

Initially out of the box the V-9972 can be configured and used as either a FXO or FXS adapter (see wiring connection options) and can output either one-way or two-way audio. This is done via DIP switches.

Configuration Dip Switch

A 6-position dip switch is used to configure the basic functions of the V-9972. The switch selections provide the following functionality.

Output Page Port Selection

Dip switch SW1 selects between the one way page output and the FXO output port. In the OFF position, the one way page output will be selected and the FXO port will remain disabled. In the ON position, the one way page output will remain disabled while the FXO port will be active during paging.

Silence Time Out Selection

Dip switch positions 2 and 3 define the silence timeout limits. The position settings conform to the following table:

SW2	SW3	Timeout
OFF	OFF	8 Seconds
OFF	ON	4 Seconds
ON	OFF	2 Seconds
ON	ON	Software control (default 0 seconds)

Absolute Time Out Selection

Dip Switch positions 4 and 5 define the absolute timeout limits. The position settings conform to the following table:

SW4	SW5	Timeout
OFF	OFF	128 Seconds
OFF	ON	16 Seconds
ON	OFF	8 Seconds
ON	ON	Software control (default 0 seconds)

Telephony Port Selection

Dip switch SW 6 will select the operational mode of the telephony port. Setting the switch to OFF will enable the FXO port and disable the FXS port. The ON position will enable FXS operation.

****Device needs to be power cycled for any DIP switch changes to take effect****

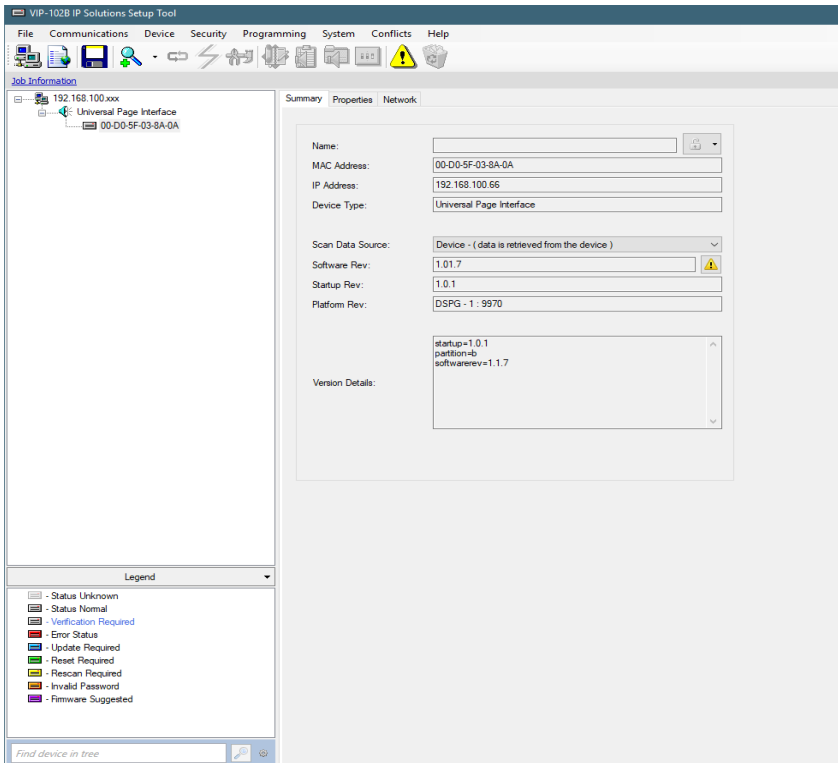
The V-9972 ships from the factory with a default IP address. The IP address can be configured in one of 3 ways: Using the VIP-102B IP Solutions tool (download the tool and Reference Manual from www.valcom.com/vipsetuptool)

1. Using a phone connected to the FXS port and SW6 in the on position you can use the DTMF Programming Options

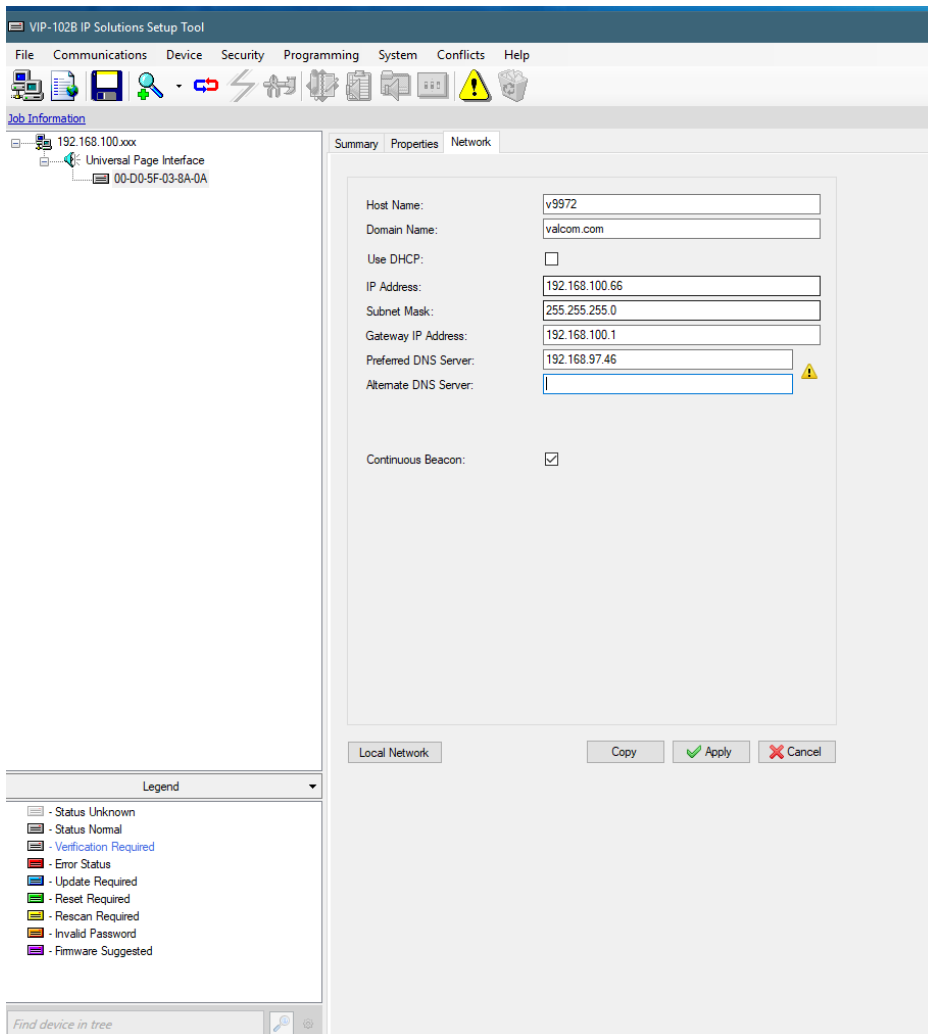
- Using the web interface to set the IP address (PC will have to be on the 192.168.6.xxx subnet to access the device)

Configuring Input/Output ports and timeout settings can be done via DIP switches on the rear of the device. Additionally, the timers can be set in software programming either DTMF Programming or Web Programming if SW2 and SW3 are ON and/or SW4 and SW5 are on.

VIP-102B IP Solutions Tool



After scanning for devices and selecting discovered devices the 9972 displays as a Universal Page Interface device type. The Summary tab shows basic properties of the device.



The Network tab is where the IP information is configured static or check the Use DHCP box for an automatically assigned IP address from a DHCP server on the network.

When finished update and reset the device.

DTMF Programming Options

Parameter	DTMF Parameter Index	Default Value	Valid Entry	Notes
Silence Timeout	01	00	00-99. 00 disables timeout	Takes effect on next call if DIP switches 3 and 4 are "11".
Absolute Timeout	02	000	000-999. 000 disables timeout	Takes effect on next call if DIP switches 5 and 6 are "11".
DHCP	20	0	0 disables, 1 enables	Takes effect upon system reboot.
IP Address	21	192.168.6.203	xxx*xxx*xxx*xxx, where xxx are numbers between 0-255 and the * key denotes the dot between the octets. The variable length entry must be terminated via the # key.	Takes effect upon system reboot, if and only if the IP Address, netmask, and gateway comprise a valid subnet.
Netmask	22	24	01-31. This specifies the netmask using CIDR notation. (i.e. IP/Netmask) xxx*xxx*xxx*xxx, where xxx are numbers between 0-255 and the * key denotes the dot between the octets. The variable length entry must be terminated via the # key.	Takes effect upon system reboot, if and only if the IP Address, netmask, and gateway comprise a valid subnet.
Gateway	23	192.168.6.1	xxx*xxx*xxx*xxx, where xxx are numbers between 0-255 and the * key denotes the dot between the octets. The variable length entry must be terminated via the # key.	Takes effect upon system reboot, if and only if the IP Address, netmask, and gateway comprise a valid subnet.
Passcode	90	9970	Variable length entry from 0-10 characters long consisting of the DTMF digits 0-9. The variable length entry must be terminated via the # key.	Takes effect on next call.
Reset Defaults	95	N/A	N/A	Resets all settings to system defaults and reboots unit.
Reboot	99	N/A	N/A	Reboots unit.

In addition to IP address programming, the timeout settings and passcodes can be configured here as in the Web Interface.

DTMF Programmability

Programming can also be done through the use of DTMF through the telephony FXS/FXO input port.

Entering DTMF Program Mode

The V-9972 monitors the telephony audio port for the DTMF digits “**” + Passcode + “*” at any time during a paging event. If the V-9972 detects that sequence, the V-9972 enters into DTMF Program Mode. The outbound page interface will be disconnected and returned to idle condition.

DTMF Program Mode Acknowledgement

When entering DTMF Program Mode, the V-9972 responds to the user with an acknowledgement tone on the telephony input. The V-9972 shall then monitor the telephony input for DTMF parameter index combinations per above DTMF Programming Options.

DTMF Programming Timeout

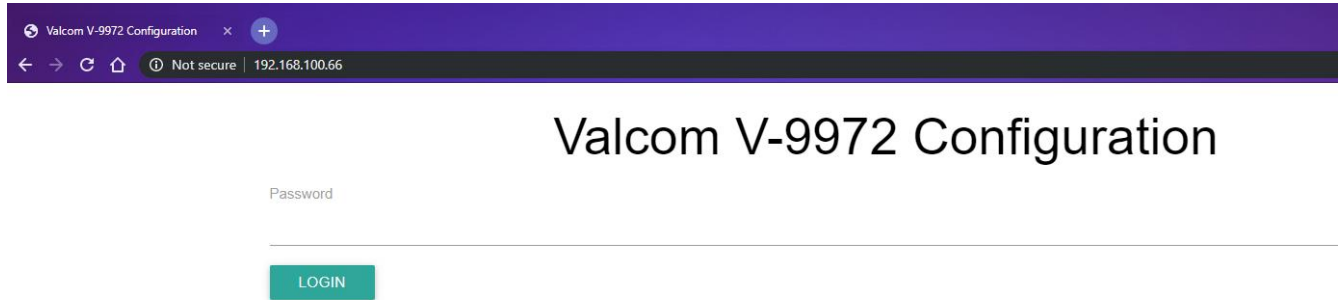
When the DTMF programming mode is entered, the absolute timeout time shall be set for the duration of the call to 10 minutes, and the silence timeout disabled. If this absolute timeout is reached before the user terminates programming by hanging up, the V-9972 shall issue a reorder tone to the user and then hang up the telephony connection.

DTMF Program Menu

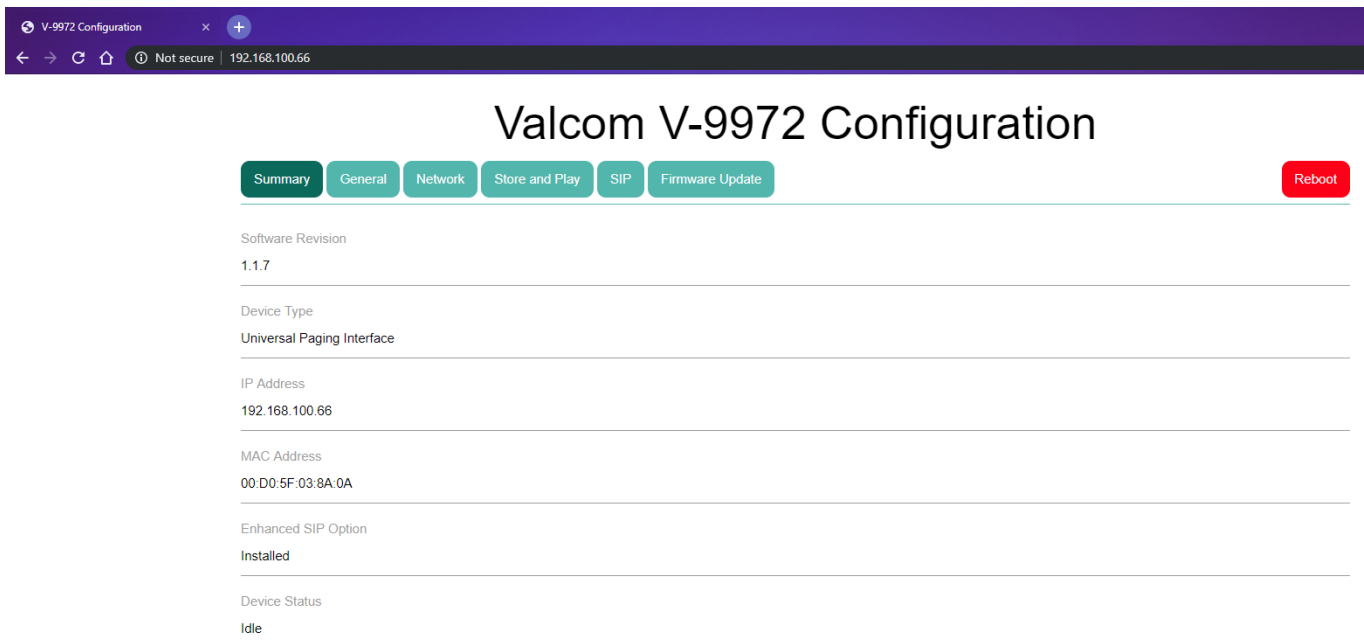
The DTMF Menu consists of the user keying in a two DTMF digits to select the item to be programmed (the parameter index) and then a variable number of digits to perform the actual setting. To abort the current selection or to terminate a variable length field, the user will enter in a ‘#’. After entry of a successful DTMF parameter index, the acknowledgement tone is transmitted and the V-9972 enters a state where the parameter value can be entered. If the DTMF parameter index is invalid, the V-9972 returns a tone to indicate command rejection, and then waits for the next menu item selection.

Web Login

Open web browser and enter the IP address of the 9972



Default password is *admin*. Enter this and click on login. This will bring you to the Summary page.



The first section of the screen displays property information about the device.

Hardware Controlled Settings

Page Input
FXS - Loop Start

Page Output
One Way Page Out

Silence Timeout
Software Control -- See General Page

Absolute Timeout
Software Control -- See General Page

Music Volume
0.99

Page Alert Tone Volume
0.91

The second half of this screen shows configuration settings of the device. Note: if DIP switch 4 and 5 are on Silence Timeout and Call Timeout are configure on the General page.

Summary General Network Store and Play SIP Firmware Update Reboot

Absolute Timeout (in seconds, 0 disables)
0

Silence Timeout (in seconds, 0 disables)
5

Page Volume
High

Use Custom Page Sound

Page Security Code (Leave Blank to Disable)

Phone Administration Passcode
....

Web Administration Password
.....

APPLY CANCEL

On the General page you can set the Call timeout and the Silence timeout to any number of seconds. Page Volume can be selected as Low or High. If you would like to customize the pre-page tone check the “Use Custom Page Sound”

This additional line will appear on the page:

Page Sound File (16kHz single channel WAV format file) No file chosen

Click "Choose file" to select a file in 16kHz single channel WAV format. Preferably no longer than a few seconds long. You can also set the passcode for Phone Administration (DTMF) default is 9970. This password should be numeric only as it is used as DTMF input when configuring via telephone interface.

Page Security Code is where you can set a passcode that will then be prompted for in order to allow a page to be made. Also you can set the passcode for the Web Administration. Default passcode is admin.

Click Apply when finished with page. Click the Reboot button if complete finished configuring the device.

Valcom V-9972 Configuration

Summary General **Network** Store and Play SIP Firmware Update

Host Name
v9972

Domain Name
valcom.com

Use DHCP

IP Address
192.168.100.66

Subnet Mask
255.255.255.0

Gateway IP Address
192.168.100.1

Preferred DNS Server
192.168.97.46

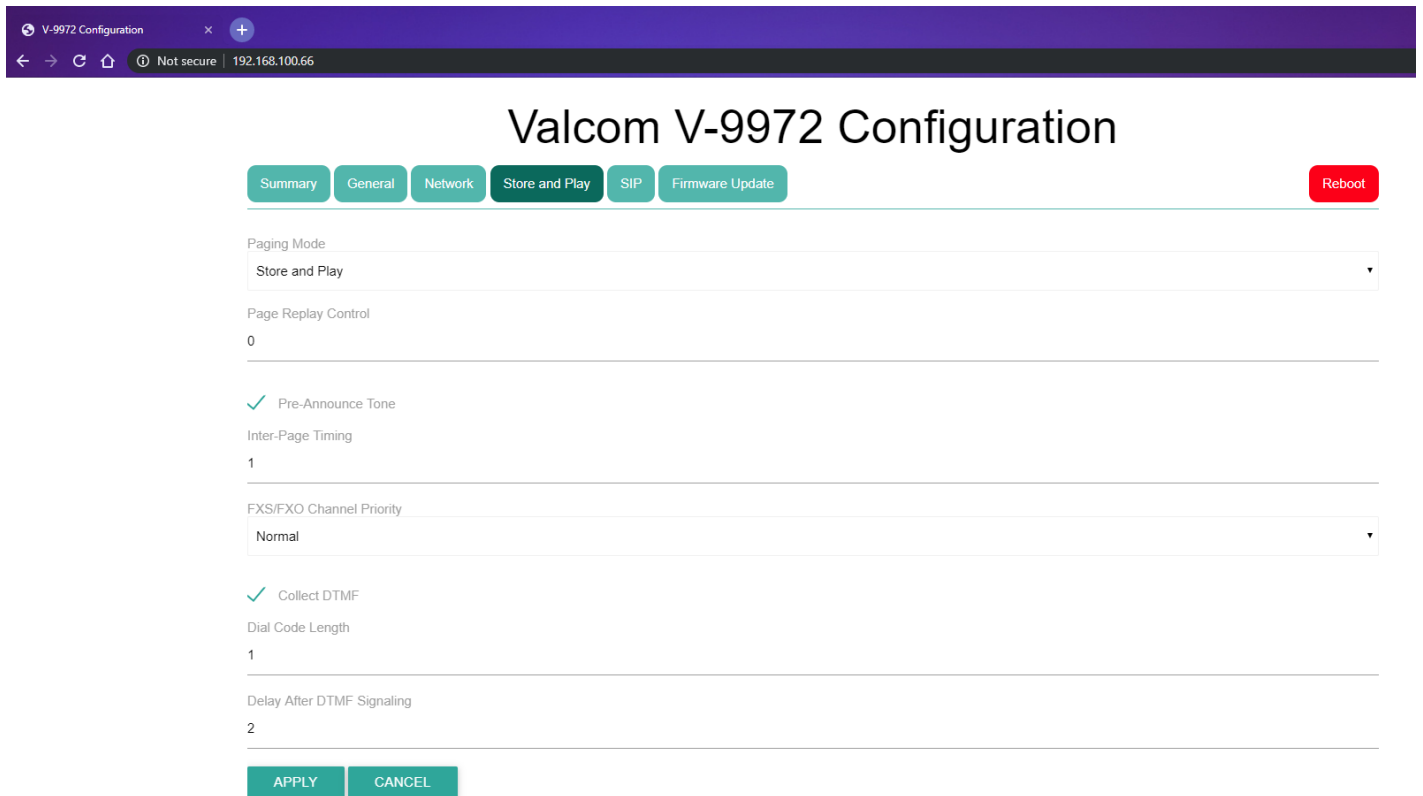
Alternate DNS Server
192.168.97.46

On the Network page you can change the IP address to another static IP address or set it for DHCP DNS entries are optional. Note: Initially the V-9972 is set at 192.168.6.203 and can be discovered and assigned an initial IP address or set for DCHP via the VIP-102B IP Solutions tool which can be downloaded for free at <http://www.valcom.com/vipsetuptool>

Click Apply when finished with page. Click the Reboot button if complete finished configuring the device.



On the Store and Play tab you can configure the paging mode as Live or Store and Play. Live is the default.



When Store and Play is selected you can set:

Page Replay Control that allows for the number of times the recorded page is repeated. Allowed digits 0-5 with 0 as the default of no repeat.

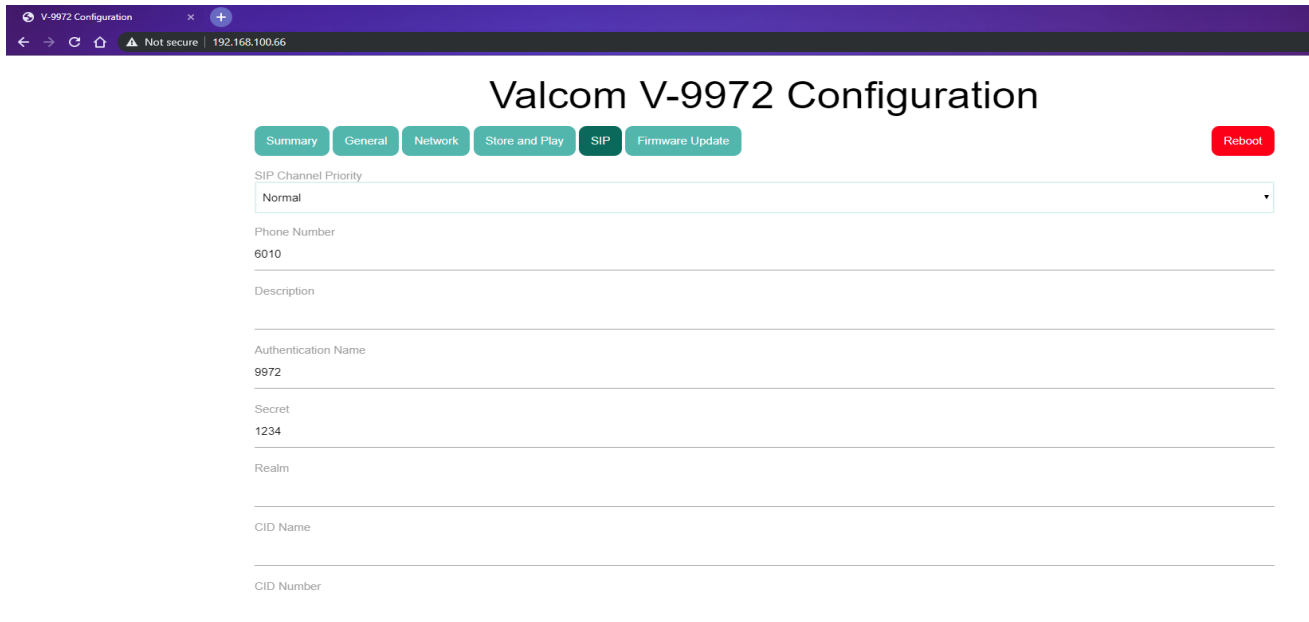
Preannounce Tone to play a tone over the output before the recorded page plays.

Inter-Page Timing to control (1-10 seconds) the timing between pages.

FXS/FXO Channel Priority sets the priority (Low, Normal or High) of the messages received on the analog interface.

If the analog output is set for Talkback Page Out (FXO) then the option to Collect DTMF appears. If checked, this will allow you to enter the number of digits (1-11) received before recording the page and the delay (0-20 seconds) before message is played.

Click Apply when finished with page. Click the Reboot button if complete finished configuring the device.



On the SIP tab you can configure the basic settings to allow this device to register with a SIP enabled PBX.

SIP Channel Priority -- sets the priority (Low, Normal or High) of the messages received on this SIP channel.

Phone Number – defines the unique number that is assigned to this device. The SIP Phone Number, or directory number, is the number this device will respond to for inbound connections. Phone Numbers can contain letters, numbers, period (.) or dash (-).

Description – is a text description of this SIP identity

Authentication Name – is the identification used to register with a SIP server or Proxy. This can also be referred to as a username for the SIP server.

Secret – is the password used with the Authentication Name when registering with a SIP server.

Realm – is the security domain in which the Authentication Name and Secret are defined.

CID Number – is the telephone number that will appear on endpoint devices with Caller ID capability.

CID Name – is the text that will be provided by this endpoint device as the Caller ID information for an outbound connection to other endpoints. Endpoints with Caller ID display capability will be able to display this information.

Primary SIP Proxy Address 192.168.97.35	Primary SIP Proxy Port 5060
Backup 1 SIP Proxy Address	Backup 1 SIP Proxy Port 5060
Backup 2 SIP Proxy Address	Backup 2 SIP Proxy Port 5060
Backup 3 SIP Proxy Address	Backup 3 SIP Proxy Port 5060

Register

DNS SRV

Outbound Proxy _____ Outbound Port
5060

SIP Port
5060

RTP Port
20000

Keep Alive Timeout (seconds)
3600

Options Timer (seconds)
0

Idle Timeout (seconds)
0

Max Call Timer (seconds)
0

Night Ring

SIP Servers – is the registrar server(s) to which this endpoint device will attempt to register. You can have at least one primary and up to 3 backup servers. These entries may be an IP address, or, if DNS is properly configured on the Network Tab, server names. The **Register** checkbox must be selected (checked) to enable the registration to occur. The **DNS SRV** can be checked if you are using DNS to provide a list of SIP servers that can be registered to.

Outbound Proxy – is the device to which SIP communications should be directed to be “proxied”, or forwarded, to the next segment of the network. This entry may be an IP address, or, if DNS is properly configured on the Network Tab, a server name and is different from the SIP server entry.

Outbound Port – is the IP port number used for communicating to the Outbound Proxy (see above).

SIP Server Port and **SIP Port** – are the IP port numbers to be used for SIP communications. The default values of 5060 are well-known standard ports. The *SIP Server Port* value is the port on the SIP server that listens for SIP communication; the *SIP Port* value is the port on the Valcom IP device that responds to SIP.

RTP Port – is the IP port number used for Real Time Protocol communication. RTP is the protocol used for sending/receiving audio over the network. This entry should be an even number to conform to industry best practices.

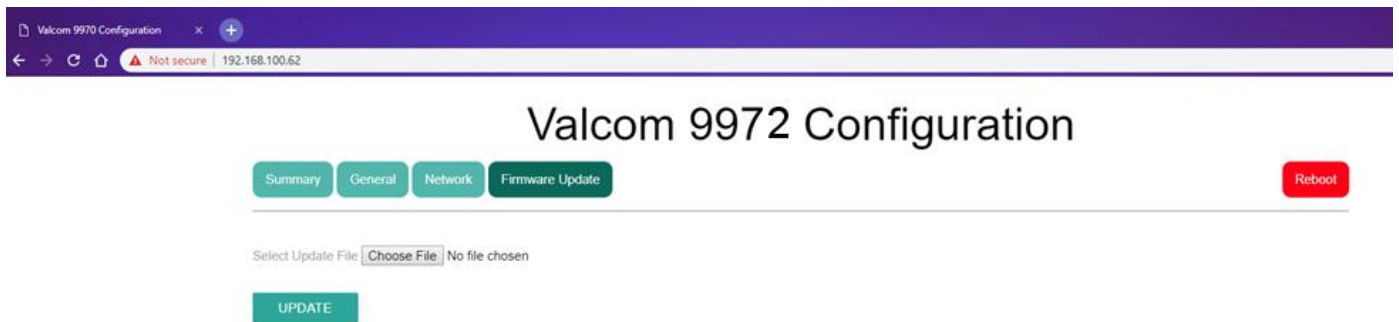
Keep Alive Timer (secs) – Interval in seconds (20 --3600) that SIP registration is sent to a SIP server (default 3600 seconds).

Options Timer (secs) – Interval in seconds (0 – 300 step 10) that a SIP Options message is sent to the SIP server. (default 0 which is disabled)

Idle Timeout (secs) – is configurable from 0 – 60. If audio packets are no longer received after the set number of seconds the device will terminate the call. 0 is the default which disables the timeout.

Max Call Timer (secs) – is configurable from 0-600. The device will terminate the call when the timer reaches the number of seconds configured regardless of the call in progress. 0 is the default which disables the timeout. (typically used when calls are not hung up properly)

Click Apply when finished with page. Click the Reboot button if complete finished configuring the device.



Firmware Update page allows you to upload a firmware update that you received from Valcom.

Click Choose file button, and you will be prompted with a File Open dialog box to select the firmware file. Click UPDATE and the device will load the new firmware.

Connections

