WATEEN WiMAX MODEM

User Manual

LEGAL INFORMATION

Version No. : R1.0
Edition Time :
Manual No. :

Content

Chapter 1

General

Welcome

Thanks for choosing the WiMAX MODEM (hereinafter referred to as “MODEM”). To get the most from your MODEM and to keep it in the best condition, please read this manual carefully.

The pictures, symbols and contents in this manual are for reference only. They might not be completely identical with provided MODEM. WATEEN operates a policy of continuous development. We reserve the right to update the technical specifications in this document at any time without prior notice.

Safety Precautions

- Some electronic devices may be susceptible to electromagnetic interference. Locate the MODEM away from TV set, radio and other electronic equipment to avoid electromagnetic interference.
- The MODEM may interfere with medical devices like hearing aides and pacemakers. Consult with a physician or the manufacturer of the medical device before using the MODEM.
- Do not use your MODEM in dangerous environments such as oil or chemical factories where there are explosive gases or explosive products being processed.
- Please use original accessories or accessories that are authorized by your Equipment Provider. Unauthorized accessories may affect the MODEM performance, damage the MODEM or cause danger to you.
- Do not attempt to dismantle the MODEM. There are no user serviceable parts.
- Do not immerse the MODEM in any liquid.
- Do not place objects on top of the MODEM. This may lead to overheating of the device.
- The MODEM must be placed in ventilation environment for use.
- Do not expose the MODEM to direct sunlight or store it in hot areas. High temperature can shorten the life of electronic devices.
- Do not touch the antenna while calling.
- Do not allow children to play with the MODEM or charger.
- Keep the length of the cable between the MODEM and the phone less than 33 feet.

  Ethernet cable type: RJ-45 10/100BaseT Ethernet cable
- The MODEM is for indoor use only. Do not use the MODEM outside. Do not connect telephone extensions which run outside of the building. These can result in lightning damage to your unit.
- This device cannot be Use with handheld PDAs (personal digital assistants). This device and its antenna must not be co-located or operated in conjunction with any other antenna or transmitter.
- Prevent liquid from leaking into your MODEM.

Cleaning and Maintaining

Use an antistatic cloth to clean the MODEM. Do not use chemical or abrasive cleanser as these could damage the plastic case. Turn off your MODEM before you clean it.

Do not use your MODEM during a thunderstorm. Remove the mains power pack from the wall socket.

Please do not touch the antenna with your hand during conversation. Covering the antenna may affects call quality, may cause the MODEM to operate at higher power level than needed.

Limited Warranty

This warranty does not apply to defects or errors in the Product caused by:

1. Reasonable MODEM Appearance Disfiguration.
2. End User's failure to follow WATEEN's installation, operation or maintenance instructions or procedures.
3. End User's mishandling, misuse, negligence, or improper installation, disassemble, storage, servicing or operation of the Product.
4. Modifications or repairs not made by WATEEN or a WATEEN-certified individual.
5. Power failures, surges, fire, flood, accident, actions of third parties or other events outside WATEEN's reasonable control.
6. Usage of products of third Parties, or usage in conjunction with third party products provided that such defects is due to the combined usage.
7. Any other cause beyond the range of normal usage for Products. End User shall have no right to reject, return, or receive a refund for any Product from WATEEN under the above-mentioned situations.

This warranty is end user's sole remedy and WATEEN's sole liability for defective or nonconforming items, and is in lieu of all other warranties, expressed, implied or statutory, including but not limited to the implied warranties of merchantability and fitness for a particular purpose, unless otherwise required under the mandatory provisions of the law.

Limitation of Liability

WATEEN shall not be liable for any loss of profits or indirect, special, incidental or consequential damages resulting from or arising out of or in connection with using of this product, whether or not WATEEN had been advised, knew or should have known of the possibility of such damages, including, but not limited to lost profits, interruption of business, cost of capital, cost of substitute facilities or product, or any downtime cost.

Chapter 2

Getting Started

Appearance

Front Panel

Parts Supplied

Parts	Quantity
MODEM	1
Switch mode power supply	1
RJ-45 10/100BaseT Ethernet cable	2
User Manual	1

Please contact with your service provider as soon as possible if the parts have any damage or lost. If replacing product, please preserve the packing box and parts of the product.

LED Indicator

LED	Marker	Status	Description

LED	Marker		Status	Description
WiMAX CINR			Flashing Red	Network searching
			Solid Blue	Signal is strong CINR>=27
			Solid Green	Signal is medium 13<=CINR<27
			Solid Red	Signal is weak 9<=CINR<13
			Off	No signal CINR<9
Wlan Status			Green	Wlan On
			Off	Wlan Off
			Flashing Green	Data Service Process
Phone1/Phone2			Off	Hook on/Out of Service
			Solid Green	Hook off
Power			Solid Green	Power Supply
			Solid Red	Power Supply Failure
LAN1/LAN2		Top right corner LED	Off	Out of Connection
			Solid Green	Connection
			Flashing Green	Data Service Process
		Top left corner LED	Off	10M Interface
			Solid Yellow	100M Interface

Working Condition

Working Condition for Host

Working temperature: 0℃ ~ +55℃ [32 ℉ ~ 131 ℉]

Working humidity: 10% ~ 85%

Storage temperature: -40℃ ~ +70℃ [-40 ℉ ~ 158 ℉]

Storage humidity: 5% ~ 95%

Technical Parameters

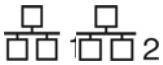
Mode of Access	WiMAX (Worldwide Interoperability for Microwave Access)
WiMAX Protocol	802.16e(IEEE 802.16-2005)
WiFi protocol	IEEE 802.11b & 802.11g
WiMAX Frequency Range	3400MHz~3600MHz

WiFi Frequency Range	2400MHz~2483.5MHz
Dimensions (W×H×D)	175 mm×122 mm×35 mm (Excluding the height of antenna)
Weight	About 420 g (Including antenna)

Please refer to the real objects for the related parameters about the charger

Ports

All ports are in back panel.

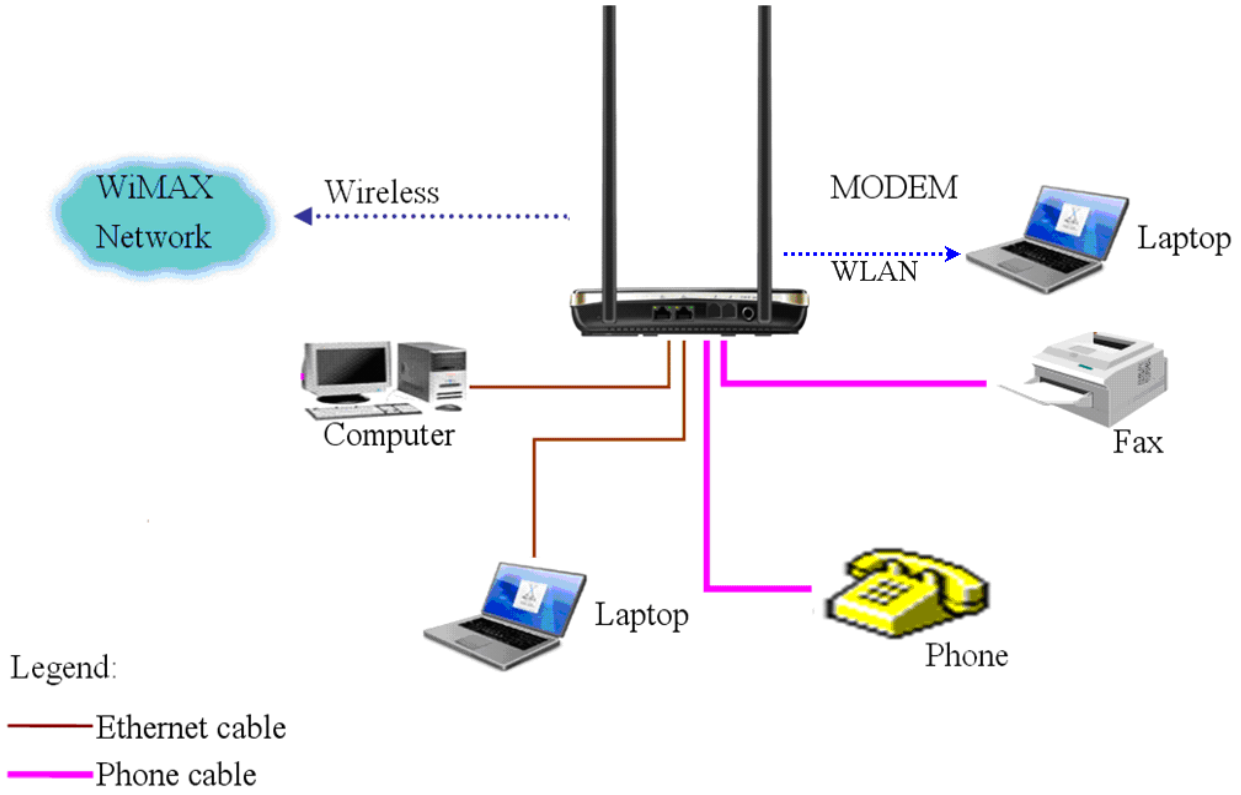
Port Indicator	**Description**
	External power socket
	LAN port
	Phone port
	Reset button
	WLAN button
	Attenna Port

Chapter 3

Connecting MODEM

Application Structure

Network connection is shown as follows:



Hardware Installation

Make sure that your MODEM is powered off.

You can turn on/off modem by connecting/disconnecting power cable.

Connect to LAN

1. Connect to LAN via Network Cable.
2. Plug one end of an Ethernet network cable into LAN ports on the back of the MODEM, and plug the other end into an Ethernet port on a network device, for example, PCs or other network devices. The Ethernet cable can be crossover or straight.
3. Connect to LAN via WiFi.
4. Enable the WiFi function and make sure that your PC has been installed wireless network card, and then use your PC to search for the SSID of MODEM to connect with it.

Notes:

Don’t insert phone cable into LAN ports.

Connect to Phone

Connect phone cable to 

or 

port of MODEM.

Connect Power Adapter

Connect the included power adapter to the MODEM power port, and then plug the power adapter into an electrical outlet. The Power LED on the front panel will light up when the adapter is connected properly.

Notes:

Make sure you use the power supply that is supplied with the MODEM. Use of a different power adapter/supply could damage the MODEM.

Power on MODEM

You can turn on modem by connecting power cable.

Chapter 4

Preparation for Configuring MODEM

Usually, MODEM has been configured by service provider and you can use it directly. But in some instance, you need to configure MODEM by yourself.

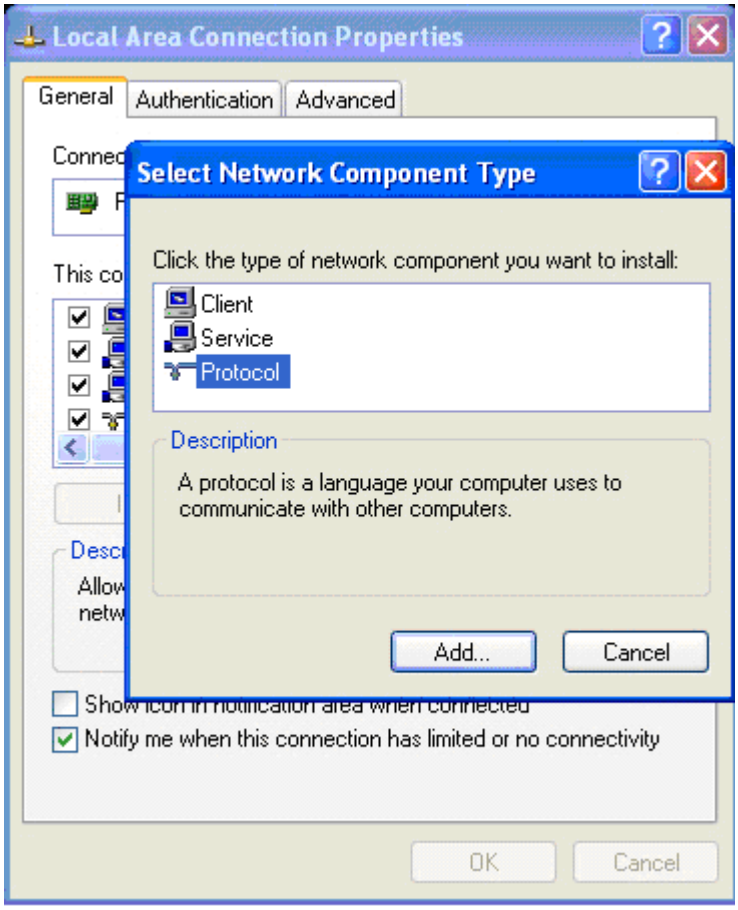
TCP IP Installation

If TCP/IP protocol is not installed in PC or Laptop, please install it first. Please refer to installation steps in Windows XP as follows (For classic start menu):

1. Select **Start > Settings > Control Panel > Network Connections**.

2. Double-click **Local Area Connection** and click **Properties**.

3. Click **Install...** and double-click **Protocol**.



4. Select **Internet Protocol (TCP/IP)** and click **OK**.

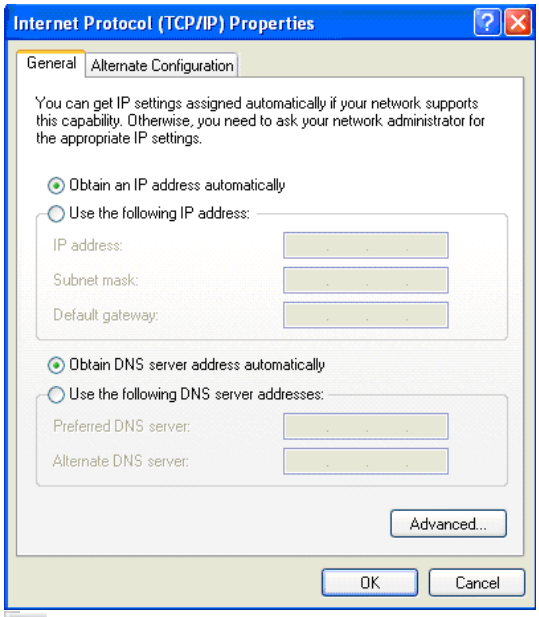
TCP IP Configuration

For classic start menu:

1. Click **Start** and select **Settings**, then click **Network Connections**.

2. Double-click **Local Area Connection** and click **Properties**.

3. Double-click **Internet Protocol (TCP/IP)** and select **Obtain an IP address automatically**, **Obtain DNS server address automatically**.



NOTE Notes:

If the service provider provides DNS IP address, please select **Use the following DNS server addresses** and enter the specified IP address.

Checking

Check LAN Connection

1. Click **Start** and **Run** In the Open field, enter `command`. Press the **Enter key** or click the **OK** button. In the command prompt, type ping `192.168.1.1` and press the **Enter** key.

2. If you get a reply as follows, the LAN connection is ok.

```
C:\Documents and Settings\Administrator>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
```

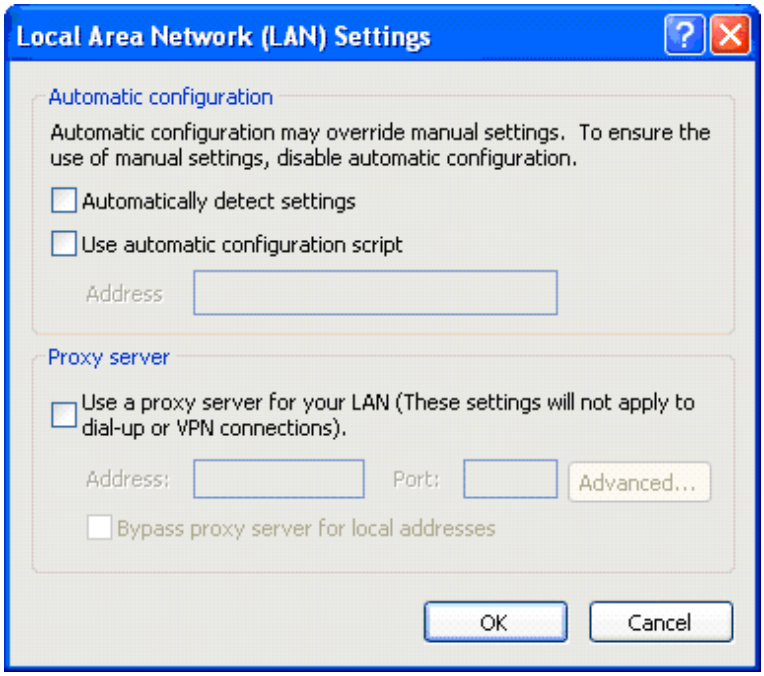
3. If you get a reply as follows, please check the LAN and TCP/IP configuration Refer to chapter 3.2 and chapter 4.1 in detail.

```
C:\Documents and Settings\Administrator>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
```

Cancel Proxy Server in Browser

For classic start menu:

1. Select **Start > Settings > Control Panel > Internet Options**.
2. Select **Connections**.
3. Click the **LAN Settings** button and remove anything that is checked.



4. Click the **Cancel** button to go back to the previous screen.
5. Click the **OK** button to confirm canceling proxy server in browser.

Others

Sometimes you also need several parameters, please ask your service provider in detail.

Chapter 5

Ordinary Operation

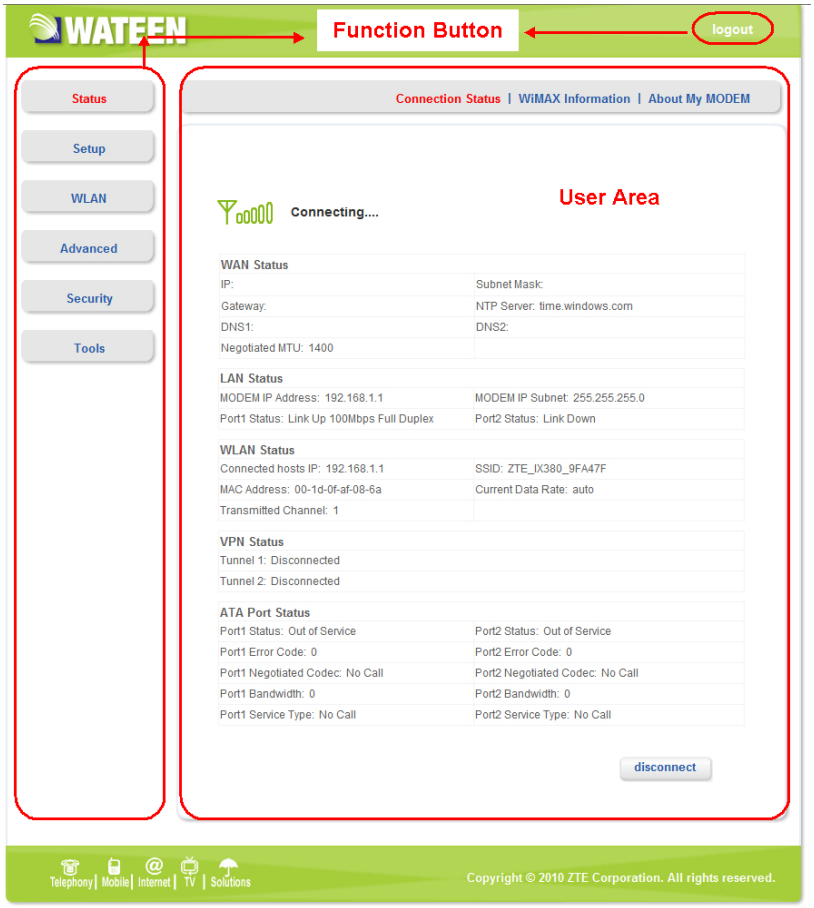
Login

1. To access the Web-based Utility of the MODEM, launch Internet browser (Internet Explorer or Mozila Fire Fox) and enter the MODEM's default IP address (`192.168.1.1`) in the address field，then press the Enter key.
2. A screen will appear asking you for your **User name** and **Password** (detail as following picture). Enter **`user`** in the **Username** field and **`user`** in the **Password** field. Select the proper language. Then click the **login** button.

Notes:

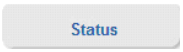
If you click **exit** button, you will see the following prompt message. To which option, need to click. Either on Yes or No.

3. When you access the MODEM setup page, the first screen you see as following:



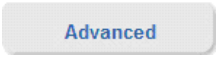
The whole interface is divided into two parts, and related functions can be executed by operation in the related areas.

- Function Button

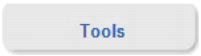
  – Clicking **Status**  link displays status and statistical information for all connections and interfaces.

  – Clicking **Setup**  link allows you to edit existing connections, and configure other basic settings.

  – Clicking **WLAN**  link allows you to edit WLAN interface.

  – Clicking **Advanced**  link allows you to configure advanced features like SNTP, DNS etc.

  – Clicking **Security**  link allows you to configure Port Forwarding, Port Trigger etc.

  – Clicking **Tools**  link allows you to carry out system commands and perform simple system tests.

  – Clicking **logout** link to exit MODEM setup page manually.

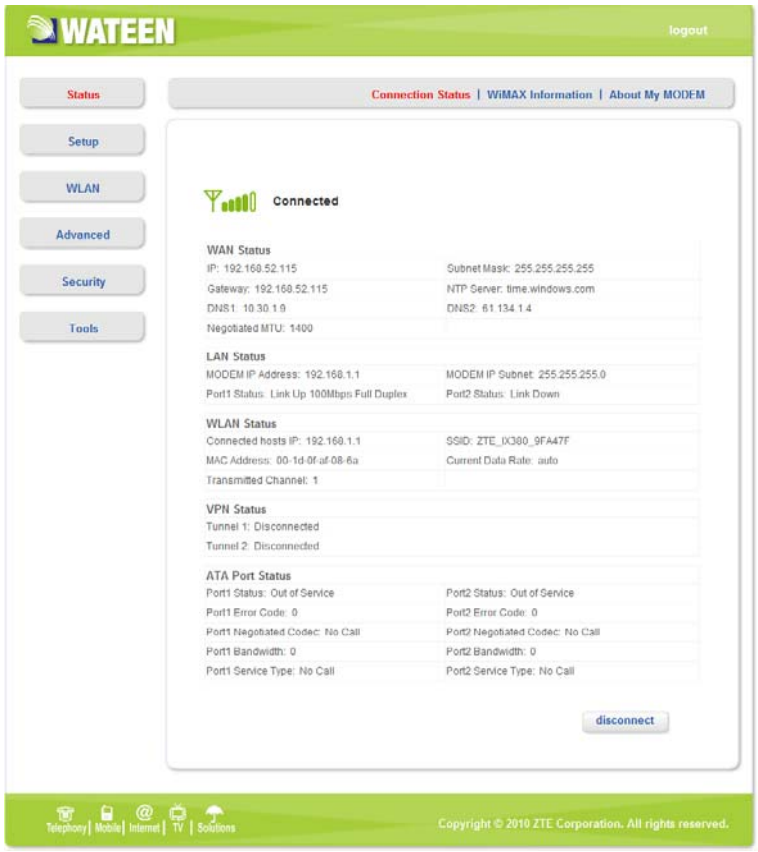
- User Area

  Show the man-computer interaction information under various conditions.

Status

Connection Status

After access MODEM setup page successfully, please click **Status > Connection Status** link to access the following screen:



WAN Status

- **IP**: IP address for WAN connection. It is the same IP address as the WiMAX IP Address.
- **Subnet Mask**: The subnet mask address
- **Gateway**: Gateway IP address
- **NTP Server**: The NTP server name
- **DNS1**: DNS1 address
- **DNS2**: DNS2 address
- **Negotiated MTU**: Negotiated Maximum Transmission Unit

LAN Status

- **Modem IP Address**: IP address of the Modem.
- **Modem IP Subnet**: The IP Subnet of the Modem.
- **Port1 Status**: LAN port 1 property and current status
- **Port2 Status**: LAN port 2 property and current status

WLAN Status:

- **Connected Hosts IP**: The IP Address of MODEM

- **SSID**: Service Set Identifier
- **Mac Address**: Mac Address of AP(Access Point)
- **Current Date Rate**: AP(Access Point) Current Transmit Date
- **Transmitted Channel**: AP(Access Point) Current Transmit Channel

VPN Status:

- **Tunnel 1** : status of L2TP V3 tunnel 1 connection
- **Tunnel 2**: status of L2TP V3 tunnel 2 connection

ATA Port Status:

Shows two ATA ports information.

- **Port1 Status**: Phone 1 current status, “In Service” or “Out of Service”. “In Service” stands for registration success, and “Out of Service” stands for registration failure.
- **Port1 Error Code**: The error code returned by SIP server for the latest SIP request started by Phone 1.

```
Provisional 1xx
100 Trying
180 Ringing
181 Call Is Being Forwarded
182 Queued
183 Session Progress

Successful 2xx
200 OK

Redirection 3xx
302 Moved Temporarily

Request Failure 4xx
401 Unauthorized
402 Payment Required
403 Forbidden
404 Not Found
408 Request Timeout
480 Temporarily Unavailable
481 Call/Transaction Does Not Exist
486 Busy Here
487 Request Terminated

Server Failure 5xx
500 Server Internal Error

Global Failures 6xx
600 Busy Everywhere
603 Decline
604 Does Not Exist Anywhere

606 Not Acceptable
```

- **Port1 Negotiated Codec**: The current code type used by the call on Phone 1. If there is no call, it will show “No Call”.
- **Port1 Bandwidth**: The band width occupied by the call on Phone 1
- **Port1 Service Type**: Service type on Phone 1, Voice or Fax. If there is no call, it will show “No Call”.

- **Port2 Status**: Phone 2 current status: “In Service” or “Out of Service”. “In Service” stands for registration success, and “Out of Service” stands for registration failure.
- **Port2 Error Code**: The error code returned by SIP server for the latest SIP request started by Phone 2.
- **Port2 Negotiated Codec**: The current code type used by Phone 2. If there is no call, it will show “No Call”.
- **Port2 Bandwidth**: The band width occupied by the call on Phone 1.
- **Port2 Service Type**: The current Service type on Phone 2, "Voice" or "Fax". If there is no call, it will show “No Call”

connect / disconnect button used to WAN connect/disconnect.

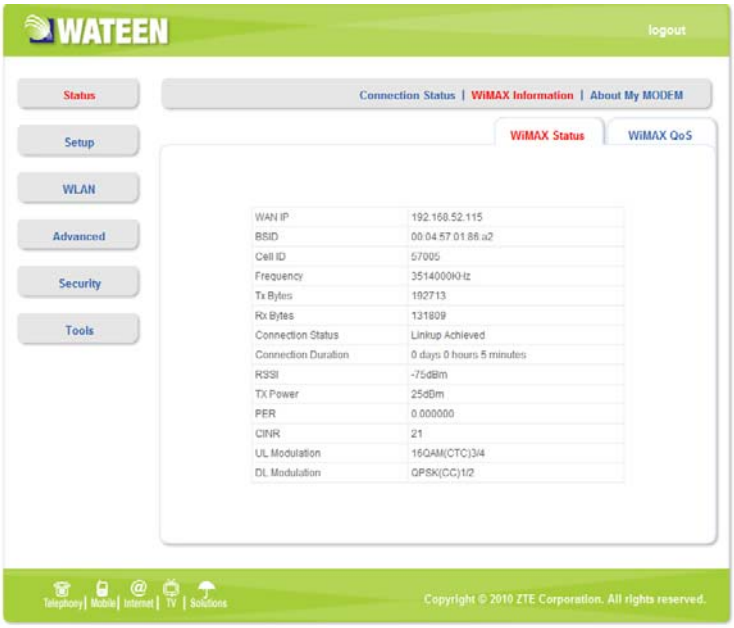
Connected

Show the current network signal strength and connection status. Detail as follows:

Name	Icon	Description
Signal strength		More real lines show stronger signal
		No signal
Connection Status	Connected	MODEM accesses network successfully
	Disconnected	Disconnected with WiMAX network
	Connecting	MODEM is connecting or searching for WiMAX network

WiMAX Information

After access MODEM setup page successfully, please click **Status > WiMAX Information** link to access the following screen:



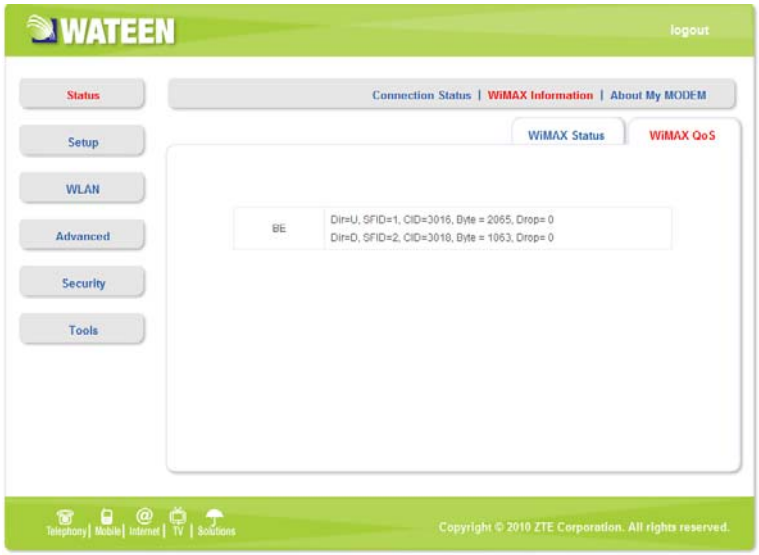
WiMAX Status

WiMAX Status to view WiMAX network information.

- **WAN IP**: IP address for WAN connection. It is the same IP address as the WiMAX IP Address

- **BSID**: Base Station ID of the MODEM connected
- **Cell ID**: Cell ID of the MODEM connected
- **Frequency**: Frequency information
- **Tx Bytes**: Transmission flow statistic
- **Rx Bytes**: Receiver flow statistic
- **Connection Status**: WLAN connection status.
- **Connection Duration**: Duration of time for connection
- **RSSI**: Receive signal strength indicator
- **Tx Power**: Transmission power
- **PER**: Packet error ratio
- **CINR**: Carrier to interference and noise ratio
- **UL Modulation**: Adjustment encoding mode of uplink
- **DL Modulation**: Adjustment encoding mode of downlink

WiMAX Qos



WiMAX Quality of Service

- **BE**: Best Effort Service.
- **ERTPS**: Extended RTPS
- **UGS**: Unsolicited Grant Service ，
- **RTPS**: Real-time Polling Service
- **NRTPS**: Non-Real-time Polling Service

About My Modem

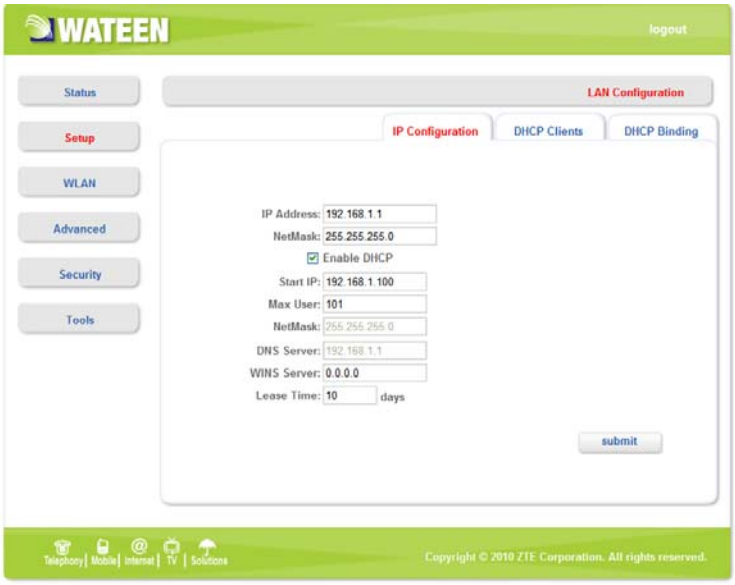
After access MODEM setup page successfully, please click **Status** > **About My Modem** link to access the following screen:

- **Model Name**: The model name of this MODEM.
- **Software Version**: Current software version of this MODEM.
- **Hardware Version**: Current hardware version of this MODEM.
- **Uptime**: The running elapsed of the MODEM.
- **MAC Address**: The Mac Address of the MODEM.

Setup

IP Configuration

After access MODEM setup page successfully, please click **Setup > IP Configuration** link to access the following screen:



- **IP Address**: IP address for LAN
- **NetMask**: Net mask for LAN
- **Enable DHCP**: Enable or disable the DHCP service, when this item is checked, you should set DHCP server information as follows
- **Start IP**: First IP assigned by DHCP server

- **Max User**: The max number assigned by DHCP server
- **NetMask**: Net mask assigned by DHCP server
- **WINS Server**: IP for WINS server
- **Lease Time**: Time that DHCP server rents the IP address (Unit: day)

submit button use to active the IP configuration.

DHCP Clients

After access MODEM setup page successfully, please click **Setup** > **DHCP Clients** link to access the following screen:

- **MAC Address**: MAC address of DHCP client
- **IP Address**: IP address for DHCP clients
- **Expires in**: The left time for lease, if this IP address is static bound, then demonstrated: Infinity

DHCP Binding

After access MODEM setup page successfully, please click **Setup** > **DHCP Binding** link to access the following screen:

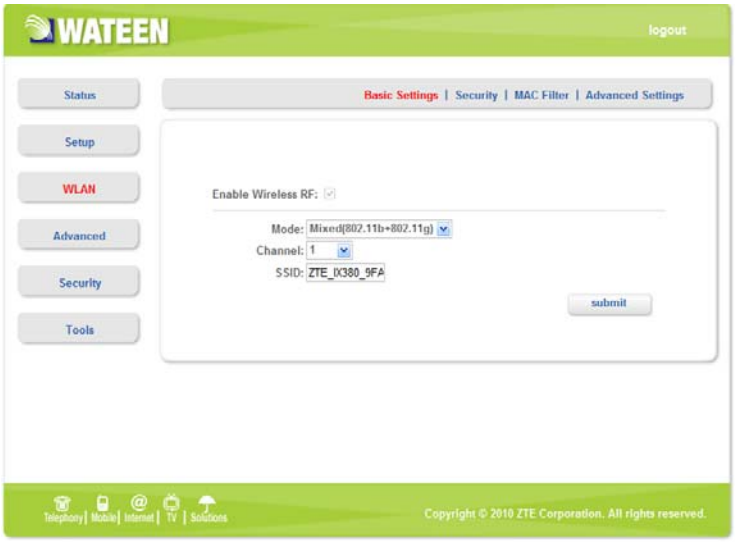
You can set MAC address and IP address binding, create a DHCP binding table to mapping MAC address and IP address of clients. When DHCP server assigns address, IP address will be assigned according to the binding relations of MAC and IP, and never expired.

For example: MAC address is 00-0a-e2-c6-48-ba; and IP address is 192.168.1.133, it means that the IP address DHCP Server assigns to the MAC address corresponding host is 192.168.1.133.

WLAN

Basic Settings

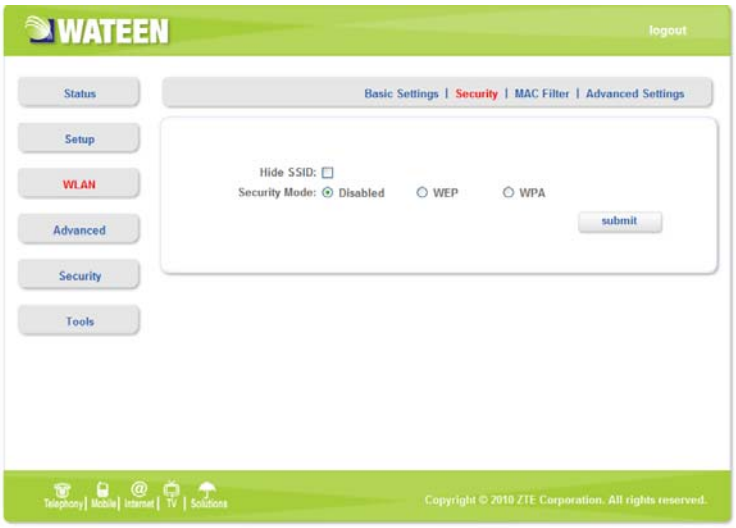
After access MODEM setup page successfully, please click **WLAN > Basic Settings** link to access the following screen:



- **Enable Wireless RF**: Display the WLAN function status based on the WLAN button status On or Off.
- **Mode**: Use to select default wireless mode.
- **Channel**: Use to configure default wireless channel.
- **SSID**: Use to configure SSID, not more than 32 characters.
- submit button use to active the basic wireless configuration.

Security

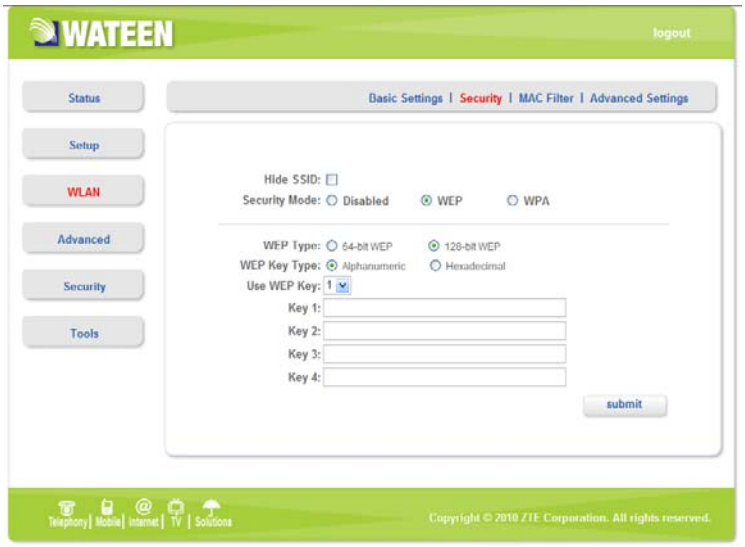
After access MODEM setup page successfully, please click WLAN Security link to access the following screen:



- **Hide SSID**: Select the option to hide SSID of WLAN
- **Security Mode**: Use to select the security mode of WLAN
- submit button use to active the wireless security configuration

WEP

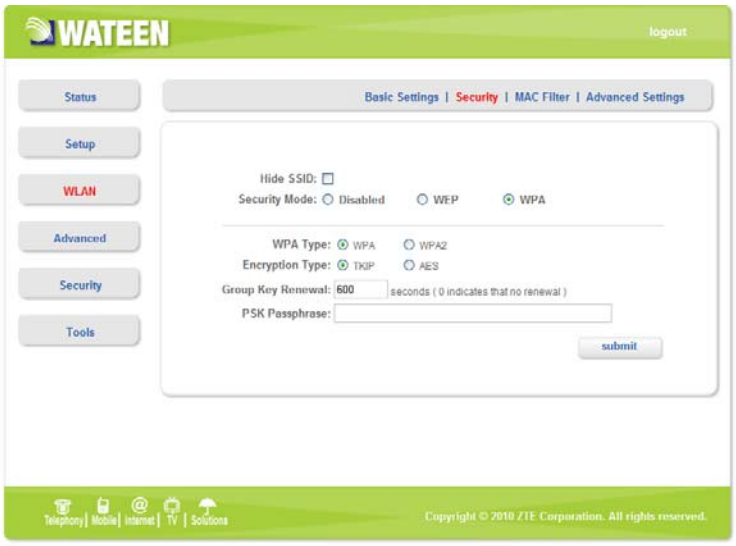
WEP is a basic type of wireless encryption protocol.



- **WEP Type**: You can select the 64-bit or 128-bit, the 128-bit can provide much better security than 64-bit.
- **WEP Key Type**: You can select Alphanumeric or Hexadecimal.
- **Use WEP Type**: You can select 1~4 to use the Key1~Key4.
- **Key1~Key4**: You can set the WEP key.
- submit button use to active the wireless security configuration

WPA

WPA is an advanced type of wireless encryption protocol.

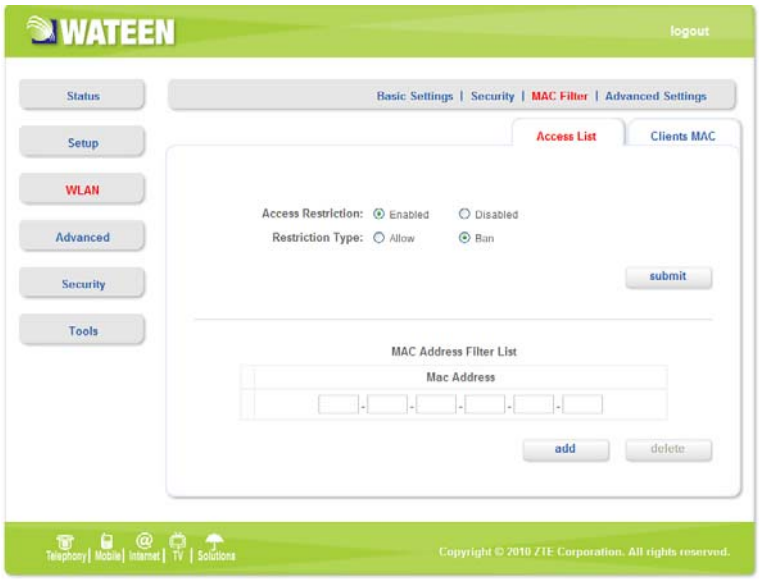


- **WPA Type**: You can select WPA or WPA2.
- **Encryption Type**: You can select TKIP or AES.
- **Group Key Renewal**: You can input 0~3600 seconds as the interval of change the key.
- **PSK Passphrase**: You can input 8~63 bytes digit as the WPA key
- submit button use to active the wireless security configuration

MAC Filter

After access MODEM setup page successfully, please click **WLAN > MAC Filter** link to access the following screen:

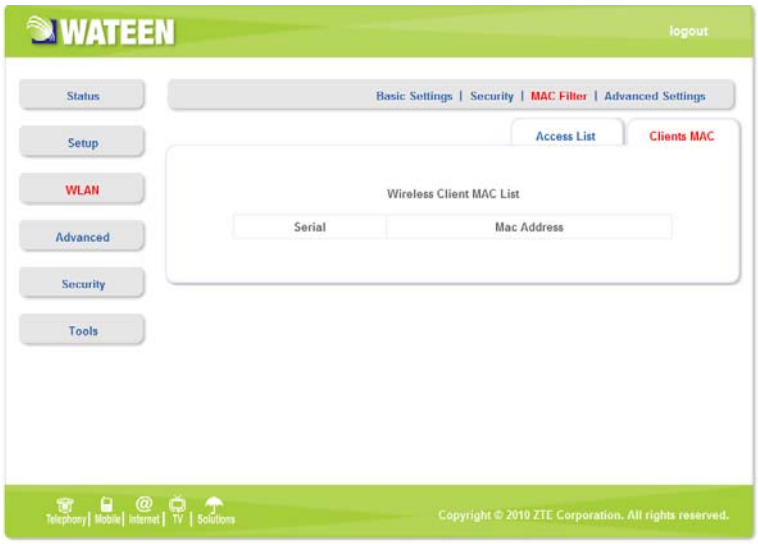
Access List



- **Access Restriction**: To enable or disable the access restriction function
- **Restriction Type**: If Access Restriction enabled, you need select the restriction type
- **MAC Address Filter List**: Set up the MAC filter address
- add button use to add the new MAC address

- delete button use to delete the selected MAC address
- submit button use to active the configuration

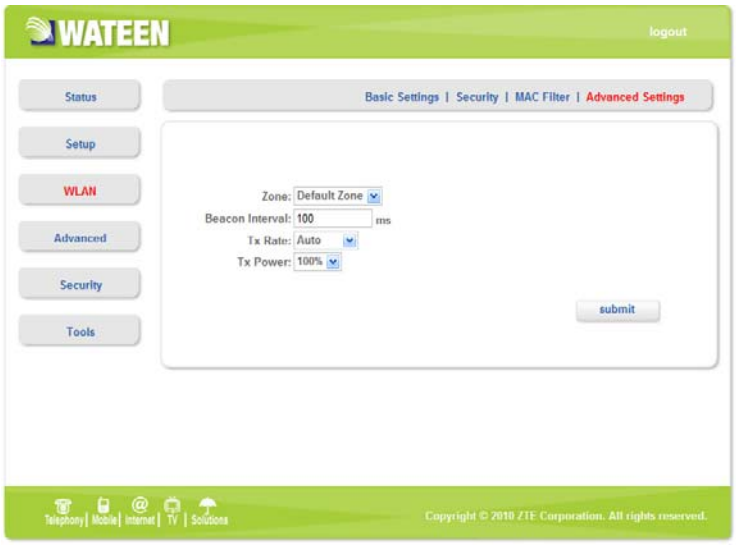
Clients MAC



- **Wireless Clients MAC List**: The wireless clients MAC address list.

Advanced Settings

After access MODEM setup page successfully, please click **WLAN** > **Advanced Settings**link to access the following screen:

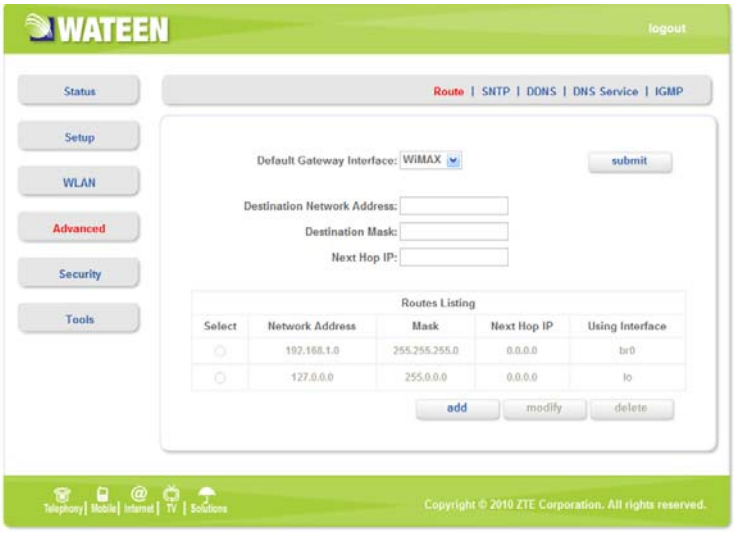


- **Zone**: Use to select Zone
- **Beacon Interval**: Use to configure beacon interval
- **Tx Rate**: Use to configure transmit rate
- **Tx Power**: Use to configure transmit power
- submit button used to active the advanced configuration.

Advanced

Routing Setup

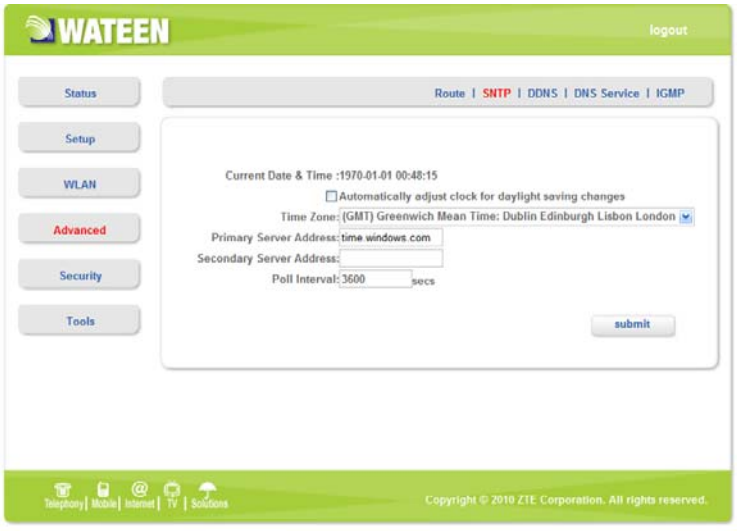
After access MODEM setup page successfully, please click **Advanced** > **Route** link to access the following screen:



- **Default Gateway Interface**: Use to configure default gateway interface
- **Destination Network Address**: Use to configure destination network address
- **Destination Mask**: Use to configure destination network mask address
- **Next Hop IP**: Use to configure next hop IP address
- submit button Use to active the default gateway configuration
- add button Use to save the route item
- modify button Use to modify the selected route item
- delete button Use to delete the selected route item

SNTP Client Configuration

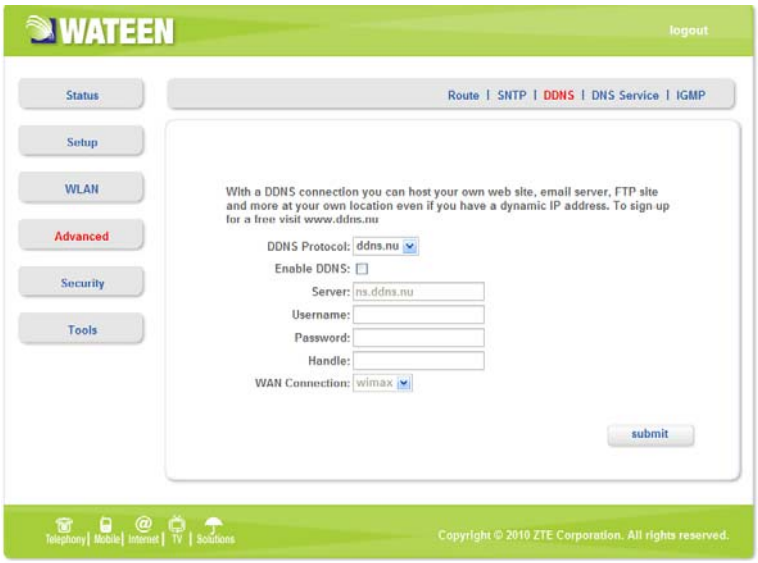
After access MODEM setup page successfully, please click **Advanced** > **SNTP link** to access the following screen:



- **Automatically adjust clock for daylight saving changes**: Enable/Disable automatically adjust clock for daylight saving changes function
- **Time Zone**: Select time zone
- **Primary Server Address**: Main SNTP server address
- **Secondary Server Address**: Standby SNTP server address
- **Poll Interval**: Poll interval time, and the unit is second
- submit button Use to active the SNTP client configuration

DDNS Setup

After access MODEM setup page successfully, please click **Advanced** > **DDNS** link to access the following screen:



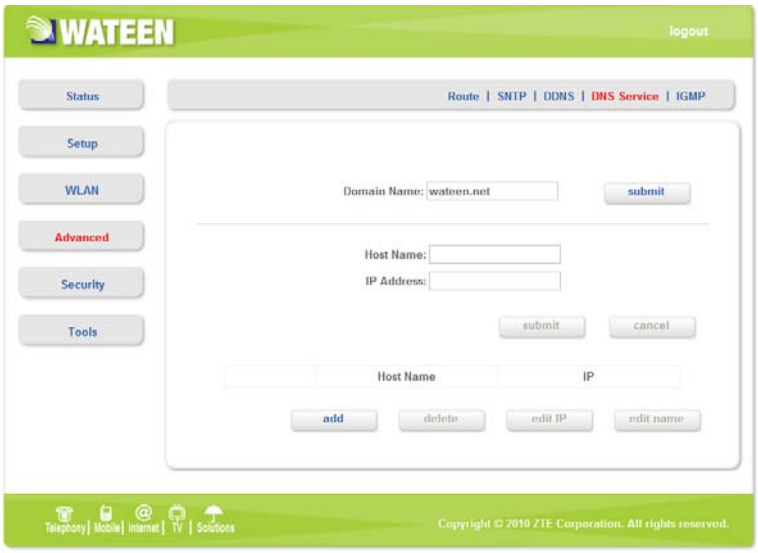
DDNS is a dynamic domain Name system. After applying DDNS, a dynamic IP address to the mainframe also can provide domain name services. For example, the mainframe through dial-up or XDSL DHCP server gets IP address and domain names dynamically. Enable and configure DDNS so the host's IP address changes will not affect the users who visit through the domain name.

- **DDNS Protocol**: Dynamic Domain Name Service
- **Enable DDNS**: Active/Inactive DDNS function
- **Server**: Available server address

  If use ddns.nu protocol, the server has a domain name, and the default name is ns.ddns.nu.
- **Username**: Username which has registered successfully in DDNS.
- **Password**: Password which has registered successfully in DDNS.
- **Handle**: Bind character string and the corresponding IP address. Only available in the ddns.nu protocol
- **WAN Connection**: Use to select the WAN side connection port
- submit button Use to active the DDNS Setup

DNS Configuration

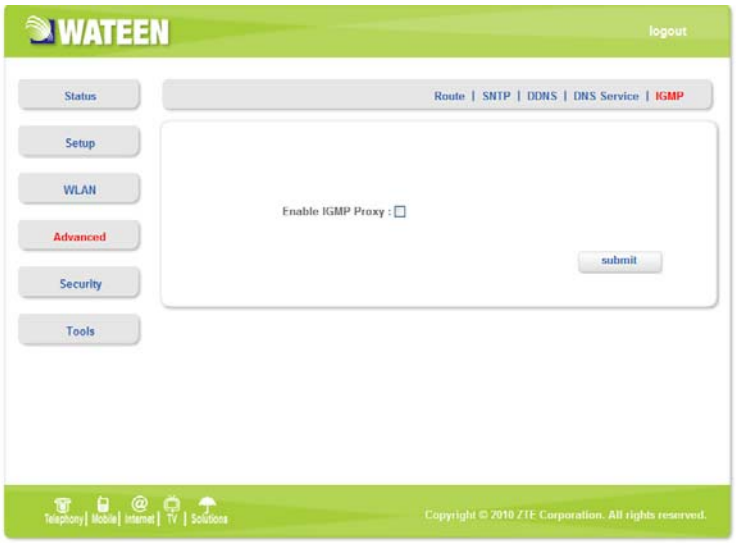
After access MODEM setup page successfully, please click **Advanced > DNS Service** link to access the following screen:



- **Domain Name**: Main domain name, and the default is wateen.net
- submit button Use to active the Domain Name configuration
- **Host Name**: Host name
- **IP Address**: Host IP address
- submit button Use to active the Host configuration
- cancel button Use to cancel the Domain/Host configuration
- add button Use to add DNS Configuration
- delete button Use to delete DNS Configuration
- edit IP button Use to edit IP Address
- edit name button Use to edit Host Name

IGMP Configuration

After access MODEM setup page successfully, please click **Advanced** > **IGMP** link to access the following screen:



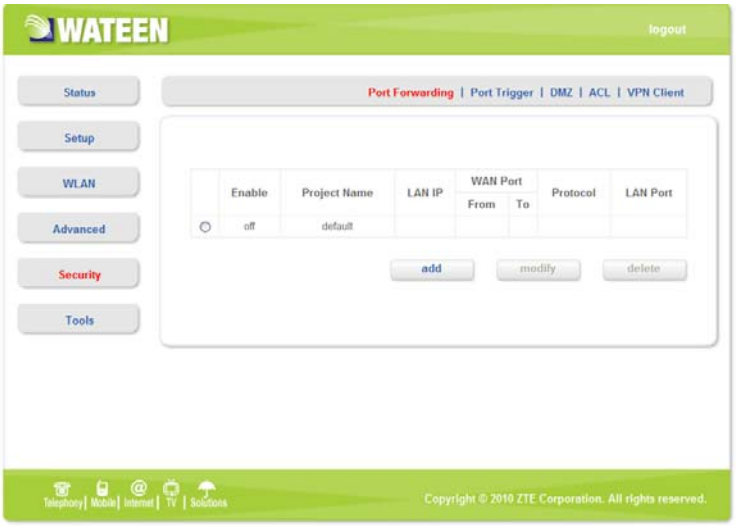
The main IGMP Proxy function is to intercept and filtrate the data transmitting of the 3rd layer on network.

- **Enable IGMP Proxy**: Enable IGMP agent function
- submit button Use to active the Host configuration

Security

Port Forwarding

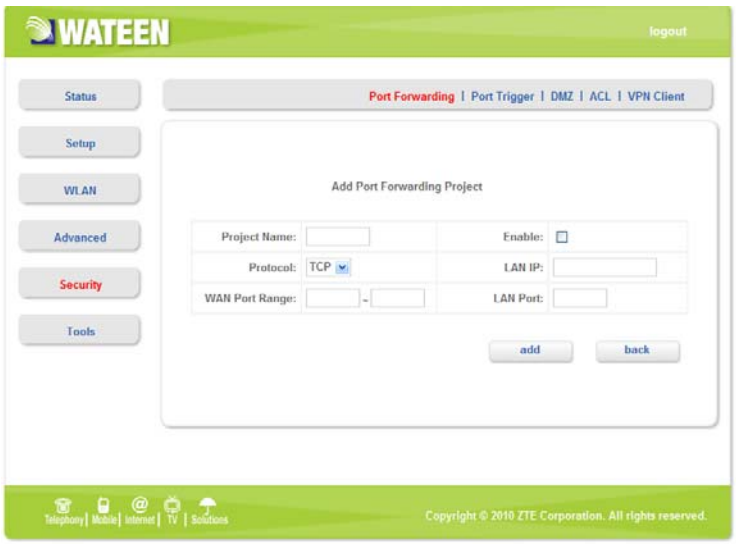
After access MODEM setup page successfully, please click **Security > Port Forwarding** link to access the following screen:



In this page you can configure one rule which permit the port visiting redirected policy, for the rule that WAN IP is the source, and LAN IP is the destination. The mainly application example is that WAN side client visits the LAN side server.

Add Port Forwarding Project

Click add button to access following screen:

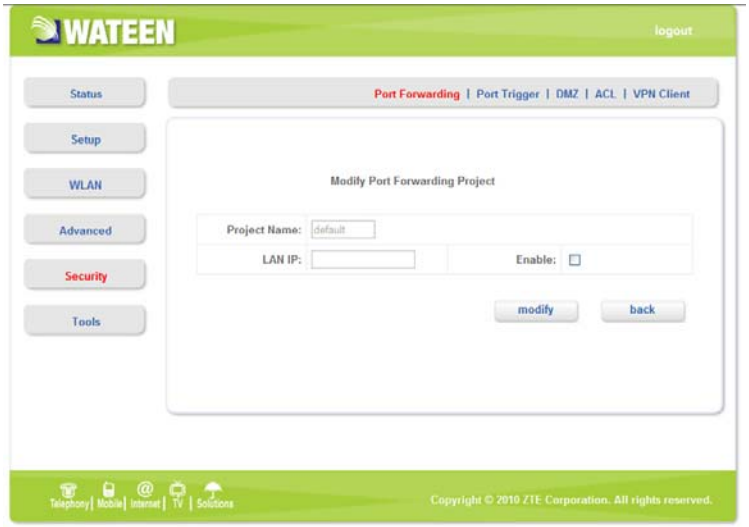


- **Project Name**：The project name of port forwarding
- **Enable**：Enable the port forwarding function
- **Protocol**：Select the protocol type TCP or UDP
- **LAN IP**：IP address in local area network

- **WAN Port Range**：Port range for WAN connection
- **LAN Port**：Port number in Local area network
- Click add button to save the configured rule
- Click back button to return to the port forwarding page

Modify Port Forwarding Project

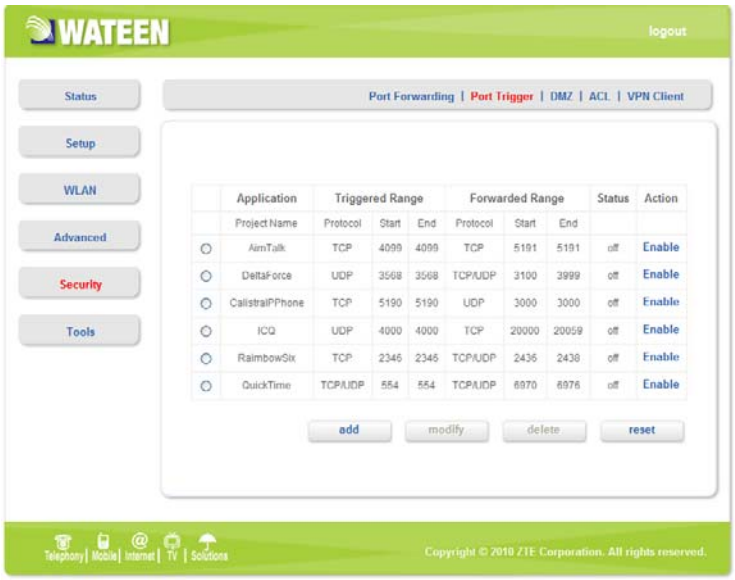
Select the project that you want to modify and click modify button to access following screen:



- Click back button to cancel the change and return to the port forwarding page
- Click modify button to submit the change and return to the port forwarding page

Port Trigger

After access MODEM setup page successfully, please click **Security > Port Trigger** link to access the following screen:



Application

- **Project Name**: Application name for port trigger function

Triggered Range

- **Protocol**: Display protocol of trigger connection
- **Start**: Display start port of trigger connection
- **End**: Display end port of trigger connection

Forwarded Range

- **Protocol**: Display protocol of transfer connection
- **Start**: Display start port of transfer connection
- **End**: Display end port of transfer connection

Status

Display current status of trigger application

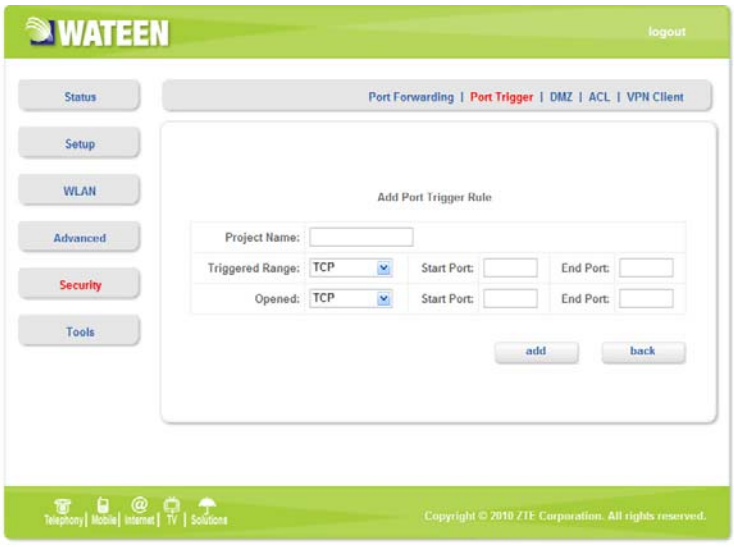
Action

Active or inactive current configuration, there are two type buttons: **Enable**and **disable**, when you click current button, the action changed to another

- Click add to add a port trigger rule
- Click reset to load default configuration from system
- Choose the project then click modify to change items
- Choose the project then click delete to delete items

Add Port Trigger Rule

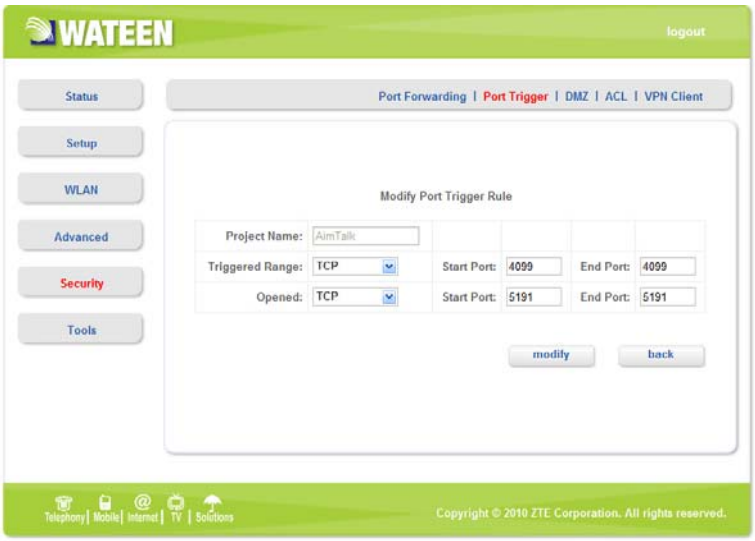
Click add button to access following screen.



Click back button to return to the port trigger page, and click add button to save the port trigger configuration.

Modify Port Trigger Rule

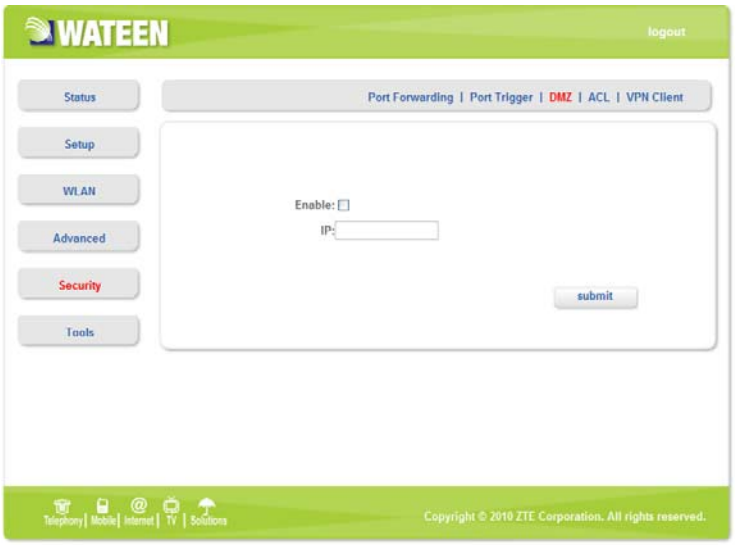
Click **modify** button to access following screen.



Click back button to return to the port trigger page, and click modify button to save the port trigger configuration.

DMZ

After access MODEM setup page successfully, please click **Security > DMZ** link to access the following screen:



- **Enable**: Enable/Disable DMZ host
- **IP**: DMZ host IP address
- submit button Use to active the DMZ related configuration.

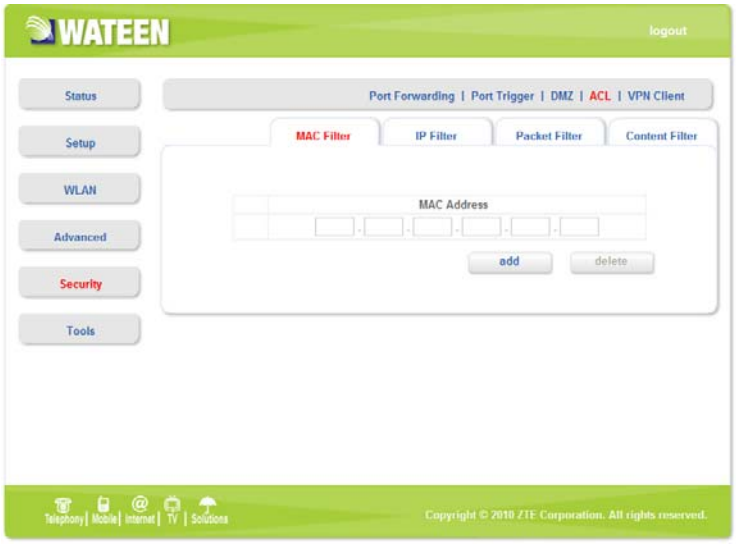
DMZ configuration means that you can configure one specified host or an IP address as DMZ zone, the host within DMZ zone can not access the host without LAN side DMZ zone and WAN side network. But the host within DMZ zone can provide the server function for the outside.

To ensure the security of LAN side non-DMZ zone host, it's recommended that set the DMZ zone host as FTP or WEB server, thus the ftp or WEB visit request from WAN side host can be redirected to the FTP or WEB server within DMZ zone.

ACL

After access MODEM setup page successfully, please click **Security > ACL** link to access the following

screen:

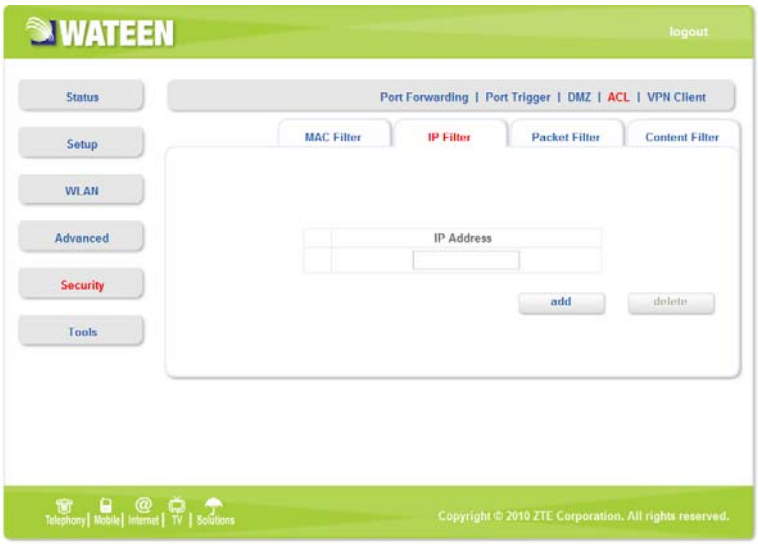


MAC Filter

A banned access list based on the MAC address of accessing device.

- add button use to add the new MAC address.
- delete button use to delete the selected MAC address.

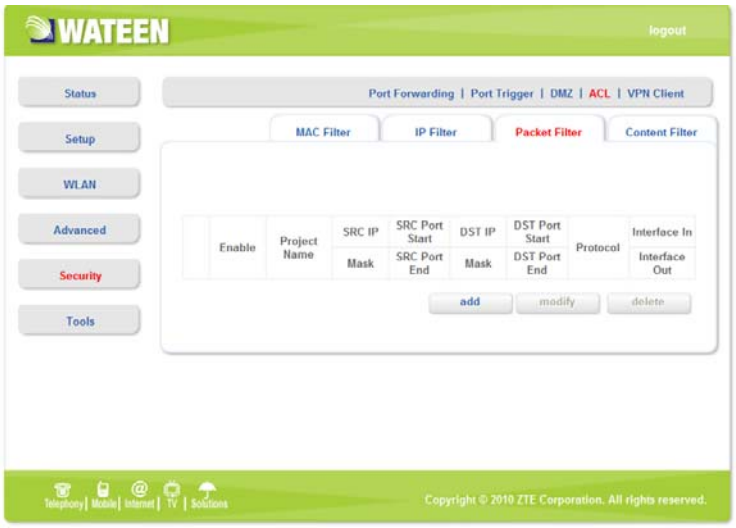
IP Filter



A list which allows the blocking of specific applications/services based on the IP address of a LAN device.

- add button use to add the new IP address.
- delete button use to delete the selected IP address.

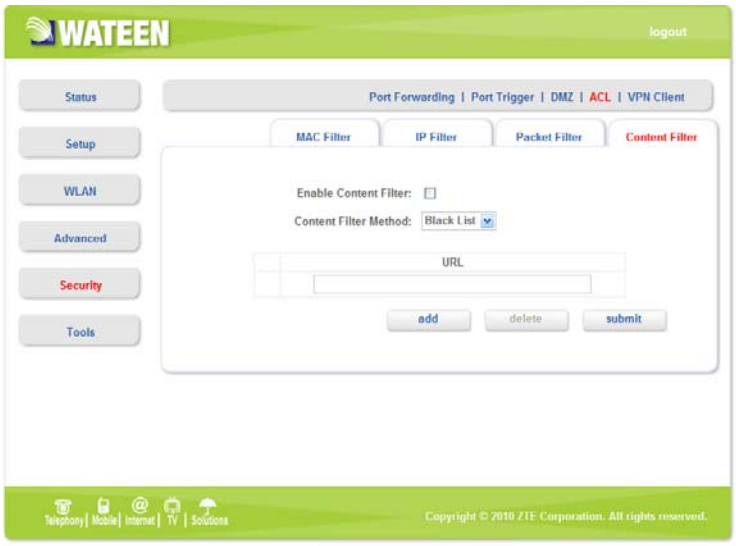
Packet Filter



A list based on the rule consists of the specific fields of accessing device.

- add button use to add the new project.
- modify button use to modify the selected project.
- delete button user to delete the selected project.
- **Enable**: Enable the packet filter function.
- **Project Name**: The project name of packet filter .
- **Protocol**: Select the protocol type .
- **Source IP**: Source IP address.
- **Mask**: Source netmask address.
- **SRC Port Start**: Source port start .
- **SRC Port End**: Source port end.
- **DST IP**: Destination IP address.
- **Mask**: Destination netmask address.
- **DST Port Start**: Destination port start.
- **DST Port End**: Destination port end.
- **Interface In**: Select interface type that packet flow into.
- **Interface Out**: Select interface type that packet flow out.

Content Filter



The definition of content filtering policies which control access to internet sites.

- **Enable Content Filter**: Enable content filter function.
- **Content Filter Method**: Use black list or white list policy to control access internet sites.
- add button use to add the new URL.
- delete button use to delete the selected URL.
- submit button use to active the configuration.

VPN Client

After access MODEM setup page successfully, please click **Security** > **VPN Client** to access the following screen:

- **Connection Name (name; default: L2TP-CON)**: interface name for reference
- **MTU (integer; default: 1410)**: Maximum Transmit Unit
- **MRU (integer; default: 1410)**: Maximum Receive Unit
- **Server IP (IP address)**: the IP address of the VPN server to connect to
- **Username (string)**: user name to use when logging on to the remote server

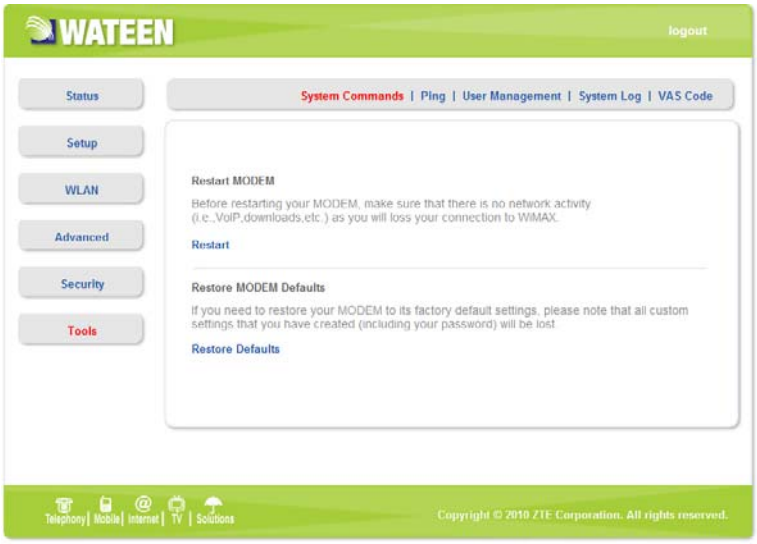
- **Password**: user password to use when logging to the remote server
- **Profile (name; default: Default)**: profile to use when connecting to the remote server
- **Protocol （default: CHAP）**: authentication algorithm
- **Add Default Route (yes | no; default: no)** : whether to use the server which this client is connected to as its default router (gateway)

connect / disconnect button used to WAN connect/disconnect.

Tools

System Commands

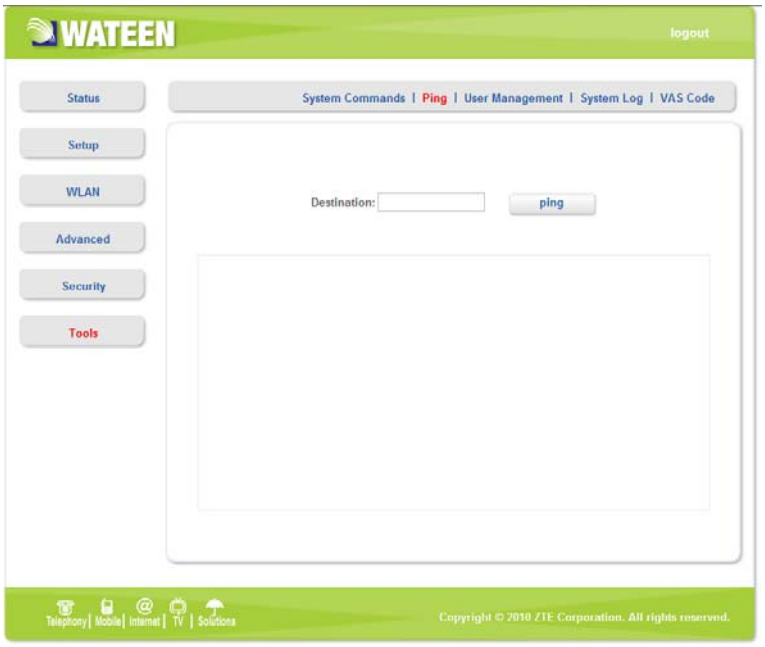
After access MODEM setup page successfully, please click **Tools > System Commands** link to access the following screen:



- Once click **Restart** link, the Web page will no response within several minutes, because restarting MODEM needs some delayed time, you must wait until MODEM finish restarting.
- Click **Restore Defaults** link, system will use default configuration instead of current configuration.

Ping

After access MODEM setup page successfully, please click **Tools > Ping** link to access the following screen:

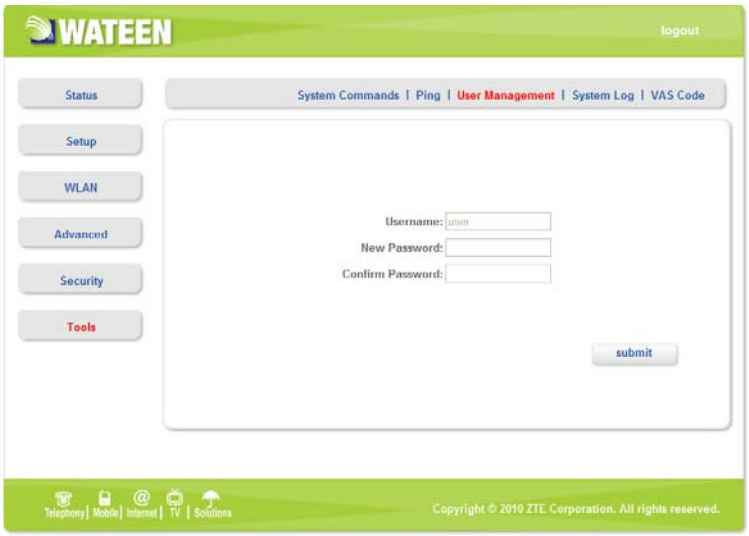


• Destination: IP address or network address

After input the destination address, please click ping button, the test result will be displayed in the text box.

User Management

After access MODEM setup page successfully, please click **Tools > User Management** link to access the following screen:



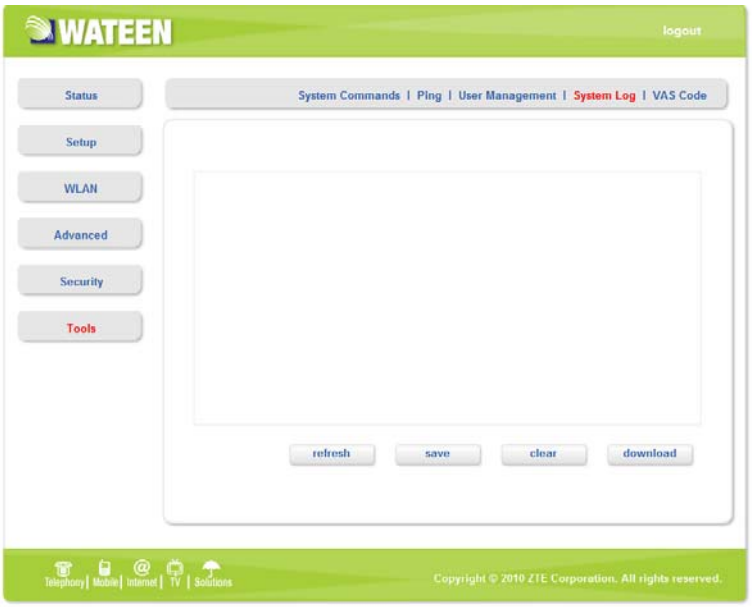
• **New Password**: New password

• **Confirm Password**: Repeat password

• submit button to active the password configuration.

System Log

After access MODEM setup page successfully, please click **Tools > System Log** link to access the following screen:

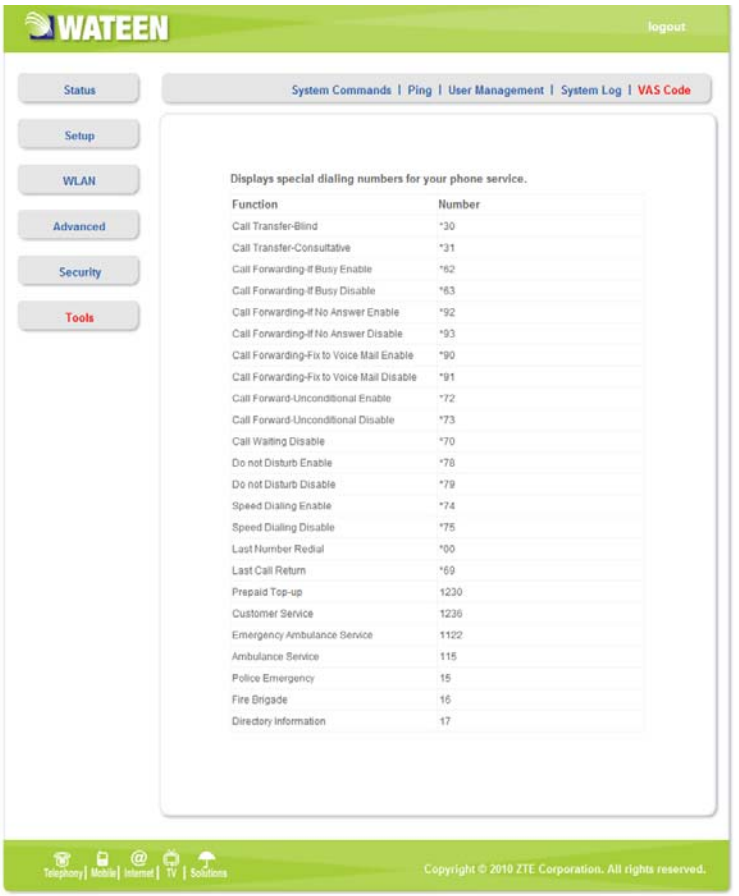


This page includes four buttons.

- refresh: Display the latest 20 log items.
- save: Save current log to flash.
- clear: Clear current log item.
- download: Download the current log to the local specified directory.

VAS Code

Displays special dialing numbers for your phone service.



Display special dialing numbers for your phone service.

Function	Number
Call Transfer-Bind	*30
Call Transfer-Consultative	*31
Call Forwarding-If Busy Enable	*62
Call Forwarding-If Busy Disable	*63
Call Forwarding-If No Answer Enable	*92
Call Forwarding-If No Answer Disable	*93
Call Forwarding-Fix to Voice Mail Enable	*90
Call Forwarding-Fix to Voice Mail Disable	*91
Call Forward-Unconditional Enable	*72
Call Forward-Unconditional Disable	*73
Call Waiting Disable	*70
Do Not Disturb Enable	*78
Do Not Disturb Disable	*79
Speed Dialing Enable	*74
Speed Dialing Disable	*75

Last Number Redial	*00
Cast Call Return	*69
Prepaid Top-up	1230
Customer Service	1236
Emergency Ambulance Service	1122
Ambulance Service	115
Police Emergency	15
Fire Brigade	16
Directory Information	17

Chapter 6

Troubleshooting

This chapter lists some problems that you might encounter while installing or using MODEM, please read following relative information at first. If the problem still can not be solved, please contact with distributor or service provider.

Problem	Check Point
Indicator light	
After power on the MODEM, power LED is off.	1. Make sure power adapter is original accessories. 2. Power adapter correctly connect with MODEM and wall socket/power.
After insert Ethernet cable, the LAN indicator light is off.	1. Make sure Ethernet cable correctly connect with computer/HUB and MODEM. 2. Confirm computer/HUB is power on.
After insert Ethernet cable, the wifi indicator light is off	1. Open the switch on the back of MODEM to ON.
Access network failure	
Can not access the setup page of the MODEM.	1. Verify the LAN connection successful. 2. Checking your TCP/IP settings. Refer to Windows Help for details. Make sure Obtain IP address automatically is selected in the settings. 3. Using Ping command to make sure that your computer is properly connected to the MODEM. Please refer to chapter 4.2. If it still does not work, please contact your service provider.
Can not access Internet	1. Please check your PC's settings and connection according to the above advices, make sure that your PC can access MODEM setup page. 2. If PC is configured correctly and only can access MODEM setup page, please check your MODEM. Detailed refer to chapter 5. If MODEM configured correctly, but still not work, please contact your service provider.
Others	
Call failure	1. Please Confirm the connectivity of telephone.

Problem	Check Point
	2. Make sure the telephones perfectly connect with MODEM. If the call still fails, please contact with your service provider.
Web page configuration lost after restart the MODEM	1. Make sure you have clicked **submit** button after modify the configuration every time. 2. If you click **submit** button, but the problem still exist, please contact with your service provider.
Wimax Connection Access network failure	
Can not access the setup page of the MODEM.	1. Verify the LAN connection successful. 2. Checking your TCP/IP settings. Refer to Windows Help for details. Make sure Obtain IP address automatically is selected in the settings. 3. Using Ping command to make sure that your computer is properly connected to the MODEM. Please refer to *TCP IP Configuration.* If it still does not work, please contact your service provider.
Can not access Internet	1. Please check whether the "Status light" flash, if it is flashing, please wait until the light is lighting 2. If there is no WiMAX signal, can't entry the WiMAX network, Please try to move the MODEM to a place have a good signal 3. If also access internet failed, please check your PC's settings and connection according to the above advices, make sure that your PC can access MODEM setup page. If MODEM configured correctly, but still not work, please contact your service provider.
Wifi lan connection	
Can not find the CPE's wireless network in your PC's . wireless network	1. Check the status of Wifi switch on CPE, and make sure that the Wifi switch is on 2. Please enter the WLAN->Security setting page of WEB GUI, and make sure that the HIDE SSID item is not selected. 3. Please enter the Status->Connection Status setting page of WEB GUI, and check if one of the two VPN Status or both are connected status. If it is true, it is normal that you can not find the CPE's wireless network in your PC's wireless network., because when the

Problem	Check Point
	VPN of L2TP is enabled, the Wifi module of CPE is disabled. If it still does not work, please contact your service provider.
Can not get network configuration through DHCP from CPE	1. Please enter the SETUP->LAN Configuration->IP Configuration setting page of WEB GUI, and make sure that the Enable DHCP item is selected 2. Please enter the WLAN->MAC Filter->Access ListConfiguration setting page of WEB GUI, and make sure that the banned MAC list does not contain your PC's MAC address. If it still does not work, but still not work, please contact your service provider.
L2TP V3 tunnel.	
Can not access the VPN network of L2TP V3	1. Please enter the Status->Connection Status setting page of WEB GUI, and check if one of the two VPN Status or both are connected status. 2. If only one VPN Status is connected, please make sure that your PC is connected to the corresponding ETH port of CPE 3. Please make sure that the PC's network is correctly configured according to the configurations provided by the service provider If it still does not work, please contact your service provider.
Voip	
The phone has no dial tone	1.The VoIP account is unregistered or register failure
	2.There is no WiMAX signal
	3.MODEM is starting
The phone has dial tone, but can't call	After register the VoIP, the WiMAX network signal change poor or no signal
Call can be established , but its quality is not well	The WiMAX network signal change poor or no signal
The phone has no dial tone	1.The VoIP account is unregistered or register

Problem	Check Point
	failure

Chapter 7

Appendix Glossary

DNS

Domain Name Server: it can provide the service that network node name can be translated to network IP address in the internet.

DDNS

Dynamic Domain Name Server.

DHCP

Dynamic Host Configuration Protocol.

DMZ

Demilitarized Zone.

Internet

Global network, Use to exchange data, news and viewpoints within millions of computer.

IP Address

32 bit address, Use to identify one computer in TCP/IP.

LAN

Use to connect some communication equipment (computer, MODEM and printer) within one room, school or other limited region.

MAC Address

The Media Access Control (MAC) address is a unique number assigned by the manufacturer to any Ethernet networking device, such as a network adapter, that allows the network to identify it at the hardware level. For all practical purposes, this number is usually permanent. Unlike IP address, which can change every time a computer log in the network, the MAC address of a device stays the same, making it a valuable identifier for the network.

NAT

Network Address Translation.

Protocol

Communication protocol: it is a rule that network equipment must follow for mutual communicating to transfer, transmit and receive data.

SNTP

Simple Network Time Protocol.

TCP/IP

Transmission Control Protocol/Internet Protocol: basic communication protocol of network communication, but TCP/IP defines one group of protocol, not only include TCP and IP.

UDP

User Data Protocol: packet exchanging communication protocol in internet, its default under layer protocol is IP, provide simple protocol mechanism when transfer information to another user.

WAN

Wide Area Network.

WiMAX

Worldwide Interoperability for Microwave Access.