

User Manual

GW0222 Analog Telephone Adaptor



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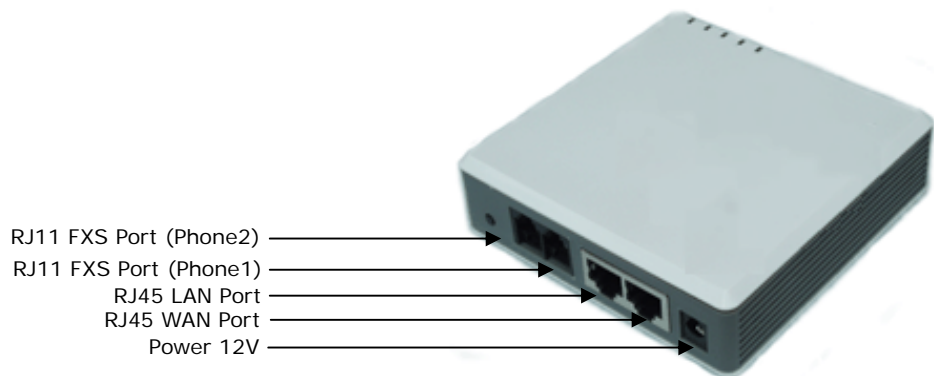
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1 Welcome

GW0222 is an all-in-one VoIP integrated access device that features superb audio quality, rich functionalities, high level of integration, compactness and ultra-affordability. The GW0222 is fully compatible with SIP industry standard and can interoperate with most SIP compliant devices and software on the market. The new GW0222 features two FXS ports each with independent SIP accounts.

2 Installations

GW0222 Analog Telephone Adaptor is an all-in-one VoIP integrated device designed to be a total solution for networks providing VoIP services. The GW0222 VoIP functionalities are available via regular analog telephones. The following photo illustrates the appearance of a GW0222.



GW0222 has two FXS ports. Each FXS port can have a separate SIP account. This is a key feature of GW0222. Both ports can make calls concurrently.

Following are the steps to install a GW0222:

1. Connect a standard touch-tone analog telephone (or fax machine) to PHONE1 port.
2. Connect another standard touch-tone analog telephone (or fax machine) to PHONE2 port.
3. Insert the Ethernet cable into the WAN port and connect the other end of the Ethernet cable to an uplink port (a router or a modem, etc.)
4. Connect a PC to the LAN port of GW0222.
5. Insert the power adapter into the GW0222 and connect it to a wall outlet.

3 What is included in the Package

The GW0222 package contains:

- 1) One GW0222
- 2) One universal power adaptor
- 3) One Ethernet cable

3.1 Safety Compliances

The GW0222 is compliant with various safety standards luding FCC and CE. Its power adaptor is compliant with UL standard. The GW0222 should only operate with the universal power adaptor provided in the package.

3.2 Warranty

End users should contact the company from whom you purchased the product for replacement, repair or refund. If you purchased the product directly from Van Access, contact your Van Access Customer Relationship Manager for a RMA (Return Materials Authorization) number.

Van Access reserves the right to remedy warranty policy without prior notification.

Warning: Please do not attempt to use a different power adaptor. Using other power adaptor may damage the GW0222 and will void the manufacturer warranty.

Caution: Changes or modifications to this product not expressly approved by Van Access, or operation of this product in any way other than as detailed by this User Manual, could void your manufacturer warranty.

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4 Product Overview

4.1 Key Features

- Supports SIP 2.0(RFC 3261), TCP/UDP/IP, RTP/RTCP, HTTP, ICMP, ARP/RARP, DNS, DHCP (both client and server), NTP, PPPoE, STUN, TFTP, etc.
- Built-in router, NAT, Gateway and DMZ port forwarding
- Device bridge mode support
- Supports dual SIP accounts via dual FXS ports
- Powerful digital signal processing (DSP) to ensure superb audio quality; advanced adaptive jitter control and packet loss concealment technology

- Support various vocoders luding G.711 (a-law and u-law), G.723.1 (5.3K/6.3K), G.726 (40K/32K/24K/16K), as well as G.728, G.729A/B, and iLBC.
- Support Caller ID/Name display or block, Hold, Call Waiting/Flash, Call Transfer, Call Forward, Call Waiting Caller ID, in-band and out-of-band DTMF, Dial Plans, etc.
- Support fax pass through and T.38
- Support 3-way conferencing
- Support Silence Suppression, VAD (Voice Activity Detection), CNG (Comfort Noise Generation), Line Echo Cancellation (G.168), and AGC (Automatic Gain Control)
- Support standard encryption and authentication (DIGEST using MD5 and MD5-sess)
- Support for Layer 2 (802.1Q VLAN, 802.1p) and Layer 3 QoS (ToS, DiffServ, MPLS)
- Support automated NAT traversal without manual manipulation of firewall/NAT
- Support device configuration via built-in IVR, Web browser or central configuration file through TFTP or HTTP
- Support firmware upgrade via TFTP or HTTP with encrypted configuration files.
- Ultra compact (wallet size) and lightweight design, great companion for travelers
- Compact, lightweight Universal Power adapter.

4.2 Hardware Specification

The table below lists the hardware specification of GW0222.

<u>Model</u>	<u>GW0222</u>
LAN interface	1xRJ45 10Base-T
WAN interface	1xRJ45 10Base-T
FXS telephone port	2xFXS
Button	1
LED	Green and red color
Universal Switching Power Adaptor	Input: 100-240VAC 50-60 Hz Output: +9VDC, 1200mA, UL certified
Dimension	70mm (W) 130mm (D) 27mm (H)
Weight	0.35kg (0.7lbs)
Temperature	40 - 130oF 5 - 45oC
Humidity	10% - 90% (non-condensing)
Compliance	FCC and CE

5 Basic Operations

5.1 Voice Prompt

GW0222 has stored a voice prompt menu for quick browsing and simple configuration. Currently, the voice prompt menu and the LED button are designed for FXS port 1 only. To enter this voice prompt menu, simply press the button or '***' from the analog phone.

<u>Menu</u>	<u>Voice Prompt</u>	<u>Options</u>
-------------	---------------------	----------------

Main Menu	"Enter a Menu Option"	Enter "*" for the next menu option Enter "#" to return to the main menu Enter 01-06, 47, 86, 99 menu option
01	"DHCP Mode", "Static IP Mode"	Enter "9" to toggle the selection
02	"IP Address " + IP address	The current WAN IP address is announced Enter 12 digit new IP address if in Static IP Mode
03	"Subnet " + IP address	Same as menu 02
04	"Gateway " + IP address	Same as menu 02
05	"DNS Server " + IP address	Same as menu 02
06	"TFTP Server " + IP address	Same as menu 02
47	"Direct IP Calling"	When entered, you will be prompted a dial tone, then enter 12 digit IP address This menu can also be entered by pressing the button again
86	"Voice Messages Pending" "No Voice Messages"	Enter "9" to dial pre-configured phone number to retrieve VM
99	"RESET"	Enter "9" to reboot the phone Enter encoded MAC address to restore factory default setting
	"Invalid Entry"	Automatically returns to main menu

Notes:

- Once the button is pressed, it enters the voice prompt main menu. If the button is pressed again, while it is already in the voice prompt menu, it jumps to "*Direct IP Call*" option and a dial tone is prompted
- "*" shifts down to the next menu option
- "#" returns to the main menu
- "9" functions as the ENTER key in many cases to confirm an option
- All entered digit sequences have known lengths - 2 digits for menu option and 12 digits for IP address. Once all of the digits are collected, the input will be processed.
- Key entry can not be deleted but the phone may prompt error once it is detected

5.2 Make Phone Calls

5.2.1 Calling phone or extension numbers

To make a phone or extension number call:

- Dial the number directly and wait for 4 seconds (default "No Key Entry Timeout"). Or
- Dial the number directly, and press # (assuming that "Use # as dial key" is selected in web configuration).

Other functions available during the call are call-waiting/flash, call-transfer, and call-forward.

5.2.2 Direct IP calls

Direct IP calling allows two phones, that is, a GW0222 with an analog phone and another VoIP Device,

to talk to each other in an ad hoc fashion without a SIP proxy. VoIP calls can be made between two phones if:

- Both GW0222 and the other VoIP device have public IP addresses, or
- Both GW0222 and the other VoIP device are in the same LAN using private or public IP addresses, or
- Both GW0222 and the other VoIP device can be connected through a router using public or private IP addresses.

To make a direct IP call, first pick up the analog phone or turn on the speakerphone on the analog phone, follow Section 5.1 with voice prompt 47, followed by the 12-digit target IP address. Destination ports can be specified by using “*4” (encoding for “:”) followed by the encoded port number.

Following is a table of the encoding scheme for the most commonly used characters:

<u>Input</u>	<u>Meaning</u>
00	0
01	1
02	2
03	3
04	4
05	5
06	6
07	7
08	8
09	9
*0	. (dot character)
*4	: (column character)

Examples:

If the target IP address is 192.168.0.160, the dialing convention is **Voice Prompt with option 47, then 192168000160** followed by pressing the “#” key if it is configured as a send key or wait 4 seconds. In this case, the default destination port 5060 is used if no port is specified.

If the target IP address/port is 192.168.1.20:5062, then the dialing convention would be: **Voice Prompt with option 47, then 192168001020*45062** followed by pressing the “#” key if it is configured as a send key or wait for 4 seconds.

5.2.3 Blind Transfer

Assuming that call party A and B are in conversation. A wants to *Blind Transfer* B to C:

1. A presses FLASH (on the analog phone, or Hook Flash for old model phones) to get a dial tone.
2. Then A dials *87 then dials C’s number, and then #(or wait for 4 seconds)
3. A can hang up.

Note: *Call Feature* has to be set to YES.

A can hold on to the phone and wait for one of the three following behaviors:

- A quick confirmation tone (temporarily using the call waiting indication tone) followed by a dial tone. This indicates the transfer is successful (transferee has received a 200 OK from transfer target). At this point, A can either hang up or make another call.

- A quick busy tone followed by a restored call (on supported platforms only). This means the transferee has received a 4xx response for the INVITE and we will try to recover the call. The busy tone is just to indicate to the transferor that the transfer has failed.
- Busy tone keeps playing. This means we have failed to receive the second NOTIFY from the transferee and decided to time out. Note: this does not indicate the transfer has been successful, nor does it indicate the transfer has failed. When transferee is a client that does not support the second NOTIFY (such as our own earlier firmware), this will be the case. In bad network scenarios, this could also happen, although the transfer may have been

5.2.4 Attended Transfer

Assuming that call party A and B are in conversation. A wants to *Attend Transfer* B to C:

1. A presses FLASH (on the analog phone, or Hook Flash for old model phones) to get a dial tone
2. A then dial C's number then # (or wait for 4 seconds). A and C now in conversation.
3. A can hang up.

Note: When intended Transfer failed, if A hangs up, the GW0222 will ring user A again to remind A that B is still on the call, by pressing FLASH or Hook again will restore the conversation between A and B.

5.2.5 3-Way Conferencing

Assuming that call party A and B are in conversation. A wants to bring C in a conference:

1. A presses FLASH (on the analog phone, or Hook Flash for old model phones) to get a dial tone.
2. A dials *23 then C's number then # (or wait for 4 seconds). A and C are now in conversation.
3. A presses FLASH again to begin conference.

5.3 Call Features

5.3.1 Call Features Table

Following table shows the call features of GW0222.

Key	Call Features
*30	Block Caller ID (for all subsequent calls)
*31	Send Caller ID (for all subsequent calls)
*67	Block Caller ID (per call)
*82	Send Caller ID (per call)
*50	Disable Call Waiting (for all subsequent calls)
*51	Enable Call Waiting (for all subsequent calls)
*70	Disable Call Waiting. (Per Call)
*71	Enable Call Waiting (Per Call)
*72	Unconditional Call Forward. To use this feature, dial "**72" and get the dial tone. Then dial the forward number and "#" for a dial tone, then hang up.
*73	Cancel Unconditional Call Forward To cancel "Unconditional Call Forward", dial "*73" and get the dial tone, then hang up.
*90	Busy Call Forward To use this feature, dial "**90" and get the dial tone. Then dial the forward number and "#" for a dial tone, then hang up.
*91	Cancel Busy Call Forward

	To cancel "Busy Call Forward", dial "*91" and get the dial tone, then hang up
*92	Delayed Call Forward To use this feature, dial "*92" and get the dial tone. Then dial the forward number and "#" for a dial tone, then hang up.
*93	Cancel Delayed Call Forward To cancel this Forward, dial "*93" and get the dial tone, then hang up
Flash/Hook	When in conversation, this action will switch to the new incoming call if there is a call waiting indication. When in conversation without an incoming call, this action will switch to a new channel for a new call.

5.4 Fax Support

GW0222 supports FAX in two modes: T.38 (Fax over IP) and fax pass through. T.38 is the preferred method because it is more reliable and works well in most network conditions. If the service provider supports T.38, please use this method by selecting Fax mode to be T.38. If the service provider does not support T.38, pass-through mode may be used. To send or receive faxes in fax pass through mode, users will need to select all the Preferred Codecs to be PCMU/PCMA.

5.5 LED Light Pattern Indication

Following tables show the LED light pattern indication. The LED shows PHONE1 status only.

RED LED indicates abnormal status	
DHCP Failed or WAN No Cable	Button flashes every 2 seconds (if DHCP is configured)
GW0222 fails to register	Button flashes every 2 seconds (if SIP server is configured)

GREEN LED indicates normal working status	
Message Waiting Indication	Button flashes every 2 seconds
RINGING	Button flashes at 1/10 second
RINGING INTERVAL	Button flashes every second

6 Configuration Guide

6.1 Configuring through Voice Prompt

6.1.1 DHCP Mode

Follow section 5.1 with voice menu option 01 to enable GW0222 to use DHCP.

6.1.2 STATIC IP Mode

Follow section 5.1 with voice menu option 01 to enable GW0222 to use STATIC IP mode, then use option 02, 03, 04 to set up GW0222's IP, Subnet Mask, Gateway respectively.

6.2 Configuring GW0222 with Web Browser

GW0222 has an embedded Web server that will respond to HTTP GET/POST requests. It also has embedded HTML pages that allow users to configure the GW0222 through a Web browser such as Microsoft's IE and AOL's Netscape.

6.2.1 Access the Web Configuration Menu

The GW0222 HTML configuration menu can be accessed via LAN or WAN port:

- From the LAN port use the default LAN gateway IP address:
http://192.168.2.1
- The WAN port HTML configuration option is disabled by default from factory. To access the HTML configuration menu from the WAN port, first enable the "WAN side HTTP access" option by accessing the configuration via LAN port. With the WAN side HTTP access enabled, then get the WAN IP address of the GW0222 through section 5.1 with menu option 02. The GW0222's Web Configuration page can be accessed by the following URI via WAN port:
http:// IP-Address

where the **IP-Address** is the WAN IP address of the GW0222.

6.2.2 Web Configuration Page

Once this HTTP request is entered and sent from a Web browser, the GW0222 will respond with the following login screen:



The screenshot shows a login interface with a light blue background and a dark blue header bar. Below the header, the word "Password" is displayed in bold black text. To the right of "Password" is a white text input field with a thin border. Further to the right is a rectangular button with rounded corners, containing the word "Login" in black text.

The password is case sensitive.

The factory default password for End User is "123".

The factory default password for Super User is "voip".

6.3 Device Status

After a correct password is entered in the login screen, the embedded Web server inside the GW0222 will respond with the Configuration page which is explained in details below.

<p>VOIP</p> <ul style="list-style-type: none"> - DEVICE STATUS + BASIC OPTIONS + SUPER OPTIONS + FXS1 PORT + FXS2 PORT 	Status	
	MAC Address	00.09.45.70.C4.58
	WAN IP Address	192.168.1.121
	Product Main Chip	T15000
	Software Version	2.0.9.9
	System Up Time	0 day(s) 0 hour(s) 5 minute(s)
	Registered Status	No
	PPPoE Link Up	disabled
	NAT	detected NAT type is open Internet
	<input type="button" value="Reboot"/>	

MAC Address	The device ID, in HEX format. This is a very important ID for ISP troubleshooting.
WAN IP Address	This field shows WAN port IP address.
Product Main Chip	Chip Model Info
Software Version	Program: This is the main software release, its number is always used for firmware upgrade.
System Up Time	This field indicates how long the device has been up since the last reboot.
Registered Status	This field indicates whether the device is registered to the SIP server.
PPPoE Link Up	This field shows whether the PPPoE connection is enabled or not.
NAT	This field shows what kind NAT the GW0222 is connected to via its WAN port. It is based on STUN protocol.

6.4 Basic Options

6.4.1 WAN Settings

BASIC OPTIONS --> WAN Settings	
<input checked="" type="radio"/> Dynamically Assigned IP (DHCP by default or PPPoE)	
PPPoE Account ID	<input type="text"/>
PPPoE Password	<input type="text"/>
Preferred DNS Server	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
<input type="radio"/> Static IP	
IP Address	<input type="text"/> 192 . <input type="text"/> 168 . <input type="text"/> 0 . <input type="text"/> 160
Subnet Mask	<input type="text"/> 0 . <input type="text"/> 0 . <input type="text"/> 0 . <input type="text"/> 0
Default Router	<input type="text"/> 0 . <input type="text"/> 0 . <input type="text"/> 0 . <input type="text"/> 0
DNS Server 1	<input type="text"/> 0 . <input type="text"/> 0 . <input type="text"/> 0 . <input type="text"/> 0
DNS Server 2	<input type="text"/> 0 . <input type="text"/> 0 . <input type="text"/> 0 . <input type="text"/> 0
Cloned WAN MAC Addr	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> (In hex format)
<input type="button" value="SaveSet"/> <input type="button" value="Reboot"/>	

IP Address	There are 2 modes under which the GW0222 can operate: - If DHCP mode is enabled, then all the field values for the Static IP mode are not used (even though they are still saved in the Flash memory.) The GW0222 will acquire its IP address from the first DHCP server it discovers from the LAN it is connected. To use the PPPoE feature the PPPoE account settings need to be set. The GW0222 will attempt to establish a PPPoE session if any of the PPPoE fields is set. - If Static IP mode is enabled, then the IP address, Subnet Mask, Default Router IP address, DNS Server 1 (primary), DNS Server 2 (secondary) fields will need to be configured. These fields are reset to zero by default.
Cloned WAN MAC Address	Allow the user to set a specific MAC address. Set in Hex format

6.4.2 WAN Settings

BASIC OPTIONS --> LAN Settings	
LAN Subnet Mask	<input type="text" value="255.255.255.0"/> (Default is 255.255.255.0)
LAN IP	<input type="text" value="192.168.2.1"/> (Base IP for the LAN port, default is 192.168.2.1)
DHCP IP Lease Time	<input type="text" value="120"/> Hours (Default is 120 hours or 5 days)
<input type="button" value="SaveSet"/> <input type="button" value="Reboot"/>	

LAN Subnet Mask	Sets the LAN subnet mask. Default value is 255.255.255.0
LAN DHCP Base IP	Base IP for the LAN port which functions as a Gateway for the subnet. Default value is 192.168.2.1
DHCP IP Lease Time	Value is set in units of hours. Default value is 120hr (5 Days.) The time IP address are assigned to the LAN clients

6.4.2 WAN Settings

BASIC OPTIONS --> NAT Settings	
Device Mode	<input checked="" type="radio"/> NAT Router <input type="radio"/> Bridge
DMZ IP	<input type="text"/>
<input type="button" value="SaveSet"/> <input type="button" value="Reboot"/>	

Device Mode	To use the device as a router or a bridge.
DMZ IP	Forward all WAN IP traffic to a specific IP address if no matching port is used by GW0222 itself or in the defined port forwarding.

6.4.3 Other Settings

BASIC OPTIONS --> Other Settings	
Basic User Password	<input type="text"/> (Basic user password to configure this device)
Time Zone	<input type="text" value="GMT-5:00 (US Eastern Time, New York)"/> ▼
Daylight Savings Time	<input checked="" type="radio"/> No <input type="radio"/> Yes (If set to Yes, display time will be 1 hour ahead of normal time)
<input type="button" value="SaveSet"/> <input type="button" value="Reboot"/>	

Basic User Password	This contains the password to access the Web Configuration Menu.
Time Zone	This parameter controls how the displayed date/time will be adjusted according to the specified time zone.
Daylight Savings Time	This parameter controls whether the displayed time will be daylight savings time or not. If set to Yes, then the displayed time will be 1 hour ahead of normal time.

6.5 Super Options

6.5.1 SIP Settings

SUPER OPTIONS -->SIP Settings	
NAT Traversal	<input type="radio"/> No <input checked="" type="radio"/> Yes, STUN server is: <input type="text"/> (URL or IP:Port)
Keep Connected Interval	<input type="text" value="20"/> Seconds (Default 20 seconds)
Use NAT IP	<input type="text"/> (If specified, this IP address is used in SIP/SDP message)
<input type="button" value="SaveSet"/> <input type="button" value="Reboot"/>	

NAT Traversal	This parameter defines whether the GW0222 NAT traversal mechanism will be activated or not. If activated (by choosing "Yes") and a STUN server is also specified, then the GW0222 will behave according to the STUN client specification. Under this mode, the embedded STUN client inside the GW0222 will attempt to detect if and what type of firewall/NAT it is sitting behind through communication with the specified STUN server. If the detected NAT is a Full Cone, Restricted Cone, or a Port-Restricted Cone, the GW0222 will attempt to use its mapped public IP address and port in all its SIP and SDP messages. If the NAT Traversal field is set to "Yes" with no specified STUN server, the GW0222 will periodically (every 20 seconds or so) send a blank UDP packet (with no payload data) to the SIP server to keep the "hole" on the NAT open.
Keep Connected Interval	This parameter specifies how often the GW0222 sends a blank UDP packet to the SIP server in order to keep the "hole" on the NAT open.
Use NAT IP	NAT IP address used in SIP/SDP message. Default is blank.

6.5.2 Sys Feature

SUPER OPTIONS --> Sys Feature	
Layer 3 QoS	<input type="text" value="48"/> (Diff-Serv or Precedence value)
Layer 2 QoS	802.1Q/VLAN Tag <input type="text" value="0"/> 802.1p priority value <input type="text" value="0"/> (0-7)
No Key Entry Timeout	<input type="text" value="4"/> Seconds (Default 4 seconds)
FXS Impedance	<input type="text" value="600R (North America)"/>
Onhook Voltage	<input type="text" value="36V"/>
Caller ID Scheme	<input type="text" value="Bellcore (North America)"/>
Polarity Reversal	<input checked="" type="radio"/> No <input type="radio"/> Yes (reverse polarity upon call establishment and termination)
Enable WAN Web Access	<input type="radio"/> No <input checked="" type="radio"/> Yes If "Yes", WAN WEB access to this configuration page is enabled)
TFTP Server	<input type="text" value="0.0.0.0"/> (Remote software upgrade and configuration)
NTP Server	<input type="text" value="time.nist.gov"/> (URL or IP address)
Syslog Server	<input type="text"/>
Syslog Level	<input type="text" value="NONE"/>
Super Password	<input type="text"/> (Device password to configure this page)

Layer 3 OoS	This field defines the layer 3 QoS parameter that can be the value used for IP Precedence or Diff-Serv or MPLS. Default value is 48.
Layer 2 OoS	This contains the value used for layer 2 VLAN tag. Default setting is blank.
No Key Entry Timeout	Default is 4 seconds.
Enable WAN Web Access	If this parameter is set to "No", the HTML configuration update via WAN port is disabled.
TFTP Server	This is the IP address of the configured TFTP server. If it is non-zero or not blank, the GW0222 will attempt to retrieve new configuration file or new code image from the specified TFTP server at boot time. It will make up to 3 attempts before timeout and then it will start the boot process using the existing code image in the Flash memory. If a TFTP server is configured and a new code image is retrieved, the new downloaded image will be verified and then saved into the Flash memory.
NTP Server	This parameter defines the URI or IP address of the NTP server which is used by the GW0222 to display the current date/time.
Super Password	This contains the password to access the Advanced Web Configuration page.

6.6 FXS 1 Port

6.6.1 SIP Settings

FXS1 PORT--> SIP Settings	
SIP Server Address	<input type="text"/> (IP address or URL)
Outbound Proxy	<input type="text"/> (IP address or URL,if any)
SIP User ID	<input type="text"/> (Assigned user ID or phone number)
Account ID	<input type="text"/> (Can be same as or different from SIP User ID)
Authentication Password	<input type="password"/> (For security,password does not display)
Display Name	<input type="text"/> (Optional)
Use DNS SRV	<input type="radio"/> Yes <input checked="" type="radio"/> No
User ID is phone number	<input type="radio"/> Yes <input checked="" type="radio"/> No
SIP Registration	<input checked="" type="radio"/> Yes <input type="radio"/> No
Unregister On Reboot	<input type="radio"/> Yes <input checked="" type="radio"/> No
Register Expiration	<input type="text" value="60"/> Minutes (Default is 1 hour, max 45 days)
Local SIP Port	<input type="text" value="5060"/> (Default 5060)
Local RTP Port	<input type="text" value="5004"/> (1024-65535, default 5004)
Use Random Port	<input type="radio"/> Yes <input checked="" type="radio"/> No
Proxy-Require	<input type="text"/> (If specified, the content will appear in Proxy-Require header)
Send DTMF Type	<input type="radio"/> In-Audio <input checked="" type="radio"/> Via RTP (RFC2833) <input type="radio"/> Via SIP INFO
DTMF Payload Type	<input type="text" value="101"/>
Send Anonymous	<input type="radio"/> Yes <input checked="" type="radio"/> No (If "Yes", caller ID will be blocked)
Send Flash Event	<input type="radio"/> Yes <input checked="" type="radio"/> No (Flash will be sent as a DTMF event if set to "Yes")
Fax Mode	<input checked="" type="radio"/> T.38 (Auto Detect) <input type="radio"/> Pass-Through
<input type="button" value="SaveSet"/> <input type="button" value="Reboot"/>	

SIP Server Address	SIP Server's URI or IP address
Outbound Proxy	SIP Outbound Proxy Server's URI or IP address
SIP User ID	SIP service subscriber's User ID
Account ID	SIP service subscriber's Account ID. Can be identical to or different from SIP User ID
Authentication Password	SIP service subscriber's account password
Display Name	SIP service subscriber's name which will be used for Caller ID display
Use DNS SRV	Default is No. If set to Yes the client will use DNS SRV for server lookup
User ID is phone number	If the GW0222 has an assigned PSTN telephone number, this field should be set to "Yes". Otherwise, set it to "No". If "Yes" is set, a "user=phone" parameter will be attached to the "From" header in

	SIP request
SIP Registration	This parameter controls whether the GW0222 needs to send REGISTER messages to the proxy server. The default setting is "Yes".
Unregister On Reboot	Default is No. If set to yes, the SIP user will be unregistered on reboot.
Register Expiration	This parameter allows the user to specify the time frequency (in minutes) the GW0222 refreshes its registration with the specified registrar. The default interval is 60 minutes (or 1 hour). The maximum interval is 65535 minutes (about 45 days).
Local SIP Port	This parameter defines the local SIP port the GW0222 will listen and transmit. The default value for FXS port is 5060.
Local RTP Port	This parameter defines the local RTP-RTCP port pair the GW0222 will listen and transmit. It is the base RTP port for channel 0. When configured, channel 0 will use this port _value for RTP and the port_value+1 for its RTCP; channel 1 will use port_value+2 for RTP and port_value+3 for its RTCP. The default value for FXS port is 5004.
Use Random Port	This parameter, when set to Yes, will force random generation of both the local SIP and RTP ports. This is usually necessary when multiple GW0222 are behind the same NAT.
Proxy-Require	SIP Extension to notify SIP server that the unit is behind the NAT/Firewall.
Send DTMF	This parameter controls how DTMF events are transmitted. There are 3 ways: in audio which means DTMF is combined in audio signal (not very reliable with low-bit-rate codec), via RTP (RFC2833), or via SIP INFO.
DTMF Payload Type	This parameter sets the payload type for DTMF using RFC2833
Send Anonymous	If this parameter is set to "Yes", the "From" header in outgoing INVITE message will be set to anonymous, essentially blocking the Caller ID from displaying.
Send Flash Event	This parameter allows users to control whether to send an SIP NOTIFY message indicating the Flash event, or just to switch to the voice channel when users press the Flash key.
Fax Mode	Select to send & receive fax via Internet or PSTN. Default is T.38 protocol (via internet)

6.6.2 Audio Settings

FXS1 PORT--> Audio Settings	
Preferred Codecs	Preference 1: " G723" Preference 2: " G711A" Preference 3: " G723" Preference 4: " G729" Preference 5: " G726-32" Preference 6: " iLBC"
G723 Rate:	<input checked="" type="radio"/> 6.3 kbps encoding rate <input type="radio"/> 5.3 kbps encoding rate
iLBC Frame Size	<input checked="" type="radio"/> 20 ms <input type="radio"/> 30 ms
iLBC Payload Type	<input type="text" value="97"/> (Between 96 and 127, default is 98)
Voice Frames per TX	<input type="text" value="2"/> (Up to 10,20,32,and 64 for G711,G726,G723,and other codecs,respectively)
Silence Suppression	<input type="radio"/> Yes <input checked="" type="radio"/> No
<input type="button" value="SaveSet"/> <input type="button" value="Reboot"/>	

Preferred Codecs	The GW0222 supports up to 7 different Codecs types including G.711 A-/U-law, G.723.1, G.726, G.728, G.729A/B, iLBC. Depending on the product model, some of these Codecs may not be provided in standard release. Users can configure Codecs in a preference list that will be included with the same preference order in SDP message. Choosing the appropriate option in "Choice 1" can enter the first Codec in this list. Similarly, choosing the appropriate option in "Choice 7" can enter the last Codec in this list.
G.723 Rate	This defines the encoding rate for G723 Codec. By default, 6.3kbps rate is chosen.
iLBC Frame Size	This sets the iLBC size in 20ms or 30ms
iLBC Payload Type	This defines payload time for iLBC. Default value is 98. The valid range is between 96 and 127.
Voice Frames per TX	This field contains the number of voice frames to be transmitted in a single packet. When setting this value, the user should be aware of the requested packet time (used in SDP message) as a result of configuring this parameter. This parameter is associated with the first Codec in the above Codec Preference List or the actual used payload type negotiated between the 2 conversation parties at run time. e.g., if the first Codec is configured as G723 and the "Voice Frames per TX" is set to be 2, then the "ptime" value in the SDP message of an INVITE request will be 60ms because each G723 voice frame contains 30ms of audio. Similarly, if this field is set to be 2 and if the first Codec chosen is G729 or G711 or G726, then the "ptime" value in the SDP message of an INVITE request will be 20ms. If the configured voice frames per TX exceeds the maximum allowed value, the GW0222 will use and save the maximum allowed value for the corresponding first Codec choice. The maximum value for PCM is 10(x10ms) frames; for G726, it is 20 (x10ms) frames; for G723, it is 32 (x30ms) frames; for G729/G728, 64 (x10ms) and 64 (x2.5ms) frames respectively.
Silence Suppression	This controls the silence suppression/VAD feature of G723 and G729. If set to "Yes", when a silence is detected, small quantity of VAD

	packets (instead of audio packets) will be sent during the period of no talking. If set to "No", this feature is disabled.
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6.6.3 Dial Settings

FXS1 PORT--> Dial Settings	
Early Dial	<input type="radio"/> Yes <input checked="" type="radio"/> No (Select "Yes" only if proxy supports 484 response)
Dial Plan Prefix	<input type="text"/> (This prefix string is added to each dialed number)
Use # as Dial Key	<input checked="" type="radio"/> Yes <input type="radio"/> No (If set to "Yes", "#" will function as the "Redial" key)
Offhook Auto-Dial	<input type="text"/> (User ID/extension to dial automatically when offhook)
Enable Call Features	<input checked="" type="radio"/> Yes <input type="radio"/> No (If "Yes", Call Forwarding & Call-Waiting-Disable are supported locally)
Disable Call-Waiting	<input type="radio"/> Yes <input checked="" type="radio"/> No
<input type="button" value="SaveSet"/> <input type="button" value="Reboot"/>	

Early Dial	Default is No. Use only if proxy supports 484 response
Dial Plan Prefix	Sets the prefix added to each dialed number
Use # as Dial Key	This parameter allows users to configure the "#" key to be used as the "Send" (or "Dial") key. If set to "Yes", pressing this key will immediately trigger the sending of dialed string collected so far. In this case, this key is essentially equivalent to the "(Re)Dial" key. If set to "No", this "#" key will then be included as part of the dial string to be sent out.
Offhook Auto-Dial	This parameter allows users to configure a User ID or extension number to be automatically dialed upon offhook. Please note that only the user part of a SIP address needs to be entered here. The GW0222 will automatically append the "@" and the host portion of the corresponding SIP address.
Enable Call Features	Default is Yes. If set to Yes, Call Forwarding & Do-Not-Disturb are supported locally
Disable Call-Waiting	Default is No.

6.6.4 Other Settings

FXS1 PORT--> Other Settings	
SUBSCRIBE for MWI	<input checked="" type="radio"/> No, do not send SUBSCRIBE for Message Waiting Indication <input type="radio"/> Yes, send periodic SUBSCRIBE for Message Waiting Indication
Special Feature	Standard
Lock Keypad Update	<input checked="" type="radio"/> No <input type="radio"/> Yes (If "Yes", configuration update via keypad is disabled)
<input type="button" value="SaveSet"/> <input type="button" value="Reboot"/>	

SUBSCRIBE for MWI	Default is No. When set to "Yes" a SUBSCRIBE for Message Waiting
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	Indication will be sent periodically.
FXS Impedance	Selects the impedance of the analog telephone connected to the Phone port.
Special Feature	
Onhook Voltage	Select the onhook voltage to suit different area or PBX
Polarity Reversal	Select Polarity Reversal to adapt some call charge/billing system. Default is No.
Lock Keypad Update	If this parameter is set to "Yes", the configuration update via keypad is disabled.

6.7 FXS 2 Port

The setting is same as the FXS 1 Port.

7 Warranty

End users should contact the company from whom you purchased the product for replacement, repair or refund.

If you purchased the product directly from Van Access, contact your Van Access Sales and Service Representative for a RMA (Return Materials Authorization) number.

Van Access reserves the right to remedy warranty policy without prior notification.

Warning: Please do not attempt to use a different power adaptor. Using other power adaptor may damage the GW0222 and will void the manufacturer warranty.

Caution: Changes or modifications to this product not expressly approved by Van Access, or operation of this product in any way other than as detailed by this User Manual, could void your manufacturer warranty.