DrayTek

VigorTalk ATA-24
24-Port Analogue Terminal Adapter

User's Guide

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① Preface

The VigorTalk ATA-24 series integrates a rich suite of functions. These products are very suitable for providing multi-integrated solutions to SME markets. An application scenario for the VigorTalk ATA-24 is depicted in Figure 1-1, which illustrates interconnections among branch offices through the Internet via the VigorTalk ATA-24 adapter. By combining with an existing PBX, an Internet phone from a remote branch can also access any extension number on a local PBX or a traditional phone via PSTN. Also, with Internet phone features, the company can benefit from reducing operation fees.
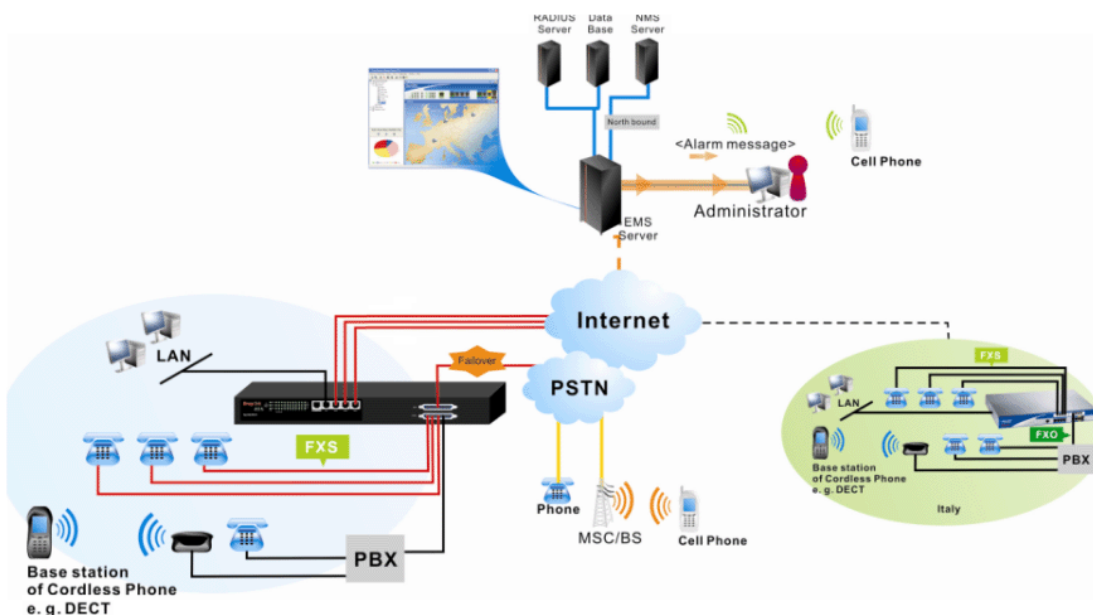
Internet Telephony, also known as Voice over Internet Protocol (VoIP), is a technology that allows you to make telephone calls using a broadband Internet connection instead of a regular (analog) phone line. Combining a PBX with the adapter allows you to call anyone who has an Internet phone or a traditional telephone number – including local, long distance, mobile, and international numbers. Internet Telephony offers features and services that are unavailable with a traditional phone at no additional cost. Because Internet Telephony requires strictly minimal packet delay and jitter (since voice quality is intolerant of packet loss), the adapter integrates VoIP feature with QoS and packet loss concealment mechanisms to effectively transport high priority voice traffic over IP with low latency. Another feature is T.38 fax relay. By enabling and configuring fax rate on a dial peer, the originating and the terminating adapter can enter fax relay transfer mode. By using the T.38 function, customers can also save on fax expenses.

1.1 LED Indicators and Connection

The VigorTalk ATA-24 has 3 WAN interfaces. This allows the system to reach peak performance and reduces the cost of maintaining a single high-speed trunk by sharing the load amongst the multiple WAN interfaces. Each interface can be connected to an individual Internet Service Provider. The VigorTalk ATA-24 also supports a backup function for WAN interfaces – a user can select one WAN interface to be a backup interface. If the master interface fails, the backup interface will take the place of the master interface immediately.
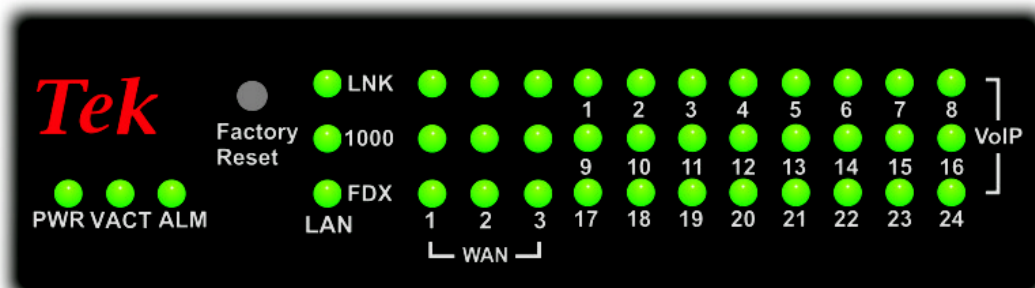
LED		Status	Explanation
PWR		On	The adapter is powered on.
		Off	The adapter is powered off.
VACT		On/Blinking	The system is active.
		Off	The system is hanged.
ALM		On	The system alarm is active.
LAN	LNK	On	The Ethernet link is established.
		Blinking	The data transmission is done through the corresponding port.
		Off	No Ethernet link is established.
	1000	On	It means that a normal 1000 Mbps connection is through its corresponding port.
		Off	It means that a normal 100/10 Mbps connection is through its corresponding port.
	FDX	On	It means a full duplex connection on corresponding port.
		Off	It means a half duplex connection on corresponding port.

LED		Status	Explanation
WAN1/2/3	LNK	On	The Ethernet link is established on corresponding port.
		Off	No Ethernet link is established.
	1000	On	It means that a normal 1000 Mbps connection is through its corresponding port.
		Off	It means that a normal 100 Mbps connection is through its corresponding port.
	FDX	On	It means a full duplex connection on corresponding port.
		Off	It means a half duplex connection on corresponding port.
VoIP (1-24)		On	The phone is off hook (the handset of phone is hanging).
		Blinking	A phone call is incoming or on-line.

Factory Reset:

Used to restore the default settings. Turn on the adapter (**VACT** LED is blinking). Press the hole and hold for more than 5 seconds. When you see the **VACT** LED begins to blink rapidly than usual, release the button. Then the adapter will restart with the factory default configuration.
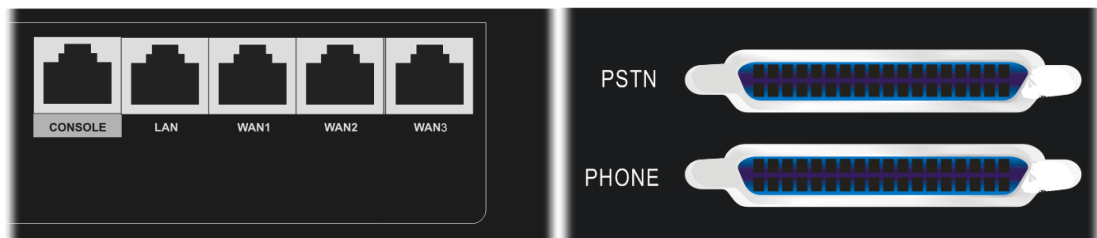
Interface	Description
Console	Provided for technician use.
LAN	Connecter for local networked devices.
WAN (WAN1 ~ WAN3)	Connecter for remote networked devices.

1.2 Hardware Installation

Before starting to configure the adapter, you have to connect your devices correctly.

1. Connect one end of an Ethernet cable (RJ-45) to one of the **LAN** ports of VigorTalk ATA-24. Connect the other end of the cable (RJ-45) to the Ethernet port on your computer (that device also can connect to other computers to form a small area network).

2. Connect a server/modem/adapter (depends on your requirement) to any available WAN port of the device with Ethernet cable (RJ-45).

3. Connect telephone sets to the **Phone** port of VigorTalk ATA-24 with telephone lines (RJ-11 to RJ-11).

4. Connect the **PSTN** port to PABX.

5. Connect the power cord to the power port of VigorTalk ATA-24 adapter on the rear panel, and the other side into a wall outlet.

6. Power on the device by pressing the power switch on the rear panel.

7. The system starts to initiate. The **PWR** LED should be **ON**. After completing the system test, the **ACT** LED will light up and start blinking. The **LAN/WAN** LED for that port on the front panel will light up.

Below shows an outline of the hardware installation for your reference (take VigorTalk ATA-24 as an example).
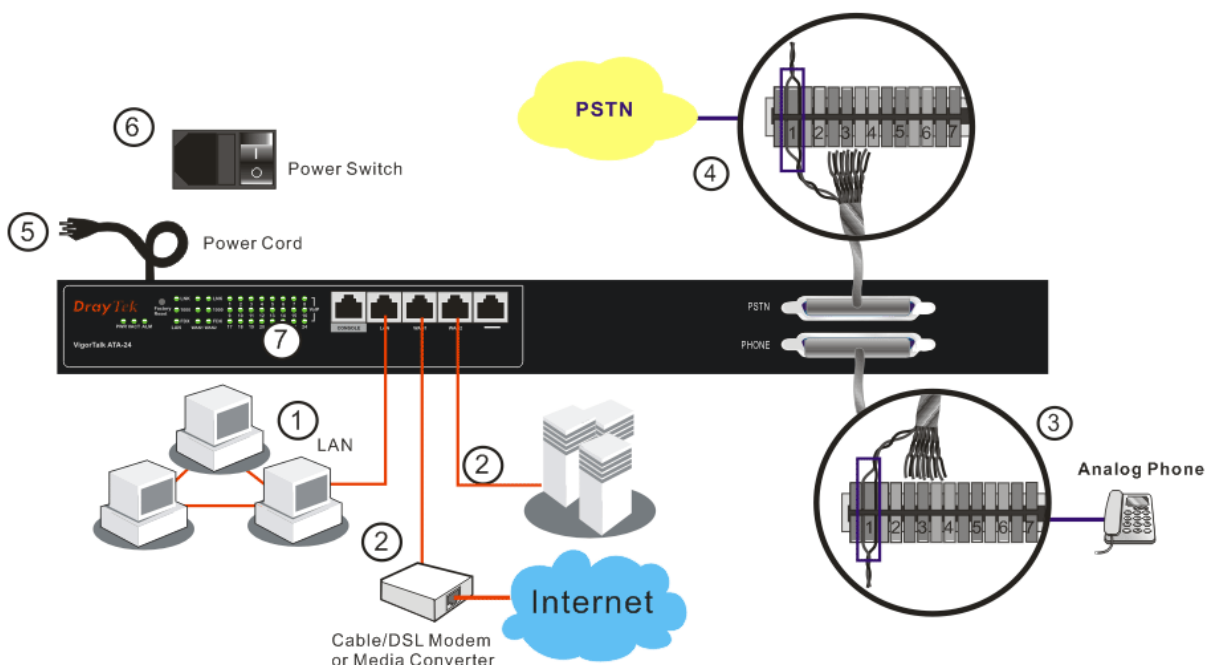
1.2.1 Detailed Explanation for the Connector

Here provides you detailed explanation for some specific connectors that you have to be familiar.

The RS232 Connector

The RJ45 connection jet is used for CLI commands for system configuration and control functions in the VigorTalk ATA-24. The jet is used for initialization of the VigorTalk ATA-24 during preliminary installation. The "management cable", as shown below, converts the RJ45 to the RS232 interface. The RJ45 jet connects to a console interface in theVigorTalk ATA-24, while the RS232 DB9 connects to a console port on the computer. The default setting of the console port is "**baud rate 57600, no parity, and 8 bit with 1 stop bit**."
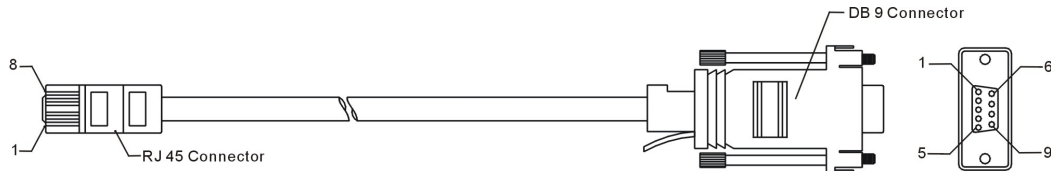
Standard 10/100 Base-T Ethernet Interface Connector

RJ45 jets provide 10/100 Base-T Ethernet interfaces. The interface supports MDI/MDIX auto-detection of either straight or crossover RJ45 cables. These cables are used on WAN, LAN, and DMZ interfaces.
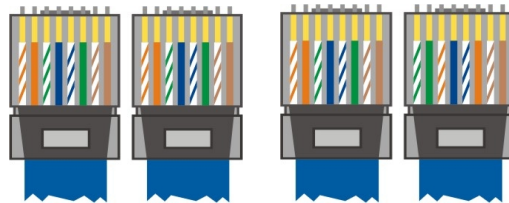
Chassis Connections

The VigorTalk ATA-24 can be mounted on a rack by using standard brackets in a 19-inch rack or optional larger brackets on 23-inch rack (not included). The bracket for 19- and 23-inch racks are shown below.

Attach the brackets to the chassis of a 19- or a 23-inch rack (as shown in the figures below). Repeat the above procedure for the second bracket, which attaches the other side of the chassis.
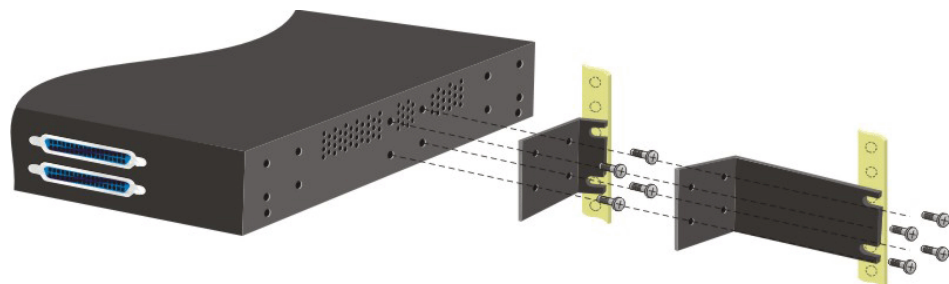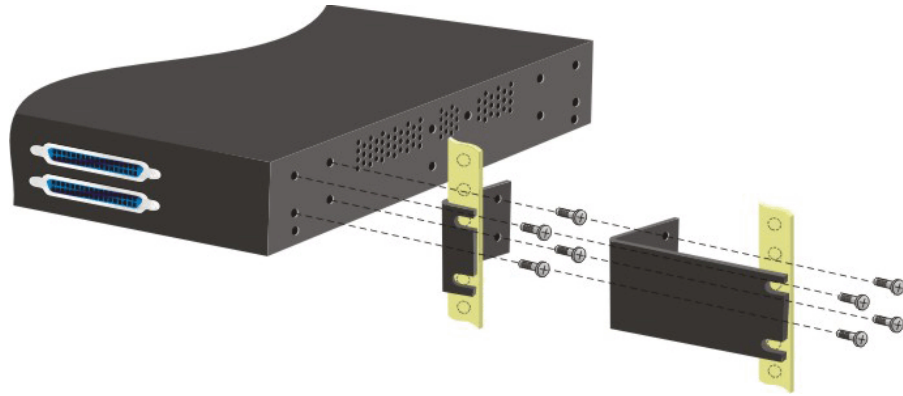
After the bracket installation, the VigorTalk ATA-24 chassis can be installed in a rack by using four screws for each side of the rack.

Desktop Type Installation

Rubber pads are included with the VigorTalk ATA-24. These rubber pads improve the air circulation and decrease unnecessary rubbing on the desktop.

② Configuring Basic Settings

For use the adapter properly, it is necessary for you to change the password of web configuration for security and adjust primary basic settings.

This chapter explains how to setup a password for an administrator and how to adjust basic settings for accessing Internet successfully.

2.1 Changing Password

To change the password for this device, you have to access into the web browser with default password first.

1. Make sure your computer connects to the adapter correctly.

   Notice: You may either simply set up your computer to get IP dynamically from the adapter or set up the IP address of the computer to be the same subnet as **the default IP address of Vigor adapter 192.168.1.1**. For the detailed information, please refer to the later section - Trouble Shooting of this guide.

2. Open a web browser on your PC and type **http://192.168.1.1.** A pop-up window will open to ask for username and password. Please type default values on the window for the first time accessing. The default value for user name is **admin** and the password is **1234**. Next, click **OK**.
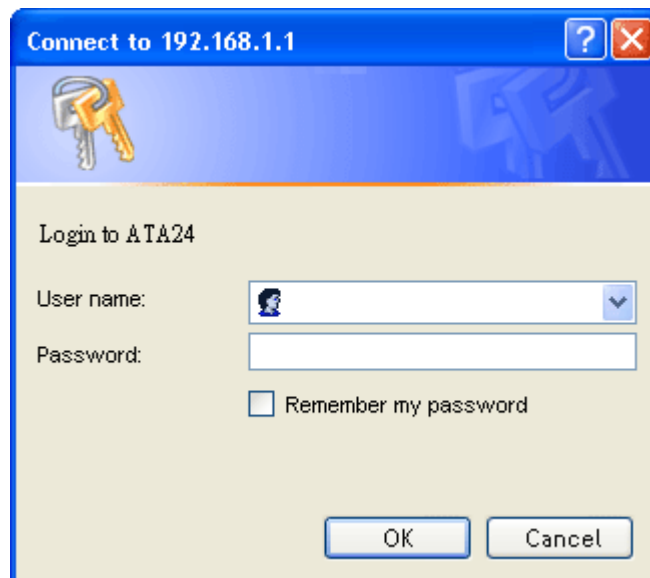
3. Now, the **Main Screen** will pop up.
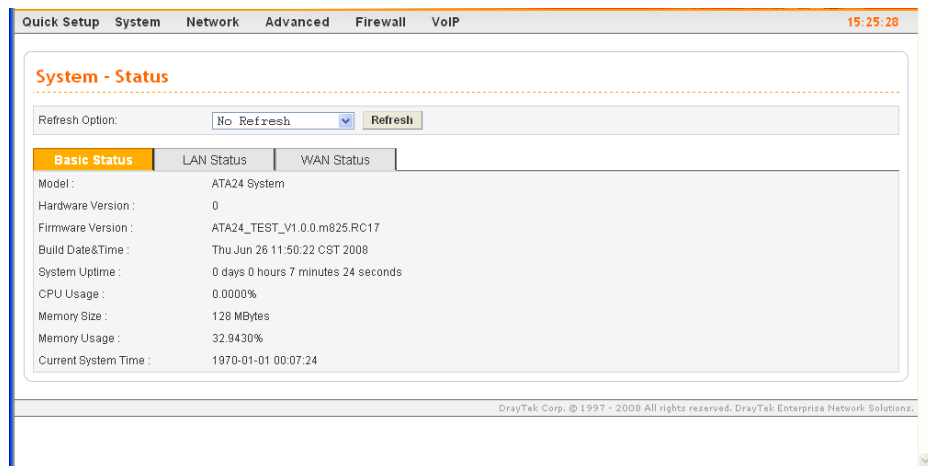
4. Go to **System** page and choose **Change Password**.
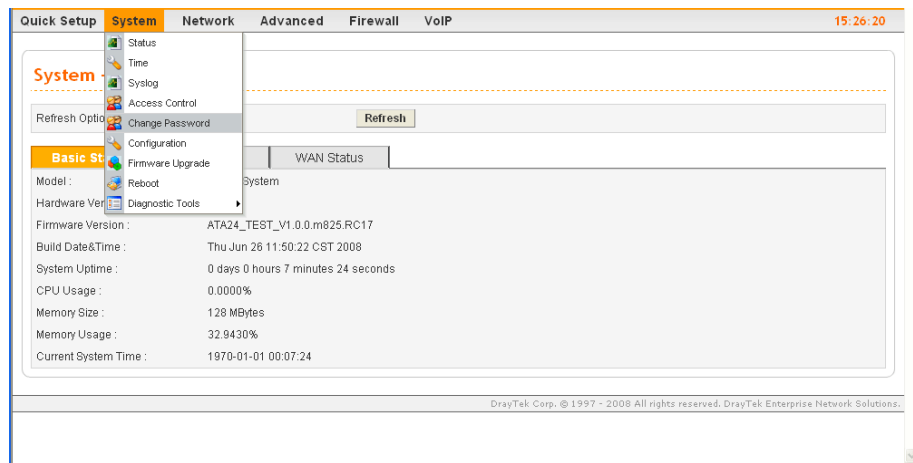
5. The following screen will appear.
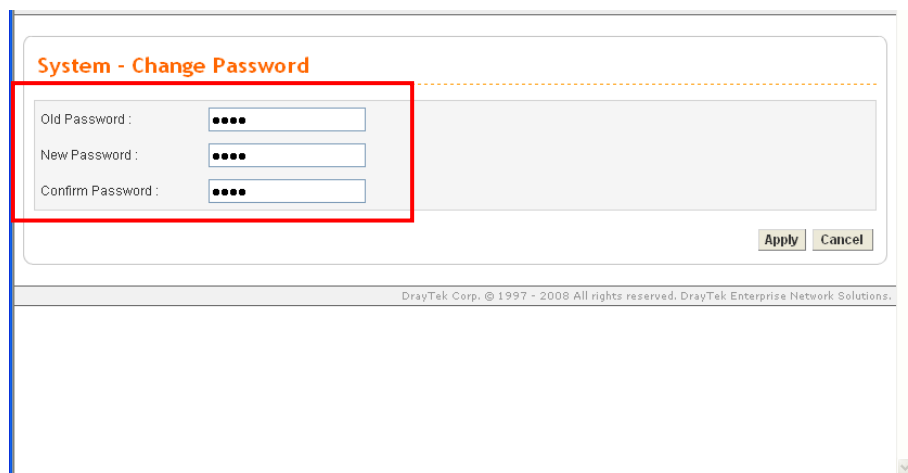
6. Enter the login password (1234) on the field of Old Password. Type a new one in the field of New Password and retype it on the field of Confirm Password. Then click **Apply** to continue.

7. Now, the password has been changed. Next time, use the new password to access the Web Configurator for this adapter.

8. Next, you will see the login screen after clicking **Apply**. Please use new password to re-enter the system configuration.

2.2 Quick Setup

Quick Setup is designed for configuring your broadband adapter accessing Internet with simply steps. There are two phases of quick setup, one is WAN configuration and the other is LAN configuration.

2.2.1 Adjusting WAN Connection Mode

In the **Quick Setup** group, you can configure the adapter to access the Internet with different modes such as Static, DHCP, PPPoE, or PPTP modes. For most users, Internet access is the primary application. The adapter supports the Ethernet WAN interface for Internet access. The following sections will explain in more detail the various broadband access configurations. All settings in this section will be applied in the first WAN1 interface.

Now, you have to select an appropriate WAN connection type for connecting to the Internet through this adapter according to the settings that your ISP provided.

MAC Address   *Adapter Default-*

Use the default Mac address stored originally in adapter.

User Definition-

	Use a MAC address defined by the user.
Downstream Rate	Assign the downstream rate for this WAN interface. The default value is 102400 kbps (100 Megabit). This setting is very important for VigorTalk ATA-24 incoming buffer adjustment. If you use a DSL subscriber service with a 2Mbps downstream, please set the downstream rate setting with 2Mbps.
Upstream Rate	Assign the transmission rate for this WAN interface. The default value is 102400 kbps (100 Megabit). This setting is very important for VigorTalk ATA-24 outgoing buffer adjustment. If you use a DSL subscriber service with a 256Kbps downstream, please set the downstream rate setting with 256Kbps.
Type	Select a connection type for this WAN interface. Currently, there is only one setting offered for you to choose - Fast Ethernet.
Physical Mode	Select connection speed mode for this WAN interface. There are **auto negotiation**, **full duplex**, and **half duplex** of either 10/100/1000M speed options for the WAN Interface.
IP Mode	Select an IP mode for this WAN interface. There are four available modes for Internet access, **Static**, **DHCP**, **PPPoE,** and **PPTP**. On this page you may configure the WAN interface to use **Static** (fixed IP), **DHCP** (dynamic IP address), **PPPoE** or **PPTP**. Most of the cable users will use the **DHCP** mode to get a globally reachable IP address from the cable host system.

2.2.2 Static Mode

You can manually assign a static IP address to the WAN interface and complete the configuration by applying the settings and rebooting your adapter. Choosing **Static** as the IP mode, you will see the following page:

All the settings here are set by privately. Your ISP will not provide these settings.

IP Address	Assign a private IP address to the WAN interface.
Subnet Mask	Assign a subnet mask value to the WAN interface.
Default Gateway	Assign a private IP address to the gateway.
Primary DNS	Assign a private IP address to the primary DNS.
Secondary DNS	Assign a private IP address to the secondary DNS.
IP Alias List	Assign other IP addresses to be bound to this interface. This setting is optional.

After setting up the **WAN** interface, the user can click **Next** to setup the LAN interface continuously.

LAN – LAN IP/DHCP Page

IP Address	Assign an IP address for the LAN interface.
Subnet Mask	Assign the subnet mask for the LAN interface.
Status	Click **Enable** to use DHCP server; click **Disable** to close DHCP server.
Start IP	Assign the start IP address of the IP pool that DHCP server can use for clients in LAN.
End IP	Assign the end IP address of the IP pool that DHCP sever can use for clients in LAN.
Primary DNS	Type the IP address for primary DNS.
Secondary DNS	Type the IP address for secondary DNS.
Lease Time	Type the number for lease time. The default setting is 1440.
Gateway IP	Type the IP address as DHCP client.

When you finished the above required settings, please click **Finish**. A system reboot page will appear. Click **Apply** to activate the static mode configuration.

2.2.3 DHCP Mode

DHCP allows a user to obtain an IP address automatically from a DHCP server on the Internet. If you choose **DHCP** mode, the DHCP server of your ISP will assign a dynamic IP address for VigorTalk ATA-24 automatically. It is not necessary for you to assign any setting. (Host Name and Domain Name are required for some ISPs). S   imply click **Next** to setup LAN interface.

After setting up the **WAN** interface, the user can click **Next** to setup the LAN interface continuously.

LAN – LAN IP/DHCP Page

IP Address	Assign an IP address for the LAN interface.
Subnet Mask	Assign the subnet mask for the LAN interface.
Status	Click **Enable** to use DHCP server; click **Disable** to close DHCP server; click **Relay Agent** to activate relay agent function.
Start IP	Assign the start IP address of the IP pool that DHCP server can use for clients in LAN.

End IP	Assign the end IP address of the IP pool that DHCP sever can use for clients in LAN.
Primary DNS	Type the IP address for primary DNS.
Secondary DNS	Type the IP address for secondary DNS.
Lease Time	Type the number for lease time. The default setting is 1440.
Gateway IP	Type the IP address as DHCP client.

When you finished the above required settings, please click **Finish**. A system reboot page will appear. Click **Apply** to activate the static mode configuration.

2.2.4 PPPoE

This mode is used for most of DSL modem users. All local users can share one PPPoE connection to access the Internet. Your service provider will give you the user name, password, and authentication mode for PPPoE settings.

If your ISP provides you the **PPPoE** (Point-to-Point Protocol over Ethernet) connection, please select **PPPoE** for this adapter to get the following page. Enter the **username** and **password** provided by your ISP on the web page.

User Name	Assign a specific valid user name provided by the ISP.
Password	Assign a valid password provided by the ISP.
Authentication	Select **PAP** or **CHAP** protocol for PPP authentication. The default value is **PAP**.
Service Name	Assign a service name required from ISP service.

After setting up the **WAN** interface, the user can click **Next** to setup the LAN interface

continuously. **LAN – LAN IP/DHCP Page**

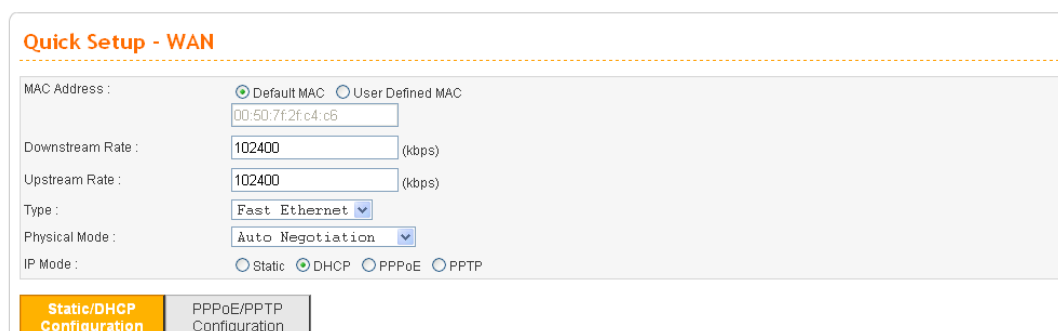| IP Address	Assign an IP address for the LAN interface.
Subnet Mask	Assign the subnet mask for the LAN interface.
Status	Click **Enable** to use DHCP server; click **Disable** to close DHCP server; click **Relay Agent** to activate relay agent function.
Start IP	Assign the start IP address of the IP pool that DHCP server can use for clients in LAN.
End IP	Assign the end IP address of the IP pool that DHCP sever can use for clients in LAN.
Primary DNS	Type the IP address for primary DNS.
Secondary DNS	Type the IP address for secondary DNS.
Lease Time	Type the number for lease time. The default setting is 1440.
Gateway IP	Type the IP address as DHCP client.

When you finished the above required settings, please click **Finish**. A system reboot page will appear. Click **Apply** to activate the static mode configuration.
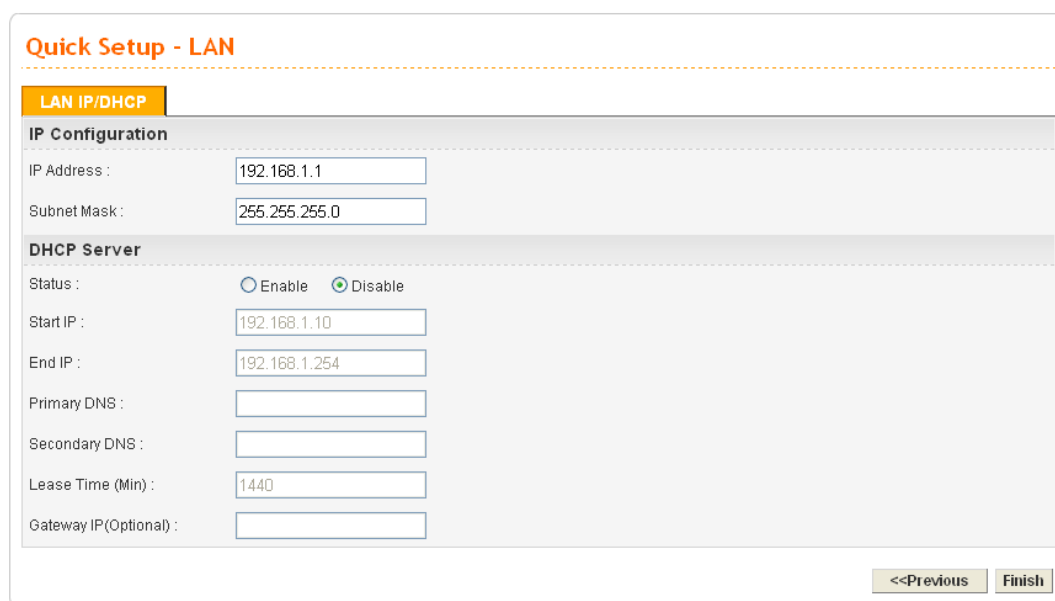
2.2.5 PPTP

This mode lets user get the IP group information by a DSL modem with PPTP service from ISP. Your service provider will give you user name, password, and authentication mode for a PPTP setting.

If your ISP offers you **PPTP** (Point-to-Point Tunneling Protocol) mode, please select **PPTP** for this adapter. Next, enter the **PPTP Subnet Mask (e.g., 255.255.255.0), PPTP Local Address (e.g., 10.66.99.88)** and **PPTP Remote Address (e.g., 172.66.99.88)** provided by your ISP on the web page.

PPTP Local Address   Assign a local IP address of PPTP.

PPTP Subnet Mask   Assign a net mask value for IP address of PPTP.

PPTP Remote Address   Assign a remote IP address of PPTP server.

After setting up the **WAN** interface, the user can click **Next** to setup the LAN interface continuously.

LAN – LAN IP/DHCP Page

IP Address	Assign an IP address for the LAN interface.
Subnet Mask	Assign the subnet mask for the LAN interface.
Status	Click **Enable** to use DHCP server; click **Disable** to close DHCP server; click **Relay Agent** to activate relay agent function.
Start IP	Assign the start IP address of the IP pool that DHCP server can use for clients in LAN.
End IP	Assign the end IP address of the IP pool that DHCP sever can use for clients in LAN.
Primary DNS	Type the IP address for primary DNS.
Secondary DNS	Type the IP address for secondary DNS.
Lease Time	Type the number for lease time. The default setting is 1440.
Gateway IP	Type the IP address as DHCP client.

When you finished the above required settings, please click **Finish**. A system reboot page will appear. Click **Apply** to activate the static mode configuration.

③ Advanced Configuration

After finished basic configuration of the adapter, you can access Internet with ease. For the user who wants to adjust more setting for suiting his/her request, please refer to this chapter for getting detailed information about the advanced configuration of this adapter.

3.1 System setup

For the system setup, there are several items that you have to know the way of configuration: Status, Time Setup, Syslog Setup, Access Control Setup, Reboot and Firmware Upgrade Setup, Diagnostic Tools and Configuration Setup.

System
- Status
- Time
- Syslog
- Access Control
- Change Password
- Configuration
- Firmware Upgrade
- Reboot
- Diagnostic Tools ▶
  - View Routing Table
  - View ARP Cache Table
  - View DHCP Assignment Table
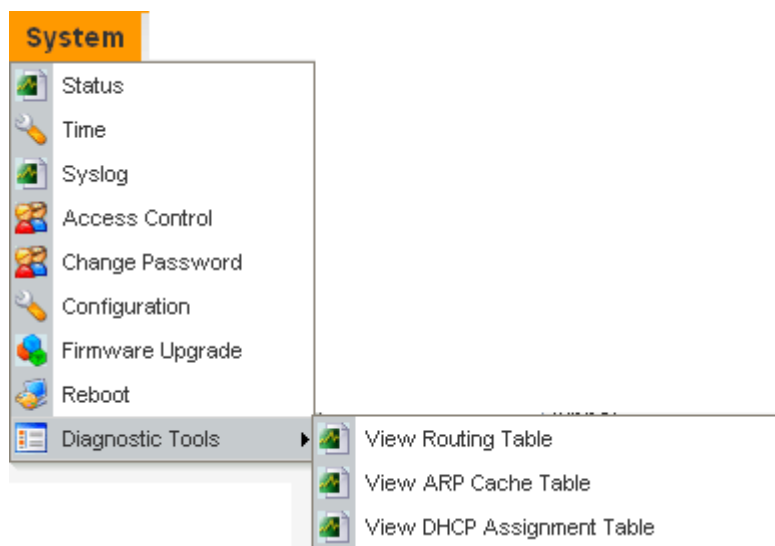
3.1.1 Status

The online **Status** function provides some useful system information on the current status of the VigorTalk ATA-24. A user can observe the system status on this Web page and determine which setting needed to be changed in corresponding web pages. In the **System** group, click the **Status** option. The online **Status** Web page contains three parts: **Basic Status, LAN Status, and WAN Status.**

Refresh Option   You can choose to automatically refresh the Web page information. There are four options given as shown below.

No Refresh: Static information page.

Every 10 Seconds: Refreshes the page every 10 seconds.

Every 20 Seconds: Refreshes the page every 20 seconds.

Every 30 Seconds: Refreshes the page every 30 seconds.

Basic Status

General status of this adapter will be displayed on **Basic Status** page.

System - Status

Refresh Option: No Refresh [v] Refresh

| Basic Status | LAN Status | WAN Status |

Model : ATA24 System
Hardware Version : 0
Firmware Version : ATA24_TEST_V1.0.0.m825.RC17
Build Date&Time : Thu Jun 26 11:50:22 CST 2008
System Uptime : 0 days 1 hours 27 minutes 2 seconds
CPU Usage : 0.9804%
Memory Size : 128 MBytes
Memory Usage : 32.9681%
Current System Time : 1970-01-01 01:27:02

Model	Displays the model name of the adapter.
Hardware Version	Displays the hardware version of the adapter.
Firmware Version	Displays the firmware version of the adapter.
Build Date&Time	Displays the date and time of the current firmware build.
System Uptime	Displays the amount of time that the adapter has been online.
CPU Usage	Displays the average percentage of the CPU being used.
Memory Usage	Displays the percentage of memory being used.
Current System Time	Displays the current local system time.

LAN Status

The status of LAN connection is shown in this page. Simply click **LAN Status** tag to get the detailed.

System - Status

Refresh Option: No Refresh [v] Refresh

| Basic Status | LAN Status | WAN Status |

IP Address : 192.168.1.1
MAC Address : 00:50:7f:f0:44:f8
High Availability Status :
RX Packets : 39024
TX Packets : 40566

IP Address	Displays the IP address of the LAN interface.
MAC Address	Displays the MAC address of the LAN Interface.
High Available Status	The High Available Status is shown when the function is enabled. When there are two VigorTalk ATA-24 devices in the same LAN, one can be set as Master device and the other can

be set as Slave device.

Master - It means that VigorTalk ATA-24 plays the Master role in high availability feature.

Slave - It means that VigorTalk ATA-24 plays the Slave role in high availability feature.

If there is only one VigorTalk ATA-24 used in LAN, this line will be blank.

RX Packets	Displays the total number of received packets at the LAN interface.
TX Packets	Displays the total transmitted packets at the LAN interface.

WAN Status

The status of WAN interface (Static, DHCP, PPPoE, PPTP or DMZ) is shown in this page. Simply click **WAN Status** tag to get the detailed. There are four sets of WAN status can be shown in this page at one time. The sample below just lists one set of WAN status for only WAN1 interface is used.

IP Address	Displays the IP address of the WAN interface.
MAC Address	Displays the MAC address of the WAN Interface.
Primary DNS	Displays the IP address of the primary DNS.
Secondary DNS	Displays the IP address of the secondary DNS.
Gateway	Displays the IP address of the default gateway.

RX Packets	Displays the total received packets for each WAN interface.
TX Packets	Displays the total transmitted packets for each WAN interface.
Connection Status	Displays the connection status of the WAN interface.
Up Time	Displays the total system uptime of the interface.
Disconnect	Disconnects current connection.

3.1.2 Time
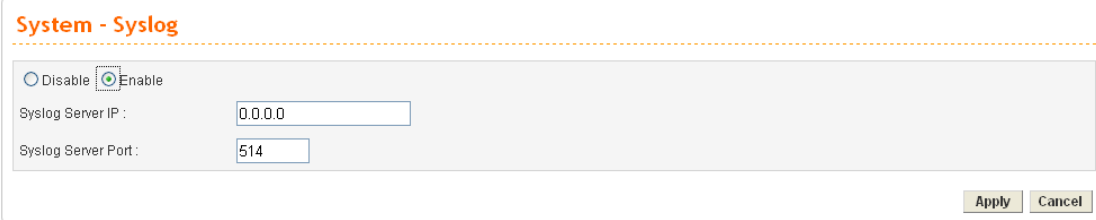
As an NTP (Network Time Protocol) client, the adapter gets standard time from the time server. Some time-based functions, such as **Call Schedule** and **URL Content filtering**, cannot work properly until the system time functions run successfully. Typically, NTP achieves high accuracy and reliability with multiple redundant servers and diverse network paths.

The VigorTalk ATA-24 supports synchronization with a specific NTP server or the remote PC host of the administrator. In the **System** group, click the **Time** option. The Time page is shown below:

Use Browser Time	Click this option to use the browser time from the remote administrator PC host as adapter's system time.
Use NTP Time	Click this option to use the time from an NTP server as adapter's system time.
NTP Server	Assign a public IP address or domain name of the NTP server.
Time Zone	Select the time zone where the VigorTalk ATA-24 is located.
Daylight Savings Time	Select **Use** to activate this function. This function is useful for some areas.
Update Interval	Select a time interval for updating from the NTP server.
Apply	Click **Apply** to save these settings.

3.1.3 Syslog

The VigorTalk ATA-24 supports a Syslog function to keep a record of abnormal conditions. The adapter will send Syslog packets to a Syslog server on the remote site. The administrator can observe any abnormal events from VigorTalk ATA-24. In the **System** group, click the **Syslog** option. The Syslog web page is shown below:

Status	Click **Enable** to activate this function. The adapter will send system log message for your reference. If you click **Disable**, the adapter will not send out any message about system log.
Syslog Server IP	The IP address of the Syslog server. If a user assigns an IP address of "0.0.0.0", the Syslog function will be disabled. Then, VigorTalk ATA-24 will not send Syslog packets to the Syslog server.
Syslog Server Port	Assign a port for the Syslog protocol.
Apply	Click **Apply** to save these settings.

3.1.4 Access Control

This page allows you to determine which services (HTTP/Telnet/SSH) is used for the user to access VigorTalk ATA-24. In addition, you can also limit some hosts to access VigorTalk ATA-24 with specified IP address.

In the **System** group, click the **Access Control** option. You will get the following page:

Management Method	There are three management methods provided here for you to choose for your adapter. Check HTTP/Telnet/SSH for the adapter.
Allow Management from the WAN	**Disable** - Disable the management from the WAN interface. **Enable All** - Enable all management (through HTTP/Telnet/SSH) from the WAN interface.
	Enable User Defined WAN IP - System can be managed by these three IP addresses via WAN. **Allowed IP1(to 3)** - Type in ranges for IP addresses (up to three) for managing the system.
Management Port	**Default Ports** - Use the default ports for HTTP and Telnet if you choose HTTP and Telnet as management methods. **User Defined Ports -** Or you can assign new port numbers for HTTP, Telnet and SSH respectively.
PING Restriction	**Disable PING from the LAN** -Choose this function to reject all ICMP packets from LAN side. **Disable PING from the WAN -** Choose this function to reject

all ICMP packets from WAN side.

3.1.5 Configuration

Most of the settings can be saved locally as a configuration file, and can be applied to another adapter. The VigorTalk ATA-24 supports the restoring and uploading functions of the **configuration files.** In the **System** group, click the **Configuration Setup** option. And you can see the following page.

Select a Configuration File	Please click the **Browse…** button to find out the location of the configuration file to be uploaded to the adapter and click **Apply**.
Backup Configuration File Push Backup Button	Download the configuration file to a local host. The default file name is "**ata24.cfg**".

3.1.6 Firmware Upgrade

VigorTalk ATA-24 allows users to upgrade firmware through a Web interface. In the **System** group, click the **Firmware Upgrade** option. You can see the following page then. Before you execute the firmware upgrade, please download the **newest firmware** from Draytek's website (www.draytek.com) or FTP site (ftp.draytek.com) on the computer first.

System - Firmware Upgrade

Caution :	After an upgrade procedure a reboot is required.
Current Version :	ATA24 System ATA24_TEST_V1.0.0.m825.RC17
Location :	⊙ Local ○ Remote
Firmware :	[ ] Browse.
TFTP Server IP	[ ]
Remote File Name	[ATA24.all]

Apply Cancel

Caution	Displays a caution for your reference.
Current Version	Displays current firmware version that you are using.
Location	*Local* means upgrade firmware from browser.
	Remote means upgrade firmware from a remote TFTP server.
Firmware	Specify the location of the firmware file if you want to upgrade the firmware locally.
TFTP Server IP	If you want to upgrade the firmware of this adapter from remote side, please type the IP address of the TFTP server.
Remote File Name	The default filename will be shown here. If you have use another name to save the firmware file, please type the new name in this field.
Apply	After finished your selection, please click **Apply** to execute the firmware upgrade.

Firmware Upgrade from a Console Port

Firmware upgrade can be done from a console port, too. The following example was run on a Windows environment.

1. Download the newest firmware from the DrayTek Website (www.draytek.com.tw) or FTP site (ftp.draytek.com) on your computer first.

2. Connect the RJ45 connector of console cable to the console port on VigorTalk ATA-24 and the DB9 connector of the console cable to the RS232 port on the PC.
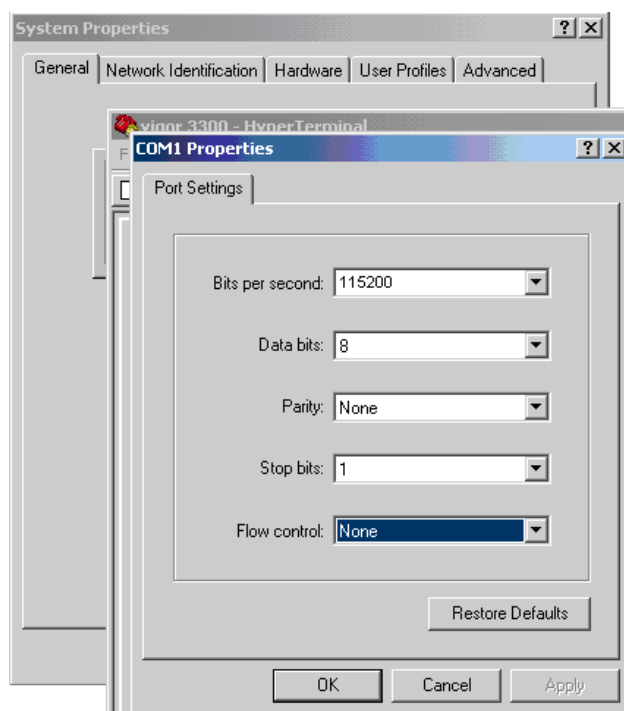
The default setting of the console port is "baud rate 115200, no parity, and 8 bit with 1 stop bit."

3. Power on VigorTalk ATA-24, then press **ENTER** before the system reboots completely.
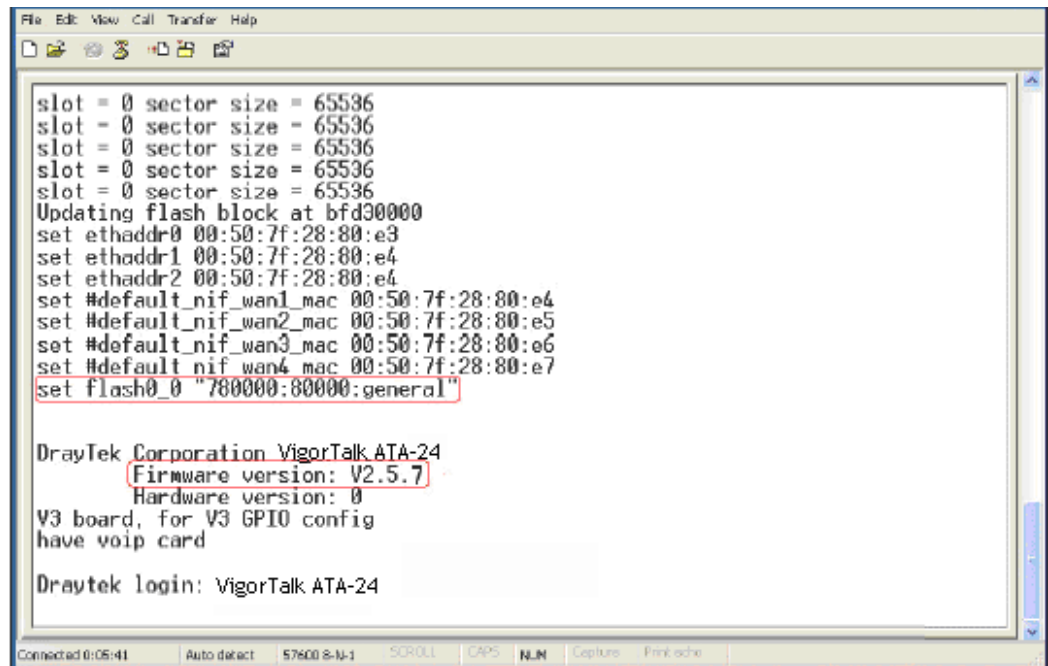
4. Type LAN IP, TFTP Server IP, Image Name one by one, and press ENTER.

5. The firmware upgrade begins.

6. After firmware upgrade is finished, the device will restart.

3.1.7 Reboot

The VigorTalk ATA-24 system can be restarted from a Web browser. **Reboot** screen can appear after you finish the changing of WAN and LAN settings. You have to reboot the adapter to invoke the configured settings that you made before. Besides, you can select **Reset to factory default** to reboot the device and retrieve the default settings.

In the **System** group, choose the **Reboot** option. In the web page of **Reboot**, a user must either keep the current configuration settings or use the default configuration after the VigorTalk ATA-24 system has been rebooted.

Click **Apply** to reboot the whole system. The rebooting procedure usually takes 70 or more seconds.

3.1.8 Diagnostic Tools

In some cases, a user may need to know some information about the adapter, such as static or dynamic databases, or other routing information. The VigorTalk ATA-24 supports four functions, **Routing Table**, **ARP Cache Table**, **DHCP Assignment Table**, and **NAT Active Sessions Table** for the user to review such information.

In the **System** group, click the **Diagnostic Tools** option
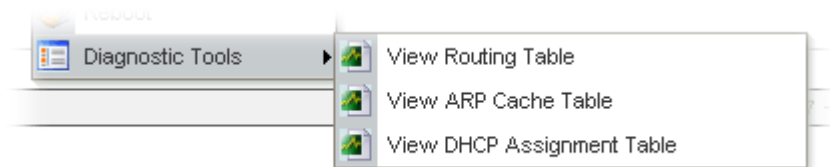
- Select **View Routing Table** to get the following page:

Destination	Displays the destination IP address for various routings.
Gateway	Displays the default gateway.
Subnet Mask	Displays the subnet mask for various routings.
Flags	Displays the status of the routing entries.
Interface	Denoted by **vlan4040** if it is a LAN interface and **vlan4041** if it is a WAN interface.
Refresh	Click **Refresh** to re-display this web page for getting newest routing information.

● Select **View ARP Cache Table** to get the following page:

System - Diagnostic Tools - View ARP Cache Table

```
Index   IP Address        MAC Address        Interface
1       172.16.3.8        00:1D:09:68:1D:8A   vlan4041
2       172.16.3.18       00:50:FC:2F:3D:17   vlan4041
3       192.168.1.10      00:0E:A6:2A:D5:A1   vlan4040
4       172.16.3.4        00:50:7F:C0:8D:84   vlan4041
```

Refresh

IP Address	Displays the IP address for different ARP cache.
MAC Address	Displays the MAC address for different ARP cache.
Interface	Denoted by **vlan4040** if it is a LAN interface. **vlan4041** means it is a WAN1 interface; **vlan4042** means it is a WAN2 interface; **vlan4043** means it is a WAN3 interface.
Refresh	Click **Refresh** to re-display this web page for getting newest ARP information.

● Select **View DHCP Assignment Table** to get the following page:

System - Diagnostic Tools - View DHCP Assignment Table

```
Index   Assigned IP      MAC Address        Time Left
1       192.168.1.10     00:0E:A6:2A:D5:A1   23 hours, 52 minutes, 15 seconds
```

Refresh

Assigned IP	Displays the IP address of the static DHCP server.
MAC Address	Displays the MAC address of the static DHCP server.
Time Left	Displays the remaining time for this IP address assigned by DHCP server. When the time expired, such IP address would not be kept for this client and might be assigned to other client.
Refresh	Click **Refresh** to re-display this web page for getting newest routing information.

3.2 Network Setup

For Internet access, it is necessary for you to set **WAN** and **LAN** interfaces for the adapter.
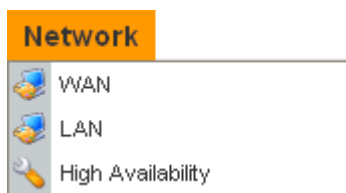
3.2.1 WAN and Internet Access Setup

The VigorTalk ATA-24 supports three WAN interfaces (with four IP Modes - Static, DHCP, PPPoE, and PPTP), which share the same setting page. In the **Network** group, please click the **WAN** option. The following page will be shown.

Load Balance	Enables or disables the WAN load balance function. The **Auto Weight** option becomes available if **Enable** mode is selected. Load Balance allows the adapter distributing data in and out of the Internet by using different WAN interfaces at the same time.
Backup	Enables or disables backup function for WAN interfaces. If you enable this function, the backup-master/backup-slave will execute the job of master/slave device when the master/slave device fails to work.
Edit	Open the configuration page of this WAN interface.
IP Mode	Displays current mode of this WAN interface. There are four options: Static, DHCP, PPPoE, PPTP, and DHCP.
Active	Activates/closes this WAN interface.
Default Route	Sets this WAN interface as default route interface.
Load Balance	Adds this WAN interface to the load balance group.
Weight	Sets the weight load (10-90%) for this WAN interface for load balance. This selection is available only when Auto Weight is unchecked.
Backup-Master	Sets this WAN interface as a master interface. WAN1 must be assigned

as Master interface if Backup function is enabled.

Backup-Slave   Sets this WAN interface as a slave interface.

VoIP   Sets this WAN interface as VoIP default interface.

Most users will use their adapters primarily for Internet access. The VigorTalk ATA-24 supports broadband Internet access and provides multiple WAN interfaces. The following sections will give a detailed illustration to broadband access methods.

Click the "**Edit**" icon to bring up the WAN configuration page for the corresponding interface.

Default MAC   Uses the default Mac address.

User Defined MAC   Uses a MAC address defined by users. If you select this item, you have to type the MAC address in the box below.

Downstream Rate   Sets downstream rate for this WAN interface. The default value is 102400 kbps (100 Megabit).

Upstream Rate   Sets transmission rate for this WAN interface. The default value is 102400 kbps (100 Megabit).

Physical Mode   Sets connection speed mode. There are five options including **Auto negotiation**, **full duplex**, **half duplex, 10M, 100M** and **1000M**.

IP Mode   Sets an IP Mode with **Static (fixed IP)**, **DHCP (dynamic IP address), PPPoE,** or **PPTP** and creates the IP group information. Most cable modem users will use DHCP to get a globally reachable IP address from the cable head-end system. Different mode will lead different configuration and will be explained in later section.

Before you connect a broadband access device e.g. a DSL/Cable modem to VigorTalk ATA-24, you need to know what kind of Internet access your ISP provides. The following sections introduce four widely used broadband access services: **Static, PPPoE**, **PPTP** for DSL, **DHCP** for Cable modem. In most cases, you will get a DSL or cable modem from the broadband access service provider. VigorTalk ATA-24 is connected behind the broadband device i.e. DSL/cable modem and works as a NAT or IP adapter for broadband connections.

Next, we will introduce each WAN mode in detailed.

Static IP Configuration

It means that the IP group information for WAN interface is manually assigned by the user.

IP Address	Sets the private IP address of WAN interface.
Subnet Mask	Sets the subnet mask value of WAN interface.
Default Gateway	Sets the private IP address of gateway.
Primary DNS	Sets the private IP address of primary DNS.
Secondary DNS	Sets the private IP address of secondary DNS.
MTU	It means the maximum transmission unit. Default value is 1500. Change it if you want.
Host Name	Some ISP may ask you to type your host name. Please type in if necessary.
Domain Name	Some ISP may ask you to type your domain name. Please type in if necessary.
Detect Type	Select a detecting type for this WAN interface. There are three ways **Send ARP to Gateway**, **Send PING** and **Send HTTP Request** supported in ATA24.

Detect Interval (sec)	Assign an interval period of time for each detecting. The minimum value is 3 and no limit for maximum value.
No-Reply Count	Assign detecting times to ensure the connection of the WAN. After passing the times you set in this field and no reply received by the adapter, the connection of WAN interface will be regarded as breaking down.
Detect Destination Host (IP or Domain Name)	Assign an IP address or Domain name as a destination to be detected whether the host is active (sending reply to the adapter) or not. If not, the connection of WAN interface will be regarded as breaking down. This function is available when **Detect Type** is set with **Send PING** or **Send Http Request**.
IP Alias List	Sets other IP addresses binding in this interface. You can set up to 32 sets of IP alias settings. If you have typed addresses here, you can see and choose it in later web page settings.
Apply	Click **Apply** to go back to the WAN Interface Configuration page. To apply all settings, click **Apply** on the WAN Interface Configuration page and reboot your adapter.
Reset	Click this button to clear all the configurations for this page.

DHCP Configuration

If the WAN interface is set as a DHCP client, the VigorTalk ATA-24 will ask for IP network settings from the DHCP server or DSL modem automatically. It is not necessary for users to manually configure the adapter.

MTU	It means the maximum transmission unit. Default value is 1500. Change it if you want.
Host Name	Some ISP may ask you to type your host name. Please type in if necessary.
Domain Name	Some ISP may ask you to type your domain name. Please type in if necessary.
Detect Type	Select a detecting type for this WAN interface. There are three ways **Send ARP to Gateway**, **Send PING** and **Send HTTP Request** supported in the adapter.

Detect Interval (sec)	Assign an interval period of time for each detecting. The minimum value is 3 and no limit for maximum value.
No-Reply Count	Assign detecting times to ensure the connection of the WAN. After passing the times you set in this field and no reply received by the adapter, the connection of WAN interface will be regarded as breaking down.
Detect Destination Host	Assign an IP address or Domain name as a destination to be

(IP or Domain Name)	detected whether the host is active (sending reply to the adapter) or not. If not, the connection of WAN interface will be regarded as breaking down. This function is available when **Detect Type** is set with **Send PING** or **Send Http Request**.
Apply	Click **Apply** to go back to the WAN Interface Configuration page. To apply all settings, click **Apply** on the WAN Interface Configuration page and reboot your adapter.
Reset	Click this button to clear all the configurations for this page.

PPPoE Configuration

Most DSL modem users will use this mode. All the local users can share one PPPoE connection to access the Internet.

User Name	Assign a specific valid user name provided by local ISP.
Password	Assign a valid password provided by local ISP.
Authentication	Select **PAP** or **CHAP** protocol according to the feature that your ISP provided for widest compatibility. The default value is **PAP**. The password will be encrypted in CHAP but not in RAP.
Service Name	Assign a service name required for some ISP services.
PPPoE IP Alias	Enable IP Alias for PPPoE protocol.
MTU	It means the maximum transmission unit. Default value is 1442. Change it if you want.
Fixed IP	Click **No** to use dynamic IP for PPPoE protocol; click **Yes** to

use a fixed IP address. If you choose **Yes**, you have to type an IP address in the field of Fixed IP Address below.

Fixed IP Address   Type an IP address here if you click **Yes** as Fixed IP.

Detect Interval   Assign an interval time for detecting if the WAN connection is on or off.

No-Reply Count   Assign detecting times to ensure the connection of the WAN. After passing the times you set in this field and no reply received by the adapter, the connection of WAN interface will be regarded as breaking down.

Apply   Click **Apply** to go back to the WAN Interface Configuration page. To apply all settings, click **Apply** on the WAN Interface Configuration page and reboot your adapter.

Reset   Click this button to clear all the configurations for this page.

PPTP Configuration

The service provider must provide the exact settings for this mode.

User Name   Assign a specific valid user name provided by local ISP.

Password   Assign a valid password provided by local ISP.

Authentication   Select **PAP** or **CHAP** protocol for widest compatibility. The default value is **PAP**. The password will be encrypted in CHAP but not in RAP.

MTU   It means the maximum transmission unit. Default value is 1442. Change it if you want.

PPTP Local Address	Assign a local IP address.
PPTP Subnet Mask	Assign a subnet mask value of IP address.
PPTP Server Address	Assign a remote IP address of PPTP server.
Fixed IP	Click **No** to use dynamic IP for PPPoE protocol; click **Yes** to use a fixed IP address. If you choose **Yes**, you have to type an IP address in the field of Fixed IP Address below.
Fixed IP Address	Type an IP address here if you click **Yes** as Fixed IP.
Detect Interval	Assign an interval time for detecting if the WAN connection is on or off.
No-Reply Count	Assign detecting times to ensure the connection of the WAN. After passing the times you set in this field and no reply received by the adapter, the connection of WAN interface will be regarded as breaking down.
Apply	Click **Apply** to go back to the WAN Interface Configuration page. To apply all settings, click **Apply** on the WAN Interface Configuration page and reboot your adapter.
Reset	Click this button to clear all the configurations for this page.

3.2.2 LAN

In the **Network** group, select **LAN** option. The following page for LAN IP/DHCP will be shown.

In the VigorTalk ATA-24 adapter, some IP address settings could be configured for the LAN interface. The IP address/subnet mask is for private users or NAT users. The IP address of the

default gateway on other local PCs should be set as the VigorTalk ATA-24' server IP address. When the DSL connection between the DSL and the ISP has been established, each local PC can directly route to the Internet. The IP address/subnet mask can also be used to connect to other private users (PCs). On this page you will see the private IP address defined in RFC-1918. Usually we use the 192.168.1.0/24 subnet for the route.

IP Address	Type the IP address for LAN/DHCP.
Subnet Mask	Type the subnet mask for the LAN IP/DHCP.
Status	Click **Enable** the DHCP server; click **Disable** to close DHCP server.
Start IP	Sets the starting IP address of the IP address pool for DHCP server.
End IP	Sets the ending IP address of the IP address pool for DHCP server.
Primary DNS	Sets the private IP address of the primary DNS.
Secondary DNS	Sets the private IP address of the secondary DNS.
Lease Time (Min)	Sets a lease time for the DHCP server. The time unit is minute.
Gateway IP (Optional)	Sets a gateway IP address for the DHCP server.

Click **Apply** to reboot the system and apply the settings.

3.2.3 High Availability

The High Availability (HA) feature refers to the awareness of component failure and the availability of backup resources. The complexity of HA is determined by the availability needs and the tolerance of system interruptions. Systems, that provide nearly full-time availability, typically have redundant hardware and software that makes the system available despite failures.

The high availability is designed to avoid single points-of-failure. When failures occur, the failover process moves processing performed by the failed component (the "Master") to the backup component (the "Slave"). This process remains system-wide resources, recovers partial of failed transactions, and restores the system to normal within a matter of microseconds.

Take the following picture as an example. The left device is regarded as Master device, the right device is regarded as Slave device. When Master device is broken down, the Slave device could replace the Master role to take over all jobs as soon as possible. However, once the original Master is working again, the Slave would be changed to original role to stand by.

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Internet/WAN

Master Router Configurations:

LAN IP :192.168.1.1
LAN MAC:00-50-7F-0A-0B-01

High Availablity: Enable
Group Number*:1
Role: Master
Virtual IP*:192.168.1.3
Virtual MAC**:00-00-5E-00-01-01

Slave Router Configurations:

LAN IP :192.168.1.2
LAN MAC:00-50-7F-0A-0B-02

High Availablity: Enable
Group Number*:1
Role: Slave
Virtual IP*:192.168.1.3
Virtual MAC**:00-00-5E-00-01-01

In the **Network** group, click the **High availability** option.

High Availability
Disables or enables this function. When the master device fails down, the slave device will take its work over.

Group Number
Assign a group number. The range is from 1 to 255. PCs on the same group (in LAN) can support for each other.

Role
Select a role for this device as Master or Slave.

Virtual IP
Assign an IP address as a virtual IP.

Click **Apply** to reboot the system and apply the settings.

3.3 Advanced Setup

In the **Advanced** menu, there are several items offered here for you to adjust for the adapter.
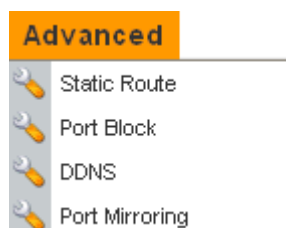
3.3.1 Static Route Setup

When you have several subnets in your LAN, sometimes a more effective and quicker way for connection is the **Static routes** function rather than other methods. You may simply set rules to forward data from one specified subnet to another specified subnet without the presence of RIP.

This function allows users to assign static routing information. In the **Advanced** group, choose **Static Route**. You will get the following page.

Network Interface	Displays the network interface (LAN, WAN1, 2, 3 or 4).
Gateway IP	Displays the gateway address of the static route.
Destination IP	Displays the destination IP of the static route.
Mask	Displays the subnet mask of this route.
Edit	Allows users to edit the selected static route settings.
Delete/Delete All	Removes one or all the selected static route settings.

The system allows users to set up to 10 static routes for the adapter.

Edit the Static Route

To edit static route for certain item, select the radio button of the item and click **Edit** on the bottom of the page. The following web page will be displayed:

Advanced - Static Route - Edit

1

Network Interface : WAN1

Gateway IP : 172.16.3.32

Destination IP : 202.66.88.99

Subnet Mask : /24

Apply | Cancel

Network Interface	Select a network interface as a destination to be sent. It includes **LAN**, and **WAN1~WAN3**.
Gateway IP	Assign an IP address of the gateway for the interface selected above.
Destination IP	Assign the IP address of the destination that data will be transferred to. Packets ready to destination will be sent out through the network interface chosen in this page.
Subnet Mask	Assign a value of subnet mask for destination IP address.

Click **Apply** to reboot the system and apply the settings.

Delete the Static Route

Select the radio button of the item that you want to delete and click **Delete** on the bottom of the page. The following web page will be displayed:

Advanced - Static Route

#	Network Interface	Gateway IP	Destination IP	Mask
1	WAN1	172.16.3.32	202.66.88.99	/24
2				
3				
4				
5				
6				
7				
8				
9				
10				

1

Microsoft Internet Explorer

? Are you sure you want to delete this item?

OK | Cancel

Edit | Delete | Delete All

Click **OK** to delete the entry in static route table.

Users can click **Delete All** to remove all entries in static route table.

3.3.2 Port Block

The **Port Block** function provides a user to set lots of proprietary port numbers. Packets will be dropped if destination ports (both TCP and UCP) of packets with these assigned port numbers are on WAN and LAN. The advantage of this feature is to filter some unnecessary packets or attacking packets on Internet environment or LAN network. VigorTalk ATA-24 supports ten port numbers to be blocked.

In the **Advanced** group, click **Port Block** option. You will get the following page.

Advanced - Port Block

Index	Status	Port Number
1.	⊙ Disable ○ Enable	
2.	⊙ Disable ○ Enable	
3.	⊙ Disable ○ Enable	
4.	⊙ Disable ○ Enable	
5.	⊙ Disable ○ Enable	
6.	⊙ Disable ○ Enable	
7.	⊙ Disable ○ Enable	
8.	⊙ Disable ○ Enable	
9.	⊙ Disable ○ Enable	
10.	⊙ Disable ○ Enable	

Apply   Cancel

Index	The number of each entry.
Status	User can **Disable** or **Enable** the port block for the specified port.
Port Number	Assign a port number to be blocked in system. The default port setting is 135.

Click **Apply** to finish this setting.

3.3.3 DDNS

The Dynamic DNS function allows the adapter to update its online WAN IP address, which assigned by ISP or other DHCP server to the specified Dynamic DNS server. Once the adapter is online, you will be able to use the registered domain name to access the adapter or internal virtual servers from the Internet. DDNS is more popular on dynamic IP users, who typically receive dynamic, frequently-changing IP addresses from their service provider.

Before you set up the Dynamic DNS function, you have to subscribe free domain names from the Dynamic DNS service providers. The adapter provides up to ten accounts for the function and supports the following providers: **www.dynsns.org, www.no-ip.com, www.dtdns.com, www.changeip.com, www.ddns.cn.** You should visit their websites for registering your own domain name on the adapter.

In the **Advanced** group, click **DDNS** option. You will get the following page.

Domain Name   Display the domain name set for the entry.

Service Provider   Display the service provider that supports DDNS.

Service Type   Display the service type for the entry.

Active   Display the activation status (disable or enable) for this entry.

Status   Display the connection status of this entry.

Click **Refresh** to re-display the whole page information.

To modify DDNS setting, click an entry number to get into edit mode.

Status   Click **Disable** to disable this function. Click **Enable** to activate
                         this function.

Interface   Select a specific interface for registering on DDNS server. The
                         Interface should be any WAN port on VigorTalk series.

Server Provider   Assign a provider name to support DDNS server. The
                         VigorTalk ATA-24 supports 7 domain server providers as
                         default.

```
dyndns.org (www.dyndns.org)                          v
dyndns.org (www.dyndns.org)
no-ip.com (www.no-ip.com)
DtDNS (www.dtdns.com)
ChangeIP.com (www.changeip.com)
dynamic-nameserver (www.dynamic-nameserver.com)
huagai.net (www.ddns.cn)
3322 (www.3322.org)
```
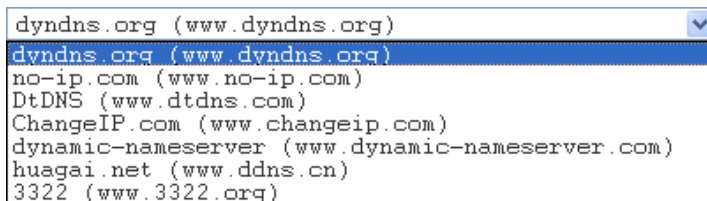
Server Type	Select **Static**, **Dynamic** or **Custom** type for this entry of DDNS settings.
Domain Name	Assign a private domain name to be accessed.
Login Name	Assign a name to login into DDNS server.
Login Password	Assign a password to login into DDNS server.
Wild Card	If you want anything-here.yourhost.dyndns.org to work (EX. To make things like www.yourhost.dyndns.org work), click "Enable" to active this function.
Backup MX	MX stands for Mail Exchanger. Mail Exchangers are used for directing mail to specific servers other than the one a hostname points at.
Mail Extender	Assign an email address.

Click **Apply** to finish these settings and return to previous page.

Note:
1. The Wildcard and Backup MX features are not supported for all Dynamic DNS providers. You could get more detailed information from their websites.
2. Backup MX provides a secondary mail server to hold your e-mail if your main email server go offline for any reason. Once you go back online, your email will be delivered to you.

3.3.4 Port Mirroring

VigorTalk-ATA Series supports port mirroring function in WAN interfaces. Generally speaking, this function copies traffic from one or more specific ports to a target port. This mechanism helps manager track the network errors or abnormal packets transmission without interrupting the flow of data access the network. By the way, user can apply this function to monitor all traffics which user needs to check.

There are some advantages supported in this feature. Firstly, it is more economical without other detecting equipments to be set up. Secondly, it may be able to view traffic on one or more ports within a VLAN at the same time. Thirdly, it can transfer all data traffics to be mirrored to one analyzer connect to the mirroring port. Last, it is more convenient and easy to configure in user's interface.

In the **Advanced** group, click the **Port Mirroring** option. You will see the following page.

Enable/Disable   Click **Disable** to disable this function. Click **Enable** to activate this function.

Mirroring Port   Select a port to view traffic sent from mirrored ports.

Mirrored Port(s)   Click which ports are necessary to be mirrored.

After finishing the settings, please click **Apply**.

3.4 Firewall Setup

The firewall controls the allowance and denial of packets through the adapter. The **Firewall Setup** in the VigorTalk ATA-24 Series mainly consists of Denial of Service (DoS) only. The firewall filters help to protect your computer against attack from outsiders.

The following sections will explain how to configure the **Firewall**. The **DoS** facility can detect and mitigate the DoS attacks. T

3.4.1 DoS

The DoS function helps to detect and mitigates DoS attacks. These include flooding-type attacks and vulnerability attacks. Flooding-type attacks attempt to use up all your system's resources while vulnerability attacks try to paralyze the system by offending the vulnerabilities of the protocol or operation system.

In the **Firewall** group, click the **DOS** option. You will see the following page. The DoS Defense Engine inspects each incoming packet against the attack signature database. Any packet that may paralyze the host in the security zone is blocked. The DoS Defense Engine also monitors traffic behavior. Any anomalous situation violating the DoS configuration is reported and the attack is mitigated.

Firewall - DoS

DoS Defense : ○ Disable ⦿ Enable

☐ Enable SYN flood defense :   Threshold: 300 Packets/sec   Timeout: 10 sec

☐ Enable UDP flood defense :   Threshold: 300 Packets/sec   Timeout: 10 sec

☐ Enable ICMP flood defense: Threshold: 300 Packets/sec   Timeout: 10 sec

☐ Enable Port Scan detection :   Threshold: 300 Packets/sec

☐ Block IP options   ☐ Block TCP flag scan

☐ Block Land   ☐ Block Tear Drop

☐ Block Smurf   ☐ Block Ping of Death

☐ Block trace route   ☐ Block ICMP fragment

☐ Block SYN fragment   ☐ Block Unknown Protocol

☐ Block Fraggle Attack

[Apply] [Cancel]

DoS Defense	Enables or disables the DoS Defense function. The default value is **Disable**.
Enable SYN Flood Defense	Activates the SYN flood defense function. If the amount of TCP SYN packets from the Internet exceeds the user-defined threshold value, the adapter will be forced to randomly discard the subsequent TCP SYN packets within the user-defined timeout period. The default setting for threshold and timeout are **300** packets per second and **10** seconds, respectively.
Enable UDP Flood Defense	Activates the UDP flood defense function. If the amount of UDP packets from the Internet exceeds the user-defined threshold value, the adapter will be forced to randomly discard the subsequent UDP packets within the user-defined timeout period. The default setting for threshold and timeout are **300** packets per second and **10** seconds, respectively.
Enable ICMP Flood Defense	Activates the ICMP flood defense function. If the amount of ICMP echo requests from the Internet exceeds the user-defined threshold value, the adapter will discard the subsequent echo requests within the user-defined timeout period. The default setting for threshold and timeout are **300** packets per second and **10** seconds, respectively.
Enable Port Scan Detection	Activates the Port Scan detection function. Port scan sends packets with different port numbers to find available services, which respond. The adapter will identify it and report a warning message if the port scanning rate in packets per second exceeds the user-defined threshold value. The default threshold is **300** pps (packets per second).

Enable Block IP Options	Activates the Block IP options function. The adapter will ignore any IP packets with IP option field appearing in the datagram header.
Enable Block Land	Activates the Block Land function. A Land attack occurs when an attacker sends spoofed SYN packets with identical source address, destination addresses and port number as those of the victim.
Enable Block Smurf	Activates the Block Smurf function. The adapter will reject any ICMP echo request destined for the broadcast address.
Enable Block Trace Route	Activates the Block trace route function. The adapter will not forward any trace route packets.
Enable Block SYN Fragment	Activates the Block SYN fragment function. Any packets having the SYN flag and fragmented bit sets will be dropped.
Enable Block Fraggle Attack	Activates the Block fraggle Attack function. Any broadcast UDP packets received from the Internet are blocked.
Enable TCP Flag Scan	Activates the Block TCP flag scan function. Any TCP packet with an anomalous flag setting is dropped. These scanning activities include **no flag scan**, **FIN without ACK scan, SYN FIN scan**, **Xmas scan** and **full Xmas scan**.
Enable Tear Drop	Activates the Block Tear Drop function. This attack involves the perpetrator sending overlapping packets to the target hosts so that target host will hang once they re-construct the packets. The adapters will block any packets resembling this attacking activity.
Enable Ping of Death	Activates the Block Ping of Death function. Many machines may crash when receiving an ICMP datagram that exceeds the maximum length. The adapter will block any fragmented ICMP packets with a length greater than 1024 octets.
Enable Block ICMP Fragment	Activates the Block ICMP fragment function. Any ICMP packets with fragmented bit sets are dropped.
Enable Block Unknown Protocol	Activates the Block Unknown Protocol function. The adapter will block any packets with unknown protocol types.

Click **Apply** to apply the settings when you finish the configuration.

sions.

3.5 VoIP Setup

Voice over Internet Protocol (VoIP) is a technology that allows you to make telephone calls using a broadband Internet connection instead of a regular (or analog) phone line.

The VigorTalk ATA-24 series provides cost effective voice solution for SME customers which can be explained with the following diagram.
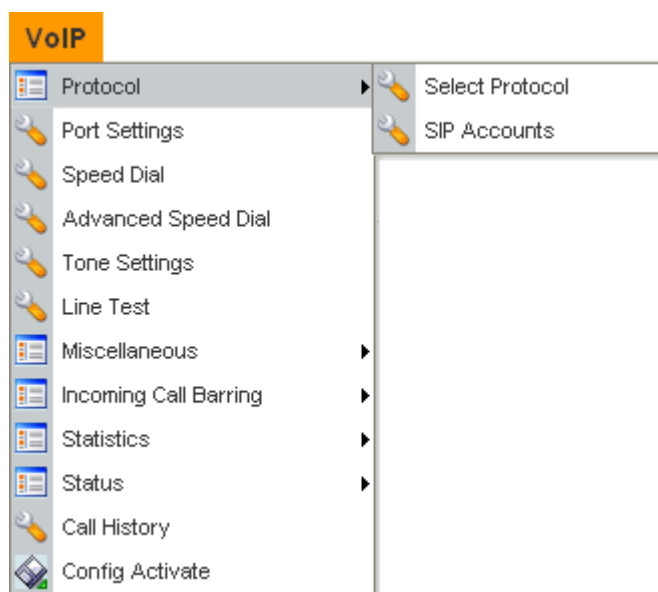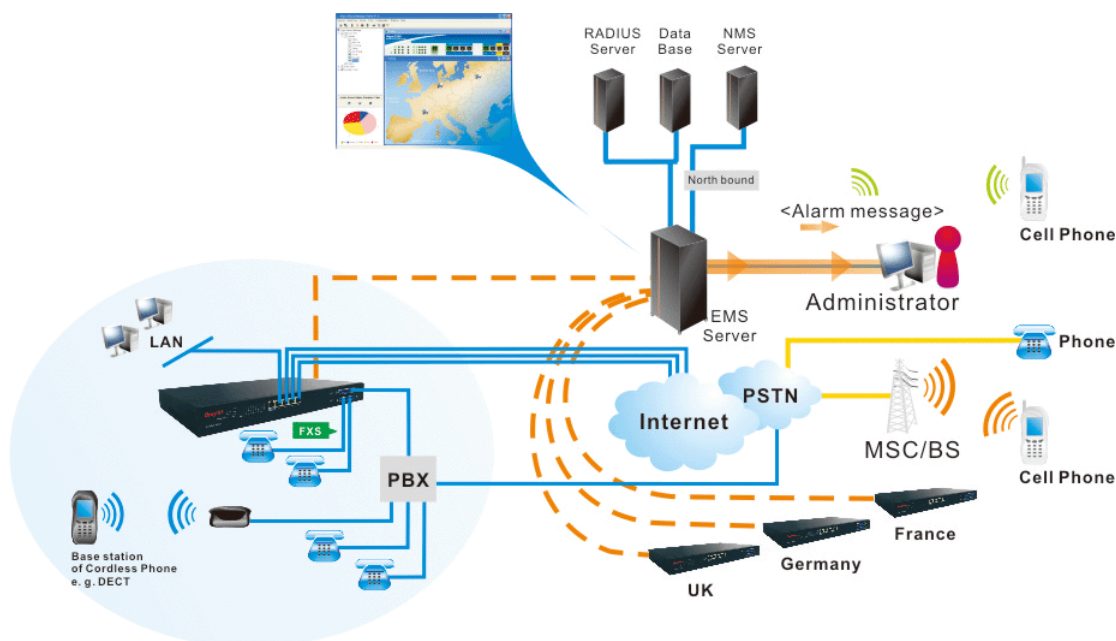
3.5.1 Protocol

Select Protocol

There are three protocols can be used for VoIP phones – SIP, MGCP and H248. You should click either one of buttons to set corresponding settings for VoIP phones. Be aware that both sides (local end and remote end) should use same protocol for VoIP phones.

● **For SIP Configuration**

SIP Local Port   Type the port number for SIP protocol. The default value is 5060.

Active   Click this box to activate this SIP proxy server setting.

Outbound Proxy   Check this box to enable this function for sending SIP protocol packets to an SIP proxy server.

Proxy Name   Type the name of the SIP proxy server.

Proxy Address   Type the IP address of the SIP proxy server.

Proxy Port   Type the port number of the SIP proxy server.

Registrar Address   Type the IP address or domain name of the SIP registrar server.

Registrar Port   Type the port number of the SIP registrar server.

Expires   Type the timeout value for SIP protocols. The default value is 300.

Domain   Type the IP address or domain name of the SIP Domain/Realm.

User-Agent Name   Type the name for the client's device.

You can set up to 3 sets of SIP configurations in this page.

● **For MGCP Configuration**

MGCP Call Agent Address The IP address of the Call Agent server in MGCP.

MGCP Call Agent Port The UDP port number for the Call Agent server.

MGCP Local Port The UDP port number in MGCP local terminal.

EndPoint Name Style Choose a proper name style for the VoIP settings. There are three options for you to choose.

aaln/#@[ip_addr] - ex: aaln/1@[1.1.1.1]
mac_addr/#@[ip_addr]- ex: 000504030201/1@[1.1.1.1]
aaln/#@mac_addr- ex: aaln/1@000504030201
aaln/#@ - ex: aaln/1@v3300.draytek.com

Logic ID Starting Number The starting number for "#" used in EndPoint Name Style. The range for the number is from 1 to 24. That is, if you type 3 in this field, the number 3 to 26 will be available for applying

Wild-carded RSIP For VoIP phone call with MGCP configuration, each port will send RSIP to call agent for notifying that port is initiated or restarted.

Each endpoint sends its own RSIP – Each port must send one RSIP message (e.g., aaln/1@[172.16.3.5]) to call agent respectively.

Send only one wild RSIP – Only one RSIP message (e.g., aaln/*@[172.16.3.5]) will be sent to call agent to indicate all

ports are initiated/restarted.

Range Wildcard RSIP	Click **Enable** to send out RSIP message (e.g., aaln/*@[172.16.3.5]). Click **Disable** to close such function.
HearBeat	Click **Enable** to check if MGCP server can work normally or not, otherwise click **Disable.**
HearBeat Period	Type the interval for the system to check the MGCP server.
HearBeat Retry	Type the times for the system to check the MGCP server.

● **For H248 Configuration**

H248 Call Agent Address	The IP address of the Call Agent server in H248.
H248 Call Agent	The port number for the Call Agent server in H248.
H248 MessageID Mode	Choose one of the modes for MessageID (defined by H248). Settings configured in **Message ID** field are used to be identified by the server supported with H248.
H248 MessageID IP Mode	If you choose **WAN IP Address,** the system will use WAN IP address configured in Network for such protocol; if you choose Manual IP Address, you have to type IP address manually in the field of **H248 MessageID Address** below.
H248 MessageID Address	Type WAN IP address used for the server supported with H248 when you choose **Manual IP address** as H248 MessageID Address.
H248 MessageID Port	The port number for MessageID.
H248 Local Port	The UDP port number in H248 local terminal.

SIP Accounts

You have to set up your own SIP settings. When you apply for an account, your SIP service provider will give you relational information for you to type in this page.

User Name	1001 ~ 1032 are the default name specified by the system. Please click Edit to modify it if necessary.
Proxy Server	Display the name of Proxy Server specified for such account.
VoIP IP Address	Display the interface for such account. Such interface is used to apply VoIP traffics.
Ring Port	Display the ring port number when the specified SIP account rings.
Ring Type	Display the ring type for all the phone ports. **All Ports** – Phones of all ports in the same group will ring. **First Available** – The unconnected or unused phone of the first port will ring. **Round Robin** – Only one phone will ring at one time and all of the phones will ring in turn.
Call Forwarding	Display results for call forwarding. **Blank** - no call forwarding. **Always** - call forwarding for all of the calls. **Busy** – call forwarding while the phone is busy. **No Answer** - the call forwarding phone rings three times and gets no answer.

To edit an SIP account, please choose one of the radio buttons under Username and click Edit. The following page will be shown automatically.

Disable/Enable	Click **Disable** to close this setting. Click **Enable** to activate this setting.
Username	Enter your account name of SIP Address, e.g. every text before @.
Password	The password provided to you when you registered with a SIP service.
Display Name	The caller-ID that you want to be displayed on your friend's screen.
Authentication ID	Type the name or number used for SIP Authorization with SIP Registrar.
Proxy Server	Before you choose, please set SIP proxy server first in previous page (SIP Server Configuration).
Call without Registration	Some SIP server allows user to use VoIP function without registering. For such server, please click **Enable** to invoke **Call without register.**
VoIP Address	The interface is used to apply VoIP traffics. There are two options: **WAN** and **LAN/VPN**. If LAN/VPN is selected, VoIP can be applied through a VPN tunnel to create a high security voice phone.

```
WAN         ▼
WAN
LAN/VPN
```
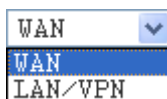
Call Forwarding	There are four options for you to choose. **Disable**- It is to close call forwarding function.
	Callforwarding busy- It means the incoming calls will be forwarded into SIP URL only when the local system is busy.
	Callforwarding no answer after- It means if the incoming calls do not receive any response, they will be forwarded to the SIP URL by the time out.
	SIP URL- Type in the SIP URL (e.g., aaa@draytel.org or abc@iptel.org) as the site for call forwarded.
IncomingCall Rings	**Rings as all ports in the group**- All the ring ports selected for such account will ring when VigorTalk receives any incoming call.
	Rings the first available port- The first ring port selected for such account will ring when VigorTalk receives any incoming call.
	Rings by round robin- All the ring ports selected for such account will ring one by one when VigorTalk receives any incoming call.
Ring Port Setting	VigorTalk-ATA allows to connect up to 24 ring port. For such account, please specify required ring port(s) by checking the box(es) for applying the configuration.

3.5.2 Port Settings

Port Settings page allows users to set phone number and phone groups for different call receivers.

VoIP - Port Settings

#	Edit	Active	SIP Account	Call Waiting	Hotline	Mic/Spk Gain	FAX	Codec	DTMF	Port Locked
1		V	1 - 1001			0 / 0	T.38 Relay	G.729A	RFC2833	
2		V	2 - 1002			0 / 0	T.38 Relay	G.729A	RFC2833	
3		V	3 - 1003			0 / 0	T.38 Relay	G.729A	RFC2833	
4		V	4 - 1004			0 / 0	T.38 Relay	G.729A	RFC2833	
5		V	5 - 1005			0 / 0	T.38 Relay	G.729A	RFC2833	
6		V	6 - 1006			0 / 0	T.38 Relay	G.729A	RFC2833	
7		V	7 - 1007			0 / 0	T.38 Relay	G.729A	RFC2833	
8		V	8 - 1008			0 / 0	T.38 Relay	G.729A	RFC2833	

1 2 3

Edit Click this button to access into the Edit page for each phone number.

Active Displays the status (active or not) for the VoIP connection. When this connection is active, a 'v" sign will be displayed on the page.

SIP Account Displays the account name for that port.

Call Waiting When call waiting is enabled, a 'v" sign will be displayed on the page.

Hotline Displays the hotline number for that port.

Mic/Spk Gain Displays the gain value for transmitting/receiving voice.

FAX Displays the FAX function mode, T.38 Relay or Transparent.

Codec Displays the codec settings for the VoIP connection.

DTMF Displays the DTMF mode (InBand, OutBand, SIP Info, etc.)

Port Locked When this port is locked, a 'v" sign will be displayed on the page. In general, it means the connection for such port is troubled with something.

When you click **Edit**, the following page will appear for you to configure.

VoIP - Port Settings - Port1 - Edit

Port 1	Click **Enable** to activate this port or **Disable** to close this port.
	Default SIP Accounts – Choose one of the SIP account as the default setting.
	VoIP IP Address - The interface is used to apply VoIP traffics. There are two options: **WAN** and **LAN/VPN**. If LAN/VPN is selected, VoIP can be applied through a VPN tunnel to create a high security voice phone.
Hotline	**Hotline Number to Internet -** Pre-set a phone number to make the port dialing out to Internet automatically.
Codec	**Preferred Codec -** It can be applied on this port. VigorTalk ATA-24 supports five Codecs. The default setting is G.729A. You can choose another one as preferred Codec for outgoing calls.

Single Codec - If you checked this box, only preferred codec will be used for outgoing and incoming calls. And if the remote end does not support such Codec, the VoIP communication will be failed.

	Codec Rate - Type the rate value to be applied on this port.
	Codec VAD- Enable or **Disable** VAD (Voice Activity Detection). It can detect whether the voice activity is progressing or not. If not, RTP packets transmission will be stopped for saving more bandwidth.
CAS	**Microphone Gain**- The gain value while transmitting voice. The default value is 0. The range is from -32 to 31. **Speaker Gain** - The gain value while receiving voice. The default value is 0. The range is from -32 to 31.
FAX	**FAX Mode -**The FAX function mode. There are three options: *Transparent:* FAX will be transmitted via voice channel; no fax relay and no Codec change will be involved. *T.38 Relay:* Using T.38 Fax Relay. This is the default value.
DTMF	**DTMF Mode -** *InBand*: Choose this one then the Vigor will send the DTMF tone as audio directly when you press the keypad on the phone. *OutBand (RFC2833)*: Choose this one then the Vigor will capture the keypad number you pressed and transform it to digital form then send to the other side; the receiver will generate the tone according to the digital form it receive. This function is very useful when the network traffic congestion occurs and it still can remain the accuracy of DTMF tone. *SIP INFO:* Choose this one then the Vigor will capture the DTMF tone and transfer it into SIP form. Then it will be sent to the remote end with SIP message. **DTMF Volume** – Determine the volume of DTMF voice signal. The more the number is set, the greater the sound is.
Call Waiting	**Enable** – Activate the call waiting function. **Disable** – Close the call waiting function.
Port Unlocked	This button is available only when current port is locked. Click it to unlock the port.
Apply	When you finish all the configurations, please click this button to activate them.

3.5.3 Speed Dial

This page allows you to set a simple way to dial a specific number. Up to 150 numbers can be stored in VigorTalk ATA-24 Series.

Speed Dial Phone Number	Type the phone number to be used as quick dial.
Speed Dial Destination	Type the destination address of the dial.
Memo	Type a description for the specified number.
Apply	Click this button to activate the page settings.
Clear This Page	Click this button to remove all the settings in this page.

3.5.4 Advanced Speed Dial

Speed dial allows users to call out with simple buttons instead of dialing long numbers. To set a speed dial with specified settings, please open the following page.

Prefix	Displays the prefix number of the entry.
Strip Length	Displays the strip length of the entry.
Append	Displays the appended number of the entry.
Destination	Displays the IP address of the destination of the entry.
Memo	Displays the brief description stated in memo field of the entry.
Edit	Click this button to access into the editing page of the speed dial.

| Delete/Delete All | Click this button to delete the selected setting or all settings. |

To configure one entry, please click **Edit** to open the following page.

Prefix	Assign a prefix for checking the phone number that users dial out. If the prefix of the outgoing call matches to the number set in this field, that outgoing call can apply the speed dial. For example, suppose that there are two outgoing calls with phone numbers of 03654321 and 04556890. In which, 03654321 is suitable for this speed dial rule.
Strip Length	Assign the length of digit to be removed from the original phone number. For example, suppose the original phone number is 03654321 and the strip length is 2. The first two numbers (03) will be removed and the final phone number becomes 654321.
Append	Assign a new number to be added before the phone number (after removing length of digit). For example, suppose the original phone number is 03654321. The strip length is 2 and the append number is 886. Then, the final phone number will be 886654321.
Destination	Assign an IP address for the destination which the SIP message would be sent to.
Memo	A description for this entry.

3.5.5 Tone Settings

It is provided for fitting the telecommunication custom for the local area of the adapter installed. Wrong tone settings might cause inconvenience for users. To set the sound pattern of the phone set, simply choose a proper region to let the system find out the preset tone settings and caller ID type automatically. Or you can adjust tone settings manually if you choose **User Defined**. TOn1, TOff1, TOn2 and TOff2 mean the cadence of the tone pattern. TOn1 and TOn2 represent sound-on; TOff1 and TOff2 represent the sound-off.

VoIP - Tone Settings

Region : UK   Caller ID Type : ETSI

Tone Classfication	Low Frequency(Hz)	High Frequency(Hz)	TOn1 (10msec)	TOff1 (10msec)	TOn2 (10msec)	TOff2 (10msec)
Dial tone	350	440	500	0	0	0
Ringing tone	440	480	0	0	200	400
Busy tone	480	620	0	0	50	50
Congestion tone	480	620	0	0	25	25

Setting CPT Tone Timer

Dial Tone :	16	Busy Tone :	30	Howler Tone :	60	Ringing Tone :	180
Special Dial Tone :	16	Call Waiting Tone :	30	Congestion Tone :	30	Reorder Tone :	30

Apply   Cancel

Region	Select the proper region which you are located. The common settings of **Caller ID Type**, **Dial tone**, **Ringing tone**, **Busy tone** and **Congestion tone** will be shown automatically on the page. If you cannot find out a suitable one, please choose **User Defined** and fill out the corresponding values for dial tone, ringing tone, busy tone, congestion tone by yourself for VoIP phone.

Finland

User Defined
Australia
Canada, US
China
Denmark
Finland
France
Germany
Hong Kong
Japan
Netherlands
Norway
Singapore
Taiwan
UK

Dial tone	A tone means the phone line is ready to make a call.
Ringing tone	A tone means the call is ringing.
Busy tone	A tone means the phone line is busy.

Congestion tone	A tone means the network is busy.
Low Frequency (Hz)	Type the low frequency number in Hertz.
High Frequency (Hz)	Type the high frequency number in Hertz.
TOn1 (10msec)	Type the duration of the first ring.
TOff1 (10msec)	Type the silence duration after the first ring.
TOn2 (10msec)	Type the duration of the next continuous ring.
TOff2 (10msec)	Type the silence duration after the next continuous ring.
Caller ID Type	If **User Defined** is selected in the **Region** field, users can select one of the supported values. If a country is selected, this field will display ID type value automatically.
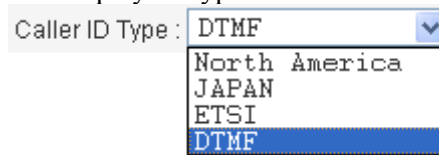
Setting CPT Tone Timer	Set different timer for different tones to restrict the play time of tone. When the time is up, the tone broadcasting will be stopped.
	Dial Tone – A telephony signal which indicates that the status for the telephone is off-hook.
	Busy Tone – A telephony signal which indicates that the calling is failed.
	Howler Tone –A telephony signal to tell the caller the receiver is off-hook.
	Ringing Tone - A telephony signal that the caller hears from the telephone set after dialing.
	Special Dial Tone - A telephony signal which indicates a special feature (e.g., call forwarding) is using for such port.
	Call Waiting Tone - A telephony signal which signifies that there is another incoming call, eg., call forwarding.
	Congestion Tone – A telephony signal which indicates someone dials invalid call or the circuit (or network) is unable to route.
	Recorder Tone – The caller has connected to an automatic answering device and is requested to start speaking.

3.5.6 Line Test

This page is used to diagnose the connection status for device, port and subscriber line.

Port	Choose one of the VoIP port for executing line test.
Line Test Function	Choose one of the test functions for executing line test. There are three types provided here, loop, line card and user phone. **Metallinc Loop Test** – Such function can diagnose if there is something wrong happened such as line cross, line short to ground and line open. **Line card Test** – It can check normal battery, loop current and execute self dial tone test, self dial digit test and self ring voltage test. **User Phone Test** – Such function must match with the subscriber.
Test Item	Choose one of the test types.

Run Test	Click this button to start the line test.

VoIP - Line Test Result

All Metallic Loop test (Port1)

AC Voltage
  Tip Lead Voltage = 0 Vrms
  Ring Lead Voltage = 0 Vrms
  Tip Ring Voltage = 0 Vrms

AC Current
  Tip Lead Current = 0.0 mA
  Ring Lead Current = 0.0 mA

DC Voltage
  Tip Lead Voltage = 0 V
  Ring Lead Voltage = -0 V
  Tip Ring Voltage = 0 V

DC Current
  Tip Lead Current = 0 mA
  Ring Lead Current = 0 mA

Subscriber Line Loop Resistance
  RLOOP = 3809 Ohms

Resistance Test Results
  RTG = OPEN
  RRG = OPEN
  RTR = 101040

Capacity
  Tip Ground Capacitance = 0.00 uF
  Ring Ground Capacitance = 0.00 uF
  Tip Ring Capacitance = 0.42 uF

Receiver Off-Hook
  Off-Hook = No

Ringer Equivalence Numer
  REN = 0.465508
  ZLoad = 15037.331055

Metallic Testing Result: Test Pass

Return to line Test

3.5.7 Miscellaneous

Many settings that cannot be classified under VoIP are placed in this page, such as ring cadence, voice band data, MGCP port lock, offhook detect, line impedance and line PCM codec.
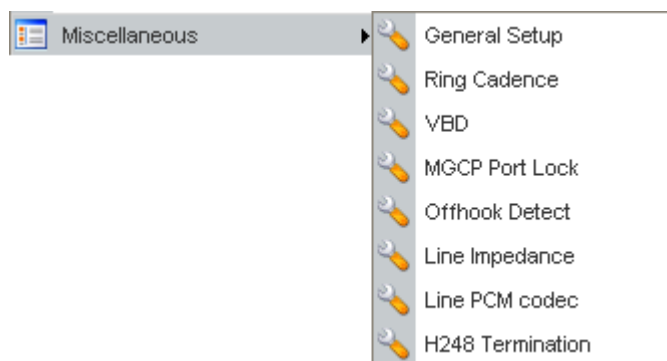
General Setup

This page includes **RTP** and **T.38 Starting Port, T.38 Redundancy Number**, **VoIP FailOver, etc**.

RTP Starting Port The starting port number for RTP protocol packet. The default setting is 13456.

T38 Mode Click **Enable** to enable T.38 function. Click **Disable** to close this function.

T.38 Starting Port The starting port number for T.38 protocol packet. The default setting is 49170.

T.38 Redundancy Number The redundancy number (how many payloads attaching to the tail of the packet) for T.38 protocol. The default value is 1.

Dialing Completion Timeout Users might dial with incomplete phone number and wait for several seconds but not finish the complete dialing. The system will force to dial the incomplete number after the time you set in this field to finish that call. For example, the phone number is 03654321 and the dialing completion timeout is set to 4 (secs). The user dials with 036 and stops to dial. After passing through 4 seconds, the adapter will send out that phone call automatically.

Line Polarity Reversal **as Callee Answer** - Check this box to generate line polarity reversal while the remote user picks up the phone call.
as Callee On-Hook - Check this box to generate line polarity reversal while the remote user hangs off the phone call.

VoIP FailOver	**Use POTS System –** When VoIP call is unavailable, the system will switch into PSTN phone automatically.
Echo Cancellation	Click **Enable** to cancel echo. Click **Disable** to invoke echo.
Echo Cancellation Tail …	The length is used to indicate the echo canceller buffer to cancel the echo. The unit is mini-second.
Minimum/Maximum pulse break time	Such setting determines the pulse break time for pulse digit phone. Keep the default setting.
Minimum/Maximum flash break time	Such setting determines the pulse break time for pulse digit phone. Keep the default setting.
Minimum/Maximum pulse make time	Such setting determines the pulse break time for pulse digit phone. Keep the default setting.
Minimum pulse interdigit time	Such setting determines the pulse break time for pulse digit phone. Keep the default setting.

Ring Cadence

This page is used to set ring cadence for each ring port. There are eight groups of ring cadence offered by the system.

VoIP - Miscellaneous - Ring Cadence

#	Edit	Ton1	Toff1	Ton2	Toff2	Ton3	Toff3	Ton4	Toff4
1		1000 ms	4000 ms	0 ms	0 ms	0 ms	0 ms	0 ms	0 ms
2		800 ms	2000 ms	800 ms	4000 ms	0 ms	0 ms	0 ms	0 ms
3		800 ms	2000 ms	800 ms	4000 ms	0 ms	0 ms	0 ms	0 ms
4		800 ms	2000 ms	800 ms	4000 ms	0 ms	0 ms	0 ms	0 ms
5		800 ms	2000 ms	800 ms	4000 ms	0 ms	0 ms	0 ms	0 ms
6		800 ms	2000 ms	800 ms	4000 ms	0 ms	0 ms	0 ms	0 ms
7		800 ms	2000 ms	800 ms	4000 ms	0 ms	0 ms	0 ms	0 ms
8		800 ms	2000 ms	800 ms	4000 ms	0 ms	0 ms	0 ms	0 ms

TOn1 and TOn2 represent sound-on; TOff1 and TOff2 represent the sound-off.

To edit an entry, select it by clicking the radio button (from 1 to 8). Then click the **Edit** button on the bottom to bring up the following Web page.

Ton1	Type the duration of the first ring.
Toff1	Type the silence duration after the first ring.
Ton2/Ton3/Ton4	Type the duration of the next continuous ring.
Toff2/Toff3/Toff4	Type the silence duration after the next continuous ring.

VBD

VBD means **Voice Band Data** which can determine Modem or Fax or Auto mode for data transmission according to the answering tone.

| All Port | When you choose Auto, Modem, Fax from the drop down menu, all the configurations will be applied to all ring ports. **Auto** – Choose this setting to let the device determine which one (Modem or Fax) is proper. **Modem** – Choose this setting to let the device sending the data through modem. When the device detects answer tone, it will force to use Modem mode. **Fax** – Choose this setting to let the device sending the data by way of fax machine. When the device detects answer tone, it will force to use Fax mode. |
| One by One | When you click such item, you have to specify which ring port |

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will be applied with the configuration set here. If you choose multiple ring ports, they will apply the configuration one by one.

MGCP Port Lock

Such device has the ability to detect error automatically. When something wrong happened, the system will lock all the MGCP ports. This page is available only when you choose **MGCP** as VoIP protocol.

VoIP - Miscellaneous - MGCP Port Lock

Port	Lock Status	Manual Control		Port	Lock Status	Manual Control	
1	Unlocked	Unlock	Lock	13	Unlocked	Unlock	Lock
2	Unlocked	Unlock	Lock	14	Unlocked	Unlock	Lock
3	Unlocked	Unlock	Lock	15	Unlocked	Unlock	Lock
4	Unlocked	Unlock	Lock	16	Unlocked	Unlock	Lock
5	Unlocked	Unlock	Lock	17	Unlocked	Unlock	Lock
6	Unlocked	Unlock	Lock	18	Unlocked	Unlock	Lock
7	Unlocked	Unlock	Lock	19	Unlocked	Unlock	Lock
8	Unlocked	Unlock	Lock	20	Unlocked	Unlock	Lock
9	Unlocked	Unlock	Lock	21	Unlocked	Unlock	Lock
10	Unlocked	Unlock	Lock	22	Unlocked	Unlock	Lock
11	Unlocked	Unlock	Lock	23	Unlocked	Unlock	Lock
12	Unlocked	Unlock	Lock	24	Unlocked	Unlock	Lock

Unlocked
When line error occurred, the system will lock all the troubled ports. It means all the locked ports will not be used any more. Users can execute line test to make sure if the troubled port is recovered to normal condition. If yes, users can open this web page to unlock those troubled ports.

Locked
Ports with locked status will not be used normally. In addition, any available MGCP port can be locked at any time due to special reason if necessary.

Offhook Detect

The value typed here can be used for the device to judge the time for offhook.

All Port	When you click this button and choose any number from the drop down list, all the configurations will be applied to all ring ports.
	8/10/12 – When the phone line current reaches 8mA/10mA/12mA, the system will judge the phone is off-hook.
One by One	When you click such item, you have to specify which ring port will be applied with the configuration set here. If you choose multiple ring ports, they will apply the configuration one by one.

Line Impedance

It defines the impedance of phone line for different areas (countries). At present, there are three types, 600, 900 and China (specified for areas in China) provided here for choosing.

| **All Port** | When you click this button and choose any item from the drop down list, all the configurations will be applied to all ports. |
| **One by One** | When you click such item, you have to specify which ring port will be applied with the configuration set here. If you choose multiple ports, they will apply the configuration one by one. |

Line PCM codec

There are two types, **A-LAW** and $-\mu$**LAW** provided for such setting. Choose the suitable

one according to the codec system used by ISP in different area. It will be applied for transferring analog signal into digital signal or transferring digital signal into analog signal while doing PCM codec sampling.

VoIP - Miscellaneous - Line PCM Codec

○ All Ports A-LAW ▼			
⦿ One by One			
Port 1: A-LAW ▼	Port 7: A-LAW ▼	Port 13: A-LAW ▼	Port 19: A-LAW ▼
Port 2: A-LAW ▼	Port 8: A-LAW ▼	Port 14: A-LAW ▼	Port 20: A-LAW ▼
Port 3: A-LAW ▼	Port 9: A-LAW ▼	Port 15: A-LAW ▼	Port 21: A-LAW ▼
Port 4: A-LAW ▼	Port 10: A-LAW ▼	Port 16: A-LAW ▼	Port 22: A-LAW ▼
Port 5: A-LAW ▼	Port 11: A-LAW ▼	Port 17: A-LAW ▼	Port 23: A-LAW ▼
Port 6: A-LAW ▼	Port 12: A-LAW ▼	Port 18: A-LAW ▼	Port 24: A-LAW ▼

Apply Cancel

All Port　　When you click this button and choose any item from the drop down list, all the configurations will be applied to all ports. **600/900** – Available impedance value provided by the system. **China** - Such selection is available for the users in China.

One by One　　When you click such item, you have to specify which ring port will be applied with the configuration set here. If you choose multiple ports, they will apply the configuration one by one.

3.5.8 Incoming Call Barring

This feature is used to bar incoming VoIP calls from the Internet. Barring classes can be specified to allow or deny incoming calls. There are five barring classes on the device. The default setting is **Allow all incoming calls**.

🔳 Incoming Call Barring ▶	🔧 Set
	🔧 Allow List
	🔧 Deny List

Set

This page allows you to choose a barring class, match method and set a range for speed dial entries for the incoming call barring.

Barring Class	There are five options for incoming calls from remote ends. Choose either one of them to set the barring class.

Allow all incoming calls – All incoming calls from remote ends are accepted by this adapter.

Allow only calls from allow list – Only the calls listed in the Allow List page will be accepted by this adapter.

Allow only calls from speed dial entries – Only the calls listed in the speed dial entries will be accepted by this adapter.

Deny only calls from deny list – The calls listed on Deny List page will not be accepted by this adapter. And others calls are accepted.

Deny all incoming calls – All incoming calls from remote ends are not accepted by this adapter.

Match Method	**Name - Enable** or **Disable** this function to take value of **Speed Dial Phone Number** to be checked.
	IP/Domain - Enable or **Disable** this function to take the value of **Speed Dial Destination** to be checked.

Speed Dial Entries	Type the range to be checked. The default value is from 1 to 150.

Allow List

The VigorTalk ATA-24 supports up to **30** entries in the Allow List table. When you choose **Allow only calls from allow list** as the Barring Class, only the people listed in this list can call this adapter.

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Name   The name or number in the allow list.

IP/Domain   The IP address or domain name to be allowed. If the peer is registered in SIP proxy server, use the domain name of the SIP proxy server. Otherwise, use the static IP address or DDNS domain name.

Deny List

The VigorTalk ATA-24 supports up to **30** entries in the Deny List table. When you choose **Deny only calls from deny list** as the Barring Class, people listed in this list **cannot** call this adapter.

Name   The name or number in the deny list.

IP/Domain   The IP address or domain name to be denied. If the peer is registered in SIP proxy server, use the domain name of the SIP proxy server. Otherwise, use the static IP address or DDNS domain name.

3.5.9 Statistics

The function provides call statistics, RTP statistics, RTP threshold setting and show alert for users.
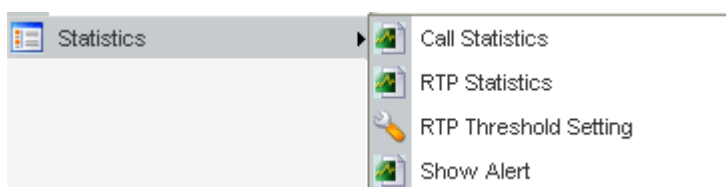
Call Statistics

This page displays statistics for all incoming/outgoing calls (successful and failed) through this adapter.

You can click **Refresh** to get the latest status information for these VoIP phones. In addition, you can set the time interval of refreshing. Use the drop down list of **Refresh Option** to choose an automatic refreshing setting. If you choose **No Refresh**, the system will not refresh this page until you click **Refresh** button.

RTP Statistics

This page displays statistics for RTP.

You can click **Refresh** to get the latest status information for these VoIP phones. In addition, you can set the time interval of refreshing. Use the drop down list of **Refresh Option** to choose an automatic refreshing setting. If you choose **No Refresh**, the system will not refresh this page until you click **Refresh** button.

RTP Threshold Setting

This page is used to set RTP threshold settings for alert message. The alert message will be sent out when the values of the incoming phone calls beyond the settings configured in this page. In addition, the alert message will be displayed on the page of **Show Alert**.

Mode	Click **Enable** to activate RTP Threshold mode.
Round Trip Delay Low Threshold	Set the lowest value (default setting is 80) as round trip delay low threshold.
Round Trip Delay High Threshold	Set the highest value (default setting is 150) as round trip delay high threshold.
Jitter Low Threshold	Set the lowest value (default setting is 3) as jitter low threshold.
Jitter High Threshold	Set the lowest value (default setting is 10) as jitter high threshold.
Packet Loss Ratio Low Threshold	Set the lowest value (default setting is 0) as packet loss ratio low threshold.
Packet Loss Ratio High Threshold	Set the lowest value (default setting is 5) as packet loss ratio high threshold.
RTCP Timeout	Set the value (default setting is 10) for RTP timeout setting.

Show Alert

This page display information for alert message.

VoIP - Statistics - Show Alert

Port	Alert Count	Alert Type	Delay	Jitter	Lost
1		Unknow			
2		Unknow			
3		Unknow			
4		Unknow			
5		Unknow			
6		Unknow			
7		Unknow			
8		Unknow			
9		Unknow			
10		Unknow			
11		Unknow			
12		Unknow			
13		Unknow			
14		Unknow			
15		Unknow			
16		Unknow			
17		Unknow			
18		Unknow			
19		Unknow			
20		Unknow			
21		Unknow			
22		Unknow			
23		Unknow			
24		Unknow			

You can click **Refresh** to get the latest status information for these VoIP phones. In addition, you can set the time interval of refreshing. Use the drop down list of **Refresh Option** to choose an automatic refreshing setting. If you choose **No Refresh**, the system will not refresh this page until you click **Refresh** button.

3.5.10 Status

This feature displays Port and SIP status for VoIP phone calls.

Port Status

This page displays the connection status for VoIP phone calls.

VoIP -Port Status

| Refresh Option: | No Refresh ▼ | Refresh |

#	Call Status	RTP Statistic
1	Locked	PS=0, OS=0, PR=0, OR=0, PL=0, JI=0, LA=0
2	Idle	
3	Idle	
4	Idle	
5	Idle	
6	Idle	
7	Idle	
8	Idle	
9	Idle	
10	Idle	
11	Idle	
12	Idle	
13	Idle	
14	Idle	
15	Idle	
16	Idle	
17	Idle	
18	Idle	
19	Idle	
20	Idle	
21	Idle	
22	Idle	
23	Idle	
24	Idle	

* PS: Packets Sent, OS: Octets Sent, PR: Packets Received,   OR: Octets Received, PL: Packets Lost,   JI: Interarrival Jitter Estimate(ms), LA: Avg TX Delay(ms)

Call Status	Display the calling status, idle, far-end alerting, alerting, busy, dialing and connected.
RTP Statistics	The statistics for RTP. **PS** means packets sent; **OS** means octets sent; **PR** means packet received; **OR** means octets received; **PL** means packets lost, **LA** means average TX delay (unit is ms) and **JI** means inter arrival jitter estimates (unit is ms).

You can click **Refresh** to get the latest status information for these VoIP phones. In addition, you can set the time interval of refreshing. Use the drop down list of **Refresh Option** to choose an automatic refreshing setting. If you choose **No Refresh**, the system will not refresh this page until you click **Refresh** button.

SIP Status

This page displays the registration status for VoIP phone calls.

#	Register Status	#	Register Status	#	Register Status	#	Register Status
1		9		17		25	
2		10		18		26	
3		11		19		27	
4		12		20		28	
5		13		21		29	
6		14		22		30	
7		15		23		31	
8		16		24		32	

Register Status   The status (OK or Failed) of registering in proxy server.

You can click **Refresh** to get the latest status information for these VoIP phones. In addition, you can set the time interval of refreshing. Use the drop down list of **Refresh Option** to choose an automatic refreshing setting. If you choose **No Refresh**, the system will not refresh this page until you click **Refresh** button.

Fault Status

This page displays the status for VoIP fault. When something wrong happened to the VoIP line, the problem will be displayed in this page.

Port	Fault Status	Port	Fault Status	Port	Fault Status	Port	Fault Status
1	-	7	-	13	-	19	-
2	-	8	-	14	-	20	-
3	-	9	-	15	-	21	-
4	-	10	-	16	-	22	-
5	-	11	-	17	-	23	-
6	-	12	-	18	-	24	-

Fault Status   The possible messages for the fault status include:

Thermal Fault: When the SLIC is too hot to be born, corresponding message will be displayed in this field.

DC Fault: DC current is added on the telephone line externally.

AC Fault: AC current is added on the telephone line externally.

Buttery Fault: there is something wrong happened to the internal battery.

Clock Fault: there is something wrong happened to the internal clock.

You can click **Refresh** to get the latest status information for these VoIP phones. In addition, you can set the time interval of refreshing. Use the drop down list of **Refresh Option** to choose an automatic refreshing setting. If you choose **No Refresh**, the system will not refresh this page until you click **Refresh** button.

3.5.11 Call History

This page lists the call history through VigorTalk ATA-24. You can click **Refresh** to get the latest history information for these VoIP phones. Besides, this page refreshes automatically every 10 seconds.

Refresh Option	Specify the interval of refresh time to obtain the latest VoIP calling information. The information will update immediately when the Refresh button is clicked.

Port Number	The port number of VoIP.
Call Type	The dialing direction for this call (Incoming/Outgoing).
Caller Number	The phone number of the caller.
Callee Number	The phone number of the receiver.
Start Time	The starting time of the call.
End Time	The ending time of the call.
Duration	The duration of the call.
Release Reason	The reason for the call termination.

Remote RTP Address	The IP address of remote voice site.
Remote RTP Port	The used port number of remote voice site.
RTP Statistic	The statistic of RTP with abbreviation will be shown in this field (e.g., PS: Packets Sent; OS: Octets Sent; PR: Packets Received; OR: Octets Received; PL: Packets Lost; JI: Interarrival Jitter Estimate (ms); LA: Average TX Delay(ms)).
Codec Type	The Codec mode used for this phone calling.
Packet Period	The period of time for sampling on voice signal.
VAD	The status of VAD.
DTMF Relay	The status of DTMF.

3.5.12 Configure Activate

This page will activate the new configured settings. Click **Apply** to execute the new settings.

When the VoIP settings are configured, it must be activated after clicking **Apply** in this page.

④ Trouble Shooting

This section will guide you to solve abnormal situations if you cannot access into the Internet after installing the adapter and finishing the web configuration. Please follow below sections to check your basic installation stage by stage.

➢ Checking if the hardware status is OK or not.

➢ Checking if the Network Connection Settings on your computer is OK or not.

➢ Pinging the Adapter from your computer.

➢ Checking if the ISP Settings are OK or not.

➢ Backing to factory default setting if necessary.

If all above stages are done and the adapter still cannot run normally, it is the time for you to contact with your dealer for advanced help.

4.1 Checking If the Hardware Status Is OK or Not

Follow the steps below to verify the hardware status.

1. Check if the power line and WLAN/LAN cable connections is OK.
   If not, refer to "**2.1 Hardware Installation"** for reconnection.

2. Turn on the adapter. Make sure the **ACT LED** blinks once per second and the correspondent **WAN/LAN LED** is bright.
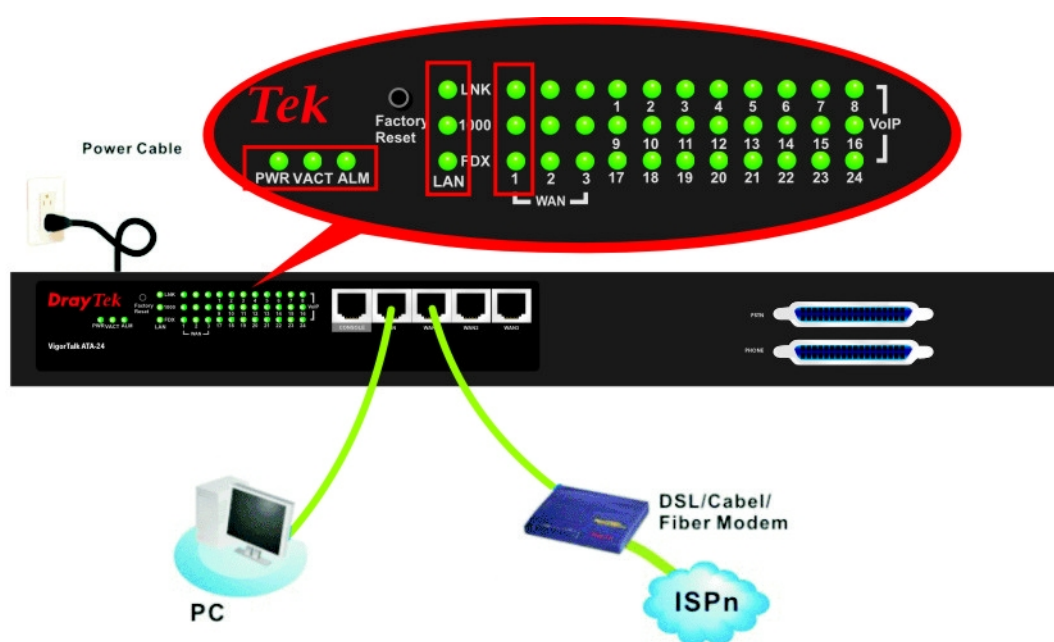
3.	If not, there must be something wrong with the hardware connection. Simply back to **"2.1 Hardware Installation"** to execute the hardware installation. And then, try again.

4.2 Checking If the Network Connection Settings on Your Computer Is OK or Not

Sometimes the link failure occurs due to the wrong network connection settings. After trying the above section, if the link is stilled failed, please do the steps listed below to make sure the network connection settings is OK.

For Windows

The example is based on Windows XP. As to the examples for other operation systems, please refer to the similar steps or find support notes in **www.draytek.com**.

1.	Go to Control Panel and then double-click on Network Connections.

2.	Right-click on Local Area Connection and click on Properties.
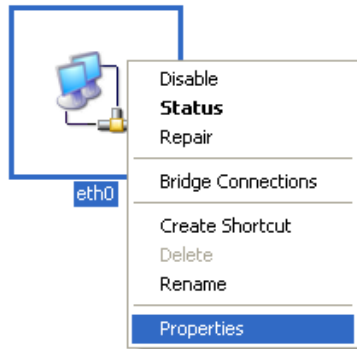
3.	Select **Internet Protocol (TCP/IP)** and then click **Properties**.
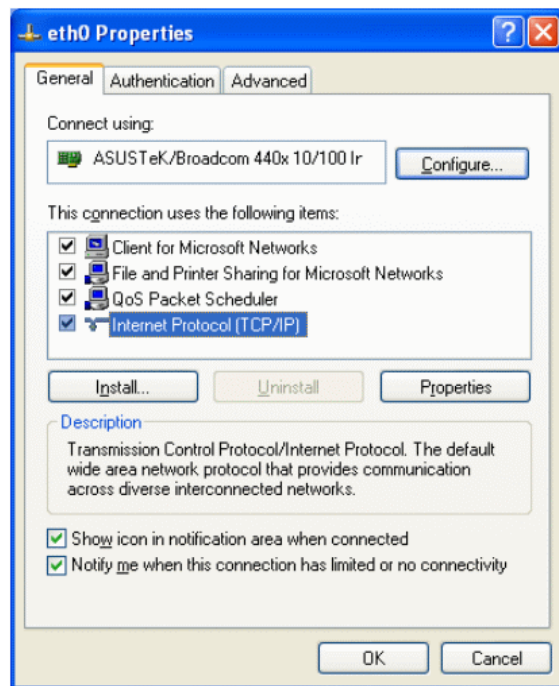
4.   Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**.
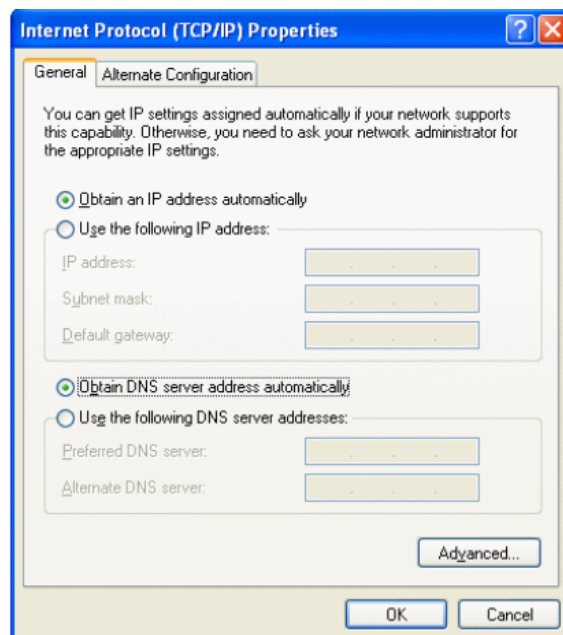
For MacOs

1. Double click on the current used MacOs on the desktop.

2. Open the **Application** folder and get into **Network**.

3. On the **Network** screen, select **Using DHCP** from the drop down list of Configure IPv4.
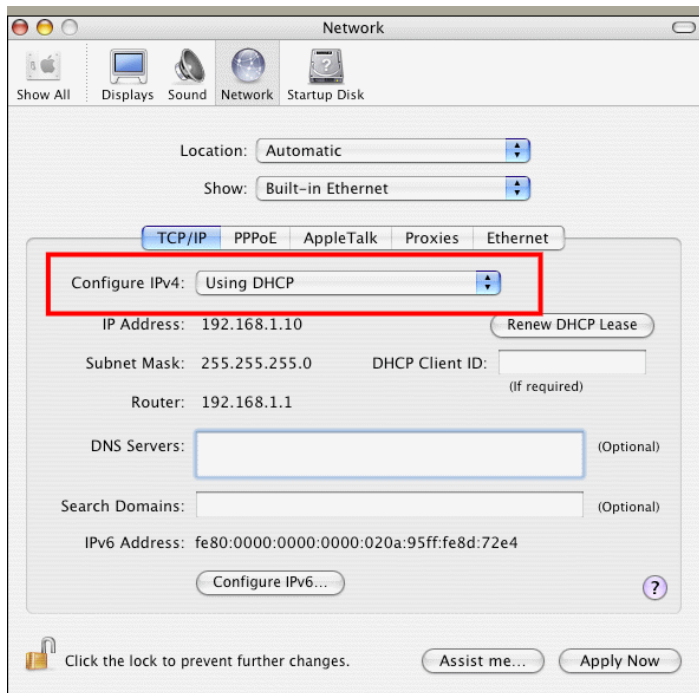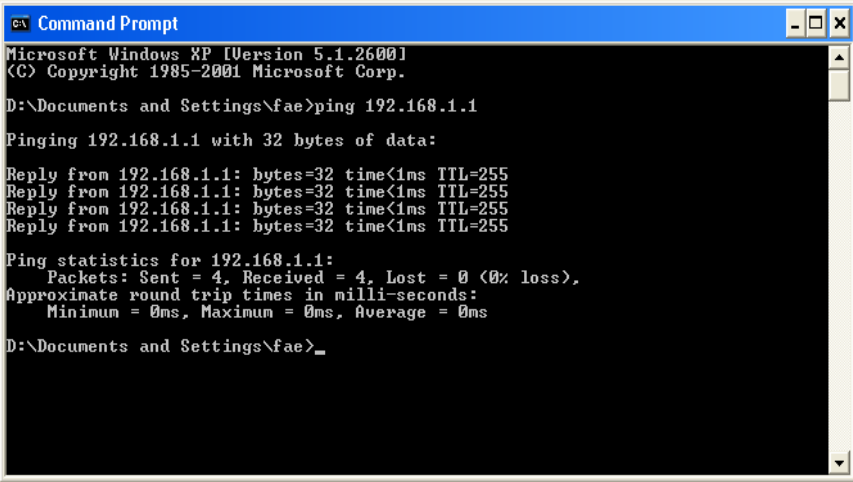
4.3 Pinging the Adapter from Your Computer

The default gateway IP address of the adapter is 192.168.1.1. For some reason, you might need to use "ping" command to check the link status of the adapter. **The most important thing for this command is that the computer will receive a reply from 192.168.1.1 for correct link.** If not, please check the IP address of your computer. We suggest you setting the network connection as **get IP automatically**. (Please refer to the section 3.2)

Please follow the steps below to ping the adapter correctly.

For Windows

1. Open the **Command** Prompt window (from **Start menu>> Run**).

2. Type **command** (for Windows 95/98/ME) or **cmd** (for Windows NT/ 2000/XP). The DOS command dialog will appear.

3. Type **ping 192.168.1.1** and press [Enter]. It the link is OK, the line of **Reply from 192.168.1.1:bytes=32 time<1ms TTL=255** will appear.

4. If the line does not appear, please check the IP address setting of your computer.

For MacOs (Terminal)

1. Double click on the current used MacOs on the desktop.

2. Open the **Application** folder and get into **Utilities**.

3. Double click **Terminal**. The Terminal window will appear.

4. Type **ping 192.168.1.1** and press [Enter]. It the link is OK, the line of **64 bytes from 192.168.1.1: icmp_seq=0 ttl=255 time=xxxx ms** will appear.

4.4 Checking If the ISP Settings Are OK or Not

1. Go to the web configuration GUI **(http://192.168.1.1),** click **Network >> WAN** to check your ISP settings for IP modes.

2. Make sure the **Active** check box has been selected.

For PPPoE Mode

1. Check if **Username** and **Password** are entered with correct values that you **got from** your **ISP**.

2. Check if the setting of **Authentication** is correct or not. You may need to try both **PAP** and **CHAP.**

3. Check if **Service Name** (optional) is correct or not. It is required by some ISPs.

After finishing the settings, go to **System - Status** page and click **WAN Status**. You will get a correct web page of WAN settings.

For Static Mode

1. Check if the values of **IP Address**, **Subnet Mask**, **Gateway IP Address** and **Primary DNS** that you got from ISP are set properly or not. If you forget, please contact with ISP for getting new ones.

2. If anything wrong, please retype correct values and try the network connection again.

3. After finishing the settings, go to **System - Status** page and click **WAN Status**. You will get a correct web page of WAN settings.

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For DHCP Mode

1. Check if **Host Name** (optional) and **Domain Name** (optional) are correct or not. Both them are required for some ISPs.

2. If anything wrong, please check and retype correct values. Then try the network connection again.

3. After finishing the settings, go to **System - Status** page and click **WAN Status**. You will get a correct web page of WAN settings.

For PPTP Mode

1. Check if the settings of **Username** and **Password** are correct or not.

2. Check if the setting of **Authentication** is correct or not. You may need to try both **PAP** and **CHAP.**

3. Check if the value of **PPTP Local Address**, **PPTP Subnet Mask**, and **PPTP Remote Address** are correct or not.

4. After finishing the settings, go to **System - Status** page and click **WAN Status**. You will get a correct web page of WAN settings.

4.5 Backing to Factory Default Setting If Necessary

Sometimes, a wrong connection can be improved by returning to the default settings. Try to reset the adapter by software or hardware.

> **Warning:** After pressing **factory default setting**, you will lose all settings you did before. Make sure you have recorded all useful settings before you pressing. The password of the factory default is null.

Software Reset

You can reset adapter to factory default via Web page.

Go to **System >> Reboot** on the web page. The following screen will appear. Choose **Reset to factory default** and click **Apply**. After few seconds, the adapter will return all the settings to the factory settings.

Hardware Reset

While the adapter is running (ACT LED blinking), press the **RST** button and hold for more than 5 seconds. When you see the ACT LED blinks rapidly, please release the button. Then, the adapter will restart with the default configuration.
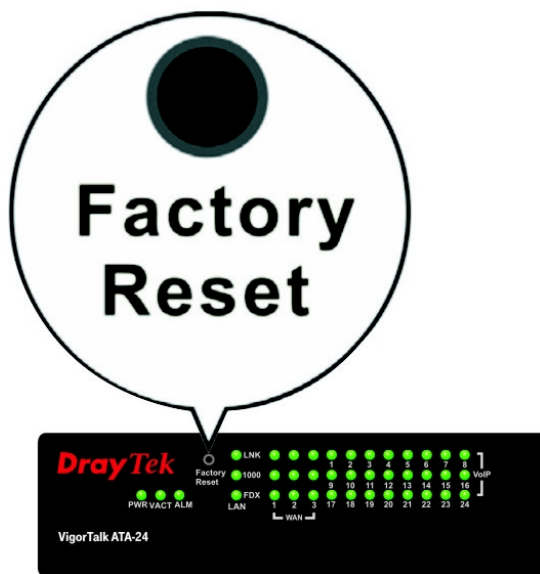
After restore the factory default setting, you can configure the settings for the adapter again to fit your personal request.

4.6 Contacting Your Dealer

If the adapter settings are correct at all, and the adapter still does not connect to internet, please contact your ISP technical support representative to help you for configuration.

Also, if the adapter still cannot work correctly, please contact your dealer for help. For any further questions, please send e-mail to **support@draytek.com.**

Appendix A: Telnet Commands

A.1 Introduction

In addition to the SNMP management, users can use commands to configure the ATA-24 VoIP Board. Users can do telnet on the ATA-24 VoIP Board and use the following two ways. One is console interface; another is telnet by management port.

The ATA-24 console interface will connect to PC console port. Users can use terminal emulation software configured by the following parameters.

➢ VT100 terminal emulation

➢ 115200 bps

➢ No parity, 8 data bits, 1 stop bit

➢ No hardware flow control

Users can type '**?**' for help. Another tools for command interface is telnet via management port. The PC should be the same subnet as ATA-24 VoIP Board. The default IP address is **192.168.1.1**. The default login name is "**admin**", password is "**1234**".
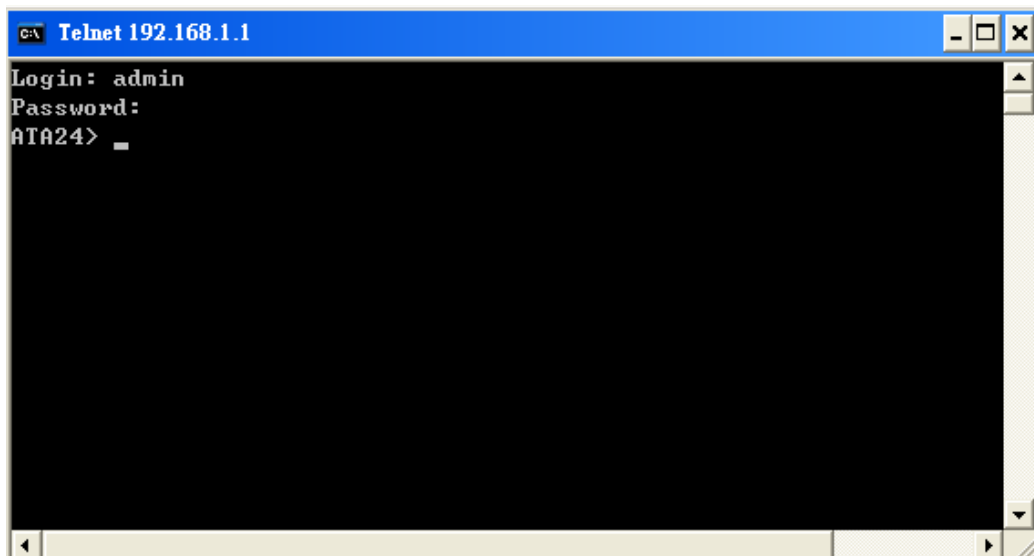
A.2 Root Commands

A.2.1 Enter Function Commands

- Enter advanced configuration function
    ATA24> advance

- Enter system diagnostics function
    ATA24> diag

- Enter firewall configuration function
    ATA24> firewall

- Enter network configuration function
  ATA24> network

- Enter system configuration function
  ATA24> system

- Enter voip configuration function
  ATA24> voip

A.2.2 Other Commands

- Help
  ATA24> ?

- Logout the CLI or the Telnet connection
  ATA24> exit
      or
  ATA24> logout
      or
  ATA24> quit

A.3 Advance Commands

A.3.1 General Commands

- Enter advance configuration function
  ATA24> advance

- Help in advance configuration function
  ATA24/ advance > ?

- Back to the root commands
  ATA24/ advance > ..

A.3.2 Port Block Commands

- Display the status for port block setting
  ATA24/advance> block –s

- Enable port block setting
  ATA24/advance> <Index> <Enable> <Port number>

- Disable port block setting
  ATA24/advance> <Index> <Disable>

<Index>	Item number(1~10)
<Disable/Enable>	0: Disable 1: Enable
<Port Number>	Available number 1 ~ 65535

A.3.3 Portmirror Commands

- Help
  ATA24/advance> portmirror ?

- Display port mirror settings
  ATA24/advance> portmirror -s

- Edit port mirror settings
  ATA24/advance> <Enable> <Moirroring> <Mirror CPU> <Mirror LAN><Mirror WAN1> <Mirror WAN2> <Mirror WAN3>

<Enable>	0: Disable
	1: Enable
<Moirroring>	Moirroring Port
	1: WAN1
	2: WAN2
	3: WAN3
<Mirror CPU>	0: Do not mirror,
<Mirror LAN>	1: Mirror
<Mirror WAN1>	
<Mirror WAN2>	
<Mirror WAN3>	

A.3.4 Staticroute Commands

- Help
    ATA24/advance> staticroute ?

- Display static route settings
    ATA24/advance> staticroute –s <Index>

- Edit static route settings
    ATA24/advance> <Index> <Network Interface> <Destination IP> <Gateway IP> <Subnet Mask>

- Delete static route settings
    staticroute -d <Index>

<Index>	Item number(1~10)
<Network Interface>	0 : LAN
	1 : WAN1
	2 : WAN2
	3 : WAN3
<Destination IP>	IP address of the destination
<Gateway IP>	IP address of the gateway
<Subnet Mask>	Available settings include: /24 ; /25 ; /26 ; /27 ; /28 ; /29 ; /30 ; /31 ; /32 ; /8 ; /9 ; /10 ; /11 ; /12 ; /13 ; /14 ; /15 ; /16 ; /17 ; /18 ; /19 ; /20 ; /21 ; /22 ; /23 ; /0

A.4 Diagnostics Commands

A.4.1 General Commands

- Enter system diagnostics function
    ATA24> diag

- Help in the system diagnostics function
    ATA24/diag> ?

- Back to the root commands
    ATA24/diag> ..

A.4.2 Learning_table Commands

- Help
    ATA24/diag> learning_table ?

- Learning_table commands usage

<div align="center">**ATA24/diag> Learning_table**</div>

A.4.3 Netstat Commands

- Help
> **ATA24/diag> netstat ?**

- Netstat commands usage
> **ATA24/diag> netstat -h**

- Netstat diagnostics utility
> **ATA24/diag> netstat <cmd>**

A.4.4 Nslookup Commands

- Help
> **ATA24/diag> nslookup ?**

-Nslookup diagnostics utility
> **ATA24/diag> nslookup <IPorDomainName>**

A.4.5 Ping Commands

- Help
> **ATA24/diag> ping ?**

- Ping commands usage
> **ATA24/diag> ping**

- Ping diagnostics utility
> **ATA24/diag> ping <Source Interface> <Destination Address>**

<Source Interface>	0 : LAN 1 : WAN1 2 : WAN2 3 : WAN3
<Destination Address>	Domain name or IP Address of destination

A.4.6 Traceroute Commands

- Help
> **ATA24/diag> traceroute ?**

- Display usage message
> **ATA24/diag> traceroute**

- Traceroute diagnostics utility
> **ATA24/diag> traceroute <cmd>**

<cmd>	Octet string

A.5 Firewall Commands

A.5.1 General Commands

- Enter firewall configuration function
> **ATA24>firewall**

- Help in the firewall function

ATA24/ firewall > ?

- Back to the root commands
    ATA24/ firewall > ..

A.5.2 DoS Commands

- Help
    ATA24/network>dos ?
- Set the icmpflood detection function
    ATA24/network>dos /icmpflood
- Set the packet block detection function
    ATA24/network>dos/packetblock
- Set the port scan detection function
    ATA24/network>dos/ portscan
- Set the synflood detection function
    ATA24/network>dos/ synflood
- Set the udpflood detection function
    ATA24/network>dos/ udpflood
- Enable Dos Command
    ATA24/network>dos/enable

A.5.2.1 Icmpflood Command

- Help
    ATA24/network>dos >icmpflood ?

- Icmpflood commands usage
    ATA24/firewall/dos/icmpflood> enable <Option>

    ATA24/firewall/dos/icmpflood>threshold<Value> <Timeout>

<Option>	0: disable ICMPFlood detection function
	1: enable ICMPFlood detection function
<Value>	0-65535, default=300 packets/sec
<Timeout>	The value of time out

A.5.2.2 Packetblock Command

- Help
    ATA24/network>dos >packetblock ?

- Packetblock commands usage
    ATA24/firewall/dos/packetblock > option <Value>

<Value>	1: Enable block ip option
	2: Enable block TCP option
	4: Enable block land
	8: Enable tear drop
	16:Enable block smurf
	32:Enable block ping of death
	64:Enable block trace route
	128:Enable block icmp fragement
	256:Enable SYN fragement
	512:Enable Unknow protocol
	1024:Enable Fraggle attrack

A.5.2.3 Portscan Command

- Help
    ATA24/network>dos >portscan ?

- Portscan commands usage
    ATA24/firewall/dos/portscan > enable <Option>

    ATA24/firewall/dos/portscan > threshold <Value>

<Option>	0: disable port scan detection function 1: enable port scan detection function
<Value>	0-65535, default=300 packets/sec

A.5.2.4 Synflood Command

- Help
    ATA24/network>dos >synflood ?

- Portscan commands usage
    ATA24/firewall/dos/synflood >enable <Option>

    ATA24/firewall/dos/synflood >threshold <Value>

<Option>	0: disable SynFlood detection function 1: enable SynFlood detection function
<Value>	0-65535, default=300 packets/sec
<Timeout>	The value of time out

A.5.2.5 Udpflood Command

- Help
    ATA24/network>dos >udpflood ?

- Portscan commands usage
    ATA24/firewall/dos/udpflood >enable <Option>

    ATA24/firewall/dos/udpflood >threshold <Value>

<Option>	0: disable UDPFlood detection function 1: enable UDPFlood detection function
<Value>	0-65535, default=300 packets/sec
<Timeout>	The value of time out

A.5.2.6 Enable Command

- Help
    ATA24/network>dos >enable ?

- Portscan commands usage
    ATA24/firewall/dos >enable <Option>

<Option>	0: disable DoS Function 1: enable DoS Function

A.6 Network Commands

A.5.1 General Commands

- Enter network configuration function
> **ATA24> network**

- Help in the network diagnostics function
> **ATA24/network> ?**

- Back to the root commands
> **ATA24/network> ..**

A.5.2 LAN Commands

- Help
> **ATA24/network>lan ?**

- Set the dhcp server
> **ATA24/network/lan> dhcp**

- Set the IP NAT function
> **ATA24/network/lan> ip_nat**

- Set the IP route function
> **ATA24/network/lan> ip_route**

A.5.2.1 DHCP Command

- Help
> **ATA24/network/lan>dhcp ?**

- Display DHCP setting
> **ATA24/network/lan>dhcp -s**

- Enable/disable LAN setting
> **dhcp -mode <Index> <Mode>**

- Specify range for LAN IP address
> **dhcp -range <Index> <Start IP> <End IP>**

- Specify DNS server
> **dhcp -dns <Index> <Primary DNS> <Secondary DNS>**
>
> **dhcp -dns <Index> <Primary DNS>**

- Specify gateway
> **dhcp -gateway <Index> <Gateway IP>**

- Specify lease time
> **dhcp -lease <Index> <Lease Time>**

- Specify DHCP server
> **dhcp -relay <WAN IF> <DHCP Server IP>**

<Index>	1: LAN1 2: LAN2 3: LAN3
<Mode>	0: Disable 1: Enable 2: Relay Agent
<Start IP>	IP address as starting point.
<End IP>	IP address as ending point.
<Primary DNS>	IP address as primary DNS.

<Secondary DNS>	IP address as secondary DNS.
<Gateway IP>	IP address as gateway.
<Lease Time>	Unit is minute.
<WAN IF>	1: WAN1 2: WAN2 3: WAN3
<DHCP Server IP>	IP address as DHCP server.

A.5.2.2 IP_Nat Command

- Help

ATA24/network/lan>ip_nat ?

- Display nat setting

ATA24/network/lan>ip_nat –s <Index>

- Edit IP_NAT setting

ATA24/network/lan>ip_nat <Index> <Address> <Netmask>

<Index>	1: LAN1 2: LAN2 3: LAN3
<Address>	IP address for NAT.
<Netmask>	Subnet mask for NAT.

A.5.2.3 IP_Route Command

- Help

ATA24/network/lan>ip_route ?

- Display IP route setting

ATA24/network/lan>ip_route –s <WAN Interface>

- Edit IP_Route setting

ATA24/network/lan> ip_route -disable <WAN Interface>

ATA24/network/lan> ip_route -enable <WAN Interface> <Address> <Netmask> <LAN Interface>

<WAN Interface>	1: WAN1 2: WAN2 3: WAN3
<Address>	IP address for IP route.
<Netmask>	Subnet mask for IP route.
<LAN Interface>	1: LAN1 2: LAN2 3: LAN3

A.5.3 WAN Commands

- Help

ATA24/network/wan ?

A.5.3.1 Load Balance for WAN Command

- Help

ATA24/network/wan>advance> loadbalance ?

- Display the setting
      ATA24/network/wan>advance> loadbalance –s

- Eidt the setting
      ATA24/network/wan>advance> loadbalance <status> <autoweight>

<status>	0: Disable
	1: Enable
<autoweight>	0: Disable
	1: Enable

A.5.3.2 Backup Configuration Command

- Help
      ATA24/network/wan>advance> backup?

- Display the setting
      ATA24/network/wan>advance> backup –s

- Eidt the setting
      ATA24/network/wan>advance> backup <status>

<status>	0: Disable
	1: Enable

A.5.3.3 Weight Configuration Command

- Help
      ATA24/network/wan>advance> weight?

- Display the setting
      ATA24/network/wan>advance> weight –s

- Edit weight setting
      ATA24/network/wan>advance> weight <WAN1> <WAN2> <WAN3>

<WAN1>	1: 10%
<WAN2>	2: 20%
<WAN3>	3: 30%
	4: 40%
	5: 50%
	6: 60%
	7: 70%
	8: 80%
	9: 90%

A.5.3.4 Set WAN to Active Command

- Help
      ATA24/network/wan>active ?

- Edit WAN setting
      ATA24/network/wan>active <index> <status> <default route>
      ATA24/network/wan>active <index> <status> <default route>
      <loadbalance><backupmaster> <backupslave>

\<index\>	1: WAN1 2: WAN2 3: WAN3
\<status\>	0: not active 1: active
\<default route\>	0: not default 1: default
\<loadbalance\>	0: not join loadbalance 1: join loadbalance
\<backupmaster\>	0: not backupmaster 1: backupmaster
\<backupslave\>	0: not backupslave 1: backupslave

A.5.3.5 Set WAN to DHCP Mode Command

- Help

  ATA24/network/wan>dhcp ?

- Display current setting
  ATA24/network/wan>dhcp -s \<index\>

- Edit WAN setting

  ATA24/network/wan>dhcp \<index\>
  ATA24/network/wan>dhcp \<index\> \<hostname\> \<domainname\>

\<index\>	1: WAN1 2: WAN2 3: WAN3
\< hostname \>	Name of the host.
\< domainname \>	Name of the domain

A.5.3.6 Configure MAC Address Command

- Help

  ATA24/network/wan>mac ?

- Display current setting
  ATA24/network/wan>mac -s \<index\>

- Edit WAN setting
  ATA24/network/wan>mac \<index\> \<Use Default\>

  ATA24/network/wan>mac \<index\> \<User Define\> \<Mac Address\>

\<index\>	1: WAN1 2: WAN2 3: WAN3
\<Use Default\> **\<User Define\>**	0: use default setting 1: user defined setting
\<Mac Address\>	MAC address for user defined configuration

A.5.3.7 PPPoE/PPTP Connection Detection Command

- Help

ATA24/network/wan>ppp_detect ?

- Display current setting

    ATA24/network/wan> ppp_detect -s <index>

- Set condition for detection

    ATA24/network/wan> ppp_detect <index> <detect interval> <No-Reply Count>

<index>	1: WAN1 2: WAN2 3: WAN3
<detect interval>	Assign a number as interval time for detecting.
<No-Reply Count>	Assign a number (times) to ensure the connection of the WAN is on. After passing the times you set in this field and no reply received by the adapter, the connection of WAN interface will be regarded as breaking down.

A.5.3.8 Set WAN to PPPoE Mode Command

- Help

    ATA24/network/wan>pppoe ?

- Display current setting

    ATA24/network/wan> pppoe -s <index>

- Edit WAN setting

    ATA24/network/wan> pppoe <index> <Username> <Password> <Authentication Mode> <Service Name>

<index>	1: WAN1 2: WAN2 3: WAN3
<Username>	Name (user account) assigned by ISP.
<Password>	Password assigned by ISP.
<Authentication Mode>	0:PAP 1:CHAP
<Service Name>	Name (service) assigned by ISP.

A.5.3.9 Set WAN to PPTP Mode Command

- Help

    ATA24/network/wan>pptp ?

- Display current setting

    ATA24/network/wan> pptp -s <index>

- Edit WAN setting

    ATA24/network/wan> pptp <index> <Username> <Password> <Authenticate Mode> <Local IP><Local Netmask> <Server IP>

<index>	1: WAN1 2: WAN2 3: WAN3
<Username>	Name (user account) assigned by ISP.

\<Password\>	Password assigned by ISP.
\<Authentication Mode\>	0:PAP 1:CHAP
\<Local IP\>	IP address for local host.
\<Local Netmask\>	Netmask address for local host.
\<Server IP\>	IP address for the PPTP server.

A.5.3.10 Configure UP/Downstream Rate Command

- Help

      ATA24/network/wan>rate ?

- Display current setting
      ATA24/network/wan> rate -s \<index\>

- Edit WAN setting
      ATA24/network/wan> rate \<index\> \<Downstream\> \<Upstream\>

\<index\>	1: WAN1 2: WAN2 3: WAN3
\<Downstream\>	0: using default setting (102400) Type any number to set downstream rate.
\<Upstream\>	0: using default setting(102400) Type any number to set upstream rate.

A.5.3.11 Show WAN Configuration Command

- Help

      ATA24/network/wan>show ?

- Display all WAN interfaces settings
      ATA24/network/wan> show

- Display specified WAN interface settings
      ATA24/network/wan>show \<index\>

\<index\>	1: WAN1 2: WAN2 3: WAN3
\<index\>	1: WAN1 2: WAN2 3: WAN3

A.5.3.12 Configure WAN Speed Command

- Help

      ATA24/network/wan>speed ?

- Display current setting
      ATA24/network/wan> speed -s \<index\>

- Edit WAN setting
      ATA24/network/wan>speed \<index\> \<Speed & Duplex\>

\<index\>	1: WAN1 2: WAN2 3: WAN3

<Speed & Duplex>	1:Auto Negotiation
	2:100M / Full Duplex
	3:100M / Half Duplex
	4:10M / Full Duplex
	5:10M / Half Duplex

A.5.3.13 Set WAN to Static Mode Command

- Help

      ATA24/network/wan>static ?

- Display current setting

      ATA24/network/wan> static -s <index>

- Edit WAN setting

      ATA24/network/wan> static <index> <IP> <Netmask> <Gateway> <Primary DNS> <Secondary DNS>

<index>	1: WAN1
	2: WAN2
	3: WAN3
<IP>	Private IP address for WAN.
<Netmask>	Subnet mask for WAN.
<Gateway>	Private IP address for gateway.
<Primary DNS>	Pprivate IP address as primary DNS.
<Secondary DNS>	Private IP address as secondary DNS.

A.5.3.14 Static Connection Detection Command

- Help

      ATA24/network/wan>static_detect ?

- Display current setting

      ATA24/network/wan> static_detect -s <index>

- Set condition for detection, sending ARP to Gateway

      ATA24/network/wan> static_detect <index> 0 <detect interval> <No-Reply Count>

- Set condition for detection, sending PING

      ATA24/network/wan> static_detect <index> 1 <detect interval> <No-Reply Count> <detect destination>

- Set condition for detection, sending HTTP

      ATA24/network/wan> static_detect <index> 2 <detect interval> <No-Reply Count> <detect destination>

<index>	1: WAN1
	2: WAN2
	3: WAN3
<detect interval>	Assign a number as interval time for detecting.
<No-Reply Count>	Assign a number (times) to ensure the connection of the WAN is on. After passing the times you set in this field and no reply received by the adapter, the connection of WAN interface will be regarded as breaking down.
<detect destination>	Private IP address or domain name

A.6 System Commands

A.6.1 General Commands

- Enter system configuration function
  ATA24> system

- Help in the system configuration function
  ATA24/system> ?

- Back to the root commands
  ATA24/system> ..

A.6.2 View ARP Cache Table Command

- Help
  ATA24/system/DiagnosticTools>arpcachetable ?

- Display the setting
  ATA24/system/DiagnosticTools> arp cache table

A.6.3 View DHCP Assignment Command

- Help
  ATA24/system/DiagnosticTools> dhcpassignmenttable ?

- Display the setting
  ATA24/system/DiagnosticTools> dhcp assignment table

A.6.4 View Routing Table Command

- Help
  ATA24/system/DiagnosticTools> routingtable ?

- Display the setting
  ATA24/system/DiagnosticTools> routing table

A.6.5 Administrator Control Commands

- Help
  ATA24/system> administrator ?

- Edit password for administrator
  ATA24/system>administrator<old password> <new password>
  <verify password>

<old password>	Type old password.
<new password>	Type new password.
<verify password>	Retype the password for verification.

A.6.6 Auto Logout Commands

- Help
  ATA24/system > auto_logout ?

- Display the setting
  ATA24/system > auto_logout -s

- Edit the max-cli-session number
  ATA24/system > auto_logout -n <MaxSess>

- Kill the #'s log-session
  ATA24/system > auto_logout -d <SessNum>

- Edit the maximum idle time of auto logout
  ATA24/system > auto_logout -m <MaxIdleTime>

- Enable/Disable the auto logout
  ATA24/system > auto_logout <Active>

<MaxSess>	Integer(1 to15)
<SessNum>	Integer(1 to MaxSess)
<MaxIdleTime>	Seconds, Integer(10 to 86400)
<Active>	0: Disable 1: Enable

A.6.7 Config Commands

- Help
  ATA24/system> config ?

- Display the setting
  ATA24/system> config –s

- Execute the backup action
  ATA24/system> config backup <fname> <servIP>

- Execute the restore action
  ATA24/system> config restore <fname> <servIP>

<fname>	Octets string maximum length is 64.
<servIP>	IP address for the IVD

A.6.8 Manage Port Commands

- Help
  ATA24/system> manage_port ?

- Display the setting
  ATA24/system> manage_port -s

- Manage port from WAN interface
  ATA24/system> manage_port -m <Use Default Port or Not><Manage from WAN>

- Reboot the system to apply the changes
  ATA24/system> manage_port -r

- Enable HTTP/Telnet function
  ATA24/system> manage_port -e <HTTP Enable> <TELNET Enable>

- Change port number for HTTP/Telnet function
  ATA24/system> manage_port -p <Http> <Telnet>

- Set IP address for the connection through WAN interface
  ATA24/system> manage_port -i <index> <IP Start> <IP End>

<Use Default Port or Not>	0 : Default 1 : User Define
<Http>	default: 80
<Telnet>	default: 23
<Manage from	0 : Disable all from Wan;

WAN>	1 : Enable all from Wan; 2 : Enable only defined Wan IP;
<IP Start>	Starting point
<IP End>	Ending point.

A.6.9 Reboot Commands

- Help
> **ATA24/system> reboot ?**

- Reboot the system
> **ATA24/system> reboot**

- Reboot the system with keeping some important configuration
> **ATA24/system> reboot keep**

- Reboot the system with factory default configuration
> **ATA24/system> reboot default**

- Reboot the IVD VoIP board only
> **ATA24/system> reboot voip**
> **ATA24/system> reboot dsl**

A.6.10 Show Status Command

- Help
> **ATA24/system> status ?**

- Display the system status
> **ATA24/system> status**

A.6.11 Syslogd Commands

- Help
> **ATA24/system> syslogd ?**

- Display the syslog setting
> **ATA24/system> syslogd -s**

- Set IP address and port number for Syslog server
> **ATA24/system>syslogd <Active> <RIP> <RPort> <Facility> <Severity>**

<Active>	0: Disable 1: Enable
<RIP>	Type IP address for LAN
<RPort>	Integer(1 to 65535)
<Facility>	0: local use 0 (local0)(default) 1: local use 1 (local1) 2: local use 2 (local2) 3: local use 3 (local3) 4: local use 4 (local4) 5: local use 5 (local5) 6: local use 6 (local6) 7: local use 7 (local7)
<Severity>	0: Emergency(default settting) 1: Alert 2: Critical 3: Error 4: Warning

| 5: Notice (including SIP) |
| 6: Informational |
| 7: Debug |

A.6.13 Upgrade Commands

- Help

ATA24/system> upgrade ?

- Display the setting

ATA24/system> upgrade -s

- Execute the firmware upgrade

ATA24/system> upgrade <File Name> <Server IP>

<File Name>	Octets string maximum length is 64.
<Server IP>	Type IP address for the IVD.

A.7 Voip Commands

A.7.1 General Commands

- Enter voip configuration function
> **ATA24> voip**

- Help in the voip diagnostics function
> **ATA24/voip> ?**

- Back to the root commands
> **ATA24/voip> ..**

A.7.2 H248 Commands

- Help
> **ATA24/voip>h248 ?**

- Display H248 call agent setting
> **ATA24/voip/h248 > callagent -s**

- Edit the H248 call agent setting
> **ATA24/voip/h248>callagent <IPAddress> <Port>**

- Display digit map default short/long timer setting
> **ATA24/voip/h248 >dmTimer -s**

- Edit the digit map timer setting
> **ATA24/voip/h248>dmTimer <Termination> <Timer> <Sec>**

- Display local listening port number for H248
> **ATA24/voip/h248 >localport -s**

- Edit the local listening port setting
> **ATA24/voip/h248>localport <Port>**

- Display message ID
> **ATA24/voip/h248 >mid -s**

- Edit message ID
> **ATA24/voip/h248>mid -m <Mode>**
> **ATA24/voip/h248>mid -i <IP Mode>**
> **ATA24/voip/h248>mid <IPAddress>**
> **ATA24/voip/h248>mid <IPAddress> <Port>**

- Display termination ID
> **ATA24/voip/h248 >termid -s**

- Edit termination ID
> **ATA24/voip/h248>termId -a <Prefix> <StartNum>**
> **ATA24/voip/h248>termId <Termination> <ID>**

<IPAddress>	Domain name or IP Address
<Port>	1 to 65535
<Termination>	1 to 24
<Timer>	0: short timer 1: long timer
<Sec>	1 to 99 (sec)
<Mode>	0: [IPAddress]:Port 1: [IPAddress]
<IP Mode>	0: WAN IPAddress

	1: Manual IPAddress
<Prefix>	ID Name prefix
<StartNum>	Beginning of ID Name Number
<Termination>	1 to 24
<ID>	Identification name

A.7.3 Linetest Commands

- Help

ATA24/voip>linetest ?

- Execute voip line card test

ATA24/voip/linetest > line_card_test <Line> <TestItem>

- Execute voip metallic loop test

ATA24/voip/linetest > metallic_loop_test <Line>

- Execute voip user phone test

ATA24/voip/linetest >user_phone_test <Line> <TestItem>

<Line>	Available number: 1 to 24
<TestItem> (for voip line card test)	A: Normal Battery B: Loop Current C: Dial Tone Test D: Dial Digit Test E: Ring Voltage Test
<TestItem> (for voip user phone test)	A: DTMF Tone Testing B: Dial Pulse Testing C: Howler Tone D: Ringing

A.7.4 MGCP Commands

- Help

ATA24/voip/mgcp> callagent ?

- Display the call agent setting

ATA24/voip/mgcp> callagent –s
ATA24/voip/mgcp> callagent2 -s

- Edit the IP address and port number for call agent

ATA24/voip/mgcp> callagent <IPAddress> <Port>

ATA24/voip/mgcp> callagent2 <IPAddress> <Port>

- Display the setting of End Point Name ID Style

ATA24/voip/mgcp> epidstyle -s

- Edit the style mode for end point

ATA24/voip/mgcp> epidstyle -m<Mode>

- Edit the logic ID for end point

ATA24/voip/mgcp> epidstyle -l <LogicID>

- Edit the domain name for end point

ATA24/voip/mgcp> epidstyle -d <DomainName>

- Display the MGCP heartbeat setting

ATA24/voip/mgcp> **heartbeat -s**

- Edit the dual_homing action
   ATA24/voip/mgcp> heartbeat <Active>

- Edit the period of heartbeat for dual_homing
   ATA24/voip/mgcp> heartbeat –t <Sec>

- Edit the retry times of dual_homing
   ATA24/voip/mgcp> heartbeat –r <Times>

- Display local port setting
   ATA24/voip/mgcp> localport -s

- Edit the local port number for MGCP protocol
   ATA24/voip/mgcp> localport <Port>

- Display the port lock setting
   ATA24/voip/mgcp> portlock –s

   ATA24/voip/mgcp> portlock –s <Port>

- Edit the port lock/unlock
   ATA24/voip/mgcp> portlock <Port> <lock>

- Display the setting
   ATA24/voip/mgcp> rsip -s

- Set the RSIP action
   ATA24/voip/mgcp> rsip <Active>

- Display the setting pf sending RSIP with wildcarded endpoint ID
   ATA24/voip/mgcp> rsip -s

- Edit the RSIP action
   ATA24/voip/mgcp> wildrsip <wildcard> <range>

<IPAddress>	Assign an IP address of Call Agent server in MGCP (Default is 192.168.100.100)
<Port>	Assign a UDP port number to Call Agent server. 1 to 65535 (Default is 2727)

<Mode>	There are four options for users to select. (Default is 0)
	0. aaln/#@[ip_addr]
	  ex: aaln/1@[1.1.1.1]
	1. mac_addr/#@[ip_addr]
	  ex: 000504030201/1@[1.1.1.1]
	2. aaln/#@mac_addr
	  ex: aaln/1@000504030201
	3. aaln/#@domain_name
	  ex: aaln/1@callagent.com

<LogicID>	Starting number for logic ID.
<DomainName>	Name of the domain
<Active>	0: Disable 1: Enable (default=0) There are two options for users to select. **Each endpoint sends its own RSIP** **Send only one wild-carded RSIP** "**Enable**" to activate this function. "**Disable**" to close this function. (Default is Disable)
<Sec>	Integer(1 to 65535 default=60)

<Times>	Integer(1 to 300 default=1)
<Port> (for port lock/unlock)	1 to 24
<lock>	0: unlocked (default) 1: locked
<wildcard>	1: Enable wildcard(*) RSIP(Default) 0: Disable wildcard(*) RSIP
<range>	1: Enable range([1-24]) wildcards(Default) 0: Disable range([1-24]) wildcards

A.7.5 Miscellaneous Commands

- Help in the misc diagnostics function
   ATA24/voip>misc ?

- Display the dialing completion timeout
   ATA24/voip/misc> dialing_timeout -s

- Set the dialing completion timeout
   ATA24/voip/misc> dialing_timeout <value>

- Display echo cancellation configuration
   ATA24/voip/misc> echo_cancellation –s

- Enable echo cancellation configuration
   ATA24/voip/misc> echo_cancellation <enable>

   ATA24/voip/misc> echo_cancellation <enable> <tailLength>

- Display VoIP failover configuration
   ATA24/voip/misc> failover –s

- Enable/disable VoIP failover configuration when it failed from network to gateway
   ATA24/voip/misc> failover –n <Mode>

- Enable/disable VoIP failover configuration to use POTS system forcefully
   ATA24/voip/misc> failover –f <Mode>

- Display gain control setting
   ATA24/voip/misc>gain –s

- Set gain control setting
   ATA24/voip/misc>gain <Device port> <Speaker Gain> <Microphone Gain>

- Display line impedance parameter
   ATA24/voip/misc> lineimpedance –s

- Set same value for each line
   ATA24/voip/misc> lineimpedance <Country>

   ATA24/voip/misc>lineImpedance <line> <Country>

- Display line PCM codec
   ATA24/voip/misc> linepcmcodec –s

- Set same value for each line
   ATA24/voip/misc> linepcmcodec <codec>

   ATA24/voip/misc> linepcmcodec <line> c

- Display metering parameter

ATA24/voip/misc> metering –s

- Set metering parameter
ATA24/voip/misc> metering

ATA24/voip/misc> metering -r <Reversal as Callee off-hook> <Reversal as Callee on-hook>

- Display NAT traversal setting
ATA24/voip/misc> nat –s

- Set NAT traversal setting
ATA24/voip/misc>nat <Disable Mode>

ATA24/voip/misc>nat <Manual Mode> <NatIpAddr>

ATA24/voip/misc>nat <Auto Mode> <Type> <LocalPort> <ServerIP> <ServerPort>

ATA24/voip/misc>nat -sym <sym_rtp_t38>

- Display Line offhook detect current value
ATA24/voip/misc>offhookdetect -s

- Set Line offhook detection
ATA24/voip/misc> offhookdetect <Current>

ATA24/voip/misc> offhookdetect <line> <Current>

- Display pulse timing configuration
ATA24/voip/misc> pulsetime -s

- Set pulse timing
ATA24/voip/misc> pulsetime <breakMin> <breakMax> <flashMin> <flashMax> <makeMin> <makeMax> <interdigitmin>

- Display ring cadence and frequency setting
ATA24/voip/misc> ring -s

- Set ring cadence and frequency (same value for each line)
ATA24/voip/misc> ring -f <Frequency>

- Set ring frequency
ATA24/voip/misc>ring -f <line> <Frequency>

- Set ring cadence
ATA24/voip/misc>ring -c <Index> <Ton1> <Toff1> <Ton2> <Toff2> <Ton3> <Toff3> <Ton4> <Toff4>

- Display the port number for sending/receiving RTP packets
ATA24/voip/misc> rtp_port -s

- Set the port number for sending/receiving RTP packets
ATA24/voip/misc> rtp_port <Port number>

- Display T.38 Fax Relay Configuration
ATA24/voip/misc> t38 -s

- Set T.38 Fax Relay
ATA24/voip/misc> t38 <Mode>

ATA24/voip/misc t38 <Mode> <Port> <Redundancy>

- Display Voice Band Data (VBD) Configuration
ATA24/voip/misc> vbd -s

- Set Voice Band Data (VBD) (same value for each line)

ATA24/voip/misc> vbd <VBD>

- Set Voice Band Data (VBD)

ATA24/voip/misc> vbd <port><VBD>

\<value\>	Range: 1~60 (second)
\<enable\>	0: disable 1: enable
\<tailLength\>	Network Echo Canceller Tail Length (ms) Range: 8 ~ 128, should be multiple of 8
\<Mode\>	0: disable 1: enable
\<Device port\>	Device port number
\<Speaker Gain\>	Assign the gain value while receiving voice, default value is 0. The range is from -14 to 6.
\<Microphone Gain\>	Assign the gain value while transmitting voice, default value is 0. The range is from -14 to 6. (Default is 0)
\<line\>	Device line number (from 1 to 24)
\<Country\>	0: 600 Ohm (default) 1: 900 Ohm 2: China
\<Codec\>	0: Mu-LAW (default) 1: A-LAW
\<Reversal as Callee off-hook\>	0: Disable (default) 1: Enable
\<Reversal as Callee on-hook\>	0: Disable (default) 1: Enable
\<Disable Mode\>	0 : Disable NAT traversal (DEFAULT)
\<Manual Mode\>	1 : Manually input NAT IP address
\<Auto Mode\>	2 : Auto discover NAT IP address
\<NatIpAddr\>	Type IP address for manual mode.
\<Type\>	0 : Semi-auto, need to configure NAT 1 : Full-auto, no need to configure NAT
\<LocalPort\>	Local listening port number for STUN client
\<ServerIP\>	The IP address of STUN server
\<ServerPort\>	The port number of STUN server
\<sym_rtp_t38\>	0 : Disable symmetric RTP and T.38 1 : Enable symmetric RTP and T.38
\<Current\>	8: 8 mA (default) 10: 10 mA 12: 12 mA 15: 15 mA
\<breakMin\>	Minimum pulse break time (ms)
\<breakMax\>	Maximum pulse break time (ms)
\<flashMin\>	Minimum flash break time (ms)
\<flashMax\>	Maximum flash break time (ms)
\<makeMin\>	Minimum pulse make time (ms)
\<makeMax\>	Maximum pulse make time (ms)
\<interDigitMin\>	Minimum pulse inter digit time (ms)
\<Freqnency\>	Ring frequency 20: 20 HZ (default) 25: 25 HZ

\<Index\>	Pattern Index, Index Value: 1-8
\<Ton1\>	Ton1 of cadence, unit: (ms)
\<Toff1\>	Toff1 of cadence, unit: (ms)
\<Ton2\>	Ton2 of cadence, unit: (ms)
\<Toff2\>	Toff2 of cadence, unit: (ms)
\<Ton3\>	Ton3 of cadence, unit: (ms)
\<Toff3\>	Toff3 of cadence, unit: (ms)
\<Ton4\>	Ton4 of cadence, unit: (ms)
\<Toff4\>	Toff4 of cadence, unit: (ms)
\<Port number\>	1 to 65535
\<Mode\>	0: Disable 1: Enable
\<Port\>	T.38 Starting Port, 1 to 65535 (default:13456)
\<Redundancy\>	T.38 Redundancy Number, 0 to 4 (default:1)
\<port\>	device port number
\<VBD\>	0: Auto Detection 1: Modem 2: Fax

> **Note:** "Auto Discovery NAT IP Address" option is used when IVD is behind a NAT adapter, NAT uses dynamic WAN IP address like as DHCP or PPPoE client. There must be having a STUN server in Internet. IVD needs to negotiate with STUN server for this function.
>
> **Note:** The "STUN"(Simple Traversal of UDP through NATs) server is an implementation of the STUN protocol that enables STUN functionality in SIP-based systems. STUN is an application-layer protocol that can determine the public IP and nature of a NAT device that sits between the STUN client and STUN server.

A.7.6 SIP Commands

- Help in the sip configuration function
  ATA24/voip/sip> ?

- Enter incallbarring configuration function
  ATA24/voip/sip> incallbarring

- Display allow list of incoming calls (for SIP)
  ATA24/voip/misc> allow –s

  ATA24/voip/misc>allow -s \<Index\>

- Edit allow list of incoming calls (for SIP)
  ATA24/voip/sip> allow -e \<Index\> \<Name\> \<IP/Domain\>

- Delete allow list of incoming calls (for SIP)
  ATA24/voip/sip> allow -d \<Index\>

  ATA24/voip/sip> allow –d

- Display deny list of incoming calls (for SIP)
  ATA24/voip/misc> deny –s

  ATA24/voip/misc> deny -s \<Index\>

- Edit deny list of incoming calls (for SIP)
  ATA24/voip/sip> deny -e \<Index\> \<Name\> \<IP/Domain\>

- Delete deny list of incoming calls (for SIP)
    ATA24/voip/sip> deny -d <Index>

    ATA24/voip/sip> deny –d

- Display current settings for incoming call barring (for SIP)
    ATA24/voip/misc> set –s

- Edit deny list of incoming calls (for SIP)
    ATA24/voip/sip> set <Class> <MatchName> <MatchIP>
    <SpeeddialFrom> <SpeeddialTo>

- Display call waiting setting
    ATA24/voip/misc> callwait –s

- Edit call waiting setting
    ATA24/voip/sip>callwait <Port> <Mode>

- Display the codec setting
    ATA24/voip/sip> codec -s

- Edit prefect codec, codec rate and VAD for the port#
    ATA24/voip/sip> codec <Port> <PreferCodec> <CodecRate> <VAD>

- Edit single codec for the port#
    ATA24/voip/sip> codec –single <Port> <Active>

- Display VoIP setting
    ATA24/voip/sip>default_account -s

- Edit default SIP account
    ATA24/voip/sip>default_account <Port> <SIP Account>

- Display dialplan setting
    ATA24/voip/sip>dialplan -s

- Display dialplan setting with detail description
    ATA24/voip/sip>dialplan -h

- Edit dialplan setting (adding new entry)
    ATA24/voip/sip>dialplan -a <MatchString> <MinLength> <MaxLength>
    <PrefixStrip>   <PrefixAdd> <SipIpAddr> <InterDigitTimeOut>
    <Memo>

- Edit dialplan setting (modifying an entry)
    ATA24/voip/sip>dialplan -e <EntryIdx> <MatchString> <MinLength>
    <MaxLength><PrefixStrip> <PrefixAdd> <SipIpAddr>
    <InterDigitTimeOut> <Memo>

- Delete dialplan setting
    ATA24/voip/sip>dialplan -d <EntryIdx>
    ATA24/voip/sip>dialplan -D

- Display DTMF Relay setting
    ATA24/voip/sip>dtmf_relay -s

- Edit DTMF relay mode for the port#
    ATA24/voip/sip>dtmf_relay <Port> <Mode>

- Edit DTMF relay mode and SIP INFO mode for the port#
    ATA24/voip/sip>dtmf_relay <Port> <Mode> <SipInfoMode>

    ATA24/voip/sip>dtmf_relay -gain <port> <Gain Value>

- Display fax transporting setting

ATA24/voip/sip> **fax -s**

- Edit fax mode for the port#
  ATA24/voip/sip> fax <Port> <Mode>

- Display hotline setting
  ATA24/voip/sip> hotline -s

- Enable/Disable the hotline function
  ATA24/voip/sip> hotline <Port> <Active>

- Edit the hotline number
  ATA24/voip/sip> hotline <Port> <Active> <<Digits>

- Display local listening port number for SIP
  ATA24/voip/sip> localport –s

- Edit SIP local port number
  ATA24/voip/sip> localport <Port>

- Display port activation setting
  ATA24/voip/sip> port_active -s

- Choose proxy for the port
  ATA24/voip/sip> port_active <Port> <Active>

- Display proxy server setting
  ATA24/voip/sip> server -s

- Enable/Disable the proxy server
  ATA24/voip/sip> server <Proxy#> <Active>

- Enable/Disable the proxy server and outbound proxy
  ATA24/voip/sip> server <Proxy#> <Active> <Outbound>

- Edit the proxy server parameters
  ATA24/voip/sip> server <Proxy#> <Active> <Outbound> <ProxyName>
  <ProxyIP> <ProxyPort> <RegistrarIP> <RegistrarPort> <Expires>
  <Domain>

- Display SIP message (for SIP)
  ATA24/voip/sip> siplog <Mode>
  ATA24/voip/sip> siplog <Mode><Line>

- Display SIP user agent setting
  ATA24/voip/sip>sipua –s <Index>

- Display ring port setting
  ATA24/voip/sip>sipua –r

- Edit SIP user agent setting
  ATA24/voip/sip>sipua -e <Index> <Active> <UserName> <Password>
  <DisplayName> <AuthId><CallForwardMode> <CallForwardUrl>
  <CallForwardRing><Proxy> <CallNoRegister> <RingType> <IpBind>

- Edit ring port setting
  ATA24/voip/sip> sipua –r <Index> <RingPort> <Mode>

- Delete SIP user agent setting
  ATA24/voip/sip> sipua -e
  ATA24/voip/sip>dialplan -D

- Display speed dial setting
  ATA24/voip/sip> speeddial –s
  ATA24/voip/sip> speeddial -s <start> <end>

- Add speed dial number and destination for the entry
  ATA24/voip/sip> speeddial –a <Number> <Destination> <Memo>

- Edit speed dial number, destination and memo for the entry
  ATA24/voip/sip> speeddial –e <Index> <Number> <Destination> <Memo>

- Delete the entry of speed dial
  ATA24/voip/sip> speeddial –d <Index>

- Delete all entries of speed dial
  ATA24/voip/sip> speeddial –D

- Display ports that unlocked
  ATA24/voip/sip> unlock –s
  ATA24/voip/sip> unlock –s <Port>

- Execute port unlock
  ATA24/voip/sip> unlock <Port>

<Index>	1 to 30 1 to 32 for SIP user agent
<Name>	Name of the incoming calls
<IP/Domain>	IP address or domain name
<Class>	0 : Allow all incoming calls 1 : Allow only calls from allow list 2 : Allow only calls from speed dial entries 3 : Deny only calls from deny list 4 : Deny all incoming calls
<MatchName>	0 : Disable ; 1 : Enable
<MatchIP>	0 : Disable ; 1 : Enable
<SpeeddialFrom>	1 to 150
<SpeeddialTo>	1 to 150
<Port> <	Port number of the device. From 1 to 24
<Mode> for ring port setting/RTP threshold setting	0 : Disable ; 1 : Enable
<PreferCodec>	Select one Codec to be applied on this port. IVD supports five Codecs. 0: G.711U(PCMU) -64kbps 1: G.711A(PCMA) -64kbps 2: G.729A -8kbps (Default is 2) 3: G.723.1 -6.3kbps 4: G.726-32kbps
<CodecRate>	Select one rate value to be applied on this port. 20/40 - for PCMU or PCMA (Default is 20) 20/40/60/80 - for G.729A (Default is 20) 30/60 - for G.723.1 (Default is 30) 20/40 - for G.726 (Default is 20)
<VAD>	"Enable" to activate VAD(Voice Activity Detection, also known as Silence Suppression) function. "Disable" to stop using VAD. (Default is Disable)
<Active>	"Enable" to activate this port. "Disable" to close this port. (Default is Disable)

<SIP Account>	1 to 32
<EntryIdx>	1 to 60
<MatchString>	Matched string, ex: 9011x.T, maximum 63 characters.
<MinLength>	Min. length of digits, range: 0~63, default: 0 (only use for x.T (unfixed length))
<MaxLength>	Max. length of digits, range: 0~63, default:32
<PrefixStrip>	Number of prefix digits to strip, range: 0~63
<PrefixAdd>	Prefix string to be add, -1: none maximum 63 char.
<SipIpAddr>	SIP IP address or domain name, ex: iptel.org 0 for no specific address
<InterDigitTimeOut>	Override the inter-digits timeout, range: 1~60(sec) default: 4 (sec)
<Memo>	User-specified name for comment, maximum 63 characters. Users can add some descriptions for each number. (Default is none)
<Mode>	0: Disable 1: RFC2833 (Default is 1) 2: SIP INFO
<SipInfoMode>	Click one option to be applied in DTMF function. There are three options to be supported as below – Disable(Inband) RFC2833 SIP INFO 0: CISCO 1: NORTEL (If Mode is 1, default is none) (If Mode is 2, default is 0)
<Gain Value>	0 to 31
< Mode >	Select a mode to be applied on FAX function. There are two options to be supported as below – Transparent: FAX will be transmitted via voice channel, no fax relay nor Codec change will be involved. T.38 Relay: Using T.38 Fax Relay. It is the default value. 0: Transparent 1: T.38 Relay (Default is 1)
<Active >	0: Disable, 1: Enable Or 0: off, 1: on
<Digits >	Default is none
< Proxy#>	Proxy # is from 1 to 3.
< Outbound >	0: Disable (Default is 0) 1: Enable (It means that each SIP protocol packet will be sent to SIP proxy server always.)
< ProxyName >	Assign a name of SIP proxy server. (Default is none)
< ProxyIP >	Assign an IP address of SIP proxy server. (Default is 0)
< ProxyPort >	Assign a port number of SIP proxy server.

	1…65535 (Default is 5060)
< RegistrarIP >	Assign an IP address or domain name of SIP register server. (Default is 0)
< RegistrarPort >	Assign a port number of SIP register server. 1…65535 (Default is 5060)
< Expires >	Assign a timeout value for SIP protocol, the default value is 300. (minimum 60 seconds)
<Domain>	Assign an IP address or domain name of SIP Domain/Realm. (Default is 0)
<Mode> for SIP Message	0: Output last 50 lines 1: Output last N lines
<Line> for SIP Message	Print last N lines for mode 1
<UserName>	SIP username
<Password>	SIP password
<DisplayName>	SIP display name
<AuthId>	SIP authentication ID
<CallForwardMode>	0: Disable 1: Call forwarding all calls 2: Call forwarding busy 3: Call forwarding no answer
<CallForwardUrl>	SIP url format, ex: 101@iptel.org
<CallForwardRing>	1~10 (rings)
<Proxy>	0: Don't use proxy server 1: use Proxy 1 2: use Proxy 2 3: use Proxy 3
<CallNoRegister>	0: Call with Registration 1: Call without Registration
<RingType>	0: Rings all ports in the group 1: Rings the first available port 2: Rings by round robin
<IpBind>	0: WAN 1: VPN/LAN1 2: VPN/LAN2 3: VPN/LAN3 4: VPN/LAN4
<RingPort>	1~24 port
<Index> for speed dial setting	1~150
<Number>	Assign a dialing phone number.Ex: 101
<Destination>	Assign an address of dialing destination. Ex: 101@iptel.org

A.7.7 Statistics Commands

- Help in the Statistics function
	ATA24/voip/Statistics > ?

- Display call statistics setting
	ATA24/voip/statistics> callstat

- Display the setting by port
    ATA24/voip/statistics> callstat <Port>

- Edit the range for callstat port
    ATA24/voip/statistics> callstat <Port> <Range>

- Display RTP statistics setting
    ATA24/voip/statistics> rtpstat

- Display the setting by port
    ATA24/voip/statistics> rtpstat <Port>

- Edit the range for rtpstat port
    ATA24/voip/statistics> rtpstat <Port> <Range>

- Display RTP threshold setting
    ATA24/voip/statistics> rtpthreshold -s

- Edit the value for rtpthreshold
    **ATA24/voip/statistics> rtpthreshold <mode> <delayLow> <delayHigh>
    <jitterLow> <jitterHigh> <lostLow> <lostHigi> <timeout>**

- Display VoIP RTP alert setting
    ATA24/voip/statistics> showalert

- Display the setting by port
    ATA24/voip/statistics> showalert <Port>

<Port>	Port number of the device.
	From 1 to 24
<Range>	0: 15 minutes
for VoIP call statistics	1: 24 hour
<delayLow>	Round Trip Delay Low Threshold (ms)
<delayHigh>	Round Trip Delay High Threshold (ms)
<jitterLow>	Jitter Low Threshold (ms)
<jitterHigh>	Jitter High Threshold (ms)
<lostLow>	Packet Loss Ratio Low Threshold (0..100%)
<lostHigh>	Packet Loss Ratio High Threshold (0..100%)
<timeout>	RTCP timeout (in seconds)
<Lowfreq>	Assign a low frequency number in Hertz unit.
	(unit is HZ) (Default is 350)
<Highfreq>	Assign a high frequency number in Hertz unit.
	(unit is HZ) (Default is 440)
<Ton1>	The duration of the first ringing.
	(10msec per unit) (Default is 0)
<Toff1>	The silence duration after the first ringing.
	(10msec per unit) (Default is 0)
<Ton2>	The duration of the next continuous ringing.
	(10msec per unit) (Default is 0)
<Toff2>	The silence duration after the next continuous
	ringing.
	(10msec per unit) (Default is 0)
<Type>	0: North America
for call ID setting	1: JAPAN
	2: ETSI (Default is 2)
	3: DTMF

A.7.8 VoIP Status Commands

- Help in the Statistics function
        ATA24/voip/status> ?

- Display VoIP faults
        ATA24/voip/status>faultstatus

- Display VoIP FXS port hook state (onhook or offhook)
        ATA24/voip/status>hookstate
        ATA24/voip/status>hookstate<Port>

- Display VoIP connection Status
        ATA24/voip/status>portstatus
        ATA24/voip/status>portstatus <Port>

- Display VoIP SIP User Agent Registration Status
        ATA24/voip/status>sipuastatus
        ATA24/voip/status>sipuastatus <Port>

- Display VoIP Status
        ATA24/voip/status>voipstatus
        ATA24/voip/status>voipstatus <Mode>

<Port>	Port number of the device. From 1 to 24
<Mode>	0: disable 1: enable

A.7.9 Tone User Defined Commands

- Help in the Statistics function
        ATA24/voip/tone/user_defined> ?

- Display user defined tone setting
        ATA24/voip/tone/user_defined> busy -s

- Edit frequency and cadence for busy tone
        ATA24/voip/tone/user_defined> busy <Lowfreq> <Highfreq> <Ton1>
        <Toff1> <Ton2> <Toff2>

- Display caller ID setting
        ATA24/voip/tone/user_defined> callerid -s

- Edit caller id type
        ATA24/voip/tone/user_defined> callerid <Type>

- Display the setting
        ATA24/voip/tone/user_defined> congestion -s

- Edit frequency and cadence for congestion tone
        ATA24/voip/tone/user_defined> congestion <Lowfreq> <Highfreq>
        <Ton1> <Toff1> <Ton2> <Toff2>

- Display user defined dial tone setting
        ATA24/voip/tone/user_defined> dial -s

- Edit frequency and cadence for dial tone
        ATA24/voip/tone/user_defined> dial <Lowfreq> <Highfreq> <Ton1>
        <Toff1> <Ton2> <Toff2>

- Display user defined ringing tone setting
        ATA24/voip/tone/user_defined> ringing -s

- Edit frequency and cadence for ringing tone
    ATA24/voip/tone/user_defined> ringing <Lowfreq> <Highfreq> <Ton1>
    <Toff1> <Ton2> <Toff2>

- Display the country of the tone setting
    ATA24/voip/tone> region -s

- Choose the region for CPT setting
    ATA24/voip/tone> region <Region Number>

- Display CPT tone timer setting
    ATA24/voip/tone/ timer -s

- Edit CPT tone timer
    ATA24/voip/tone/timer <Tone> <Timer>

<Lowfreq>	(unit is HZ) (Default is 440)
<Highfreq>	(units is HZ) (Default is 480)
<Ton1>	(10msec per unit) (Default is 0)
<Toff1>	(10msec per unit) (Default is 0)
<Ton2>	(10msec per unit) (Default is 200)
<Toff2>	(10msec per unit) (Default is 400)
for user defined ring tone	
<Region Number>	Select one country area for using VoIP feature. There is one option User Defined for proprietary setting. 0 : User Defined 1 : Australia 2 : British (Default is 2) 3 : Canada 4 : China 5 : Denmark 6 : Finland 7 : France 8 : Germany 9 : Hong Kong 10 : India 11 : Japan 12 : Netherlands 13 : Norway 14 : Singapore 15 : Taiwan 16 : USA
<Tone> for CPT tone timer setting	1: Dial Tone 2: Busy Tone 3: Howler Tone 4: Ringing Tone 5: Special Dial Tone 6: Call waiting Tone 7: Congestion Tone 8: Reorder Tone
<Timer>	Range: 0~300 <sec>

A.7.10 Config Commands

- Help
    ATA24/voip>protocol ?

- Execute/activate VoIP setting
    ATA24/voip>config

A.7.11 List Commands

- Help
    ATA24/voip>listcmds ?

- Display all VoIP CLI commands
    ATA24/voip>listcmds

A.7.12 Protocol Commands

- Help
    ATA24/voip>protocol ?

- Display the setting
    ATA24/voip>protocol -s

- Set the voip protocol
    ATA24/voip>protocol <Protocol>

<Protocol>	0: MGCP, 1: SIP, 2:H.248