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User Manual

GW0221
Analog Telephone Adaptor

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1   WELCOME

GW0221 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 GW0221 is fully compatible with SIP industry standard and can interoperate with many other SIP compliant devices and software on the market.

Special compatibility features include:

- • Nortel MCS
- • Standard SIP
- • Broadsoft
- • Howdy

GW0221 allows call origination and termination from/to the PSTN line (via FXO port which is labeled "Line") and automated emergency call routing through PSTN network (in the case of power failure).

2   WHAT IS IN THE PACKAGE

The GW0221 package contains:

1) One GW0221 VoIP adapter
2) One universal power supply
3) One Ethernet cable
4) One phone cable

3   PRODUCT OVERVIEW

3.1   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
• Supports call origination and termination from/to the PSTN network
• Powerful digital signal processing (DSP) to ensure superb audio quality; advanced adaptive jitter control and packet loss concealment technology
• Support various codecs including 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, in-band and out-of-band DTMF, Dial Plans, etc.
• Support fax pass through and T.38
• 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.

3.2   Hardware Specification

The table below lists the hardware specification of GW0221.

Model	GW0221
LAN interface	1 x RJ45 10 Base-T
WAN interface	1 x RJ45 10 Base-T
FXS telephone port	1 x RJ11
FXO port	1 x RJ11
Button	1
LED Light	Green and red color
Universal Switching Power Supply	Input: 100-240VAC 50-60 Hz
	Output: +9VDC, 500mA,
Dimension	70mm (W)
	110mm (D)
	27mm (H)
All Package Weight	0.30kg
Temperature	40 – 130 F
	5 – 45 C
Humidity	10 - 90%
Certification	FCC, CE

4 INSTALLATIONS

The GW0221 is an all-in-one VoIP integrated device designed to be a total solution for networks providing VoIP services.   The GW0221 VoIP features are available when you connect any regular analog telephone to it.

GW0221 has one FXS port (labeled "Phone") and one FXO port (labeled "Line"). After setting up the GW0221, you can make PSTN calls by pressing *00.   Without pressing *00, all your calls will be VoIP. You can also receive PSTN calls and VoIP calls.

Following are the steps to install a GW0221:

1. Connect a standard touch-tone analog telephone to the "Phone" port.
2. Insert a standard RJ11 telephone cable (included with package) into the "Line" port and connect the other end of the telephone cable to a wall jack.
3. Connect a PC to the LAN port of GW0221 (Ethernet cable is included with package).
4. Insert another Ethernet cable into the WAN port of GW0221 and connect the other end of the Ethernet cable to an uplink port (a router, switch, hub, modem, etc)
5. Insert the powers supply (included with package) into the GW0221 and connect it to a power outlet.

4.1   Safety Compliances

The GW0221 is compliant with various safety standards including FCC/CE and C-Tick. Its power adaptor is compliant with UL standard. The GW0221 should only operate with the universal power adaptor provided in the package.

Warning: Please do not use a different power adapter. Using other power adapter may damage the GW0221 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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5   BASIC OPERATIONS

5.1   Get Familiar with Voice Menu

GW0221 has stored a voice prompt menu for quick access to settings and simple configuration.   You can enter this voice prompt menu two ways:

1) Pick up the receiver (or press the Hands free button) of the analog telephone and press "***", or
2) Pick up the receiver (or press the Hands free button) of the analog telephone and press the light button in the middle of the GW0221.

A voice will say, "Enter the new option."   At this point, you can select from the following menu voice prompt options to begin using the GW0221:

Menu	Voice Will Say the Following:	Options
Main Menu	"Enter a new option"	Enter "*" for the next menu option. Enter "#" to return to the main menu.
01	"DHCP Mode", "Static IP Mode"	Enter "9" to select between "DHCP" or "Static" mode.
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 hear dial tone. Enter the 12 digit IP address of the voip device you want to call. This option can also be accessed by picking up the receiver (or use handsfree) and pressing twice on the light button in the gateway.
86	"Voice Messages Pending"	Enter "9" to dial pre-configured phone number to retrieve voicemail messages (if VoIP gatekeeper supports this feature)
99	"RESET"	Enter "9" to reboot the phone.Enter encoded MAC address to restore factory default setting.
	"Invalid Entry"	Automatically returns to main menu

Other Menu Prompt Features:

• Just like pressing "***" on the analog telephone, you can also access the voice menu by pressing once on the center light button of the GW0221.   By pressing twice on the light button, you will hear "Direct IP Calling", which is just like selecting option 47 from the table above.
• "*" 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.
• Incorrect keyed entry cannot be deleted or undone.   The GW0221 will prompt you to start over by telling you that you made an error.

5.2   Make Phone Calls

5.2.1   Calling Phone or Extension Numbers

a) Dial the number directly and wait for 4 seconds (Default is 4 seconds.   To change the default, change the settings via the web configuration page under "No Key Entry Timeout").   Or
b) Dial the number directly, and press # (assuming that "Use # as Dial Key" is set to "YES" during web configuration of your GW0221).

Other functions available during the call are call-waiting/flash, call-transfer, and call-forward.   Your SIP gatekeeper/proxy server needs to support these features in order for them to work.

5.2.2   Direct IP-to-IP Calls

Direct IP calling allows two phones (a GW0221 and another GW0221 or another VoIP device), to call each without a SIP gatekeeper or proxy server.   VoIP calls can be made between two phones without a VoIP service provider if:

• Both GW0221 and the other VoIP device (i.e., another GW0221 or another SIP device) have public IP addresses, or
• Both GW0221 and the other VoIP device (i.e., another GW0221 or another SIP device) are on the same LAN using private or public IP addresses, or
• Both GW0221 and the other VoIP device (i.e., another GW0221 or another SIP 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 use the handsfree button), and follow Section 5.1 using menu option "47".   When you hear the voice say, "Direct IP Calling", enter the 12-digit IP address of the VoIP device you want to call. 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:

Input	Meaning
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)

5.2.2.1   IP-to-IP Dialing Instructions

If the IP address of the device you want to call is 192.168.1.107, then the dialing method is:

> Get voice prompt ("Direct IP Calling") by pressing "***" and then selecting option 47, OR press the light button twice.   Then press **192168001107** followed by pressing the "#" key (if "#" is configured as a enter/send key during web configuration) or wait 4 seconds. In this case, the default destination port 5060 of the device you are calling is used if no port is specified.

If the target IP address/port is 192.168.1.107:5062, then the dialing method would be:

Get voice prompt ("Direct IP Calling") by pressing "***" and then selecting option 47, OR press the light button twice.   Then press **192168001107*45062** followed by pressing the "#" key (if "#" is configured as a enter/send key) or wait 4 seconds.

5.2.3   Blind Transfer

Assuming that call party A and party B are talking to each other on the phone. Party A wants to transfer party B to party C:

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

Note: Call features have to be activated during web configuration by selecting YES to "Enable Call Features".   These features need to be supported by your SIP gatekeeper/proxy server in order to work.

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

• 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 signal from transfer target). At this point, party A can either hang up or make another call.
• A quick busy tone followed by a restored call (on supported SIP gatekeeper platforms only).   This means the transferee has received a 4xx response signal for the INVITE and 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 the GW0221 has failed to receive the second NOTIFY signal 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 uses a device that does not support the second NOTIFY signal, this will be the case. In poor or unstable network scenarios, this could also happen, although the transfer may have been completed successfully.

5.2.4   Attended Transfer

Assuming that call party A and party B are in conversation. Party A wants to attend transfer party B to party C:

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

Note: When Attended Transfer failed and if party A hangs up, the GW0221 will ring party A again to remind party A that party B is still on the call, by pressing FLASH or Hook again will restore the conversation between party A and party B.

5.2.5 3-Way Conference Calls

Assuming that call party A called party B, and now they are in conversation. Party A wants to let party C to attend the conversation:

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

Note: The gatekeeper needs to support this function for this feature or the phones to work.

5.2.6   Make and Receive PSTN Calls

Users can send and receive calls from PSTN.   To receive PSTN calls, simply pick up the phone receiver (or use hands free) when the analog phone rings.   To make a PSTN call, first press *00 (*00 is default.   You can change the "PSTN Access Code" via the web configuration screen) to get the PSTN line dial tone and then dial the PSTN number you want to call.

5.3   CALL FEATURES

5.3.1   Call Features Table

Following table shows the call features of GW0221.

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, and 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, and 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. Dial the forward number and "#" for a dial tone and then hang up.
*93	Cancel Delayed Call Forward. To cancel this feature, dial "*93", get the dial tone, and 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 to make a new call.

5.3.2   PSTN Pass Through

When GW0221 is out of power or loses registration or if the network connection is down, the RJ 11

line jack on the side of GW0221 will function as a pass through connection for PSTN calls.   Users will be able to use the same analog phone for PSTN calls.

5.4   Status Light Indicator

Following tables show the GW0221 button light pattern indication.

Light Indicator	Signal Pattern	Status Meaning
Red Light	Red light flashes every 2 seconds (if internet connection is configured for DHCP)	DHCP failed or WAN port has no ethernet connection.
Red Light	Red light flashes every 2 seconds (if SIP server is configured)	GW0221 is not able to register with SIP gatekeeper/proxy server
Green Light	Button flashes every 2 seconds	Message waiting (if feature is available)
Green Light	Button flashes at 1/10 second	Phone is ringing. Incoming call in progress.

6   CONFIGURATION GUIDE

6.1   Configuring GW0221 using Web Browser (Recommended)

GW0221 has embedded Web server and HTML pages that allow users to configure the GW0221 through an easy-to-use Web browser interface such as Microsoft's Internet Explorer or Netscape browser.   Below is a screen shot of the GW0221 configuration page:

6.1.1 Accessing the Web Configuration Page

The GW0221 configuration page can be accessed via the LAN or WAN port.

6.1.2 Programming GW0221 via the LAN Port:

To program GW0221 via the LAN port, directly connect an Ethernet cable from your PC to the LAN port of the GW0221. After connecting the cable, confirm that the green light of the LAN port is on. If the green light is not on, this means that your PC is not yet properly connected to the GW0221 via the LAN port.

For LAN port configuration, use the following default IP address to access the device:

http://192.168.2.1

6.1.3 Programming GW0221 via the WAN Port:

The WAN port access for web configuration is <u>disabled</u> by default from the factory. To access the web configuration menu from the WAN port, you must first access the device via the device LAN port (see instructions above "Programming GW0221 via the LAN port") and enable the "WAN Web Access to Device" option.

After enabling WAN access, be sure that the WAN port of the GW0221 is connected to an uplink (i.e. router, hub, switch, etc).   Then, get the WAN IP address of the GW0221 by following section 5.1 of this user manual and selecting menu option 02.   Then, access the GW0221 via your web browser by entering the WAN IP address:

http://GW0221's IP Address

Be sure that your PC is connected to the router/hub/switch directly or via the LAN port (which also serves as a pass-through connection for internet/network access for your PC) of the GW0221.

6.1.4   User Programming and Configuration

From your web browser, the GW0221 will show the following login screen:
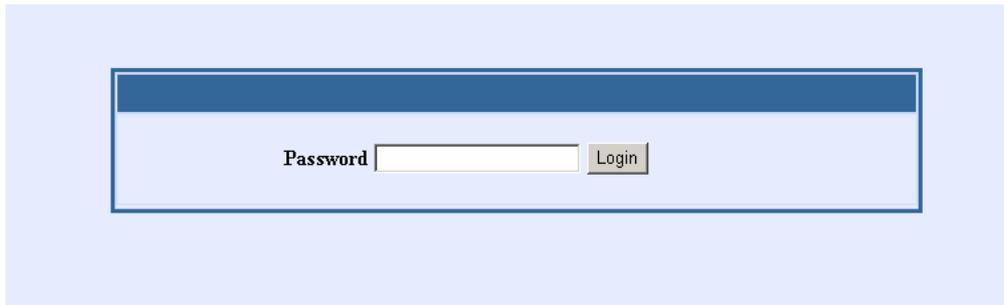
Enter the password and click on the "Login" button.

6.1.5 Passwords

Passwords are case sensitive and all GW0221 devices come with factory default passwords as indicated below:

Advanced User Password for access to Super User Options: **voip**
End User Password for access to Basic User Options: **123**

6.1.6 Configuration Options and Explanations

After a correct password is entered in the login screen, the embedded web server inside the GW0221 will show the configuration page, which is explained in details below:

SIP Settings:

SUPER USER OPTIONS PAGE	
SIP Settings	
Options	**Meaning**
SIP Server Address	Gatekeeper's / SIP Server's URL or IP address
Outbound Proxy	SIP Outbound Proxy Server's URL or IP address
SIP User ID	SIP service subscriber's User ID
Account ID	SIP service subscriber's Authenticate ID. Can be identical to, or different from, SIP User ID
Authentication Password	SIP service subscriber's account password (for security, the password does not 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, then the client will use DNS SRV for server lookup
User ID is Phone Number	If the GW0221 has an assigned PSTN telephone number, then 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 message to SIP server
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 to make the connection feel more "natural". If set to "No", this feature is disabled.
SIP Registration	This parameter controls whether the GW0221 needs to send REGISTER messages to the proxy server. The default setting is "Yes".

Unregister on Reboot	Default is "No." If set to "Yes", then the SIP user will be unregistered on reboot.
Register Expiration	This parameter allows the user to specify the time frequency (in minutes) the GW0221 refreshes its registration with the specified gatekeeper/SIP server. 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 GW0221 listens and transmits signals. The default value for FXS port is **5060**. The default value for FXO port is **5062**.
Local RTP port	This parameter defines the local RTP-RTCP port pair the GW0221 will listen and transmit signals. 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.** The default value for FXO port is **5008**.
Use Random Port	When set to "Yes", this parameter will force random generation of both the local SIP and RTP ports. **This is usually necessary when multiple GW0221 are behind the same NAT.**
NAT Traversal	This parameter defines whether the GW0221 NAT traversal mechanism will be activated or not. If activated (by choosing "Yes") and a **STUN server address** is also specified, then the GW0221 will automatically follow the STUN client specifications. Under this mode, the embedded STUN client inside the GW0221 will attempt to detect if there is a (and 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 GW0221 will attempt to use its mapped public IP address and port in all of its SIP and SDP messages. If the NAT Traversal field is set to "Yes" with no specified STUN server, the GW0221 will periodically (every 20 seconds) 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 GW0221 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.
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 Flash Event	This parameter allows users to control whether to send a SIP NOTIFY message indicating that the phone's Flash key has been pushed, or just to switch to the voice channel when users press the Flash key.
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.

Audio Settings:

Audio Settings	
Options	**Meaning**
Preferred Codec	The GW0221 supports up to 7 different Codec types including G.711 A-/U-law，G.723.1, G.726, G.728, G.729A/B, iLBC. 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.
G723 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. For example, 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 GW0221 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.
Layer 3 QoS	This field defines the layer 3 QoS parameter, which can be the value used for IP Precedence or Diff-Serv or MPLS. Default value is 48.
Layer 2 QoS	This contains the value used for layer 2 VLAN tag. Default setting is blank.

Dial Settings:

Dial Settings	
Options	**Meaning**
Early Dial	Default is "No". Use only if proxy supports 484 response
Dial Plan Prefix	Sets the prefix added to each dialed number
No Key Entry Timeout	Default is 4 seconds. This is the time lapse after entering a phone number for the GW0221 to begin completing your call.
Use # as Dial Key	This parameter allows users to configure the "#" key to be used as the "Send / Enter" (or "Dial") key. If set to "Yes", pressing this key will immediately trigger the sending of dialed numbers entered thus 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.

Off-hook Auto-Dial	This parameter allows users to configure a User ID or extension number to be automatically dialed upon off-hook. Please note that only the user part of a SIP address needs to be entered here. The GW0221 will automatically append the "@" and the host portion of the corresponding SIP address.
Enable Call Features	Default is "No". If set to "Yes", Call Forwarding & Do-Not-Disturb are supported locally
Disable Call Waiting	Default is "No".
PSTN Access Code	This field allows users to customize their own code to access the PSTN line and make PSTN calls. Default is "*00".

Other settings:

Other Settings	
Options	**Meaning**
HTTP Upgrade Server	The URL for the HTTP server used for firmware upgrade and configuration via HTTP. For example, http://upgrade.myVoIPservice.com:6688/GATE102 Here ":6688" is the specific TCP port that the HTTP server is listening to, it can be omitted if using default port 80. Note: Auto Upgrade has to be set to "Yes" to enable HTTP upgrade.
Auto Upgrade	Choose Yes to enable HTTP upgrade and provisioning. In "Check for new firmware every ___ days" field, enter the number of days to check the HTTP server for firmware upgrade or configuration.
Subscribe for MWI:	Default is "No". When set to "Yes" a SUBSCRIBE for Message Waiting Indication will be sent periodically.
FXS Impedance	Selects the impedance of the analog telephone connected to the Phone port.
Lock Keypad Update	If this parameter is set to "Yes", the configuration update via keypad is disabled.
Special Feature	Special compatibility features include • Standard (SIP) • Nortel MCS • Broadsoft • Howdy
WAN Web Access to Device	If this parameter is set to "No", the HTML configuration update via WAN port is disabled.
Super Password	Default is "**voip**" (version difference). This contains the password to access the Advanced Web Configuration page. This field is case sensitive.

WAN Settings:

BASIC USER OPTIONS PAGE	
WAN Settings	
Options	**Meaning**
WAN IP Address	This field shows WAN port IP address.
Cloned WAN MAC Address:	Allow the user to set a specific MAC address. Set in Hex format
LAN Settings	
Options	**Meaning**
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
NAT Settings	
Options	**Meaning**
DMZ IP:	Forward all WAN IP traffic to a specific IP address if no matching port is used by GW0221 itself or in the defined port forwarding.

Port Forwarding:	Allow users to forward a matching (TCP/UDP) port to a specific LAN IP address with a specific (TCP/UDP) port.
Other Settings	
Options	**Meaning**
Basic User Password	Default "**123**". This contains the password to access the Web Configuration Menu. This field is case sensitive.

CURRENT STATUS PAGE	
Options	**Meaning**
MAC Address	The device ID, in HEX format. This is a very important ID for ISP troubleshooting.
WAN IP Address	There are 2 modes under which the GW0221 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 chipset's memory). The GW0221 will acquire its IP address from the first DHCP server it discovers from the office/home network it is connected to. To use the PPPoE feature, the PPPoE account settings need to be set. The GW0221 will attempt to establish a PPPoE session if any of the PPPoE fields have been entered with data. - 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 by the user. These fields are reset to zero by default.

6.1.7   Saving the Configuration Changes

Once a change is made, users should click on the "Update" button in the Configuration page.

The GW0221 will then display the following screen to confirm that the changes have been saved. *Please allow 5 to 10 seconds before rebooting the device.*

CURRENT STATUS	BASIC USER OPTIONS	SUPER USER OPTIONS

Your changes have been saved. Please reboot the device now.

Reboot

6.1.8 Rebooting the GW0221

You can reboot the GW0221 by clicking on the "Reboot" button after each update to the configuration page.   Alternatively, you can reboot by unplugging the power supply of the GW0221 and then powering it on again.   If your GW0221 ever becomes "stuck" or un-responsive, you can unplug the power supply to reboot it.   Frequent rebooting by unplugging the power supply is not recommended and should not be necessary.

6.2 Configuring GW0221 via Voice Prompt

6.2.1 DHCP Mode

Follow section 5.1 with voice menu option 01 to enable GW0221 to use DHCP.

6.2.2 STATIC IP Mode

Follow section 5.1 with voice menu option 01 to enable GW0221 to use STATIC IP mode, then use option 02, 03, 04 to set up GW0221's IP, Subnet Mask, Gateway respectively.

6.3 Configuration through a Central Server

GW0221 devices can be automatically configured from a central provisioning system.

When GW0221 boots up, it will send TFTP or HTTP request to download configuration files.   There are two configuration files, one is "cfg.txt" and the other is "cfg000b82xxxxxx", where "000b82xxxxxx" is the MAC address of the GW0221. For more information regarding configuration file format, please refer to the related documentation.

The configuration file can be downloaded via TFTP or HTTP from the central server. A service provider or an enterprise with large deployment of GW0221s can easily manage the configuration and service provisioning of individual devices remotely and automatically from a central server.   TAPS (Tiger Automated Provisioning System) uses enhanced (NAT friendly) TFTP or HTTP (thus no NAT issues) and other communication protocols to communicate with each individual GW0221 for firmware

upgrade, remote reboot, etc.

Van Access provides a licensed provisioning system called TAPS that can be used to support automated configuration of GW0221.   To enable this feature on the GW0221, a user just needs to enter the IP address of the TAPS server in the TFTP server field of the configuration screen, or enter the HTTP provisioning Server URL in the HTTP Upgrade Server field. Then reboot the GW0221.

For details on how TAPS works, please refer to the documentation of TAPS product.

7   SOFTWARE UPGRADE

To upgrade software, GW0221 can be configured with an HTTP server where the new upgrade file is located.   For example, following URL in the HTTP Upgrade Server:

    http://firmware.myVoIPService.com:6688/GATE102/upgrade

Where firmware.myVoIPService.com is the FQDN of the HTTP server, ":6688" is the TCP port the HTTP server is accessing, "/GW0221/upgrade" is the RELATIVE directory to the root directory in HTTP server.   Thus, you can put different firmware into different directory as well.

Note: To enable HTTP firmware upgrade, "Auto Upgrade" field has to be set to "Yes".   In addition, the VOIP ADAPTER will check the HTTP server in the number of days that is defined in "Check for new firmware every__ days" field.

8   KNOWN LIMITATIONS WITH GW0221

Old PBX / Telephone Switch

If the PSTN line that is connected the "Line" port of the GW0221 comes from a PBX or telephone switch, and the *00 feature is used to make PSTN calls, once you hang up, the GW0221 may not immediately go back to VoIP mode.   The reason is that the PBX or telephone switch continues to send PSTN signals to the GW0221 after the call has been disconnected.   This may happen with older model PBXs / telephone switches.

Device Hanging

Occasionally, the GW0221 may permanently lose its connection with the SIP proxy server or hang. To initiate connection, simply power off and then power on the GW0221.   The reason for the device "getting stuck" varies including gatekeeper settings, internal LAN / network connectivity problems, etc.

9 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 GW0221 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.