WellGate 3232s
32 ports FXS Gateway
User Guide

Version: 1.0
Date: August 2016

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CH1 Introduction

WellGate 3232s Telephony Gateway

WellGate 3232s is a 32 ports FXS SIP gateway which includes 1-WAN/1-LAN (management port) with 10/100 base-T network environment. Field-proven quality of Voice communication and Fax transmission over IP broadband access network to makes WellGate 3232s to be an excellent solution for various VoIP applications.

The core firmware and webpage configuration is consistent with both 4-port FXS gateway (WellGate 2504) and 24-port FXS gateway (WellGate 2424S). So, there is not any difficulty to use WellGate 3232s if you are already using WellGate 2504, 2808 or WellGate 2424S. Besides, if you have established HTTP provision to manage WellGate 2504, it should be able to manage this device as well.

1-1 Physical Interface

- Ethernet port (RJ-45, 10/100 base-T)
  - 1-WAN port, for connect to router, ADSL modem (ATU-R), or switch hub directly. Connect to SIP IP network.
  - 1-LAN port, connect to computer to configure this gateway.
- Telephony port with RJ45 socket (include 4-pair FXS port each).
- Two sockets of RJ-21 Telecom Female connector for telephony port.
- Each FXS port are tied in parallel at corresponding RJ45 and RJ21 connector
- 32 FXS ports to connect to analog phone
- Reset button to return Factory Default setting
- AC power input with auto range 100 to 240Vac 50/60Hz.
- 19-inch, 1U rack mount metal case chassis.
- Status indicated LED
  Indicates Power, Ethernet, Line, SIP and system status

1-2 IP Network connection

IPv4 (RFC 791)/IPV6 (RFC 2460)
IPv6 Auto Configuration (RFC 4862)
MAC Address (IEEE 802.3)

Static IP
DHCP Client (RFC 2131) at WAN port
PPPoE at WAN port
DNS Client at WAN port
TCP/UDP (RFC 793/768)
RTP/RTCP (RFC 1889/1890)
IPV4 ICMP (RFC 792)/IPV6 ICMP (RFC 4443)
TFTP Client
VOIP VLAN Support (802.1q/802.1p)
HTTP/HTTPS Server
QoS Support
Support IPV4 only, IPV6 only or dual stack mode

1-3 Front Panel: LED Indicators

Figure 1-3-1 front panel of WellGate 3232s

LED	Description
Power	When AC power cable is connected and power switch is ON, the LED will light up green.
Status	When the gateway is powered ON and is operated normally, this LED keeps steady ON.
Ready	If one of 32 ports FXS isn't registered successfully to a Proxy, this LED will Flash. Flash: At least one of 32 ports FXS doesn't register successfully. ON: All FXS ports are registered successfully. OFF: Peer to Peer mode or not configure properly.
WAN 10/100 speed, ACT	This will light up green when the gateway's WAN port is physically connected to the public internet. When data is transmitted through this port, it will flash green. The default IP of WAN port is 10.1.1.3.
LAN 10/100 speed, ACT	This will light up green when the gateway's LAN port is physically connected to a local network. When data is transmitted through this port, it will flash green. The default IP of LAN port is 192.168.123.123.
1 to 32	The status LED for FXS port 1-32. It will light up when the connected phone is in busy, or when the connected phone is engaged in a conversation. It will flash when there is an

	incoming ring to this FXS port.

Connector	Description
Power Switch	This is AC power input switch. When it was turned ON, the LED will light up green.
WAN	Provide RJ-45 Ethernet 10/100BaseT connection. Connect SIP IP network to WAN port in operation.
LAN	Provide RJ-45 Ethernet 10/100BaseT connection. Only provide configuration to this gateway locally via computer's IE Web Browser.
Reset	Press this Reset switch and hold on at least 5 seconds will force this gateway's configuration resume factory default setting.
COM	RS-232 DB 9-pin male console cable connection. It is only used for professional engineer to debug this gateway according to instructions from supplier/vendor. Unauthorized access to this console port may damage and crash boot code and can't be resumed normal operation.

1-4 Rear Panel: Phone cable connection

Figure 1-4 rear panel for FXS cable connection

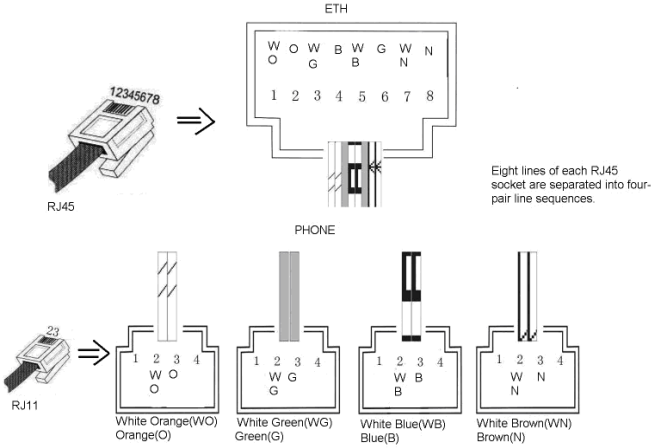
Socket	Description
1 – 8, RJ-45	There are 32 FXS 2-wire loop start telephone ports to connect with analog telephone set. Each RJ-45 socket consists of four-pair FXS ports. Here are eight sockets of RJ-45 to support 32 ports FXS.
1 – 2, RJ-21 Telecom Connector	Here are two sockets of RJ-21 female telecom connector to provide 32 FXS ports. Each RJ-21 socket comprises 16 FXS ports.
AC electric Socket	Electric AC voltage input socket.

Each FXS port number is tied together in parallel with that in RJ-21. That means each FXS port can be accessed via RJ45 socket or RJ-21 telecom connector.

Eight lines of each RJ45 socket are separated into four pairs of FXS line sequences.

RJ45 position	RJ45 lines definition			Four-pair FXS line sequences		FXS port number
	Pin	Signal	UTP Colour	Analog Line Pair		
1	1	TX+	White Orange	Tip 1	1St Pair	1
	2	TX-	Orange	Ring 1		
	3	RX+	White Green	Tip 2	2nd Pair	2
	4	No Signal	Blue	Tip 3	3rd Pair	3
	5	No Signal	White Blue	Ring 3		
	6	RX-	Green	Ring 2	2nd Pair	2
	7	No Signal	White Brown	Tip 4	4th Pair	4
	8	No Signal	Brown	Ring 4		
2	1	TX+	White Orange	Tip 1	1St Pair	5
	2	TX-	Orange	Ring 1		
	3	RX+	White Green	Tip 2	2nd Pair	6
	4	No Signal	Blue	Tip 3	3rd Pair	7
	5	No Signal	White Blue	Ring 3		
	6	RX-	Green	Ring 2	2nd Pair	6
	7	No Signal	White Brown	Tip 4	4th Pair	8
	8	No Signal	Brown	Ring 4		
3	1	TX+	White Orange	Tip 1	1St Pair	9
	2	TX-	Orange	Ring 1		
	3	RX+	White Green	Tip 2	2nd Pair	10
	4	No Signal	Blue	Tip 3	3rd Pair	11
	5	No Signal	White Blue	Ring 3		
	6	RX-	Green	Ring 2	2nd Pair	10
	7	No Signal	White Brown	Tip 4	4th Pair	12
	8	No Signal	Brown	Ring 4		
4	1	TX+	White Orange	Tip 1	1St Pair	13
	2	TX-	Orange	Ring 1		
	3	RX+	White Green	Tip 2	2nd Pair	14
	4	No Signal	Blue	Tip 3	3rd Pair	15
	5	No Signal	White Blue	Ring 3		
	6	RX-	Green	Ring 2	2nd Pair	14
	7	No Signal	White Brown	Tip 4	4th Pair	16
	8	No Signal	Brown	Ring 4		
5	1	TX+	White Orange	Tip 1	1St Pair	17
	2	TX-	Orange	Ring 1		
	3	RX+	White Green	Tip 2	2nd Pair	18
	4	No Signal	Blue	Tip 3	3rd Pair	19
	5	No Signal	White Blue	Ring 3		
	6	RX-	Green	Ring 2	2nd Pair	18
	7	No Signal	White Brown	Tip 4	4th Pair	20
	8	No Signal	Brown	Ring 4		
6	1	TX+	White Orange	Tip 1	1St Pair	21
	2	TX-	Orange	Ring 1		
	3	RX+	White Green	Tip 2	2nd Pair	22
	4	No Signal	Blue	Tip 3	3rd Pair	23
	5	No Signal	White Blue	Ring 3		
	6	RX-	Green	Ring 2	2nd Pair	22
	7	No Signal	White Brown	Tip 4	4th Pair	24
	8	No Signal	Brown	Ring 4		
7	1	TX+	White Orange	Tip 1	1St Pair	25
	2	TX-	Orange	Ring 1		
	3	RX+	White Green	Tip 2	2nd Pair	26
	4	No Signal	Blue	Tip 3	3rd Pair	27
	5	No Signal	White Blue	Ring 3		
	6	RX-	Green	Ring 2	2nd Pair	26
	7	No Signal	White Brown	Tip 4	4th Pair	28
	8	No Signal	Brown	Ring 4		
8	1	TX+	White Orange	Tip 1	1St Pair	29
	2	TX-	Orange	Ring 1		
	3	RX+	White Green	Tip 2	2nd Pair	30
	4	No Signal	Blue	Tip 3	3rd Pair	31
	5	No Signal	White Blue	Ring 3		
	6	RX-	Green	Ring 2	2nd Pair	30
	7	No Signal	White Brown	Tip 4	4th Pair	32
	8	No Signal	Brown	Ring 4		

If you have RJ-11 phone cable connect to RJ45 Phone socket as above table, you will access 3rd pair of phone cable. For example, if you plug-in RJ-11 cable to **position 1 RJ45 socket**, you will access to **FXS port 3**. If you plug-in RJ11 to **position 4 RJ45 socket**, you will access to **FXS port 15**.



RJ-21 Position 1

PIN	Line	FXS port
1	T1	1
2	R1	
3	T2	2
4	R2	
5	T3	3
6	R3	
7	T4	4
8	R4	
9	T5	5
10	R5	
11	T6	6
12	R6	
13	T7	7
14	R7	
15	T8	8
16	R8	
17	T9	9
18	R9	
19	T10	10
20	R10	
21	T11	11
22	R11	
23	T4	12
24	R4	
25	T1	13
26	R1	
27	T2	14
28	R2	
29	T3	15
30	R3	
31	T4	16
32	R4	
33	NA	NA
|	NA	
50	NA	

RJ-21 Position 2

PIN	Line	FXS port
1	T1	17
2	R1	
3	T2	18
4	R2	
5	T3	19
6	R3	
7	T4	20
8	R4	
9	T5	21
10	R5	
11	T6	22
12	R6	
13	T7	23
14	R7	
15	T8	24
16	R8	
17	T9	25
18	R9	
19	T10	26
20	R10	
21	T11	27
22	R11	
23	T4	28
24	R4	
25	T1	29
26	R1	
27	T2	30
28	R2	
29	T3	31
30	R3	
31	T4	32
32	R4	
33	NA	NA
|	NA	
50	NA	

1-5 QUICK SETUP

Note:
Please use Windows IE 8.0 web browser or above version to configure FXS gateway webpage setting. Welltech products don't support other Web Browser such as FireFox or Google Chrome to configure. Otherwise, the configuration from webpage can't be saved successfully.

Login :

Setp1: Setup the administrative PC's IP address to be the same as WellGate 3232s and connect the Ethernet cable into LAN port. Start IE8.0 (or later version) to navigate Wellgate 3232s web management system by typing the default URL which is ***http://192.168.123.123*** (through LAN port) or ***http://10.1.1.3*** (through WAN port). The screen will display User Name and Password (the default user ID is ***root*** and user password is ***root***). (See figure 1-5-1 web access)

LAN port provides static IP address. If you want to use computer to configure this gateway, your Computer need to set up Ethernet interface to static IP and stay the same IP segment with LAN port. With factory default IP address of LAN port at 192.168.123.123, please change your computer's IP address to 192.168.123.100 to access this gateway.

Figure 1-5-1 web access

Step 2: After login, the screen shows the factory default setting at Home page of WellGate 3232s. (See figure 1-5-2 Network configure-1)

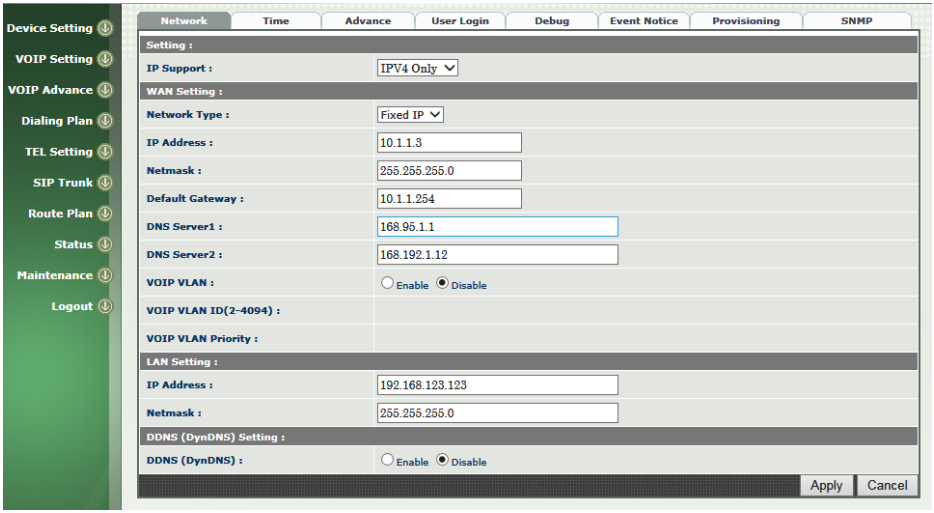


Figure 1-5-2 Network configure-1

Change Default IP Network:

Step 3: After successfully login to the system, you need to change the network configuration. Click ***Device Setting --> Network*** to setup the SIP service network interface at **WAN port** parameters. Enter the desire IP address, subnet mask and default gateway or selected to "DHCP" or "PPPoE". Apply the change by clicking ***Apply*** button as figure (See Figure 1-5-3 Network configure-2).

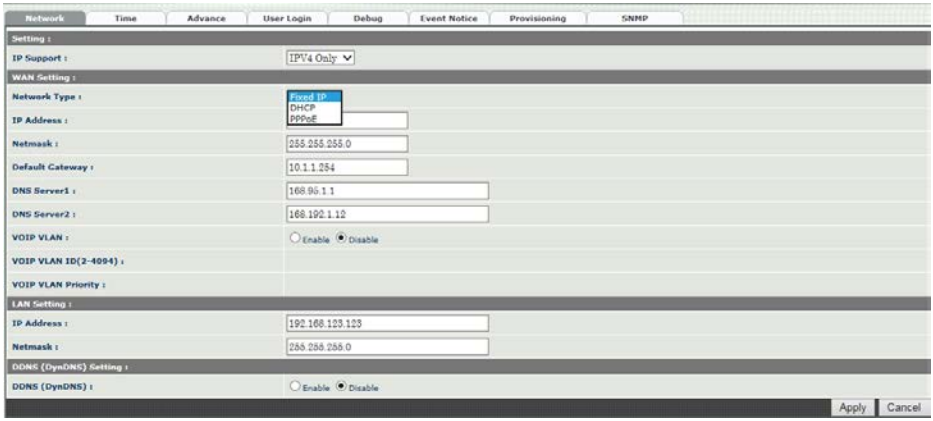


Figure 1-5-3 Network configure-2

Note: if you change WAN port IP address to DHCP, and do not install DHCP Server to WAN port, this gateway will restart every 60 seconds periodically.

Change Default Time setting:

Step 4: When login the gateway by using the updated IP address, the next step is to setup the system time zone. Click ***Device Setting --> Time*** to setup the system. Enter the current SNTP server, time zone and daylight saving parameters. Apply the change by clicking ***Apply*** button. (See figure 1-5-4 Time setting)

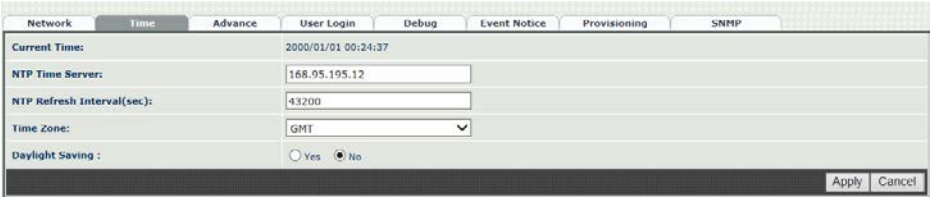


Figure 1-5-4 Time setting

Modify SIP Account Parameter:

Step 5: The next step is to add a SIP trunk for VoIP calling. Click (***SIP trunk and new)*** to create the required SIP trunk. Enter the trunk ID to 1 and enter those SIP parameters. Apply the change by clicking ***Apply*** button. (See Figure 1-5-5 SIP Trunk).

Note: Please don't delete sip trunk, even it is not used. Because of Route Plan feature needs to use SIP Trunk.

Figure 1-5-5 SIP Trunk

Modify FXS SIP Settings: (WellGate 3232s only)

Step 6: Set up the SIP proxy server for FXS calling. For WellGate 3232s, all FXS ports are using the same SIP proxy setting. If you need to use different SIP proxy server, please use SIP trunk instead. Click ***TEL Settings -> SIP Proxy*** to set up the dedicated FXS SIP proxy server. (See Figure 1-5-6 SIP Proxy)

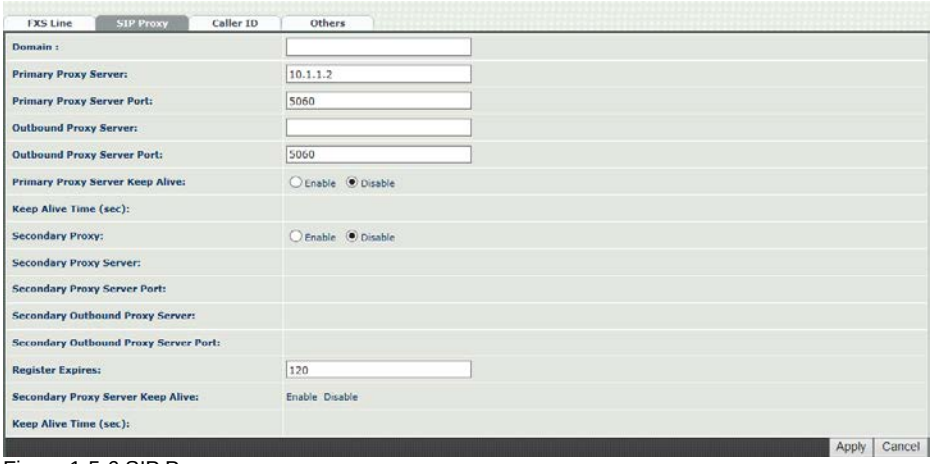


Figure 1-5-6 SIP Proxy

Step 7: Setup each FXS line's parameters by clicking the Line ID (1-32) from **TEL Settings -> FXS Line**. Modify the SIP register information and apply it. (See Figure 1-5-7 FXS Setting and Figure 1-5-8 Line setting.) Factory has default FXS TEL number setting from 1001 to 1032 which is corresponding to FXS port 1 to 32.

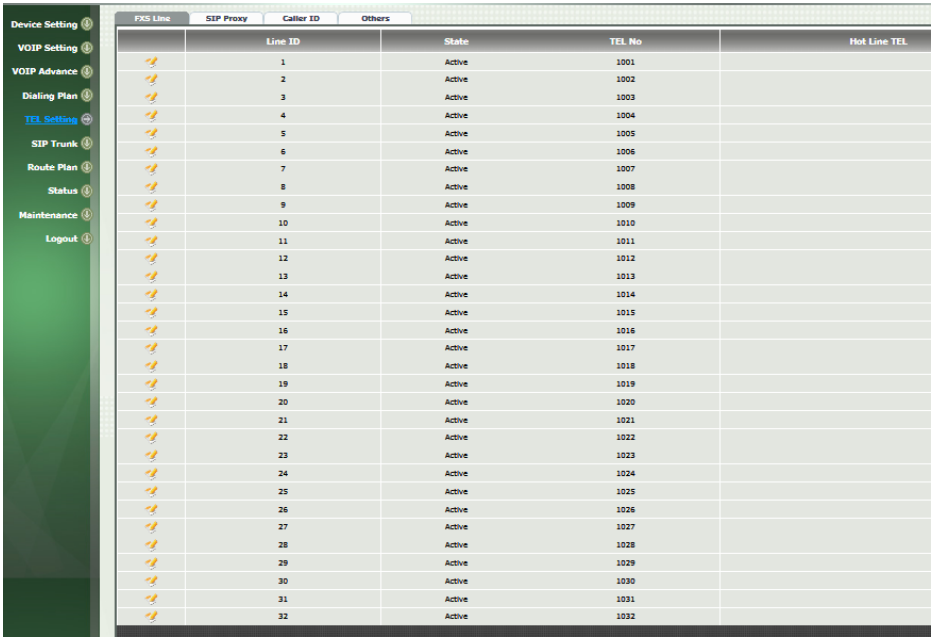


Figure 1-5-7 FXS Setting

Double click FXS port (Line ID) to enter **Modify Line Setting** screen.

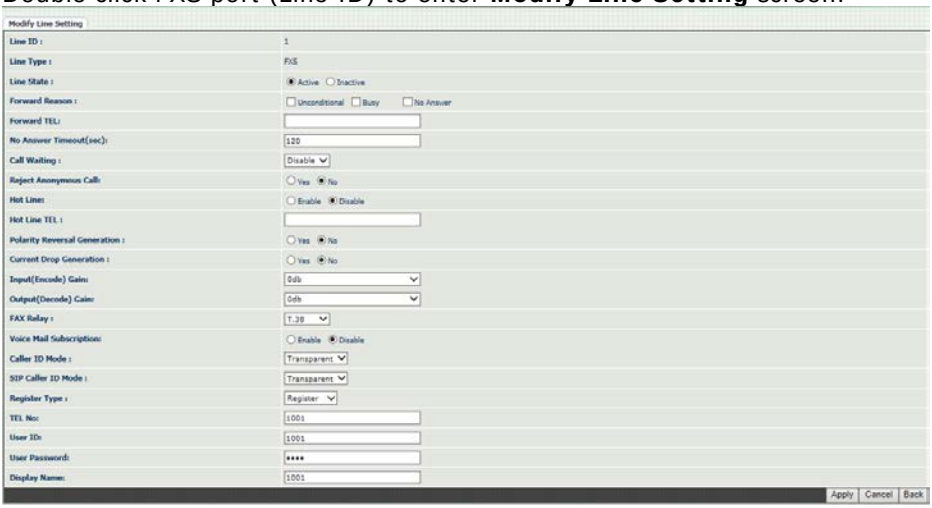


Figure 1-5-8 Line Setting

Soft Reset WellGate 3232s:

Step 8: After modify basic setting and click Apply button to save change. It is necessary to reset WellGate 3232s to enable setting. Click ***Maintenance -> Maintenance -> Quick-Reset or Reboot*** to take effect. Save the changes by clicking ***Apply*** button. (See Figure 1-5-9 Quick-Reset)

Figure 1-5-9 Quick-Reset

Check Wellgate 3232s Registered Status:

Step 9: After Quick-Reset or reboot.
Click ***Status -> SIP Trunk Status*** to check whether registered or not. (See Figure 1-5-10 SIP Trunk Status)

Device Status | Line Status | SIP Trunk Status

Account	Registered	Concurrent Call
1000	Not Register	0

Refresh Interval (second): 5

Figure 1-5-10 SIP Trunk Status

Click **Line status** to check whether registered or not. (Figure 1-5-11 Line Status)

Device Status | Line Status | SIP Trunk Status

Line	Account	Registered	Call State
1	1027	Registered	Idle
2	1005	Registered	Idle
3	1028	Registered	Idle
4	1006	Registered	Idle
5	1025	Registered	Idle
6	1007	Registered	Idle
7	1026	Registered	Idle
8	1008	Registered	Idle
9	1009	Registered	Idle
10	1010	Registered	Idle
11	1011	Registered	Idle
12	1012	Registered	Idle
13	1013	Registered	Idle
14	1014	Registered	Idle
15	1015	Registered	Idle
16	1016	Registered	Idle
17	1017	Registered	Idle
18	1018	Registered	Idle
19	1019	Registered	Idle
20	1020	Registered	Idle
21	1021	Registered	Idle
22	1022	Registered	Idle
23	1023	Registered	Idle
24	1024	Registered	Idle
25	1001	Registered	Idle
26	1004	Registered	Idle
27	1003	Registered	Idle
28	1002	Registered	Idle
29	67402	Registered	Idle
30	67403	Registered	Idle
31	67404	Registered	Idle
32	67405	Registered	Idle

Refresh Interval (second): 5

Figure 1-5-11 Line Status

Through the above settings, the WellGate 3232s should be able to do the following feature:

1. The user can pick up the handset and hear dial tone. Call out and talk.
2. For VoIP incoming call to a dedicated FXS number, the called phone will ring and can answer this call to talk.

CH2 Device Settings

From this setting category, all devices related parameters can be found here.

2-1 Network Configuration

> Network

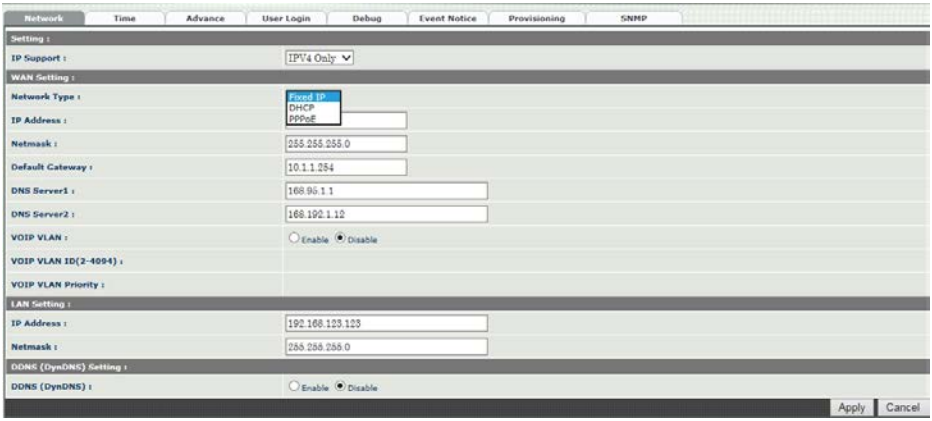


Figure 2-1 network setting

Parameter Description:

WAN Setting:

- **Network Type:** support “Fixed IP”;”DHCP”;”PPPoE”
- **IP Address:** IP address
- **Default Gateway:** Default gateway
- **DHCP Tag (option 60):** Enter Vendor class identifier
- **DHCP Tag (option 61):** Enter Client identifier
- **DNS Server1:** Primary DNS Server IP network
- **DNS Server2:** Secondary DNS Server IP network
- **VoIP VLAN:** To enable VoIP VLAN. When VoIP VLAN is enabled, the WAN port can only be accessed via VLAN network. If it is required to configure/access WellGate 3232s, please use LAN port instead.
- **VoIP VLAN ID(2-4096):** VLAN ID Used

Note: the default WAN IP address is 10.1.1.3.

LAN Setting:

- **IP Address:** IP address (please set to 192.168.x.x if your WAN port is

using 10.x.x.x IP segment, it have to use different network segment between WAN and LAN port).

- **Netmask:** IP network subnet mask

DDNS (DynDNS) dynamic DNS Setting:

- **DDNS (DynDNS):** enable or disable dynamic DNS feature.
- **Domain Name:** input your Domain Name
- **User Name:** input your user name
- **Password:** input your password

2-2 Device Time Setting

WellGate 3232s support SNTP with time zone and daylight saving.

Device Setting -> Time

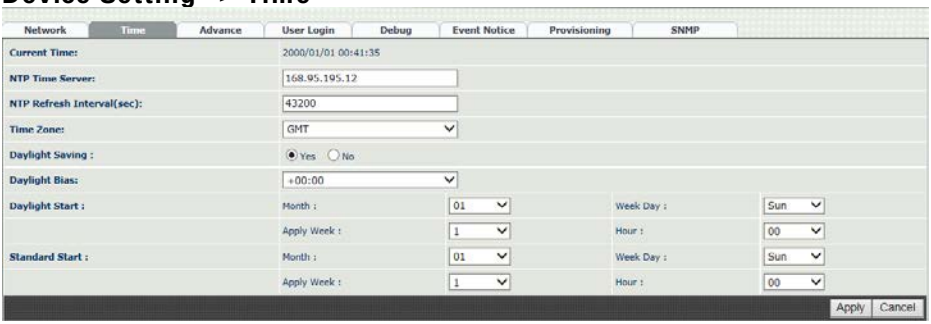


Figure 2-2 Time setting

Parameter Description:

- **Current Time:** To display current date and time.
- **NTP Time Server:** SNTP time server IP address.
- **NTP Refresh Interval (sec):** The frequency to synchronize NTP server in seconds.
- **Time Zone:** The time-zone (GMT) Wellgate 3232s is located.
  - ◆ Standard: Use a predefined standard time zone
  - ◆ Customize: Use a user defined time zone
- **Daylight Saving:** Auto adjusted daylight saving timer or not
- **Daylight Bias:** The offset added to the Bias when the time zone is in daylight saving time
- **Daylight Start:** The date that a time zone enters daylight time
  - ◆ Month: 01 to 12
  - ◆ Week Day: Sunday to Saturday

- Apply Week (Day:01 to 05, Specifies the occurrence of day in the month; 01 = First occurrence of day, 02 = Second occurrence of day, ...and 05 = Last occurrence of day)
- Hour: 00 to 23

- **Standard Start:** The date that a time zone enters daylight time
  - Month: 01 to 12
  - Week Day: Sunday to Saturday
  - Apply Week (Day:01 to 05, Specifies the occurrence of day in the month; 01 = First occurrence of day, 02 = Second occurrence of day, ...and 05 = Last occurrence of day)
  - Hour: 00 to 23

2-3 Device Advance Setting

> Advance

Figure 2-3 Advance setting

Parameter Description:

- **HTTP Service:** The Administrator Web service port (the default is 80)
- **HTTPS Service:** The https web service port (the default is 443)
- **Telnet Service:** The telnet service port (the default is 23)
- **Firewall:**
  - **Enable:** The gateway can be accessed by the ports which are used in VoIP call only. For example, the SIP signal, SIP port, RTP, HTTP, HTTPS and Telnet ports.
  - **Disable:** There are not any restrictions on ports to access this gateway.

2-4 User Login Setting

Three levels of users can be used, administrator, supervisor, user. Each level of users have different authorities to access webpage configuration.

>User Login

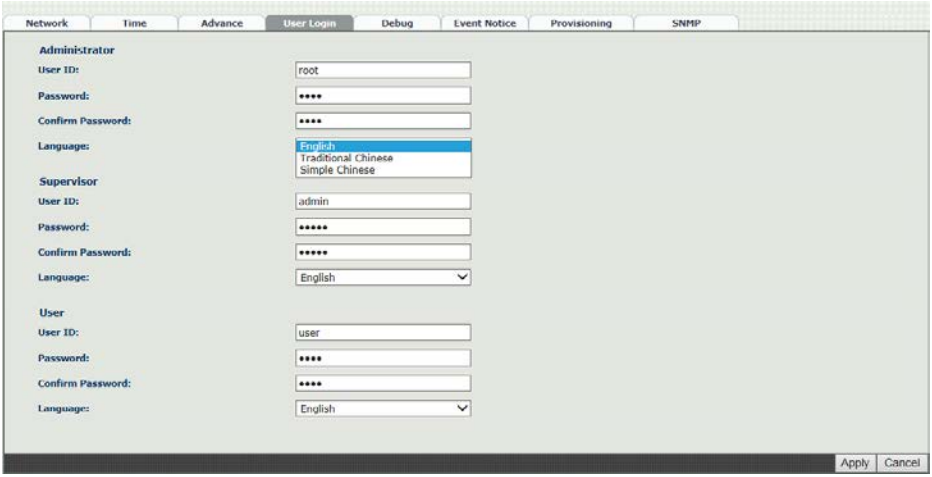


Figure 2-4 user login setting

Parameter Description:

- **Administrator:** The administrator level user which has full access of WellGate 3232s.
- **Supervisor:** The supervisor level user which has limited administrative access right.
- **User:** The user access right which only allows to set some user related features.
- **User ID:** Login User ID
- **Password:** Login Password
- **Confirm Password:** Confirm new password again
- **Language:** The web page language used when the account login.

2-5 Debug Settings

WellGate 3232s provides the real time debug via syslog or through telnet interface. It generates the debug information based on debug level and modules. Since the generating debug consumes a lot of system resources, Please turn on this feature only during debug period and under supplier/distributor engineer's instruction.

Debug

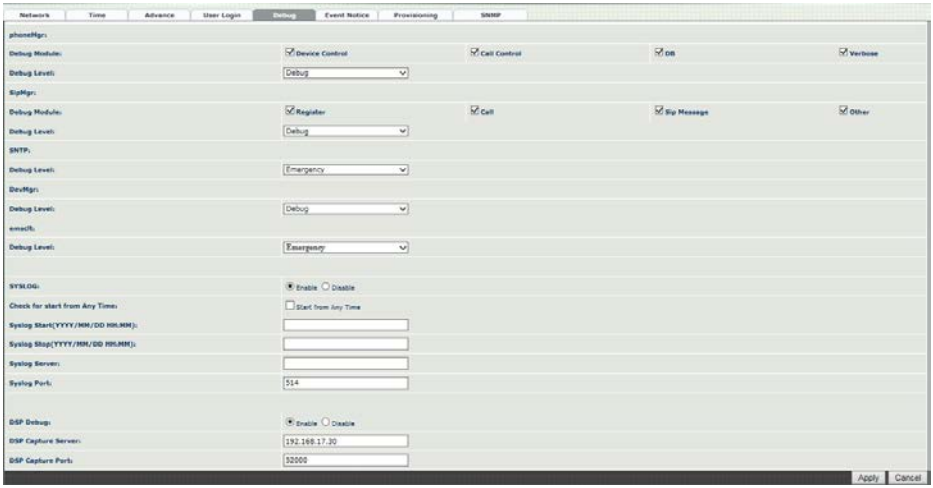


Figure 2-5 Debug setting

Parameter Description:

- **SYSLOG:** Enable or disable to send system information to SYSLOGD server or not.
- **Check for start from Any Time:** Always Send: Always send syslog or only during a specified time range.
- **Syslog Start (YYYY/MM/DD HH:MM):** Always Send: Always send syslog or only during a specified time range.
- **Syslog Stop (YYYY/MM/DD HH:MM):** The syslog stop sending time.
- **Syslog Server:** Syslog server IP address.
- **Syslog Port:** syslog server service port (default is 514)
- **DSP Debug:** Enable or disable to send DSP information to capture log.
- **DSP Capture server:** Syslog capture server IP address.
- **DSP Capture port:** syslog capture server service port (default is 52000).

2-6 Event Notice

WellGate 3232s will send Syslog Event Notice when it has the following cases:

1. Register failed or re-registered.
2. Ethernet reconnected.
3. System started.

Figure 2-6 Event notice setting

- **SYSLOG:** Enable or disable to send system event to SYSLOG server or not
- **Syslog Server:** Syslog server IP address.
- **Syslog Port:** syslog server service port (default is 514).

2-7 Auto Provision

The Wellgate 3232s can be provisioned by Http Server for mass deployment.

>Provisioning

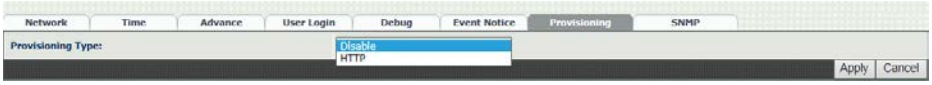


Figure 2-7-1 Provision

Select Http:
This feature is for feature usage only.

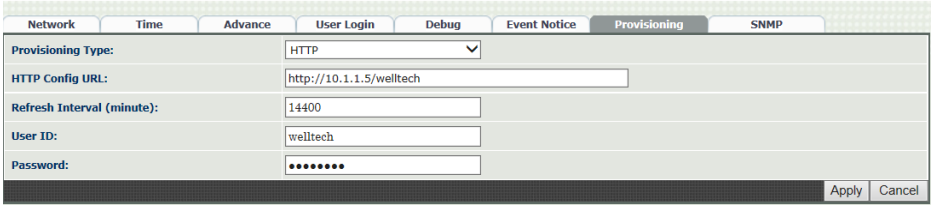


Figure 2-7-2 Provisioning type of Http

- **Http config URL:** internal used only.
- **Refresh interval(minute):** interval to check whether have a new configuration/firmware or not in minutes.
- **User ID:** specify the login ID for http authentication.
- **Password:** specify the password for http authentication.

2-8 SNMP

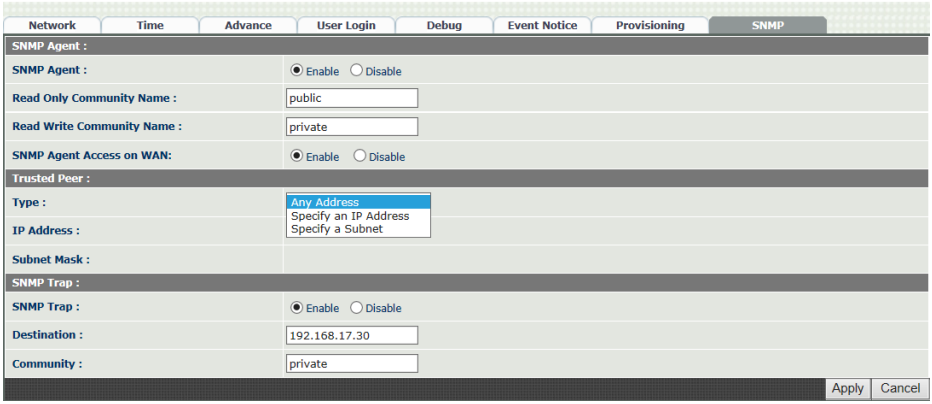


Figure 2-8 SNMP

SNMP Agent:

- **SNMP Agent:** Enable SNMP or not.
- **Read Only Community Name:** The community name to read through SNMP protocol.
- **Read Write Community Name:** The community name to read and write through SNMP protocol.
- **SNMP Agent Access on WAN:** Enable SNMP to be accessed through WAN port or not.

Trusted Peer:

- Type:
  - **Any Address:** Any address can retrieve the SNMP information.
  - **Specify an IP Address:** Only the IP address listed can retrieve the SNMP information. Normally, it will be the SNMP manger's IP address.
  - **Specify a Subnet:** Only the network specified can retrieve the SNMP information.
- **IP address:** The IP address for a trusted peer.
- **Subnet Mask:** The network mask for a trusted peer.

SNMP Trap:

- **SNMP Trap:** Enable SNMP trap or not.
- **Destination:** The IP address for SNMP manager to receive the SNMP trap.
- **Community:** The communicate name for sending the SNMP trap.

CH3 VoIP Setting

3-1 SIP parameters setting

Figure 3-1 SIP setting

Parameter Description:

- **Session Timer:** Enable session timer or not (RFC 4028)
- **Session Expires (sec):** This is the setting of initial session timer expires time according to RFC4028 - Session Timers in the Session Initiation Protocol.
- **Min SE (sec):** The minimum session timer allowed when receiving a call with session timer value according to RFC 4028.
- **PRACK:** Enable provisioning ACK or not (RFC 3262).
- ◆ None: Disable PRACK.
- ◆ Supported: When select this mode, 100rel will be added to the support list. It indicates Wellgate 3232s can support the PRACK but not mandatory.
- ◆ Require: PRACK is mandatory required.
- **SIP Local Port:** The SIP local service port (default is 8080)
- **SIP QoS Type:** Quality of Service Type for SIP signaling
- - **None:** Not using QoS Tag and not enables QoS.
- - **DiffServ:** Differentiated Services Value. Input DSCP value 0-63 for DSCP.
- - **TOS:** Type of Service which include IP precedence value and TOS.
- **Precedence:** IP Precedence for TOS tag
- **TOS:** Type of Service
- **DSCP value:** DSCP to be used.
- **Accept Proxy Only:** Only accept the incoming call from the trusted or registered SIP proxy. Not accept peer to peer call at this mode. In other words, if you want to configure this gateway at peer to peer mode, this feature should be selected “NO”.

3-2 Audio

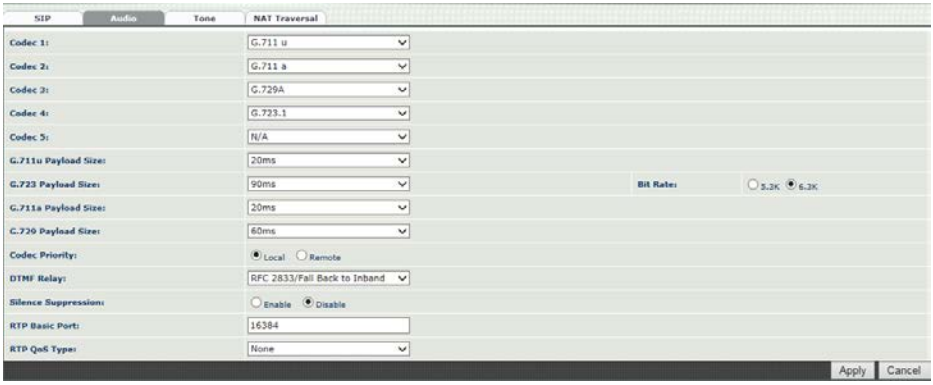


Figure 3-2 Audio setting.

- **Codec 1 to 5:** The preferred codec priority.
- **G.711u Payload Size:** G.711 u-Law payload size.
- **G.711a Payload Size:** G.711 A-law payload size.
- **G.729 Payload Size:** G.729A payload size. It had better to select G.729 as the first priority voice codec because of its reasonable packet bandwidth and acceptable voice quality.
- **G.723.1 Payload Size:** G.723.1 payload size. This codec was used once you are using VSAT as IP communication link and has a long packet delay time as well as limited bandwidth. Please select 6.3 kbps with 90ms payload time to have acceptable voice quality via VSAT.

- **Bit Rate:** G.723.1 bit rate used.
  - 5.3K bit rate is used
  - 6.3K bit rate is used

- **Codec Priority:** Selection order to match the remote SDP for codec selection. Codec 1 has the first priority order to use once a call was established during codec negotiation period between two end devices.

  Local SDP Order: Use local SDP order to match codec.

  Remote SDP Order: Use Remote SDP order to match codec

- **DTMF Relay:**

  In-Band DTMF: use inband DTMF instead of out of band.

  RFC 2833(fall back to SIP-INFO): Use RFC 2833 if the SDP negotiation could be done. Or use SIP INFO for DTMF relay.

  SIP INFO: Use SIP-INFO DTMF relay

RFC 2833(fall back to Inband): Use RFC 2833 if the SDP negotiation could be done. Or use inband DTMF transmission.

- **Silence Suppression:**
  Enable: Start the voice activity (silence) detection when detect silence for 60 seconds.
  Disable: Send silence packet as normal voice packet (no silence detection).

- **RTP Basic Port:** The RTP starting port. Each channel will be added additional 10 ports. For example, the RTP basic port is 16384, therefore call 1 will use 16384 while call 2 will use 16394 and etc.

- **RTP QoS Type:** IP QoS tag for RTP stream.
  DiffServ: The differentiated service QoS tag will be used. Input DSCP value 0-63 for DSCP.
  TOS: Type of Service which include IP precedence value and TOS.
- **Precedence:** IP Precedence for TOS tag
- **TOS:** Type of Service
- **DSCP value:** DSCP to be used.

3-3 Tone

The setting page is used to set up the tone to be generated. **When FXS port is in talk mode and received the "bye" signal from IP side, or remote device dropped call while FXS port analog phone was still in OFF Hook , this FXS port will send busy tone to analog phone interface**.

SIP | Audio | Tone | NAT Traversal

Country Template: -Select Country- Use

Tone \ Setting	Signal Type	Freq 1 (0,300~1980Hz)	Freq 2 (0,300~1980Hz)	Level 1 (0~63db)	Level 2 (0~63db)	On 1 (0~10230ms)	Off 1 (0~10230ms)	On 2 (0~10230ms)	Off 2 (0~10230ms)	Deviation (0~30)
Dial	Continuous	350	440	13	13	500	0	0	0	10
Stutter Dial	Cadence	350	440	13	13	1000	100	0	0	10
Ring Back	Cadence	440	480	13	13	1000	2000	0	0	10
Busy	Cadence	480	620	13	13	500	500	0	0	10
Call Waiting	Cadence	350	440	13	13	250	250	250	0	10
ROH	Continuous	1400	1750	13	13	10000	0	0	0	10
Warning	Cadence	900	0	13	13	500	0	0	0	10
Holding	Cadence	900	0	13	13	500	500	0	0	10
Disconnect 1	Cadence	480	620	13	13	500	500	0	0	10
Disconnect 2	Cadence	480	620	13	13	250	250	0	0	10

Apply | Cancel

Figure 3-3 Tone setting

Please use Country Template to select the country profile which will be applied. Click "Use" icon to load those country tone parameters to system and change if it is necessary. For those countries are not showed in the list, please select a close country's tone parameters and modify it to match your country.

3-4 NAT Traversal

WellGate 3232s supports the following NAT traversal methods.

Figure 3-4 NAT Traversal

- NAT Traversal:
  - **Disable:** Disable NAT traversal features.
  - **STUN (Type 1,2):** Enable STUN for NAT traversal. Since STUN can be used only for type 1 and type 2 NAT server, it is recommended to use this option. When STUN client detect the used NAT is type 3 NAT, it will stop the STUN feature.
    - **STUN Server:** STUN Server IP address.
  - **STUN (All):** No matter which NAT type server are used, STUN is always to be used for NAT traversal.
    - STUN Server: STUN Server IP address.
  - **UPNP:** Enable UPnP client for NAT traversal. Please note that the IP sharing box need to support UPNP feature.
  - **Behind NAT:** Use DMZ for NAT traversal.
    - **IP Sharing Address:** public IP sharing address. You need to specify the port mapping or DMZ for all required port.

CH4 VOIP Advance

4-1 SIP

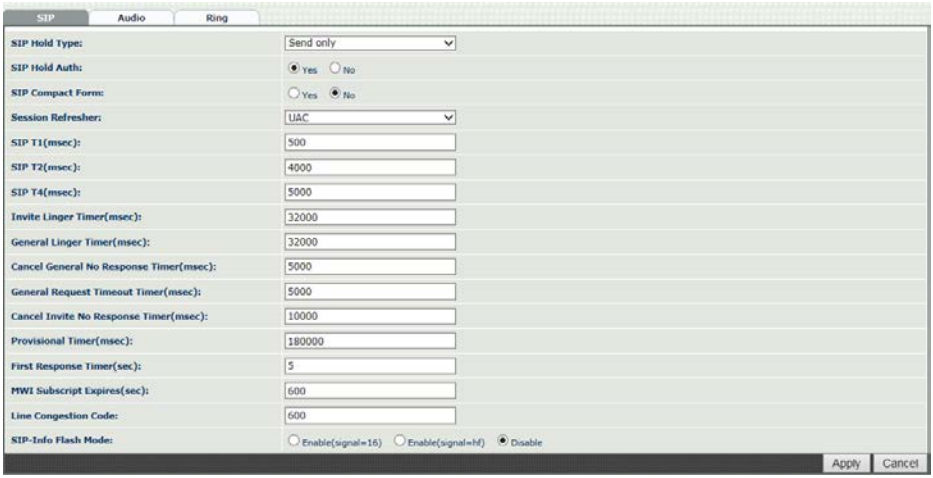


Figure 4-1 SIP

Parameter Description:

- **SIP Hold Type:** SIP on hold message sending method.
  - **Send Only:** Set up the SDP media to sendonly when send an on-hold SIP message.
  - **0.0.0.0:** Set up the SDP connection to 0.0.0.0 when send an on-hold SIP message.
  - **Inactive:** Set up the SDP media to inactive when send an on-hold SIP message.
- **SIP Hold Auth:** enable or disable SIP Hold Auth. When enable this feature, it should contain authorization message on SIP invite message at SIP Hold behavior.
- **SIP Compact Form:** Enable SIP compact form or not. When enable this feature, the connected SIP proxy is required to support compact form.
- **Session Refresher:** Who will send dialog keep alive message (re-invite or update).
  - ◆ UAC: User Agent Client will do the refresh (default setting).
  - ◆ UAS: User Agent Server will do the refresh.
- **SIP T1 (msec):** T1 determines several timers as defined in RFC3261. For example, when an unreliable transport protocol is used, a Client Invite transaction retransmits requests at an interval that start at T1 seconds and doubles after every retransmission. A Client

General transaction retransmits requests at an interval that starts at T1 and doubles until it reaches T2. (Default Value: 500ms) **

- **SIP T2 (msec):** Determines the maximum retransmission interval as defined in RFC3261. For example, when an unreliable transport protocol is used, general requests are retransmitted at an interval which starts at T1 and doubles until reaches T2. If a provisional response is received, retransmission continue but at an interval of T2. (Default Value: 4000ms) **
- **SIP T4 (msec):** T4 represents the amount of time the network takes to clear message between client and server transactions as defined in RFC3261. For example, when working with an unreliable transport protocol, T4 determines the time that UAS waits after receiving an ACK message and before terminating the transaction. (Default Value: 5000) **
- **Invite Linger Timer:** After sending an ACK for an INVITE final response, a client cannot be sure that the server has received the ACK message. The client should be able to retransmit the ACK upon receiving retransmissions of the final response for this timer. This timer is also used when a 2xx response is sent for an incoming Invite. In this case, the ACK is not part of the Invite transaction.
- **General Linger Timer:** After a UAS sends a final response, the UAS cannot be sure that the client has received the response message. The UAS should be able to retransmit the response upon receiving retransmissions of the request based on this timer.
- **Cancel General No Response Time (msec):** When sending a CANCEL request on a General transaction, the User Agent waits cancel General No Response Timer milliseconds before timeout termination if there is no response for the cancelled transaction(Default Value: 10000ms).**
- **General Request Timeout Timer (msec):** After sending a General request, the User Agent waits for a final response general Request Timeout Timer milliseconds before timeout termination (in this time the User Agent retransmits the request every T1, 2*T1,...T2,...milliseconds)**
- **Cancel Invite No Response Timer (msec):** When sending a CANCEL request on an Invite request, the User Agent waits this timer before timeout termination if there is no response for the cancelled transaction.
- **Provisional Timer (msec):** The provisionalTimer is set when receiving a provisional response on an INVITE transaction. The transaction will stop retransmissions of the INVITE request and will wait for a final response until the provisionTimer expires. If you set the provisionTimer to 0, no timer is set. The INVITE transaction will wait indefinitely for the final response.
- **First Response Timer (msec):** When sending a request out, the User Agent waits this timer for any response received from UAS. If timer is expired and no any SIP message is received, the User Agent

will think the request is failed. The default is 5 seconds.

- **MWI Subscript Expires (sec):** You can Enable or Disable the MWI subscribe. The default is 600 sec. If a new voice mail is arrived, the stutter tone will be used instead of regular dial tone. This feature is dedicate to FXS only. (the range is 300 ~3600 sec)
- **Line Congestion Code:** when callee's end system was contacted successfully but the callee is busy and does not wish to take the call at this time, the system will response the code, default is 600.
- **SIP-Info Flash Mode:** when you enable the feature, system will make flash key to send SIP message by sip-info.
  - **Signal=16:** send signal 16 on info message.
  - **Signal=hf:** send signal hf on info message.
  - **Disable:** disable this function.

4-2 Audio

The setting page includes the device related audio settings.

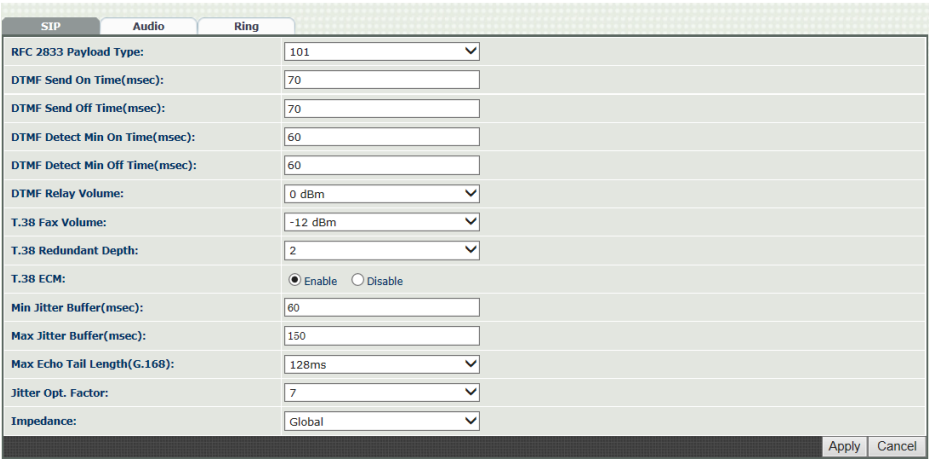


Figure 4-2 Audio setting

- **RFC 2833 Payload Type:** 96 or 101. It is recommended to use 101.
- **DTMF Send On Time(msec):** When generate DTMF, the DTMF on time will be sent (default value is 70 ms)
- **DTMF Send Off Time(msec):** When generate DTMF, the DTMF off time will be sent (default value is 70 ms)
- **DTMF Detect Min on Time (msec):** The minimum DTMF on time will be processed as a regular DTMF event. Smaller than it will be ignored. The default value is 60ms.
- **DTMF Detect Min off Time (msec):** The minimum DTMF off time for

the same DTMF value. Smaller than it and the new DTMF digit is the same as previous one will be handled as 1 digit only.

- **DTMF Relay Volume:** The DTMF relay volume.
- **T.38 Fax Volume:** The T.38 fax relay volume.
- **T.38 Redundant Depth:** The T.38 redundant packet depth. It could 0 (no redundant), 1 or 2. It is recommended to set up to 2.
- **T.38 ECM:** The T.38 error correction mode. Default value is ON.
- **Min Jitter Buffer (msec):** The minimum delay time of Jitter buffer.
- **Max Jitter Buffer (msec):** The Maximum delay time of Jitter buffer. The maximum is “300ms”
- **Max Echo Tail Length (G.168):** Enable the echo cancellation feature. The default setting is “128ms”.
- **Jitter Opt. Factor:** Jitter buffer dynamic factor for optimize. Please set to 7 unless under Welltech’s instruction to change.
- **Impedance:** selected analog phone’s impedance.

4-3 Ring

The ring cadence, voltage and frequency for the phone.

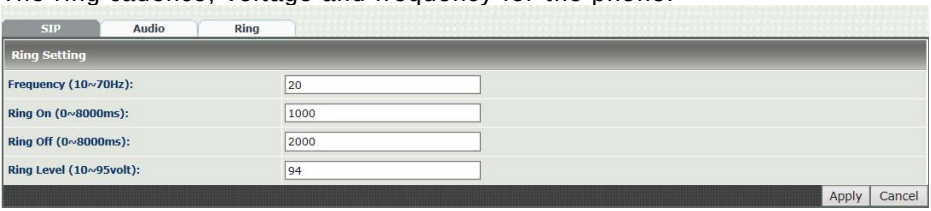


Figure 4-3 Ring setting

- **Frequency (10~70HZ):** Specify the ringing frequency value (default is 20HZ)
- **Ring on (0~8000ms):** Specify the ringing on value (default is 1000msec)
- **Ring off (0~8000ms):** Specify the ringing off value (default is 2000msec)
- **Ring level (10~95volt):** Specify the ringing level (default is 94 volt)

CH5 Dialing Plan

5-1 General

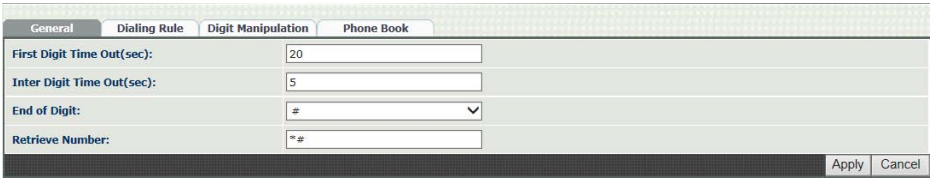


Figure 5-1 General setting

- **First Digit Time Out:** Specify the duration of dial waiting when the receiver is off hook. The range is 1~60 sec.
- **Inter Digit Time Out:** Specify the interval of input digits, if the interval is over the setting, the system will end the dial and send out the DTMF. The limitation range is 1~10sec.
- **End of Digit:** The assigned key will be treated as end of dial.
- **Retrieve Number:** FXS will retrieve transferred line, if FXS port makes transfer to other devices but the devices no answer or go into voice mail. You can press the code to get back line. Default is "***#**".

5-2 Dialing Rule

Figure 5-2 Dialing Rule setting

Dialing rule is used to speed up the dialing procedure. Some user doesn't like to use the end of dialing digit such as "#", the administrator can use dialing rule instead. The longest prefix will be matched first.

- **Dialed Prefix:** The prefix to be matched.
- **Max Digits:** The digits will be received based on the Dialed Prefix.

The following is an example for dialing rule:

Mobile call is started with 09 and it is 10 digits.
Long distance call is started with 0 and it is 10 digits.
International call is started with 00 and its max digit should be less than 32
The others are local call and 8 digits.
Emergency call is started with 1 and 3 digits.

The Dialing rule can be set up as follows:

Prefix, max digits
09, 10
0, 10
00, 15
1, 3
2, 8
3, 8
4, 8
5, 8
6, 8
7, 8
8, 8
9, 8

5-3 Digit Manipulation

The Digit Manipulation will be processed based on prefix and DM group after the DNIS is determined.

Figure 5-3 Digit Manipulation setting

- **DM Group:** Different DM group have different case to be used.
  - **FXS:** This DM group is used for FXS dialing out.
  - **VOIP:** This DM group is used for VOIP incoming call. After the DNIS is collected in 2 stage dialing or 1 stage dialing DNIS, this DM group will be processed before enter the routing procedure.
  - **1-4:** These DM groups are used for backup routing purpose. When a backup routing is used, the administrator can select a DM group to be processed before start the backup route.
- **Matched Prefix:** The prefix to be matched for DM. The longest prefix will be matched first.
- **Matched Length:** Set to 0 for ignoring the length. The other 1-32 are the length to be matched as a condition.
- **Start Pos:** The start position to be replaced.
- **Stop Pos:** The stop position to be replaced.
- **Replace Value:** The value to replace.

Example of Digit Manipulation Settings:

Prefix	Len	Start Pos	Stop Pos	Replace Value	Test DNIS	Result DNIS
886	0	0	0	002	8862123456	0028862123456
886	12	0	0	002	8862123456	8862123456
886	0	2	5	002	8862123456	8800223456
886	0	30	30	002	8862123456	8862123456002
886	0	1	6		8862123456	83456

Note: The DM Group 1~4 can have the feature to delay the dialing by added a “p” into the replace value. It might be useful, if you want to wait for a while and dial the second part of DTMF for calling out. Each “p” represents 1 seconds delay. For example: 822265699ppp1234; it will first dial 82265699 and wait for 3 seconds to dial 1234.

5-4 Phone Book

Phone Book is used for peer to peer call and P2P/hot line application.

Figure 5-4 Phone Book setting

- **Name:** This field supports **called number** only. If you enter words or text here, it will be routed to proxy server automatically.
- **Tel No:** Enter called number and IP address. Please follow this sample of picture, as the format of “number@uri:port”. (default port is 5060)
- **Export:** To backup the phone book records.
- **Import:** To reload setting of phone book.

CH6 TEL Setting

The Tel setting includes each line number and SIP proxy settings.

FXS Line | SIP Proxy | Caller ID | Others

	Line ID	State	TEL No	Hot Line TEL
	1	Active	1001	
	2	Active	1002	
	3	Active	1003	
	4	Active	1004	
	5	Active	1005	
	6	Active	1006	
	7	Active	1007	
	8	Active	1008	
	9	Active	1009	
	10	Active	1010	
	11	Active	1011	
	12	Active	1012	
	13	Active	1013	
	14	Active	1014	
	15	Active	1015	
	16	Active	1016	
	17	Active	1017	
	18	Active	1018	
	19	Active	1019	
	20	Active	1020	
	21	Active	1021	
	22	Active	1022	
	23	Active	1023	
	24	Active	1024	
	25	Active	1025	
	26	Active	1026	
	27	Active	1027	
	28	Active	1028	
	29	Active	1029	
	30	Active	1030	
	31	Active	1031	
	32	Active	1032	

Figure 6-0 FXS setting

- **Line ID:** FXS line (TEL 1 to 32).
- **State:** The line is active or not. Factory default setting is Active.
- **TEL No:** The telephone number. Factory default setting is 1001 to 1032.
- **Hotline TEL:** If hot line is set up, this field shows the hot line number.

6-1 FXS line

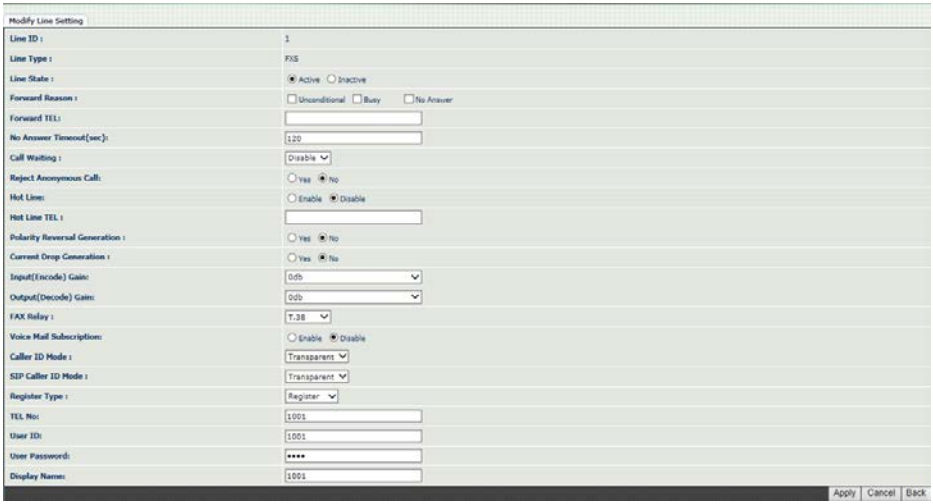


Figure 6-1 FXS setting

- **Line ID:** FXS Line number (TEL 1 to 32).
- **Line Type:** The line type is FXS.
- **Line State:** Select Active if you would like to use this line. Otherwise, set to Inactive.
- Forward reason:
  - **Unconditional forward:** forward the call all the time.
  - **Busy forward:** Forward the call when phone is busy.
  - **No answer forward:** forward the call when the call does not answered after no answer timeout.
  - **Forward TEL:** The forward telephone number for the selected reason.
- **No answer timeout (sec):** The no answer timeout will be used (default is 120 sec).
- **Call waiting:** Enable call waiting or not. When disable call waiting features, the second incoming call will be rejected.
- **Reject Anonymous Call:** Reject the anonymous incoming call or not
- **Hot line:** Enable to disable hot line feature.
- **Hot line TEL:** The number to be dialed automatically after the user picks up the phone.
- **Polarity Reversal generation:** Enable Polarity Reversal for FXS as billing signal or not. When a FXS calls to VOIP and answered by the VOIP, Wellgate 3232s will generate reversal signal at tip/ring signal of FXS as a billing start. When VOIP side disconnect first, Wellgate 3232s will reverse back as a billing stop signal.

- **Current Drop generation:** Enable loop current drop (drop to 0 voltage between tip and ring) when VOIP is disconnected or not.
- **Input(Encode)Gain:** Adjust the volume from FXS to VoIP (default is 0 dB).
- **Output(Decode)Gain:** Adjust the volume from VoIP to FXS (default is 0 dB)
- **FAX Relay:** Enable T.38 Fax Relay or not.
- **Voice mail subscription:** enable voice mail subscription (MWI) or not.
- **Caller ID mode:**
  - **Inhibit:** don't send caller ID to analog phone.
  - **Transparent:** send caller ID to analog phone.
- **SIP caller ID mode:**
  - **Inhibit:** don't send caller ID to VoIP SIP.
  - **Transparent:** send caller ID to VoIP SIP.
- **Register Type:**
  - **Register:** register to proxy. If it is not registered to SIP proxy, the FXS line still can use SIP trunk for VOIP call.
  - **Predefine:** When it is set up to predefine, Wellgate 3232s will not send register message out.
  - **Internal:** When it is set up to internal, Wellgate 3232s does not send register message out, the FXS line still can use SIP trunk for VOIP call or call locally.
- **TEL No:** The registrar telephone number.
- **User ID:** The SIP user ID for register and call making.
- **User Password:** The SIP password for register and call making.
- **Display Name:** The SIP display name.

6-2 SIP Proxy

The SIP proxy server defined here is dedicated used for FXS lines. SIP Server IP address could be from IP-PBX's IP address.

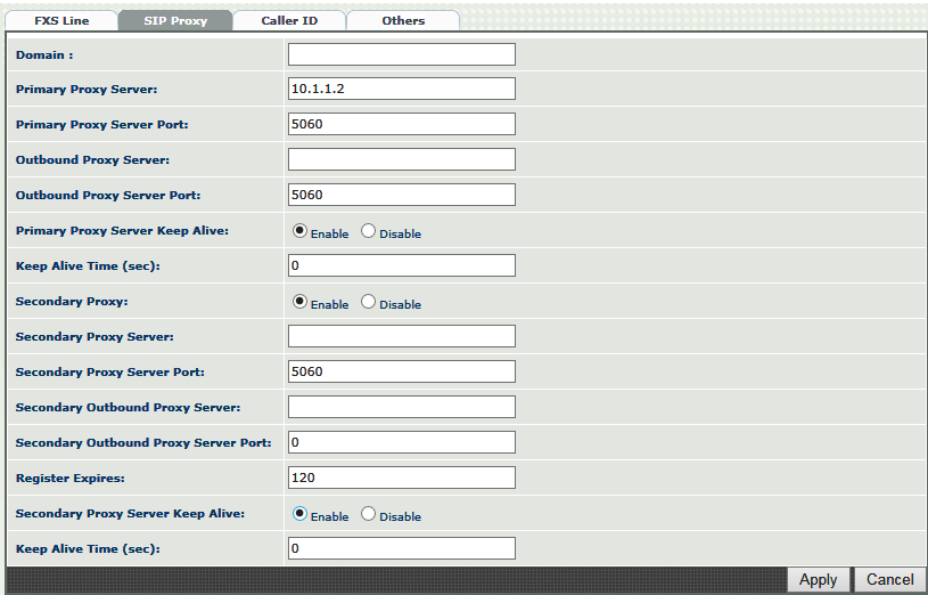


Figure 6-2 TEL setting

- **Domain:** The SIP domain for register or call making.
- **Primary proxy server:** Primary SIP registrar server address.
- **Primary proxy server port:** Primary SIP registrar server port number.
- **Outbound Proxy server:** Primary outbound proxy server address.
- **Outbound Proxy server port:** Primary outbound proxy server port number.
- **Primary Proxy server keep Alive:** using through NAT and keep the port.
- **Keep Alive Time (sec):** Specify of times send sip register message to proxy server.
- **Secondary Proxy:** Enable secondary proxy or not. When enable it, the primary and secondary proxy will be registered at the same time.
- **Secondary proxy server:** Secondary SIP registrar server address.
- **Secondary proxy port:** Secondary SIP registrar server port number.
- **Secondary outbound Proxy server:** Secondary outbound proxy server address.
- **Secondary outbound Proxy server port:** Secondary outbound proxy server port number.
- **Register Expire:** SIP register time to live.
- **Secondary Proxy server keeps Alive:** using through NAT and keep the port.
- **Keep Alive Time (sec):** Specify of times send sip register message to proxy server.

6-3 Caller ID

The caller ID stand for the caller's ID which was received by analog telephone set while there is an incoming call to this FXS port. There are several caller ID modes to send to analog telephone set. Please make sure your analog telephone set can display with the same caller ID mode with FXS gateway in order to display Caller ID properly.

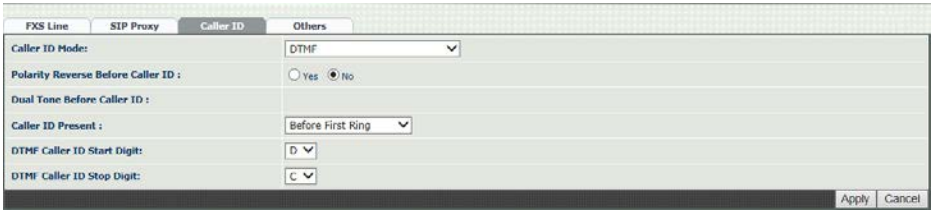


Figure 6-3 Caller ID setting

- **Caller ID Mode:** Caller ID mode to be used for phone (i.e. FSK Bellcore, FSK ETSI, and DTMF).
- **Polarity Reverse before caller ID:** start polarity reverse at tip/ring before sending the caller ID to analog telephone set.
- **Dual tone before caller ID:** Send DTMF tone before caller ID (for FSK ETSI use only).
- **Caller ID present:** The timing to send the caller ID. For instance, it was sent Before first ring, after first ring, or after first short ring.
- **DTMF caller ID start digit:** specify the DTMF caller ID start digit (default is D, the range is A to D and #)
- **DTMF caller ID stop digit:** specify the DTMF caller ID start digit (default is C, the range is A to D and #).

6-4 Others

Flash time feature was used to detect Hook Flash signal comes from analog telephone set. Flash time may be different from different analog telephone set. This webpage page is to configure an acceptable time range to recognize effective Hook Flash signal.

On the other hand, the loop current drop feature is to generate an interval time while the voltage between tip and ring was dropped to 0. This drop time is frequently used between 300 to 500 msec. This loop current drop feature was happened when the remote device drop the call and this FXS gateway receive "Bye" SIP signal to indicate a drop call.

Figure 6-4 Others setting

- **Min flash time(80~800msec):** Specify the value of the flash (low), If the phone-set's flash time is shorter than the Flash Low setting, the flash signal will be ignored.
- **MAX flash time (80~800msec):** Specify the value of the flash (high), if the phone-set's flash time is longer than the Flash high setting, the flash signal will be handled as hang-up.
- **Current Drop Times (msec):** Specify the value of the loop current drop times which was generated by FXS port.

CH7 SIP Trunk

The administrator needs to set up the SIP trunk for VoIP outgoing call and incoming call. There are up to 16 SIP trunk can be used for whole system. One SIP Trunk is to define one telephone number for all 32 ports of WellGate 3232s to register or predefined to SIP Server (or IP-PBX server).

Once there is an incoming call to WellGate 3232s at that telephone number, WellGate 3232s will route to proper FXS port to ring according to VoIP Default Route inside Route Plan.

To make a call from one FXS port of WellGate 3232s, Please select one SIP Trunk number (Primary Route Table) to dial out according to FXS Default Route inside Route Plan.

Figure 7-0 SIP Trunk setting

- **Trunk ID:** SIP trunk ID 1 to 16.
- **Register Type:** Register type is Predefined or Register.
- **TEL No:** The Telephone number for the SIP account.
- **Proxy Server:** The SIP proxy server or IP-PBX server.
- **Proxy Server port:** The SIP proxy server or IP-PBX server port.
- **Outbound Proxy:** The SIP outbound proxy server.
- **Outbound Server Port:** The SIP outbound proxy server port.
- **Export:** To backup the SIP Trunk records.
- **Import:** To reload setting of SIP Trunk.

7-1 Create SIP Trunk

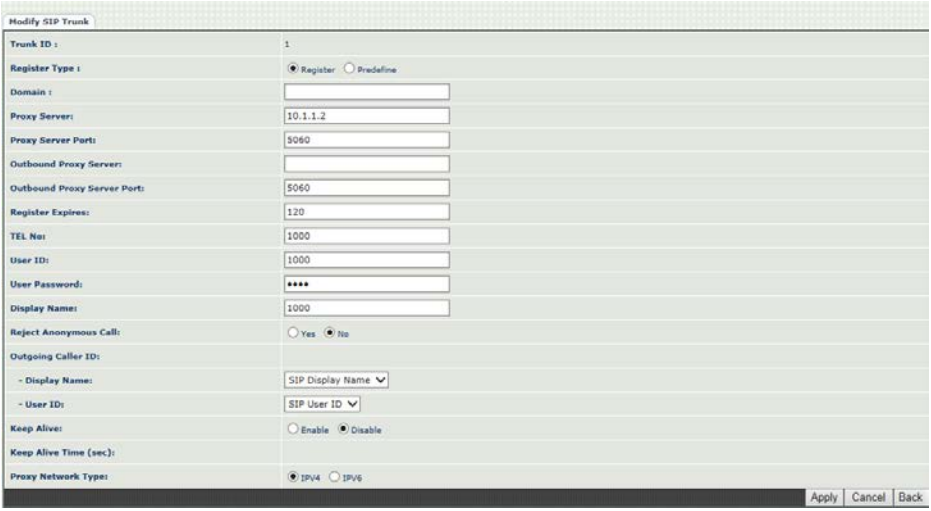


Figure 7-1 SIP Trunk page

- **Trunk ID:** SIP trunk ID 1-16.
- **Register Type:** Select this type to be Register or Predefine.
  - **Register:** When it is set to register, Wellgate 3232s will send REGISTER message to SIP proxy server for registration.
  - **Predefine:** When it is set to predefine, Wellgate 3232s will NOT send REGISTER message out but use Predefine to connect with SIP Server.
- **Domain:** The SIP domain for register or predefine to make/receive call.
- **Proxy Server:** SIP registrar server address for register or predefine to make/receive call.
- **Proxy Server Port:** SIP registrar server port number.
- **Outbound Proxy Server:** outbound proxy server address.
- **Outbound Proxy server port:** outbound proxy server port number.
- **Register Expires:** the default register expires for negotiation.
- **TEL No:** The registrar telephone number for register/predefine.
- **User ID:** The SIP user ID for register and call making.
- **User Password:** The SIP password for register and call making.
- **Display Name:** The SIP display name.
- **Reject Anonymous Call:** Reject the anonymous call.
- **Outgoing Caller ID:** The outgoing SIP caller ID mode.
  - **Display Name:** The display name will be set up according to the following type.

- **None:** No display name will be used.
- **SIP display name:** The display name will be the Display Name in this SIP trunk.
- **SIP user ID:** If the SIP user ID is set, the SIP user ID set in this SIP trunk will be used and the domain/SIP proxy will be the host part. The SIP FROM header's URL will be the following form. SIP_User_ID@Domain or SIP_User_ID@SIP_Proxy_Server.

- **Keep Alive:** Enable or Disable it.
- **Keep Alive Time (sec):** Specify times to send SIP register message to proxy server.

Note: please don't delete sip trunk, although it is not used right now, because it has to use at Route plan command.

CH8 Route Plan

The core of WellGate 3232s is the routing policy of calls. The policy is based on incoming call type/target, length and prefix to determinate the outgoing call process. For VOIP incoming call, it can send to FXS ports and vice versa.

For FXS interface, it could be routed to VOIP and vice versa. You can ignore the routing plan if you don't need it for FXS interface.

Figure 8-0 Route Plan page

- **Incoming Call Type:** Incoming call type (from VOIP or FXS).
- **Matched Prefix:** matched DNIS (called number) prefix.
- **Matched Incoming List:** matched DNIS incoming interface target.
- **Matched Length:** matched DNIS (called number) length.
- **Outgoing Type:** The outgoing call type (FXS or VOIP).

8-1 Create Route Plan

Click Route Plan and Click new to create a new routing policy.

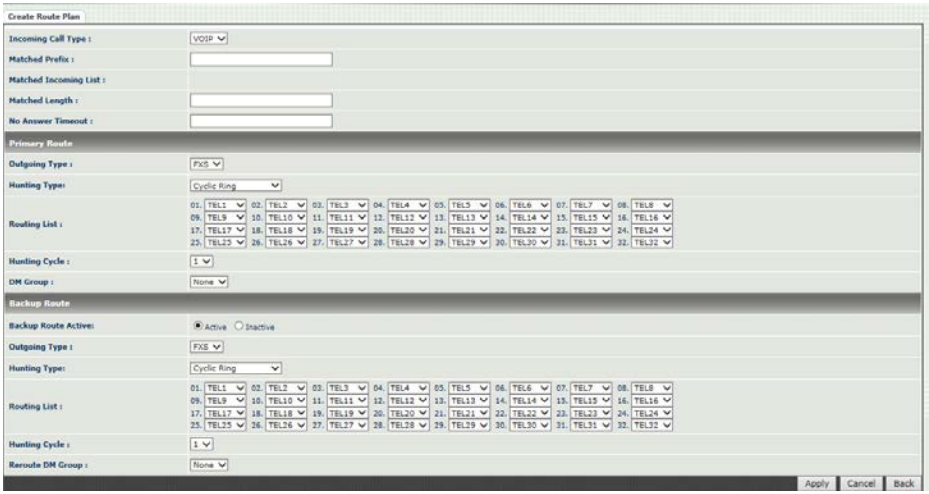


Figure 8-1 Route Plan setting

- **Incoming Call Type:** Incoming call type.
    - **VOIP:** The incoming SIP call type.
    - **FXS:** The FXS extensions incoming call type.
- **Matched Prefix:** matched DNIS (called number) prefix.
- **Matched Incoming List:** matched DNIS incoming interface target.
    - For FXS incoming call type, the incoming target will be the line ID (T1 to T32). Only the call is coming from the selected line will be accepted for this route.
- **Matched Length:** matched DNIS (called number) length. For ignoring the length, please set up to 0.
- **No Answer Timeout:** How long the hunting will continue to next when the called target doesn't answer.

Create Route Plan>Primary Route

- **Outgoing Type:** Outgoing call type (FXS or VOIP)
- **Hunting Type:** The hunting method will be used for this route.
    - Priority Ring: The call will be hunted based on the routing list order one by one.
    - Cyclic Ring: The call will be hunted based on the cyclic basis. This is the recommended method.
- **Routing List:**
    - The routing target list will be used for this route.

- **DM Group:** Select DM group 1 to 4 in case it requires a DM (for example remove the prefix) before to make the call.

Create Route Plan>Backup Route

- **Backup Route Active:** Active the backup route or not.
- **Outgoing Type:** The backup route outgoing call type.
- **Hunting Type:** The hunting method will be used for this route. Please refer to the Primary Route.
- **Routing List:** The backup routing target list will be used for this route.
- **Route DM Group:** Select DM group 1 to 4 in case the backup required the DM before to make the call. The DNIS is unchanged by the primary route DM and same as the DNIS before routing. For example, the DNIS is 886282265699 and primary DM group remove 886 and use it (DNIS = 282265699) to make call. When backup route is started, the DNIS is still unchanged as 886282265699. This makes the DM easy to predict and implement.

Two special default routes, "VOIP Default Route" and "FXS default Route", are used as the default routing when there is not any other routing are matched. It is not recommended to disable these two default routes. The FXS default route is used when a FXS outgoing call's default routing. VOIP default route is used for a VOIP incoming call's default routing.

CH9 Status

Wellgate 3232s provides the system status here.

Figure 9-0 Status page

9-1 Device Status

See the figure 9-0 Status page.

- **Model:** The model number, WellGate 3232s.
- **MAC-Address:** The MAC address of Wellgate 3232s.
- **Network Type:** The Network Interface Type Settings.
- **IP-Address:** IP address is using for WAN and LAN ports.
- **IPV6 IP-address:** display IPV6 address.
- **Firmware:** The firmware version and release information.
- **Library:** The Library version and release information.

9-2 Line Status

This page shows each line's current status.

Device Status | Line Status | SIP Trunk Status

Line	Account	Registered	Call State
1	1027	Registered	Idle
2	1005	Registered	Idle
3	1028	Registered	Idle
4	1006	Registered	Idle
5	1025	Registered	Idle
6	1007	Registered	Idle
7	1026	Registered	Idle
8	1008	Registered	Idle
9	1009	Registered	Idle
10	1010	Registered	Idle
11	1011	Registered	Idle
12	1012	Registered	Idle
13	1013	Registered	Idle
14	1014	Registered	Idle
15	1015	Registered	Idle
16	1016	Registered	Idle
17	1017	Registered	Idle
18	1018	Registered	Idle
19	1019	Registered	Idle
20	1020	Registered	Idle
21	1021	Registered	Idle
22	1022	Registered	Idle
23	1023	Registered	Idle
24	1024	Registered	Idle
25	1001	Registered	Idle
26	1004	Registered	Idle
27	1003	Registered	Idle
28	1002	Registered	Idle
29	67402	Registered	Idle
30	67403	Registered	Idle
31	67404	Registered	Idle
32	67405	Registered	Idle

Refresh Interval (second): 5

Figure 9-2 Line Status

- **Line:** Line 1 to 32.
- **Account:** display each line number
- **Registered:** display each line register status.
- **Call State:** The line status for this line.
- **Refresh Interval (second):** The time to refresh the status.

9-3 SIP Trunk Status

Figure 9-3 SIP Trunk Status

- **Account:** SIP trunk account.
- **Registered:** The SIP trunk register status.
- **Concurrent Call:** The concurrent calls are used for this SIP trunk.
- **Refresh Interval (second):** The time to refresh the status.

CH10 Maintenance

WellGate 3232s can be managed by this management page for upgrading firmware or RESET gateway.

Figure 10-0 Maintenance

- **Backup:** Backup the system settings for restoring purpose.
- **Restore (*.ini):** Restoring the backup setting back to Wellgate 3232s.
- **Restore (*.cfg):** Restoring the automatic provision file back to Wellgate 3232s.
- **Reset to Default:** Reset system setting to factory default.
- **Quick-Reset:** Warm Reset without reboot Wellgate 3232s.
- **Reboot:** reboot Wellgate 3232s.

10-1 Firmware Update

This maintenance page provides the firmware upgrade features.

Figure 10-1 firmware update

- **Firmware Update:** Upgrade the new firmware through web page.

CH11 Logout

Click the Logout item to logout web page.

Appendix A --- HTTP auto provision

Get the HTTP provision packet from Welltech and start the provision as follows:

Step 1: build mac list for mass configuration file generation

Please open the “wg3232s MAC.csv gotten from Welltech by using Microsoft Excel. You can refer to the picture below. Normally, you should get all required configuration mac list from Welltech and use it for configuration file generation.

For FXS>

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	$MACAddress	fxs1.displa	fxs1.passw	fxs1.telno	fxs1.userid	fxs2.displa	fxs2.passw	fxs2.telno	fxs2.userid	fxs3.displa	fxs3.passw	fxs3.telno	fxs3.userid	fxs4.displa	fxs4.passw	fxs4.telno	fxs4.userid	fxs5.disp
2	0001a8ff08aa	1001	1001	1001	1001	1002	1002	1002	1002	1003	1003	1003	1003	1004	1004	1004	1004	100
3	0001a8ff08ab	2001	2001	2001	2001	2002	2002	2002	2002	2003	2003	2003	2003	2004	2004	2004	2004	200
4	0001a8ff08ac	3001	3001	3001	3001	3002	3002	3002	3002	3003	3003	3003	3003	3004	3004	3004	3004	300
5																		

The wg3232s MAC.csv contains most frequently changed parameters as following:

MACAddress: Wellgate 3232s MAC Address (user can type more MAC address here).

fxs1.displayname ~ fxs32.displayname: display name for each line.

fxs1.password ~ fxs32.password: user password for register to SIP proxy for each line.

fxs1.telno ~ fxs32.telno: Tel number for each line.

fxs1.userid ~ fxs32.userid: User ID for register to SIP proxy for each line.

Please save and close it.

Step 2: create a template configuration file.

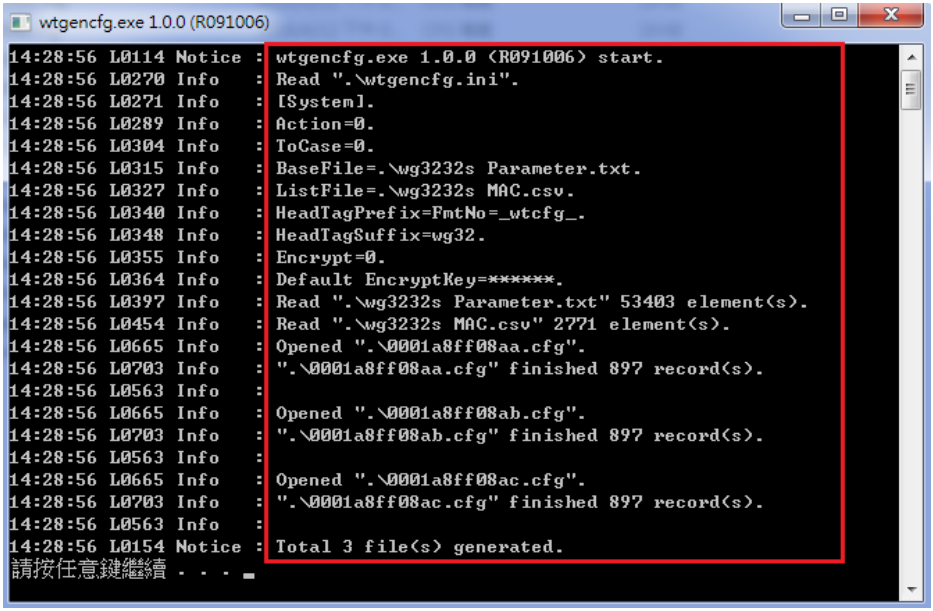
Open the “wg3232s Parameter.txt” getting from Welltech and make the required change. Please at least make the changes for those provision and SIP proxy settings. For detail, please refer to the comments of “wg3232s Parameter.txt”.

Step 3: Make the change for wegencfg.ini as follows if necessary

```
# Template File
BaseFile=.\wg3232s Parameter.txt
# MAC list file
ListFile=.\wg3232s MAC.csv
# 0: Off, 1: On
Encrypt=0
```

Step 4: Generate the individual configuration file.

Double click the “wtgencfg.exe”, it will generate the configuration file for each MAC list in “MAC address.cfg” as the following pictures.



Step 5:

Put the "*.cfg" file into http or ftp directory. Set up the provision settings in Wellgate 3232s and reboot to test it. You can use the hfs for http file server. It can be downloaded from http://www.rejetto.com/hfs/.

Note: please link it to download provision file. For more information, please refers to "wg3232s Parameter.txt".

http://www.welltech.com/support/voip2/SIP%20series/FXSO%20series/32xx/provision/3232s/3232s_Provision.zip

Appendix B --- SNMP

MIB value: ".1.3.6.1.4.1.18888.1.2.0"
Command: "[bdb –i keyword –a prefix –v values]", the command include the [ ] two symbol.
[a]is add abbreviation ,[d]is delete abbreviation, [i] is item abbreviation, [v] is value abbreviation

For example:[bdb –i Param –a ipa –v 10.1.1.3]
[bdb –i DialPlan –d 911 –v 3]

Parameter list and description.

For Network:

item	keyword	prefix	Values and description
WAN IP	Param	ipa	This IP address(ex:10.1.1.3)
WAN submask	Param	ipm	This submask (ex:255.255.255.0)
WAN Default Gateway	Param	ipgw	This default gateway(ex:10.1.1.254)
DNS 1	Param	dns1	DNS server IP
DNS 2	Param	dns2	DNS server IP
NTP Server	Param	ntps	NTP server IP
NTP refresh interval	Param	ntpt	NTP refresh interval time (1~65535 sec)
Time Zone	Param	tz	-13.5~13.5 (-13:30~+13:30)
Http Port	Param	httpp	http port number (default :80)
Https Port	Param	httpsp	https port number (default:443) 0 is disable.
Telnet Port	Param	tldp	Telnet port number (default:23) 0 is disable.
Administrator Login	Param	u1	The Administrator login name
Administrator Password	Param	u1p	The Administrator password
Administrator Language	Prarm	u1langid	0: English, 1: Traditional Chinese, 2: Simple Chinese
Supervisor Login	Param	u2	The supervisor login name

Supervisor password	Param	u2p	The supervisor password
Supervisor Language	Param	u2langid	0: English, 1: Traditional Chinese, 2: Simple Chinese
User login	Param	u3	The user login name
User password	Param	u3p	The user password
User Lagnuage	Param	u3langid	0: English, 1: Traditional Chinese, 2: Simple Chinese
SIP local Port	Param	slpt	This device local port number
Rtp port	Param	rtpb	Rtp port number

Example:

1. To change the “Administrator Password” to test.
   This command is “[bdb –i Param –a u1p –v test]”.
   Notice: if changed password, the system has to reboot.

2. Read the Administrator Password value.
   This command is “[bdb –i Param –a u1p]”.

For Dial Plan:

General

item	keyword	prefix	Values and description
First digit time out	Param	fddt	First digit time out, unit: second (1-60 second)
Inter digit time out	Param	iddt	Inter digit time out, unit: second (1-5 second)
End of Digit	Param	eod	0: none, 1:∗, 2:#

Example:

1.
To change the first digit time out to 30 seconds.
This command is “[bdb -i Param -a fddt -v 30]”.

2.
Read the first digit time out value.
This command is “[bdb -i Param -a fddt]”.

Dialing Rule

item	keyword	prefix	Values and description
			The prefix field must enter dialed prefix number.

Dial Rule	DialPlan	N/A	The values field must enter this number's total length. (the range is 1~15).

Example:
1.
If the prefix is 911 total length is 3.

This command is "[bdb –i DialPlan –a 911 –v 3]".
2.
If the prefix is 09 total length is 10.

This command is "[bdb –i DialPlan –a 09 –v 10]".

3.
Delete prefix 911 on list.
This command is "[bdb –i DialPlan –d 911 –v 3]".

4.
Read the DialPlan value.
This command is "[bdb –i DialPlan].
Notice: each DialPlan record is using symbol ";" to end.

Digit Manipulation

item	keyword	prefix	Values and description
Digit Manipulation	DigMan	DMGroup,Matched prefix,Matched Length	Start Pos,End Pos,Replace Value

Each DM Group values.

FXO value is 100
FXS value is 101
VOIP value is 102
DM Group 1 the value is 1
DM Group 2 the value is 2
DM Group 3 the value is 3
DM Group 4 the value is 4

Example:
1.
DM Group is FXS , Matched Prefix is 02 , Matched Length is 10,
Start Pos is 0 , Stop Pos is 0, Replace value is empty.

This command is “[bdb –i DigMan –a 101,02,10 –v 0,0,]”.

2.
DM Group is FXO , Matched Prefix is 822 , Matched Length is 0,
Start Pos is 0 , Stop Pos is 0, Replace value is 02.

This command is “[bdb –i DigMan –a 100,822,0 –v 0,0,02]”.

3.
DM Group is 4 , Matched Prefix is 886 , Matched Length is 0,
Start Pos is 0 , Stop Pos is 2, Replace value is 009.

This command is “[bdb –i DigMan –a 4,886,0 –v 0,2,009]”.

4.
Delete DM Group 4 on list.

This command is “[bdb –i DigMan –d 4,886,0 –v 0,2,009]”.

5.
Read DM values.
This command is “[bdb –i DigMan]”.
Notice: each DM record is using symbol “;” to end.

Phone Book

item	keyword	prefix	Values and description
Phone Book	PhoBook	N/A	The prefix field can enter name or number. The values field can enter name or number or IP URL.

Example:
1.
Name is WellTech , Tel number is 82265699.

This command is “[bdb –i PhoBook –a WellTech –v 82265699]”.

2.
Name is 1001 , Tel number is 1001@10.1.1.3:5060

This command is “[bdb –i PhoBook –a 1001 –v 1001@10.1.1.3:5060]”.

3.
Delete WellTech on list.

This command is “[bdb –i PhoBook –a WellTech –v 82265699]”.

4.
Read the Phone Book list.
This command is “[bdb –i PhoBook]”.
Notice: each Phone Book record is using symbol “;” to end.

FXS Line (Tel Line)

item	keyword	prefix	Values and description
FXS Line Or Tel Line	Line	fxs1 To fxs32 According that how many the FXS port. (please refer the Line ID, if line ID is 5,the prefix is fxs5)	Below in accordance with the priority arrangement 0**,**Forward Reason,Forward Tel,No Answer Timeout(sec), Call Waiting,Reject Anonymous call,600,Hot Line, Hot Line Tel, Polarity Reversal Generation, Current Drop Generation, Input(Encode) Gain, Output(Decode) Gain,Register Type,0,TEL No,User ID, User Password,Display Name,FAX Relay,Voice Mail Subscription, Caller ID Mode,SIP Caller ID Mode,0,0,0

Each option values description

- **0:** it is reserved option, please don’t change this value.
- **0:** it is reserved option, please don’t change this value.
- **Forward Reason:** 0 is not selected, 1 is unconditional, 2 is busy, 4 is No Answer, 6 is busy and No Answer.
- **Forward Tel:** the FXS port forward number
- **No Answer Timeout(sec):** this FXS port no answer time (unit: sec)
- **Call Waiting:** 3 is disable, 2 is enable.
- **Reject Anonymous call:** 0 is disable, 1 is enable.
- **600:** it is reserved option, please don’t change this value.
- **Hot Line:** 0 is disable, 1 is enable.
- **Hot Line Tel:** Hotline number
- **Polarity Reversal Generation:** 0 is disable, 1 is enable.

- **Current Drop Generation:** 0 is disable, 1 is enable.
- **Input(Encode) Gain:** the range is from 22(-10db) to 37(+5 db)
- **Output(Decode) Gain:** the range is from 22(-10db) to 37(+5 db)
- **Register Type:** 0 is register, 1 is predefine , 2 is internal.
- **0 :** it is reserved option, please don't change this value.
- **TEL No:** this fxs port phone number.
- **User ID:** this fxs port registers account.
- **User Password:** this fxs port authentication password.
- **Display Name:** this fxs port display name.
- **FAX Relay:** 0 is disable, 1 is bypass, 2 is T38.
- **Voice Mail Subscription:** 0 is disable, 1 is enable.
- **Caller ID Mode:** 0 is inhibit, 1 is Transparent
- **SIP Caller ID Mode:** 0 is inhibit, 1 is Transparent
- **0:** it is reserved option, please don't change this value.
- **0:** it is reserved option, please don't change this value.
- **0:** it is reserved option, please don't change this value.

Example:
1.
Set the tel no/ user id/ user password/ display nema to 101/101/welltech/Eddie and hot line number to **999 for fxs port 5.

This command is
"[bdb –i Line –a fxs5 –v 0,0,,120,3,0,600,1,**999,0,0,32,32,0,0,101,101,welltech,Eddie,2,0,1,1,0,0,0]"

2.
Set the busy and no answer forward to 201 for fxs port 5.

This command is
"[bdb –i Line –a fxs5 –v 0,6,201,120,3,0,600,1,**999,0,0,32,32,0,0,101,101,welltech,Eddie,2,0,1,1,0,0,0]"

Notice: please input completely command line, there should have 25 commas(,) totally. If lost anyone commas, this page will be cleaned to empty or 0 for all values.

3.
Read each line values
This command is "[bdb –i Line –a fxs1]"

SIP Proxy (FXS use only)

item	keyword	prefix	Values and description
SIP Proxy	Line	px	Below in accordance with the priority arrangement. Domain, Primary Proxy Server, Primary Proxy Server Port, Outbound Proxy Server, Outbound Proxy Server Port, Secondary Proxy Server, Secondary Proxy Server Port, Secondary Outbound Proxy Server, Secondary Outbound Proxy Server Port, Register Expires, Secondary Proxy, Primary Proxy Server Keep Alive, Keep Alive Time (sec), Secondary Proxy Server Keep Alive, Keep Alive Time (sec), 0

Each option values description

- **Domain:** this proxy domain name
- **Primary Proxy Server:** this primary proxy server IP address
- **Primary Proxy Server Port:** this primary proxy server port number
- **Outbound Proxy Server:** this outbound proxy server
- **Outbound Proxy Server Port:** this outbound proxy server port number
- **Secondary Proxy Server:** this secondary proxy server IP address
- **Secondary Proxy Server Port:** this secondary proxy server port number.
- **Secondary Outbound Proxy Server:** this secondary outbound proxy server IP address
- **Secondary Outbound Proxy Server Port:** this secondary outbound proxy server port number.
- **Register Expires:** register expires time
- **Secondary Proxy:** 0 is disable , 1 is enable.
- **Primary Proxy Server Keep Alive:** 0 is disable , 1 is enable.
- **Keep Alive Time (sec):** keep alive time for primary proxy server(the range is 30 to 300 sec)
- **Secondary Proxy Server Keep Alive:** 0 is disable, 1 is enable.
- **Keep Alive Time (sec):** keep alive time for secondary proxy server. (the range is 30 to 300 sec)
- **0:** it is reserved option, please don't change this value.

Example:

1. Set the domain name to welltech.com and primary proxy to 192.168.18.247, primary proxy port to 8888,outbound proxy to 192.168.18.247, outbound proxy port to 8888.

This command is
"[bdb -i Line -a px -v
welltech.com,192.168.18.247,8888,192.168.18.247,8888,,0,,0,120,0,
0,0,0,0,0]"

Notice: please input completely command line, there should have 15 commas(,).

2.
Read Sip Proxy values
This command is [bdb -i Line -a px]

SIP Trunk

item	keyword	prefix	Values and description
SIP Trunk	SipTrunk	1~16 According the sip trunk ID	Below in accordance with the priority arrangement Trunk ID, Register Type, 0, Domain, Proxy Server, Proxy Server Port, Outbound Proxy Server, Outbound Proxy Server Port, Register Expires, TEL No, User ID, User Password, Display Name, Reject Anonymous Call, Display Name, User ID, For DNIS is Register TEL, Keep Alive, Keep Alive Time (sec), 0

Each option values description

- **Trunk ID:** this Trunk ID number from 1 to 16.
- Register Type: 0 is register , 1 is predefine
- **0:** it is reserved option, please don't change this value.
- **Domain:** this proxy domain name
- **Proxy Server:** this proxy server IP address
- **Proxy Server Port:** this proxy server port number.
- **Outbound Proxy Server:** this outbound proxy server IP address
- **Outbound Proxy Server Port:** this outbound proxy server port number.
- **Register Expires:** the register expires time.
- **TEL No:** the sip trunk line number.
- **User ID:** this sip trunk register account
- **User Password:** this sip trunk authentication password
- **Display Name:** this sip trunk display name
- **Reject Anonymous Call:** 0 is disable , 1 is enable.
- **Display Name:** 0 is none, 1 is PSTN Caller ID, 2 is SIP User ID, 3 is FXO

Tel No.

- **User ID:** 0 is SIP User ID, 1 is PSTN Caller ID, 2 is FXO Tel No
- **For DNIS is Register TEL:** 0 is 1 stage dialing, 1 is 2 stage dialing
- **Keep Alive:** 0 is disable, 1 is enable.
- **Keep Alive Time (sec):** keep alive time (the range is 30 to 300 sec)
- **0:** it is reserved option, please don't change this value.

Expamle:
1.
Create a sip trunk.
Trunk ID 3, trunk number 0700123456, trunk account test, trunk password test123, trunk display name welltech.
Proxy server domain name welltechtech.com, proxy ip 192.168.18.247, Proxy port 8888, outbound proxy ip 192.168.22.247, outbound proxy port 8890, expire time 60.

This command is

"[bdb -i SipTrunk -a 3 -v 3,0,0,welltechtest.com,192.168.18.247,8888,192.168.22.247,8890,60,070 0123456,test,test123,welltech,1,1,0,1,0,0,0]"

Notice: please input completely command line, there should have 19 commas(,).

2.
Read the SIP Trunk values
This command is [bdb -i SipTrunk]
Notice: each SIP Trunk record is using symbol ";" to end.

Status

item	keyword	prefix	Values and description
Line Status	line0 ~ Line31	N/A	It can read line type and status.
SIP Trunk Status	trunk0 ~ trunk15	N/A	It can read sip trunk strtus.

Expamle:

Reading line 1 and sip trunk 1 status

This command is:

[bdb –s line0] ----- to read line 1 status
[bdb –s trunk0] ----- to read sip trunk 1 status

Reboot

item	keyword	prefix	Values and description
Reboot	Reboot	N/A	N/A

This command is “[reboot]”