

# **Administrator Guide for InnoMedia SIP Devices**

*Models covered: 6308, 6328-2Re, 6328-4, 6328-8, 6628, 6528*

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**September, 2007**



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# About This Document

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Welcome to the InnoMedia SIP Device Administrator's Guide. The purpose of this manual is to give system integrators and service operators detailed reference information on configuring and administering InnoMedia's MTA line of products running the SIP protocol.

The commands necessary for unit's configuration and provisioning are covered in this document for InnoMedia's SIP-based voice CPE. For conciseness, all examples reference configuration of a 2-port device, but are applicable to the rest of InnoMedia's SIP-based voice CPE as well.

Any device-specific variances can be found within the appendices of this document. Therefore, it is advisable to refer to the appendix if the information you require is not found within the general documentation.

This document has the following chapters:

Chapter 1, SIP Device Internal Port Setup, provides step-by-step instructions for installing the SIP Device system and setting up the IP addresses of your computer.

Chapter 2, SIP Device Configuration, describes how to configure SIP Device via a web interface and Telnet/HyperTerminal interface.

Chapter 3, SIP Device Firmware Updates, describes the procedure for uploading SIP Device Firmware through a web interface, or an external provisioning server to the unit.

Appendix A - HTTP Provisioning for SIP Device, lists the provisioning tags for SIP devices.

Appendix B - Troubleshooting for 6328-2Re



# Chapter 1

## SIP Device Internal Port Setup

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### Overview

This chapter provides step-by-step instructions for setting up the SIP Device via Telnet and Web User Interfaces.

### Hardware Installation Steps

Do the following steps to connect your SIP Device with a PC:

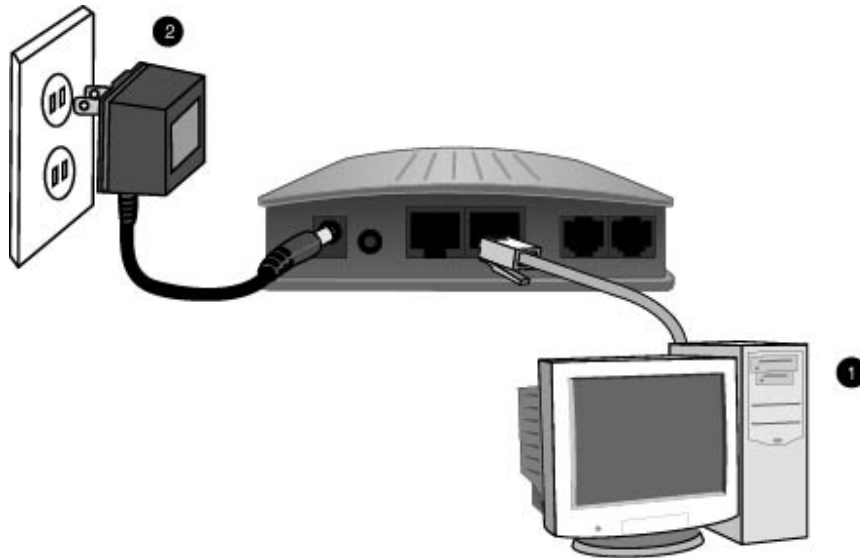
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**NOTE:** You will need to use a PC that has an Internet browser and a network interface card (NIC) properly installed.

---

**Table 1. Hardware Installation Steps**

<i>Step</i>	<i>Action</i>
<i>1</i>	Using a network cable, connect your PC's NIC to the SIP Device's <b>LAN</b> port
<i>2</i>	Connect the included power adapter to the port marked <b>7.5V DC/1A</b> on the SIP Device.



**Figure 1. Hardware Installation Steps**

# Setting up Your Computer

## Configuring the Internal Port

Your SIP Device's LAN side is factory set to a static IP address of 192.168.99.1. Hook up a PC to your SIP Device and follow these steps to configure the IP settings. This will configure the LAN port which communicates to your PC through a network cable.

We recommend that you refer to your Operating System manual to do this. An example of how to do this with Windows XP appears below:

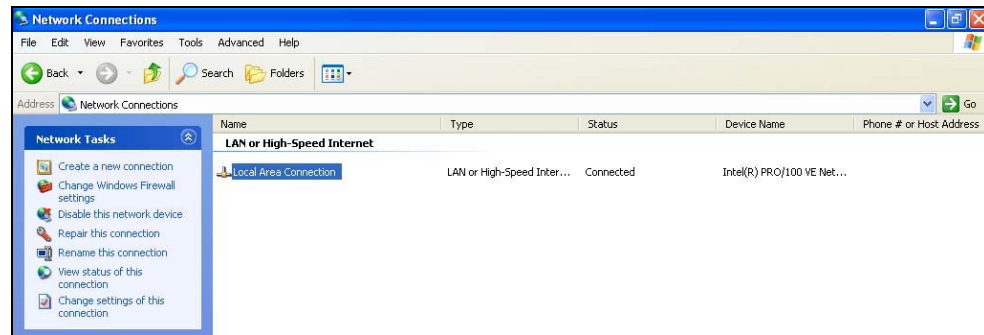
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**NOTE:** The procedure may be different because of your computer settings.

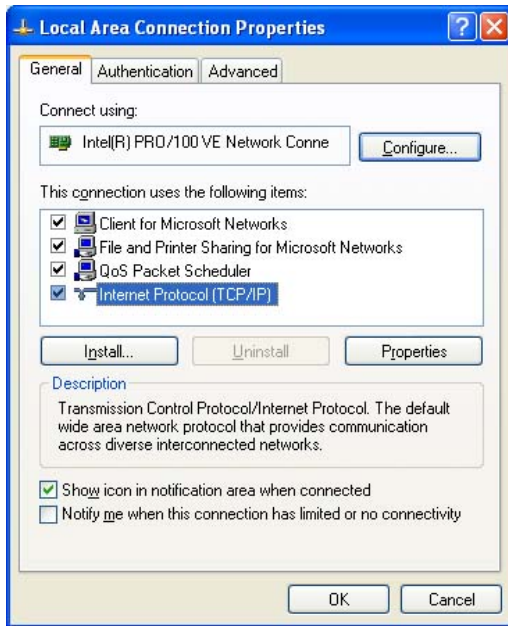
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**Table 2. Procedure for Setting up Your Computer**

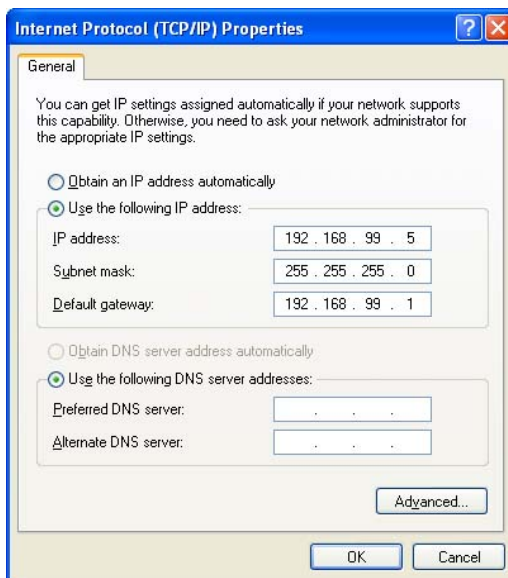
<i>Step</i>	<i>Action</i>
<b>1</b>	Click Start on your Taskbar.
<b>2</b>	Click Settings.
<b>3</b>	Click Control Panel.
<b>4</b>	Click Network Connections.
<b>5</b>	Right mouse click on Local Area Connection (See Figure 2).
<b>6</b>	Choose Properties.
<b>7</b>	Double Click on TCP/IP (See Figure 3 Setting up Your Computer - Local Area Connection Properties).
<b>8</b>	Write down the current settings before making any changes in case you need to restore your original settings.
<b>9</b>	Enter an IP address that is within the same subnet as your SIP Device. The SIP Device has a default of 192.168.99.1 so if you enter 192.168.99.5, you should have no problem connecting to the SIP Device.
<b>10</b>	Enter 255.255.255.0 as your subnet mask.
<b>11</b>	Enter 192.168.99.1 as your default gateway IP.
<b>12</b>	Leave the DNS information as is.
<b>13</b>	Click OK.
<b>14</b>	Verify this by typing "ipconfig" at the command prompt. Your PC should have an IP address 192.168.99.5.



**Figure 2. Setting up Your Computer - Network and Dial-up Connections**



**Figure 3. Setting up Your Computer - Local Area Connection Properties**



**Figure 4. Setting up Your Computer - Using Static IP Address**

# Chapter 2

## SIP Device Configuration

---

### Overview

Setup and configuration of the SIP Device can be managed via a Web Browser interface or a command line interface. In order to access these interfaces, your PC must be configured properly as outlined previously in Chapter 1. If you have not completed the steps outlined in Chapter 1, please do so before proceeding the following.

The SIP Device needs two IP addresses, one is for WAN (External Port) and one is for LAN (Internal Port). The internal port has already been configured. The IP address used by the "WAN" is the IP assigned by your ISP. This address may be assigned in either DHCP or Static IP.

At this point you need to know which method is used for your connection. You will need to know this before you can proceed with configuring the SIP Device.

### Configuring SIP Device Via Web User Interface

#### Logging In

To login the Web User Main page, follow these steps:

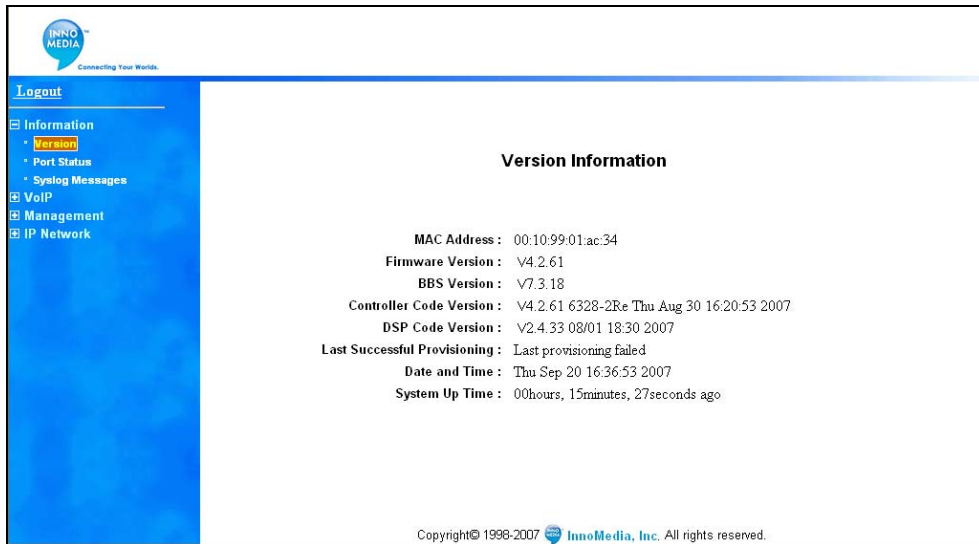
**Table 3. Web User Interface - Logging in**

<i>Step</i>	<b>Action</b>
<i>1</i>	Open your web browser and enter the IP address of the SIP Device. 192.168.99.1 is the default address. The Login Dialogue Box as shown in Figure 5 appears.
<i>2</i>	Enter your Username and Password.  <b>NOTE:</b> The default User Name is "Admin" and Password is "password". For security reason, it is recommended to change the default Administrator ID and Password after initial login. See Changing Administrator ID and Password on page 24 for details.



**Figure 5. SIP Device Login Dialogue Box**





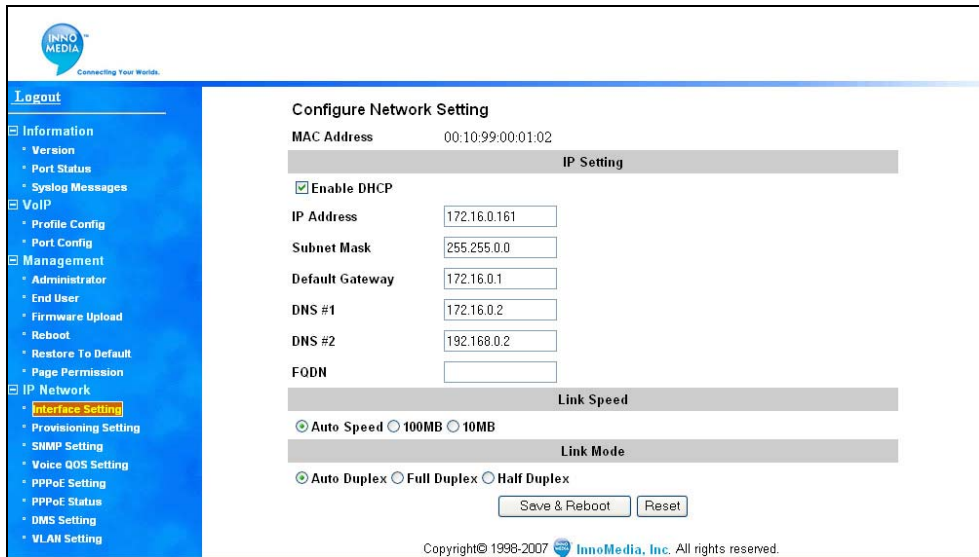
**Figure 6. SIP Device Web User Interface - Main Page**

## Configuring IP Addresses for SIP Device

To configure the IP Address for the SIP Device, follow these steps:

**Table 4. Configuring External IP Address**

<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device at <a href="http://192.168.99.1">http://192.168.99.1</a> .
<b>2</b>	Click on IP Network, then Interface Setting.
<b>3</b>	If you choose to use DHCP, then click the check box. Otherwise, enter your IP address, Subnet Mask, Default Gateway, DNS (if available), and FQDN (Fully Qualified Domain Name). This information should be supplied by your ISP or network administrator.
<b>4</b>	Select the Link Speed based on the device you connected to by clicking the appropriate radio button. Auto speed enables devices to automatically exchange information over a link and negotiate the speed based on the connection to the other end.
<b>5</b>	Select the Link Mode by clicking the appropriate radio button. Auto duplex enables devices to automatically exchange information over a link and negotiate the mode based on the connection to the other end.
<b>6</b>	Click Save & Reboot to save your changes and take into effect, or click the Reset button to undo your changes.



**Figure 7. Configuring IP Addresses**

## Configuring Provisioning Settings

If you would like to use a provisioning server to provision your SIP Device, you will need to configure the provisioning settings. To configure the provisioning settings, follow these steps:

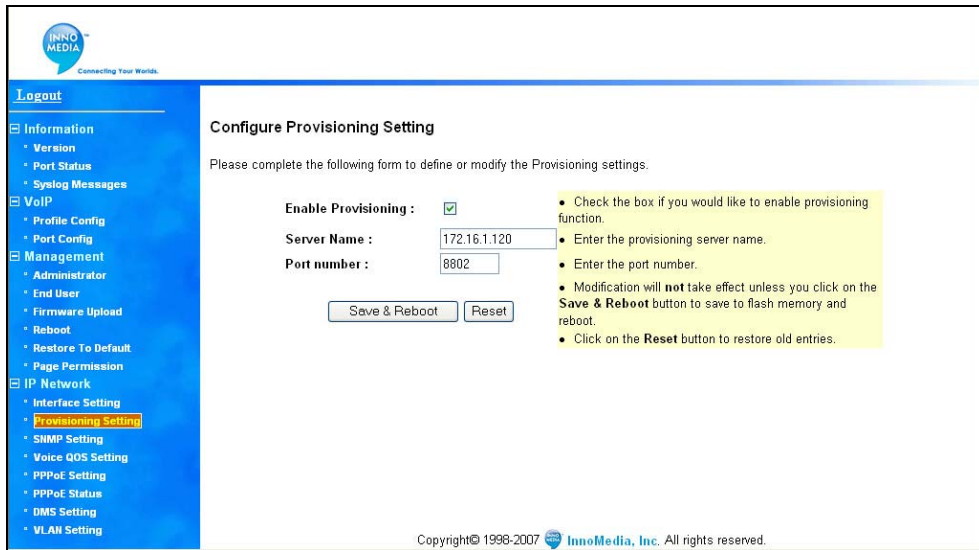
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**NOTE:** Web interface only allows you to configure some basic provisioning settings. Please refer to the Telnet interface section to finish configuring the provisioning settings for your SIP Device.

---

**Table 5. Configuring Provisioning Settings**

<i>Step</i>	<i>Action</i>
<i>1</i>	Open your web browser and connect to your SIP Device.
<i>2</i>	Click on IP Network, then Provisioning Setting.
<i>3</i>	Check the option box to enable the provisioning function.
<i>4</i>	Enter the DNS or the IP address of your provisioning server.
<i>5</i>	Enter the port number of your provisioning server.
<i>6</i>	Click Save & Reboot to save your changes and take into effect, or click the Reset button to undo your changes.



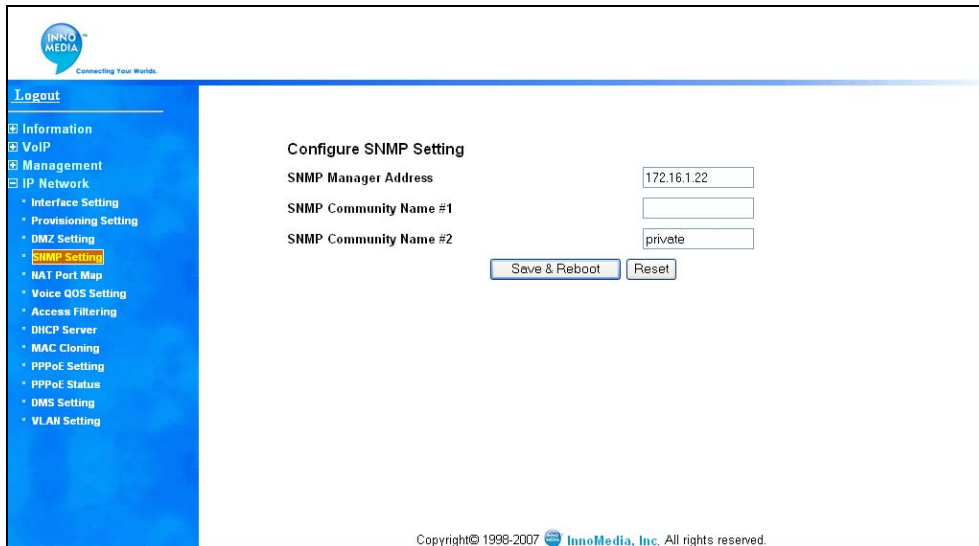
**Figure 8. Configuring Provisioning Settings**

## Configuring SNMP Settings

To use a SNMP Manager to monitor your SIP Device, configure the SIP Device SNMP setting. Follow these steps for configuration of SNMP Settings:

**Table 6. Configuring SNMP Setting**

<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device.
<b>2</b>	Click on IP Network, then SNMP Setting.
<b>3</b>	Enter the SNMP Manager Address where the SNMP software is installed.
<b>4</b>	Enter the SNMP Community Name #1. It must match the string configured on your SNMP server. By default, SNMP community #1 is read-only community string for SNMP Get- request.
<b>5</b>	Enter in the SNMP Community Name #2. It must match the string configured on your SNMP server. By default, SNMP community #2 is read-write community string for SNMP Set-request.
<b>6</b>	Click Save & Reboot to save your changes and take into effect, or click the Reset button to undo your changes.



**Figure 9. Configuring SNMP Setting**

## Configuring NAT Port Mapping (for Router Device Only)

Port mapping is an advanced configuration in which the router forwards incoming protocols to computers on your local network. You will need to determine which type of service, application or game you'll provide and the IP address of the computer that will provide each service. To configure the NAT Port Mapping, follow these steps:

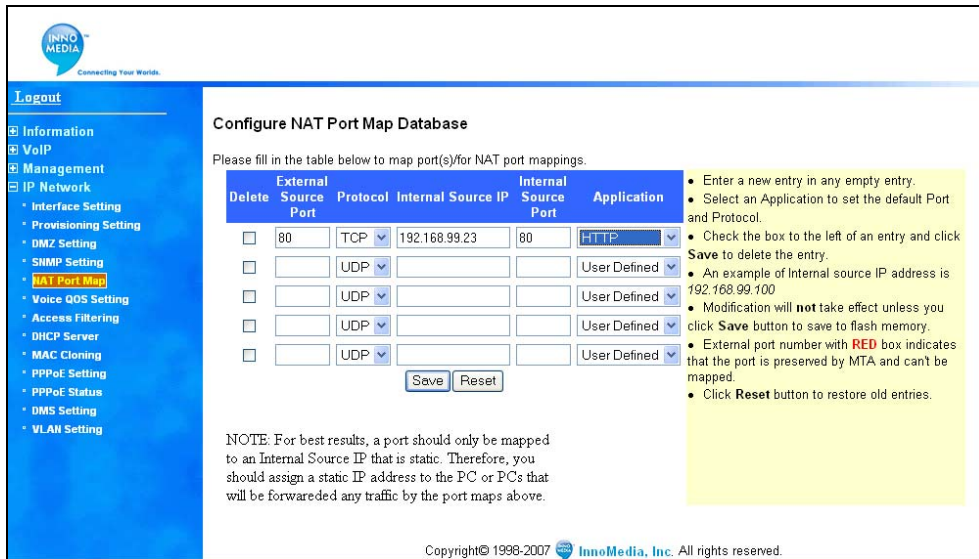
---

**NOTE:** For best results, a port should only be mapped to an Internal Source IP that is static. Therefore, you should assign a static IP address to the PC or PCs that will be forwarded any traffic by the port maps above.

---

**Table 7. Configuring NAT Port Mapping**

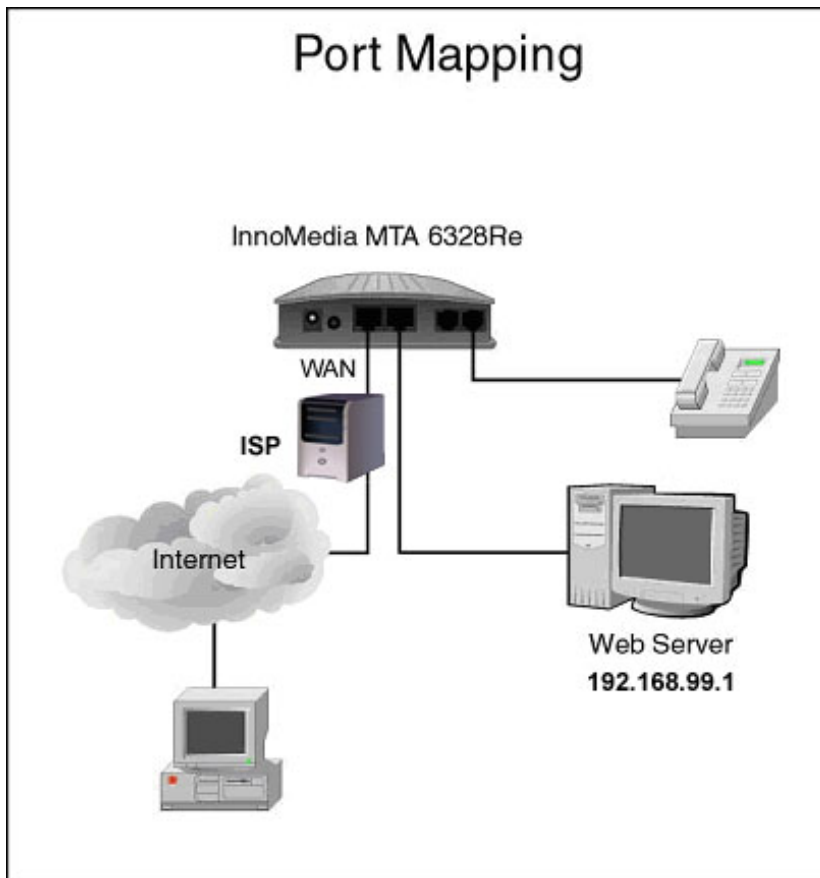
<i>Step</i>	<i>Action</i>
<i>1</i>	Open your web browser and connect to your SIP Device.
<i>2</i>	Click on IP Network, then NAT PortMap.
<i>3</i>	Enter External Source Port number that you want to redirect to another unit.
<i>4</i>	Choose either TCP/IP or UDP protocol.
<i>5</i>	Enter the IP address of the PC that is running the application or game that uses this source port and protocol.
<i>6</i>	Enter the Internal Source Port you want to send it to. If the application or service only uses one port, then the Internal Source Port will be the same as the External Source Port.
<i>7</i>	Click the Save button to save your changes, or click the Reset button to undo your changes.



**Figure 10. Configuring NAT Port Mapping**

EXAMPLE:

Figure 11. Port Mapping diagram is a sample illustration of the NAT Port Mapping.



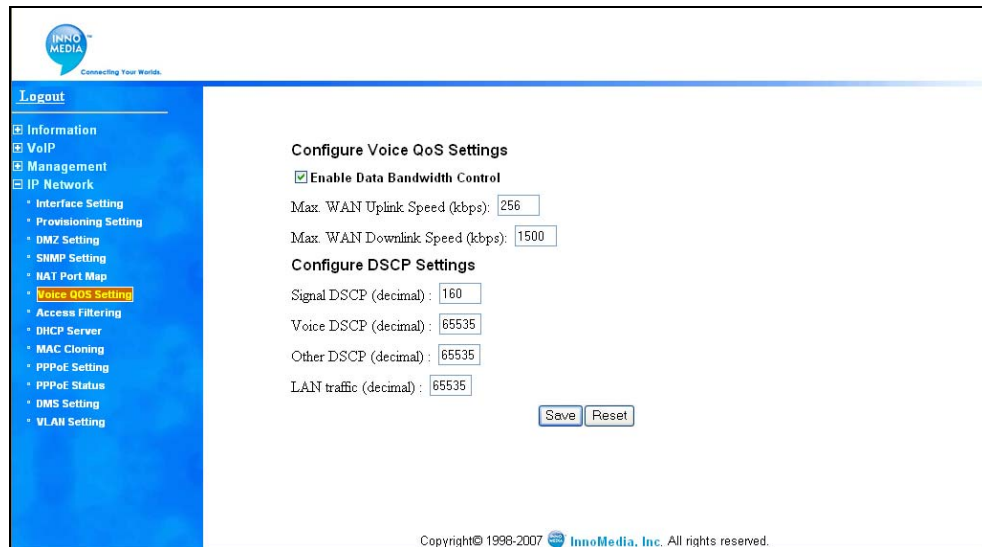
**Figure 11. Port Mapping diagram**

## Configuring Voice QoS Setting

Voice QoS Settings allow the user to designate the amount of bandwidth available on the uplink and downlink. When the QoS is enabled, the voice packets have higher priority over data packets. To configure the Voice QoS Settings, follow these steps:

**Table 8. Configuring Voice QoS Setting**

<i>Step</i>	<i>Action</i>
<i>1</i>	Open your web browser and connect to your SIP Device.
<i>2</i>	Click on IP Network, then Voice QoS Settings.
<i>3</i>	Check the box to enable Data Bandwidth Control.
<i>4</i>	Enter the Max. WAN Uplink and Downlink Speed.
<i>5</i>	Enter the DSCP values based on your Network settings.
<i>6</i>	Click Save & Reboot to save your changes and take into effect, or click the Reset button to undo your changes.



**Figure 12. Configuring Voice QoS Settings**

## Configuring Access Filtering options (for Router Device Only)

Access filtering is a feature designed to help you regulate the access of internal PCs to the outside Internet. It is useful when you wish to block access to certain websites or addresses for individual PCs that are connected to the SIP Device.

The SIP Device offers four ways to control the access available to your internal PCs:

- 1 IP Filtering – Allows you to control what IP, port, and protocol traffic to allow or disallow going out of SIP Device.
- 2 Domain Filtering – Allows you to block access to specific domains and websites. This is useful for controlling access to certain web addresses. This filtering is a global setting that applies to all PCs connected to your SIP Device.

- 3 URL Filtering – Allows you to block access to specific URLs. This is useful for controlling access to certain URLs. This filtering is a global setting that applies to all PCs connected to your SIP Device.
- 4 MAC Filtering –allows you to prevent certain MAC addresses from accessing the Internet. It will also allow certain MAC Addresses to access the Internet and deny all others. This filtering is assigned per MAC address.

## IP Filtering

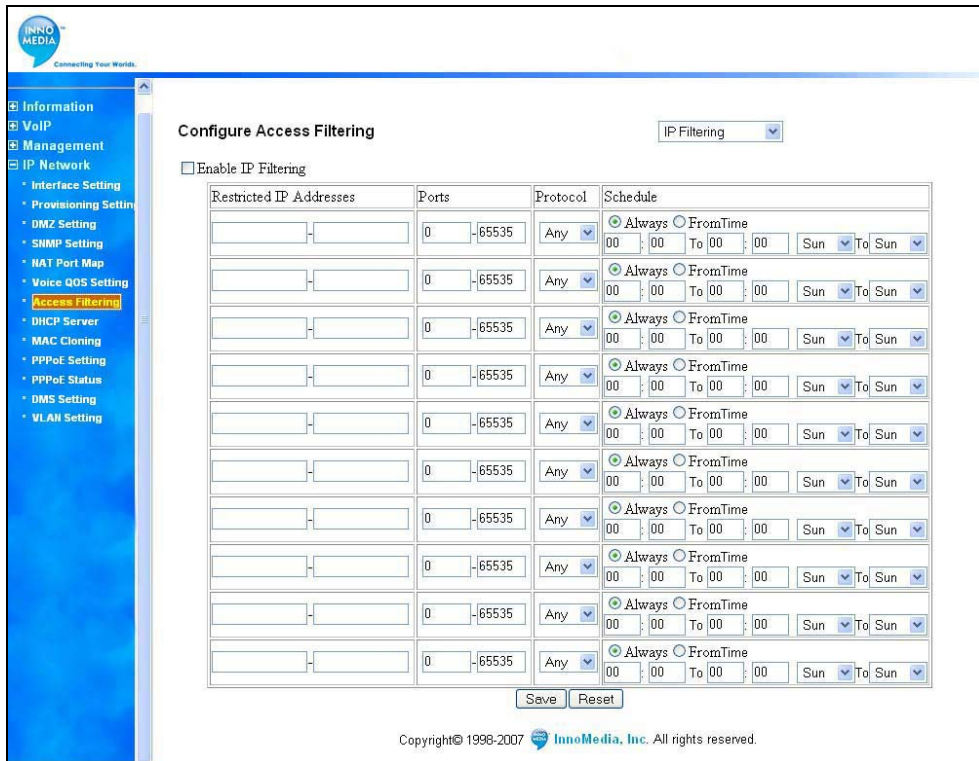
To configure the IP Filtering, follow these steps:

**Table 9. Configuring IP Filtering**

<i>Step</i>	<i>Action</i>
<i>1</i>	Open your web browser and connect to your SIP Device.
<i>2</i>	Click on IP Network, then Access Filtering
<i>3</i>	Select IP Filtering from the pull-down menu
<i>4</i>	Check the box to Enable IP Filtering
<i>5</i>	In the 'Restricted IP Addresses' field, enter the IP addresses or an IP range.
<i>6</i>	In the 'Ports' field, specify the port or a range of ports you wish to block.
<i>7</i>	In the 'Protocol' field, specify the protocol. If you are unsure, choose Any.
<i>8</i>	In 'Schedule' fields, select "Always" to always block the restricted internal IP addresses to access outside Internet, or select "From Time" and enter a blocking time range.
<i>9</i>	Click the Save button to save your changes, or click the Reset button if you want to undo your changes.







**Figure 13. Configuring Access Filtering – IP Filtering**

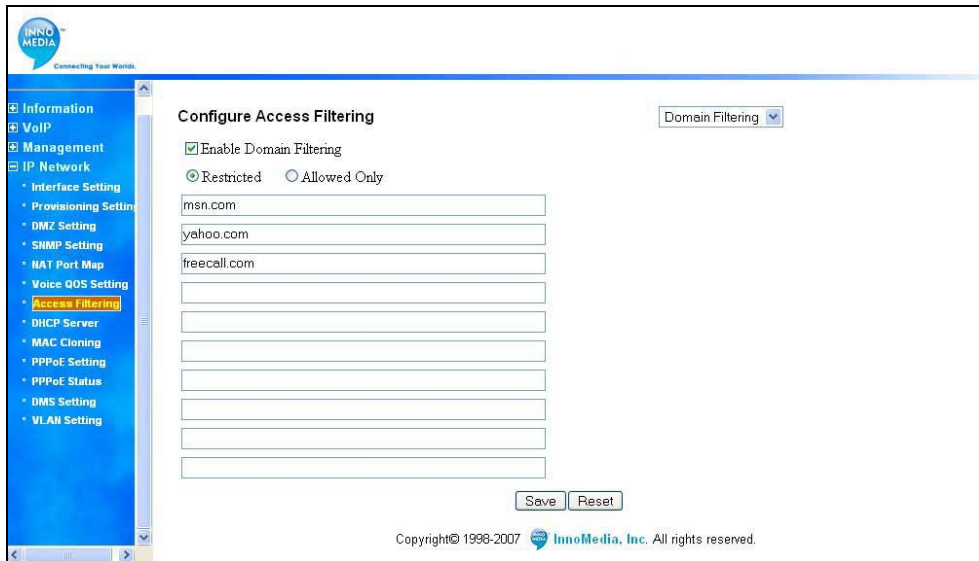
## Domain Filtering

To configure the Domain Filtering, follow these steps:

**Table 10. Configuring Domain Filtering**

<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device.
<b>2</b>	Click on IP Network, then Access Filtering
<b>3</b>	Select Domain Filtering from the pull-down menu
<b>4</b>	Check the box to Enable Domain Filtering
<b>5</b>	Select Restricted to block access to specific domains/websites, or select Allowed only to allow access to specific domains/websites.
<b>6</b>	Enter the domain names in the fields. You can enter up to 10 domains.
<b>7</b>	Click the Save button to save your changes, or click the Reset button if you want to undo your changes.





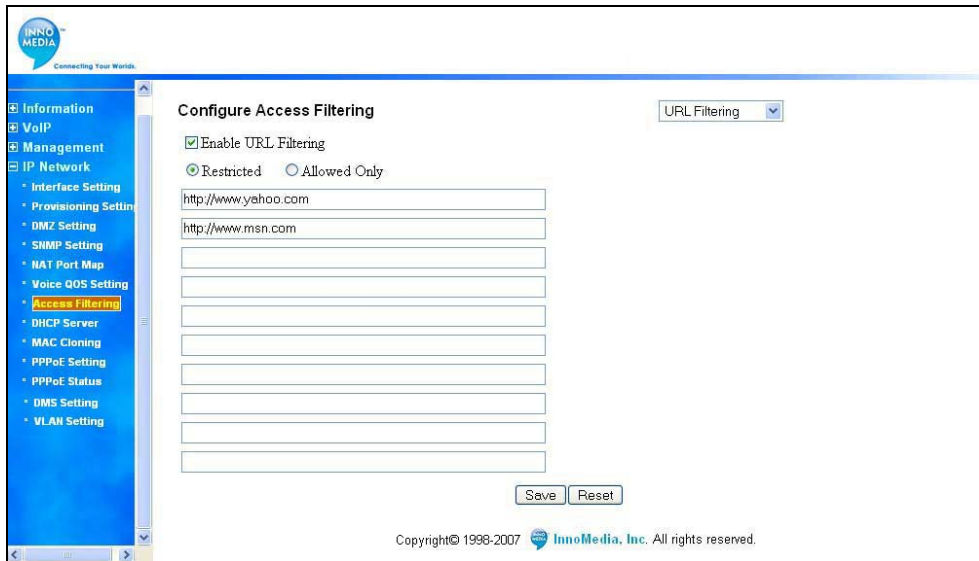
**Figure 14. Configuring Access Filtering – Domain Filtering**

## URL Filtering

To configure the URL Filtering, follow these steps:

**Table 11. Configuring URL Filtering**

<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device.
<b>2</b>	Click on IP Network, then Access Filtering
<b>3</b>	Select URL Filtering from the pull-down menu
<b>4</b>	Check the box to Enable URL Filtering
<b>5</b>	Select “Restricted” to block accessing to specific URLs entered in the fields, or select “Allowed only” to allow access to specific URLs.
<b>6</b>	Enter the URLs in the fields. You can enter up to 10 URLs.
<b>7</b>	Click the Save button to save your changes, or click the Reset button if you want to undo your changes.



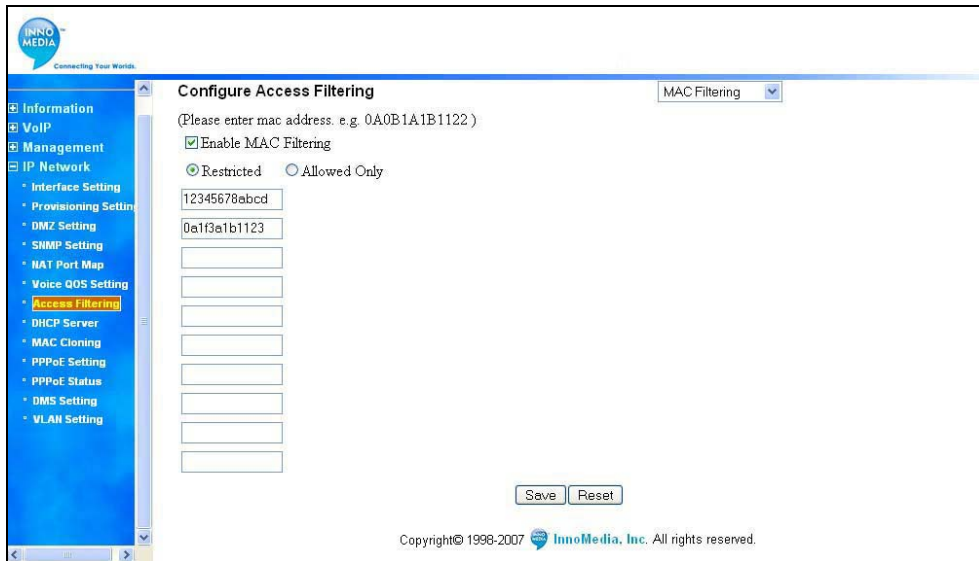
**Figure 15. Configuring Access Filtering – URL Filtering**

## MAC Filtering

To configure the MAC Filtering, follow these steps:

**Table 12. Configuring MAC Filtering**

<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device.
<b>2</b>	Click on IP Network, then Access Filtering
<b>3</b>	Select MAC Filtering from the pull-down menu
<b>4</b>	Check the box to Enable MAC Filtering
<b>5</b>	Select “Restricted” to restrict the MAC addresses entered in the fields from accessing outside Internet, or select “Allowed only” to allow only those MAC addresses to access the outside Internet.
<b>6</b>	Enter the MAC addresses in the fields. You can enter up to 10 MAC addresses.
<b>7</b>	Click the Save button to save your changes, or click the Reset button if you want to undo your changes.



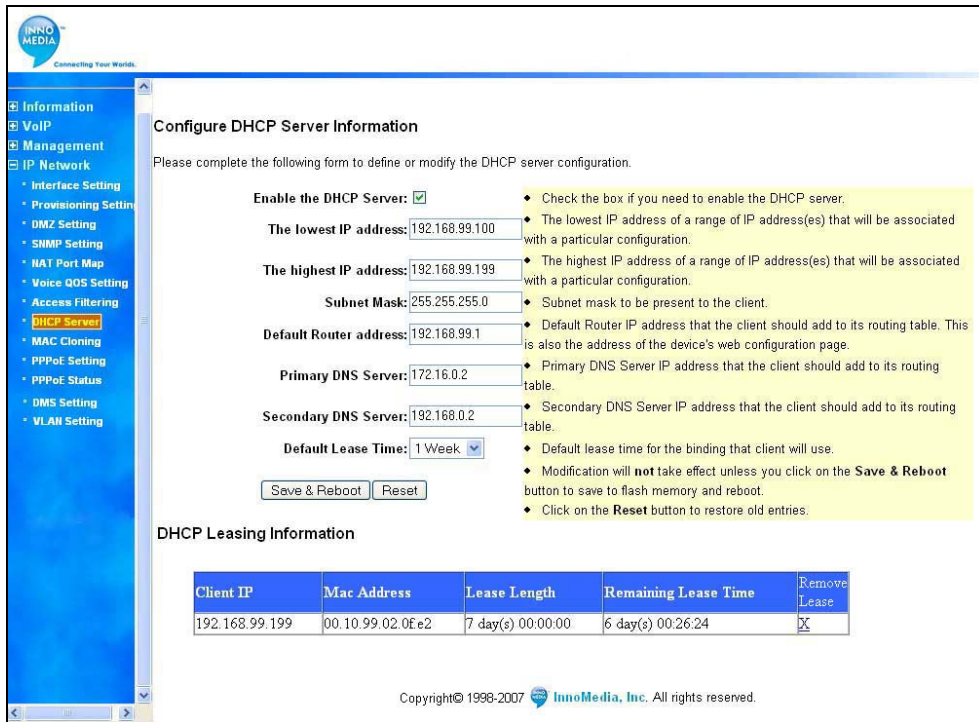
**Figure 16. Access Filtering – MAC Filtering**

## Configuring DHCP Server Information

The SIP Device has a DHCP Server function to connect to multiple PCs via a hub or direct connection. To configure the DHCP Server function, follow these steps:

**Table 13. Configuring DHCP Server Information**

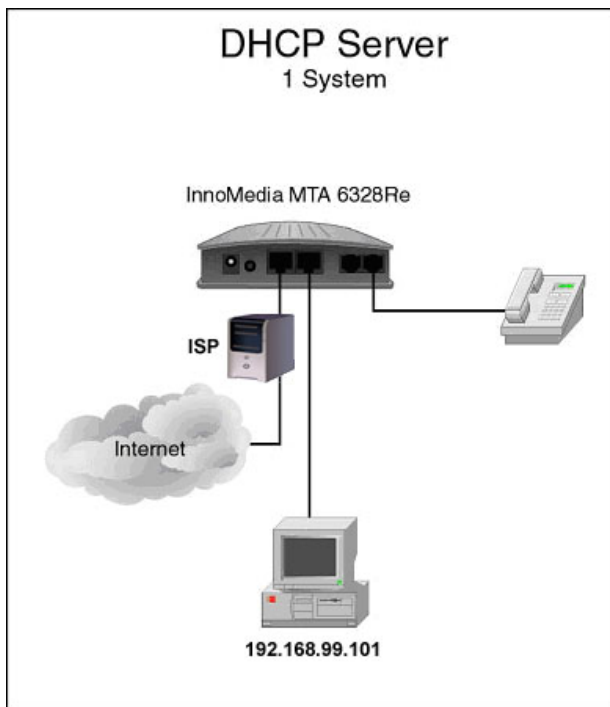
<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device.
<b>2</b>	Click on IP Network, then DHCP Server.
<b>3</b>	Click on Enable DHCP Server to enable the feature.
<b>4</b>	Enter the IP address ranges, Subnet Mask, Default Router address, and DNS (if available) information. The DNS addresses must be supplied by your ISP.
<b>5</b>	You may also change how long your PC may keep its current IP address. For most users, the default time (one week) is appropriate and do not need to be modified. When the lease expires, the DHCP client will automatically renew the IP.  The DHCP Leasing Information is displayed at the bottom of the screen.
<b>6</b>	Click the Save and Reboot button to save your changes, or click the Reset button to undo your changes.



**Figure 17. Configuring DHCP Server Information**

EXAMPLE 1:

Figure 18 illustrates the DHCP Server Configuration with One System Connected.



**Figure 18. DHCP Server Configuration-One System Connected**



EXAMPLE 2:

Figure 19 is an example of MTA with multiple systems.

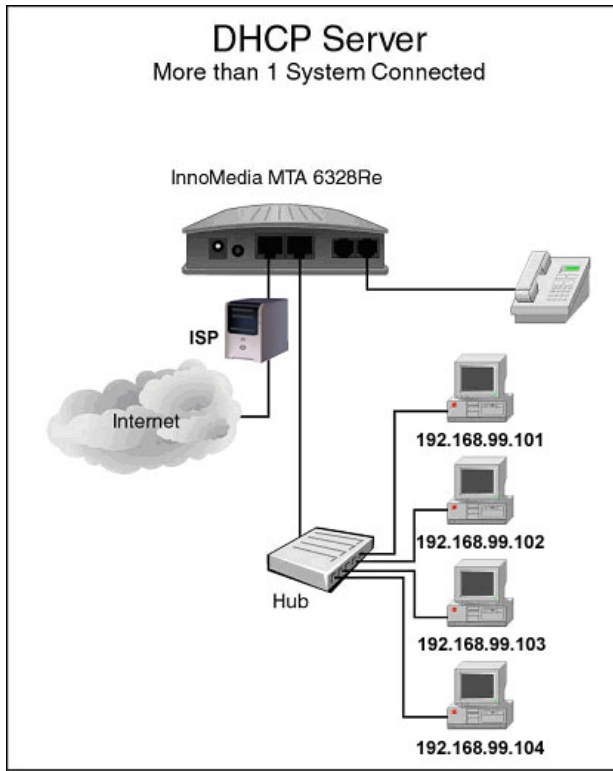


Figure 19. DHCP Sever Configuration-Multiple Connection

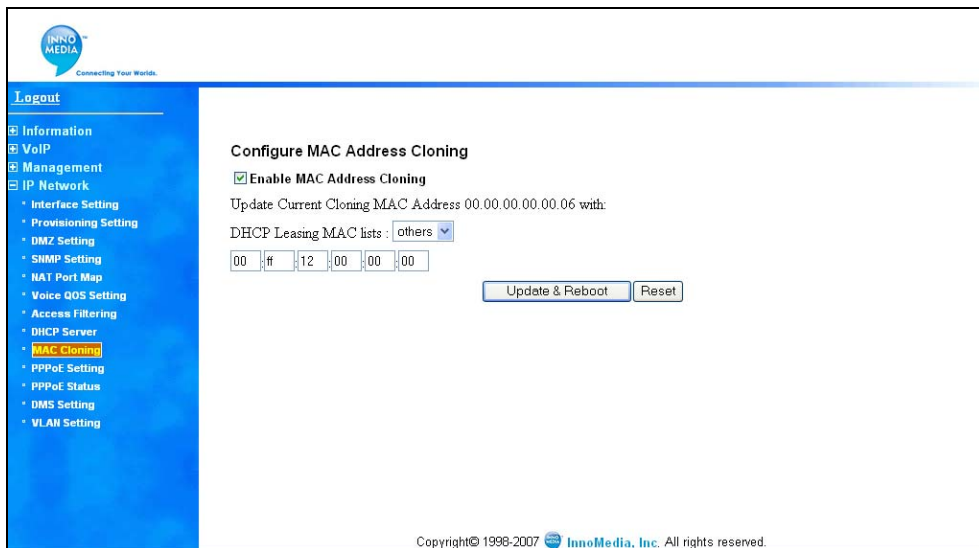
## Configuring MAC Cloning

To use the MAC cloning feature, follow these steps:

Table 14. Configuring MAC Cloning

<i>Step</i>	<i>Action</i>
<i>1</i>	Open your web browser and connect to your SIP Device at <a href="http://192.168.99.1">http://192.168.99.1</a> .
<i>2</i>	Click on IP Network, then MAC Cloning.
<i>3</i>	Check the option box to enable MAC Address Cloning.
<i>4</i>	The MTA will automatically grab the MAC address of your PC's Ethernet card and display it on the screen.  <b>NOTE:</b> This feature only works when you have your PC connected to the MTA's internal port. If there are more than one PCs connected, MTA will grab the MAC address of the PC that first received the IP address from the DHCP server. If you do not want to use this one, just manually input the MAC address of your other PC in the field.
<i>5</i>	Click Save and Reboot to save the cloned MAC and reconnect to

	the network, or click the Reset button if you want to undo your changes.
--	--



**Figure 20. Configuring MAC Address Cloning**

## Configuring DMS Setting

To configure your DMS setting, follow these steps:

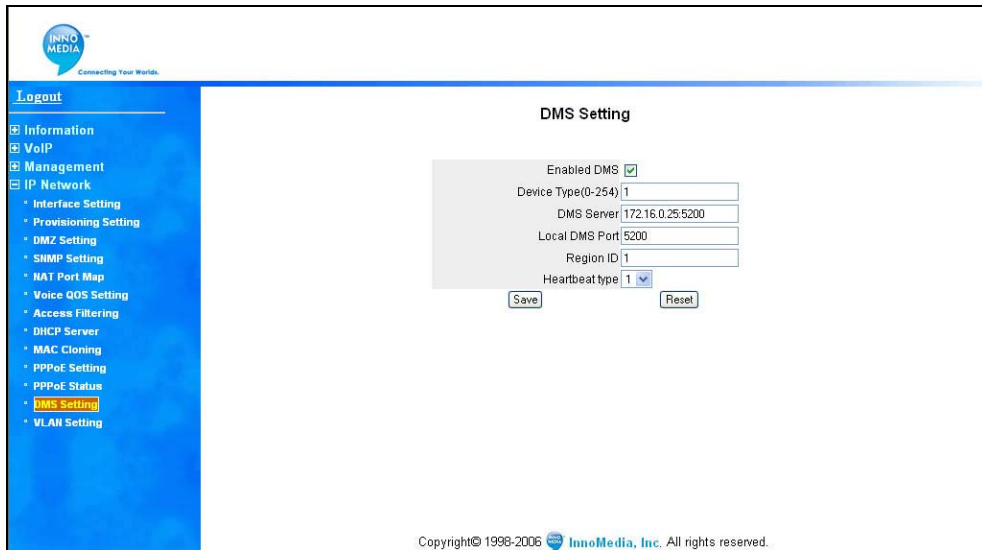
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**NOTE:** Please refer to your DMS server settings to configure the DMS parameters on your MTA.

---

**Table 15. Configuring DMS Setting**

<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device at <a href="http://192.168.99.1">http://192.168.99.1</a> .
<b>2</b>	Click on IP Network, then DMS Setting.
<b>3</b>	Check the option box to enable DMS.
<b>4</b>	Enter the device type, DMS server IP, local port, Region ID, and Heartbeat type.
<b>5</b>	Click Save to save the DMS setting, or click the Reset button if you want to undo your changes.



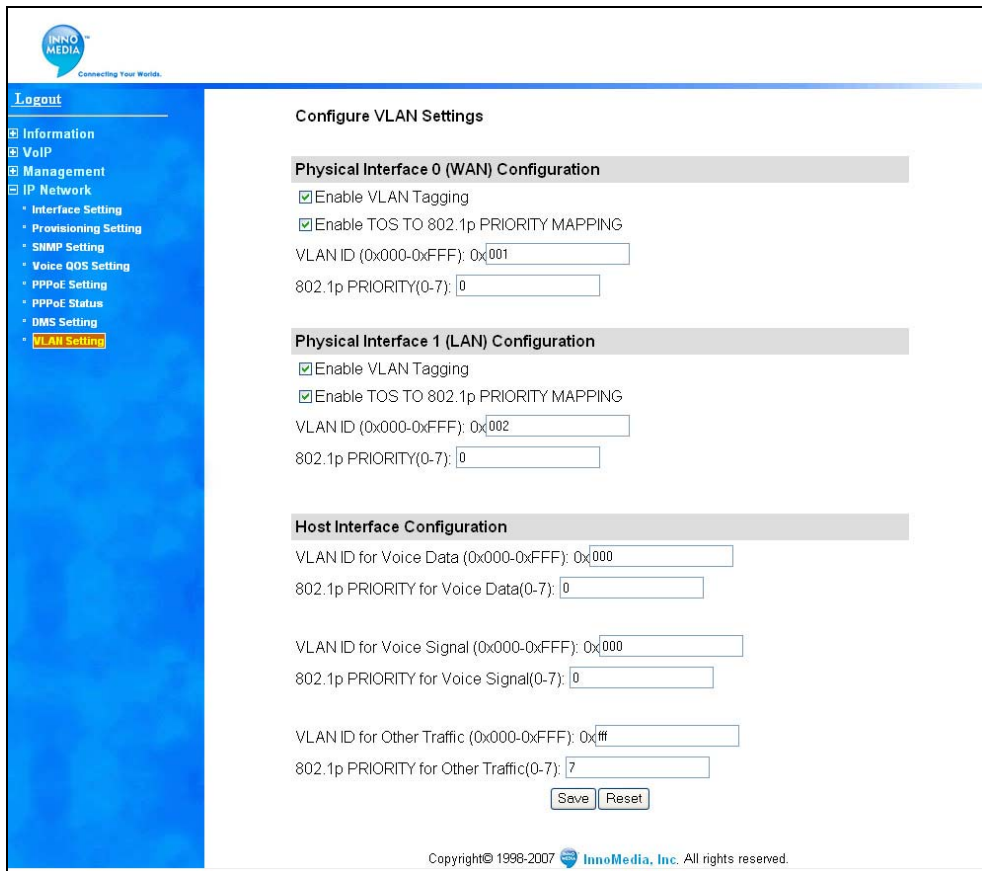
**Figure 21. Configuring DMS Setting**

## Configuring VLAN Setting

This advanced feature is only recommended if your network consists of VLAN-enabled servers and components. If you are unsure whether your network is using VLAN, leave it disabled on your SIP Devices.

**Table 16. Configuring VLAN Settings**

<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device.
<b>2</b>	Click on IP Network, then VLAN setting.
<b>3</b>	Click the option box to enable WAN port VLAN setting
<b>4</b>	Click the option box to enable the WAN port Priority Mapping feature.
<b>5</b>	Enter the WAN port Traffic VLAN ID and Priority values in the fields.
<b>6</b>	Enter the WAN port Traffic priority value in the field.
<b>7</b>	Check the option box if you want to enable the LAN port VLAN Setting.
<b>8</b>	Check the option box if you want to enable the LAN port priority Mapping feature.
<b>9</b>	Enter the LAN port traffic VLAN ID in the field.
<b>10</b>	Enter the LAN port Traffic Priority value in the field.
<b>11</b>	Enter the VLAN ID and priority value for Voice Data in the fields.
<b>12</b>	Enter the VLAN ID and priority value for Voice Signal in the fields.
<b>13</b>	Enter the VLAN ID and priority value for other traffic (i.e., Web or Telnet traffic) in the fields.
<b>14</b>	Click Save & Reboot to save your changes and take into effect, or click the Reset button to undo your changes.



**Figure 22. Configuring VLAN Setting**

## Changing Administrator ID and Password

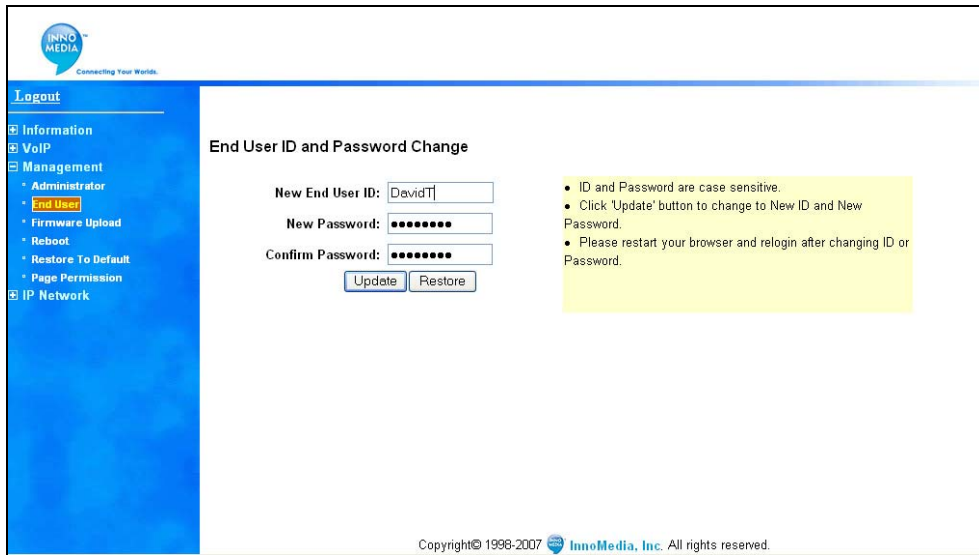
To change your Administrator ID and Password, do these steps:

**NOTE:** For security reason, it is recommended to change the default Administrator ID and Password after initial login.

**Table 17. Changing Administrator ID and Password**

<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device.
<b>2</b>	Click on Management, then Administrator.
<b>3</b>	Enter the new Administrator ID you wish to use.
<b>4</b>	Enter the new password in New Password field
<b>5</b>	Reenter your new password in Confirm Password field.
<b>6</b>	Click Update to save your new ID and Password, or click the Restore button if you want to undo your changes.





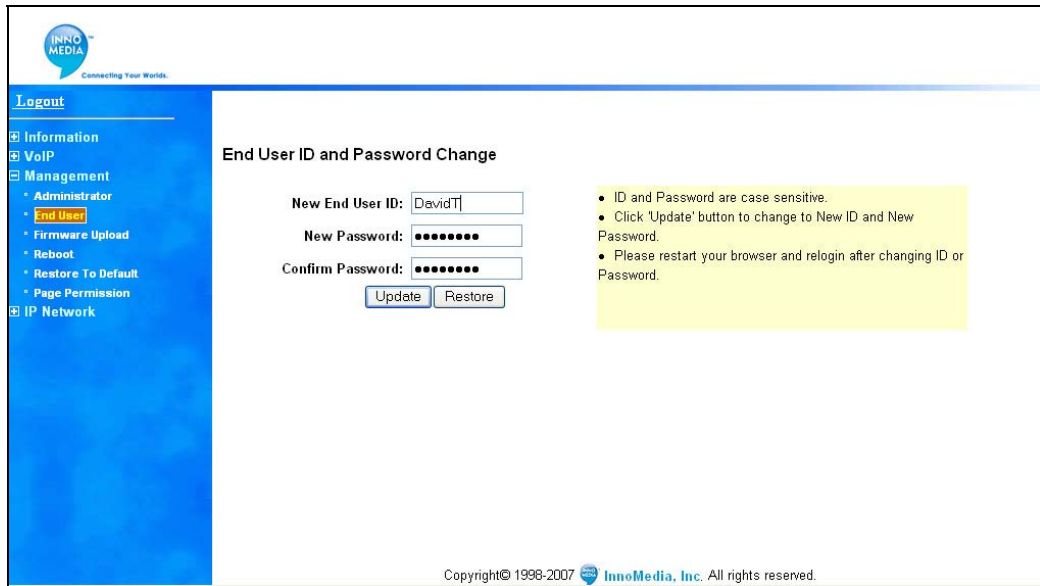
**Figure 23. Changing Administrator ID and Password**

## Changing End User ID and Password

To change the end user ID and Password, do these steps:

**Table 18. Changing End User ID and Password**

<i>Step</i>	<i>Action</i>
<i>1</i>	Open your web browser and connect to your SIP Device.
<i>2</i>	Click on Management, then End User.
<i>3</i>	Enter the New End User ID for user to access the SIP Device.
<i>4</i>	Enter the new password in New Password field
<i>5</i>	Reenter your new password in Confirm Password field.
<i>6</i>	Click Update to save your new ID and Password, or click the Restore button if you want to undo your changes.



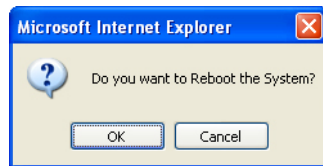
**Figure 24. Changing End User ID and Password**

## Rebooting SIP Device

To reboot your SIP Device, do these steps:

**Table 19. Rebooting SIP Device**

<i>Step</i>	<i>Action</i>
<i>1</i>	Open your web browser and connect to your SIP Device.
<i>2</i>	Click on Management, then Reboot.
<i>3</i>	Click OK to reboot the SIP Device, or Cancel if you do not want to Reboot at this time.



**Figure 25. Rebooting SIP Device**

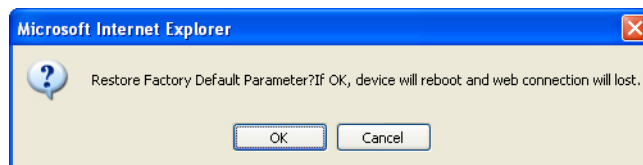
## Restoring Default Values

To restore default settings, follow these steps:

**CAUTION:** All Web-based management settings and parameters will be restored to their default values. This includes the administrator password; a user-specified password will no longer be valid. The default Administrator User name is “Admin” and password is “password”.

**Table 20. Restoring Default Values**

<i>Step</i>	<i>Action</i>
<i>1</i>	Open your web browser and connect to your SIP Device.
<i>2</i>	Click on Management, then Restore Default.
<i>3</i>	Click OK to restore factory default or Cancel if you do not want to do it at this time.



**Figure 26. Restoring SIP Device to Factory Default**

## Configuring Page Permission

The page permission page allows the Administrator to grant the page access right to the end users. To configure the page access permission, follow these steps:

**Table 21. Configuring Page Permission**

Step	Action
1	Open your web browser and connect to your SIP Device.
2	Click on Management, then Page Permission.
3	Enable the page access permission by clicking the boxes next to the pages.
4	Click Save.



**Figure 27. Restoring SIP Device to Factory Default**

## Configuring VoIP Settings

## Configuring Profiles

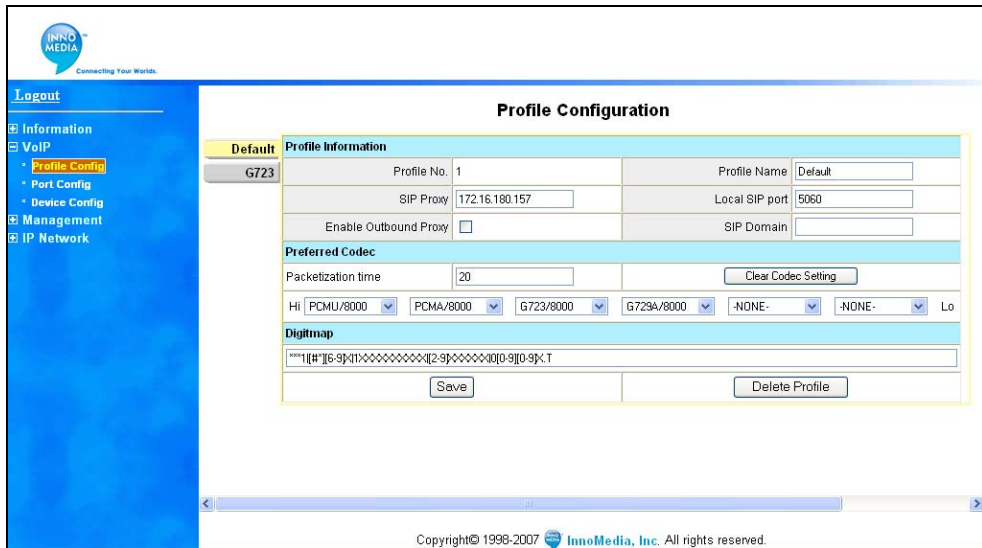
The profile settings include configuring the SIP proxy, preferred CODECs, and digitmap. The maximum number of profiles you can have is equal to the number of ports on your SIP

Device. You may create a profile for each port on your SIP Device or have them sharing the same one. To use this feature do the following steps:

**Table 22. Configuration File**

<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device.
<b>2</b>	Click VoIP, and then Profile Config.
<b>3</b>	Click on the profile tab to display the profile setting on the screen.
<b>4</b>	<p>Under Profile Information:</p> <ul style="list-style-type: none"> <li>▪ Enter the Profile name</li> <li>▪ Enter the SIP Proxy IP address</li> <li>▪ Enter the SIP Local Signaling Port number (Default is 5060)</li> <li>▪ Check Enable Outbound Proxy if you want this SIP proxy to be used as an outbound proxy.</li> <li>▪ Enter the SIP Domain</li> </ul> <p><b>NOTE:</b> If the profile name is not configured, the SIP Device will use the profile number as the profile name.</p>
<b>5</b>	<p>Under Preferred Codec:</p> <ul style="list-style-type: none"> <li>▪ Enter the Packetization time in 10 increments in the field. The Packetization Time is the length of the digital voice segment that each packet holds. The default is 20 millisecond packets. The smaller the value is, the better the voice quality will be, as less information is lost due to packet loss, but increases the load on the network traffic.</li> <li>▪ Select the Preferred CODECs based on its priority level (high to low) from the drop-down box. You can set up to 6 CODECs via the web interface. The Clear CODECs Setting button lets you reset your settings.</li> </ul>
<b>6</b>	<p>Under Digimap:</p> <ul style="list-style-type: none"> <li>▪ Enter your digimaps in the field. If you have more than one string patterns, separate them with a vertical bar.</li> </ul>
<b>7</b>	Click Save to save your changes to the SIP Device.
<b>8</b>	<ul style="list-style-type: none"> <li>▪ To add another new profile, click the Add New Profile tab to the left and repeat the above configuration steps. The maximum number of the profiles you can create is equal to the number of ports on your SIP device.</li> <li>▪ To remove a profile, click the Delete Profile button. You must have at least one profile saved on the system.</li> </ul>





**Figure 28. Configuring Profile**

## Configuring Ports

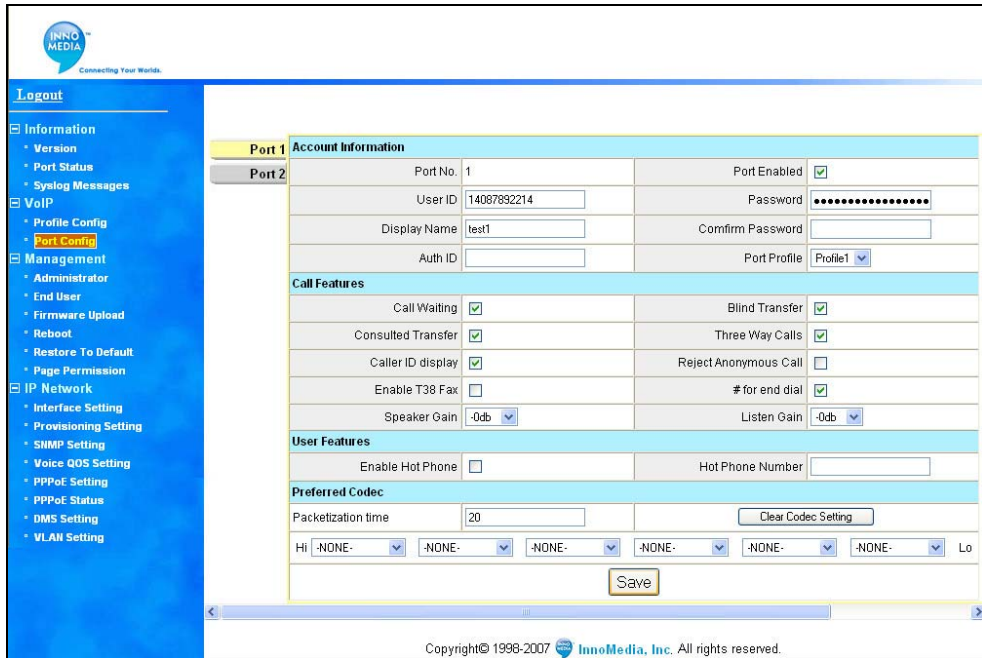
The Port Configuration screen allows you to configure your SIP Device's User Account information, call features, and the preferred CODEC. To configure the port settings, follow these steps:

**NOTE:** Some settings, like preferred CODECS, can be pre-configured in the profile. By changing the CODECS settings on this page will overwrite the setting in the profile.

**Table 23. Configuring Ports**

<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device.
<b>2</b>	Click VoIP, and then Port Configuration.
<b>3</b>	Click the Port number tab to display the port settings.
<b>4</b>	Under Account Information: <ul style="list-style-type: none"> <li>Check the Port Enabled option box to enable the port.</li> <li>Enter the User ID, Password, User Name, and the Authentication ID in the fields.</li> <li>Select the port profile from the drop-down box. For information on how to set the port profile, see Configuring Profiles section on page 28.</li> </ul>
<b>5</b>	Under Call Features: <ul style="list-style-type: none"> <li>Select the features you would like to enable by checking the option boxes. If you enable the Hot Phone feature, enter the Hot Phone Number in the field.</li> <li>Select the Speaker Gain and Listen Gain from the drop-down boxes. The default values for both are "0dB".</li> </ul>
<b>6</b>	Under Preferred CODEC: <ul style="list-style-type: none"> <li>Enter the Packetization time</li> <li>Select the preferred CODEC from the drop-down box. You can specify up to 6 CODECS based on their priority levels.</li> </ul>
<b>7</b>	Click Save to save your changes and take into effect.

8	Click another Port tab to the left and repeat the above steps to configure the port settings for other ports.
---	---



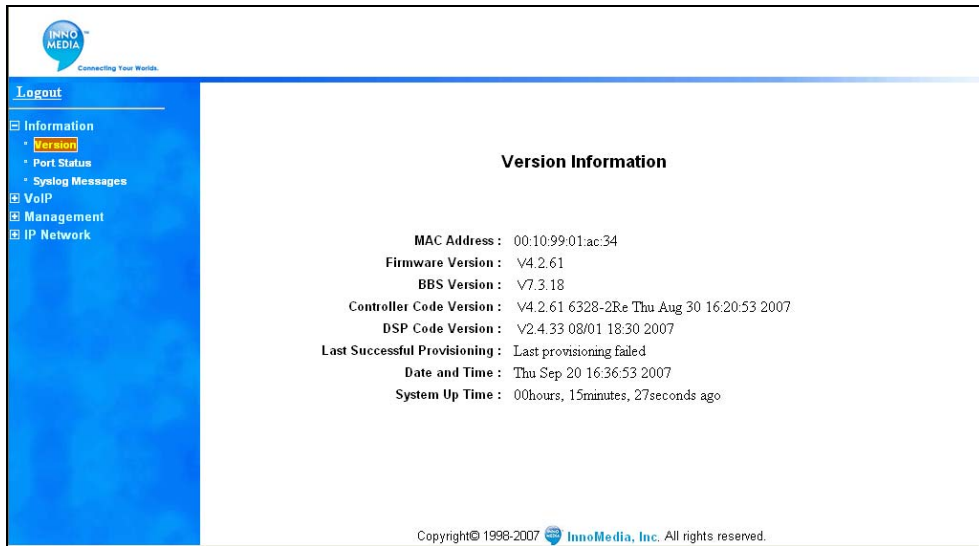
**Figure 29. Configuring Ports**

## Viewing SIP Device Information Version

This page displays SIP Device's MAC address, software version information, current Date and time, and System uptime. To view the version information, follow these steps:

**Table 24. Viewing Version Information**

<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device.
<b>2</b>	Click on Information, then Version. The Version screen appears on the screen.



**Figure 30. Version Information Screen**

## Port Status

InnoMedia's SIP Device allows you to view its current registration status with the call agent, as well as the line status for each port. To access this information follow these steps:

**Table 25. Port Status**

<i>Step</i>	<i>Action</i>
<b>1</b>	Open your web browser and connect to your SIP Device.
<b>2</b>	Click on Information, then Port Status.
<b>3</b>	To refresh the screen, click the Refresh button. The information appears on the screen will not update automatically.



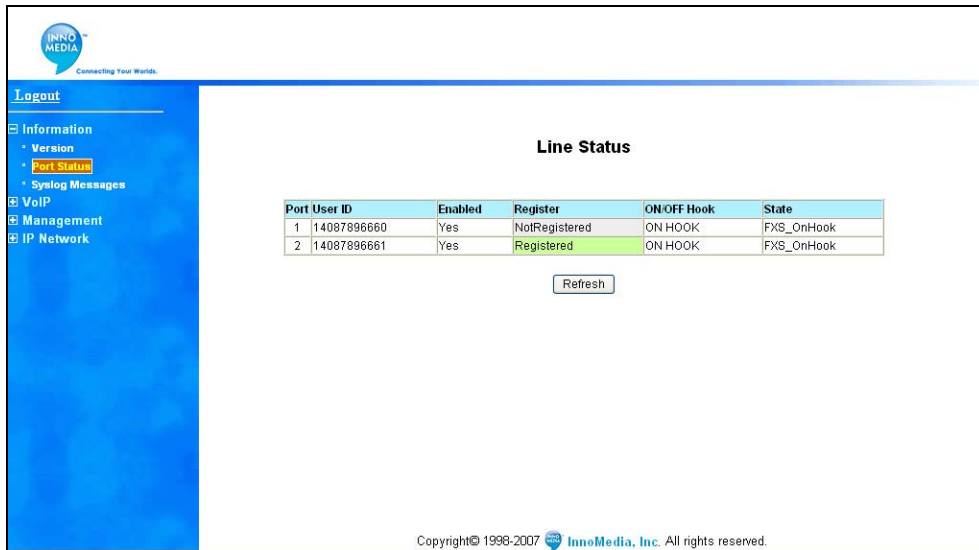


Figure 31. Port Status

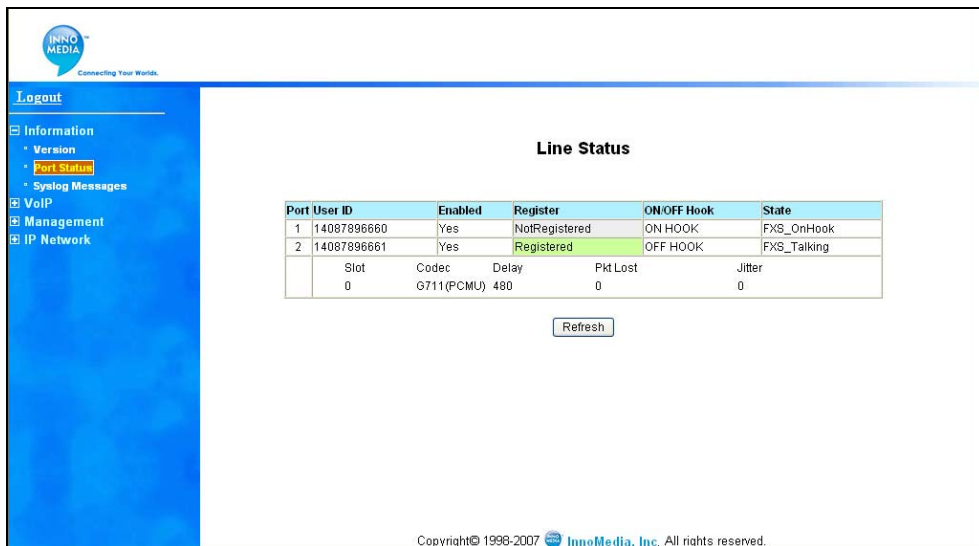


Figure 32. Port Status - Talking

## Setting Syslog Server IP and Viewing Syslog Messages

To set the syslog server IP and view the Syslog messages, follow these steps:

Table 26. Viewing Syslog Messages

Step	Action
1	Open your web browser and connect to your SIP Device.
2	Click on Information, then Syslog messages.
3	Enter the Syslog Server IP in the field and click Set.
4	The syslog messages are displayed on the screen.

**INNO MEDIA**  
Connecting Your World.

**Logout**

- Information
  - Version
  - Port Status
  - Syslog Messages**
- VoIP
- Management
- IP Network

**Syslog Messages**

Syslog Server IP:

	Syslog Message
0	<182>Mon Aug 27 11:05:08 2007 MTA6308:INFO-Recovery from CA response Timeout
1	<181>Mon Aug 27 11:05:07 2007 MTA6308:NOTICE-Power on Int. Done
2	<182>Thu Jan 1 02:38:50 1970 MTA6308:NOTICE - DHCP success
3	<182>Thu Jan 1 02:38:50 1970 MTA6308:NOTICE - DHCP success

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**Figure 32. Syslog Messages**

# Configuring SIP Device via Telnet Interface

## Before You Begin

Before you proceeding the following, make sure you have performed the steps outlined in the "Setting up Your Computer" section in Chapter 1. From a windows machine open a Dos Box. Type in Telnet 192.168.99.1, then press enter.

## Logging In

Please note that command line interface is case sensitive. Type the commands in bold face and match case as in the samples.

## Help (H)

Command "H" prompts for Username and Password for users to login and also displays a list of the SIP Device commands.

SAMPLE:

```
H
Enter Username:          Admin
Enter Password:         password

C:  Configuration: Operation Database
Cd: Configuring VoIP DigitMap
Cj: Configuring Jitter Buffer Size
Ct: Configure FXS Setting Parameters
Cs: Configuring SIP Settings
Cu: Configuring User Account Database
Cv: Configure VLAN Setting
Cr: Enable/Disable Polarity Reversal
C3: Enable/Disable Call Features
Cx: Configuring DMS
Cp: Configuring end dial digit(#)

C:  Configuration: IP Information
Cf: Display the Current IP Information
Ci: Configure the IP Information

Cw: Change Password

E:  Exiting and Logout

G:  Voice Volume Control
Ga: Set Voice Volume for Each Channel

H:  Help Menu

I:  Information About this System
Id: Display VoIP DigitMap
Ig: Display Voice Volume Level
```



```

Ij: Display Parameters for Jitter Buffer Operation
Is: Display the State of All Ports/Lines
Ix: Display network connection and UA registration status
Ik: Display DMS parameters
It: Display FXS Setting Parameters

M: Miscellaneous
Me: Configure DHCP parameters
Mf: Configure Hook Flash Timer
Mn: Selectable Configuration of IP Elements
Mp: Configure Phone lines
Mh: Show Syslog
Mi: Configure SNTP server
Mq: Configure Syslog server
Mm: Configure Remote Services
Mw: Configure Networking Mode

N: Configure PPPoE function

P: Provisioning
Pv: Configure Provisioning setting
Pr: Trigger Provisioning

V: Version number
R: Reset System

```

## Viewing Current Configuration Information (Cf)

Use the "Cf" command to view your SIP Device's current configuration information.

SAMPLE:

```

Cf

Your current configuration:
Your MTA Name= 6328-2Re
System Enable Provisioning Process = TRUE;
SYSLOG Server = 172.16.0.136;
SIP Proxy Server:
    (Profile 1) 172.16.180.157
    (Profile 2) 172.16.180.157
Current Local SIP Signaling Port:
    (Profile 1) 5060
    (Profile 2) 5060
STUN Disabled
CODECS
    channel 1: ptime:20 ms; G729A G729
    channel 2: ptime:20 ms; G711(PCMU) G711(PCMA) G729A
G723 G726-32 G728
RTP port: 18000
Current Silence Suppression settings:
    (Channel 1) Yes, send RFC3389 SID frame:No
    (Channel 2) Yes, send RFC3389 SID frame:No
Current Echo Cancellation Settings:
    (Channel 1) Yes
    (Channel 2) Yes

```



```
DSCP for signal: 160,0xa0
DSCP for voice: 65535,0xffff
DSCP for other: 65535,0xffff
DSCP for LAN traffic: 65535,0xffff
Prov_Server_Name: 12.22.51.56
DHCP Check Option 43 disable
Ether Address      = 00:10:99:01:ac:34;
You are using DHCP.
Local IP           = 172.16.0.199;
Local IP Mask      = 255.255.0.0;
Local Default GW IP = 172.16.0.1;
Local Default GW Mask = 255.255.0.0;
Primary Domain Name Server = 172.16.0.2;
Secondary Domain Name Server = 192.168.0.2;
```

## Configuring IP Information (Ci)

The "Ci" command is used to configure the IP information such as IP address, default Gateway IP address, DNS server IP address or call agent IP address. In addition, you may modify other host settings as described later in this document. Reboot the SIP Device when you finish the configuration.

SAMPLE:

### Ci

1. Configure Local IP
2. Set DNS IP(s)
3. SIP Proxy Server And SIP Domain
4. Change IP Settings for All
5. Configure other Local Host settings
6. Configure Provisioning Server(obsolete)
7. Configure MTU Size
9. Configure MTA Web Server Port

## Configuring Local IP (Ci, 1)

Select Option 1 to modify the current IP address information for the SIP Device. If you plan to use DHCP, answer Y when prompted. You must reboot in order for changes to take effect.

### Using DHCP

SAMPLE:

### Ci

1. Configure Local IP
2. Set DNS IP(s)
3. SIP Proxy Server And SIP Domain
4. Change IP Settings for All
5. Configure other Local Host settings

```

6. Configure Provisioning Server(obsolete)
7. Configure MTU Size
9. Configure MTA Web Server Port
1
Do you use DHCP to get dynamic IP address and IP mask? [y/n]
y

Use DHCP to get dynamic IP address, subnet mask and default
gateway's IP.

Do you want to store the changes permanently?[y/n]y
Please wait for flash update...

INFO: read from NVS_PRIMARY (0x9f3)
INFO: write to NVS_SECONDARY (0x9f4)
INFO: write to NVS_PRIMARY (0x9f4)
INFO: read from NVS_PRIMARY (0x9f4)
FS write: OK.Please reboot the system

```

### Using a Static IP

SAMPLE:

```

Ci

1. Configure Local IP
2. Set DNS IP(s)
3. SIP Proxy Server And SIP Domain
4. Change IP Settings for All
5. Configure other Local Host settings
6. Configure Provisioning Server(obsolete)
7. Configure MTU Size
9. Configure MTA Web Server Port
1
Do you use DHCP to get dynamic IP address and IP mask? [y/n]
n

Please enter the Gateway FQDN :
SIP Device
Input name is :SIP Device
Please enter your IP address...
Example: 192.45.6.4
172.16.0.76
IP address entered: 172.16.0.76
Please enter your IP Mask...
255.255.255.0
IP Mask entered: 255.255.255.0
Please enter your Default Gateway IP addr...
172.16.0.1
Gateway IP address entered: 172.16.0.1

Do you want to store the changes permanently?[y/n] y
Please wait for flash update...
Please reboot the system

```

### Ci Configuration Description



DHCP = Answer Y to get IP addresses from DHCP server. Otherwise, answer N and follow the prompt to configure IP addresses manually.  
Gateway FQDN = you may assign an FQDN (Fully Qualified Domain Name) for this SIP Device. This step is optional and may be left blank.  
IP Address = Enter the static IP you wish to assign to the SIP Device  
IP Mask = Enter the Subnet Mask used on your network  
Default Gateway = Enter the IP of the Default Gateway used on your network

## Setting DNS (Ci, 2)

Select Option 2 to modify only the DNS information for the SIP Device. You may enter a Primary or Secondary or Both. You must reboot in order for changes to take effect.

SAMPLE:

```
Ci

1. Configure Local IP
2. Set DNS IP(s)
3. SIP Proxy Server And SIP Domain
4. Change IP Settings for All
5. Configure other Local Host settings
6. Configure Provisioning Server(obsolete)
7. Configure MTU Size
9. Configure MTA Web Server Port
2
You want to set IP address for:
  1. Primary DNS only      2. Secondary DNS only   3. Both
3
Please enter the Primary DNS IP Address:
172.16.0.35
Primary DNS IP Entered: 172.16.0.35
Please enter the Secondary DNS IP Address:
172.16.0.36
Secondary DNS IP Address Entered: 172.16.0.36

Do you want to store the changes permanently?[y/n]
Y
Please wait for flash update...

Please reboot the system
```

## Setting SIP Proxy Server IP (Ci, 3)

Please use Voice Profile configuration shell (Cs/c/26) to configure SIP Proxy Server and SIP Domain.

## Configuring Other Local Host Settings (Ci, 5)

Select Option 5 to specify other settings for the SIP Device. You must reboot in order for changes to take effect.



---

**NOTE:** The configuration for option 1 and 2 in the Ci, 5 menu will overwrite the profile settings.

---

SAMPLE:

```
Ci
1. Configure Local IP
2. Set DNS IP(s)
3. SIP Proxy Server And SIP Domain
4. Change IP Settings for All
5. Configure other Local Host settings
6. Configure Provisioning Server(obsolete)
7. Configure MTU Size
9. Configure MTA Web Server Port
5

0. Set Fax Answer Tone Trigger Flag. (Please try D1->Th->21)
1. Select CODECs:
2. Set Voice Frame Packetization Time
3. Change Voice RTP port
4. Set Silence Suppression
5. Set DSCP(Differentiated Services Code Point) value
6. Set Bullet interval
7. Enable Pinging Gateway
8. Change All the above settings
8
Enter the Channel Number: (from 1 to 1 )1
  Num. of Available Codecs = 8

0.      PCMU/8000
1.      PCMA/8000
2.      G729A/8000
3.      G723/8000
4.      G726-32/8000
5.      G728/8000
6.      G729/8000
7.      G722/8000
Please enter selections: (a,b,c,d....):2,6

Do you want to store the changes permanently?[y/n] y
INFO: read from NVS_PRIMARY (0xae8)
INFO: write to NVS_SECONDARY (0xae9)
INFO: write to NVS_PRIMARY (0xae9)
FS write: OK.
Enter the Channel Number: (from 1 to 1 )1

Please input the packetization (5-200 ms): 20
Please input the Voice RTP port #(even number >=10000):
10200

Your new Voice RTP port #:10200
Channel 1 Silence Suppression is ON,
  send RFC3389 Silence Insertion Descriptor frame?: No
-----
```





```

Enter the Channel Number: (from 1 to 1 )1
Activate Silence Suppression(y/n)? y
Send RFC3389 Silence Insertion Descriptor frame(y/n)? y
Please input the signal DSCP value (decimal): 00
Your new DSCP value :0,0x0
Please input the voice DSCP value (decimal): 00
Your new DSCP value :0,0x0
Please input the other DSCP value (decimal): 00
Your new DSCP value :0,0x0
Please input the LAN traffic DSCP value (decimal): 00
Your new DSCP value :0,0x0
Bullet interval = 30

Please enter interval (0 - 3600 second):120
Enable pinging the gateway(Currently disabled)? (Y/N)y

Please use D1->Th->21 to configure T38 Fax Answer Tone
Trigger

Do you want to store the changes permanently?[y/n]y

```

### Other Local Host Settings Configuration Description

CODEC	= Specify the preferred CODEC to be used by the SIP Device
Voice Frames Packetization	= Specify time in ms for voice packets. If G723 is selected as the preferred codec, the default is 30ms.
RTP Port	= Specify the RTP port number that is greater than 10,000.
Silence Suppression	= Select "On/OFF" for silence packet suppression
DSCP value	= Specify the DSCP value (0-7F) for IP packets
Bullet interval	= Specify the time interval in seconds for sending bullets to keep firewall opened
Pinging Gateway	= Select to allow SIP Device to periodically ping default GW to determine network connectivity
Change All	= Configure all of the above parameters

### Specifying the preferred CODEC (Ci ,5 , 1)

Use the "Ci, 5,1" command to specify the preferred CODEC to be used by the SIP Device. Select available CODECs from the list and separate the CODEC number with a comma.

---

**NOTE:** This configuration here will overwrite the profile settings.

---

SAMPLE:

```

Enter the Channel Number: (from 1 to 1 )1
Num. of Available Codecs = 8

0.    PCMU/8000
1.    PCMA/8000
2.    G729A/8000
3.    G723/8000

```



```
4.      G726-32/8000
5.      G728/8000
6.      G729/8000
7.      G722/8000

Selected Codec:

Please enter selections: (a,b,c,d...):0,1,2,3
Do you want to store the changes permanently?[y/n]y
```

### Configuring MTU Size (Ci, 7)

Select Option 7 to specify the (MTU) maximum transmission unit size. You must reboot in order for changes to take effect.

```
Ci
1. Configure Local IP
2. Set DNS IP(s)
3. SIP Proxy Server And SIP Domain
4. Change IP Settings for All
5. Configure other Local Host settings
6. Configure Provisioning Server(obsolete)
7. Configure MTU Size
9. Configure MTA Web Server Port
7
Current MTU size is: 1500
Please enter new MTU size (1000-1500): 1000

Do you want to store the changes permanently?[y/n]y
```

### Configuring SIP Device Web Server Port (Ci, 9)

Select Option 9 in order to specify the web server port for the SIP Device. The default port is 80. If using any other port than 80, you will need to specify the port number when accessing the device via web (example: 172.168.0.12:8080). You must reboot in order for changes to take effect.

SAMPLE:

```
Ci
1. Configure Local IP
2. Set DNS IP(s)
3. SIP Proxy Server And SIP Domain
4. Change IP Settings for All
5. Configure other Local Host settings
6. Configure Provisioning Server (obsolete)
7. Configure MTU Size
9. Configure MTA Web Server Port
9
Current Web Server Port is 80

Please Input Your New One (1-65534): 8080
```



```

Please Reboot MTA after new change is written into flash!
Do you want to store the changes permanently?[y/n]
Y
Please wait for flash update...

INFO: read from NVS_PRIMARY (0xaed)
INFO: write to NVS_SECONDARY (0xae)
INFO: write to NVS_PRIMARY (0xae)
INFO: read from NVS_PRIMARY (0xae)
FS write: OK.
Please reboot the system

```

## Configuring Jitter Buffer Size (Cj)

Jitter buffers are used to smooth out network introduced jitters and for the system to handle out-of-sequence packets. However, jitter buffers also introduce delays. SIP Device supports adaptive jitter buffer based on packet arrival statistics to adjust the jitter buffer length and delay to accommodate network jitters and minimizes overall delay at the same time. The "Cj" command is used to configure the Initial Delay. The default value is 60ms, the Maximum Jitter Buffer Length is 400ms, and Minimum Jitter Buffer Length is 0ms.

SAMPLE:

```

Cj

Jitter Buffer Size: 60 ms
Jitter Buffer Adaptivity: on
Enter Jitter Buffer Size(0-400 ms, 0 disable it)[60]: 90

Turn on Jitter Buffer Adaptivity?[y/n] y

Save changes permanently?[y/n]y

```

## Changing your User Name and Password (Cw)

Use the "Cw" command to change your User Name and Password. The default User Name is **Admin** and Password is **password**.

SAMPLE:

```

Cw

Please input your OLD Password:*****

Please input your NEW Username:innomedia

Please input your NEW Password: *****

Please REENTER your NEW Password: *****

INFO: read from NVS_PRIMARY (0x9fb)
INFO: write to NVS_SECONDARY (0x9fc)
INFO: write to NVS_PRIMARY (0x9fc)

```



```
FS write: OK.
```

## Voice Volume Control

### Set Voice Volume for Each Channel (Ga)

Use the "Ga" command to change your SIP Device's voice volume. You may adjust the volume downwards by entering the absolute value in dB. SIP Device only supports negative dB values. For example, if you'd like to adjust the volume to -3 dB, enter "3". The maximum value is "0" dB.

SAMPLE:

```
Ga

Current RX volume level for channel 1 = 0 dB
Current TX volume level for channel 1 = 0 dB
Current RX volume level for channel 2 = 0 dB
Current TX volume level for channel 2 = 0 dB

Please enter the channel No. for volume control (1-2) or
press e to exit: 1

Please enter RX volume level (0 ~ 18) or press <CR> to exit:
3

Please enter TX volume level (0 ~ 18) or press <CR> to exit:
3

Volume control succeeds!

Current RX volume level for channel 1 = -3 dB
Current TX volume level for channel 1 = -3 dB
Current RX volume level for channel 2 = 0 dB
Current TX volume level for channel 2 = 0 dB

Please enter the channel No. for volume control (1-2) or
press e to exit: e

Do you want to store the changes permanently? [y/n]y
Writing to Flash, please wait...
Writing to Flash is done successfully.
```

## Information about the System

### Displaying the current setting of digitmap (Id)

Use the "Id" command to view the current digit map stored in the SIP Device.

SAMPLE:

```
Id

DisplayVoIPDigitmap:
(Profile 1) ***1|[#*][6-9]X|1XXXXXXXXXX|[2-9]XXXXXX|0[0-9][0-
```

```
9]X.T
(Profile 2) ***1|[#*][6-9]X|1XXXXXXXXXX|[2-9]XXXXXX|0[0-9][0-
9]X.T
```

### Display Fax parameters (If)

Use the "If" command to view about the Fax settings.

SAMPLE:

```
Your T38 settings are:
ch 1 T38 Fax is disabled
ch 2 T38 Fax is disabled
t38 jitter buffer is 160 ms
t38 T2 is 240 ms
t38 low speed redundancy is 3
t38 high speed redundancy is 1
t38 bit rate is 9600
t38 ECM is on
t38 NSF is cleaned out
t38 T38FaxMaxBuffer is 200
t38 FaxMaxDatagram is 300
Fax setting flag 0,port 18000
Fax is using voice port,it is 18000
t38 variant is Default
```

### Displaying Voice Volume Level (Ig)

Use "Ig" command to view the voice volume level for each channel

SAMPLE:

```
Ig
Current RX volume level for channel 1 = 0 dB
Current TX volume level for channel 1 = 0 dB
Current RX volume level for channel 2 = 0 dB
Current TX volume level for channel 2 = dB
```

### Display Parameters for Jitter Buffer Operation (Ij)

Use "Ij" command to view the parameters for jitter buffer operation.

SAMPLE:

```
Ij
Jitter Buffer Delay = 120
Jitter Buffer is "adaptive"
```

### Displaying the State of All Ports/Lines (Is)



Use "**Is**" command to view the state for each channel.

SAMPLE:

```
Is  
  
Channel #1 is in FXS_OnHook_State.  
Channel #2 is in FXS_OnHook_State.
```

### Displaying Network Connection (Ix)

Use "**Ix**" command to view the state for each channel.

---

**NOTE:** Gateway pinging must be enabled first by using (**Ci->5->7->y**) command.

---

SAMPLE:

```
Ix  
  
Default Gateway 172.16.0.1 is reachable  
Ch1 14084328003 is on  
2654 seconds to go for next REGISTER  
  
Ch2 14084328004 is on  
2654 seconds to go for next REGISTER
```

### Displaying DMS parameters (Ik)

Use "**Ik**" command to view the InnoMedia DMS parameters.

SAMPLE:

```
Ik  
  
InnoMedia DMS is Enabled  
DMS Server is:172.16.0.25:5200  
DMS device type is 63  
DMS Heartbeat type is 1  
DMS Local port:6880  
DMS regionID:1408
```

### Displaying FXS Setting Parameters (It)

Use the "**It**" command to view about the FXS setting.

SAMPLE:

```
It  
  
Ringing Timeout = 180 second  
Dial Tone Timeout = 60 seconds
```

```
Prefix Digit = NULL
Current Echo Cancellation setting:
Port 1:Yes
```

If debug mode is enabled, it shows current trace setting information.

SAMPLE:

```
It
Trace Group          = 385
Trace Channel        = -1
Trace Level          = 60
Trace Verbose        = Off
Trace to Syslog      = Off
Selected Trace [0]  = 0
Selected Trace [1]  = 0
Selected Trace [2]  = 0
Selected Trace [3]  = 0
```

## Configuring PPPoE Functions (N)

Use the "N" command to set the PPPoE function. It allows you to configure PPPoE Setting and the NAT Bandwidth

SAMPLE:

```
N
Enter 1 to configure PPPoE Setting
Enter 2 to configure DHCP Server setting
Enter 3 to configure Port mapping setting
Enter 4 to show DHCP server leasing information
Enter 5 to configure IP filter
Enter 6 to configure MAC cloning
Enter 7 to configure NAT Bandwidth
Enter 8 to configure DMZ
Enter 1 to show configure link setting
```

## Configuring PPPoE Settings (N, 1)

SAMPLE:

```
N
Enter 1 to configure PPPoE Setting
Enter 2 to configure DHCP Server setting
Enter 3 to configure Port mapping setting
Enter 4 to show DHCP server leasing information
Enter 5 to configure IP filter
Enter 6 to configure MAC cloning
Enter 7 to configure NAT Bandwidth
Enter 8 to configure DMZ
```

```

Enter 1 to show configure link setting
1
=====
=      PPPoE  CONFIGURATION      =
=====
PPPoE : DISABLED
Service ID: ADSL_Test
User   ID: test
Autoconnect = ENABLED
IdleTimeOut = DISABLED
Authentication : CHAP
LocalIPAddr 172.16.0.76
PPPSubNet 255.255.255.255
MTU size = 1450
LCP echo period = 10 (sec)
=====
Option 1)Configure 2)Dial 3)HangUp 4)Status 5)Quit:4
Not Connected
Option 1)Configure 2)Dial 3)HangUp 4)Status 5)Quit:1
PPPoE [DISABLE] 1) Enable 2)Disable : Enable
Service ID [] 9=NULL:

NewUserID [innomediaQA@sbcglobal.net]: admina@freecall.com

NewPassword [*****]: admin123

AutoConnect [YES] 1) YES 2)NO : YES (enter 1)
Idle TimeOut Period (min) [Disable] 0~999 0=Disable :0 (enter 0)

Authentication [PAP] 1) PAP 2)CHAP :PAP (enter 1)
PPP MTU Size [-1]: 1500

LCP echo timeout value [255] (sec): 180
Do you want to store the changes permanently?[y/N]?y

```

**PPPoE configuration Description for ISP**

- Service ID = Specifies the service for the PPPoE connection. Your ISP should provide you with the Service ID. If not, enter NULL.
- User ID = Enter the user name for the PPPoE connection.
- User Password = Enter the password for the PPPoE connection
- AutoConnect = If AutoConnect were enabled, system will automatically connect to your ISP when the system boots up.
- IdleTimeOut = Specifies the number of minutes that the connection is idle before the device terminates the connection. A value of 0 disables this function and the connection is never terminated.
- Authentication = Select the authentication method: Password Authentication Protocol (PAP) or Challenge Handshake Authentication Protocol (CHAP). CHAP provides more security than PAP.
- PPP MTU Size = The maximum allowable packet **size** (MTU) for PPP connection.





LCP echo timeout value = Specifies the number of seconds between LCP echo request transmissions. Specify a value between 1-1000.

### PPPoE Command Description

<b>Configure</b>	Use this command to configure PPPoE feature and settings.
<b>Dial</b>	If system has not connected to your ISP yet, user can use this command to make a connection. If system is currently connected, then this command has no effect.
<b>HangUp</b>	Use this command to terminate current connection. If system has no connection then the command has no effect.
<b>Status</b>	Use this command to obtain current system status. If system is connected to your ISP, then it will show the current Gateway IP, system IP, and connection time.
<b>Quit</b>	Use this command to leave PPPoE operation.

## Configuring DHCP Server (N, 2) (for Router Device Only)

Use the "N, 2" command to configure the DHCP server.

SAMPLE:

```
N

Enter 1 to configure PPPoE Setting
Enter 2 to configure DHCP Server setting
Enter 3 to configure Port mapping setting
Enter 4 to show DHCP server leasing information
Enter 5 to configure IP filter
Enter 6 to configure MAC cloning
Enter 7 to configure NAT Bandwidth
Enter 8 to configure DMZ
Enter 1 to configure link setting
```

```
2

DHCP Server Config
DHCP Server Setting
p: Display Current Setting
1: DHCP Server Enable/Disable
2: Set Client IP Range
3: Set Subnet Mask
4: Set Lease Time
r: Reset to Default setting
w: Write update to Flash
q: Exit DHCP Server config
```

```
Choose Option:p
```



```

Your current DHCP server configuration are:
DHCP server is enabled.
The lowest IP address used by the DHCP server:192.168.99.100
The highest IP address used by the DHCP server:192.168.99.199
The subnet Mask entered:255.255.255.0
Lease time used by the DHCP server:604800 (sec)

Choose Option:1
Do you want to enable DHCP server? [y/n] y
DHCP server Enabled.

Choose Option:2

Currently the lowest IP address :192.168.99.100
Please enter the new lowest IP address [q to quit]:
192.168.99.10
The new lowest IP address :192.168.99.10
Currently the highest IP address:192.168.99.199
Please enter the new highest IP address [q to quit]:
192.168.99.50
The new highest IP address :192.168.99.50

Choose Option:3

The current subnet mask:255.255.255.0
Please enter the subnet Mask :
255.255.255.0
The subnet Mask entered:255.255.255.0

Choose Option:4
Please enter Lease time used by the DHCP server:(current:
604800 sec):604800
Choose Option:w

```

### Configuring NAT (Port map) (N, 3) (for Router Device Only)

Port mapping is an advanced configuration in which the router forwards incoming protocols to computers on your local network. You will need to determine which type of service, application or game you'll provide and the IP address of the computer that will provide each service. This feature only works with a static IP assigned to your PC.

The following is an example of how to configure for a web server.

SAMPLE:

```

N

Enter 1 to configure PPPoE Setting
Enter 2 to configure DHCP Server setting
Enter 3 to configure Port mapping setting
Enter 4 to show DHCP server leasing information

```



```

Enter 5 to configure IP filter
Enter 6 to configure MAC cloning
Enter 7 to configure NAT Bandwidth
Enter 8 to configure DMZ
Enter 1 to configure link setting

3
Configuring NAT Port Map Database:
(each record is a tuple of [External Port No., Protocol,
Internal IP address ,In
ternal Port No.])
a -- add a new record
d# -- delete the n-th record in the database
w -- write changes to Flash(changes is permanent)
e -- erase all records from the database
p -- print all records in the database on screen
q -- quit.
h -- display the help menu
PortMap>p
Record No.|Extnl Port No.|Protocol|Internal IP
Address|Internal Port No.
0001          21          TCP          192.168.99.198
21
PortMap>a
Enter NAT external source port(0 ~ 65535): 80

Select porotocol (0)TCP (1) UDP: 0

Enter Internal source IP address: 192.168.99.197

Enter Internal source port:23

PortMap>p
Record No.|Extnl Port No.|Protocol|Internal IP
Address|Internal Port No.
0001          21          TCP          192.168.99.198
21
0002          23          TCP          192.168.99.197
23
PortMap>w

INFO: read from NVS_PRIMARY (0x9f8)
INFO: write to NVS_SECONDARY (0x9f9)
INFO: write to NVS_PRIMARY (0x9f9)
FS write: OK.add portmap 80

End of Configuring NAT Port Map Database.

```

## Showing DHCP Server Leasing Information (N, 4) (for Router Device Only)

The " N, 4" command shows the DHCP server leasing Information.

SAMPLE:

```
N
```



```

Enter 1 to configure PPPoE Setting
Enter 2 to configure DHCP Server setting
Enter 3 to configure Port mapping setting
Enter 4 to show DHCP server leasing information
Enter 5 to configure IP filter
Enter 6 to configure MAC cloning
Enter 7 to configure NAT Bandwidth
Enter 8 to configure DMZ
Enter 1 to configure link setting

```

4

Client IP	MAC address	Lease Length	Remaining Time
192.168.99.199	00.c0.9f.b5.59.d1	7 day(s) 00:00:00	6 day(s) 23:46:41
192.168.99.198	00.a0.cc.50.46.f6	7 day(s) 00:00:00	6 day(s) 23:46:41
192.168.99.197	00.a0.cc.d4.24.c9	7 day(s) 00:00:00	6 day(s) 23:46:41
192.168.99.195	00.0e.35.21.2d.07	7 day(s) 00:00:00	6 day(s) 23:46:41
192.168.99.196	00.12.17.66.3d.a6	7 day(s) 00:00:00	6 day(s) 23:46:41
192.168.99.194	00.a0.cc.61.59.cd	7 day(s) 00:00:00	6 day(s) 23:46:41
192.168.99.193	00.e0.eb.76.ac.c5	7 day(s) 00:00:00	6 day(s) 23:46:41

## Accessing Filtering options (N, 5) (for Router Device Only)

Access filtering is a feature designed to help you regulate the access of internal PCs to the outside Internet. It is useful when you wish to block access to certain websites or addresses for individual PCs that are connected to the MTA.

The MTA offers four ways to control the access available to your internal PCs:

- IP Filtering – Allows you to control what IP, port, and protocol traffic to allow or disallow going out of MTA.
- Domain Filtering – Allows you to block access to specific domains and websites. This is useful for controlling access to certain web addresses. This filtering is a global setting that applies to all PCs connected to your MTA.
- URL Filtering – Allows you to block access to specific URLs. This is useful for controlling access to certain URLs. This filtering is a global setting that applies to all PCs connected to your MTA.
- MAC Filtering –allows you to prevent certain MAC addresses from accessing the Internet. It will also allow certain MAC Addresses to access the Internet and deny all others.

### IP FILTERING SAMPLE (N, 5, 1):



SAMPLE:

```
N      Enter 1 to configure PPPoE Setting
        Enter 2 to configure DHCP Server setting
        Enter 3 to configure Port mapping setting
        Enter 4 to show DHCP server leasing infomation
        Enter 5 to configure IP filter
        Enter 6 to configure MAC cloning
        Enter 7 to configure NAT Bandwidth
        Enter 8 to configure DMZ
        Enter 1 to show configure link setting
```

```
5      Enter 1 to configure LAN Filter Setting
        Enter 2 to configure Domain Filter setting
        Enter 3 to configure URL Filter setting
        Enter 4 to configure MAC Filter setting
        Enter w to write Filter setting to FLASH
        Enter q to quit
```

```
NAT FILTER>1
```

```
a -- add a new record
d# -- delete the n-th record in the database
e -- erase all records from the database
m -- set filter mode
p -- print all records in the database on screen
s -- Enable/Disable this feature
q -- quit.
h -- display the help menu
```

```
NAT FILTER>a
```

```
Please enter starting IP address: 192.168.99.30
```

```
Please enter ending IP address: 192.168.99.50
```

```
Please enter starting Port Number, '*' for any port: *
```

```
Select protocol (0) Any (1) TCP (2) UDP: 0
```

```
Enter Scheduling mode (0:Scheduling,1:Always):0
```

```
Enter Scheduling mode(0:Scheduling,1:Always):0
```

```
Enter From-Days (from Sun.(0) to Sat.(6))0
```

```
Enter To-Days (from Sun.(0) to Sat.(6))6
```

```
Enter From-Times (0-23 hours) 0
```

```
Enter From-Times (0-59 min) 0
```

```
Enter To-Times (0-23 hours) 23
```

```
Enter To-Times (0-59 min) 0
```

```
NAT FILTER>s
```

```
Do you want to Enable this filter (y/n)?
```

```
y
```

```
Enabled
```

### DOMAIN FILTERING SAMPLE (N, 5, 2):

SAMPLE:

```
NAT FILTER>2
a -- add a new record
d# -- delete the n-th record in the database
e -- erase all records from the database
m -- set filter mode
p -- print all records in the database on screen
s -- Enable/Disable this feature
q -- quit.
h -- display the help menu
NAT FILTER>a
Please enter the domain name you want to block
yahoo.com

NAT FILTER>a
Please enter the domain name you want to block
msn.com

NAT FILTER>p

(Domain)IP Filter is disabled

Record No. |          Domain
          1 |        yahoo.com
          2 |        msn.com

NAT FILTER>s
Do you want to Enable this filter(y/n)?
y
Enabled

NAT FILTER>m
1 for block mode, 2 for allow mode
1
NAT FILTER>q
```

### URL FILTERING SAMPLE (N, 5, 3):

SAMPLE:

```
NAT FILTER>3

a -- add a new record
d# -- delete the n-th record in the database
e -- erase all records from the database
m -- set filter mode
p -- print all records in the database on screen
s -- Enable/Disable this feature
q -- quit.
h -- display the help menu
NAT FILTER>a
Please enter the URL you want to block
```



```

http://www.yahoo.com

NAT FILTER>m
1 for block mode, 2 for allow mode
1

NAT FILTER>s
Do you want to Enable this filter (y/n)? y
Enabled

NAT FILTER>p

URL Filter is enabled block mode

Record No. | URL
          1 | http://www.yahoo.com

NAT FILTER>

```

#### MAC FILTERING SAMPLE (N, 5, 4):

SAMPLE:

```

NAT FILTER>4

a -- add a new record
d# -- delete the n-th record in the database
e -- erase all records from the database
m -- set filter mode
p -- print all records in the database on screen
s -- Enable/Disable this feature
q -- quit.
h -- display the help menu
NAT FILTER>a
Please enter MAC address (xx.xx.xx.xx.xx.xx):
00.84.00.00.48.3c

line:000000000001,TempEntry.MAC[0]:0x0,TempEntry.MAC[1]:0x84,
TempEntry.MAC[2]:0x0,TempEntry.MAC[3]:0x0,TempEn
try.MAC[4]:0x48,TempEntry.MAC[5]:0x3c

Please enter MAC address (xx.xx.xx.xx.xx.xx): q

NAT FILTER>p
MAC Filter is enabled

Record No. | MAC
          1 | 00840000483c

NAT FILTER>h
a -- add a new record
d# -- delete the n-th record in the database
e -- erase all records from the database
m -- set filter mode
p -- print all records in the database on screen

```



```

s -- Enable/Disable this feature
q -- quit.
h -- display the help menu
NAT FILTER>s
Do you want to Enable this filter(y/n)?
y
Enabled

NAT FILTER>q
Quit from MAC filter configuration

                Enter 1 to configure LAN Filter Setting
                Enter 2 to configure Domain Filter setting
                Enter 3 to configure URL Filter setting
                Enter 4 to configure MAC Filter setting
                Enter w to write Filter setting to FLASH
                Enter q to quit

NAT FILTER>w
Write configuration to FLASH memory

```

## Configuring MAC Cloning (N, 6) (for Router Device Only)

Use the "N, 6" command to configure the MAC cloning.

SAMPLE:

```

N

Enter 1 to configure PPPoE Setting
Enter 2 to configure DHCP Server setting
Enter 3 to configure Port mapping setting
Enter 4 to show DHCP server leasing information
Enter 5 to configure IP filter
Enter 6 to configure MAC cloning
Enter 7 to configure NAT Bandwidth
Enter 8 to configure DMZ
Enter 1 to configure link setting

6
=====
MAC Clone Configuration
=====
MAC CLONING : DISABLED
CLONED MAC ADDRESS : 00.00.00.00.00.00

ENABLE MAC CLONING (y/n): y
Please enter the cloned MAC Address (xx.xx.xx.xx.xx.xx):
00.0a.cc.32.f0.fd

The cloned Ethernet MAC Address = 00.0a.cc.32.f0.fd
Do you want to store the changes permanently?[y/n] y
SAVE CONFIGURATION. PLEASE WAIT ...
INFO: read from NVS_PRIMARY (0x9d4)

```



```
INFO: write to NVS_SECONDARY (0x9d5)
INFO: write to NVS_PRIMARY (0x9d5)
FS write: OK.
OK
Please reboot the system!!
```

## Configuring NAT Bandwidth (N, 7)

Use the "N, 7" command to configure the NAT Bandwidth based on your broadband Internet connection.

SAMPLE:

```
N

Enter 1 to configure PPPoE Setting
Enter 2 to configure DHCP Server setting
Enter 3 to configure Port mapping setting
Enter 4 to show DHCP server leasing information
Enter 5 to configure IP filter
Enter 6 to configure MAC cloning
Enter 7 to configure NAT Bandwidth
Enter 8 to configure DMZ
Enter 1 to configure link setting

7

The bandwidth control is Modifiable
The bandwidth control is Disabled
TCP MSS control for data packet is disabled
Do you want to change it? (y/n)
y
Do you want to make the bandwidth control NOT Modifiable? (y
or n)
n
Do you want to enable NAT bandwidth Control? (y/n)
y
Please enter your total uplink speed (kbps)
256
The speed you entered is 256

Please enter your total downlink speed (kbps)
1440
The speed you entered is 1440

Do you want to enable TCP MSS control for data packet
y
Please enter TCP Maximum Segment Size
1500

Do you want to save the change to FLASH? (y/n) y
```

## Configuring DMZ (N, 8)



Use the "N, 8" command to configure the DMZ (Demilitarized Zone). The DMZ Host setting allows one local user to be exposed to the Internet to use a special-purpose service such as Internet gaming or Video-conferencing

SAMPLE

```
N
Enter 1 to configure PPPoE Setting
Enter 2 to configure DHCP Server setting
Enter 3 to configure Port mapping setting
Enter 4 to show DHCP server leasing information
Enter 5 to configure IP filter
Enter 6 to configure MAC cloning
Enter 7 to configure NAT Bandwidth
Enter 8 to configure DMZ
Enter 1 to configure link setting

8
DMZ is disabled
Do you want to change it? (y/n)y
Do you want to enable DMZ?(y/n)y
Please enter LAN side IP address for DMZ, it must be in the
same subnet with the virtual interface

Example: 192.45.6.4
192.168.99.121
IP address entered: 192.168.99.121

Do you want to store the changes permanently?[y/n]y
```

### Showing Configure Link Setting (N, I)

Use the "N, I" command to configure link settings.

SAMPLE:

```
N      Enter 1 to configure PPPoE Setting
        Enter 2 to configure DHCP Server setting
        Enter 3 to configure Port mapping setting
        Enter 4 to show DHCP server leasing information
        Enter 5 to configure IP filter
        Enter 6 to configure MAC cloning
        Enter 7 to configure NAT Bandwidth
        Enter 8 to configure DMZ
        Enter 1 to configure link setting

1
The current Ethernet link settings are:
WAN port:
Speed: Auto
Duplex: Auto
LAN1 port:
Speed: Auto
Duplex: Auto

Do you want to change it? y
```



```

WAN port:
Please enter linkspeed: 0=AUTO; 1=100M; 2=10M
2
Please enter Duplex mode: 0=AUTO; 1=FULL; 2=HALF
1
LAN1 port:
Please enter linkspeed: 0=AUTO; 1=100M; 2=10M
2
Please enter Duplex mode: 0=AUTO; 1=FULL; 2=HALF
1
Do you want to save the change to FLASH? (y/n)y

```

## Other Commands

### Configuring 2833 (C2)

Use "C2" command to enable/disable 2833.

```

C2
RFC2833 (SDP and 2833 packets) is ALWAYS OFF (The device
still able to receive 2833 packets)!
Please input your new choice(0:always off,1:always on,
2:negotiated)
2
INFO: read from NVS_PRIMARY (0x338)
INFO: write to NVS_SECONDARY (0x339)
INFO: write to NVS_PRIMARY (0x339)
FS write: OK.
RFC2833 (SDP and 2833 packets) is NEGOTIATED!

```

### Configuring Set Features (C3)

Use the "C3" command to enable or disable call features and change the call feature invoke strings. If the call features are to be disabled and all controls are processed on the softswitch, then you must blank out the local star codes by using the command C3, i and specifying a blank space for all the feature invoke strings

```

C3
Configuring Set Call Features:
c -- change a call feature setting
i -- change a client call feature invoke string
w -- write changes to Flash(changes is permanent)
p -- print all records in the database on screen
q -- quit.
h -- display the help menu
CallFeatures> p
String to invoke cancel call waiting: *70
String to invoke call transfer: *90

```

```

String to invoke Caller ID Block: *67
String to invoke Caller ID Display: *82
String to invoke call park: *98
String to invoke call retrieve: *99
String to invoke Do not Disturb Enable: *74#
String to invoke Do not Disturb Disable: #74#

Ch 1:
Call Waiting Enabled:Yes
Blind Transfer Enabled:Yes
Consulted Transfer Enabled:Yes
Three Way Call Enabled:Yes
Caller ID Display Enabled:Yes
Reject Anonymous calls Enabled:No

CallFeatures> c
Enter the Channel Number: (from 1 to 1 )1
Select the call feature your want to enable or disable:
  1. Call Waiting
  2. Three-Way Call and Call Transfer
  3. Caller ID
  4. Reject Anonymous calls
2

Enable this call feature? [y/n] n

CallFeatures> i
Do you want to change "Cancel Call Waiting Invoke
String"?[y/n] y
Please enter string: *72
Do you want to change "Call Transfer Invoke String"? [y/n] n
Do you want to change "Caller ID Block Invoke String"? [y/n]
n
Do you want to change "Caller ID Display Invoke String"?
[y/n] n
Do you want to change "Call Park Invoke String"? [y/n] n
Do you want to change "Call Retrieve Invoke String"? [y/n] n
Do you want to change "Do not Disturb Enable Invoke String"?
[y/n] n
Do you want to change "Do not Disturb Disable Invoke String"?
[y/n] n

CallFeatures>w

```

## Configuring Digit Map (Cd)

Use the "Cd" command to view the current digit map stored in the SIP Device and to change the existing digit map if necessary. The digit map can be up to 2048 characters.

SAMPLE:

```

Cd
a -- add a new dialing pattern
d#-- delete the n-th pattern in the DigitMap

```



```

w -- write changes to Flash (permanent storage)
e -- erase the entire DigitMap
p -- print all patterns of the current Digitmap
q -- quit
h -- display the help menu

DigitMap>h                -- help
a --add a new dialing pattern
d# -- delete the n-th pattern in the DigitMap
w -- write changes to Flash (permanent storage)
e -- erase the entire DigitMap
p -- print all patterns of the current Digitmap
q -- quit
h - display the help menu

DigitMap > p              -- print out the current setting
No.      DigitMap Pattern
1  xxxxxxxxxxxxxxxx
2

DigitMap>a                -- add a digit map pattern
Enter a new Digitmap pattern: x.#

DigitMap>p
No.      DigitMap Pattern
1  xxxxxxxxxxxxxxxx
2      x.#

DigitMap>d2              -- delete the 2nd digit map pattern

DigitMap>p
No.      DigitMap Pattern
1  xxxxxxxxxxxxxxxx
2

DigitMap>w                -- submit the changes
Writing to Flash, please wait...
Writing to Flash is done successfully.

End of Configuring DigitMap.

```

This command is used to load the SIP Device with a digit map that corresponds to the dial plan selected by the service operator. The digit map is expressed using a syntax derived from the UNIX system command, *egrep*. You must build the digit map based on the dialing plan you wish to support. Here is an example dialing plan:

0	Local operator
00	Long distance operator
xxxx	Local extension number
8xxxxxxx	Local number
#xxxxxxx	Shortcut to local number at other corporate sites
*xx	Star services
91xxxxxxxxxx	Long distance number
9011 + up to 15 digits	International number



The dial plan described above results in the following digit map:

```
(0|00|[1-7]xxx|8xxxxxxx|#xxxxxxx|*xx|91xxxxxxxxxx|9011x.T)
```

The formal syntax of the digit map is described by the following notation:

```
Digit ::= "0" | "1" | "2" | "3" | "4" | "5" | "6" | "7" | "8" | "9"  
Timer ::= "T" | "t" -- matches the detection of a timer  
Letter ::= Digit | Timer | "#" | "*" | "A" | "a" | "B" | "b" | "C" | "c" | "D" | "d"  
Range ::= "X" | "x" -- matches any digit  
| "[" Letters "]" -- matches any of the specified letters  
Letters ::= Subrange | Subrange Letters  
Subrange ::= Letter -- matches the specified letter  
| Digit "-" Digit -- matches any digit between first and last  
Position ::= Letter | Range  
StringElement ::= Position -- matches an occurrence of the position  
| Position "." -- matches an arbitrary number of occurrences  
-- of the position, including 0  
String ::= StringElement | StringElement String  
StringList ::= String | String "[" StringList  
DigitMap ::= String | "(" StringList ")"
```

A DigitMap, according to this syntax, is defined either by a (case insensitive) "string" or by a "list of strings" over which the SIP Device will attempt to find a shortest possible match. Regardless of the above syntax, a timer is currently only allowed if it appears in the last position in a string. Each string in the list is an alternate numbering scheme. A SIP Device that detects digits, letters, or timers will:

1. Add the event parameter code for the digit, letter, or timer, as a token to the end of the "current dial string" internal state variable.
2. Apply the "current dial string" to the digit map table, attempting a match to all expressions in the Digit Map.
3. If the result is under-qualified (partially matches at least one entry in the digit map and doesn't completely match another entry), nothing further will be done.

If the result matches an entry, or is over-qualified (i.e. no further digits could possibly produce a match), the SIP Device will send the current dial string to the Call Agent and clear the "current dial string". A match, in this specification, can be either a "perfect match," exactly matching one of the specified alternatives, or an impossible match, which occurs when the dial string does not match any of the alternatives. Unexpected timers, for example, can cause "impossible matches". Both perfect matches and impossible matches trigger notification of the accumulated digits (which may include other events). Timer is a digit input timer that can be used in two ways:

1. When timer is used with a digit map, the timer is not started until the first digit is entered, and the timer is restarted after each new digit is entered until either a digit map match or mismatch occurs. In this case, timer T functions as an inter-digit timer.
2. When timer is used without a digit map, the timer is started immediately and simply cancelled (but not restarted) as soon as a digit is entered. In this case, timer T can be used as an inter-digit timer when overlap sending is used.



## Configuring SIP Settings (Cs)

Use the "Cs" command to change your SIP settings.

SAMPLE:

```
Cs
Current SIP Proxy Servers:
    (Profile 1) 172.16.180.157
    (Profile 2) 172.16.180.157
Use Outbound Proxy:
    (Profile 1) No
    (Profile 2) No
Current Local SIP Port:
    (Profile 1) 5060
    (Profile 2) 5060
Response Code for Retry Registration =
Retry Registration Interval           = 30 seconds
Current SIP Domain:
    (Profile 1)
    (Profile 2)
Current Exponential Backoff = 500 ms
Current Exponential Cap     = 2000 ms
Current Non-INVITE retry    = 4 times
Current INVITE msg retry    = 4 times
Current REGISTER expiration = 3600 seconds
Current Session Timer       = 0 seconds
Current Bullet Interval     = 120 seconds
Current Codec List

    channel 1:ptime:20 ms; G729A G729
    channel 2:ptime:20 ms; G711(PCMU) G711(PCMA) G729A
                G723 G726-32 G728
Digitmap Partial Match Timeout = 16
Digitmap Critical Timeout     = 4
Cancel Call Waiting Invoke String = *70
Call Transfer Invoke String    = *90
CID Block Invoke String       = *67
CID Display Invoke String     = *82
Call Park Invoke String       = *98
Call Retrieve Invoke String    = *99
Do not Disturb Enable Invoke String = *74#
Do not Disturb Disable Invoke String = #74#
Use User-Agent Header         = Yes
Set Jitter Buffer Adaptive     = Yes
Use SIP INFO for DTMF         = No
Re-registration Credential Enable = Yes
Current RTP Keep Alive Interval = -1 seconds
Current SIP PING Interval     = 0 seconds
Current SIP PING Proxy Require Header =
Current SIP External IP address =
Digitmap Early Quit          = Disabled
Digitmap Early Quit FW Number =
Use SIP INFO for Flash Event  = No
```

```

Use SIP NOTIFY for Flash Event      = No
PRACK Support Enable = No
G729A Codec_Variant = 0 (annexb=no)
Current SDP Media Match Enable: Yes
Media Loopback Test start packet = Disabled
Refer at end of 3 way conference = Enabled
Second Dial Tone Prefix:

c -- change SIP settings
w -- write changes to Flash(changes is permanent)
p -- print SIP settings
q -- quit.
h -- display the help menu
SIP_Settings> c
Select the item your want to change: ('Q' to quit)
 1. SIP cmd Retry Exponential Backoff (starting vlaue/ms)
 2. SIP cmd Retry Exponential Backoff (cap/ms)
 3. SIP cmd (Non-INVITE) Max Retry
 4. SIP cmd (INVITE) Max Retry
 5. SIP REGISTER Expiration (sec)
 6. SIP Session Timeout(sec)
 7. Bullet Interval (sec)
 8. Select CODECs
 9. Digitmap Partial (inter-digit) Timeout
10. Digitmap Critical Timeout
11. Configure Call Features & Invoke Strings
12. SIP User-Agent Header
13. Set Jitter Buffer Adaptive/Static
14. SIP INFO for DTMF
15. Set Response Code for Retry Registration
16. Retry Registration Interval
17. SIP PING Interval (sec)
18. SIP PING Proxy Require Header String
19. SIP External IP address
20. SIP Header size limitation Option Enable/Disable
21. Digitmap Early Quit Enable/Disable
22. Use SIP INFO or NOTIFY message to send flash event
    Enable/Disable
23. PRACK Support Enable/Disable
24. Digitmap Early Quit FW Number
25. G729A Variant for SDP offer
26. Voice Profile Configurations
27. RTP Keep Alive Interval (sec)
28. Cached credentials for re-registration
29. SDP Media Match
30. Refer at end of 3 way call
31. Second Dial Tone Prefix

```

SIP cmd Retry Exponential Backoff (starting value)

= The starting time interval in milliseconds in which the SIP Device will re-send SIP messages in the case of no response from the SIP proxy

SIP cmd Retry Exponential Backoff (cap/ms)

= A cap on the exponentially increased interval in milliseconds, for which the SIP Device will stop sending messages when the cap is reached.

SIP cmd (Non-INVITE) Max Retry

= The maximum number of times the SIP Device will resend NON-INVITE type SIP messages.





SIP cmd (INVITE) Max Retry	= The maximum number of times the SIP Device will resend INVITE type SIP messages.
SIP Registration Expiration	= Number of seconds in which the registration to the SIP proxy will expire.
SIP Session Timeout	= Specific interval (in seconds) that SIP Device sends a message to refresh an established phone call and make sure it's still alive
Bullet Interval	= The time interval in seconds in which the SIP Device will send dummy packets to proxy to keep the firewall open
Number of Codecs/Codec List	= Shows the number of codecs available to be used by SIP Device. The user can change the number of available codecs by selecting from a list
DigitMap Partial Match Timeout	= (A.K.A inter-digit timeout) The amount of time in seconds for which the SIP Device will wait till user input a DTMF digit
DigitMap Critical Timeout	= Can be used as part of the dialing patterns specified in digitmap to be matched by the SIP Device
Configure Call Features & Invoke Strings	= Enable or disable call features, such as call waiting, three-way call, call transfer, and caller ID. Also, it lets you to configure the digit combination to invoke the features.
User-Agent Header	= Specified whether "User-Agent" header shall be present or not in outgoing SIP messages
Jitter Buffer Adaptive/Static	= Set to adapt the jitter buffer to network conditions or set the jitter buffer at a constant delay
Use SIP INFO for DTMF Response Code for Retry Registration	= Specify use SIP INFO for DTMF or not = Set the response codes for SIP Device to attempt registration retry. Please note that: (1) If the string is empty, Retry Registration will always trigger no matter what response code is; (2) If the first character in the list is a "-", all response codes will trigger retry registration except those codes in the list; (3) If the first character in the list is NOT a "-" sign, only those codes in the list will trigger retry registration.
Retry Registration Interval	= The time interval in seconds in which the SIP Device will retry registration when the retry interval expires.
SIP PING Interval (sec)	= The time interval in seconds between every ping
SIP PING Proxy Require Header String	= Specify if SIP Ping Proxy require Header string or not
SIP External IP address	= External IP address of WAN router if SIP Device is connected to LAN of a SOHO router
Header size limitation	= Enable or disable header size limitation. Enable the feature will shorten the SIP message and reduce the message size.
Digitmap Early Quit	= Enable or disable Digitmap Early Quit. When enabled, calls that do not match with the digitmap will not be sent to the proxy. Local plays busy tone.
SIP INFO or NOTIFY message	= Enable or disable use SIP INFO or NOTIFY message to send flash event.
PRACK Support	= Enable or disable PRACK (100rel) support in Invite and 180 messages.
Digitmap Early Quit FW Number	= The phone number to forward the call when there is no matched digitmap
G729A Variant for SDP offer	= Enable or disable applying G729A Variant for SDP

Voice Profile	offer. = Set the SIP proxy server information, preferred CODECs, and the digitmap into a profile
RTP Keep Alive Interval	= The time interval in seconds in which the SIP Device will send a bullet message to keep the RTP channel opened.
Cached credentials for re-registration	= Enable or disable using cached credentials for re-registration
SDP Media Match	= Enable or disable SDP Media Match
Refer at end of 3 way call	= Enable or disable Refer at end of 3 way all function. If enabled, when the mixer (the party initials the 3-way call), hangs up, the other two parties can still continue the conversation. If disabled, the mixer hangs up, the connection drops.
Second Dial Tone Prefix	= Enable or disable Second Dial Tone Prefix. If enabled, after dial the prefix, the user will hear the second dial tone.

## Configuring Voice Profiles (Cs, 26)

Use the "Cs, 26" command to add, edit, delete the voice profile database. The following sample shows you how to add a new profile.

---

**NOTE:** For details on how to configure digimaps, see Displaying the current setting of digitmap (Id) on page 44.

---

SAMPLE:

```

c
Select the item your want to change: ('Q' to quit)
 1. SIP cmd Retry Exponential Backoff (starting vlaue/ms)
 2. SIP cmd Retry Exponential Backoff (cap/ms)
 3. SIP cmd (Non-INVITE) Max Retry
 4. SIP cmd (INVITE) Max Retry
 5. SIP REGISTER Expiration (sec)
 6. SIP Session Timeout(sec)
 7. Bullet Interval (sec)
 8. Select CODECs
 9. Digitmap Partial (inter-digit) Timeout
10. Digitmap Critical Timeout
11. Configure Call Features & Invoke Strings
12. SIP User-Agent Header
13. Set Jitter Buffer Adaptive/Static
14. SIP INFO for DTMF
15. Set Response Code for Retry Registration
16. Retry Registration Interval
17. SIP PING Interval (sec)
18. SIP PING Proxy Require Header String
19. SIP External IP address
20. SIP Header size limitation Option Enable/Disable
21. Digitmap Early Quit Enable/Disable
22. Use SIP INFO or NOTIFY message to send flash event
    Enable/Disable
23. PRACK Support Enable/Disable
24. Digitmap Early Quit FW Number

```

- 25. G729A Variant for SDP offer
- 26. Voice Profile Configurations
- 27. RTP Keep Alive Interval (sec)
- 28. Cached credentials for re-registration
- 29. SDP Media Match
- 30. Refer at end of 3 way call
- 31. Second Dial Tone Prefix

**26**

Configuring Voice Profile Database

- a: Add new profile record
  - e: Edit profile record
  - d: Delete profile record
  - p: Display current Profile record
  - w: Save Profile record
  - q: Exit Profile config
- Choose Option:**a**

Do you want add a new profile?(y/n):**y**

New Conf

Profile Record Config

Configuring Voice Profile Database

- 1: Set Profile Name
- 2: Set SIP Proxy List
- 3: Set Local Port
- 4: Set Outbound Proxy
- 5: Set SIP Domain
- 6: Set ptime
- 7: Set CodecList
- 8: Set Digitmap
- 9: Set VSC
- a: Set SIP Header
- w: Save Profile
- q: Exit Profile config

Choose Option: **1**

Current Profile Name:

New Profile Name: Profile 2

Choose Option: **2**

Current Proxy List:

New Proxy List: **172.16.0.122**

Choose Option: **3**

Current SIP Port: 5060

New SIP Port: **5080**

Choose Option: **4**

Use Outbound Proxy: No

Use Outbound Proxy? (y/n):**y**

Choose Option: **5**

Current SIP Domain:

New SIP Domain Name: **innoproxy.com**



```

Choose Option: 6
Current ptime: 20
Please input the packetization (10-200 ms): 20

Choose Option: 7
Current codec list setting: Select Codec Index list:

0.    PCMU/8000
1.    PCMA/8000
2.    G729A/8000
3.    G723/8000
4.    G726-32/8000
5.    G728/8000
6.    G729/8000
Please enter selections: (a,b,c,d....):6,5,4

New codec list setting:6G729 G728 G726-32
Choose Option: 8

a -- add a new dialing pattern
d# -- delete the n-th pattern in the DigitMap
w -- write changes to Flash(permanent storage)
e -- erase the entire DigitMap
p -- print all patterns of the current Digitmap
q -- quit.
h -- display the help menu
DigitMap>a
Enter a new Digitmap pattern: x.#

DigitMap>w
End of Configuring DigitMap.

Choose Option: 9

Select the VSC type: (0-VSC 1-VSC+)0

a -- add a new VSC pattern
d# -- delete the n-th pattern in the VSC
w -- write changes to Flash(permanent storage)
e -- erase the entire VSC
p -- print all patterns of the current VSC
q -- quit.
h -- display the help menu
VSC>a
Enter a new VSC pattern: *33

VSC>w
INFO: read from NVS_PRIMARY (0x246)
FS write: OK.

```

## Configuring FXS settings parameters (Ct)

Use the "Ct" command to configure your FXS settings.

SAMPLE:



## Ct

```
Ringling Timeout = 180 second
Dial Tone Timeout = 60 seconds
Prefix Digit = NULL
Current Echo Cancellation setting:
Port 1:Yes
```

## FXS Config

```
Config FXS Setting
p: Display Current Setting
1: Set Ringing Time Out
2: Set Ringing Cadance
3: Set Ringing Repetition
4: Set Dial Tone Timeout
5: Set Echo Cancellation
6: Set Prefix Digit
7: Set Remote Busy Delay Time
8: Set Busy Timeout
9: Set Warning Timeout
w: Save Config Change
q: Exit FXS config
```

## FXS Settings Parameters Configuration Description

Ringling Timeout	= Time duration before the SIP Device stops ringing
Ringling Cadence	= Select a predefined Ringing Pattern.
Ringling Repetition	
Dial Tone Timeout	= Time duration before the SIP Device stops playing dial tone
Echo Cancellation	= Enable or disable echo cancellation
Prefix digit	= Enter the phone prefix up to 11 digits. Enter -1 for Null. By configuring the prefix, users can dial the local number without enter the country code and area code.
Remote Busy Delay	= Time delay before playing busy tone when remote party hangs up.
Busy Tone Timeout	= Time interval before busy tone stops playing.
Warning Tone Timeout	= Duration before warning tone stops playing.

## Configuring SIP user account (Cu)

Use the "Cu" command to maintain your SIP user account database. Select "b" to use **Bulk User Generator** to auto create 24 user accounts.

SAMPLE:

## Cu

```
Configuring User Account Database:
(each record consists of an User ID)
a -- add a new record
b -- bulk user generator
d# -- delete the n-th record in the database
```

```

w -- write changes to Flash(changes is permanent)
e -- erase all records from the database
p -- print all records in the database on screen
q -- quit.
h -- display the help menu
UserID>a
Enter the Channel Number: (from 1 to 1 )1

Enter a new User ID: 14084329001

Enter a new password: 123456789

Enter the user name: JohnS

Enter authentication (type 'null' for empty): null

Enter Profile ID(from 1 to 1): 1

UserID>p
No.    PF UserID          Passwd          Name
0001   01 14087896660      ****           14087896660
0002   01 14087896661      ****           14087896661
UserID>

```

## Enabling/Disabling Polarity Reversal (Cr)

Use "Cr" command to enable or disable Polarity Reversal function.

SAMPLE:

```

Cr

You're currently using Polarity Reversal Feature!
Do you want to Enable Polarity Reversal at this MTA? (y/n)n
Writing to Flash, please wait...
Writing to Flash is done successfully.

```

## Configuring Virtual LAN Setting (Cv)

The "Cv" command is used to set the parameters for VLAN tagging on the SIP Device. This advanced feature is only recommended if your network consists of VLAN-enabled servers and components. If you are unsure whether your network is using VLAN, leave it disabled on your SIP Device.

SAMPLE:

```

Cv

=====
VLAN CONFIGURATION
=====
c -- change VLAN settings
w -- save and quit

```

```

p -- print VLAN settings
h -- help
q -- quit without saving
VLAN> p
=====
VLAN CONFIGURATION
=====
CURRENT PHYSICAL INTERFACE No. : 0
                VLAN TAGGING : DISABLED
IP TOS TO 802.1p PRIORITY MAPPING : DISABLED
                VLAN ID : 0x001
                802.1p PRIORITY : 0
                VLAN ID for voice data: 0x000
                802.1p PRIORITY for voice data: 0
                VLAN ID for voice signal: 0x000
                802.1p PRIORITY for voice signal: 0
                VLAN ID for LAN traffic: 0xfff
                802.1p PRIORITY for LAN traffic: 7

CURRENT PHYSICAL INTERFACE No. : 1
                VLAN TAGGING : DISABLED
IP TOS TO 802.1p PRIORITY MAPPING : DISABLED
                VLAN ID : 0x002
                802.1p PRIORITY : 0

VLAN> c
SELECT PHYSICAL INTERFACE [0-1] 0=WAN port, 1=LAN port: 0

ENABLE VLAN TAGGING (y/n): y
ENABLE IP TOS TO 802.1p PRIORITY MAPPING (y/n): y
PLEASE INPUT VLAN ID [0x000-0xFFFF]: 0xFFFF
PLEASE INPUT VLAN PRIORITY [0-7]: 0
PLEASE INPUT VOICE VLAN ID [0x000-0xFFFF]: 0xFFFF
PLEASE INPUT VOIP VLAN PRIORITY [0-7]: 0
PLEASE INPUT VOIP SIGNAL VLAN ID [0x000-0xFFFF]: 0x000
0
PLEASE INPUT VOICE SIGNAL VLAN PRIORITY [0-7]: 0
UserID>w
SAVE VLAN CONFIGURATION. PLEASE WAIT ...
Done.

```

## Configuring DMS (Cx)

Use the "Cx" command to configure InnoMedia Device Management System (DMS) features if you have one installed in your network.

---

**NOTE:** Please refer to your DMS server settings to configure the DMS parameters on your SIP Device.

---

SAMPLE:

```

Cx
DMS Config
Config DMS Setting
p: Display Current Setting

```



```
1: Set DMS Enable/Disable
2: Set DMS Device Type
3: Set DMS Region ID
4: Set DMS Server
5: Set DMS Local Port
6: Set DMS Heartbeat type
7: Set DMS Heartbeat Interval
8: Set DMS Encrpytion Key
w: Write update to Flash
q: Exit DMS config
```

Choose Option:**p**

```
InnoMedia DMS is Enabled
DMS Server is:172.16.0.25:5200
DMS device type is 1
DMS Heartbeat type is 1
DMS Local port:5200
DMS regionID:1
```

Choose Option:

## Configuring # Character for End of Dial Digit (Cp)

Use the "**Cp**" command to enable or disable # character for end of dial digit. When the end of dial digit is set, users can press the # key to tell the SIP Device that they are done dialing the number and the PHONE will start routing the call without waiting for more digits.

SAMPLE:

Cp

```
Currently # character for end dial digit is enabled for line
1
```

```
Currently # character for end dial digit is enabled for line
2
```

```
Do you want to change the configuration? [y/n] y
```

```
Do you want to enable # character for line 1? [y/n] n
Line 1 # character disables.
```

```
Do you want to enable # character for line 2? [y/n] y
Line 2 # character enables.
```

```
Do you want to store the changes permanently?[y/n] y
```

## Configuring Control Parameters (Me)

Use the "**Me**" command to view or change the current control parameters. Please note that Option 2, SW\_UPGRADE feature is not yet supported by this software release.

SAMPLE:

Me



```

1. SW_UPGRADE disable
2. Disabled Provisioning
3. DHCP Check Option 43 disable
4. SNMP mibs
5. Credential on re-registration enable
Do you want to change [1-5]

```

**Me configuration description**

- 1. SW\_UPGRADE = currently not supported
- 2. Provisioning = select this option to enable provisioning and choose the protocol variant (see Provisioning Mode Description below).
 

**Provisioning Mode Description:**

For HTTP Provisioning

  - Mode 2 - non-secure
  - Mode 816 - secure and encryption type AES. Need InnoMedia utility programs to encrypt configuration file.
  - Mode 9768 - secure and encryption type RC4. Need InnoMedia utility programs to encrypt configuration file.
  - Mode 909 - secure and encryption type RC4. Need InnoMedia utility programs to encrypt configuration file.

For TFTP Provisioning

  - Mode 762 - secure or non-secure
    - Encryption RC4. Need InnoMedia utility programs to encrypt configuration file.
    - Encryption AES\_CBC\_256. Use "openssl" to encrypt configuration file.
- 3. DHCP Options 43 enable/disable = enable or disable Option 43
- 4. SNMP MIBs = select specific MIBs to be used by different vendor requirements/standard
- 5. Credential on re-registration select this option to enable or disable sending credential on re-registration

**Configuring Flash Hook timer (Mf)**

Use the "Mf" command to change the default timer for the sending a flashhook to the SIP Device. The default setting is 800ms, and you may specify it to be as short as 10ms and as



long as 1270ms (it must be set in increment of 10). For most applications, the default setting should be fine. You must reboot in order for changes to take effect.

SAMPLE:

```
Mf

Flash_Hook_timer = 800 ms, range is [0-1270 ms] according to
your phone

Please enter value: 600
Do you want to store the changes permanently? [y/n] y
Writing to Flash, please wait...
Writing to Flash is done successfully.

Reboot system to make new setting effective!

R
Are you sure you want to RESET system? [y/n] y
```

## Showing Syslog (Mh)

The "**Mh**" command allows you to view Syslog events provided a Syslog server is configured.

SAMPLE:

```
Mh

How many records you want see?
10
Input start point?
5
IM_display_syslog:index = 5
Do you need see more record? Y/N
n
```

## Configuring SNTP server (Mi)

The "**Mi**" command allows you to configure SNTP time server settings and time offset settings.

SAMPLE:

```
Mi

SNTP Server0 = time.nist.gov;
SNTP Server1 = 209.81.9.7;
SNTP Server2 = 128.138.140.44;
Currently Time Zone offset is -7.0 hours
Currently Retry time is 600 seconds
Currently Daylight Saving Time is Enabled
```

```

Do you want to change SNTP server IP address?[y/n]y
Please enter SNTP server0...
Example: 192.45.6.4 or time.nist.gov or q to quit
172.168.0.56
IP address 0 entered: 172.168.0.56

Please enter SNTP server1...
Example: 192.45.6.4 or time.nist.gov or q to quit
172.168.0.72
IP address 1 entered: 172.168.0.72

Please enter SNTP server2...
Example: 192.45.6.4 or time.nist.gov or q to quit
172.168.0.45
IP address 2 entered: 172.168.0.45

Do you want to change time zone setting?[y/n]y
Please enter SNTP server time zone (-12 ~ 13)
-12

Do you want to change retry setting?[y/n]y
Please enter SNTP server retry time (seconds)
300

Do you want to change Daylight Saving Time setting?[y/n]y
Please enter 0:disable, 1:enable for Daylight Saving Time
1

Do you want to store the changes permanently?[y/n]y

```

## Configuring Remote Services (Mm)

The "Mm" command allows you to enable/disable LAN or WAN interfaces to your SIP Device.

SAMPLE:

```

Mm

Current Telnet access is:
Enabled for access from WAN

Current SNMP access is:
Enabled for access from WAN

Current Web server access is:
Enabled for access from WAN

Current LAN to Internet access is:
Enabled

Do you want to enable Telnet?
0).Disable
1).Enable access from WAN.
0

Do you want to enable Web Server?

```



```

0).Disable
1).Enable access from WAN.
1
Do you want to enable SNMP?
0).Disable
1).Enable access from WAN.
1
Do you want to enable LAN to Internet access?
0).Disable
1).Enable
0
Disable bridge fastpath

Do you want to save changes to FLASH memory? (y/n):y

```

### Configuring specific variable in IP configuration (Mn)

Use the "**Mn**" command to configure specific variable in the IP Settings. Enter the number of the setting you wish to change, and then enter your IP information.

SAMPLE:

```

Mn

SystemStatus is :                0

Box Mac Address is :             00:10:99:01:ac:34
0. Local IP is :                 172. 16.  1.221
1. Local Default GW IP is :      172. 16.  0.  1
2. Local IP Mask is :            255.255.  0.  0
3. MTA's FQDN is :               localhost.InnoMedia.com
4. Box Server Dns1 is :          172. 16.  0.  2
5. Box Server Dns2 is :          192.168.  0.  2
6. Local Default GW Mask is :    255.255.  0.  0
7. Snmp manager IP is :          0.  0.  0.  0
8. Snmp community 1 is :
9. Snmp community 2 is :
Please select the item number you want to change: 9

Please input Snmp community name 2: private

INFO: read from NVS_PRIMARY (0xa05)
INFO: write to NVS_SECONDARY (0xa06)
INFO: write to NVS_PRIMARY (0xa06)Snmp community name 2 is :
private

If any change is made, Please reboot the system !
Please input Local Default GW IP: 10.0.0.11

INFO: read from NVS_PRIMARY (0x9c)
INFO: write to NVS_SECONDARY (0x9d)
INFO: write to NVS_PRIMARY (0x9d)Local Default GW IP is:
10.0.0.11
If any change is made, Please reboot the system!

```



## Phone Line Configuration (Mp)

The "Mp" command allows you to enable and disable phone line.

SAMPLE:

```
Mp

Currently line 1 is enabled
Do you want to change the configuration? [y/n] y
Do you want to enable line 1? [y/n] n
Line 1 disable.
Do you want to store the changes permanently?[y/n] y
INFO: read from NVS_PRIMARY (0x70)
INFO: write to NVS_SECONDARY (0x71)
INFO: write to NVS_PRIMARY (0x71)
```

## Configuring Phone lines (Mq)

The "Mq" command allows you to configure the IP address of Syslog server

SAMPLE:

```
Mq

Currently SysLOG Server = [198.93.1.59];
Please enter SysLOG server IP address...
Example: 192.45.6.4
172.16.0.10
IP address entered: 172.16.0.10
Do you want to store the changes permanently?[y/n]y
```

## Configuring and Using STUN (Ms)

The "Ms" command allows the user to enable STUN option and configure the SIP Device for use with a STUN server.

SAMPLE:

```
Ms

Your STUN feature is disabled
Do you want STUN feature? [y/n] y

Do you want to manually config NAT type? [y/n] y
Please enter NAT type...
3
Do you want to program STUN server address and port? [y/n] y
Please enter STUN server FQDN(or IP address):Port...
Example: 192.45.6.4:3478
10.0.0.5:3478
ID address entered: 10.0.0.5:3478
Do you want to manually config NAT group? [y/n] y
Please enter NAT group string...
```

**Corporate NAT**

Do you want to program STUN NAT MASK? [y/n] **y**

Please enter STUN NAT MASK...

Example: 255.255.255.255

**255.255.255.1**

IP Mask entered: 255.255.255.1

Do you want to store the changes permanently?[y/n]**y**

**Configuring NAT type**

Select "n" when prompted to manually configuring NAT type. The SIP Device will automatically detect or discover the type of NAT FW type you have on the network. This will take place on the first power-on of the unit.

If the SIP Device has trouble detecting the correct firewall type, then use the manual method to set the firewall type.

```

0 Unknown //Unknown type
1 Open // Not behind NAT/FW
2 ConeNat // Cone, Open Cone
3 RestrictedNat // Cone, IPRestricted
4 PortRestrictedNat // Cone, Port Restricted
5 SymNat // Symmetric NAT
6 SymFirewall // Symmetric FW (IP not been
translated)
7 Blocked // STUN server has no response at
all

```

**Symmetric Firewall and unknown or unavailable STUN server Handling**

The following type of information is relayed to the Proxy server. If the Proxy server determines that the FW type is Symmetric (5,6), then a proprietary message is sent to InnoMedia's servers to handle calls for this case and will not use the STUN server. Also, in case of STUN server not being available or is unknown then no STUN message is sent (to the STUN server), and the InnoMedia servers will handle calls for this case.

1: normal case  
2,3,4: cone enabled,  
5,6: device behind symmetric NAT/FW  
0,7: no stun used

**Configuring NAT groups**

NAT Grouping is recommended in the case where there are multiple SIP Devices within the same Firewall and make calls between each other. This solution will work only with the InnoMedia SIP Devices.

**Signing on to softswitch (Sn)**

Use the "Sn" command to sign on to the softswitch.

SAMPLE:



### Sn

```
1 - sign on channel 1
all - sign on ALL channels
1 CH 1: MSG_SIP_REGISTER sent to MSG_Q_SIP

chl: 14084325400 Sign In Ok! (ticks:9925560)
```

## Signing off of the softswitch (Sf)

The "Sf" command is used to sign off from the softswitch.

SAMPLE:

### Sf

```
1 - sign off channel 1
all - sign off ALL channels
1
CH 1: MSG_SIP_SIGNOFF sent to MSG_Q_SIP
chl: 14086782043 Sign Off! (ticks:9902783)
```

## Provisioning

### Configuring Provisioning Setting (Pv)

Use the "Pv" command to configure the provisioning setting.

---

**NOTE:** You must enable and configure the provisioning mode (see Configuring Control Parameters (Me) on page 73) before you can access the "Pv" command. The default password for sec\_vsp (816), and SecHTTPI (9768) is 12345678901234567890123456789012.

---

#### Mode 2 - HTTP non-secure provisioning

EXAMPLE:

### Pv

```
Prov mode: HTTP_D

HTTP Prov. Server FQDN or IP is: 172.16.1.120
Prov Server Port Is 8802
Prov_Repeat_Interval Is 600 Seconds
HTTP Digest Variant:No Digest
HTTP POST Message(1) is Enabled
Your reDir srv is not invalid now.

c -- change Prov. settings
w -- write changes to Flash(changes is permanent)
```

```

p -- print Prov. settings
q -- quit.
h -- display the help menu
Prov> c
Select the item your want to change: ('Q' to quit)
 1. Prov. Server
 2. Prov. Port
 3. Re-Prov. Interval
 4. Prov. Variant
 7. Prov. POST Message Is Enabled or Disabled
1
Please enter Prov. Server(either FQDN or IP): 172.16.1.120

Prov> c
Select the item your want to change: ('Q' to quit)
 1. Prov. Server
 2. Prov. Port
 3. Re-Prov. Interval
 4. Prov. Variant
 7. Prov. POST Message Is Enabled or Disabled
3
Please enter re-Prov. Interval (sec): 7200

Prov> w
Please wait for flash update...

INFO: read from NVS_PRIMARY (0xa09)
INFO: write to NVS_SECONDARY (0xa0a)
INFO: write to NVS_PRIMARY (0xa0a)
Writing to Flash is done.End of Prov. Settings Configuring
Shell.
update_HTTP_prov_timer:err dis HTTP_prov_timer, status=-26

```

### Mode 9768 – HTTP Secure Provisioning

If you have an InnoMedia GVSP system that equipped with a redirect server function installed in your network, instead of responding to the SIP Device's requests with the configuration data, an HTTP redirect message will be sent to the SIP Device.

---

**NOTE:** If you are using InnoMedia VSP-5000 as your provisioning server, press Enter at option 7 (Prov. Cfg. File) to use the default directory. For other third party provisioning server, enter the full path.

---

EXAMPLE (with redirect server installed):

```

Pv

The current mode is SecHTTPI !
Your POST Message(1) Is Enabled!
MTA Cfg. File (Including Path): ""
Prov. Server: 172.16.1.120
Prov. Port: 8802
Re-Prov Interval: 120 (sec)
MTA Image URL: "sip6328.img_V4019ae"

```





```

Please reconfigure RC4 Password with 32 bytes !!!
Encryption type:RC4
You GVSP srv:172.16.0.120:port:8802 is using!

c -- change Sec-HTTP Prov. settings
w -- write changes to Flash(changes is permanent)
p -- print Sec-HTTP Prov. settings
q -- quit.
h -- display the help menu

SecHTTP_Prov> c
Select the item your want to change: ('Q' to quit)
 1. Prov. Server
 2. Prov. Port
 3. Re-Prov. Interval
 4. Prov. Password
 5. Encrytion Type
 6. POST Message Enabled(1:Enabled, 0:Disabled)
 7. Prov. Cfg. File (Including Path)
1

Please enter Prov. Server(either FQDN or IP): 172.16.0.121

SecHTTP_Prov> c
Select the item your want to change: ('Q' to quit)
 1. Prov. Server
 2. Prov. Port
 3. Re-Prov. Interval
 4. Prov. Password
 5. Encrytion Type
 6. POST Message Enabled(1:Enabled, 0:Disabled)
 7. Prov. Cfg. File (Including Path)
2

Please enter Prov. Port: 8802

SecHTTP_Prov> c
Select the item your want to change: ('Q' to quit)
 1. Prov. Server
 2. Prov. Port
 3. Re-Prov. Interval
 4. Prov. Password
 5. Encrytion Type
 6. POST Message Enabled(1:Enabled, 0:Disabled)
 7. Prov. Cfg. File (Including Path)
3

Please enter re-Prov. Interval (sec): 7200

SecHTTP_Prov> c
Select the item your want to change: ('Q' to quit)
 1. Prov. Server
 2. Prov. Port
 3. Re-Prov. Interval
 4. Prov. Password
 5. Encrytion Type
 6. POST Message Enabled(1:Enabled, 0:Disabled)

```



```

7. Prov. Cfg. File (Including Path)
4

Please enter Prov. Password (for RC4: you have to input 32
bytes ASCII code)
or hit "Enter" to use the
default:12345678901234567890123456789012
SecHTTP_Prov> c
Select the item your want to change: ('Q' to quit)
1. Prov. Server
2. Prov. Port
3. Re-Prov. Interval
4. Prov. Password
5. Encrytion Type
6. POST Message Enabled(1:Enabled, 0:Disabled)
7. Prov. Cfg. File (Including Path)
5

Please enter encryption type (0:NO Enc,1:RC4 ) 1

SecHTTP_Prov> c
Select the item your want to change: ('Q' to quit)
1. Prov. Server
2. Prov. Port
3. Re-Prov. Interval
4. Prov. Password
5. Encrytion Type
6. POST Message Enabled(1:Enabled, 0:Disabled)
7. Prov. Cfg. File (Including Path)
6

Please enter POST message enabled or disabled
(0:Disabled,1:Enabled) 0

SecHTTP_Prov> c
Select the item your want to change: ('Q' to quit)
1. Prov. Server
2. Prov. Port
3. Re-Prov. Interval
4. Prov. Password
5. Encrytion Type
6. POST Message Enabled(1:Enabled, 0:Disabled)
7. Prov. Cfg. File (Including Path)
7

Please enter Prov. Cfg. File (Including Path):
Please Use $MAC for MTA MAC (e.g
/IM/MTA/3328/SIP$MACconfig.txt) /SIP
Device/6308S/SIP$MACconfig.txt

SecHTTP_Prov>w

```

### Mode 762 – TFTP secure provisioning

For the TFTP secure provisioning, a 32-byte encryption key must be configured (option 4 – Encryption Key). The key has to match with the one used to encrypt configuration file on



the provisioning server. Enter “h” at the TFTP provisioning prompt to display the help menu.

---

**NOTE:** If you are using InnoMedia VSP-5000 as your provisioning server, enter “.” at option 2 (Default Directory) to use the default directory. For other third party provisioning server, enter the full path.

---

**EXAMPLE**

**Pv**

```
Prov. Server: 172.16.1.120
Prov. Default Directory:
Prov. Interval: 7200 seconds
Prov. Encryption Type:RC4
Encryption Key:
```

```
TFTP Provisioning> h
```

```
c -- change TFTP Prov. settings
w -- write changes to Flash(changes is permanent)
p -- print TFTP Prov. settings
q -- quit.
h -- display the help menu
```

```
TFTP Provisioning> c
```

```
1. TFTP Server FQDN/IP
2. Default Directory
3. Prov Interval
4. Encryption Key
6. TFTP Encryption Type
```

```
Please enter item:1
```

```
Please TFTP Server IP/FQDN:172.16.0.124
```

```
TFTP Provisioning> c
```

```
1. TFTP Server FQDN/IP
2. Default Directory
3. Prov Interval
4. Encryption Key
6. TFTP Encryption Type
```

```
Please enter item:2
```

```
Please Default Prov. Directory:.
```

```
TFTP Provisioning> c
```

```
1. TFTP Server FQDN/IP
2. Default Directory
3. Prov Interval
4. Encryption Key
6. TFTP Encryption Type
```

```
Please enter item:3
```

```
Please enter Prov Interval in seconds: 3600
```

```
TFTP Provisioning> c
```



```
1. TFTP Server FQDN/IP
2. Default Directory
3. Prov Interval
4. Encryption Key
6. TFTP Encryption Type

Please enter item:4

Please enter 32-bytes Enc Key
(ascii):12345678901234567890123456789012

TFTP Provisioning> c
1. TFTP Server FQDN/IP
2. Default Directory
3. Prov Interval
4. Encryption Key
6. TFTP Encryption Type

Please enter item:6

Please enter Encryption Type (1:RC4, 3:AES_CBC_256):1

TFTP Provisioning>w
```

### Triggering Provisioning (Pr)

Use the "Pr" command to manually trigger the provisioning process.

EXAMPLE (the example is for HTTP provisioning)

```
Pr

Sec_GetServAddr: HTTP srvName:172.16.1.120, srvPort:8802
[44824]IM_Http_Receive_TCP:timeout:10 ret:0

#####Decrypted Data:

Date & Time:Wed Nov 8 15:22:22 2006
[47979]TotalItemsFound:34

im_prov_backup_restore:im_prov_backup.change_flag:0x0
[47979]Sec-HTTPPI PROV is DONE ,Total Items Found: 34

Sec_GetServAddr: HTTP srvName:172.16.1.120, srvPort:8802
Sec_GetServAddr: HTTP srvName:172.16.1.120, srvPort:8802
Image retrieved : %0
Image retrieved : %0
Image retrieved : %0
.
.
.
Image retrieved : %98
Image retrieved : %99
```



```
Image retrieved : %99
Image retrieved : %99
Image retrieved : %99
Image retrieved : %100
INFO: read from NVS_PRIMARY (0xac1)
  The Image Version is V4.2.8
INFO: read from NVS_PRIMARY (0xac1)
INFO: write to NVS_SECONDARY (0xac2)
INFO: write to NVS_PRIMARY (0xac2)

Upgrade System Done! (1197920 bytes)
```



## System Information

These hidden commands can be invoked when troubleshooting and debugging a faulty SIP Device unit.

### Enabling Debug Mode (D1) & (D0)

Use the "**D1**" command to enable debug mode or the "**D0**" to disable it. After you have enabled the debug mode, use the **T1** command and enter a trace level. For most debugging you will want D1 then T1 of 80.

SAMPLE:

```
D1
Debugging is enabled.

T1
Please enter the level you want to trace: 80
Traces less than or equal to trace level 80 will be printed
out.
```

### SIP Device Version Information (V)

Use command "**V**" to check SIP Device's current software version.

SAMPLE:

```
V
The Image Version is: 10.0.15

Control Code Version = 10.0.15 6308S Fri Aug 24 12:17:06 2007
DSP Code Version = 2.4.34 08/06 17:13 2007
BBS Version=7.3.18
SIP Stack Version=2.10.11
MCU Version=0.1.0

Hardware version = 10.5.0.0
Layout Version = A0-0

System Up Time:00 hours, 06 minutes, 51 seconds ago
```

### Restoring System Default

The following procedures are used for restoring the default settings of an MTA.

Press <RSTR> button on the SIP Device for about 5 seconds. Then the message below will show on HyperTerminal.



```
Restoring default setting...
Writing to Flash, please wait...
Writing to flash is done successfully.

Done!
System will RESET after 10 seconds...
```

When the reset finished, the local IP address will return to be the default value 192.168.99.1. And the administrator's user ID and password will return to the system default "Admin" and "password".



# Chapter 3

## SIP Device Firmware Updates

### Overview

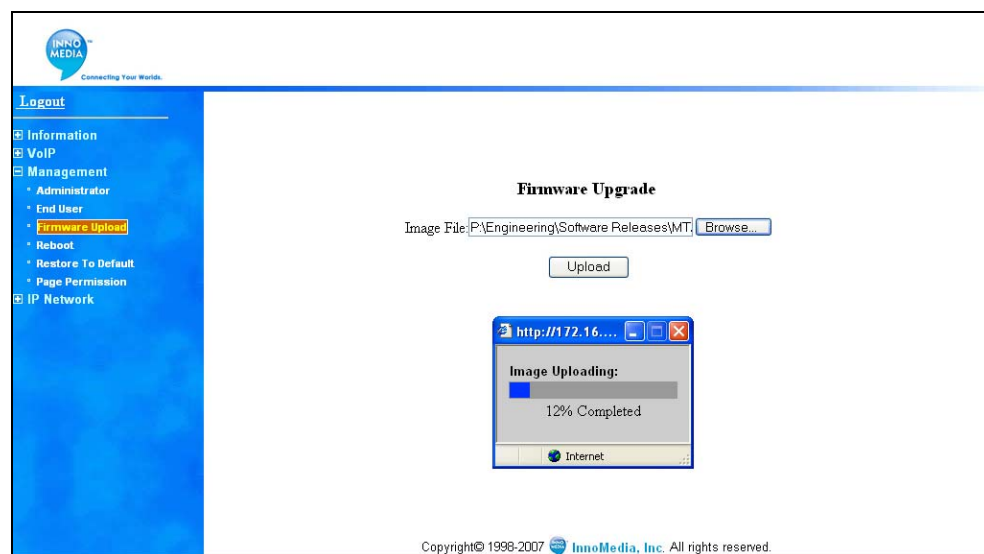
InnoMedia is dedicated to continually improving the quality and features of SIP Device. This entails regular upgrades to the Digital Signal Process code (DSP) and to the Controller codes. The following section describes the procedure for uploading SIP Device Firmware through Web interface.

### Manually Uploading SIP Device Firmware via Web Interface

To upload the SIP Device Firmware through the Web interface, follow these steps:

**Table 27. Uploading SIP Device Firmware by Web Interface**

<i>Step</i>	<i>Action</i>
<i>1</i>	Open your web browser and type the IP address of your SIP Device.
<i>2</i>	Enter your Username and Password.
<i>3</i>	When the SIP Device Configuration Web page appears, click on Management, and then Firmware Upload.
<i>4</i>	Click Browser button to select the image file, or enter directly the location and the file name.
<i>5</i>	Click the Upload button. An Image Uploading screen appears to show you the uploading progress.
<i>6</i>	Reconnect to the SIP Device when firmware uploading is completed.



**Figure 33. Firmware Upgrades**



## Auto-Updating the SIP Device via a Provisioning Server

SIP Device can be upgraded automatically via provisioning process. To perform the procedure, follow these steps:

**Table 28. Upgrading SIP Device Software Code**

<i>Step</i>	<i>Action</i>
<i>1</i>	Configure your SIP Device: <ul style="list-style-type: none"><li>• Use the "Me, 2" command to enable and configure provisioning mode (see page 73)</li><li>• Use the "Pv" command to configure the provisioning setting (see page 79).</li></ul>
<i>2</i>	Upload the new firmware to the correct directory on the provisioning server.
<i>3</i>	Change SIP Device firmware to the intended version in the configuration file
<i>4</i>	SIP Device will grab the configuration file from the server at the interval set.
<i>5</i>	SIP Device will compare the file it has with the one specified in the configuration. If the file name is different, SIP Device will request the new firmware image from the server.

## Appendix A - HTTP Provisioning for SIP Device

Table 29 is a list of provisionable parameters supported in the InnoMedia HTTP provisioning mechanism. You may find some provisioning tags (separated by comma) sharing the same description, that means they are used to set the same variable. For example: NTP\_TIMEOFFSET and NTP\_Local\_Time\_Offset are both for provisioning Time Zone.

**Table 28. SIP DEVICE Provisioning Tags**

Provisioning TAGs	Description
Admin_Name	Set Admin Login
Admin_Password	Set Admin Password
activephonenumberable	Enable/Disable Phone lines
Enable_Line_1	Enable/Disable 1 Phone line w/ the specified #
Flash_Hook_Timer	Flash Hook Timer interval
Enable_Polarity_Reversal	Enable/Disable Polarity Reversal
Enable_DHCP	Enable/Disable DHCP
DNS_IP_addr	DNS Server 1
DNS_IP_addr_2	DNS Server 2
DNS_IP_addr_3	DNS Server 3
Gateway_IP	Local Default Gateway Address
Local_IP	Local IP Address
Local_IP_Mask	Local Subnet Mask
NTP_Server_Ids	NTP Server Ids
NTP_TIMEOFFSET, NTP_Local_Time_Offset	Time Zone
NTP_Retry_Time, SNTP_RETRYTIME	NTP Sync Interval
NTP_DST_Enable	Enable/disable DST
Enabled_Pinging_GW	Enable/Disable Pinging Gateway
Firewall_Bullet_Interval	Firewall Bullet Interval
SNMPCommunity1	SNMP Community 1
SNMPCommunity2	SNMP Community 2
SNMPManagerIP	SNMP Manager IP
SYSLOG_SERVER_IP	Syslog Server Address
TELNET_WAN	Enable/Disable WAN Telnet Access
TELNET_LAN	Enable/Disable LAN Telnet Access
WEB_WAN	Enable/Disable WAN Web Access
WEB_LAN	Enable/Disable LAN Web Access
LAN_Port_Internet_Access	Enable/Disable Access from LAN to Internet
SNMP_WAN	Enable/Disable WAN SNMP Access
SNMP_LAN	Enable/Disable LAN SNMP Access



Voice_QoS_Enable, QoS_BW_Control_Enable	Enable/Disable QoS for Voice traffic
WAN_Bandwidth, QoS_BW_Uplink_Speed	Allocate WAN bandwidth dedicated to Voice
LAN_Bandwidth, QoS_BW_Downlink_Speed	QoS Downlink Speed
PPPoE_Enable	Enable/Disable PPPoE
PPPoE_ServiceID	PPPoE Service ID
PPPoE_UserID	PPPoE User ID
PPPoE_UserPW	PPPoE User Password
PPPoE_AutoConnect	Auto Connection
PPPoE_IdleTimeOut	Idle Time out
PPPoE_Auth_Protocol	Authentication Protocol: PAP or CHAP
DHCPS_IP_Range_High	DHCP server highest IP address
DHCPS_IP_Range_Low	DHCP server lowest IP address
virtual_local_ip,virtual_ip_mask,virtual_gateway_ip	Configure virtual device
CONFIG_VERSION	Show Config File Version Info.
Write_Into_Flash	Enable/Disable Write to Flash
MTA_Image_URL, UPGRADE_URL	URL where upgrade file is located
Proxy_Server_Domain_N (N = channel number)	Setting the SIP Domain of a specific Voice Profile.
Proxy_Server_ID, SIP_PROXY, SIP_Proxy_addr, VSP_Proxy_Server_ID	SIP Proxy Address(es)/FQDN(s)
Proxy_Server_ID, SIP_PROXY, SIP_Proxy_addr, VSP_Proxy_Server_ID	SIP Proxy signaling port
Enable_Outbound_Proxy	Outbound Proxy Enable/Disable (for v4.1.x)
LocalPort_N	Setting the local signaling port of a specific Voice Profile.
SIP_External_IP	SIP External IP address when MTA behind a NAT
SIP_User_ID_Line_N (N = channel number)	SIP User ID / Phone Number
SIP_Password_Line_N (N = channel number)	SIP User Password
SIP_UserName_Line_N (N = channel number)	SIP User Name (optional)
SIP_AuthID_Line_N (N = channel number)	SIP User Authentication ID
SIP_REGISTER_Expire	SIP Registration Expire Timer
SIP_Exponential_Backoff	1st backoff time in ms
SIP_Exponential_Cap	Maximum backoff time in ms
SIP_Non_INVITE_retry	# of times of resending a non-invite msg
SIP_INVITE_retry	# of times of resending an invite msg
SIP_Session_Timer	Keep Alive message interval for a SIP Session
SIP_PING_Interval	SIP PING message Interval(seconds)
SIP_PING_Proxy_Require	SIP PING Proxy Require Header string

SIP_Reg_Interval_Timer	Combined with SIP_Reg_Rsp_Code to control the interval of registration after register is failed
SIP_Reg_Rsp_Code	The same to _Reg_Interval_Timer
use_SIP_DTMF	SIP INFO FOR DTMF enable/disable
SIP_Regcreden_Enable	Send cached credentials during SIP re-registration
Codec_G729a_Var	Configure G729A format in SDP
Enable Caller_ID_N (N = channel number)	Enabling/Disabling Caller ID (per channel)
Enable_Call_Waiting_N (N = channel number)	Enabling/Disabling Call Waiting (per channel)
Enable_CT_3Way_Call_N (N = channel number)	Enabling/Disabling 3-way call (per channel)
Enable_Blind_CallTXF_N (N = channel number)	Enabling/Disabling Blind Call transfer (per channel)
Enable_Consulted_CallTXF_N (N = channel number)	Enabling/Disabling Consulted Call transfer (per channel)
VSC_CW_PerCall_DeActivation (VSC_Call_Waiting_Per_Call_Deactivation obsolete)	Invoke String for disabling Call Waiting on a per-call basis
VSC_Call_Transfer	Invoke String for Call Transfer
VSC_Call_Park	Invoke String for Call Park
Reject_Anonymous_Call_x	Enabling/Disabling Reject anonymous calls (per channel)
VoIP_Digit_Map_String_N, SIP_Digit_Map_String_N, Digit_map_N, DIGITMAP_N, VOIP_DIGITMAP_N	Set the Digitmap of a specific Voice Profile.
Digitmap_Critical_Timeout, Critical_Timeout, Critical_Digit_Timer	Critical Timeout for digitmap
Digit_timer, Inter_Digit_Timeout, Digitmap_Partial_Match_Timeout	Partial Match Timeout for digitmap, a.k.a Inter-digit timeout
Dialtone_Timeout	Dial Tone timeout timer
Ring_Timeout	Ringing timeout expiration
RTP_Port	RTP media port number
Jitter_Buffer_Delay, Jitter_Buffer_Size	Adjust the delay of the jitter buffer in ms
Codecs, Preferred_Codecs	Codec List
Packetization_Time, PTIME	Preferred Voice Packetization in ms (for v4.1.x)
RX_Voice_Attenuation, TX_Voice_Attenuation	Configure Voice Volume
Enable_Silence_Suppression, Silence_Suppression	Enable/Disable Silence Suppression
REMOTE_BUSY_DELAY	Configure Delay_BusyTone
BUSY_TIMEOUT	Configure Stop BusyTone timer
WARNING_TIMEOUT	Configure Stop_WarningTone
VLANEnable, VLANEnable_WAN, VLAN_Tagging_WAN	Enable/disable VLAN on WAN side
TOS_Priority_Mapping_WAN	Enable/disable TOS mapping on WAN side
VLANID, VLANID_WAN, VLAN_ID	VLAN ID on WAN side



_WAN	
VLANPriority,VLANPriority_WAN,TOS_Value_WAN	TOS Value for WAN side when VLAN enabled
VLANEnable_LAN,VLAN_Tagging_LAN	Enable/disable VLAN on LAN side
VLANID_LAN,VLAN_ID_LAN	VLAN ID on LAN side
TOS_Priority_Mapping_LAN	Enable/disable TOS mapping on LAN side
VLANPriority_LAN	TOS Value for LAN side when VLAN is enabled
DSCP	TOS Value
T38_Bit_Rate	Fax bit rate: 14400,9600,4800,2400
T38_UDP_Redundancy_ls	T38 fax signaling redundancy (0-4)
T38_UDP_Redundancy_hs	38 fax image data redundancy (0-4)
T38_ECM	Enable/disable ECM
T38_fax_enable	Disable or enable t38 fax per device
T38_fax_enable_n	Disable or enable t38 fax per port n
T38_T1_jitter_buf	T38 jitter buffer ms (0-240ms)
T38_T2	T38 timer to keep waiting for packets (0-800ms)
T38_FaxMaxBuffer	T38 max buffer size (200)
T38_FaxMaxDatagram	T38 max datagram size
T38_use_voice_port	Use voice port as fax port or not
T38_fax_port	T38 fax port
t38_NSF_clean	T38 fax NSF control
T38_Variant	t38 fax variant for t38 call flow
AnsToneTriggerFlag	Disable/enable answer tone to reinvtie G711 fax.
Enable_STUN	Enable STUN
STUN_Server	STUN Server Address and Port
STUN_NAT_Mask	NAT Mask (Optional)
STUN_NAT_Type	NAT Type (Optional)
STUN_NAT_Group	NAT Group (Optional)
EchoCancel	Enable Echo Cancellor
Enable_RFC2833	Enable 2833
Enable_2833_Flash_Event	Enable 2833 flash event
DMS_Enabled	Device EMS enabled or disabled
DMS_deviceType	DMS device type
local_DMS_Port	Local udp port for DMS receiving
DMS_Proxy_Addr	IP or FQDN
DMS_Proxy_Port	DMS server port
WAN_Web_Port	Configure Wan Web server port
LAN_Web_Port	Configure Lan Web server port
DMS_regionID	Region ID for DMS
rtpDelayThresh	snmp notify threshold for rtp packet delay
rtpJitterThresh	snmp notify threshold for rtp packet jitter

rtpLossPktThresh	snmp notify threshold for rtp packet loss
rtpMinNotifyInterval	Minimum Notify interval (in seconds)
rtpDelayNotifyEnable	Enable/disable snmp notify over delay threshold
rtpJitterNotifyEnable	Enable/disable snmp notify over jitter threshold
rtpLossNotifyEnable	Enable/disable snmp notify over loss threshold
DMS_HBType	HBType for DMS
Prov_POST_Enabled	Enable/disable POST message for prov mode 2, 909 and 9768
HTTP_Prov_variant	0: no digest in GET request, 1: yes
Prov_Enc_Pwd	Change provisioning password
Prov_Server_Name	Configure Provisioning Server
Prov_Interval,Provisioning_Interval, Repeat_Interval, Prov_Config_Time,Provisioning_Interval	Set Reprovisioning time interval
Enable_Percent_Char_N (N = Channel number)	Disable (0) or enable (1) percent character for end dial digit per x (line)
Codecs_Of_Ch_N (N = Channel number)	Set the Profile ID of a specific channel
Codecs_Of_Ch_N (N= Channel number)	Set the codec list of a specific channel
Packetization_Time_Of_Ch_N, PTIME_Of_Ch_N (N = Channel number)	Set the ptime of a specific channel
ProfileName_N (N = Channel number)	Set the profile Name of a specific Voice Profile.
ProfileID_Of_Ch_N (N = Channel number)	Set the Profile ID of a specific channel
Enable_Outbound_Proxy_N (N = Channel number)	Enable or Disable using outbound proxy for a specific Voice Profile.
Proxy_Server_ID_N, IP_PROXY_N, SIP_Proxy_addr_N, VSP_Proxy_Server_ID_N (N = Channel number)	Setting the SIP Proxy Server IP of a specific Voice Profile.
Packetization_Time_Profile_N, PTIME_Of_Profile_N (N = Channel number)	Set the ptime of a specific Voice Profile.
Refer_EndOfThreeway	Enable: both callee can talk after mixer hangup Disable: terminate all calls when mixer hangup New provision tag: Refer_EndOfThreeway, 0:disable, 1:enable, default=1
SIP_P_ACCESS_NETWORK_INFO_index, where index=1,2,... max profile #	Provide the access-type and access-info, related to the serving access network.
FCS_Enabled	Enable or disable RTP check sum. Default= disabled.
SDP_MediaMatch	Enable or disable Media Match by incrementing the version number by one to comply with RFC 3264. Default=1
LineStartMode_d	d=channel number, Loop start=0, Ground Start=1. Default=0
WEB_timeout	Configure the timeout for WEB page
SIP_P_ACCESS_NETWORK_INFO_N (N = Channel number)	sip header for REGISSET

Hot_Phone_Enable_N (N = Channel number)	disable(0) or enable (1) hotphone
Hot_Phone_Num_N (N = Channel number)	configure the number of hot phone
Enable_Silence_Suppression_N (N = Channel number)	disable(0) or enable (1)
Silence_Suppression_N (N = Channel number)	disable(0) or enable (1)
EchoCancel_N (N = Channel number)	disable(0) or enable (1) echo cancellation



## Appendix B - Troubleshooting for 6328-2Re

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### Installation Problems

#### **I've followed the instructions but my Voice/VoIP light is not lit**

In order to make calls the \*Voice/VoIP light on your MTA 6328-2Re needs to be lit. This indicates the MTA 6328-2Re is connected and registered to the Internet.

If this is your initial install:

- Check that all the cables are properly connected.
- Confirm the power light on the MTA 6328-2Re is lit. If not, check the power connection.
- Confirm that the provided Ethernet cable is connected between the DSL/Cable modem and to the WAN port on the MTA 6328-2Re.
- Power OFF/ON the DSL or Cable modem. Make sure the MTA 6328-2Re is ON and connected to the modem when you power-cycle the modem. Leave your DSL or Cable modem powered off for at least 5 minutes.
- Power OFF/ON the MTA 6328-2Re. It may take up to 5 to 7 minutes for the Voice/VoIP light to turn on.

If the Voice/VoIP light is still not lit after following the steps above please contact Member Services.

#### **My Voice/VoIP light was lit at one time, but now it is no longer lit**

- Check that all the cables are properly connected.
- Confirm the power light on the MTA 6328-2Re is lit. If not, check the power connection.
- Confirm that the provided Ethernet cable is connected between the DSL/Cable modem and to the WAN port on the MTA 6328-2Re.
- Unplug the MTA 6328-2Re and leave it unplugged for 1 minute (Note: It can take up to 3 times of powering OFF/ON the MTA 6328-2Re to get a \*Voice/VoIP light.)
- If this is not your initial install and your MTA 6328-2Re \*Voice/VoIP light was lit previously, wait time for the MTA 6328-2Re light to come on should be under one minute.

#### **I do not have dial tone.**

- Check the front of the MTA 6328-2Re and confirm the voice light is lit. If the voice light is not lit, refer to the steps above.
- Check to make sure your telephone is plugged into the MTA 6328-2Re's Phone 1 port. Note: The Phone 2 port is not available at this time.
- If you are using a new cordless phone, make sure it is fully charged.

#### **I get a dial tone, but when I try to place a call I only hear silence**





The MTA 6328-2Re may generate a dial tone even when the unit is not connected to the Internet. If your unit is not connecting properly to the Internet, you will only hear silence when you try to place a call. Please check the following to isolate the problem:

- Check the front of the MTA 6328-2Re and confirm the voice light is lit. If the voice light is not lit, refer to the steps above.
- If the Voice/VoIP light is lit and you have dialed correctly, you may have reached a busy network. Wait a minute or two and try your call again.

## **My high-speed connection uses a USB port, not an Ethernet port**

The InnoMedia MTA 6328-2Re only supports an Ethernet connection. If your computer does not have an Ethernet card, you can purchase a USB to Ethernet converter to connect your computer to the MTA 6328-2Re, and ultimately the Internet.

## **I need to connect using a Static IP Address**

If you have a Static IP address, you will need to configure the MTA 6328-2Re.

- Plug an Ethernet cable into the port labeled LAN on the back of the MTA 6328-2Re and connect the other end of the cable into the Ethernet port on your computer.
- Open your web browser and type 192.168.251.1 in the address field. This allows you to access the configuration settings on the MTA 6328-2Re.
- Enter the password: welcome (lower case).
- Select the WAN Settings option.
- Select the Specify Fix WAN Configuration option, and enter your Static IP information.
- Click Save WAN Settings.
- Reset the MTA 6328-2Re by selecting Reset on the left column of the screen. The Reset page will appear.
- Power on and click the Reset button. The MTA 6328-2Re will reboot with the new settings.

## **Quality of Service Concerns**

If the sound quality of your InnoMedia Service is not acceptable, these tips may help resolve issues like choppy connection, dropped calls, echo, and static on the line. Please know that every household set-up is slightly different and some external environments may impact the quality of your service.

### **I have a choppy connection, dropped calls, echo, and/or static**

- Are you using a cordless digital phone system?

Quality problems, especially echo, are frequently caused acoustically when the phone receiver picks up the sounds coming from the phone's speaker. Try turning down the volume on your phone and test to see if this resolves the issue. You also may want to try plugging in a standard phone or one of a different frequency to determine if the type of phone you are using is causing problems.

- Is your MTA 6328-2Re positioned close to other electronics that may cause interference?



Try isolating the MTA 6328-2Re from all electronic devices and move the MTA 6328-2Re away from your modem, your computer, and other network devices (you may need longer cables.)

- Do you have the MTA 6328-2Re connected to the inside wiring of your house?

If you do have the MTA 6328-2Re connected to the inside wiring in your home, please disconnect your inside wiring from the MTA 6328-2Re and connect a single corded phone directly into the Phone 1 port of the MTA 6328-2Re and try placing a call. If you no longer hear the problem, then the issue may have been with your inside wiring. Try using a cordless expandable phone system throughout your home instead of your inside wiring or contact a technician.

- Do you have a router?

If you are using a wireless router, unplug the router and connect your MTA 6328-2Re directly into your modem. Test your InnoMedia service again to find out if your wireless router is causing interference with the MTA 6328-2Re.

- Is your Broadband connection fast enough?



- Inefficient broadband is often the cause of service issues. You may test your broadband speed using a speed test, such as <http://www.speakeasy.net/speedtest/>.
- Run the test a few times to be sure that the results are accurate. If your quality of service appears to be worse at a certain time of day, run the speed test during that time. Do not run the test while using the InnoMedia service, nor while running any bandwidth-intensive application. Be sure to note the results. If any of the speeds are outside the recommended ranges, then your high-speed connection may be causing the problem with your InnoMedia service. Usually this can be resolved by contacting your Internet Service Provider.

## **I am not getting an Internet Connection**

If your MTA 6328-2Re appears to be working fine, and you have a Voice/VoIP light, but your Internet connection is down, try these steps.

- Make sure there is a regular, straight-through Ethernet cable running from the LAN of the MTA 6328-2Re to the router or PC.
- Make sure the connection is secure by disconnecting both ends and reconnecting it until you hear and feel a "click".

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**NOTE:** If the MTA 6328-2Re thinks there is a physical connection present, it will make the LAN light glow. Check for the LAN light at this point.

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- If the LAN port is connected to a PC, restart the computer.
- If the LAN port is connected to a router, power cycle the router, then restart the computer.



# Appendix C – ADSL Configuration (MTA 6628)

This appendix provides the information for configuring an ADSL integrated MTA via the web user interface or Telnet/Hyper Terminal interface.

## Web User Interface

### ADSL Link Status

ADSL link status page shows you the ADSL link status. The information refreshes only when you reboot the system or the MTA is being re-trained. The upstream and downstream speed depends on the network condition at the time as well as your service subscription.

**NOTE:** The information displayed on the page is configurable on the server side.

Table 29. ADSL Link Status

<i>Step</i>	<i>Action</i>
<i>1</i>	Open your web browser and connect to your SIP Device.
<i>2</i>	Click on ADSL, then ADSL Status. The ADSL Link Status page appears. The information is for read-only.

The screenshot shows the web interface for the MTA 6628-1Be2S. The page title is "MTA 6628-1Be2S". On the left, there is a navigation menu with the following items: Logout, Information, VoIP, Management, IP Network, ADSL (highlighted), and ATM Config. The main content area displays the "ADSL Link Status:" information:

- ADSL Line Status : OPERATIONAL
- ADSL Mode : G992\_5\_A
- Upstream : 1296 kb ( Intv[LP0] )
- Downstream : 24468 kb ( Intv[LP0] )
- Attenuation ( dB ) : 4.2 0.0 (FE)
- SNR margin ( dB ) : 9.5 (FE)
- HEC counter : 699
- CRC counter : 10
- 15min ES counter : 0
- 1 day ES counter : 0
- L1 Firmware Version : 0x0e15080a

At the bottom of the page, there is a copyright notice: "Copyright© 1998-2007 InnoMedia, Inc. All rights reserved."

Figure 34. ADSL Link Status

## Configure ATM Settings

The ATM settings have to comply with your ADSL network. It is recommended not to change the default values if you are not familiar with the various ATM terms and settings. The MTA allows you to set up 8 virtual channel connections (VCC). Each VCC has both a virtual path identifier (VPI) and a virtual channel identifier (VCI).

The PVC Traffic mapping allows you to configure multiple PVCs that have different QoS characteristics between two end devices.

To configure the ATM settings, follow these steps:

**Table 30. ADSL Link Status**

<i>Step</i>	<i>Action</i>
<i>1</i>	Open your web browser and connect to your SIP Device.
<i>2</i>	Click on ADSL, then ATM Config. The ATM configuration page appears.
<i>3</i>	Select Annex Mode from the drop-down menu.
<i>4</i>	Enable or disable the VCCs by checking or un-checking the Enabled boxes.
<i>5</i>	Select Bridged for the Protocol. MTA supports only Bridge mode.
<i>6</i>	Select the LLC for Encap Mode from the drop-down menu.
<i>7</i>	Modify the Cell Rate, Peak Cell Rate, and Sust. Cell Rate as needed.
<i>8</i>	In PVC Traffic Mapping, enter the VCC values in the fields.
<i>9</i>	Click the Save button to save your changes, or click the Reset button to undo your changes.

**MTA 6628-1Be2S**

Logout

- Information
- VoIP
- Management
- IP Network
- ADSL
  - ADSL Status
  - ATM Config**

**Configure ATM Settings**

Annex Mode: Annex A

VCC	Enabled	VPI	VCI	Protocol	Encap Mode	Cell Rate	Peak Cell Rate	Sust. Cell Rate
0	<input checked="" type="checkbox"/>	0	35	Bridged	LLC	100000	5000	0
1	<input checked="" type="checkbox"/>	0	35	Bridged	LLC	100000	5000	0
2	<input checked="" type="checkbox"/>	0	35	Bridged	LLC	100000	5000	0
3	<input checked="" type="checkbox"/>	0	35	Bridged	LLC	100000	5000	0
4	<input checked="" type="checkbox"/>	0	35	Bridged	LLC	100000	5000	0
5	<input checked="" type="checkbox"/>	0	35	Bridged	LLC	100000	5000	0
6	<input checked="" type="checkbox"/>	0	35	Bridged	LLC	100000	5000	0
7	<input checked="" type="checkbox"/>	0	35	Bridged	LLC	100000	5000	0

**PVC Traffic Mapping**

Traffic Type	VCC
Traffic class for all unclassified data(default):	0
Traffic class for IAD's median priority data(signaling and management):	0
Traffic class for IAD's high priority data(voice):	0
Traffic class for data from LAN port 1:	0
Traffic class for data from LAN port 2:	0

Save Reset

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**Figure 35. Configuring ATM Settings**

## Telnet/ HyperTerminal Interface

### ADSL Setting (Pd)

Use the “Pd” command to view the ADSL link status. The information refreshes only when you reboot the system or the MTA is being re-trained. Please contact InnoMedia, if you need to use “r”, “w”, and “c” commands.



SAMPLE:

```
Pd
      **** ADSL Link Status ****
ADSL Line Status      : OPERATIONAL
ADSL Mode              : G992_5_A
Upstream               : 1244 kb ( Intlv[LP0] )
Downstream             : 24468 kb ( Intlv[LP0] )

=====
                DIAG Info:
=====

Attenuation ( dB )   :          4.0          0.0 (FE)
SNR margin ( dB )   :          9           5 (FE)
HEC counter          :          1
CRC counter          :          1
15min ES counter    :          0
1 day ES counter     :          0
L1 Firmware Version: 0x0e15080a

p -- adsl mon -- Display Modem Status Info
r -- adsl readcmv -- Read CMV from Specified L1 Location
w -- adsl writecmv -- Write CMV to Specified L1 Location
s -- adsl setmode -- Set Modem into Specific Mode
c -- adsl cmvhex -- Send CMV command to L1
q -- quit.
h -- display the help menu
ADSL>
```

