



**DVG-5102S**  
**VoIP Telephone Adapter**

**User's Manual**

Version 1.2  
(16 Sept. 2014)

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### **FCC Warning**

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

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

### **CE Mark Warning**

This is a Class B product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

#### **Warnung!**

Dies ist ein Produkt der Klasse B. Im Wohnbereich kann dieses Produkt Funkstörungen verursachen. In diesem Fall kann vom Benutzer verlangt werden, angemessene Massnahmen zu ergreifen.

#### **Precaución!**

Este es un producto de Clase B. En un entorno doméstico, puede causar interferencias de radio, en cuyo caso, puede requerirse al usuario para que adopte las medidas adecuadas.

#### **Attention!**

Ceci est un produit de classe B. Dans un environnement domestique, ce produit pourrait causer des interférences radio, auquel cas l'utilisateur devrait prendre les mesures adéquates.

#### **Attenzione!**

Il presente prodotto appartiene alla classe B. Se utilizzato in ambiente domestico il prodotto può causare interferenze radio, nel cui caso è possibile che l'utente debba assumere provvedimenti adeguati.

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# 1. Introduction

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## 1-1 Product Overview

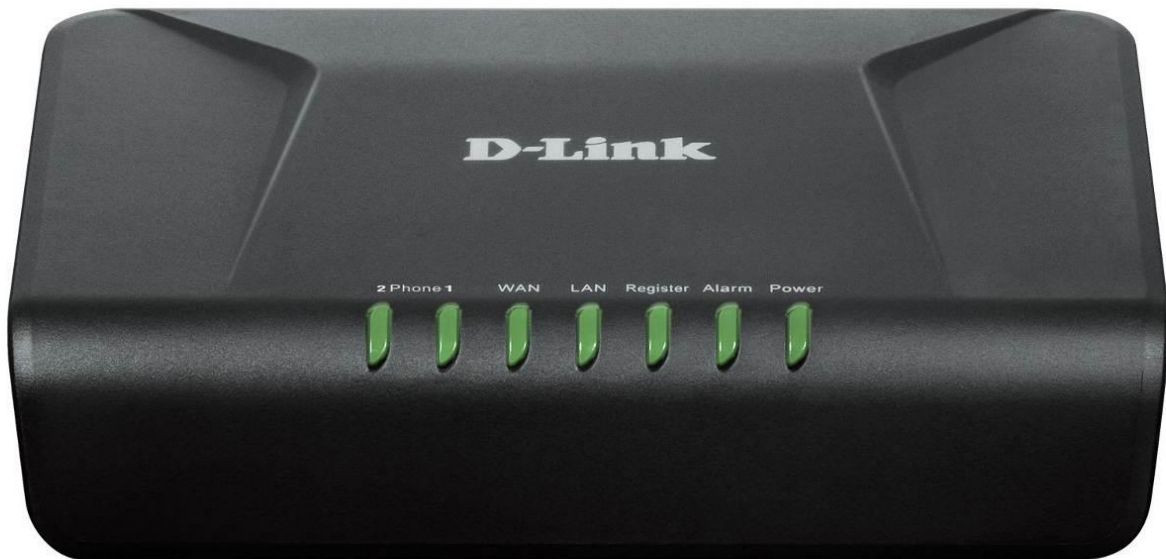
The DVG-5102S is designed to carry both voice and facsimile over the IP network. It uses the industry standard SIP call control protocol so as to be compatible with free registration services or VoIP service providers' systems. As a standard user agent, it is compatible with all common Soft Switches and SIP proxy servers. While running optional server software, the VoIP Telephone Adapter can be configured to establish a private VoIP network over the Internet without a third-party SIP Proxy Server.

The DVG-5102S can be seamlessly integrated into an existing network by connecting to a phone set and fax machine. With only a broadband connection such as an ADSL bridge/router, a Cable Modem or a leased-line router, the VoIP Telephone Adapter allows you to use voice and fax services over IP in order to reduce the cost of all long distance calls.

The DVG-5102S can be configured a fixed IP address or it can have one dynamically assigned by DHCP or PPPoE. It adopts either the G.711, G.726, G.729A, G.723.1 and G.722 voice compression format to save network bandwidth while providing real-time, toll quality voice transmission and reception.

## 1-2 Hardware Description

### Front Panel



- **Power:** Solid green light indicates a normal power supply.
- **Alarm:** Red light indicates abnormal status, such as failed to register or provision or not obtained IP address.
- **Register:** The Register LED will turn on when the VoIP Router is connected to a VoIP service provider. The LED will blink if not connected to a service provider.
- **LAN indicator:** When a connection is established the LED will light up solid. The LEDs will blink to indicate activity. If the LED does not light up when a cable is connected, verify the cable connections and make sure your devices are powered on.
- **WAN indicator:** When a connection is established the LED will light up solid. The LED will blink to indicate activity. If the LED does not light up when a cable is connected, verify the cable connections and make sure your devices are powered on.
- **Phone Indicator:** Phone LED will light up solid if a phone connected to a phone port is off the hook or in use. When a phone is ringing, the indicator will blink.

**Note:** When starting up DVG-5102S, all indicators will light up. After about 40 seconds, the Register indicator will blink in green. If the Alarm indicator continues to blink, it means DVG-5102S is currently communicating with ISP and has yet to obtain an IP address or fail to register to VoIP Service Provider.

## Rear Panel



1. **Phone Port:** Connect to your phones using standard phone cabling (RJ-11).
2. **WAN:** Connect to your broadband modem / router using an Ethernet cable.
3. **LAN:** Connect to your Ethernet enabled computers using Ethernet cabling.
4. **Power Receptor:** Receptor for the provided power adapter.
5. **Reset :** Use to Restore to factory default :
  - (1) Power on.
  - (2) Press and hold the reset button for 5 seconds.
  - (3) Release the reset button. Factory settings will be restored.

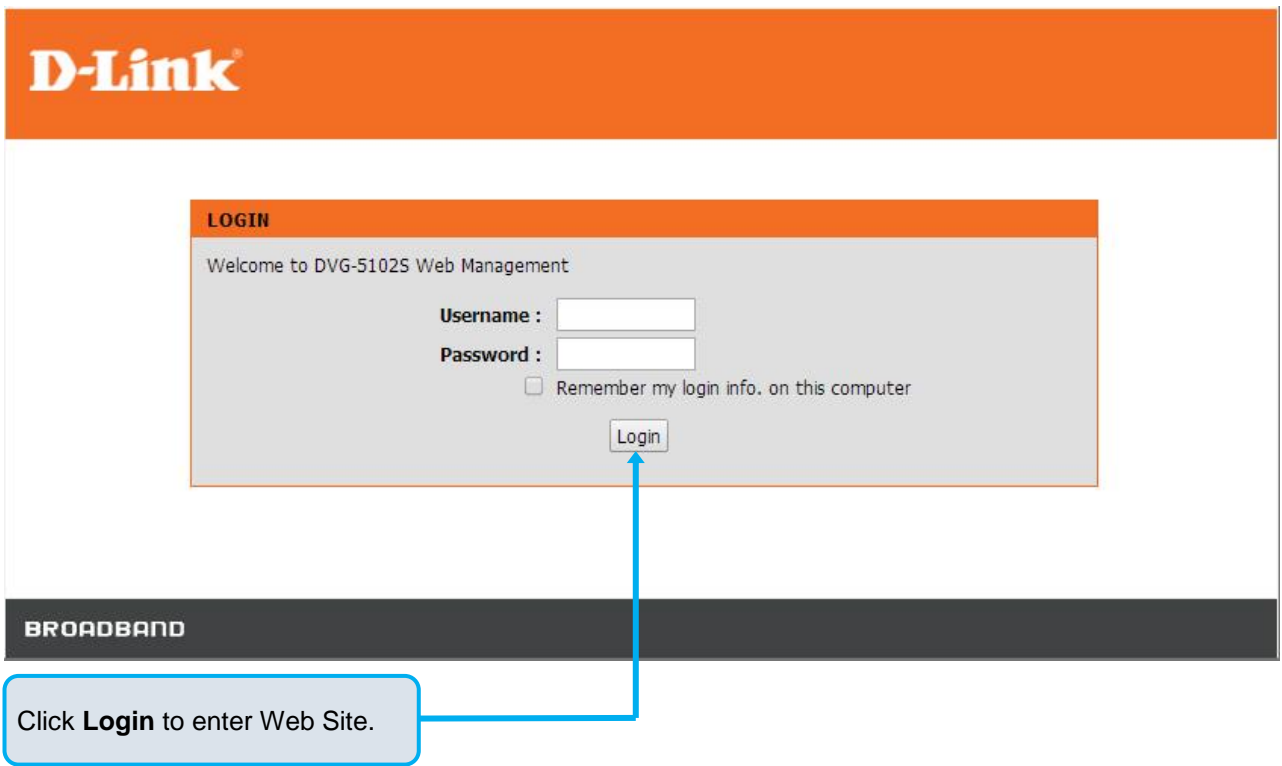
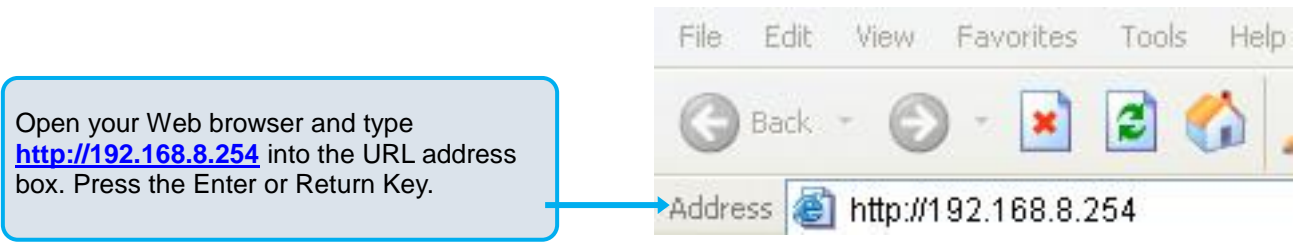
**WARNING: DO NOT** connect any phone port directly to a PSTN line (FXS to PSTN) or to an internal PBX line (FXS to PBX extension). Doing so may damage your VoIP TA.

## 2. Getting Started

To access the web-based configuration utility, set a statics IP on the LAN adapter, open a web browser such as Internet Explorer and enter the IP address of the DVG-5102S.

\*Statics IP: 192.168.8.XXX, the "XXX" can be any number from 1~253 except 254 cannot be used\*

If the DVG-5102S is connected behind a router, the IP address of the router is determine by the router's DHCP Server.



VoIP TA Web Configuration

During configuration, please follow the Setup Hint for some specific procedure in case the VoIP TA fails to make the changes active.

**Situation 1:** (example: Internet Setup)



Setup Hint:

1. Select DHCP WAN Setup.
2. Click "Apply".
3. Click "Save and Restart" to make change take effect.

### WAN

Use this section to configure your Internet Connection type. If you are unsure of your connection method, please contact your Internet Service Provider.

**DHCP**  
 **Static IP**  
 **PPPoE**  
 **PPTP**

### DATA SETTINGS

Hostname :	<input type="text"/>
Vendor Class ID :	<input type="text"/>
MTU :	<input type="text" value="1500"/>
WAN 1 Domain Name Server :	<input type="text" value="Auto"/> ▼

### VOIP

Connection :	<input type="text" value="DATA"/> ▼
--------------	-------------------------------------

### MAC

Factory Default MAC Address :	00:0C:2A:10:04:B0	<input type="button" value="Restore"/>
Your MAC Address :	00:13:74:00:00:00	<input type="button" value="Clone"/>
Current MAC Address :	<input type="text"/>	(xx:xx:xx:xx:xx:xx)



**Situation 2:** (example: Enable IP Filtering)

**i** Setup Hint:



1. Click "Enable IP Filtering" check box to open the main screen.
2. Click "Add" to enter an entry.
3. After Adding an entry, you have to click "Apply".
4. Don't forget to click "Apply" which in the field of "Enable IP Filtering".
5. After settings, save and reboot.

**IP FILTERING**

The IP filter option is used to control network access based on the IP of the network device. This feature can be configured to DENY network/Internet access.

**1**  **Enable IP Filtering**

**4**

IP	TCP / UDP	Remark		
192.168.8.1	Both			

**2**

**IP :**

**TCP / UDP :**

**Remark :**

**3**

New settings will take effect after [Save & Restart](#).

## 2-1 SETUP

### 2-1-1 Internet Setup

WAN (Wide Area Network) Settings are used to connect to your ISP (Internet Service Provider). The WAN settings are provided to you by your ISP and oftentimes referred to as "public settings". Please select the appropriate option for your specific ISP.

#### IP Configuration (Setting WAN Port)

There are five methods of obtaining a WAN port IP address:

1. DHCP, which means a Dynamic IP (Cable Modem)
2. Static IP
3. PPPoE (dial-up ADSL)

Methods for using DHCP and PPPoE for obtaining an IP address may vary. If you are not familiar with creating a network connection, please contact your local ISP.

After selecting the suitable option, click **Accept** at the bottom of the screen to save the settings.

You need to save the changes and restart the VoIP TA to make the changes active. Saving the settings: Click **MAINTENANCE** and select **Save/Restart** in **System** from the left menu. Tick **Save Settings** and **Restart**, then click **Accept**. Wait for about 40 seconds before the VoIP TA obtaining an IP address by the method you selected.

**Note:** When the system has obtained a new IP address, and you are using a WAN port to enter the Web Configuration Screen, the new IP address has to be used before you can get connected to the VoIP TA. The same principle applies to the next two settings.

SETUP → Internet Setup

SETUP → Internet Setup

**DHCP:** Select this option if your ISP (Internet Service Provider) provides you an IP address automatically. Cable modem providers typically use dynamic assignment of IP Address. The Host Name field and Vendor Class ID are optional but may be required by some Internet Service Providers.

SETUP → Internet Setup

WAN 1 SETTINGS	
IP address :	<input type="text" value="192.168.1.2"/>
Subnet mask :	<input type="text" value="255.255.255.0"/>
Default Gateway IP :	<input type="text" value="192.168.1.254"/>
MTU :	<input type="text" value="1500"/>
Domain Name Server ( Primary ) IP :	<input type="text" value="168.95.1.1"/>
Domain Name Server ( Secondary ) IP :	<input type="text"/>

**Static IP:** Select this option if your ISP (Internet Service Provider) provides you a Static IP address. Enter the **IP address**, **Subnet Mask** and **Default Gateway IP**.

SETUP → Internet Setup

WAN 1 SETTINGS	
PPPoE Account :	<input type="text"/>
PPPoE Password :	<input type="password" value="••••••••"/>
Confirm Password :	<input type="password" value="••••••••"/>
PPPoE Service Name :	<input type="text"/> ( Optional )
MTU :	<input type="text" value="1492"/>
WAN 1 Domain Name Server :	Manual <input type="button" value="v"/>
Domain Name Server ( Primary ) IP :	<input type="text" value="168.95.1.1"/>
Domain Name Server ( Secondary ) IP :	<input type="text"/>

**PPPoE:** Select this option if your ISP requires you to use a PPPoE (Point-to-Point Protocol over Ethernet) connection. Enter the **PPPoE Account**, **PPPoE Password** and re-enter Password to confirm.

SETUP → Internet Setup

**VOIP**

Connection : WAN1 ▼

**VoIP Connection Interface:** Select a WAN interface for DVG-5102S VoIP traffic.

SETUP → Internet Setup

**MAC**

Factory Default MAC Address : 00:17:9A:98:AF:6C Restore

Your MAC Address : 00:0A:79:60:17:28 Clone

Current MAC Address :  (xx:xx:xx:xx:xx:xx)

**Factory Default MAC Address:** The original MAC address of the VoIP Router.

**Your MAC Address:** It is left blank as you log-in via the WAN port.

**Current MAC Address:** It shows the current MAC Address if you ever used the different MAC address from Factory Default MAC Address. You can click **Clone** to automatically copy the MAC address of the Ethernet Card installed in the computer used to configure the device.

**Note:** This is only necessary to fill the field if required by your ISP.

SETUP → Internet Setup

**WAN**

Use this section to configure your Internet Connection type. If you are unsure of your connection method, please contact your Internet Service Provider.

**DHCP**  
 **Static IP**  
 **PPPoE**  
 **PPTP**

Advanced Configuration

Click “Advanced Configuration” for 802.11q/p VLAN tag or dual WAN access configuration.

**WAN SETTINGS**

	Enable	Type	<input type="checkbox"/> Enable VLAN Tagging	
			VLAN ID	Priority
<b>WAN 1</b>	Default Route	<span style="border: 1px solid black; padding: 2px;">DHCP ▼</span>	<span style="border: 1px solid black; padding: 2px;">1</span>	<span style="border: 1px solid black; padding: 2px;">0</span>
<b>WAN 2</b>	<input type="checkbox"/>	<span style="border: 1px solid black; padding: 2px;">DHCP ▼</span>	<span style="border: 1px solid black; padding: 2px;">3</span>	<span style="border: 1px solid black; padding: 2px;">7</span>

VLAN is optional. It works with the Router or Switch that supports VLAN tag. By adding VLAN tag in packets may improve efficiency of voice traffic performance and security.

**Enable VLAN Tagging:** It is to tag the packets for VLAN Router or Switch identifying.

**VLAN ID:** It is to assign uniquely a user-defined ID to each packet.

**Priority:** It is the proprietary to VLAN Router or Switch.

**Note:** Please do not change anything here unless requested by your ISP.

## 2-1-2 LAN Settings

SETUP → LAN Setup

**LAN SETTINGS**

This section allows you to configure the local network settings of your VoIP Router . Please note that this section is optional and you should not need to change any of the settings here to get your network up and running.

**LAN Port Address :**

**Subnet Mask :**

**LAN Port Address:** Enter the LAN IP address of the VoIP TA. It is also the default gateway for DHCP clients.

**Subnet Make:** Enter the subnet mask for DHCP clients.

SETUP → LAN Setup

**LAN PORT CONTROL**

Port	Enable Port	Incoming Rate Limit	Outgoing Rate Limit	Router/Bridge	VLAN ID
LAN Port 1	<input checked="" type="checkbox"/>	Full <span style="font-size: small;">▼</span> <input type="text" value="0"/> kbps	Full <span style="font-size: small;">▼</span> <input type="text" value="0"/> kbps	Router <span style="font-size: small;">▼</span>	<input type="text" value="0"/>

**Enable Port:** It is to active/des-active LAN port physical connection.

**Incoming Rate Limit:** Set the incoming (from LAN to WAN) rate limit of a specific LAN port (can not exceed the real downstream bandwidth).

**Outgoing Rate Limit:** Set the outgoing (from WAN to LAN) rate limit of a specific LAN port (can not exceed the real upstream bandwidth).

**NAT/Bridge:** Select the VoIP Router serving as a **Bridge** between WAN port and LAN port without NAT.

**Note:** If you set a LAN port to be bridge mode that the LAN port will be bundled with WAN. If you would like to connect to DVG-5102S at the bridged LAN port you must enter WAN port IP.

**VLAN ID:** Assign a VLAN ID for DVG-5102S to transit traffic through-out at WAN port for WAN-LAN

bridge mode. The packets are un-tagged at LAN port and added tag at WAN port.

**Note:** It is not allowed to change VLAN ID for NAT mode LAN ports. The VLAN ID of NAT LAN ports are bundled with WAN 1 which assigned at Internet Setting page. The packets are un-tagged at LAN port and added tag at WAN port.

### 2-1-2-1 UPnP

ADVANCED → Advanced Network → UPnP

**UPNP CONFIGURATION**

Click the checkbox to enable UPnP Device.

**Enable UPnP**

**Enable UPnP:** Check the box to enable the VoIP TA's IP traffic to pass through an Internet sharing device. This function only works when the Internet sharing device supports UPnP and has it enabled.

**Note:** The "Status → Current Status" page will show the status of UPnP.

### 2-1-2-2 IGMP Proxy

ADVANCED → Advanced Network → IGMP Proxy

**IGMP PROXY**

IGMP Proxy enables the system to issue IGMP host messages on behalf of hosts that the system discovered through standard IGMP interfaces.

**Enable IGMP Proxy**

**IGMP Version :**      **LAN :** V2 & V3 ▼      **WAN :** V2 & V3 ▼

**Enable IGMP proxy:** Check the box to enable IGMP proxy. IGMP proxy enables the system to issue IGMP host messages on behalf of hosts that the system discovered through standard IGMP interfaces.

## 2-2 MAINTENANCE

### 2-2-1 Device Management

MAINTENANCE → Device Management

USER	
New Password :	<input type="password" value="*****"/>
Confirm Password :	<input type="password" value="*****"/>

**Password:** By default there is no password configured. It is highly recommended that you create a password to keep your router secure.

### 2-2-2 Backup and Restore

#### Save and Reboot

MAINTENANCE → Backup and Restore

SYSTEM -- SAVE & REBOOT
Click the button below to save and reboot the VoIP Router.
<input checked="" type="checkbox"/> <b>Save All Settings</b>
<input type="button" value="Reboot"/>

**Save All Settings:** Click the **Save All Settings** check box and reboot the system after completing changes. The new settings will take effect after the VoIP TA is restarted.

**Restart:** Click the **Reboot** button to reboot the system.

#### Backup Configurations File

MAINTENANCE → Backup and Restore

SYSTEM -- BACKUP CONFIGURATIONS FILE
Backup VoIP Router configurations file. You may save your VoIP Router configurations file to a file on your PC.
<i>Note: Please always save configuration file first before viewing it.</i>
<input type="button" value="Backup Settings"/>

The current system settings can be saved as a file onto the local hard drive. Click the **Backup Settings** button to save your current settings to a file.

### Backup Configurations Template File

MAINTENANCE → Backup and Restore

**SYSTEM -- BACKUP CONFIGURATIONS TEMPLATE FILE**

Backup VoIP Router configurations template file. You may save your VoIP Router configurations template file to a file on your PC.

*Note: Please always save configuration template file first before viewing it.*

Click the **Backup Settings** button to save your current settings to a template file for editing.

### Update Settings

MAINTENANCE → Backup and Restore

**SYSTEM -- UPDATE SETTINGS**

Update VoIP Router settings. You may update your router settings using your saved files.

Settings File Name :

To restore a system settings file, click on **Browse** to search the local hard drive for the file to be used. Once you locate the file, click **Upload Settings** to overwrite the current settings with the settings saved to the file.

### Restore Default Settings

MAINTENANCE → Backup and Restore

**SYSTEM -- RESTORE DEFAULT SETTINGS**

Restore VoIP Router settings to the factory defaults.

Select **Restore Default Settings** to reset the VoIP TA's settings back to the factory default settings.



### 2-2-3 Diagnostics

Use "Ping" to verify if a remote peer is reachable. Enter a remote IP address and click "Test" to ping the remote host. The result would be shown on **Result** Table

MAINTENANCE → Diagnostics

#### PING TEST

Ping Test sends "ping" packets to test a computer on the Internet.

**Ping Destination :**

**Number of Ping :**  ( 1 - 100 )

**Ping Packet Size :**  ( 56 - 5600 bytes )

#### RESULT

```
PING 192.168.8.254 (192.168.8.254): 128 data bytes
136 bytes from 192.168.8.254: icmp_seq=0 ttl=64 time=0.0 ms
136 bytes from 192.168.8.254: icmp_seq=1 ttl=64 time=0.0 ms
136 bytes from 192.168.8.254: icmp_seq=2 ttl=64 time=0.0 ms
136 bytes from 192.168.8.254: icmp_seq=3 ttl=64 time=0.0 ms

--- 192.168.8.254 ping statistics ---
4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 0.0/0.0/0.0 ms
```

## 2-3 STATUS

### 2-3-1 Device Info

STATUS → Device Info

DEVICE INFO	
All of your Internet and network connection details are displayed on this page. The firmware version is also displayed here.	
SYSTEM INFORMATION	
Model Name :	DVG-5102S
Time and Date :	1970/01/01 08:28:44
Firmware Version :	RU_1.00
WAN PORT INFORMATION	
Factory Default MAC Address :	000C2A070790
Net Link :	Disconnected
IP address / Subnet mask :	/
Default Gateway :	
Domain Name Server :	
LAN PORT INFORMATION	
MAC Address :	000C2A070791
IP address :	192.168.8.254
Subnet mask :	255.255.255.0

For System Information, it shows Model Name, Time and Date and Firmware Version.

For WAN Port Information, it shows IP address, subnet mask, default gateway and DNS server. If you use PPPoE to obtain IP, you will know if the IP is obtained through this method. If IP address, subnet mask, default gateway is blank, it means that the VoIP TA does not obtain IP.

For LAN Port Information, it shows LAN port IP and the subnet mask.

STATUS → Device Info

HARDWARE	
Hardware :	A1
Driver :	1.4.2.205.417/281

For Hardware, it shows the hardware platform and driver version.

### 2-3-2 VoIP Status

STATUS → VoIP Status

VOIP STATUS						
The information reflects the current status of your VoIP Router connection. Display the port status of each proxy server in the field of Extension Number, Proxy Register and FXS Representative Number.						
PORT STATUS						
No	Type	Extension Number	Line Status	Calls	Number	Proxy Register
1	FXS	701	Idle	0		Disabled (00:30:39)
2	FXS	702	Idle	0		Disabled (00:30:39)
SERVER REGISTRATION STATUS						
DDNS Registration :				Disabled (00:30:39)		
STUN Registration :				Disabled (00:30:39)		
SIP Proxy Hunting Number Registration :				FXS Disabled (00:30:39)		

For Port Status, it includes if each port registers to Proxy successfully, the last dialed number, how many calls each port has made since the VoIP TA is start, etc.

For Server Registration Status, it shows the registration status of DDNS and STUN.

### 2-3-3 Statistics

STATUS → Statistics

**RTP PACKET SUMMARY**

Display the information of the last completed call. This report contains peer IP, peer port, packet sent, packet received and packet lost. Press Refresh button to get the latest RTP Packet Summary

**PHONE 1**

<b>Codec Type :</b>	G.711 u-law 64kbps
<b>Packet Sent :</b>	0
<b>Packet Received :</b>	0
<b>Packet Lost :</b>	0
<b>The Last Packet's Source IP :</b>	
<b>The Last Packet's Source Port :</b>	0

**PHONE 2**

<b>Codec Type :</b>	G.711 u-law 64kbps
<b>Packet Sent :</b>	0
<b>Packet Received :</b>	0
<b>Packet Lost :</b>	0
<b>The Last Packet's Source IP :</b>	
<b>The Last Packet's Source Port :</b>	0

Display the information of the last call made. Press **Refresh** button to get the latest RTP Packet Summary.

### 2-3-4 Logout

If setting or parameter has been changed, remember to save the changes before you logout the configuration menu.

Logout

**LOGOUT**

Logging out will close the browser.

## 3. Configuring the VoIP TA through IVR

---

VoIP transmits voice data (packets) via the Internet, hence the condition and status of the network environment is relatively important to the telecommunications quality. If any one of the parties involved in VoIP communications has insufficient bandwidth or frequent packet loss, the telecommunication quality will be poor. Therefore, excellent telecommunication can only happen when the VoIP TAs are connected to the Internet and when the network environment is stable.

### Preparation

1. Connect the power supply, telephone set, telephone cable, and network cable properly.
2. If a static IP is provided, confirm the correct IP settings of the WAN Port (IP address, Subnet Mask, and Default gateway). Please contact your local Internet Service Provider (ISP) if you have any question.
3. If you are using ADSL (PPPoE) for your network connection, confirm the account number and password.
4. If you intend to operate the VoIP TA under NAT, the IP range of VoIP TA WAN Port and LAN Port IP Address should not be the same in order to avoid phone failures.

### Basic Setup

The VoIP TA provides two setup modes:

1. Telephone IVR Configuration Mode
2. Browser Configuration Mode

IVR configuration provides basic query and setup functions, while browser configuration provides full setup functions.

### 3-1 IVR (Interactive Voice Response)

The VoIP TA provides convenient IVR functions. Users are able to get query and setup the VoIP TA with a phone-set and function-codes without turning on the PC.

**Note:** When finishing the setup, make sure the new settings are saved. This will enable the new settings to take effect after the system is restarted.

#### Instructions

**FXS Port:** Connect to telephones. To access IVR mode, passwords should be entered, “\* \* password #”. Alphabets to digits conversion information is provided in the PPPoE Character Conversion Table. (Refer to Page 71) When correct IVR passwords are entered and accepted, an indication tone can be heard indicates the system is in IVR setup mode. Enter function codes to check or configure the VoIP TA. (Please refer to page 68 for function codes).

**Example:** If your password is “1234”, enter \* (star) \* (star) 1 2 3 4 # (pound), and now you are entering IVR setup mode. Next, enter a function code to check or configure the VoIP TA. If your password is “admin”, enter \* (star) \* (star) \* (star) 41 44 53 49 54 # (pound). Please refer to the IVR Functions Table (page 68) for available functions and codes.

Once the setting or query has been completed, you can hear a dial tone. Use the same procedure to make a second query or setting. To exit IVR mode, simply hang up the phone.

**Example:** enter \*\*\*# (you are now in IVR mode) → enter **101** (to query the current IP address) → the system responds with an IP address. You can continue with more settings or queries: enter **111** (to set

a new IP address) →enter **192\*168\*1\*2** (new IP address).

### Save Settings

When all setting procedures are completed, dial **509** (Save Settings) from phone keypad. Wait for about three seconds, you should hear a voice prompt "1 (one)." You can now hang up the phone and please reboot the VoIP TA to enable the new settings.

### To inquire about the current VoIP TA WAN Port IP address setting

After completing all your settings, dial **101** from the keypad, then you can hear the system play back the current WAN Port IP address. If the system does not play back the IP address after dialing **101**, this indicates that the VoIP TA currently is not connected to the Internet. Please check and make sure the cable connections, account numbers, and passwords are correct.

## 3-1-1 IVR Functions Table:

Function Code	Description	Example / Notes
111/101	WAN Port IP address Set/Query	Dial function code <b>114</b> and then dial 1 for a Static IP connection then setup the IP address.
112/102	WAN Port Subnet Mask Set/Query	
113/103	WAN Port Default Gateway Set/Query	
114/104	Current Network IP Access Set/Query (1: Static IP, 2: DHCP, 3: PPPoE)	
115/105	DNS IP address Set/Query	
116/106	Phone Book manager IP address Set/Query	
117/107	Set/Query whether or not to use a Public Telephone Book (0: Disable 1: Enable)	
199/099	Set/Query whether or not this VoIP TA acts as the Phone Book manager (0: Disable 1: Enable)	
066	Querying the connection to Phone Book manager	
118	Restart	
121	Setup PPPoE Account	Dial function code <b>114</b> and then dial 3 for a PPPoE connection.
122	Set PPPoE Password	
123	Set NAT IP address	
124	Uses NAT (0: Disable 1: Enable)	
311/301	LAN Port IP Set/Query	
312/302	LAN Port Subnet Mask Set/Query	
109	Restore factory default IP address configuration	A static IP address for WAN Port IP : 192.168.1.2 Mask : 255.255.255.0 Gateway : 192.168.1.254
409	Restore factory default settings	
509	Save settings	
900	Set the IVR and the language used on the Web GUI (1: English, 2: Traditional Chinese, 3: Simplified Chinese)	
209	Software Upgrade	

## 3-2 IP Configuration Settings—Set the IP Configuration of the WAN Port

### Static IP Settings

**Note:** Complete static IP settings should include a static IP (option 1 under [114](#)), IP address ([111](#)), Subnet Mask ([112](#)), and Default Gateway ([113](#)). Please contact your Internet Service Provider (ISP) if you have any question.

Function	Command
Select a Static IP	<ul style="list-style-type: none"> <li>After entering IVR mode, dial 114.</li> <li>When voice prompt plays “Enter value”, dial 1 (to select static IP)</li> </ul>
IP address Settings	<ul style="list-style-type: none"> <li>After entering IVR mode, dial 111. When voice prompt plays “Enter value”, enter your IP address followed by “#”.</li> </ul> <p><b>Example:</b> If the IP address is 192.168.1.200, dial 192*168*1*200#.</p>
Subnet Mask Settings	<ul style="list-style-type: none"> <li>After entering IVR mode, dial 112. When voice prompt plays “Enter value”, enter your subnet mask followed by “#”.</li> </ul> <p><b>Example:</b> If the subnet mask value is 255.255.255.0, dial 255*255*255*0#.</p>
Default Gateway Settings	<ul style="list-style-type: none"> <li>After entering IVR mode, dial 113. When voice prompt plays “Enter value”, enter your default gateway's IP address followed by “#”.</li> </ul> <p><b>Example:</b> If the default gateway is 192.168.1.254, dial 192*168*1*254#.</p>
Save Settings and Restart	<ul style="list-style-type: none"> <li>To save settings, dial <a href="#">509</a> (Save Settings). The system will save the current settings. Please restart the system. Wait for about 40 seconds for the system to restart, and then enter <a href="#">101</a> to check whether the IP address was retained. If the system does not play back the IP address after dialing <a href="#">101</a>, this indicates that the VoIP TA currently is not connected to the Internet. Please check and make sure the cable connections, account numbers, and passwords are correct.</li> </ul>

### Dynamic IP (DHCP) Settings

After entering IVR mode, dial [114](#).

When voice prompt plays “Enter value”, dial 2 (to select DHCP).

Saving settings –press [509](#) (Save Settings). Please restart the system. After the system is restarted, press [101](#) to check whether or not the IP address was retained.

**Note:** If the system does not play back the IP address, this indicates that the VoIP TA failed to communicate with a DHCP server. Please check with your DHCP server or ISP.

### ADSL PPPoE Settings

**Note:** Complete PPPoE settings should include: Select PPPoE (option 3 of [114](#)), PPPoE account ([121](#)) and PPPoE password ([122](#)).

Please contact your local Internet Service Provider (ISP) if you have any questions.

**Select a PPPoE**

After entering IVR mode, dial 114.

When voice prompt plays "Enter value," dial 3 (to select PPPoE).

**PPPoE Account Settings**

After entering IVR mode, dial 121.

When voice prompt plays "Enter value", enter the account number followed by "#".

**Example:** If the account is "87654321@hinet.net," please enter 08 07 06 05 04 03 02 01 71 48 49 5445 6072544560#.

**Note:** It is necessary to enter two digits for each alphabet/number; for example, you must enter "01" for "1" and "11" for "A". Using the web Interface to configure your PPPoE account details is recommended. Refer to the PPPoE Character Conversion Table on the next page for key mappings if you choose to use IVR setup.

**PPPoE Password Setting**

After entering IVR mode, dial 122.

When voice prompt plays "Enter value," enter the new password followed by "#".

**Example:** If the password is "3t2ixiae", please enter "03 60 02 49 64 49 41 45#".

**Save Settings and Restart**

To save settings, dial 509 (Save Settings). The system will save the settings. Please restart the system. Wait for about 40 seconds for the system to restart, then enter 101 to check whether the IP address was retained. If the system does not play back the IP address after dialing 101, this indicates that the VoIP TA currently is not connected to the Internet. Please check and make sure the cable connections, account numbers, and passwords are correct.



### 3-2-1 PPPoE Character Conversion Table:

The table below provides a list of PPPoE conversion codes. The first row (high-lighted) of each pair of the column lists the numbers, alphabets or symbols and the second row (high-lighted) of each pair of the column ("Input Key") represents the codes to be entered for the corresponding numbers, alphabets or symbols. For example, to enter "D-Link" according to the table below, enter: 148322495451

Numbers	Input Key	Upper Case Letters	Input Key	Lower Case Letters	Input Key	Symbols	Input Key
0	00	A	11	a	41	@	71
1	01	B	12	b	42	•	72
2	02	C	13	c	43	!	73
3	03	D	14	d	44	"	74
4	04	E	15	e	45	\$	75
5	05	F	16	f	46	%	76
6	06	G	17	g	47	&	77
7	07	H	18	h	48	'	78
8	08	I	19	i	49	(	79
9	09	J	20	j	50	)	80
		K	21	k	51	+	81
		L	22	l	52	,	82
		M	23	m	53	-	83
		N	24	n	54	/	84
		O	25	o	55	:	85
		P	26	p	56	;	86
		Q	27	q	57	<	87
		R	28	r	58	=	88
		S	29	s	59	>	89
		T	30	t	60	?	90
		U	31	u	61	[	91
		V	32	v	62	\	92
		W	33	w	63	]	93
		X	34	x	64	^	94
		Y	35	y	65	_	95
		Z	36	z	66	{	96
							97
						}	98

## 4. Dialing Principles

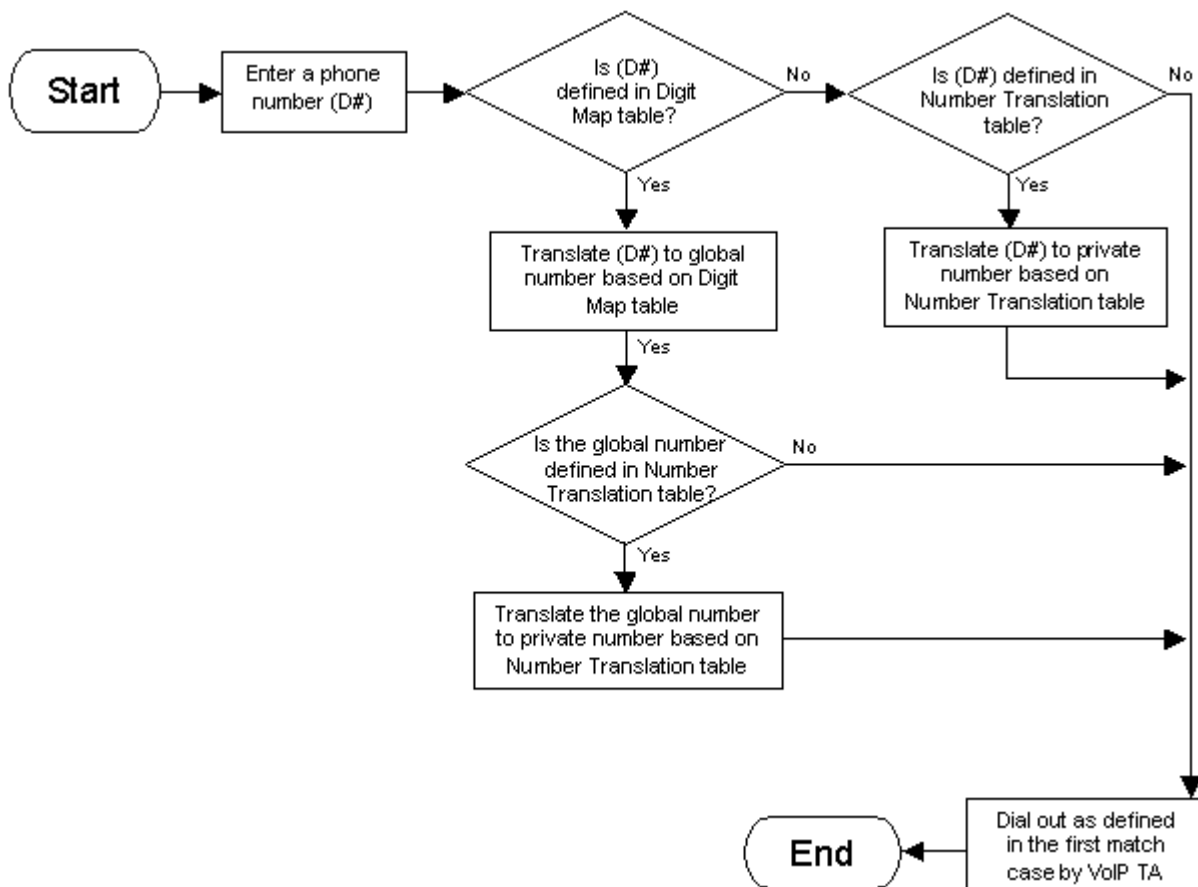
### 4-1 Dialing Options

Dial the phone number which you want to call and press # to call out immediately. Note that if the “# (pound)” not dialed, the number will be called out after 4 seconds by default. The period between number dialed and call out is named “Inter Digits Timeout”. (Configurable from “DTMF and PULSE”, default=4 seconds, see page 50).

If the phone number matches the setting of the Digit Map, the phone number will be dialed out through the assigned VoIP Service Provider according to VoIP Route Profile automatically.

### 4-2 Number Translation

Phone number is dialed by user. The system will check if the phone number is matched Digit Map Table. If no matched is found from Digit Map Table, it will use the phone number to look up number translation of the server set in VoIP Routing Profile.

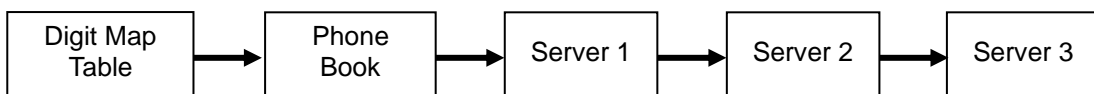


### 4-3 Routing

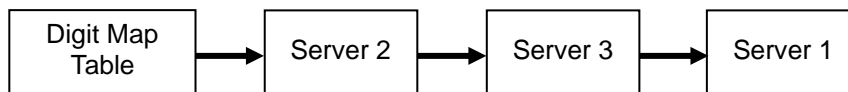
To achieve maximum flexibility, the number dialed will be looked up in several tables defined by VoIP TA. If no match is found from Digit Map Table, it will then look up the number from another table and to the registered VoIP Service Provider.

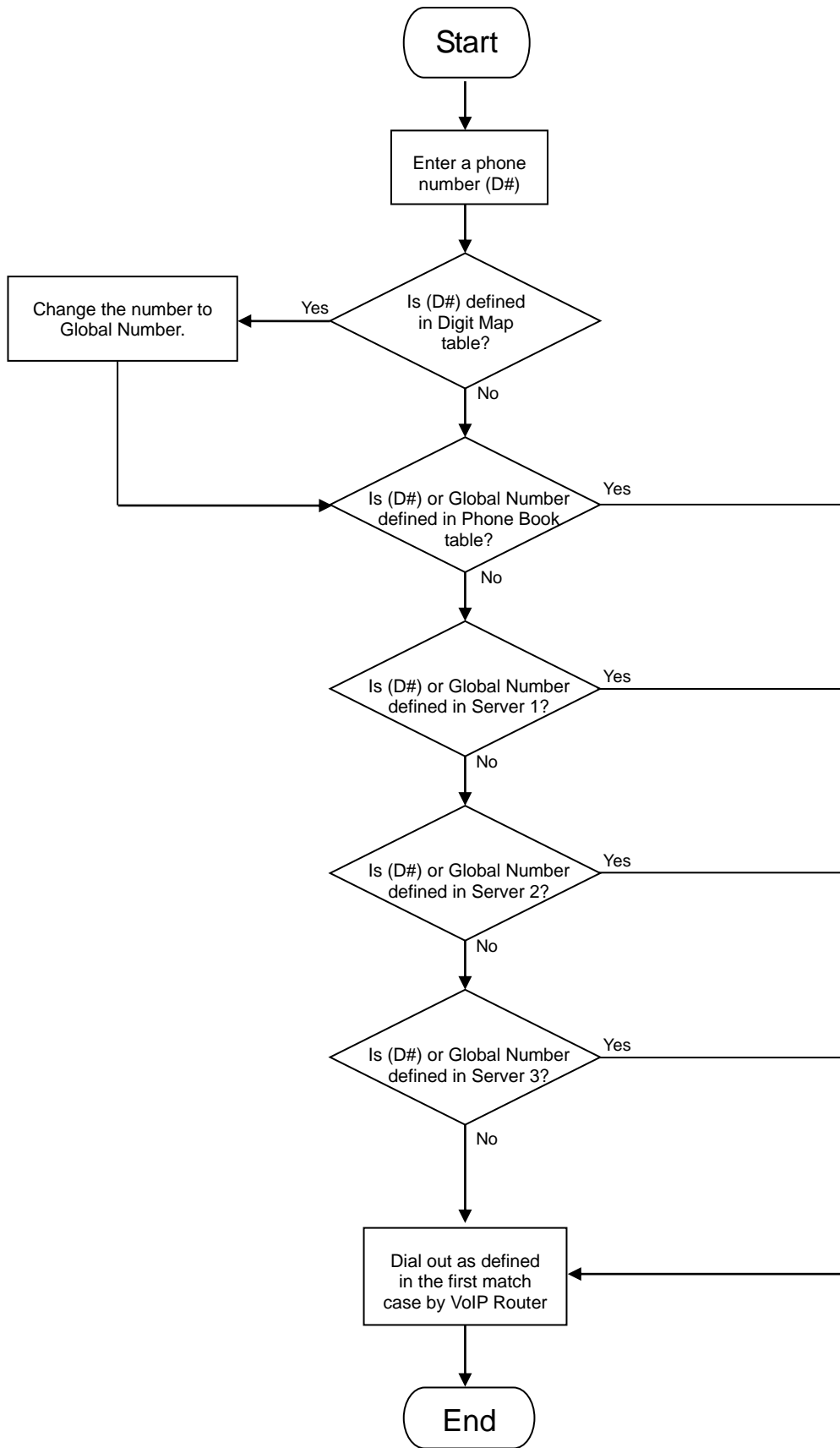
#### Routing Processing Flow

The routing after checking Digit Map Table may vary. The routing accords with VoIP Route Profile. By default, Phone Book is the first route of VoIP Route Profile. The second and third route is Server 1 and Server 2. Server 3 is the last route. Each server has a dialing plan, i.e. number translation, table, and the number will be translated according the dialing plan before dialing out. For default setting, the number look up flow appears like:



Assume that the route of Default Route Profile is Server 2 as the first route, Server 3 as the second route and Server 1 as the last route. The number look up flow appears like:





# Appendix

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## Product Features

### **WAN**

- One 10/100Mbps auto-negotiation, auto-crossover RJ-45 Ethernet port
- Support static IP, PPPoE and DHCP address assignment and dynamic DNS (DDNS)
- QoS: IP TOS (Type of Services) and DiffServ (Differentiated Services) for both SIP signaling and RTP
- NAT Traversal : Port Forwarding, STUN, UPnP and Outbound Proxy
- NTP: (Network Time Protocol RFC 1305), Accepts up to 3 Time Server
- Time Zone Support
- MAC Address Clone
- RTP Packet Summary : packet sent, packet received, packet loss for voice quality analysis

### **LAN**

- One 10/100Mbps auto-negotiation, auto-crossover RJ 45 Ethernet ports
- Bridge mode (Non-NAT mode)

### **Voice Features**

- SIP (RFC3261) compatible
- Voice codecs : G.711 a /ulaw, G.726, G.729A, G.723.1
- CNG (Comfort Noise Generation)
- VAD (Voice Activity Detection)
- G.165/G.168 echo cancellation
- Adjustable Jitter Buffer and programmable Gain Control
- In-Band DTMF, Out-Of-Band DTMF relay (RFC2833, SIP INFO)
- Multiple SIP Proxy server entries with failover mechanism
- T.30 (G.III) / Real time T.38 / Secured T.38 FAX relay
- DTMF, FSK (Bellcore & ETSI) Caller ID detection and generation.
- Support Caller ID Restriction (CLIR)
- Digit Map for dial plan
- Speed Dial
- Local phone book for peer-to-peer calling
- E.164 Numbering & ENUM support
- Hot-Line, Warm-Line support
- Single Number / Account (reprehensive number) for multiple ports
- Recordable greeting message
- Call features:
  - Call Hold, Call Waiting, Call Pickup
  - Call Forward - Unconditional, Busy, No Answer
  - Call Transfer - Unattended, Attended
- Analogue interface
  - Connector : RJ-11
  - Signaling protocol : Loop Start

### **Configuration & Maintenance**

- Configuration methods:
  - Web
  - IVR
  - Telnet
- Status reports:
  - Port status
  - Registration status
  - Ping tests

- STUN/UPnP status
- Hardware / software information
- Firmware Upgrade through HTTP, TFTP, FTP and proprietary image server
- Configuration Backup/Restore
- Reset button (with restore factory default function)
- Front Panel LED : voice ports, WAN, LAN, Register, Power, Alarm
- Optional Auto Provisioning Server (APS) for mass