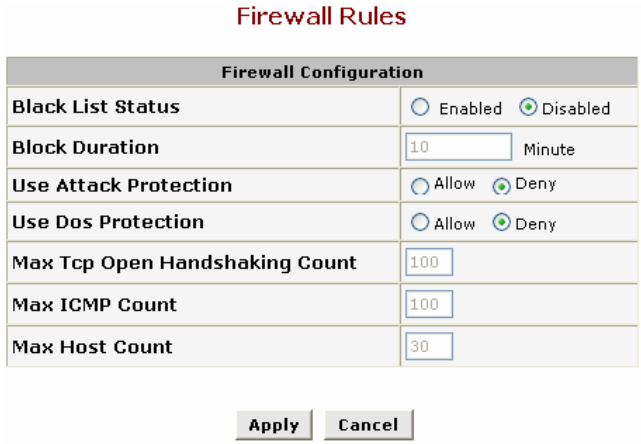

Figure 4-19 Firewall Configuration

II. Parameter explanation

- **Blacklist Status:** if you want the device to maintain and use a black list, click *Enable*. Click *Disable* if you do not want to maintain a list.
- **Block Duration:** specifies the number of minutes that a computer's IP address will remain on the black list (i.e., all traffic originating from that computer will be blocked from passing through any interface on the MT882). For more information, see Managing the Black List below.
- **Use Attack Protection**: click the **Allow** button to use the built-in firewall protections that prevent the following common types of attacks:

- **IP Spoofing**: sending packets over the WAN interface using an internal LAN IP address as the source address
- **Tear Drop**: sending packets that contain overlapping fragments
- **Smurf and Fraggle**: sending packets that use the WAN or LAN IP broadcast address as the source address
- **Land Attack**: sending packets that use the same address as the source and destination address
- **Ping of Death**: illegal IP packet length.

- **Use DoS Protection**: click the **Allow** button to use the following denial of service protections: SYN DoS, ICMP DoS, Per-host DoS protection
- **Max TCP Open Handshaking Count**: sets the percentage of concurrent IP sessions that can be in the open state. In ordinary TCP communication, packets are in the open handshaking state only briefly as a connection is being initiated; the state changes to active when packets are being exchanged, or closed when the exchange is complete. TCP connections in the open handshaking state can use up the available IP sessions. If the percentage is exceeded, then the open handshaking sessions will be closed and replaced with new sessions as they are initiated.
- **Max ICMP Count**: sets the percentage of concurrent IP sessions that can be used for ICMP messages. If the percentage is exceeded, then older ICMP IP sessions will be replaced by new sessions as they are initiated.

- **Max Host Count**: sets the max number of concurrent IP session that can originate from the computer. This number should take into account the number of hosts on the LAN.

III. Save

- Click the **Submit** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and then click **Save & Restart** button to save new settings.

4.13 RIP

Click the **RIP** of **Advanced** in the Wizard Column to set the rules of firewall. The MT882 supports RIP v1 and RIP v2 used to share routing tables with other Layer 3 routing devices on your local network or remote LAN. If your network does not employ another IP routing device, it will not be necessary to enable RIP.

I. Configuration page

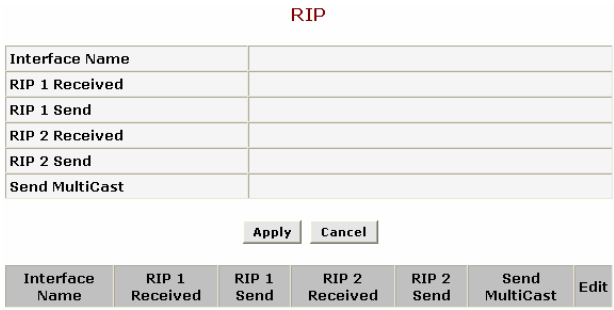

Figure 4-20 RIP Configuration

RIP can be enabled on any existing WAN or LAN interfaces. It may be specified to receive RIP requests and reply to them, and it can be specified to send RIP queries, or to both receive and send RIP packets. Furthermore, the RIP version can be specified. The table below lists the parameters that can be specified for the pull-down RIP menus. Click the **Apply** button to set up RIP as specified.

II. Parameter explanation

- **Interface Name:** it shows the interface on which you want to share routing table information with other routing devices.
- **RIP 1 Received:** select it to enable or disable receiving route information using RIP v1.
- **RIP 1 send:** select it to enable or disable sending route information using RIP v1.
- **RIP 2 Received:** select it to enable or disable receiving route information using RIP v2.
- **RIP 2 send:** select it to enable or disable sending route information using RIP v2.
- **Send MultiCast:** select it to enable or disable sending route information using MultiCast.

III. Save

- Click the **Submit** button to save the settings in the RAM.
- To save these configuration changes permanently, **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.14 Administrator Setting

Click the **Administrator Setting** of **Tools** in the Wizard Column to set the rules of firewall. **Administrator** has read/write ability on the Web page and can make some changes. You can change the Admin account password here for personal security.

I. Configuration page

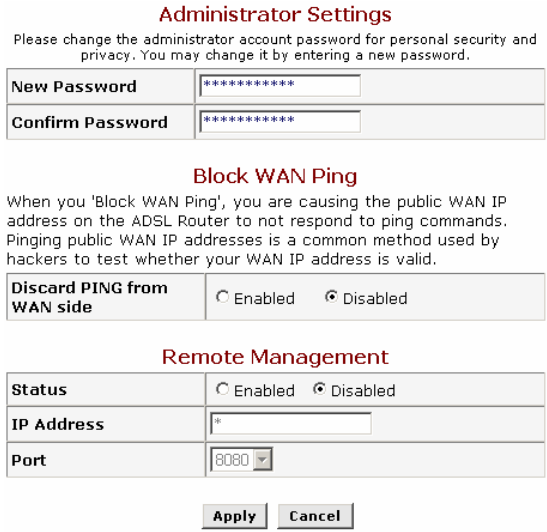

Figure 4-21 Administrator Setting

🕮 **Note:**

It is recommended to keep a record of the new password after modified.

II. Parameter explanation

- **Administrator Setting:** to change the password used to access the MT882 Web manager, Type the **New Password** and **Confirm Password** to be certain you have typed it correctly. Click the **Apply** button to activate the new password.
- **Block WAN Ping:** pinging public WAN IP addresses is a common method used by hackers to test whether your WAN IP address is valid. If you want to avoid hackers testing your WAN IP, click **Enabled** to activate this function.
- **Remote Management:** remote Management allows the device to be configured through the WAN (Wide Area Network) port from the Internet using a Web browser. A username and password are still required to access the browser-based management interface.
  - **IP Address** - enter the Internet IP address of the computer connected to the MT882. If the IP address is set to *, this allows all Internet IP addresses to access the ADSL Router.
  - **Port** - the port number is used to access the MT882.

III. Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.15 Time

Click the **Time** of **Tools** in the Wizard Column to set the system time. The "system time" is used by the unit to synchronize scheduling services and system login activities. You will need to set the time zone corresponding to your location. The time can be set manually or the device can connect to a Network Time Protocol (NTP) server to retrieve the time.

I. Configuration page

Figure 4-22 System Time Setting

II. Save

- Click the **Submit** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.16 System Setting

Click the **System Setting** of **Tools** in the Wizard Column to configure the setting of system.

I. Configuration page

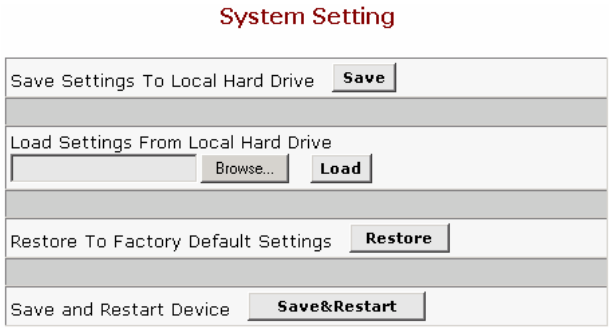

Figure 4-23 System Setting

II. Parameter explanation

- **Save:** when clicking on **Save**, The current system settings can be saved as a file onto the local hard drive. The file will be saved as **adslmodem.cfg**.

- **Browse** and **Load:** the saved file or any other saved setting file created by device can be uploaded into the unit. To reload a system setting file, click on **Browse** to search the local hard drive for the file to be used, and then click on **Load** to start loading the file.
- **Restore:** the device can also be reset back to factory default settings by clicking **Restore**. Use the restore feature only if necessary. This will erase previously saved settings for the unit.
- **Save & Restart**: you can save the new settings to permanent storage by clicking **Save & Restart**. This will put into effect any configuration changes that have been successfully saved to flash memory.

⚠ **Caution:**

Do not reboot the device using the Reset button on the back panel of the MT882 to activate new changes. This button resets the device settings to the manufacturer's default values. Any custom settings will be lost.

4.17 Firmware Upgrade

Click the hyperlink **Firmware Upgrade** in the Wizard column to open the **Firmware Upgrade** page and update the system software.

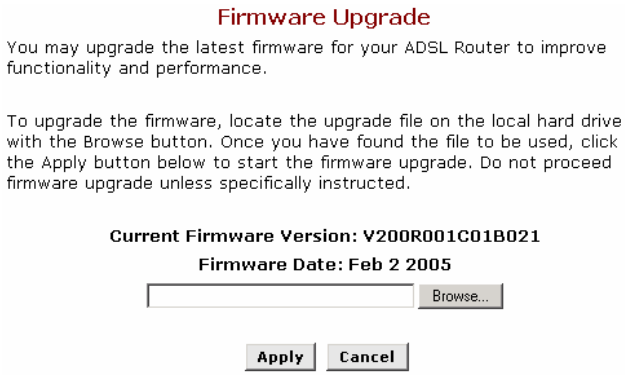

Figure 4-24 Firmware Upgrade

Upgrade File: type in the full path and file name of the firmware file to be uploaded. Alternatively you may click the Browse **button** to search for the file on your system.

When the file names have been entered, click the **Upload** button to start loading the firmware file. If the upload is successful, a message informs you that it was successfully loaded. If the firmware does not load, an error message informs you to try the upload again. Check the file names and attempt to upload again. If the file still is not loaded, reboot the device and try again.

⚠ **Caution:**

Do not power off the MT882 during the firmware upgrade process. Otherwise, the configuration in the flash could be damaged.

4.18 Log

Click the **Log** of **Status** in the Wizard Column to view the log of device.

4.18.1 View Log

The log file keeps records of the events and activities occurring on the device. It can display up to 200 events. The latest activities will overwrite the outdated ones. You may want to save the log files by clicking on **Log Setting**. When the device is rebooted, the logs are automatically cleared.

I. Configuration page

Figure 4-25 View Log

II. Buttons e]xplanation

- **First:** the first page of the log
- **Last:** the last page of the log
- **Previous:** ,moves back one log page.
- **Next:** moves forward one log page.
- **Clear:** clears the logs completely.
- **Log Settings:** brings up the page to configure the logs.

4.18.2 Log Settings

Not only does the device display the logs of activities and events, it can be setup to send these logs to another location. The logs can be sent through email to a specific email account.

I. Configuration page

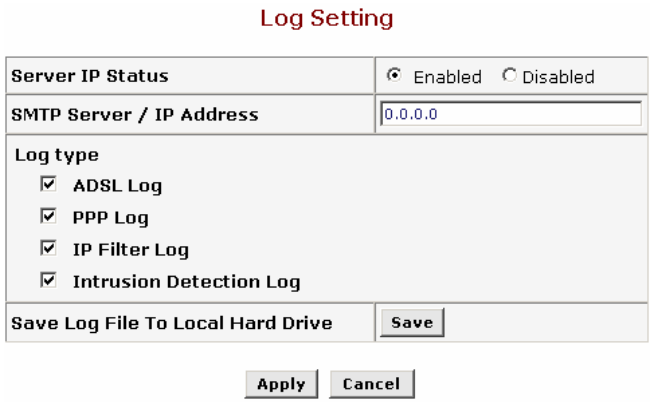

Figure 4-26 Log Setting

II. Buttons explanation

- **Server IP Status:** select it to enable or disable sending the logs.
- **SMTP Server:** the address of the SMTP (Simple Mail Transfer Protocol) server that will be used to send the logs.
- **Log Type:** select the type of activities that you want the ADSL Router to keep records.

4.18.3 Save

- Click the **Apply** button to save the settings in the RAM.
- To save these configuration changes permanently, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

4.19 Diagnostics

The diagnostics feature executes a series of test of your system software and hardware connections. Use this feature when working with your ISP to troubleshoot problems. Click the **Diagnostics** of **Status** in the Wizard Column to perform the basic diagnostics for system.

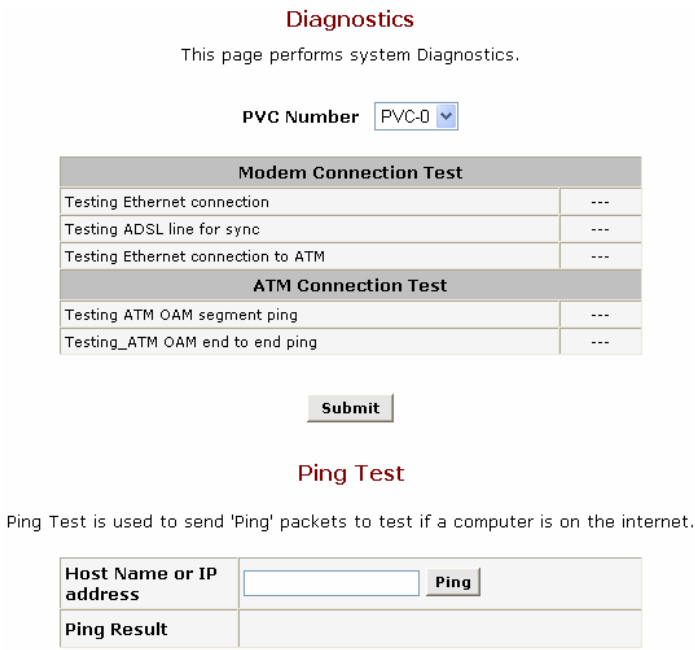

Figure 4-27 Diagnostics Window

Select the Virtual Circuit and click the **Submit** button. A message will appear, informing you whether the loop test succeeded or failed.

The diagnostics utility will run a series of test to check whether the device's connections are up and working. This takes only a few seconds. The program reports whether the test passed or failed. A test may be skipped if the program determines that no suitable interface is configured on which to run the test.

The Ping utility is essentially a tool that is used to see if a computer is operating and also to see if network connections are intact. You can enter the host name or IP address of the device you want to check, and then click the **Ping** button. The result will be shown below.

4.20 Traffic Statistics

Click the **Traffic Statistics** of **Status** in the Wizard Column to view the log of device.

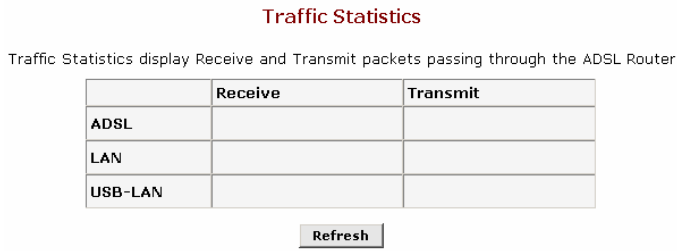

Figure 4-28 Traffic Statistics

The device keeps statistic of the data traffic that it handles. You are able to read the amount of Receive and Transmit packets that pass through the device on both the WAN (Wide Area Network) ports and the LAN (Local Area Network) ports. Click the **Refresh** button to update the counters and the **Reset** button to clear the counters. The traffic counter will reset when the device is rebooted.

5 Service Configuration

This section describes the configuration for six modes of SmartAX MT882 ADSL router device for ADSL online service. The contents include:

- Preparation for service configuration
- PPPoE
- PPPoA
- RFC 2684 Bridged (Pure Bridge)
- RFC 2684 Bridged (Static IP)
- RFC 2684 Bridged (DHCP)
- RFC 2684 Routed (IPoA)

5.1 Preparation for Service Configuration

Collect the following data firstly to perform the configuration:

Protocol types	Virtual dialup mode		DSL mode			
	PPPoE	PPPoA	RFC 2648 Bridged (Pure Bridge)	RFC 2684 Bridged (Static IP)	RFC 2684 Bridged (DHCP)	RFC 2684 Routed (IPoA)
Preparing information	Connection Type	Connection Type	Connection Type	Connection Type	Connection Type	Connection Type
	PPPoE user name	PPPoA user name	VPI/ VCI	VPI/ VCI	VPI/ VCI	VPI/ VCI
	PPPoE password	PPPoA password	None	WAN IP	None	WAN IP
	VPI/VCI	VPI/VCI	None	Subnet mask	None	Subnet mask
	Security Protocol	Security Protocol	None	Default gateway	None	Default gateway
	None	None	None	DNS	DNS	DNS

5.2 PPPoE Configuration

Configurations on MT882		
Location	**Parameters**	**Comments**
ATM Setting	PVC	Select any one from the eight PVCs.
	VPI/VCI	The value shall be provided by your ISP.
	Wan Type	Select “PPP”.
	Connection type	Select “PPPoE”.
	User name and Password	The values shall be provided by your ISP.
	Default Route	Select “Enable”.
	DNS	Select “Enable”.
DNS	It is recommended to have DNS Relay function enabled.	
DHCP Mode	It is recommended to have DHCP Server function enabled.	
Configurations on the user PC		
IP Address and Network Mask	It is recommended to set the mode as obtaining an IP address automatically.	
DNS	It is recommended to set the mode as obtaining a DNS server’s IP address automatically.	

5.3 PPPoA Configuration

Configurations on MT882		
Location	**Parameters**	**Comments**
ATM Setting	PVC	Select any one from the eight PVCs.
	VPI/VCI	The value shall be provided by your ISP.
	Encapsulation	The value shall be provided by your ISP. Usually you can keep the default value: LLC.
	Wan Type	Select “PPP”.
	Connection Type	Select “PPPoA”.
	User name and Password	The values shall be provided by your ISP.
	Default Route	Select “Enable”.
	DNS	Select “Enable”.
Configurations on MT882		
NAT	It is recommended to enable the function of NAT.	
DNS	It is recommended to have DNS Relay function enabled.	
DHCP Mode	It is recommended to have DHCP Server function enabled.	
Configurations on the user’s PC		

Configurations on MT882		
Location	**Parameters**	**Comments**
IP Address and Network Mask	It is recommended to set the mode as obtaining an IP address automatically.	
DNS	It is recommended to set the mode as obtaining a DNS server's IP address automatically.	

5.4 RFC 2684 Bridged (Pure Bridge) Configuration

Configurations on MT882		
Location	**Parameters**	**Comments**
ATM Setting	PVC	Select any one from the eight PVCs.
	VPI/VCI	The value shall be provided by your ISP.
	Encapsulation	The value shall be provided by your ISP. Usually you can keep the default value: LLC.
	Wan Type	Select "RFC2684 Bridged".
	Connection Type	Select "Pure Bridge".
Configurations on the user PC		
PPPoE Dial–up Application	Before connecting to the Internet, the user shall have PPPoE dial–up application installed on the PC.	

5.5 RFC 2684 Bridged (Static IP) Configuration

Configurations on MT882		
Location	**Parameters**	**Comments**
ATM Setting	PVC	Select any one from the eight PVCs.
	VPI/VCI	The value shall be provided by your ISP.
	Encapsulation	The value shall be provided by your ISP. Usually you can keep the default value: LLC.
	Wan Type	Select “RFC2684 Bridged”.
	Connection Type	Select “Static IP”.
	IP Address and Subnet Mast	The values shall be provided by your ISP.
	Default Route	Select “Enable”.
	Gateway IP Address	The value shall be provided by your ISP.
NAT	It is recommended to enable the function of NAT.	
DNS	It is recommended to have DNS Relay function enabled. And set DNS IP address provided by your ISP.	
DHCP Mode	It is recommended to have DHCP Server function enabled.	

Configurations on the user PC	
IP Address and Network Mask	It is recommended to set the mode as obtaining an IP address automatically.
DNS	It is recommended to set the mode as obtaining a DNS server's IP address automatically.

5.6 RFC 2684 Bridged (DHCP) Configuration

Configurations on MT882		
Location	**Parameters**	**Comments**
ATM Setting	PVC	Select any one from the eight PVCs.
	VPI/VCI	The value shall be provided by your ISP.
	Encapsulation	The value shall be provided by your ISP. Usually you can keep the default value: LLC.
	Wan Type	Select "RFC2684 Bridged".
	Connection Type	Select "DHCP".
	Default Route	Select "Enable".
NAT	It is recommended to enable the function of NAT.	
DNS	It is recommended to have DNS Relay function enabled. And set DNS IP address provided by your ISP.	

Configurations on MT882		
Location	**Parameters**	**Comments**
DHCP Mode	It is recommended to have DHCP Server function enabled.	
Configurations on the user PC		
IP Address and Network Mask	It is recommended to set the mode as obtaining an IP address automatically.	
DNS	It is recommended to set the mode as obtaining a DNS server's IP address automatically.	

5.7 RFC 2684 Route (IPoA) Configuration

Configurations on MT882		
Location	**Parameters**	**Comments**
ATM Setting	PVC	Select any one from the eight PVCs.
	VPI/VCI	The value shall be provided by your ISP.
	Encapsulation	The value shall be provided by your ISP. Usually you can keep the default value: LLC.
	Wan Type	Select "RFC2684 Routed (IPoA)".
	IP Address and Subnet Mast	The values shall be provided by your ISP.

Configurations on MT882		
Location	**Parameters**	**Comments**
	Default Route	Select “Enable”.
	Gateway IP Address	The value shall be provided by your ISP.
NAT	It is recommended to enable the function of NAT.	
DNS	It is recommended to have DNS Relay function enabled. And set DNS IP address provided by your ISP.	
DHCP Mode	It is recommended to have DHCP Server function enabled.	
Configurations on the user PC		
IP Address and network mask	It is recommended to set the mode as obtaining an IP address automatically.	
DNS	It is recommended to set the mode as obtaining a DNS server’s IP address automatically.	

🕮 **Note:**

For other advanced configurations, please refer to 4 Web-Based Management

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6 Troubleshooting Guide

6.1 Quick Troubleshooting

Failures	Instructions
Power light is out.	1. Ensure power adapter is well connected. 2. Ensure the right power adapter is used.
ADSL LINK light is out.	1. Ensure the ADSL line is well connected. 2. Ensure the telephone line before entering the house is valid, and try to test with a telephone. 3. Check that there is no junction box before connecting MT882, which has such components like capacitors or diodes that could hinder back high frequency signals. 4. Ensure the MT882 and telephones are connected in the right way.
LAN LINK light is out.	1. Ensure you use the right cables from the MT882 to your PC. 2. Ensure the connection is secured. 3. Check if the NIC LED lights up. 4. Ensure your Network Adapter works normally by examining whether the item of “Networking Adapters” is labeled with “**?**” or “**!**”. If it is, you may delete it and then click “Refresh” to reinstall. Otherwise, you may try the NIC in another slot. As a last resort, you have to replace the NIC.

Failures	Instructions
You can't access the Internet.	Take the most common access mode as an example, in which a dial-up application is installed on the user's computer: 1. Ensure that any of the problems above is not the reason. 2. Ensure that the dial-up application is correctly installed and set on your PC. 3. Ensure that you have entered the right user name and password. 4. Ensure "Use Proxy Server" is set properly for IE, if the problem still remains even after you have log into successfully. 5. Try more than one Web sites, in case of some Web server's being in failure.

6.2 FAQs

Q: Why can't my computer access the Internet, even when the physical links are well connected?

Check first whether the LEDs are in normal status. If they do, you have to find help to adjust the settings on the MT882.

Q: I forget the username and password when I am to log into the Web-based Configuration Manager. Or I just can't access the Web-based Configuration Manager.

1) Please press reset **button** on the rear panel for 3 seconds to restore factory default settings of the MT882

2) Indicate your NIC IP address to 192.168.1.3
3) Disable Proxy service.
4) Launch your Web browser and type in http://192.168.1.1
5) Use the default user name: admin and password: admin

Q: My configuration is gone after I reboot the MT882.

If you want to keep your settings after rebooting the MT882. Please go to Web-based Configuration Manager, enter the **Tools>System Setting** page, and click **Save & Restart** button to save new settings.

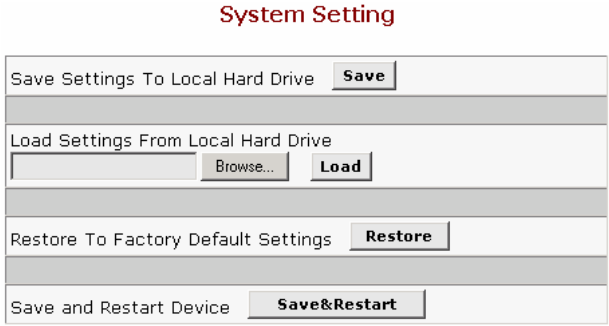


Figure 6-1 System Setting

Q: I can't upgrade with the new firmware.

Please make sure the file that you have downloaded is valid.

Q: Why can't I access the Internet by using virtual dialing through Microsoft's Internet Gateway?

Internet Gateway supports PPPoE itself. No other PPPoE terminal software shall be installed again.

Q: Why does my PC fall off line sometimes even with all LEDs are in normal status?

The following scenarios may cause this problem..

1) Be disconnected by the ISP.
2) Some ISPs will have idle timeout setting to avoid wasting IP. When the end user connects to the Internet too long without any packet, the ISP will drop the connection. Please contact with your ISP about this problem.
3) Some ISPs don't provide a good quality ADSL signal line. Therefore, when the ADSL line is unstable, your connection will be dropped. Try with a telephone and find the status of your ADSL signal line.
4) If you have contacted the ISP and they promised the quality of ADSL line, it may be the hardware issue and please contact your vendor.

Q: When can I use the "Restore Factory Default Setting" button?

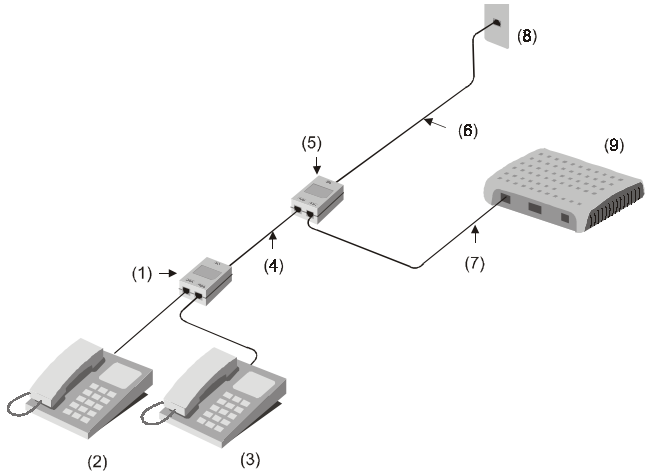
If you changed some setting unconsciously in the Web Management Interface and you forgot the detailed values that you modified, please use the "Restore Factory Default Setting" button to recover the factory default settings.

Q: How many methods can be used to restore the factory default setting?

Totally two methods: 1) by the reset button on the rear panel of the device. Push it three times continuously to take the factory default setting into effect; 2) Select the option **Factory Setting Reboot** in the page of **Save & Reboot** and then click **Submit** button.

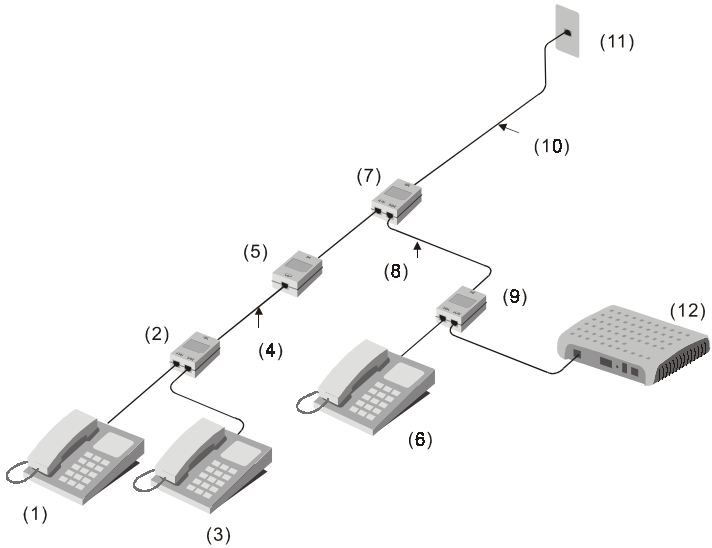
Q: How to connect multiple phones?

Follow the figures below to complete the installation. Note that the MT882 needs the splitter for proper working.



(1) Phone Socket (2~3) Phone
(4) RJ-11 Tel Cable (5) Splitter (6~7) RJ-11 Tel Cable
(8) Phone Jack (9) MT882

Figure 6-2 Connect Multiple Phones-1



(1) Phone	(2) Phone Socket	(3) Phone
(4) RJ-11 Tel Cable	(5) Splitter	(6) RJ-11 Tel Cable
(7) Phone Socket	(8) RJ-11 Tel Cable	(9) Splitter
(10) RJ-11 Tel Cable	(11) Phone Jack	(12) MT882

Figure 6-3 Connect Multiple Phones-2

7 Technical Specifications

<table>
<tr><th colspan="3">General Specifications</th></tr>
<tr><td rowspan="3">Standards</td><td rowspan="3">ADSL Standards:
ANSI T1.413 Issue 2
ITU G.992.1 (G.dmt) AnnexA
ITU G.992.2 (G.lite) Annex A
ITU G.994.1 (G.hs)</td><td>ADSL2 Standards:
ITU G.992.3 (G.dmt.bis) Annex A
ITU G.992.4 (G.lite.bis) Annex A</td></tr>
<tr><td>RE-ADSL2 Standards:
ITU G.992.3 (G.dmt.bis) Annex L
ITU G.992.4 (G.lite.bis) Annex L</td></tr>
<tr><td>ADSL2+ Standards:
ITU G.992.5 Annex A</td></tr>
<tr><td>Data Transfer Rate</td><td colspan="2">G.992.5 (ADSL2+):
downstream rate of 26 Mbps, and upstream rate of 1.2 Mbps</td></tr>
<tr><td>External Interface</td><td colspan="2">One RJ-11 ports for ADSL line connection
One USB port for USB cable connection
One RJ-45 port for 10/100 Base-T Ethernet connection</td></tr>
</table>

Physical and Environmental Specifications	
Power Adapter	9 V AC 1A
Power Consumption	Max. 9 W
Operating Temperature	0°C to 40°C (32°F to 104° F)
Humidity	5% to 95% (non-condensing)
Dimensions	135 mm x 110 mm x 28 mm
Weight	180 g

🕮 **Note:**

- There might be different power adapter used in different regions. Please make sure that your power adapter is in conformity with the sign in the rear panel (9V AC 1A or 9V DC 1A).
- Waterproof measures should be used during the storage, transportation and running of the equipment.

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8 Appendix

8.1 Factory Default Settings

User name		admin	
Password		admin	
IP address		192.168.1.1	
Subnet mask		255.255.255.0	
DSL Mode		Multimode	
RFC 2684 Bridged Mode	PVC0	VPI =0	VCI=35
	PVC1	VPI =8	VCI=35
	PVC2	VPI= 0	VCI= 100
	PVC3	VPI =0	VCI=32
	PVC4	VPI =8	VCI=81
	PVC5	VPI= 8	VCI=32
	PVC6	VPI= 14	VCI=24
DHCP Mode		Disable	
NAT		Enable	

8.2 FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with Part 68 of the Federal Communications Commission (FCC) rules and regulations published

by the industry's Administrative Council for Terminal Attachments (ACTC). On the （Location, such as rear clip）of this equipment is a label that contains, among other information, the FCC registration number and Ringer Equivalence Number (REN) for this equipment. If requested, provide the information to the telephone company.

Registration Jack USOC: RJ-45

RJ-11

USB (Type B)

The telephone cord and modular provided with this equipment is compliant with the criteria of the telecommunication industry. This equipment is designed for connection to the telephone network or premises wiring using a compatible modular jack that is also compliant.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of the devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. The REN for this product may be printed on the product label or part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g., 03 is a RN of 0.3).

If the terminal equipment (ADSL device) causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. However,

if advance notice isn't practical, the telephone company will notify the customer as soon as possible. In addition, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service. If trouble is experienced with the (ADSL device), please contact **Huawei Technologies Co., Ltd.** XXXXXX(phone number) for repair or warranty information.

If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

The customers can make some simple repairs, such as replace fuses, plug in cards, etc.

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this equipment does not disable alarm equipment; consult your telephone company or a qualified installer.

If this equipment has a telephone receiver, it is hearing aid compatible.

8.3 Abbreviations

Abbreviation	Description
ADSL	Asymmetric Digital Subscriber Line
ATM	Asynchronous Transfer Mode
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Server
DSLAM	Digital Subscriber Line Access Multiplex
HTML	Hypertext Markup Language
IP	Internet Protocols
ICMP	Internet Control Message Protocol
IPoA	Internet Protocols Over ATM
ISP	Internet Service Provider
LAN	Local Area Network
MA	Media Access Module
MAC	Media Access Control
MIB	Management Information Base
NIC	Network Interface Card
NMS	Network Management Station
PPP	Point to Point Protocol
PPPoA	PPP over ATM
PPPoE	PPP over Ethernet
PVC	Permanent Virtual Connection
RAM	Random Access Memory

Abbreviation	Description
RIP	Routing Information Protocol
SNMP	Simple Network Management Protocol
TCP	Transfer Control Protocol
TFTP	Trivial File Transfer Protocol
UDP	User Datagram Protocol
VCI	Virtual Channel Identifier
VPI	Virtual Path Identifier
WAN	Wide Area Network

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