ToolVox
Media Gateway

Administrator Guide
(prior to Aug, 2014)

Code Blue®
800.205.7186 • www.codeblue.com

Table of Contents

IP Network Resources

****Please note the below IP Network Ports are specified if you restrict Ports in your network and need to be allowed for the appropriate products listed****

EMS

TCP outgoing to port 5038 on ToolVox
RTSP outgoing to port 554 (or other locally-configured port) on cameras if video is in use

IP5000

HTTP/TCP, HTTPS/TCP incoming to ports 80, 443 for web-based management
NTP/UDP outgoing to port 123 on ToolVox for time service
SNMP/UDP incoming to port 161 for UPD testing
SNMPTRAP/UDP outgoing to port 162 for UPD traps
HTTPS/TCP incoming to port 443 from ToolVox for programming
IAX2/UDP outgoing to port 4569 on ToolVox
SIP/UDP outgoing to port 5060 on ToolVox
RTP/UDP incoming from ToolVox to UDP ports 23456-23556 (configurable)

ToolVox

DHCP for IP5000 units if configured
SSH/TCP incoming to port 22 for secure shell management
SMTP/TCP outgoing to port 25 on configured mail server for mail alerts
DNS/UDP outgoing to port 53 if configured to use DNS servers
HTTP/TCP, HTTPS/TCP incoming to ports 80, 443 for web-based management
NTP/UDP incoming to port 123 from IP5000 for time service
SNMP/TCP outgoing to port 161 on IP5000 for UPD testing
SNMPTRAP/TCP incoming to port 162 from IP5000 for UPD traps
H.323/TCP incoming and outgoing to and from port 1720 for H.323 trunks
HTTPS/TCP incoming to port 2000 for Webmin management
TCP incoming to port 2840 from Blue Alert clients
IAX2/UDP incoming to port 4569 from IAX2 phones
TCP incoming to port 5038 from EMS clients
RTSP outgoing to port 554 (or other locally-configured port) on cameras if EMS video is in use
SIP/UDP incoming to port 5060 from SIP phones and trunks
RTP/UDP incoming to ports 10000-20000 from SIP and H.323 phones and trunks

ToolVox Blue Alert MNS

Core Application

HTTP/TCP and HTTPS/TCP incoming to ports 80 and 443 on ToolVox
Optional Internet access to the Google Maps API over HTTP and HTTPS for aerial imagery

4U2SEE Digital Signage

TCP outgoing to port 3001 on 4U2SEE digital signs

Desktop Alert

Multicast UDP to port 9264 on the configured IPv4 multicast address, which must

be routed appropriately to destination systems

Email

SMTP/TCP outgoing to port 25 on configured mail relay

PAS

Delivered via telephony connections to Code Blue PAS units (see ToolVox and IP5000 network resources)

RSS

HTTP/TCP incoming to port 80 to read feed content
This access should be proxied instead of allowing ToolVox to directly service requests from public networks

SMS via 2SMS

HTTP/TCP to port 80 via the Internet to www.2sms.com

SMS via email

See “Email”

Configuring Server Settings

Warning: Advanced knowledge of the ToolVox system is required before making any changes other than network settings to the system. Changing settings other than the network settings may result in complete system failure. Hourly support packages are available and require remote access to the system via remote desktop control.

The ToolVox Media Gateway has the IP configuration set to DHCP by default. A user account was also added to run the following from the CLI for those familiar with Linux platforms:

There are multiple methods for logging into the ToolVox server.
Initially you may just want a keyboard and monitor directly plugged into the server. You can then configure the network settings using CLI commands listed below. Once you know the IP address of the server you can connect via SSH or use a web browser and enter the Webmin side of the server to edit network settings. You do not need to do both methods.

Direct Connect and SSH commands:

This is the login information for the user account on the ToolVox systems :

Login: cbadmin
Password: CodeBlue92

These are some of the common commands the user is able to run as sudo.

ifconfig (see current network info)
the server by default is DHCP so once you have connected a network connection to the eth0 port on the rear of the server, it will pull an IP address if DHCP is running on your network. If not using DHCP then run the below command to configure a Static IP.

sudo system-config-network (setup Dynamic/Static network settings for the ToolVox)

sudo /etc/init.d/network restart (restart network services if changed)

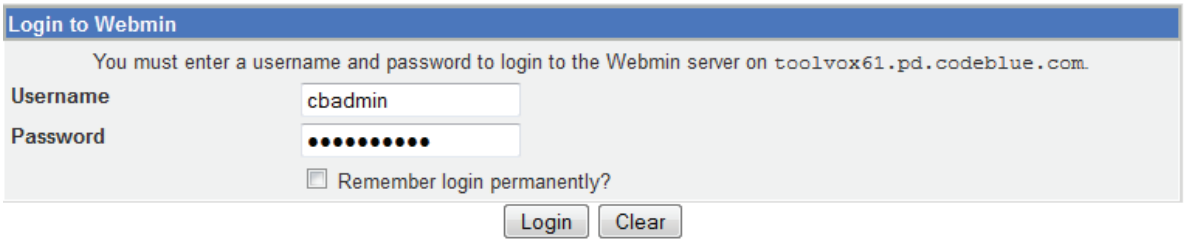
ping

Once you connect ToolVox to your network you should be able to login to the Webmin management portal with the DHCP assigned address or Static IP that you setup in the above steps: Using your web browser browse to: https://ToolVoxIP:2000

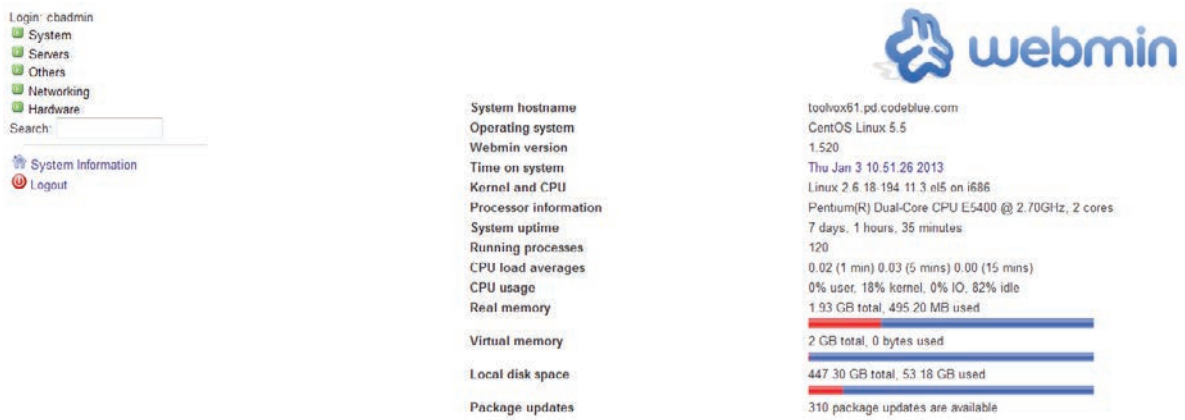
If you already know the IP address of ToolVox you can simply browse to the IP address of ToolVox you can simply browse to the IP address to directly access the system and begin setting up Code Blue Phones. The below is another side of the server if you wanted to setup the network devices and/or the Post Fix Mail Server settings.

Webmin commands:

Enter the default username ***'cbadmin'*** and password ***'codeblue'.***
Click Login

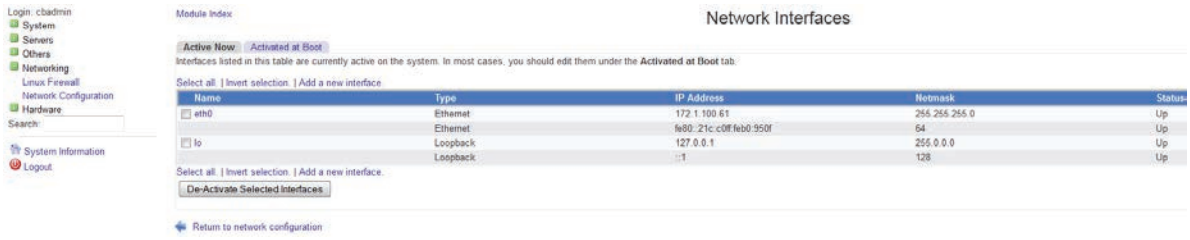


If you wish to change
Click Networking on the left navigation bar.

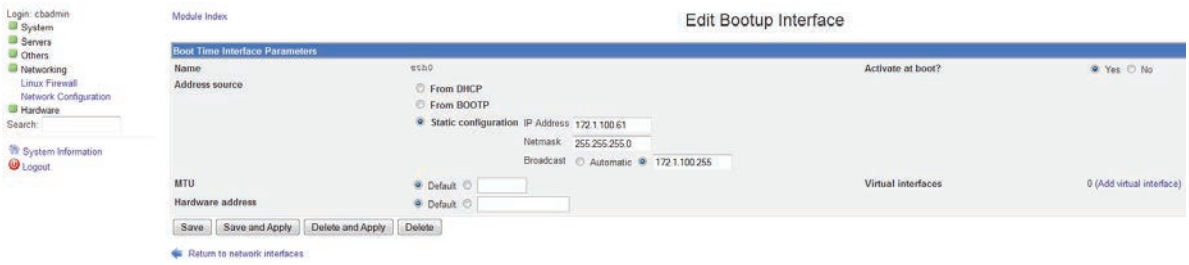


Click on Network Configuration.

Click on Network Interfaces.



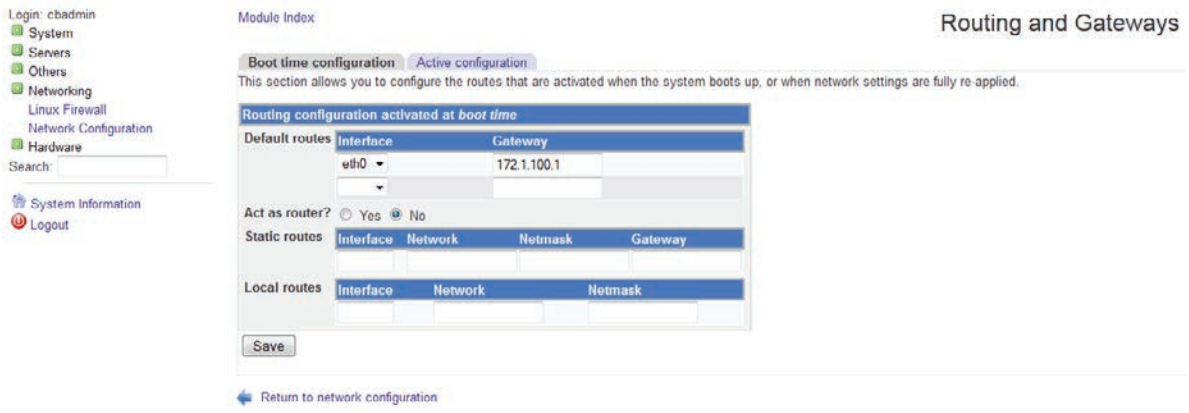
Click on Activated at Boot then click on eth0.



Enter the IP Address and Netmask then click Save

Click Return to network configuration

Click on Routing and Gateways



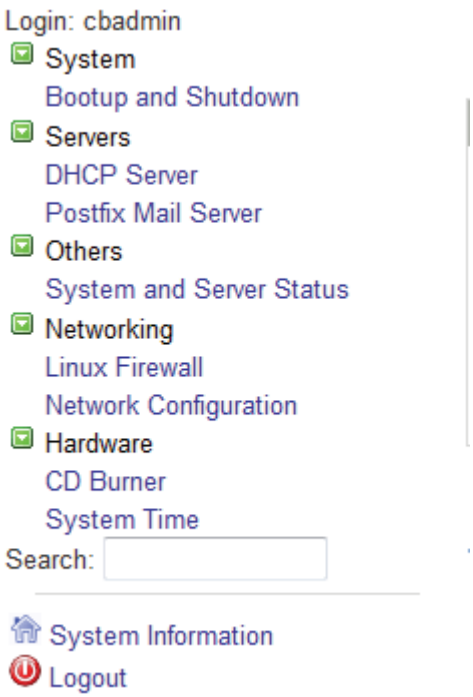
Enter the Gateway IP Address for eth0 and click Save

Click Return to network configuration

Click on Hostname and DNS Client

Enter Hostname and DNS server IP Address information (if other than default) then click Save

This concludes the network configuration. You may need to reboot the system for the new settings to take effect. Below is the list of the settings you can control via Webmin on your ToolVox.



Under Bootup and Shutdown you can shut down or restart your ToolVox. Located at the bottom of the Bootup and Shutdown section.

ToolVox® Software Update Procedure

Only customers under ToolVox Annual Maintenance plans receive Full Hardware & Software Coverage and Software Upgrades/Enhancements/Bug fixes etc. Please inquire to Customer Service if not under a Plan.

ToolVox Software Update

1.1 Insert the ToolVox Update CD for your ToolVox edition (Standard or Advanced) into the ToolVox hardware's DVD-ROM drive

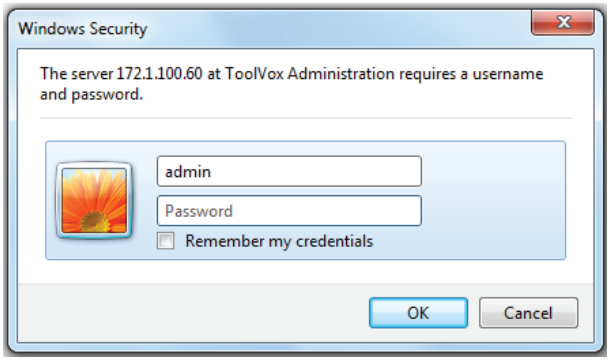
1.2 Browse to the IP address of your ToolVox Communications Server

1.2.1 http://<IP address of ToolVox>

1.2.2 Click on **"ToolVox Administration"**

1.3 Enter "Username": admin

1.4 Enter "Password": codeblue (default) or another password



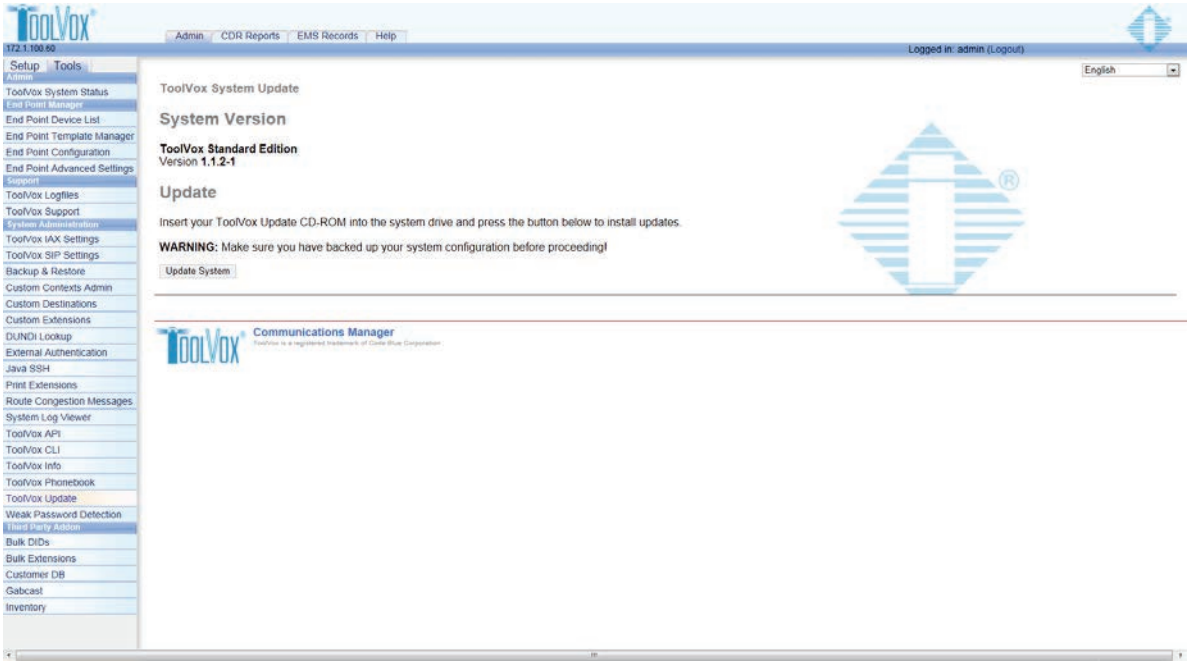
1.5 Click on **Tools** next to Setup

1.6 WARNING – if you haven't done a backup recently please consider this a good time to start this practice. See the attached document "Configuring Backup & Restore"

1.7 Under "System Administration", click **ToolVox Update**

1.8 Click **Update System.**

1.9 Select **Apply configuration changes (red bar)** at the top of screen and Reload (red box)

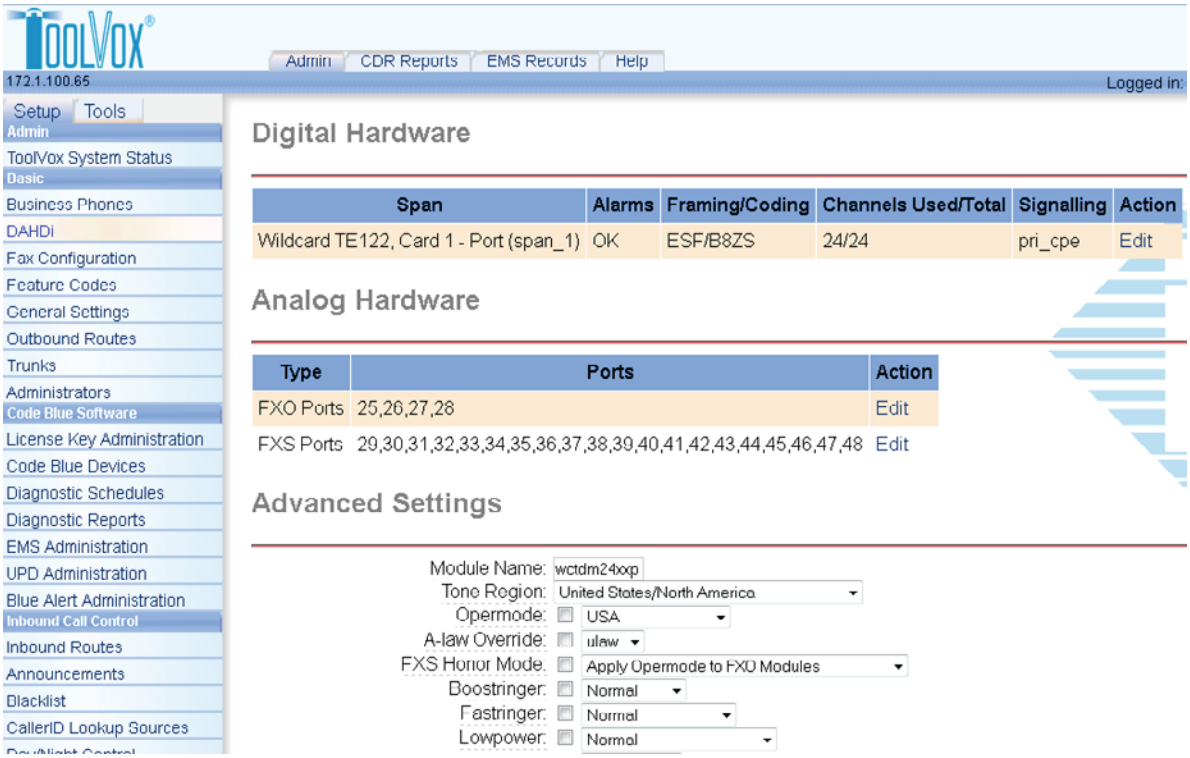


1.10 After updating, you may need to refresh your screen.

1.11 Log out and then log back in to ToolVox Communication Manager.

1.12 The update process is now complete.

Configuring Digital & Analog (DAHDi) Hardware

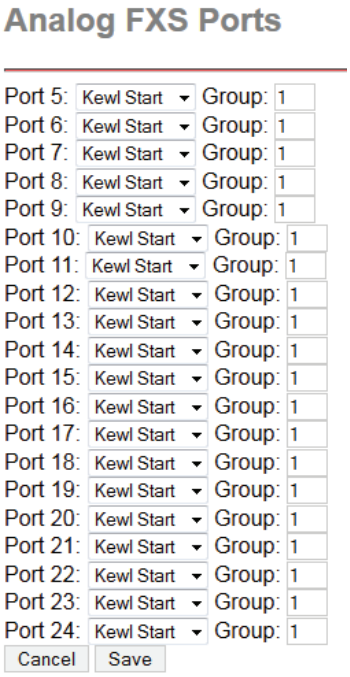


This is used to display and configure Digital and Analog Hardware that may have been installed in your ToolVox. T1 PRI, FXO, and FXS, depending on what is required in the application.

The Ports will be auto numbered during boot up of the ToolVox.

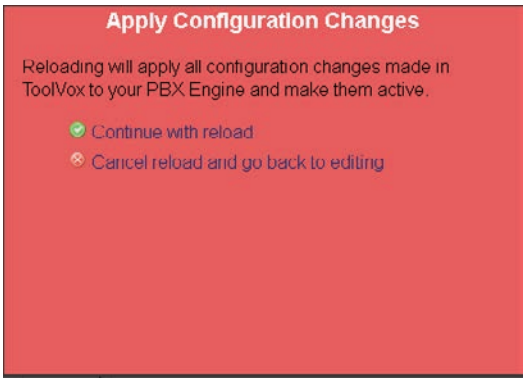
FXS Ports – FXS's produce dial tone and should be cross connected to analog Code Blue devices or phones that need dial tone. These FXS Port numbers are used when you build your phones in Code Blue Devices.

Click the Blue "Edit" button next to the FXS Ports. They should be configured as follows. Note that your port numbering may be different and the Group Number should be 1. Do not change Kewl Start.



Hit save then

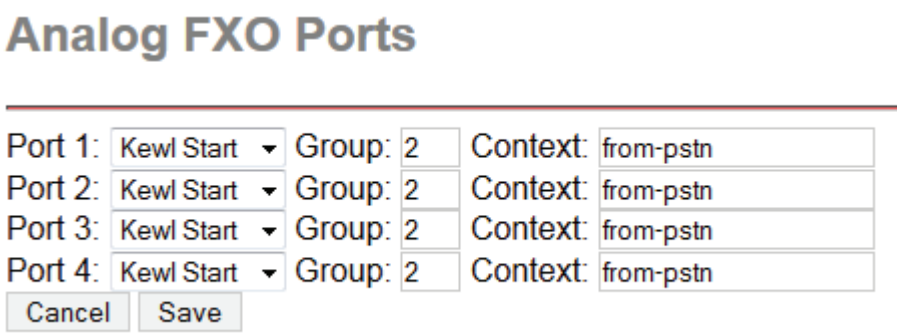
Then Continue with reload.



If done making adjustments in DAHDi then reboot the ToolVox. It can be done using the black toggle switch on the front of the ToolVox or done remotely using Webmin. See Chapter on Configuring Server settings on how to do so.

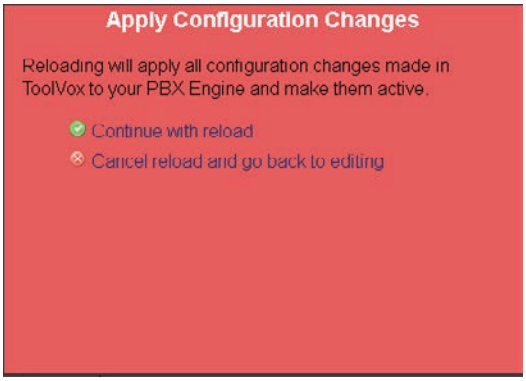
FXO Ports – FXO's receive dial tone, and should be cross connected to Bell POTS phone lines or to Phone lines from customer PBX. These Port numbers are used when you build trunks to transport calls into and out of the ToolVox.

Click the Blue "Edit" button next to the FXO Ports. Note that your port numbering may be different and the Group Number should be 2. Do not change Kewl Start and make sure the ports are set up as follows.



Hit save then

Then Continue with reload.

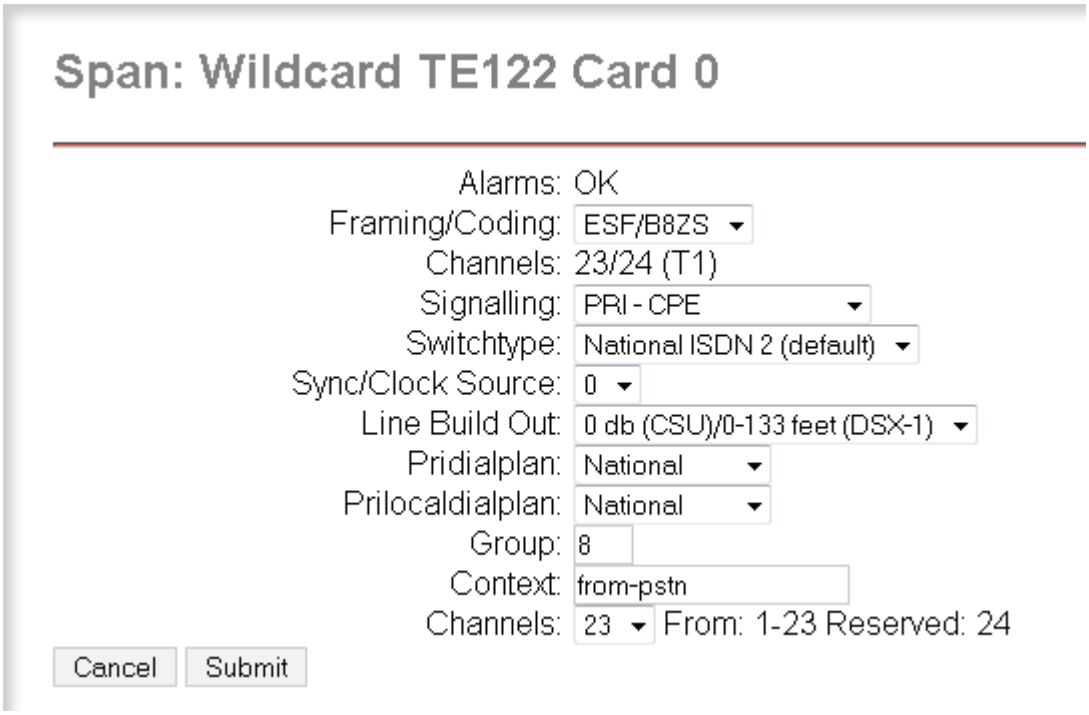


If done making adjustments in DAHDi then reboot the ToolVox. It can be done using the black toggle switch on the front of the ToolVox or done remotely using Webmin. See Chapter on Configuring Server settings on how to do so.

T1 PRI – If you are interconnecting ToolVox with a PBX via a T1 PRI configure this section provided your hardware displays.

Click the Blue "Edit" button next to the Wildcard TE122 Card.

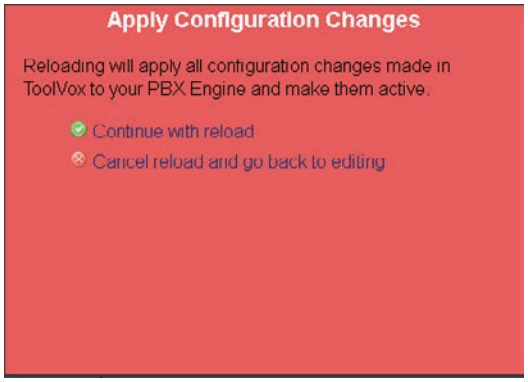
Set the ToolVox to the opposite of the PRI Signaling then the PBX your connecting to.



Customer PBX needs to be Net or CPE.

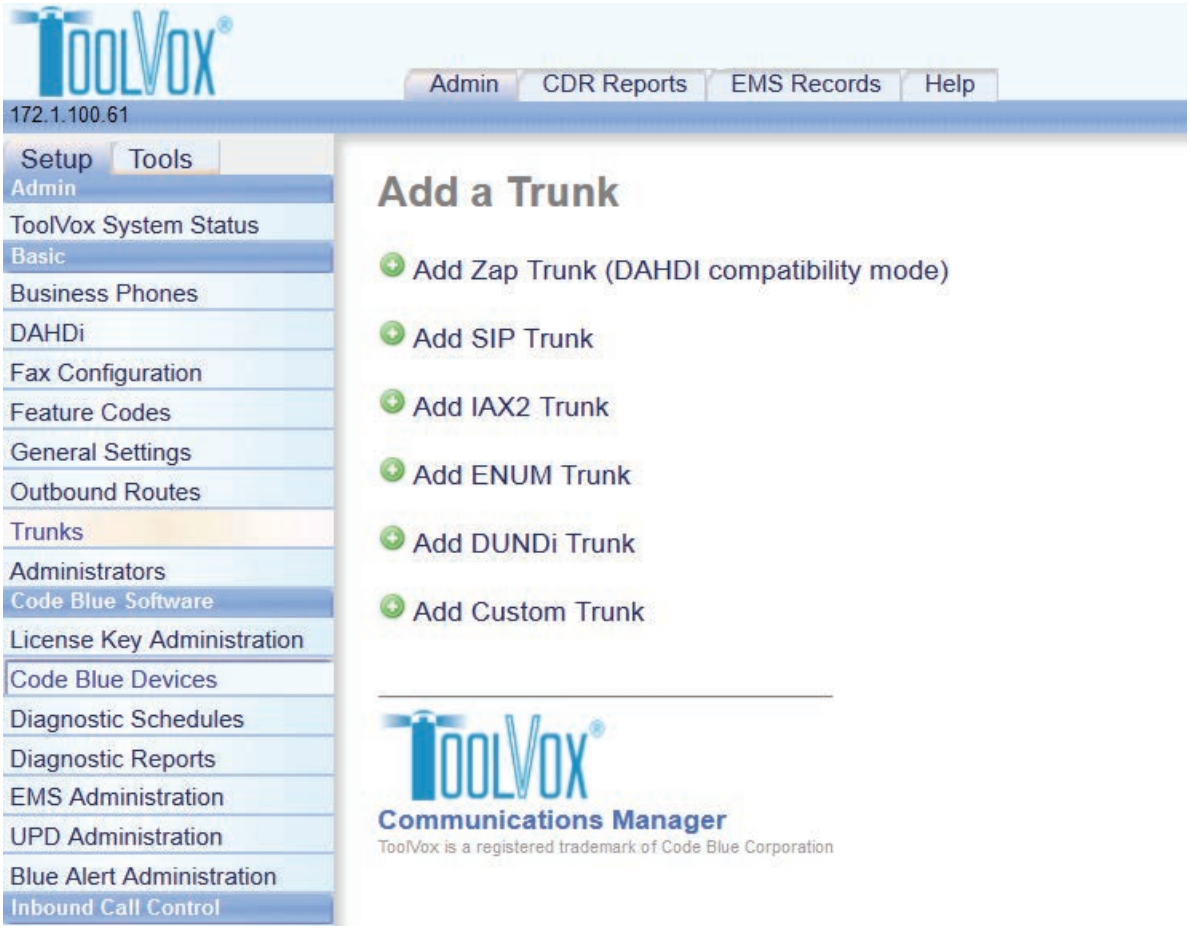
Hit save then

Then Continue with reload.



If done making adjustments in DAHDi then reboot the ToolVox. It can be done using the black toggle switch on the front of the ToolVox or done remotely using Webmin. See Chapter on Configuring Server settings on how to do so.

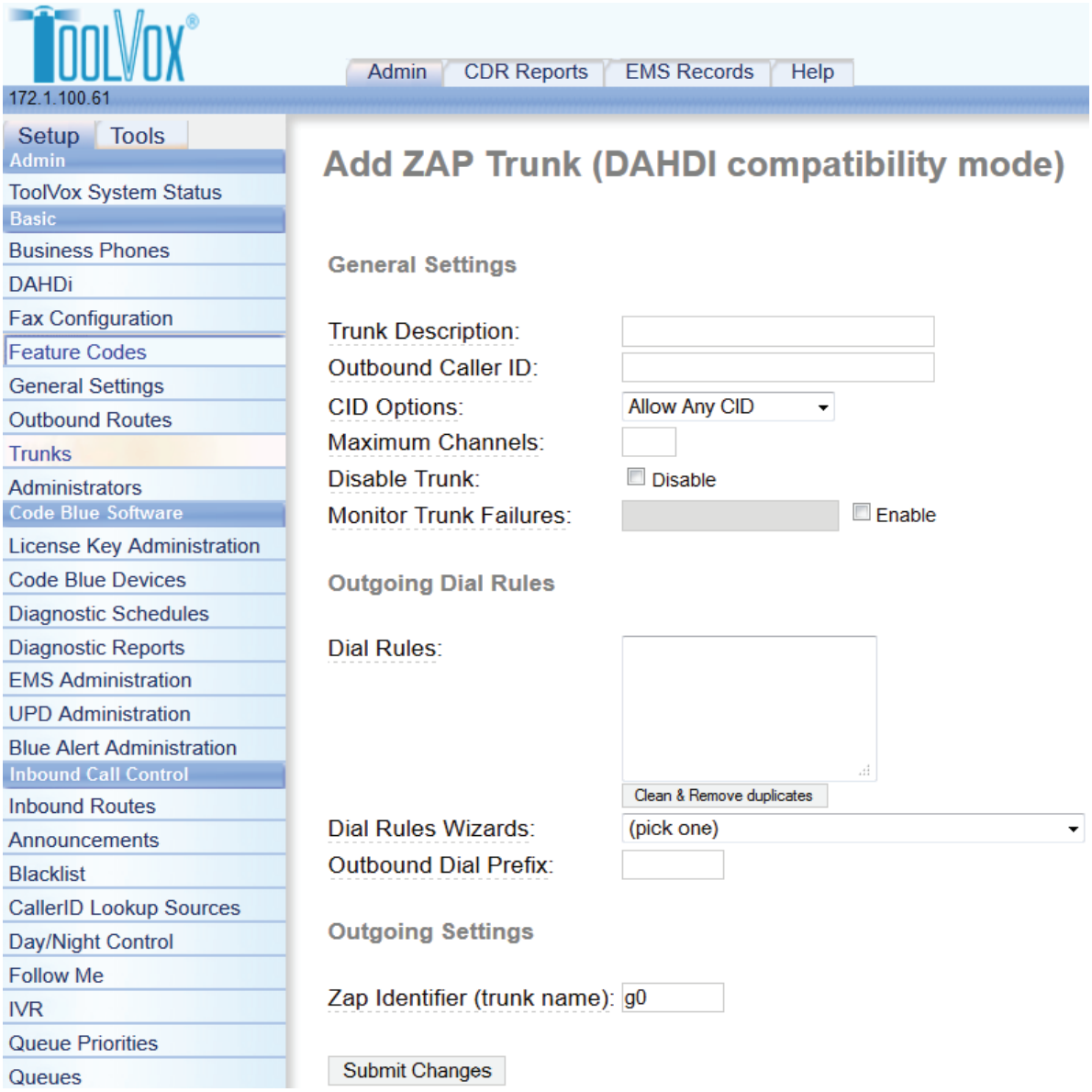
Configuring Trunks



To be able to pass calls from the ToolVox to exterior phones lines or to a PBX you must configure a trunk.

Your options are Dahdi (PRI T1, FXO phone line), IAX2, or a SIP trunk. If your server has hardware installed it will display in the DAHDI screen.

Add ZAP/DAHDI Trunk



General Settings

Outbound Caller ID(Optional): This is the Caller ID that will be used for outbound calls on this trunk. The format is: “Caller Name” <##########>. You can use the string “hidden” to disable Caller ID on this trunk if it is a digital line

(PRI/BRI/E1/T1/J1/SIP/IAX).

Never Override Caller ID(Optional): Check this box to disable using the Outbound CID set up in the extensions configuration page. You must enter an Outbound Caller ID when checking this box.

Maximum Channels(Optional): The maximum number of outgoing calls that can be made simultaneously on this trunk. Incoming calls have no effect on the maximum. A default of blank specifies no maximum.

Disable Trunk(Optional): Disables the trunk for all routes configured.

Monitor Trunk Failures(Optional): If checked enter the AGI script that will be called to either log, email, or take action due to a trunk failure other than CANCEL or NOANSWER.

Outgoing Dial Rules

Dial Rules(Optional): A Dial Rule to set how calls are sent out this trunk. If your outbound call does not match anything then it will be dialed as is.

- X matches any digit from 0-9
- Z matches any digit from 1-9
- N matches any digit from 2-9
- . is a wildcard that matches one or more characters
- | removes the dialing prefix from the number dialed. Example 9|.
    - This would send any number beginning with 9 out this route. 95551212 would send 5551212 out this trunk.
- + adds a dialing prefix to the number dialed. Example 1616+.
    - This would add 1616 to any number sent out this trunk. 5551212 would be prepended and sent to the carrier as 16165551212.

Dial Rules Wizards(Optional): Useful in creating Dial Rules. You can use the wizard to add or delete a prefix to numbers or lookup numbers for local calling.

Outbound Dial Prefix(Optional): Enter the outbound dial prefix for Centrex or other custom type of trunks where you have to dial a 9 etc. to make a call to the PSTN.

Outgoing Settings

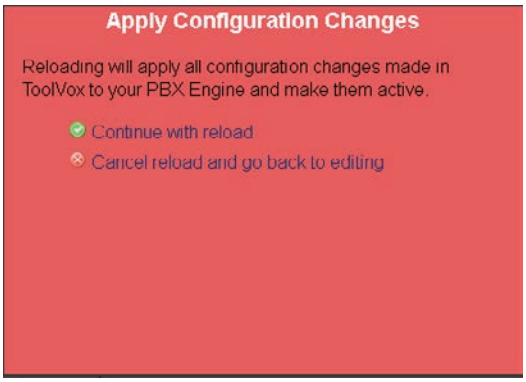
ZAP Identifier (trunk name): This is the group number or individual channel number of this trunk. After you have looked in the DAHDI menu screen and noted the FXO channel numbers you need to create one of these trunks for each FXO you wish to use.

For example if your FXO's are 1-4 enter 1 in the Zap Identifier (trunk name) field. Then create 3 more trunks, 2,3, and 4. Your Outbound Route will need to be created that will reference these trunks as available routes.

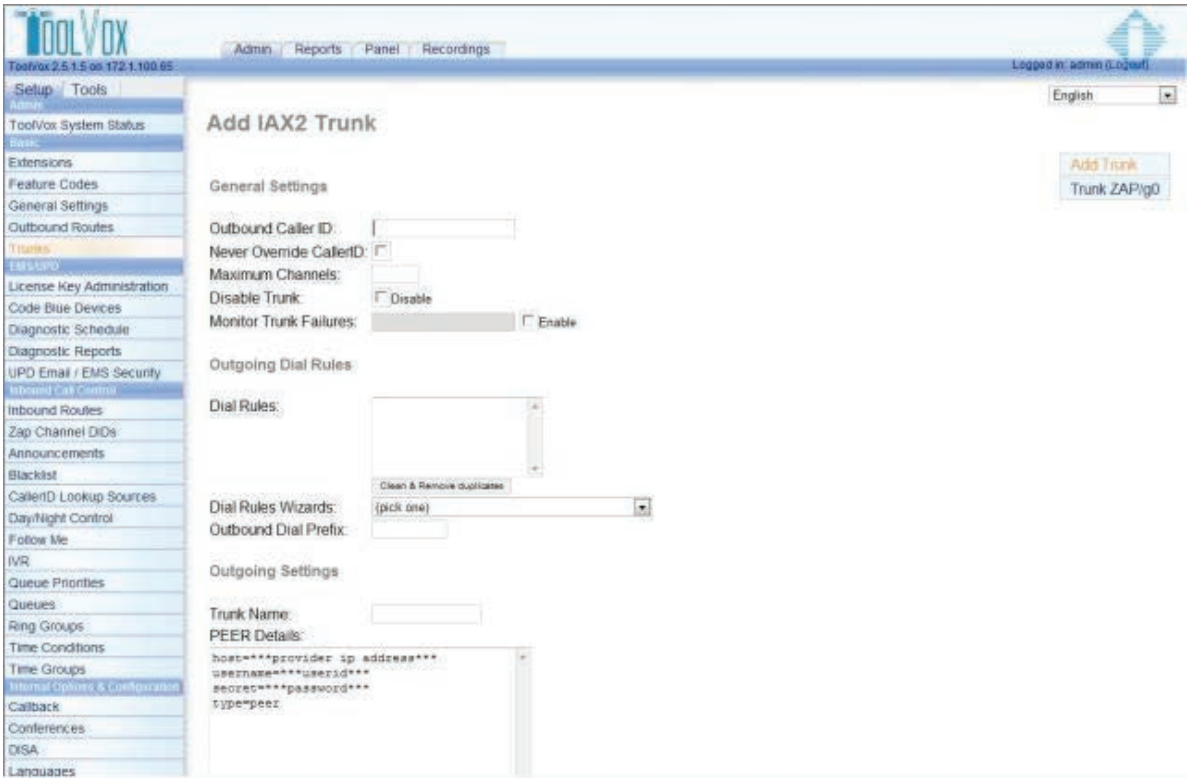
To save your settings click:

To apply the changes to the system click:

At the top of the screen.
Click - **Continue with reload** - to finish the changes otherwise click -
Cancel reload and go back to editing - to cancel the changes and continue editing the extension.



Add IAX2 Trunk



General Settings

Outbound Caller ID(Optional): This is the Caller ID that will be used for outbound calls on this trunk. The format is: “Caller Name” <##########>. You can use the string “hidden” to disable Caller ID on this trunk if it is a digital line (PRI/BRI/E1/T1/J1/SIP/IAX).

Never Override Caller ID(Optional): Check this box to disable using the Outbound CID set up in the extensions configuration page. You must enter an Outbound Caller ID when checking this box.

Maximum Channels(Optional): The maximum number of outgoing calls that can be made simultaneously on this trunk. Incoming calls have no effect on the maximum. A default of blank specifies no maximum.

Disable Trunk(Optional): Disables the trunk for all routes configured.

Monitor Trunk Failures(Optional): If checked enter the AGI script that will be called to either log, email, or take action due to a trunk failure other than CANCEL or NOANSWER.

Outgoing Dial Rules

Dial Rules(Optional): A Dial Rule to set how calls are sent out this trunk. If your outbound call does not match anything then it will be dialed as is.

- X matches any digit from 0-9
- Z matches any digit from 1-9
- N matches any digit from 2-9
- . is a wildcard that matches one or more characters
- | removes the dialing prefix from the number dialed. Example 9|.
    - This would send any number beginning with 9 out this route. 95551212 would send 5551212 out this trunk.
- + adds a dialing prefix to the number dialed. Example 1616+.
    - This would add 1616 to any number sent out this trunk. 5551212 would be prepended and sent to the carrier as 16165551212.

Dial Rules Wizards(Optional): Useful in creating Dial Rules. You can use the wizard to add or delete a prefix to numbers or lookup numbers for local calling.

Outbound Dial Prefix(Optional): Enter the outbound dial prefix for Centrex or other custom type of trunks where you have to dial a 9 etc. to make a call to the PSTN.

Outgoing Settings

Trunk Name: The name you wish the trunk to be identified as.

PEER Details: Enter the details of the IAX2 PEER here. The order of any allow or deny statements will be followed in order.

USER Context: The user name or account identifier the PEER is expecting.

USER Details: Enter the details of the IAX2 USER here. The order of any allow or deny statements will be followed in order.

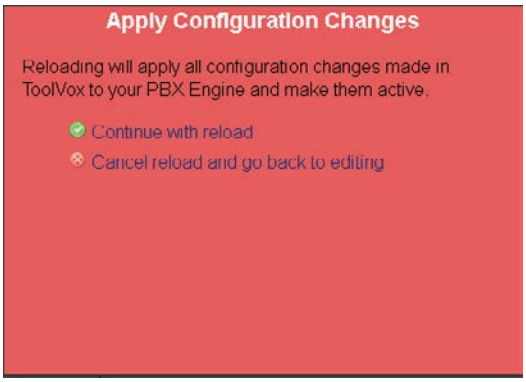
Registration

Register String: The registration string required to authenticate with the IAX2 PEER. Example: username:password@iax.toolvox.com

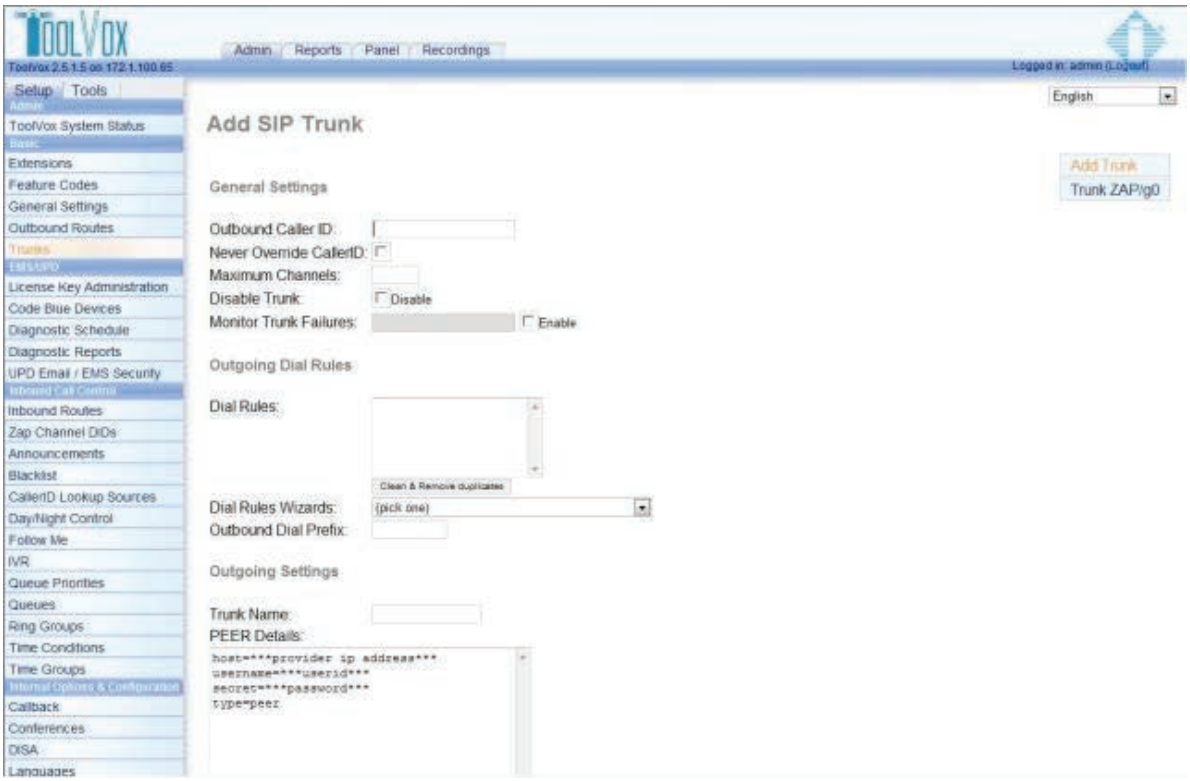
To save your settings click:

To apply the changes to the system click:

At the top of the screen.
Click - **Continue with reload** - to finish the changes otherwise click - **Cancel reload and go back to editing** - to cancel the changes and continue editing the extension.



Add SIP Trunk



General Settings

Outbound Caller ID(Optional): This is the Caller ID that will be used for outbound calls on this trunk. The format is: “Caller Name” <##########>. You can use the string “hidden” to disable Caller ID on this trunk if it is a digital line (PRI/BRI/E1/T1/J1/SIP/IAX).

Never Override Caller ID(Optional): Check this box to disable using the Outbound CID set up in the extensions configuration page. You must enter an Outbound Caller ID when checking this box.

Maximum Channels(Optional): The maximum number of outgoing calls that can be made simultaneously on this trunk. Incoming calls have no effect on the maximum. A default of blank specifies no maximum.

Disable Trunk(Optional): Disables the trunk for all routes configured.

Monitor Trunk Failures(Optional): If checked enter the AGI script that will be called to either log, email, or take action due to a trunk failure other than CANCEL or NOANSWER.

Outgoing Dial Rules

Dial Rules: Dial Rules(Optional): A Dial Rule to set how calls are sent out this trunk. If your outbound call does not match anything then it will be dialed as is.

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- Z matches any digit from 1-9
- N matches any digit from 2-9
- . is a wildcard that matches one or more characters
- | removes the dialing prefix from the number dialed. Example 9|.
    - This would send any number beginning with 9 out this route. 95551212 would send 5551212 out this trunk.
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Dial Rules Wizards(Optional): Useful in creating Dial Rules. You can use the wizard to add or delete a prefix to numbers or lookup numbers for local calling.

Outbound Dial Prefix(Optional): Enter the outbound dial prefix for Centrex or other custom type of trunks where you have to dial a 9 etc. to make a call to the PSTN.

Outgoing Settings

Trunk Name: The name you wish the trunk to be identified as.

PEER Details: Enter the details of the SIP PEER here. The order of any allow or deny statements will be followed in order.

Example:

host=X.X.X.X (Ip address of corresponding IP PBX)

type=peer

qualify=yes

context=from-internal

USER Context: The user name or account identifier the PEER is expecting. Most cases a name you make up and is not needed.

USER Details: Enter the details of the SIP USER here. The order of any allow or deny statements will be followed in order.

Example:

host=X.X.X.X (IP address of corresponding IP PBX)

type=user

context=from-trunk

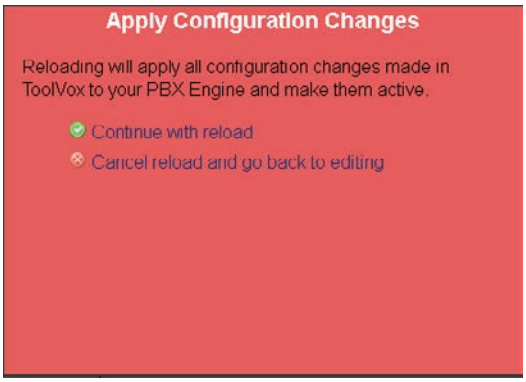
Registration

Register String(Optional): The registration string required to authenticate with the IAX2 PEER.
Example: username:password@iax.toolvox.com

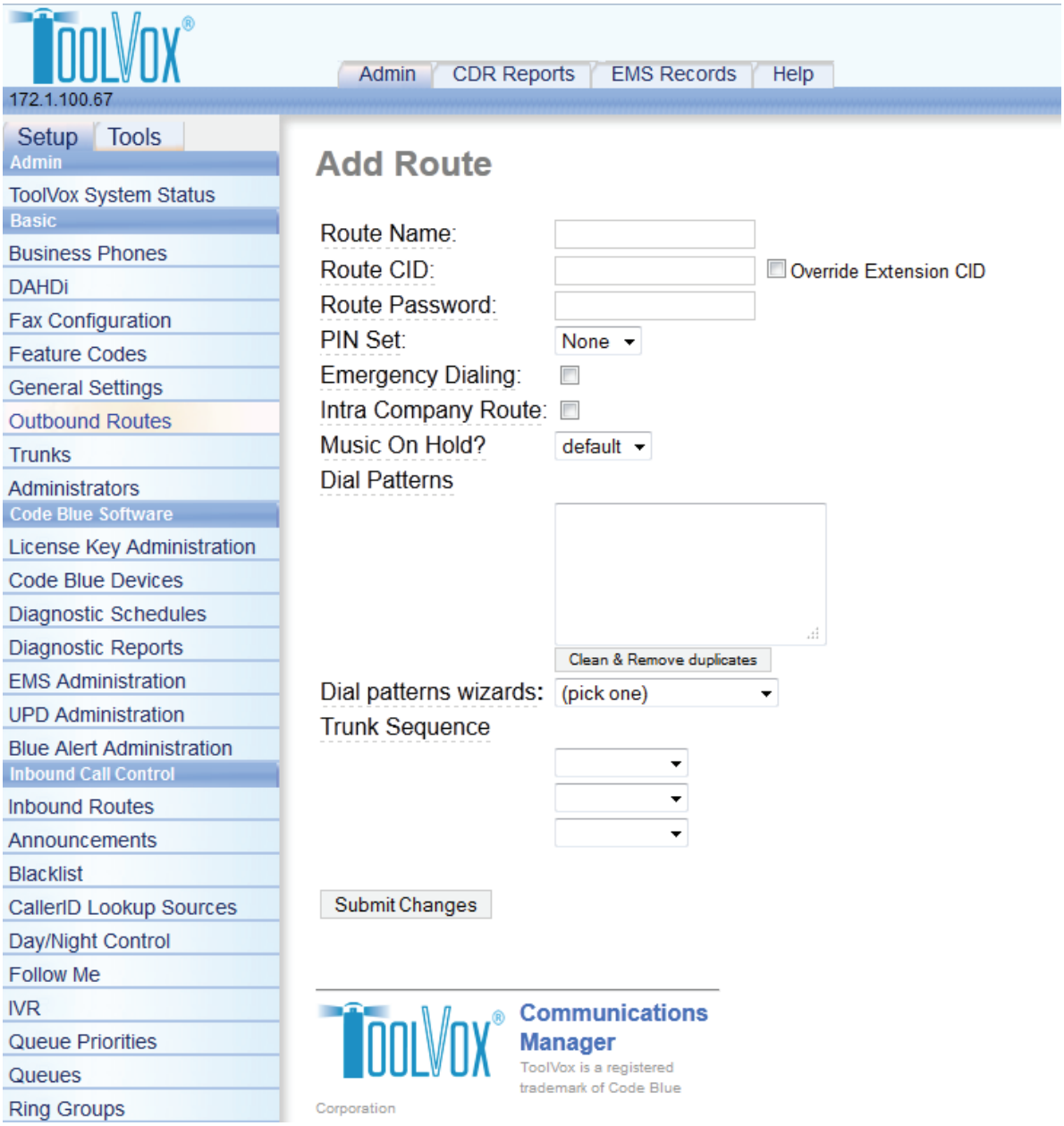
To save your settings click:

To apply the changes to the system click:

at the top of the screen.
Click - **Continue with reload** - to finish the changes otherwise click - **Cancel reload and go back to editing** - to cancel the changes and continue editing the extension.



Configuring Outbound Routes



Outbound Routes is the area that you configure the ToolVox to select a Trunk to transport calls out of ToolVox.

Route Name: Describe the type of route here. Examples would be: Local Calls, Long Distance and International.

Route Password: (Optional)Use a route password to have the system prompt each caller to this route to enter the password in order to be able to make calls. This is useful to prevent unauthorized long distant or international calling.

Pin Set: (Optional)Enter the Pin Set group to be used for authenticating calls out on this route. If utilizing a Pin Set leave the Route Password field blank.

Emergency Dialog: (Optional)This setting will force the extensions Emergency CID to be used on an outgoing call. This setting is typically used on routes to 911 or public safety dispatch centers.

Intra Company Route: (Optional)This setting will preserve the internal Extension CID and not replace it with the Outbound CID of the extension or the trunk. This is used for dialing across connected ToolVox systems.

Music on Hold: (Optional)Select which music on hold category to use or select none.

Dial Patterns: A Dial Pattern will be used to select this trunk for outbound calls.

- X matches any digit from 0-9
- Z matches any digit from 1-9
- N matches any digit from 2-9
- . is a wildcard that matches one or more characters
- | separates the dialing prefix from the number dialed. Example 9|.
    - o This would send any number beginning with 9 out this route. 95551212 would send 5551212 to the trunks selected by this route

Dial Patterns Wizard: (Optional)Use the wizard to select common route matching schemes.

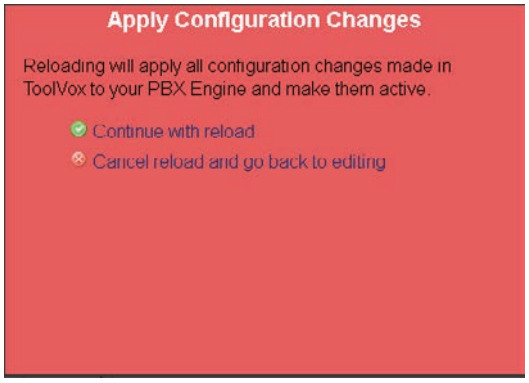
Trunk Sequence: Select the trunks to be used for this route and which order they should be used in.

To save your settings click:

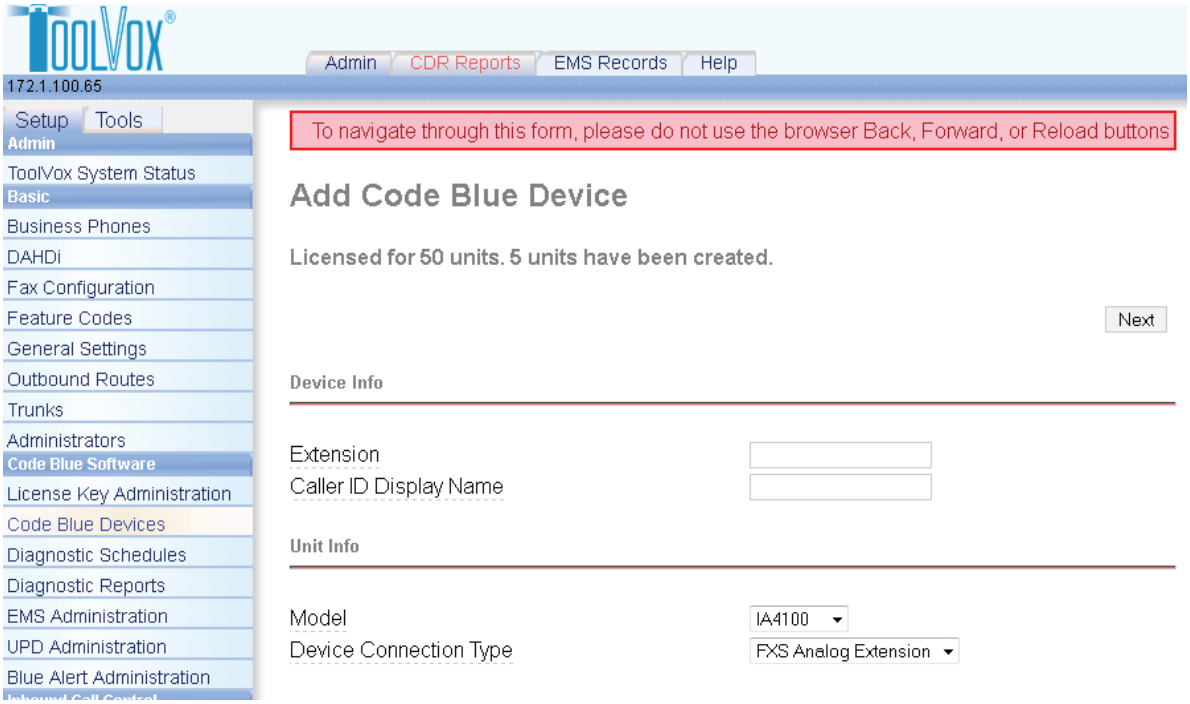
To apply the changes to the system click:

At the top of the screen.

Click - **Continue with reload** - to finish the changes otherwise click - **Cancel reload and go back to editing** - to cancel the changes and continue editing the extension.



Configuring Code Blue Devices



Device Info

Extension: This will be the internal number displayed on the phones Caller ID screen and EMS agent screen.

Caller ID Display Name: This will be the internal number NAME displayed on the phones Caller ID screen and EMS agent screen.

Unit Info

Model: Choose the type of Code Blue Phone you are configuring.

Device Connection Type: Choose the method of connection the Code Blue phone is using to connect to ToolVox.

FXS Analog Extension – IA4100, CB3000, CB3100, IA500

SIP & IAX Extensions – IP5000

Off System Unit – IA4100, CB3000, CB3100, IA500

The difference between Off System and FXS is that FXS are FXS ports providing dial tone directly off of ToolVox. Off System Unit means the analog phone line is provided by an external PBX or local Bell company.

Assigned DID/CID

(Optional) If you wish to have an inbound Direct Dialed number associated to this phone and ring it when dialed you can fill this out and it will create an Inbound Route to this Extension.

Push the Next button to continue configuration

Next

Please scroll down in this manual to the appropriate Model of phone you are provisioning. They are titled in RED lettering.

CB3000 & CB3100 Models

Device Options - FXS Analog Extension type

This device uses zap technology.	
Channel (FXS Port)	
context	from-internal
immediate	no
signalling	fxo_ks
echocancel	yes
echocancelwhenbridged	no
echotraining	100
busydetect	no
busycount	7
callprogress	no

Enter in the FXS Port number from Dahdi that you have cross connected the Analog Code Blue Phone to. Do not duplicate this number with another Code Blue Device.

Every other field in the Device Options FXS analog Extension type Section leave as default.

Device Options - Off System Unit

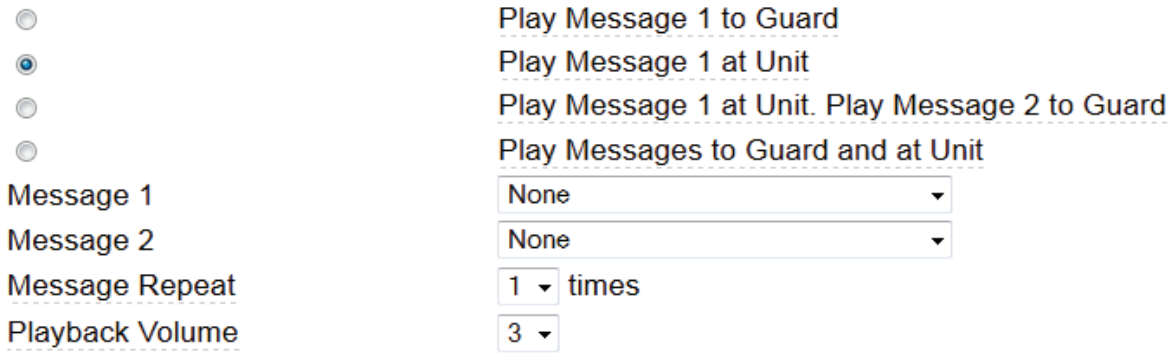
This device uses custom technology.	
Unit Phone Number	

Enter in the actual phone number ToolVox needs to dial to reach this unit.

Example: 916163928296 or 6163928296 or 4378

This may or may not be the same number you assigned it as an extension on the ToolVox system

Voicemail Playback Commands



Skip this section if not using Messages. See the System Recording on how to load Messages.

Play Message 1 to Guard – 1st single message must be less than 18 seconds and will be played only to the guard.

Play Message 1 at Unit – 1st message must be less than 18 seconds and will be played at the CB unit until the guard answers.

Play Message 1 at Unit. Play Message 2 to Guard – 1st message must be less than 9 seconds and will be played at the CB unit until the guard answers. 2nd message must be less than 9 seconds and will be played to the guard and at the CB unit until the guard answers.

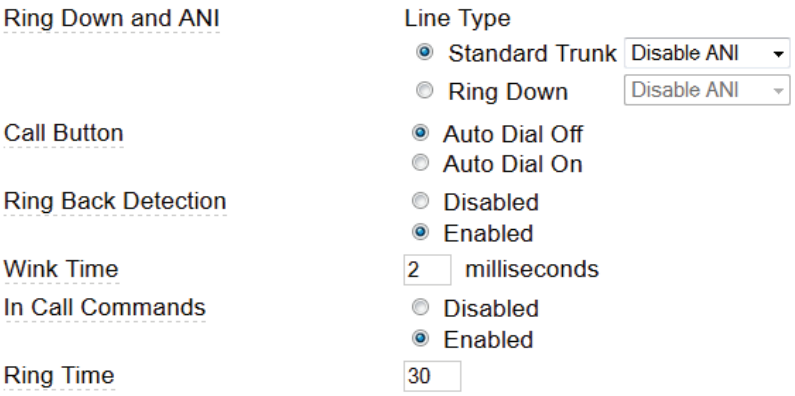
Play Messages to Guard and at Unit – 1st message must be less than 9 seconds and will be played at both ends after the guard answers. 2nd message must be less than 9 seconds and will be played at both ends after the 1st message.

Message 1 & Message 2 – you can select System Recordings you have previously loaded.

Message Repeat – How many times to repeat the message.

Playback Volume – 3 is the highest

Other Options



Ring Down and ANI – Ring down selection & Automatic Number identification (ANI). Selections 0-3 are available only for standard trunk lines, while selections 4-6 are available only for analog ring down lines. Note: this was originally for RPD/CMS. For most users you only need to select whether this CB phone is connected on a Dial up phone line or a Ring Down/Hot line.

Call Button (CB3100 only)– This command is used with the CB3100K keypad faceplate to allow for a number to be automatically dialed before using the keypad.

Ring Back Detection (CB3100 only)– Call progress monitor for hang up.

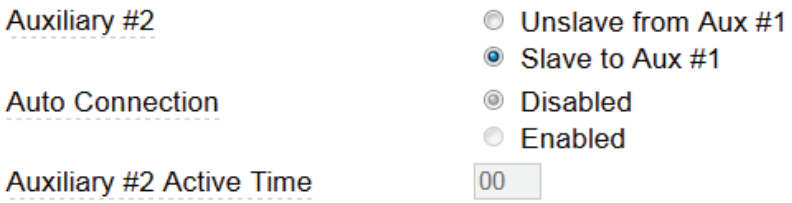
Wink Time (CB3100 only)– This is the minimum amount of time that talk battery is removed or reversal of polarity for the CB phone to hang up. 2=200 milliseconds etc. 0-9

In Call Commands (CB3100 only)– The operators ability to send commands during a call.

Ring Time – The amount of time the phone will try a number before resetting and dialing the next number 00-60.

Dial Type (CB3000 only) – Phone line uses Pulse or DTMP encoding

Other Options (cont.)



Auxiliary #2 – Determines whether Auxiliary output #2 (pins 7&8) activate the same as Auxiliary output #1 (pins 5&6 Slaved) or by pressing the 6 key during a call (Unslaved).

Auto Connection – If Auxiliary output #2 is unslaved from Auxiliary output #1, Disabling allows the use of the In Call Command (DTMF 6) to activate Auxiliary output #2. If enabled Auxiliary output #2 will activate on an incoming call.

Auxiliary #2 Active Time – The amount of time Auxiliary output #2 will stay active. 00=Active for the duration of the call. 01-89=Active for 1-89 minutes. 90-99=5-50 seconds in 5 second increments (90=5 seconds, 91=10 seconds, etc.)

Phone Numbers

1st Emergency Number		Ringback Cadence 1
2nd Emergency Number		Ringback Cadence 1
3rd Emergency Number		Ringback Cadence 1
1st Information Number		Ringback Cadence 1
2nd Information Number		Ringback Cadence 1
3rd Information Number		Ringback Cadence 1
Power loss Phone Number		Ringback Cadence 1

Progress Tone Table

Cadence #	Ring Back(seconds)	Busy Tones(seconds)	Recorder Tone
1	2 ON, 4 OFF	1/2 ON, 1/2 OFF	1/4 ON, 1/4 OFF
2	1/2 ON, 1/4 OFF, 1/2 ON, 4 OFF	1/2 ON, 1/2 OFF	1/4 ON, 1/4 OFF
3	1/2 ON, 1/2 OFF, 1/2 ON, 2 1/2 OFF	1/2 ON, 1/2 OFF	1/4 ON, 1/4 OFF
4	1 ON, 3 OFF	1/2 ON, 1/2 OFF	1/4 ON, 1/4 OFF

Cycle Count 2

Enter in the Phone Number you wish the CB phone to call. If you have a double button phone enter in the Number you wish for the Information Number. A Cadence table is provided if you desire custom tone intervals.

Cycle Count – Number of cycles the CB phone will cycle through the above Numbers if a busy tone is encountered

Command Passwords

Programming Password	2258
Monitoring Password	2258

Programming Password – The password used to access programming mode(2) on initial calls into the unit.

Monitoring Password – The password used to access 2-way monitoring mode(1) on initial call in to the unit.

Commands

Off Hook Time	10 minutes
Silent Timeout & Alt Hangup	00 seconds
Auxiliary Input #1	(•) Disabled ( ) Enabled
Speaker Operation	( ) Speaker disabled for entire call ( ) Speaker disabled while placing call (•) Speaker enabled for entire call
Wait for Dial Tone	5 seconds
Wait for Call Progress Tone	20 seconds

Off Hook Time – Maximum conversation time in minutes before CB phone hangs up.

Silent Timeout Alternate Hang-up Method – If this command is enabled the CB phone will hang-up after hearing silence for the set number of seconds. 00-disabled 05-99 seconds.

Auxiliary Input #1 – Enables Auxiliary Input #1 (pins 9&10). When activated it will activate a red button call.

Speaker Operation – Select the type of speaker operation here

Wait for Dial tone – This is the maximum time that the CB phone will wait for a dial tone 0-99 seconds.

Wait for progress tone – This is the maximum time that the CB phone will wait for a call progress tone after the last digit has been dialed.

In-Call Commands

#	Command Text	DTMF Tone
1		
2		
3		
4		
5		
6		
7		
8		

This is used to display the In-Call Commands in the Pop-Up window on the Agents Computer if using the Event Management Software

EMS Unit Location Information

Latitude
Longitude

Enter in the most accurate Long and Lat of this specific CB unit. This will pop up a Bing Satellite map on the Agents Computer if using the Event Management Software.

Detailed Unit Location – you can select a custom map to place the CB unit onto, that will Pop-Up a window on the Agents Computer if using the Event Management Software.

Location Description / Notes – Custom Detailed CB Unit location info that will Pop-Up a window on the Agents Computer if using the Event Management Software.

Device Camera URL's

Camera 1 & Camera 2 – You can enter up to 2 camera streams to tap into, that will display in the Pop-Up a window on the Agents Computer if using the Event Management Software

Unit Address Info

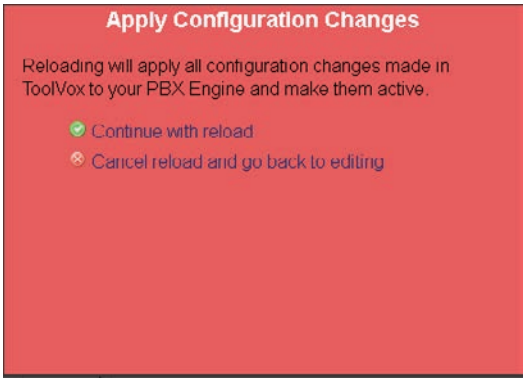
Address Info that will appear in the Pop-Up window on the Agents Computer if using the Event Management Software

Push "Finish" when done

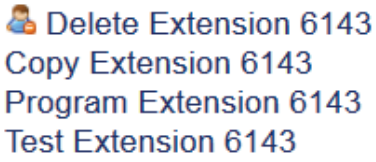
Finish

Push "Apply Configuration Changes"

Push "Continue with reload"



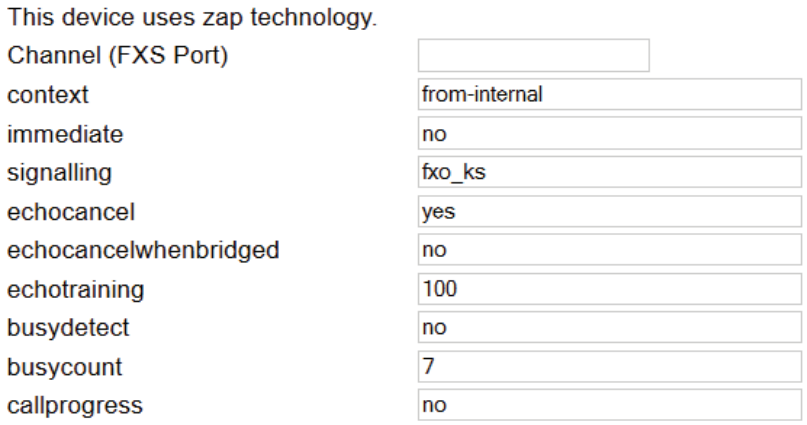
If you have UPD (Unit Programming and Diagnostics) then you can click “Program Extension” to have ToolVox call out to the Unit and program it, provided the ToolVox and Phone lines are all built.



You may also now copy the Code Blue extension you just built to save time. If an analog unit you will have to either change the FXS port or the Unit number it calls out to, if off system. If you have EMS you will also need to change that info.

IA500 Model

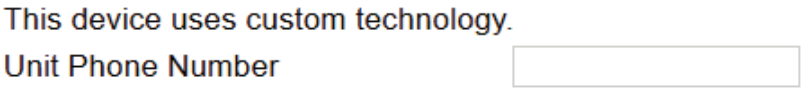
Device Options - FXS Analog Extension type



Enter in the FXS Port number from Dahdi that you have cross connected the Analog Code Blue Phone to. Do not duplicate this number with another Code Blue Device.

Every other field in the Device Options Section for an FXS analog unit leave as default.

Device Options - Off System Unit



Enter in the actual phone number ToolVox needs to dial to reach this unit.

Example: 916163928296 or 6163928296 or 4378

This may or may not be the same number you assigned it as an extension on the ToolVox system.

General Options

Programming Password	2258
Off Hook Time	10 minutes
Ring Time	30 seconds
Cycle Count	2
Auxiliary Output Closure Time	00

Programming Password – The password used to access programming mode(2) on initial calls into the unit.

Off Hook Time – Maximum conversation time in minutes before CB phone hangs up.

Ring Time – The amount of time the phone will try a number before resetting and dialing the next number 00-60.

Cycle Count – Number of cycles the CB phone will cycle through the above Numbers if a busy tone is encountered

Auxiliary Output Closure Time – The default is for the duration of the call. Enter 01-99 seconds to allow activation during a call by pressing the 6 key on the called party's keypad

Phone Numbers

Phone Number 1	Red "Help" Button	
Phone Number 2	Red "Help" Button	
Phone Number 3	Red "Help" Button	
Phone Number 4	Red "Help" Button	
Phone Number 5	Red "Help" Button	
Phone Number 6	Red "Help" Button	

Enter in however many phone numbers you wish the CB phone to call. If upon encountering a busy line it will roll to the 2nd number automatically. By Default the CB phone is set to roll through the numbers twice. This can be controlled with the Call Cycle count option above. You can program up to 6 numbers for the Red Help button or a combination of 6 numbers for the Red Help and Black Info button if you have a double button phone.

In-Call Commands

#	Command Text	DTMF Tone
1		
2		
3		
4		
5		
6		
7		
8		

This is used to display the In-Call Commands in the Pop-Up window on the Agents Computer if using the Event Management Software.

EMS Unit Location Information

Latitude
Longitude

Enter in the most accurate Long and Lat of this specific CB unit. This will pop up a Bing Satellite map on the Agents Computer if using the Event Management Software.

Detailed Unit Location – you can select a custom map to place the CB unit onto, that will Pop-Up a window on the Agents Computer if using the Event Management Software.

Location Description / Notes – Custom Detailed CB Unit location info that will Pop-Up a window on the Agents Computer if using the Event Management Software.

Device Camera URL's

Camera 1 & Camera 2 – You can enter up to 2 camera streams to tap into, that will display in the Pop-Up a window on the Agents Computer if using the Event Management Software

Unit Address Info

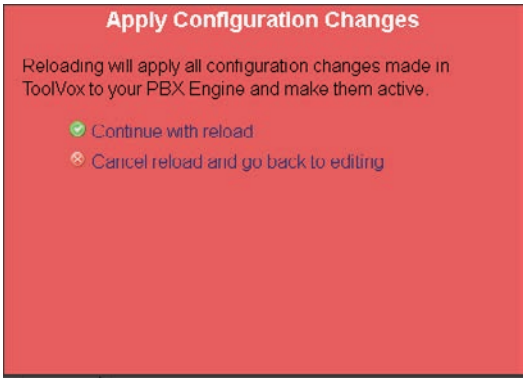
Address Info that will appear in the Pop-Up window on the Agents Computer if using the Event Management Software

Push "Finish" when done

Finish

Push "Apply Configuration Changes"

Push "Continue with reload"



If you have UPD (Unit Programming and Diagnostics) then you can click “Program Extension” to have ToolVox call out to the Unit and program it, provided the ToolVox and Phone lines are all built.

Delete Extension 6143
Copy Extension 6143
Program Extension 6143
Test Extension 6143

You may also now copy the Code Blue extension you just built to save time. If an analog unit you will have to either change the FXS port or the Unit number it calls out to, if off system. If you have EMS you will also need to change that info.

IA4100 Model

Device Options - FXS Analog Extension type

This device uses zap technology.	
Channel (FXS Port)	
context	from-internal
immediate	no
signalling	fxo_ks
echocancel	yes
echocancelwhenbridged	no
echotraining	100
busydetect	no
busycount	7
callprogress	no

Enter in the FXS Port number from Dahdi that you have cross connected the Analog Code Blue Phone to. Do not duplicate this number with another Code Blue Device.

Every other field in the Device Options FXS analog Extension type Section leave as default.

Device Options - Off System Unit

This device uses custom technology.	
Unit Phone Number	

Enter in the actual phone number ToolVox needs to dial to reach this unit.

Example: 916163928296 or 6163928296 or 4378

This may or may not be the same number you assigned it as an extension on the ToolVox system

Phone Numbers

Phone #1	
Phone #2	
Phone #3	
Phone #4	
Phone #5	
Phone #6	
Phone #7	
Phone #8	
Phone #9	

You can enter in up to 9 Phone numbers into these memory slots. They will be referenced further down in the configuration.

Outputs

Output #1 Active Time	91
Output #2 Active Time	01
Output #3 Active Time	01

Output #1 Active Time – 00=Disabled, 01-60=1-60 seconds, 61-90=1-30 minutes, 91=till end of call, 92=trigger on input 2.

Output #2 Active Time – 00=Disabled, 01-60=1-60 seconds, 61-90=1-30 minutes, 91=till end of call, 92=trigger on input 2.

Output #3 Active Time – 00=Disabled, 01-60=1-60 seconds, 61-90=1-30 minutes, 91=till end of call, 92=trigger on input 2.

Recordings

Recording #1	None
Recording #2	None
Recording #3	None
Recording #4	None
Recording #5	None
Recording #6	None
Recording #7	None
Recording #8	None
Recording #9	None

If you wish to use messages you can record them in System Recordings and reference them here. You have 9 memory slots and these will be called upon further down in the configuration.

Buttons and Inputs

Button 1 – this is the Red button on your CB phone. By default it will try numbers in memory slots 1,2, and 3 from above. It will also play recording 1 from above and activate Outputs 1 and 3 which are normally open contacts. The Call Cycle count is set for 2 by default, so for example if you set Phone Numbers as 11 it would call Phone Number in memory slot 1 Four times if it encountered a busy signal.

Button 2 – this is the Black button on your CB phone. Choose 0 as the phone number if your CB phone has a key pad. This will provide dial tone when the black button is pushed so the keypad can be used. If there is no key pad present then you can enter a Phone Number slot to have Button 2 place a call.

Button 3,4 – If you have a CB phone with a 3rd and 4th button you can program them here.

Input #1,#2 – select which button you want the input to mimic

Loss of AC Power – Enter the phone number memory slot 1-9 and outputs that you want the unit to dial should there be a loss of AC power. Enter the recordings 1-9 that the unit should play when the call is answered.

Low Battery - Enter the phone number memory slot 1-9 and outputs that you want the unit to dial should there be a low battery condition (less than 11.7 VDC). Enter the recordings 1-9 that the unit should play when the call is answered.

AMP SPKR Fault - Enter the phone number memory slot 1-9 and outputs that you want the unit to dial should there be an AMP/PAS fault. Enter the recordings 1-9 that the unit should play when the call is answered.

Call Properties

Wait For Dial Tone	05
Call Progress Detection Delay	20
Wait For Answer	30
Call Connected	0
Call Loop Cycles	2
Duplex Operation	○ Full ◉ Half
Full Duplex Noise Cancellation	Low
Answer Message Repeat	◉ No ○ Yes
Acknowledge Beep Delay	15
Call In Answer Mode	Two Way Audio

Wait For Dial Tone – 00=ring down/Hot line, 01 to 99 =1-99 seconds. If dial tone is not detected in this time the phone will hang up.

Call Progress Detection Delay – 1 to 99 is 1-99 seconds. The time that the phone will wait to hear progress tones after dialing.

Wait for Answer -
The amount of time the phone will try a number before resetting and dialing the next number 00-99. Timer begins at button press.

Call Connected –
0 or 1, 0=when voice or DTMF is detected by the CB phone. 1=call is assumed connected immediately and will not retry. (Non-ADA)

Call Loop Cycles –
Number of cycles the CB phone will cycle through the above Numbers if a busy tone is encountered.

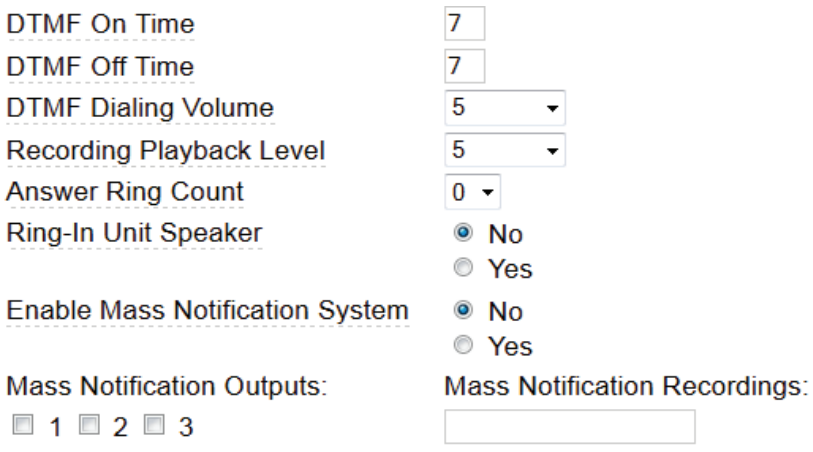
Duplex Operation –
Audio operation of the CB phone. Half or Full. Half is generally much better in most situations. In very load environments Full may be necessary so the mic and speaker are both on at the same time.

Full Duplex Noise Cancellation –
If you use Full Duplex then you can increase Noise cancellation but may suffer some audio degradation.

Answer Message Repeat –
Enabling will force messages after the guard answers to repeat until the in-call command 33 is sent to the unit.

Acknowledge Beep Delay – The amount of time the phone will wait to play acknowledgment tones. Designated value * 20 = time in milliseconds. Example Value 15=300ms.

Call In Answer Mode – In two way Audio the unit will answer and immediately go into 2 way talk mode. In 2 way Audio – Password required, the unit will prompt the caller for a password before entering 2 way talk mode.



Miscellaneous

DTMF On Time – DTMF tone duration: 1 to 3 = 100 to 200ms, 4 to 9 = 40ms to 90ms.

DTMF Off Time – Silence between DTMF tone duration: 1 to 3 = 100 to 200ms, 4 to 9 = 40ms to

90ms.
DTMF Dialing Volume – Sets the volume of the DTMF tones during the dialing sequence

Recording Playback level – Sets the volume level of the recordings played back out of the unit and to the guard.

Answer Ring count – Number of Rings before the unit will answer

Ring-In Unit Speaker – Enable to hear incoming call ring out of the unit speaker

Enable Mass Notification System – Enabling will force the IA4100 to answer incoming calls and pass the audio to the amp/speaker array.

Mass Notification Outputs - If desired select 1 of the Auxiliary Outputs and a recording to play from one of the recording memory slots above.

Hang up Methods

Wink Timing	2	
Revert To Dial Tone	00	seconds
Silent Time Out	0	
Reorder/Repeating Tones	00	cycles
Call Time Out	10	minutes

Wink Timing – 0=disabled, 1-9 = 100ms to 900ms. Length of the wink signal coming from the connected phone line.

Revert to dial tone – 00=disabled, 01-99 1 to 99 seconds. Continuous sound for this period of time will cause the unit to hang up.

Silent Time Out – 0 to 3, 0=disabled, 1=30 sec, 2=60 sec, 3=90 sec. Silence for this period of time will cause the unit to hang up.

Reorder/Repeating Tones – 00=disabled, 01 to 99= 1 to 99 cycles. This is the number of repeating cycles that will cause the unit to hang up.

Call Time Out – 00=disabled, 01-99 = 1 to 99 minutes. DTMF tones BBBBB will play to both parties during a call notifying them 30 seconds prior to call disconnect. At this time the call can be extended by entering the IN call command 31. Once the timer has expired, if command 31 is not entered, the unit will hang up.

Advanced Programming Passcode	2583
Audio Passcode	

Pass Codes

Advanced Programming Passcode – 2583 is the default for entering into programming mode. You can change it.

Audio Passcode – default is blank. You can add it if necessary.

In-Call Commands

#	Command Text	DTMF Tone
1		
2		
3		
4		
5		
6		
7		
8		

This is used to display the In-Call Commands in the Pop-Up window on the Agents Computer if using the Event Management Software

EMS Unit Location Information

Latitude

Longitude

Enter in the most accurate Long and Lat of this specific CB unit. This will pop up a Bing Satellite map on the Agents Computer if using the Event Management Software.

Detailed Unit Location – you can select a custom map to place the CB unit onto, that will Pop-Up a window on the Agents Computer if using the Event Management Software.

Location Description / Notes – Custom Detailed CB Unit location info that will Pop-Up a window on the Agents Computer if using the Event Management Software.

Device Camera URL's

Camera 1 & Camera 2 – You can enter up to 2 camera streams to tap into, that will display in the Pop-Up a window on the Agents Computer if using the Event Management Software

Unit Address Info

Address Info that will appear in the Pop-Up window on the Agents Computer if using the Event Management Software

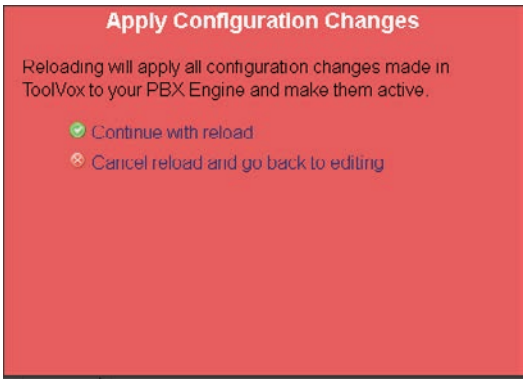
Push "Finish" when done

Finish

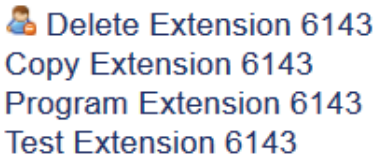
Push "Apply Configuration Changes"

Apply Configuration Changes

Push “Continue with reload”



If you have UPD (Unit Programming and Diagnostics) then you can click “Program Extension” to have ToolVox call out to the Unit and program it, provided the ToolVox and Phone lines are all built.



You may also now copy the Code Blue extension you just built to save time. If an analog unit you will have to either change the FXS port or the Unit number it calls out to, if off system. If you have EMS you will also need to change that info.

IP5000 Model

Device Options

This device uses sip technology.

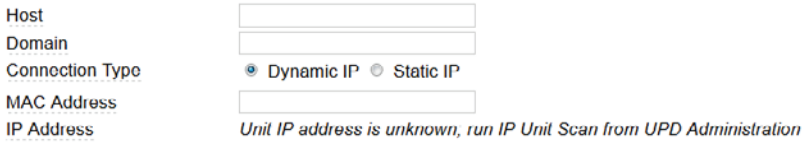
secret	cbUnit
dtmfmode	inband
canreinvite	no
context	from-internal
host	dynamic
type	friend
nat	yes
port	5060
qualify	yes

Other than the secret please do not change any of these settings. The secret listed is the default and is set in the IP5000 phone to match by default. You can change it if necessary.

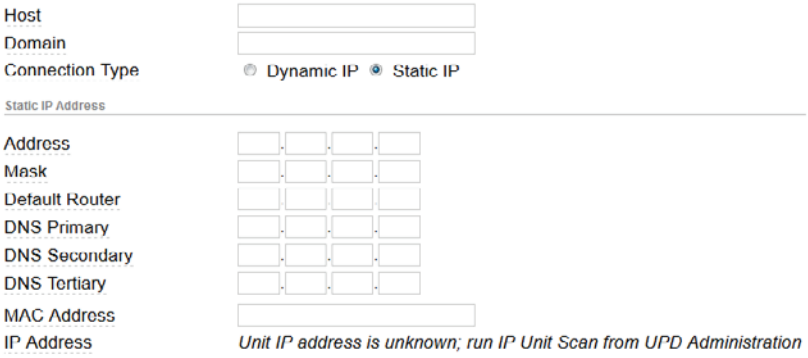
Administration

You can change the default username & password of the IP5000 phone if desired. This is the same username and password for both web and telnet.

Network – Dynamic IP Default Setting



Network – Static IP



Host – DNS Host Name (Optional)

Domain – DNS Domain Name (Optional)

Connection Type – Dynamic or Static. The IP5000 phone by default is set for Dynamic.

Address – Static IP Address to assign to the CB Phone

Mask – Network Mask defining the network scope

Default Router – IP address of Default Router if routing traffic off the subnet

DNS Primary, Secondary, Tertiary – IP Address of DNS Servers if desired but not necessary

MAC Address – Required – Mac Address of IP5000 Phone can be found on rear of the phone or by browsing to the phone and looking under Administration.

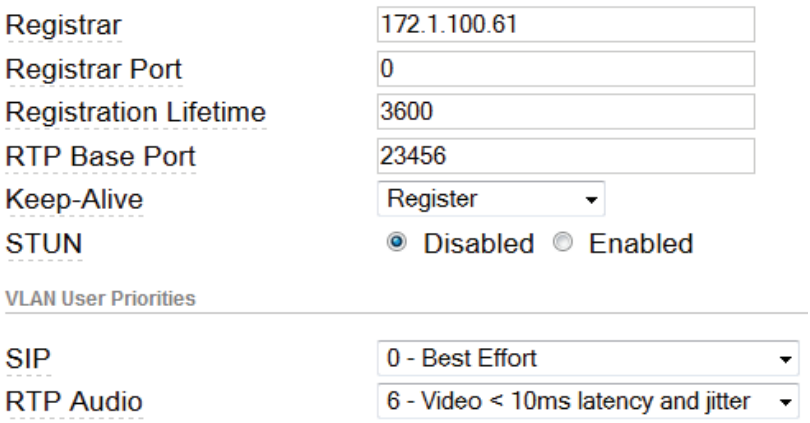
IP Address – If you have the UPD software package, after you provision the phone in ToolVox you can run Unit Scan from UPD Administration. After 2-3 minutes you can Program the Phone from ToolVox.

VLAN – Enable or Disable VLAN Support

ID - VLAN Identifier 1-4094, 0 indicates this frame does not belong to any VLAN

User Priority – Priority level (PCP). Higher numbers will tag frames will tag frames with higher priority.

Account 1



Registrar - IP address of the ToolVox

Registrar Port – Port that the server will accept registrations on. Set to 0 for auto-detect.

Registration Lifetime – in seconds. If IP5000 phone is losing registration to ToolVox but is still accessible on the network consider lowering down to 60 seconds.

RTP Base Port – Base Port for RTP traffic.

Keep-Alive – Keep Alive method to use. Most common is Register.

STUN – Enable or disable STUN for NAT traversal. Set the STUN server in advanced settings.

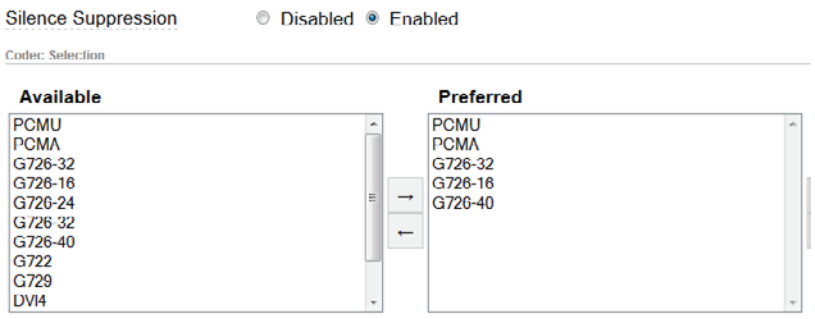
SIP – VLAN priority for SIP traffic. Default is 0

RTP Audio - VLAN priority for RTP audio traffic. Default is 6

Account 2

You can configure a 2nd Account on the same phone.

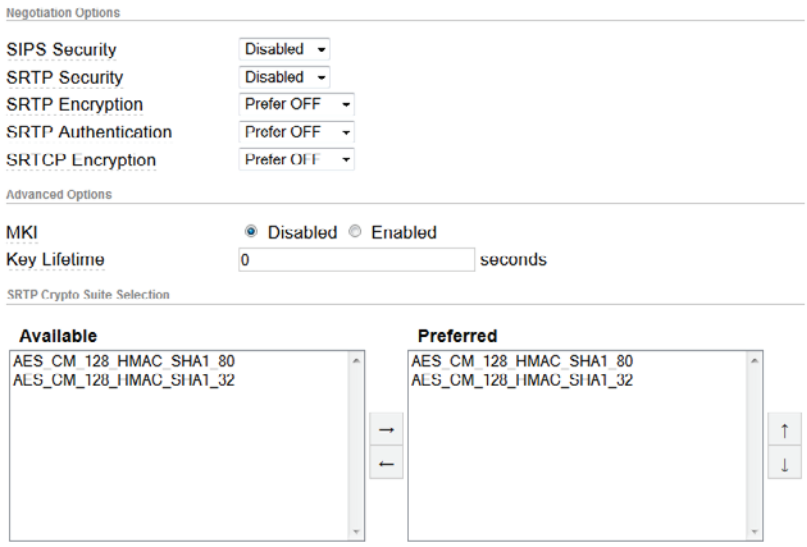
Media



Silence Suppression – enabled by default.

Codec – this is the preferred codecs ToolVox will communicate with to the IP5000 phones.

Security



Leave the Security section alone unless your VoIP Engineer would like something different.

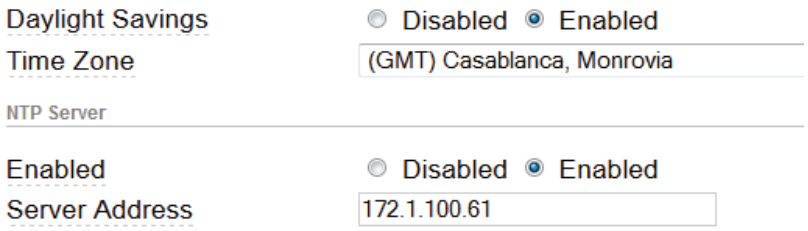
Advanced Settings

Server – STUN server address for NAT traversal. STUN must be enabled on each account that uses it.

Port – STUN Server port for NAT traversal. This is an advanced setting; it should typically be left at the default of 3478

Certificates – Trusted options for Certificates

Date & Time



Daylight Savings – enable or disable

Time Zone – Choose your time zone

Enabled (NTP) – enable or disable NTP service

Server Address – by default your IP5000 will pull NTP from ToolVox and you can set the ToolVox to pull NTP time from your server or from an external source.

Numbers

Enter in the Phone Numbers you wish the IP5000 phone to call upon button press.

Enter Number and Description then press the green + icon. You may enter in multiple numbers to have the phone roll to more numbers.

Recordings

Enter in Recordings and descriptions here then press the green + icon to submit it. You can enter multiple entries.

General Settings

Answer In – Specify how many rings the IP5000 should receive before answering an incoming call.

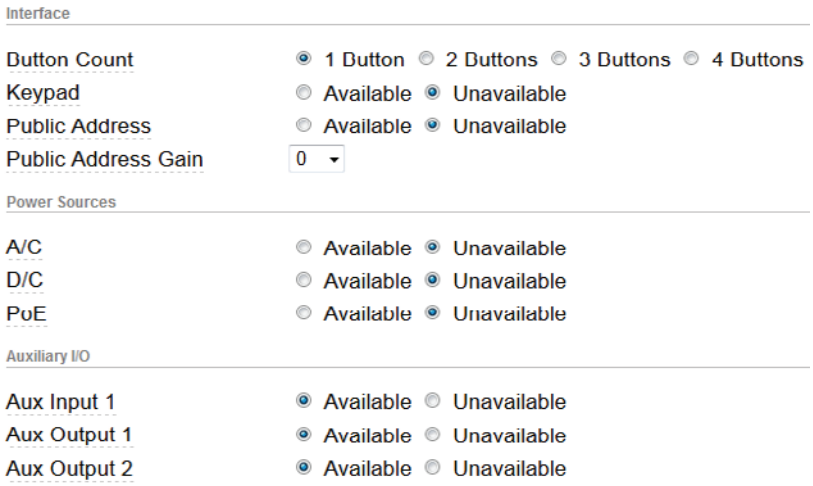
Public Address – Route all incoming calls to the Public Address output

Aux Output 1 – Enable auxiliary output 1 when incoming calls are active.

Aux Output 2 – Enable auxiliary output 2 when incoming calls are active.

Location Recording – Specify a location recording that will be played for in-call command 1.

Hardware Configuration



Button Count – The number of buttons on the face of the IP5000

Keypad – Does the IP5000 have a keypad on the faceplate

Public Address – Whether the IP5000 has a public address system connected to it

Public Address Gain – gain in dB for the public address output

A/C – specify if available or not

D/C – specify if available or not

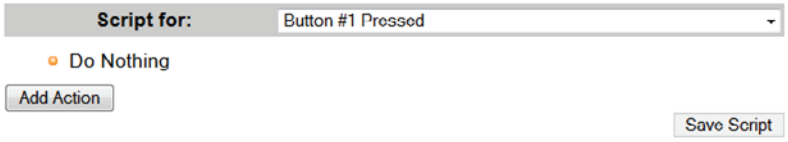
PoE – specify if available or not

Aux Input 1 – specify if available or not

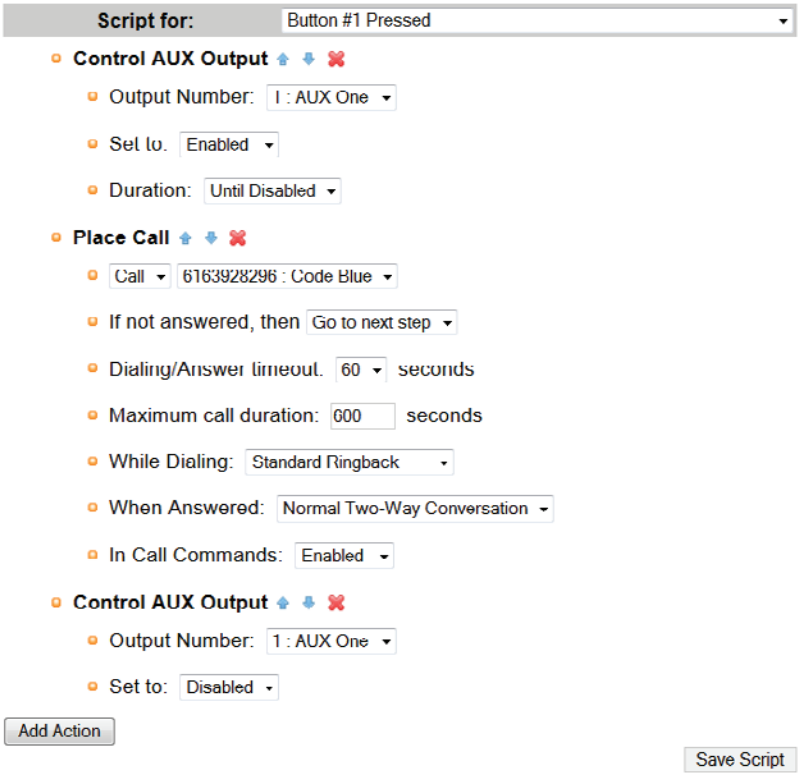
Aux Output 1 – specify if available or not

Aux Output 2 – specify if available or not

Action Scripts



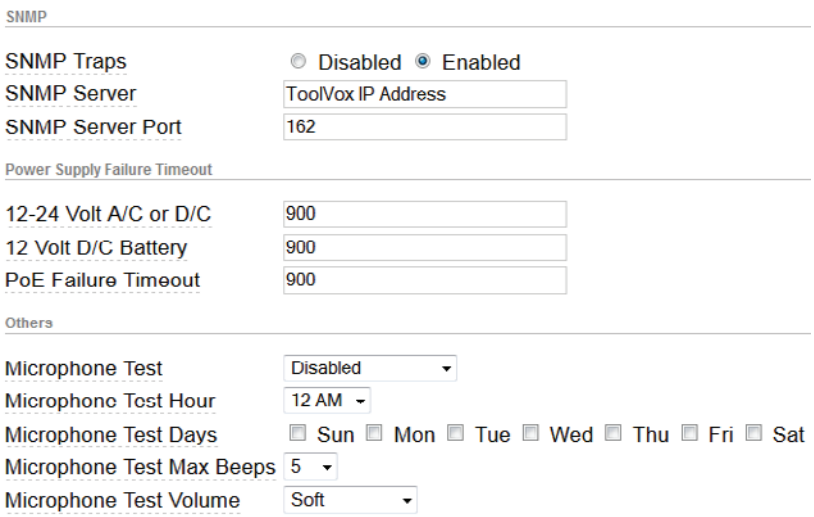
This is the section to specify the action the IP5000 phone does upon button press. Here is a sample of a typical setup for Button 1.



The above action takes place in order from top to button upon a Button 1 press. The above will activate Aux Output 1 turning a strobe light on, then place a call. It will try calling the first phone number for 60 seconds if no answer. The max call duration is set at 600 seconds. During dialing the person at the CB phone will hear standard ring back. Upon the call being answered Normal 2-way conversation will be set up. In Call commands (specified in the IP5000 Manual) will be allowed to be in use. Upon hang-up Aux Output 1 will be disabled stopping the combo/beacon light from strobing.

There are many options you can use in the Actions Script area. Actions Scripts are covered in more detail in the IP5000 Administrators Guide.

Diagnostic Settings



SNMP Traps – enabled by default to send traps for UPD monitoring of the IP5000 phone by ToolVox

SNMP Server – by default the ToolVox IP Address

SNMP Server Port – 62 default port

12-24 Volt A/C or D/C - timeout in seconds to notify before a power failure on the main line is reported

12 Volt D/C Battery – imeout in seconds before a power failure on the battery line is reported

PoE Failure Timeout – timeout in seconds before a PoE failure is reported.

Microphone Test – frequency to test the IP5000 Microphone

Microphone Test Hour – What Hour to test the microphone at. Only applies to Daily and Weekly.

Microphone Test Days – Which days of the week to test the microphone on. Only applies to Weekly.

Microphone Test Max Beeps – Maximum number of beeps used for the microphone test.

Microphone Test Volume - Microphone setting for the microphone test

In-Call Commands

#	Command Text	DTMF Tone
1		
2		
3		
4		
5		
6		
7		
8		

This is used to display the In-Call Commands in the Pop-Up window on the Agents Computer if using the Event Management Software

EMS Unit Location Information

Latitude	
Longitude	

Enter in the most accurate Long and Lat of this specific CB unit. This will pop up a Bing Satellite map on the Agents Computer if using the Event Management Software.

Detailed Unit Location – you can select a custom map to place the CB unit onto, that will Pop-Up a window on the Agents Computer if using the Event Management Software.

Location Description / Notes – Custom Detailed CB Unit location info that will Pop-Up a window on the Agents Computer if using the Event Management Software.

Device Camera URL's

Camera 1 & Camera 2 – You can enter up to 2 camera streams to tap into, that will display in the Pop-Up a window on the Agents Computer if using the Event Management Software

Unit Address Info

Address Info that will appear in the Pop-Up window on the Agents Computer if using the Event Management Software

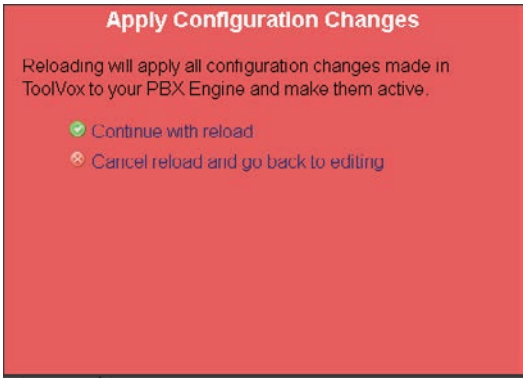
Push "Finish" when done

Finish

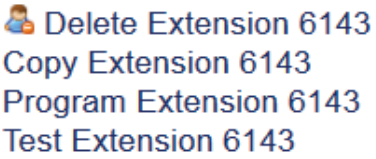
Push "Apply Configuration Changes"

Apply Configuration Changes

Push “Continue with reload”

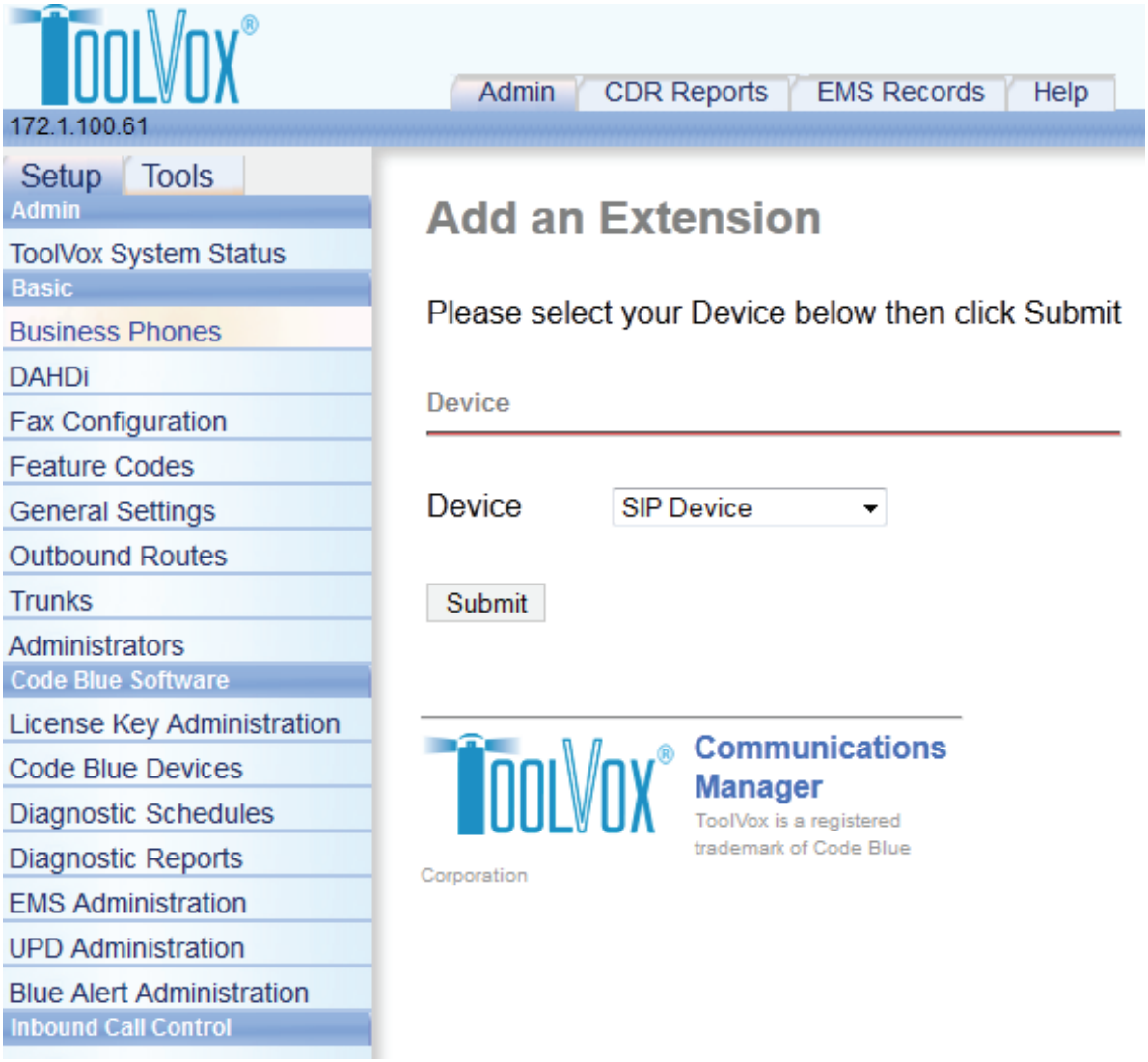


If you have UPD (Unit Programming and Diagnostics) then you can click “Program Extension” to have ToolVox communicate out to the Unit and program it, provided the ToolVox is provisioned. Make sure UPD administration is configured and Unit scan has been run since building your Code Blue Devices.



You may also now copy the Code Blue extension you just built to save time. You will have to enter in a unique Mac Address and Extension number as well as if you have EMS you will also need to change that info.

Configuring Business Phones



Business Phones is the area you would build non-Code Blue devices into. For example: SIP, IAX2, Analog (FXS) or Virtual Extension. Note that the screens when adding a Business Phone look different then when editing an existing one.

Add Extension

User Extension: Number you wish to give this Phone that will be dialed.

Display Name: The Caller ID name for calls from this user will be set to this name. Only enter the name, not the number.

CID Num Alias: (Optional) The CID Number to use for internal calls, if different from the extension number. This is used to appear as a different user. A common example is a team of support people who would like their internal Caller ID to display the general support number (a ring group or queue). There will be no effect on external calls.

SIP Alias: (Optional) If you want to support direct sip dialing of users internally or through anonymous sip calls you can supply a friendly name that can be used in addition to the user's extension to call them.

Extension Options

Outbound CID: (Optional) Overrides the caller id when dialing out a trunk. Any setting here will override the common outbound caller id set in the Trunks admin. The format is "caller name" <#######>. Leave this field blank to disable the outbound Caller ID feature for this user.

Ring Time: (Optional) Number of seconds to ring the extension prior to going to voicemail. Default will use the value set in the General Setting. If no voicemail is configured this will be ignored.
Call Waiting: (Optional)Allows/Disallows call waiting on the extension.

Call Screening: (Optional) Call Screening requires external callers to say their name, which will be played back to the user and allow the user to accept or reject the call. Screening with memory only verifies a caller for their caller-id once. Screening without memory always requires a caller to say their name. Either mode will always announce the caller based on the last introduction saved with that Caller ID. If any user on the system uses the memory option, when that user is called, the caller will be required to re-introduce themselves and all users on the system will have that new introduction associated with the caller's Caller Id.

Pinless Dialing: (Optional) enabling will allow the extension to bypass any pin codes normally required on outbound calls.

Emergency CID: (Optional) This Caller ID will always be set when dialing out an Outbound Route flagged as Emergency. The Emergency CID overrides all other Caller ID settings.

Assigned DID/CID (Optional)

DID Description: (Optional) A description for this DID, such as "Sales"

Add Inbound DID: (Optional) This is where you enter the Direct Inward Dial (DID) you'd like to reach this extension. The format should be: XXXXXXXXXX or XXXX or whatever Number you route into this Gateway if you want it to ring this Extension. If you do not enter a value here all calls to that DID will route to the inbound route setting for the trunk the call comes in on. Putting a value here automatically creates an Inbound Route. This can also be done in Inbound Routes.

Add Inbound CID: (Optional) Add a CID for more specific DID + CID routing. A DID must be specified in the above Add Inbound DID box. In addition to standard dial sequences, you can also put Private, Blocked, Unknown, Restricted, Anonymous and Unavailable in order to catch these special cases if the provider transmits them.

Device Options - FXS Extension

Enter the DAHDi channel that this extension will use. Go into DAHDi to see available FXS channels. Do not duplicate.

Device Options -SIP Extension

Secret: alpha numeric secret password you create. This must match what you provision in your SIP Device. This is the value used to authenticate the device to the system. This should not be the

same as the device name or extension number.

Device Options -Custom Extension

This device uses custom technology.

dial local/9616346760@outbound

Utilized to dial out to a Custom Extension which is not directly attached to the ToolVox system. An example would be an offsite phone attached to a GSM cellular unit or analog line.

Language(Optional)

Language Code

This setting will cause all messages and voice mail prompts to utilize the language of choice if installed on the system.

Recording Options

Record Incoming Always
Record Outgoing Always

This will allow the recording of incoming and outgoing calls. Values are: Never, On Demand, Always. **Always is Mandatory if using EMS ToolVox Software**

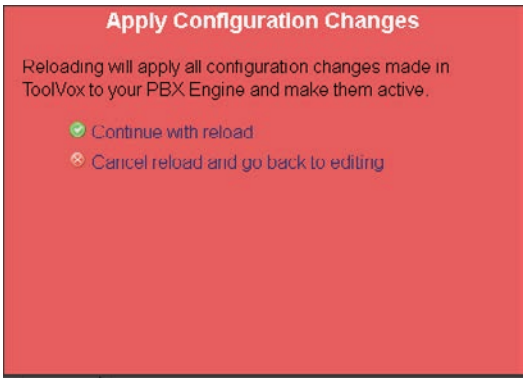
To save your settings click:

Submit

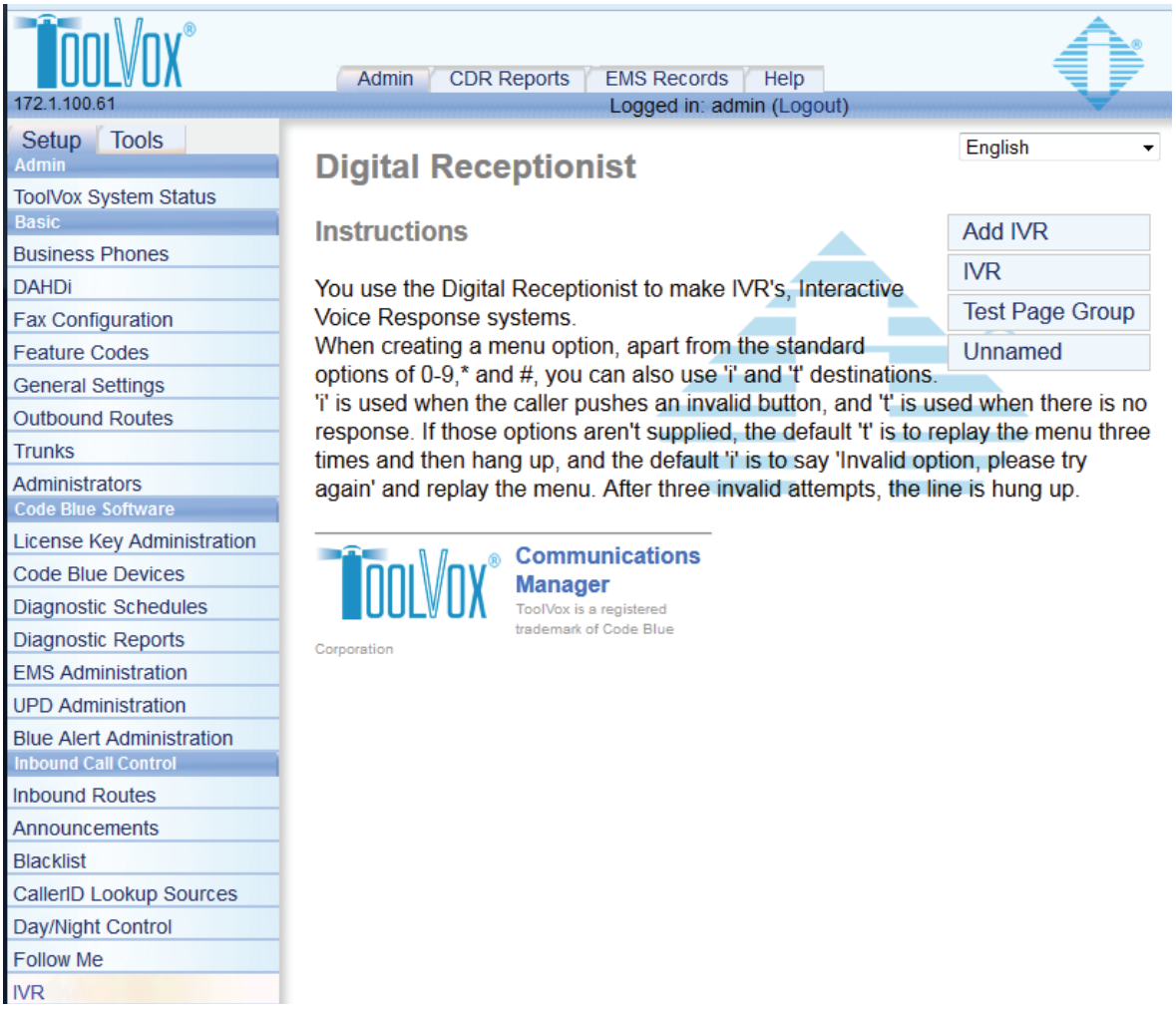
To apply the changes to the system click:

Apply Configuration Changes

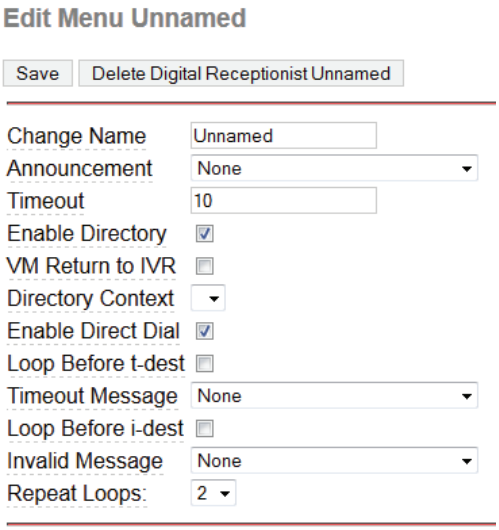
At the top of the screen.
Click - **Continue with reload** - to finish the changes otherwise click - **Cancel reload and go back to editing** - to cancel the changes and continue editing the extension.



Configuring Digital Receptionist (IVR)



Much can be customized and configured with the IVR options. If you have your Inbound Route set up to point to the IVR your creating you simply just need to make sure "Enable Direct Dial" is checked. No announcements needed, recordings or any other settings. You will then be able to call into the ToolVox and be able to enter in the Extension Number of the Business Phone or Code Blue device you're trying to reach. If using Blue Alert and want to route inbound calls select Misc Destinations below.



Edit Menu

Change Name: This is the name of the IVR.

Announcement(Optional): Message to be played to the caller. To add additional recordings please use the “System Recordings” Menu

Timeout: The amount of time (in seconds) before the “t” option if specified is used.

Enable Directory(Optional): Let callers into the IVR dial # to access the directory

VM Return to IVR(Optional): If checked upon exiting voicemail a caller will be returned to this IVR if they got a user’s voicemail.

Directory Context(Optional): When # is selected, this is the voicemail directory context that is used

Enable Direct Dial: Let callers into the IVR dial an extension directly

Loop Before t-dest(Optional): If checked, and there is a “t” timeout destination defined below, the IVR will loop back to the beginning if no input is provided for the designated loop counts prior to going to the timeout “t” destination.

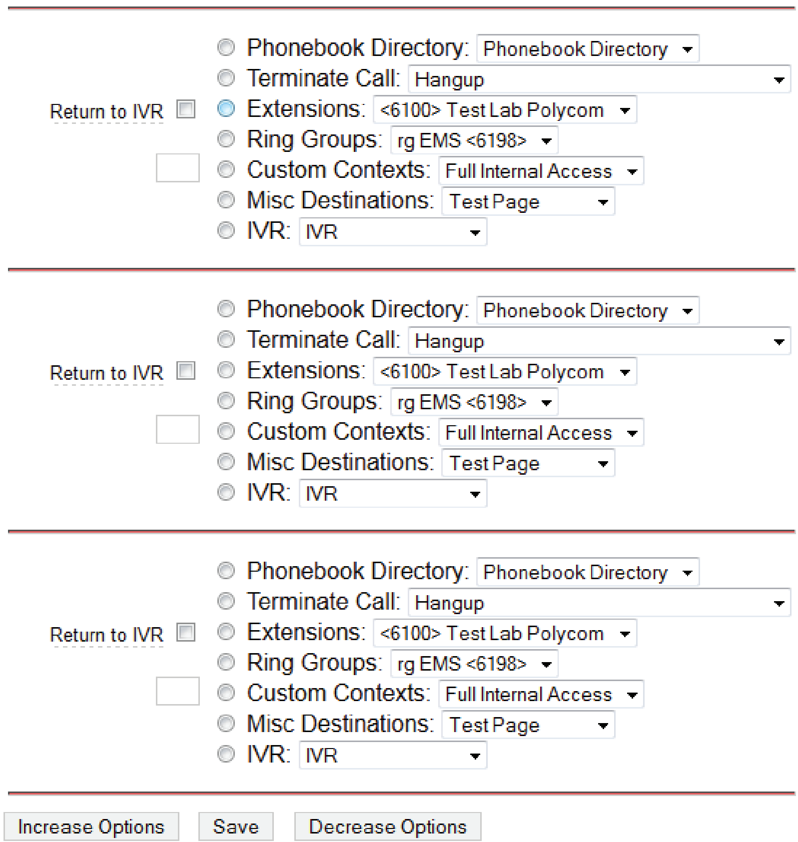
Timeout Message(Optional): If a timeout occurs and a message is selected, it will be played in place of the announcement message when looping back to the top of the IVR. It will not be played if the “t” destination is the next target.

Loop Before i-dest(Optional): If checked, and there is an “i” (invalid extension) destination defined below, the IVR will play invalid option and then loop back to the beginning for the designated loop counts prior to going to the invalid “i” destination.

Invalid Message(Optional): If an invalid extension is pressed and a message is selected it will be played in place of the announcement message.

Repeat Loops(Optional): The number of times we should loop when invalid input or no input has

been entered before going to the defined or default generated “i” or “t” options. If the “I” or “t” boxes are defined the above check boxes must be checked in order to loop.

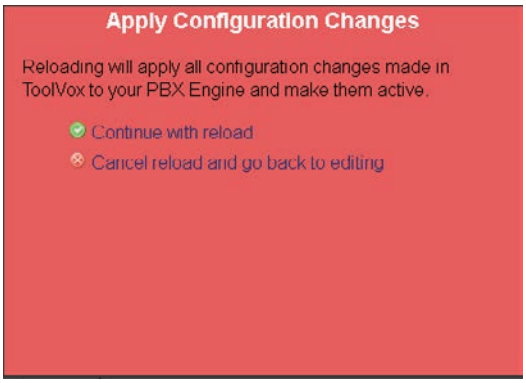


These Destinations represent what to do if a particular key is pushed from the calling party’s keypad once into the IVR. If you’re just using the Direct Dial then nothing need be entered in this section since you can just enter in the extension number and will be transferred immediately. If using Blue Alert and are trying to reach a specific Misc Destination choose it here. This is useful if wanting a special pin code used to access certain page groups.

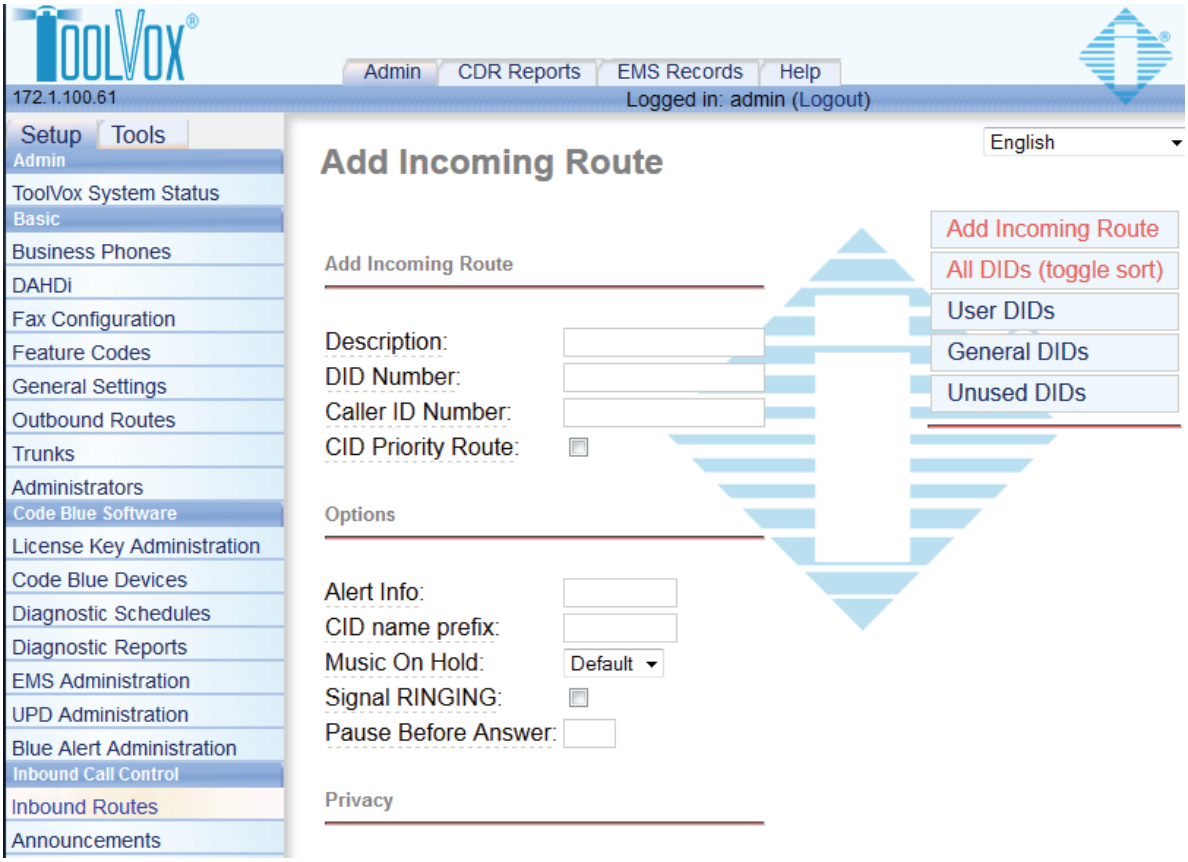
To save your settings click:

To apply the changes to the system click:

At the top of the screen.
Click - **Continue with reload** - to finish the changes otherwise click - **Cancel reload and go back to editing** - to cancel the changes and continue editing the extension.



Configuring Inbound Routes



If you need to call into ToolVox or Phones connected to the ToolVox you will need Inbound Routes configured to control call Routing. Reasons for needing this can include Manual programming of Analog phones through an IVR, Adjusting In-Call phone settings on phones like speaker and mic gain, or allowing only specific DID and CLID combinations into the system for making Blue Alert Pages. There is a lot of flexibility.

Add Incoming Route

Description: Provide a description name for this route to be refined by

DID Number(Optional): Define the expected DID Number if your trunk passes DID on incoming calls. Leave blank if you want to allow ALL DID's access. A pattern can also be entered (see Dial Patterns in the Trunks section to understand how to create a Dial Pattern).

Caller ID Number(Optional): Define the Caller ID Number to be matched on incoming calls. Leave this field blank to match a specific CLID Number to allow it or leave blank to allow ALL. You can also enter in a Dial Pattern (see trunks for instructions) or put in Private, Blocked, Unknown, Restricted, Anonymous, and Unavailable to match on, if the Telco transmits them.

CID Priority Route(Optional): This effects CID ONLY routes where no DID is specified. If checked calls with this CID will be routed to this route, even if there is a route to the DID that was called. Normal behavior is for the DID route to take the calls. If there is a specific DID/CID route for this CID, that route will still take the call when that DID is called.

Options

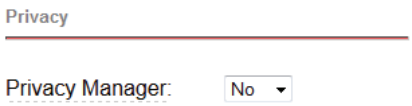
Alert Info(Optional): Alert_INFO can be used for distinctive ring with SIP devices.

CID name prefix(Optional): You can optionally prefix the Caller ID name i.e.: IF you prefix with "Sales" a call from John Doe would display as "Sales :John Doe" on the extensions that ring.

Music on Hold(Optional): Set the MoH class that will be used for calls that come in on this route. For example, choose a type appropriate for routes coming in from a country which may have announcements in their language.

Signal RINGING(Optional): Some devices or providers require RINGING to be sent before ANSWER. You'll notice this happening if you can send calls directly to a phone, but if you send it to an IVR, it won't connect the call.

Pause before Answer(Optional): An optional delay to wait before processing this route. Setting this value will delay the channel from answering the call. This may be handy if external fax equipment or security systems are installed in parallel and you would like them to be able to seize the line.

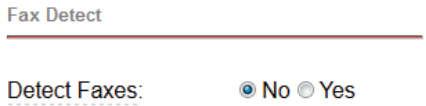


Privacy

Privacy Manager(Optional): If no Caller ID has been received, Privacy Manager will ask the caller to enter their phone number. If a user/extension has Call Screening enabled, the incoming caller will be prompted to say their name when the call reaches the user/extension.

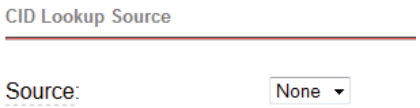
Language

Language(Optional): Allows you to set the language for this DID



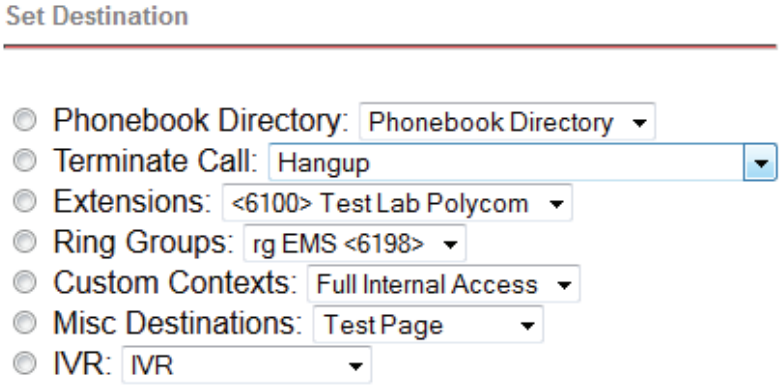
Fax Detect

Detect Faxes(Optional): if set to yes it TV will try to determine if this is a fax call and route to the selected destination below.



CID Lookup Source

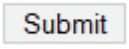
Source(Optional): Sources can be added in Caller Name Lookup Sources Section



Set Destination

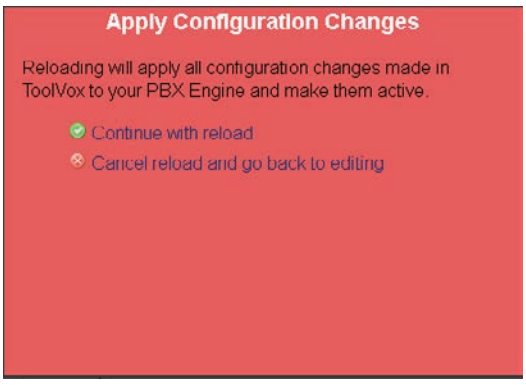
(Required)
Upon Match of DID and/or CLID, select in the ToolVox system where to have the call routed to.

To save your settings click:

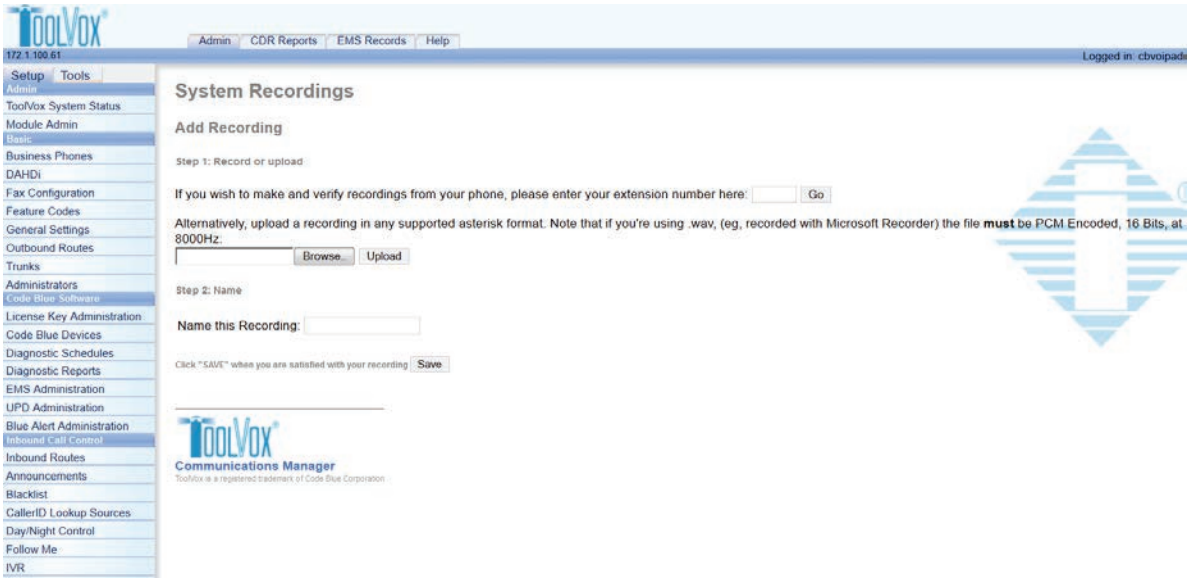


To apply the changes to the system click:

At the top of the screen.
Click - **Continue with reload** - to finish the changes otherwise click - **Cancel reload and go back to editing** - to cancel the changes and continue editing the extension.



Configuring System Recordings



Recordings can be useful for pushing messages to your Phones. They can be created can be done in 2 different ways. You can use a phone connected directly to ToolVox or by making the recording off system and loading it into ToolVox. Note that the format must be compatible though; PCM Encoded, 16 Bits at 8 MHz.

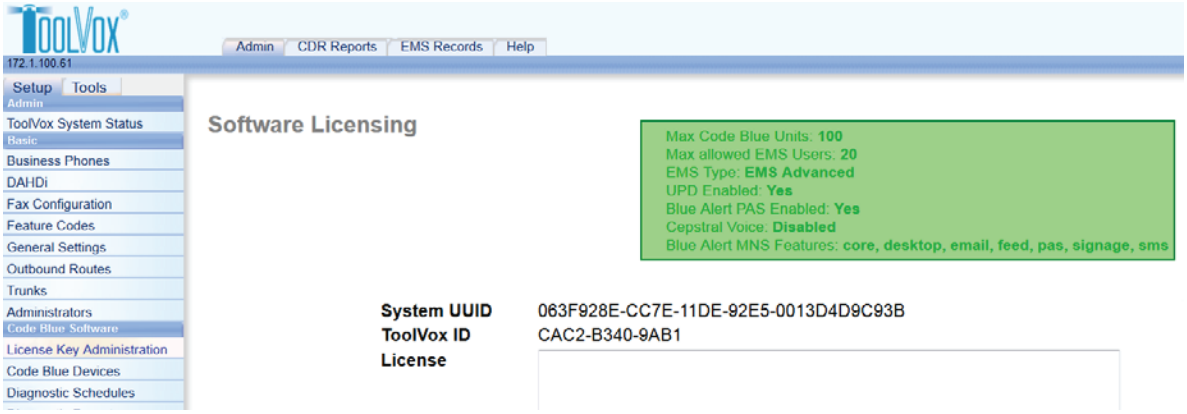
Add Recording

If using a phone to make the recording, enter in your extension number and hit "Go" Dial *77 on that phone and the system will prompt you on what to do.

After you hang up, name the recording and save it. It will appear on the right side of the screen and will be available throughout the ToolVox system for use.

If uploading a recording from your PC, browse to it and upload. Name the recording and save it. It will appear on the right side of the screen and will be available throughout the ToolVox system for use.

Configuring License Key Administration

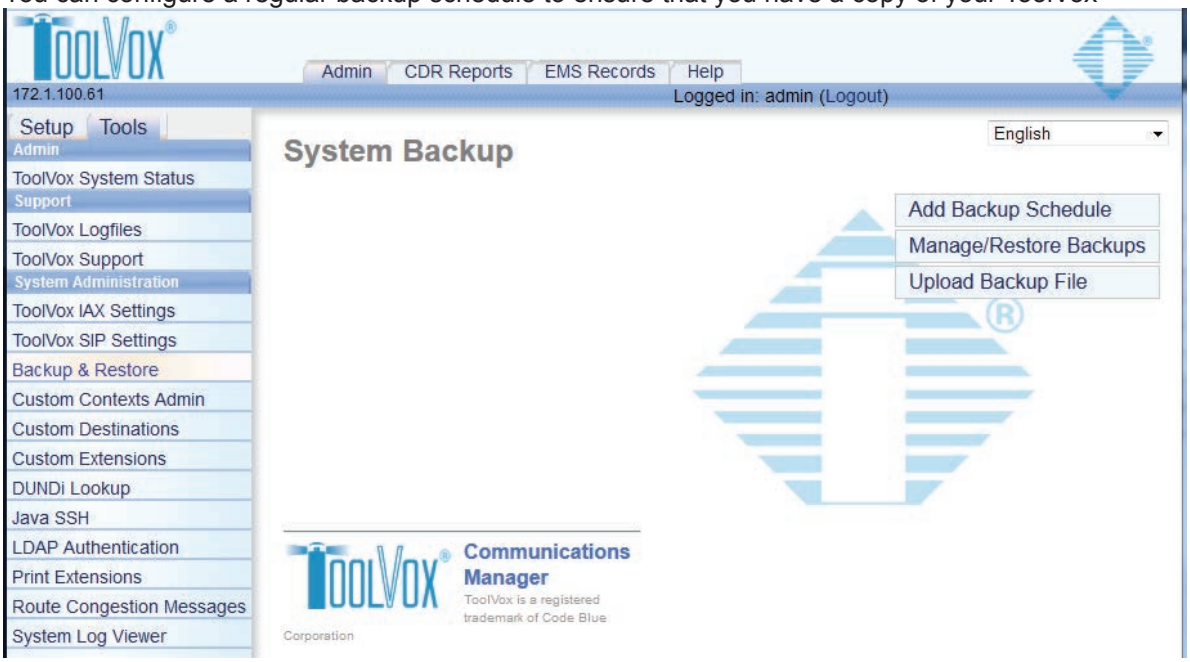


Software Licensing

This screen lists what Your ToolVox is licensed for. If you notice any discrepancies with what you ordered please notify Code Blue Technical Services. Make note of your System UUID and ToolVox ID.

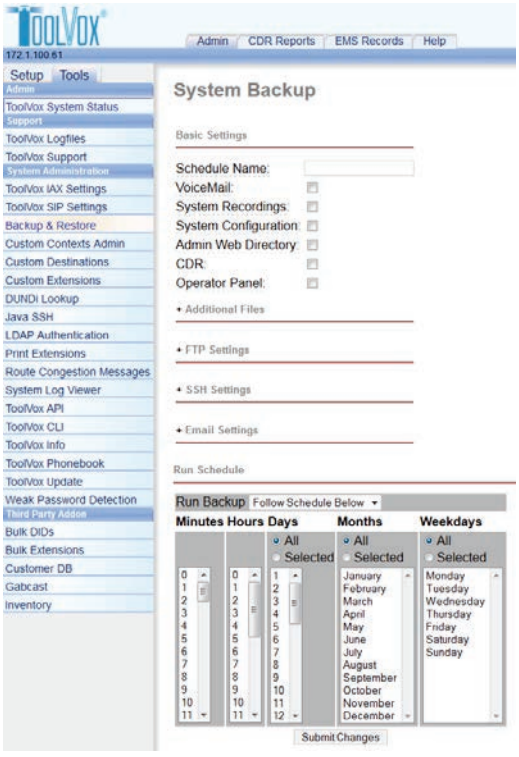
Configuring Backup & Restore

You can configure a regular backup schedule to ensure that you have a copy of your ToolVox



configuration settings and CDR's. You can also restore a previous backup, in case of data loss or a major configuration fault. Backups are stored on the file system at /var/lib/asterisk/backups. You should make a point of making an offline copy of important backups.

Add Backup Schedule



Basic Settings

Create a the Backup Set

At a minimum check the System Configuration box. If you utilize recordings in your ToolVox then also choose System Recordings. The other items are completely optional.

FTP & SSH Settings

If you have an FTP or SSH server on your network you can enter in it's settings here to have it automatically FTP or SSH the backup file off the ToolVox.

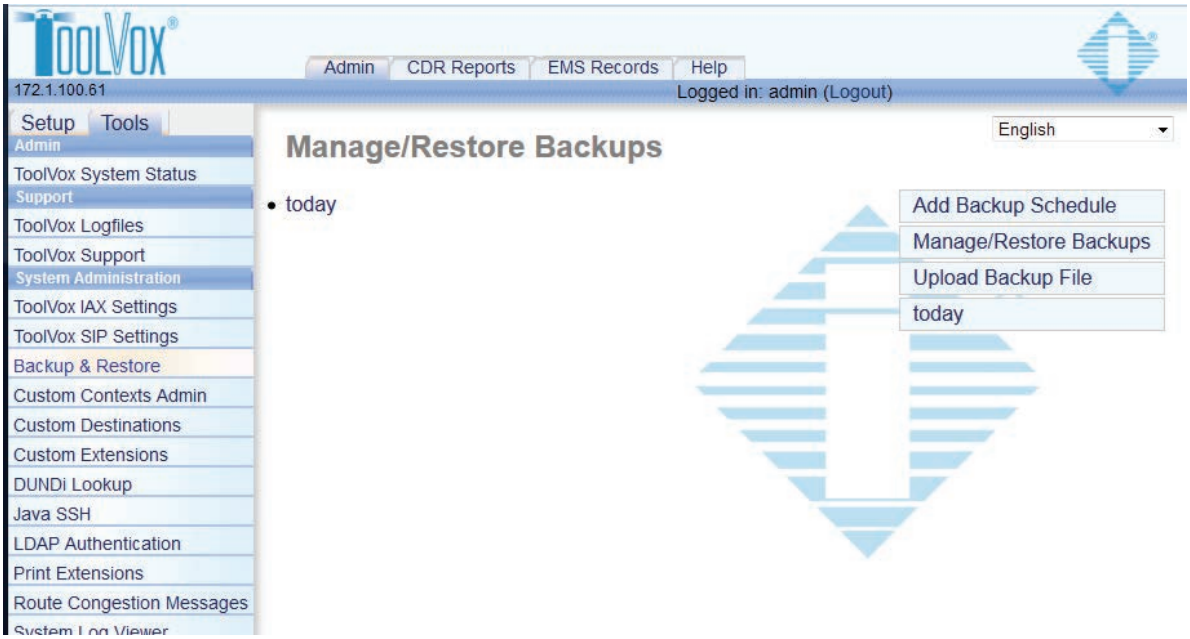
Email Settings

If email is configured on your ToolVox server you can choose to have the backup set emailed to the designated address.

Run Schedule

You can have it run "NOW" or set up a schedule using these options.

Manage/Restore Backups



When selecting Manage/Restore Backups you can see your backup set and restore from it. You will have the option of only restoring parts of your backup set or all.

Unit Programming and Diagnostics (UPD) Configuration and Operation

NOTE: The ToolVox® Media Gateway must be installed and configured before the UPD software can be configured. Onsite installation and remote support packages are available from your authorized Code Blue dealer.

UPD End User License Agreement

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For more information about Code Blue's licensing policies, please call Code Blue at 800.205.7186.

UPD Activation

1. Open your web browser and enter the IP address of your ToolVox.
   Example: http://172.1.100.65

2. Click **TOOLVOX ADMINISTRATION** button (Ill. 3A).

Illustration 3A

3. Enter your administrator User Name and Password (**admin** and **codeblue**) at popup menu (Ill. 3B).

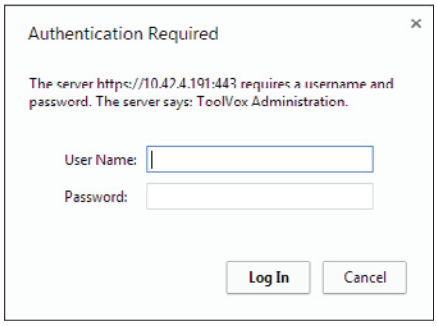


Illustration 3B

4. Click the **OK** button.

5. A new menu ToolVox System Status will initiate (Ill. 3C).

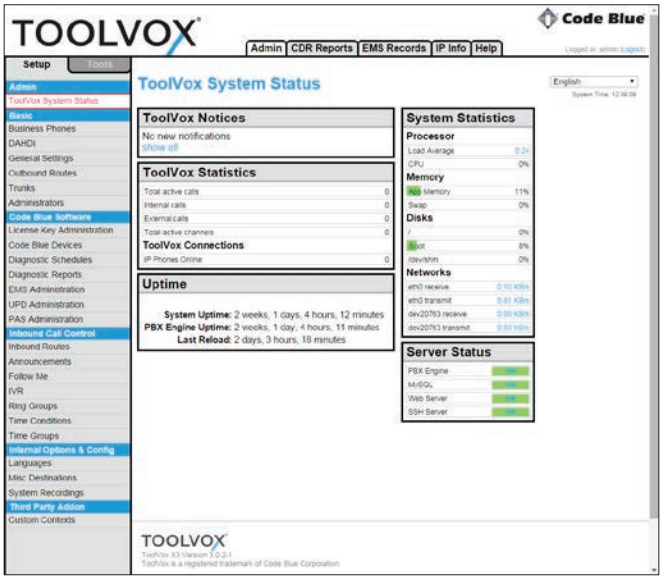


Illustration 3C

6. Under the **SETUP** tab, go to Code Blue Software > License Key Administration.

7. Software Licensing screen will open (Ill. 3D).

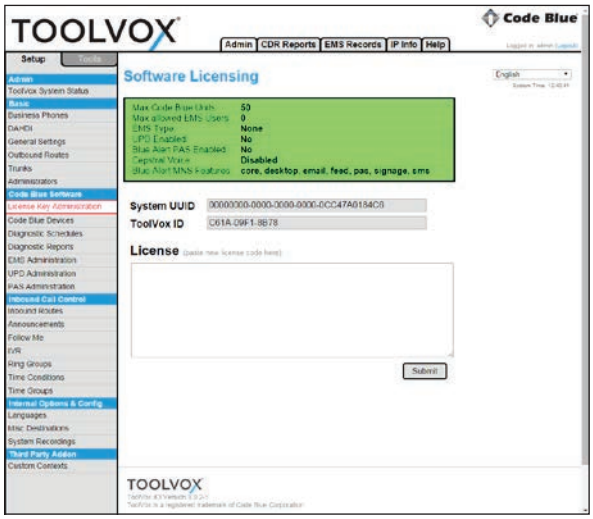


Illustration 3D

8. Enter the License Key provided from Code Blue (only needed after original purchase).

9. Select **SUBMIT** button to apply.

UPD Page Navigation

NOTE: At the top of the web page you will see this message: To navigate this form, please do not use the browser Back, Forward or Reload buttons (Ill. 4A).

Illustration 4A

1. Utilize the **NEXT**, **BACK** and **FINISH** buttons located at the top and bottom of each page to navigate through the unit forms.

2. All of the field titles on these pages have a dashed line below them. Place the mouse pointer over these fields to receive a description of its use.

   Example: Description (orange box) displays upon user's mouse rollover on **MUSIC ON HOLD** text (Ill. 4B).

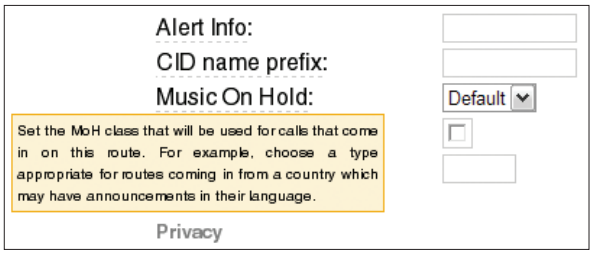


Illustration 4B

3. EMS/UPD Administration

   - Update Unit Failure Address
     - Enter email address and click **UPDATE UNIT FAILURE EMAIL AD DRESS** (Ill. 4C).

Illustration 4C

3. • IP Unit Information Monitor
    - Check the boxes you wish to monitor.
    - Click on **UPDATE IP MONITORING** (Ill. 4D).

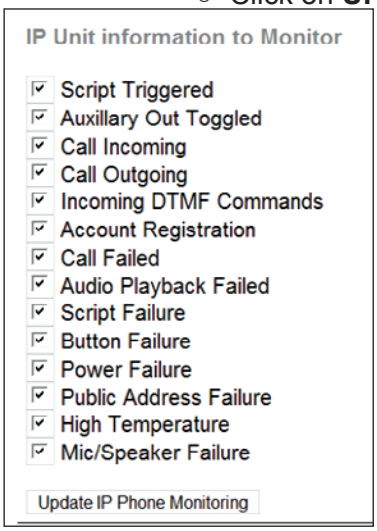


Illustration 4D

- IP Unit Address Range (only needed if using SIP or IAX)
    - Enter **IP UNIT NETWORK/MESH.**
    - Click **UPDATE IP SUBNET** (Ill. 4E).

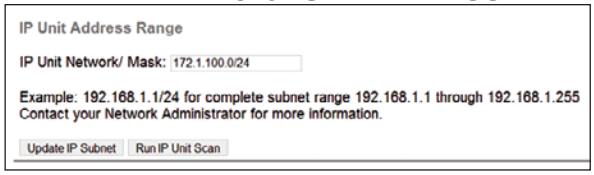


Illustration 4E

- Max Analog or Pri Trunks for Testing Analog Phones
    - Enter **MAX TRUNKS USED**
    - Click **UPDATE TRUNK AMOUNT** (Ill. 4F).

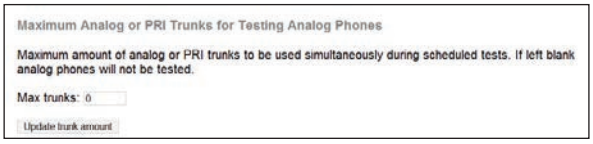


Illustration 4F

- Update Access Information for EMS Software
    - Enter Authorization Code
    - Enter Authorization IP Subnet/Mask
    - Click **UPDATE INFORMATION** (Ill. 4G).

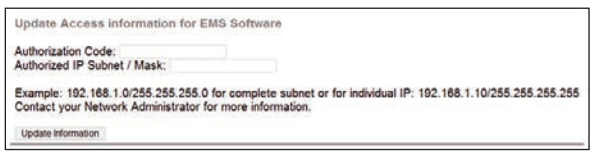


Illustration 4G

UPD - Recording Custom Messages

1. Some Code Blue models have the capability to store messages that are played in various manners when the unit is activated. You may want to record these messages prior to configuring your units. ToolVox allows you to select the recording from the dropdown menu on the model configuration page (Ill. 5A).

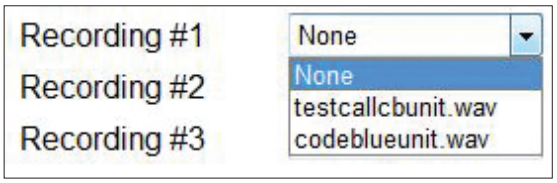


Illustration 5A

2. To record your message(s) from the **SETUP** tab, go to Internal Options & Configuration > System Recordings.

3. The System Recordings page will initiate (Ill. 5B).

Illustration 5B

4. Follow the instructions on this page. You can either use your phone to record the message(s) or upload them from your PC.

NOTE: Recordings uploaded from your PC must be PCM Encoded, 16 bits at 8 kHz.

Adding a Code Blue Unit

1. From the **SETUP** tab go to Code Blue Software > Code Blue Devices.

2. Follow the section below that pertains to your Code Blue installation scenario:
   "7: Creating a New Unit"
   "8: Copy a Unit"

Creating a New Unit

1. From the **SETUP** tab go to **Code Blue Software > Code Blue Devices.**

2. When creating a new unit, you will be prompted to enter the following information on the first page (Ill. 7A).

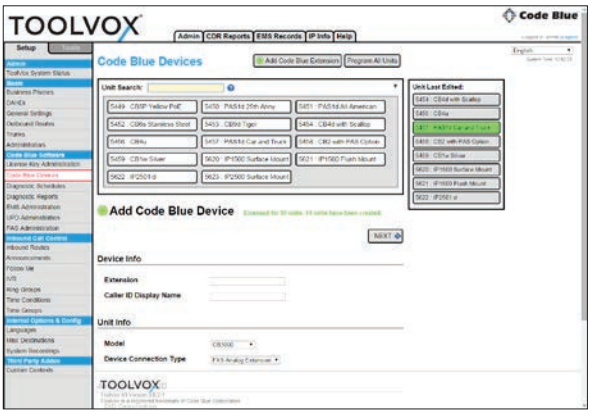


Illustration 7A

3. Device Information

- **EXTENSION:** *Required field.* This is the number given to each unit for system identification. A carefully thought out dial plan should be devised before configuring your ToolVox and UPD system.
- **CALLER ID DISPLAY NAME:** *Required field.* This is the location or name you wish to label the unit.

4. Unit Information

- **MODEL:** *Required field.* UPD will configure all Code Blue unit types. Select your model here.

  NOTE: If OTHER is selected in the Model field, then no unit type will be used. Only the extension and EMS information will be configured. This is for EMS database entries of people or non-Code Blue devices to be managed by the Code Blue Emergency Communications System.

- **DEVICE CONNECTION TYPE:** *Required field.* Selection informs ToolVox unit's connection type:
  - FXS Analog Extension
  - SIP Extension
  - IAX Extension
  - GSM Offsite Unit

5. Hit the **NEXT** button to continue unit configuration on the next page.

6. The following are the required parameters that will be presented, based on the Device Type previously selected:

- FXS Analog Extension
    - **CHANNEL:** *Required field.* This is the FXS port number the unit is connected to. This information may be different for each system. Refer to the ToolVox documentation received with the system for a list of available FXS ports (ill. 7B) Do not change the other fields unless instructed by Code Blue technical support per sonnel.

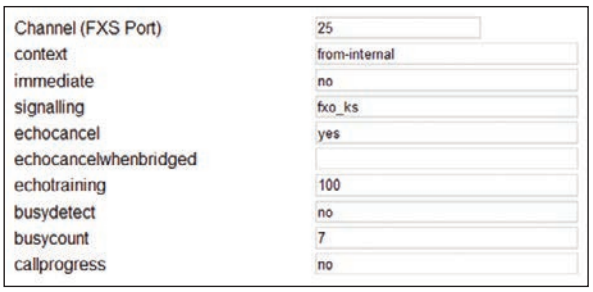


Illustration 7B

- SIP Extension

NOTE: After the IP phone is connected to the network, click on 1) EMS/UPD ADMINISTRATION and 2) RUN IP UNIT SCAN below IP Unit Address Range before creating a unit. Run again after creating a unit.

- **SIP SECRET:** *Required field.* Used for SIP phones or analog terminal adapters (see Ill. 7C).
- This is used to authenticate the SIP phone to the ToolVox system.

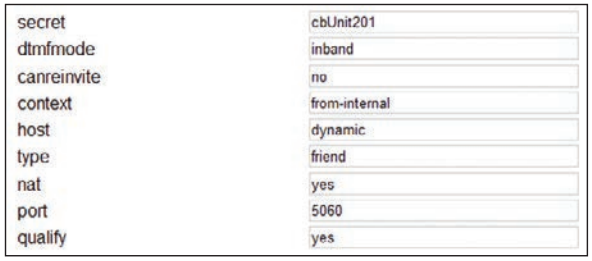


Illustration 7C

NOTE: Strong password methodologies are recommended.

- IAX Extension

- **IAX SECRET:** *Required field.* Used for IAX phones or analog terminal adapters (see Ill. 7D).
- Off System Unit

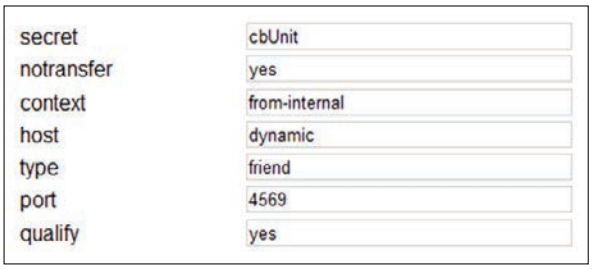


Illustration 7D

NOTE: After IP phone is connected to the network, click on 1) EMS/UPD ADMINITRATION and 2) RUN IP UNIT SCAN below IP Unit Address Range before creating a unit. Run again after creating a unit.

- **UNIT PHONE NUMBER:** *Required field.* For GSM/Offsite units. This number will frequently include an outside line access number, such as 9, in front of the phone number (Ill. 7E).

Illustration 7E

7. The commands at this point will be configured for your particular model of Code Blue phone. Each command will give you an explanation when you roll the mouse over the command (ill.7F).

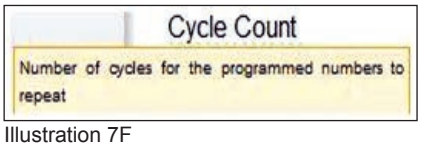


Illustration 7F

8. On the last page of each unit you will be presented with the following categories:

- **IN CALL COMMANDS:** These commands will be utilized on the EMS Agent screen to control the unit (Ill. 7G).

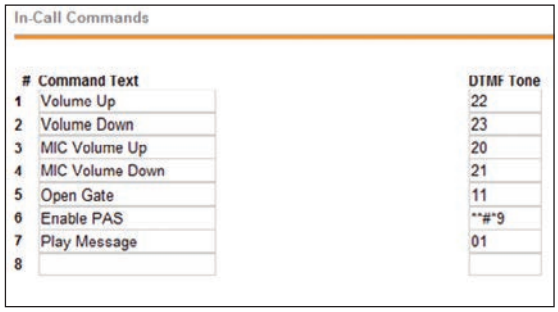


Illustration 7G

9. EMS Unit Location Information consists of selecting the Latitude/Longitude on a MS Bing™ map (Ill. 7H).

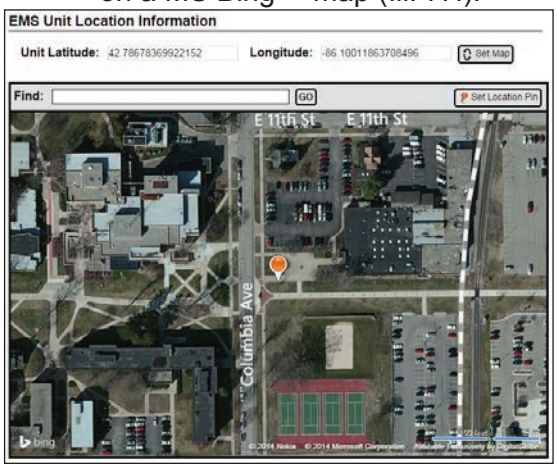


Illustration 7H

10. Detailed Unit Location allows you to select the uploaded map (configured in EMS/UPD Administration) and place a Code Blue unit on the map in the desired location (Ill. 7I).

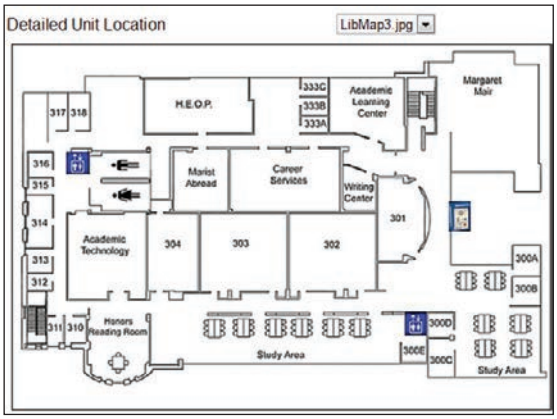


Illustration 7I

11. Location Description/Notes allows you to enter specific location/ unit information to be displayed on the EMS Agent screen (Ill. 7J).

Illustration 7J

12. Device Camera URL's allows for the entries of two IP camera streams, which will be displayed on the EMS Agent screen (Ill. 7K).

Illustration 7K

13. Unit Address Info allows for the physical address to be documented for display on the EMS Agent screen (Ill. 7L).

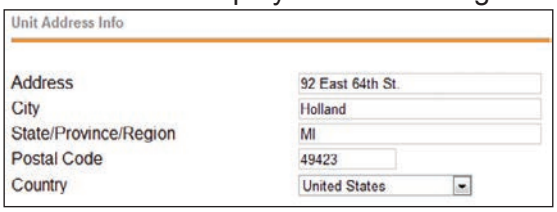


Illustration 7L

14. After configuring your Code Blue unit, click the **FINISH** button on the last page.

15. Click **APPLY CONFIGURATION CHANGES** button at the top of the screen (Ill.7M).

Illustration 7M

16. Click **CONTINUE WITH RELOAD** radio button to finish the changes (Ill. 7N).

17. Cancel the changes and continue editing the extension by selecting **CAN CEL RELOAD AND GO BACK TO EDITING** (Ill. 7N).

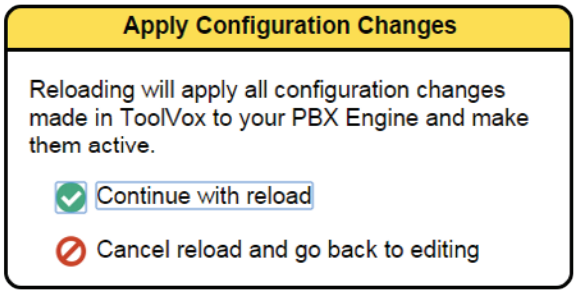


Illustration 7N

18. There are two ways to send the configuration to the Code Blue units:

- Select the unit by clicking on the extension and click **PROGRAM EXTENSION** at the top of the page.
- Click **PROGRAM ALL UNITS**.

UPD - Copying a Unit

1. From the **SETUP** tab, go to **Code Blue Software > Code Blue Devices.**

2. Select a unit to copy.

3. Click **COPY EXTENSION** button.

4. When copying a unit you will be prompted to enter the following information (Ill. 8A):

Illustration 8A

- **EXTENSION:** *Required field.* This is the number given to each unit for system identification. A carefully thought out dial plan should be devised before configuring your ToolVox and UPD system.
- **CALLER ID DISPLAY NAME:** *Required field.* This is the location or name you wish to label the unit.
- **CHANNEL:** *Required field.* This is the FXS port number the unit is connected to. This information may be different for each system and is configured at the factory. Refer to the ToolVox documentation received with the system for a channel list.
- **IAX SECRET:** *Required field.* Used for IAX phones or analog terminal adapters.

  NOTE: Strong password methodologies are recommended.
- **UNIT PHONE NUMBER:** *Required field.* This is the phone number of GSM or Offsite units. This number will frequently include an outside line access number, such as 9, in front of the phone number.

5. All other values will remain the same unless changed by the user.

6. After configuring your Code Blue unit, click the **FINISH** button on the last page.

7. Click **APPLY CONFIGURATION CHANGES** button at the top of the screen (Ill.7M).

8. Click **CONTINUE WITH RELOAD** radio button to finish the changes (Ill. 7N).

9. Cancel the changes and continue editing the extension by selecting **CANCEL RELOAD AND GO BACK TO EDITING** (Ill. 7N).

10. There are two ways to send the configuration to Code Blue units:

- Select the unit by clicking on the extension and click **PROGRAM EXTENSION** at the top of the page.
- Click **PROGRAM ALL UNITS**.

UPD Diagnostic Schedules

1. UPD Diagnostics can run as many schedules as you configure. Keep in mind that each phone is tested every 2 seconds, beginning at the scheduled time. If you put the same phones in multiple testing schedules, ensure that the time period will not overlap or you may cause erroneous fault reports.

2. From the **SETUP** tab go to **Code Blue Software > Diagnostic Schedules** (see Ill. 9A)

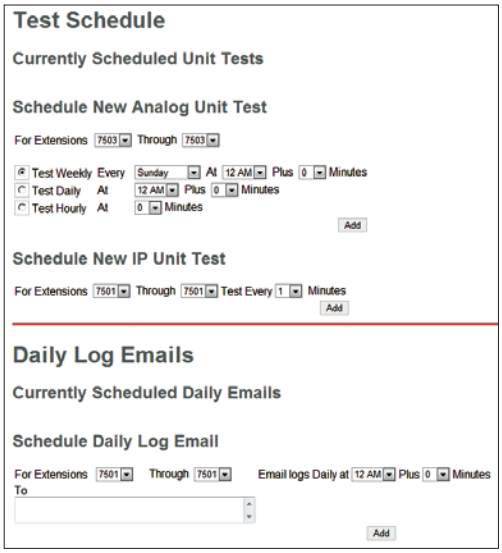


Illustration 9A

3. Schedule New Analog Unit Test

- Select the range you wish to include in the schedule.
- Select the appropriate schedule for your needs.
- Click on **Add** to create the schedule (Ill. 9B).

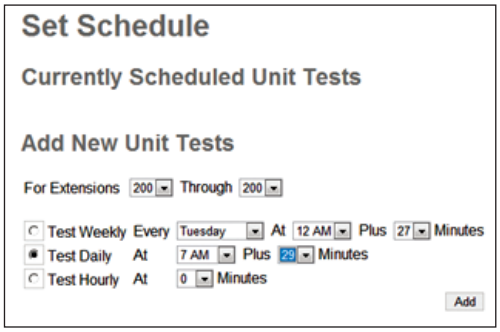


Illustration 9B

4. Schedule New IP Unit Test

- Select the range you wish to include in the schedule.
- Select **TEST EVERY 1-59 MINUTES.**
- Click on **Add** to create the schedule.

5. Repeat steps 7.3 through 7.4 to create additional schedules.

6. Diagnostic Reports

- Click on **Code Blue Software > Diagnostic Reports** (Ill. 9C).

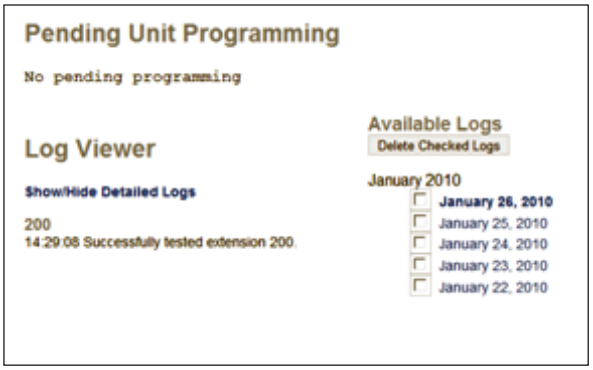


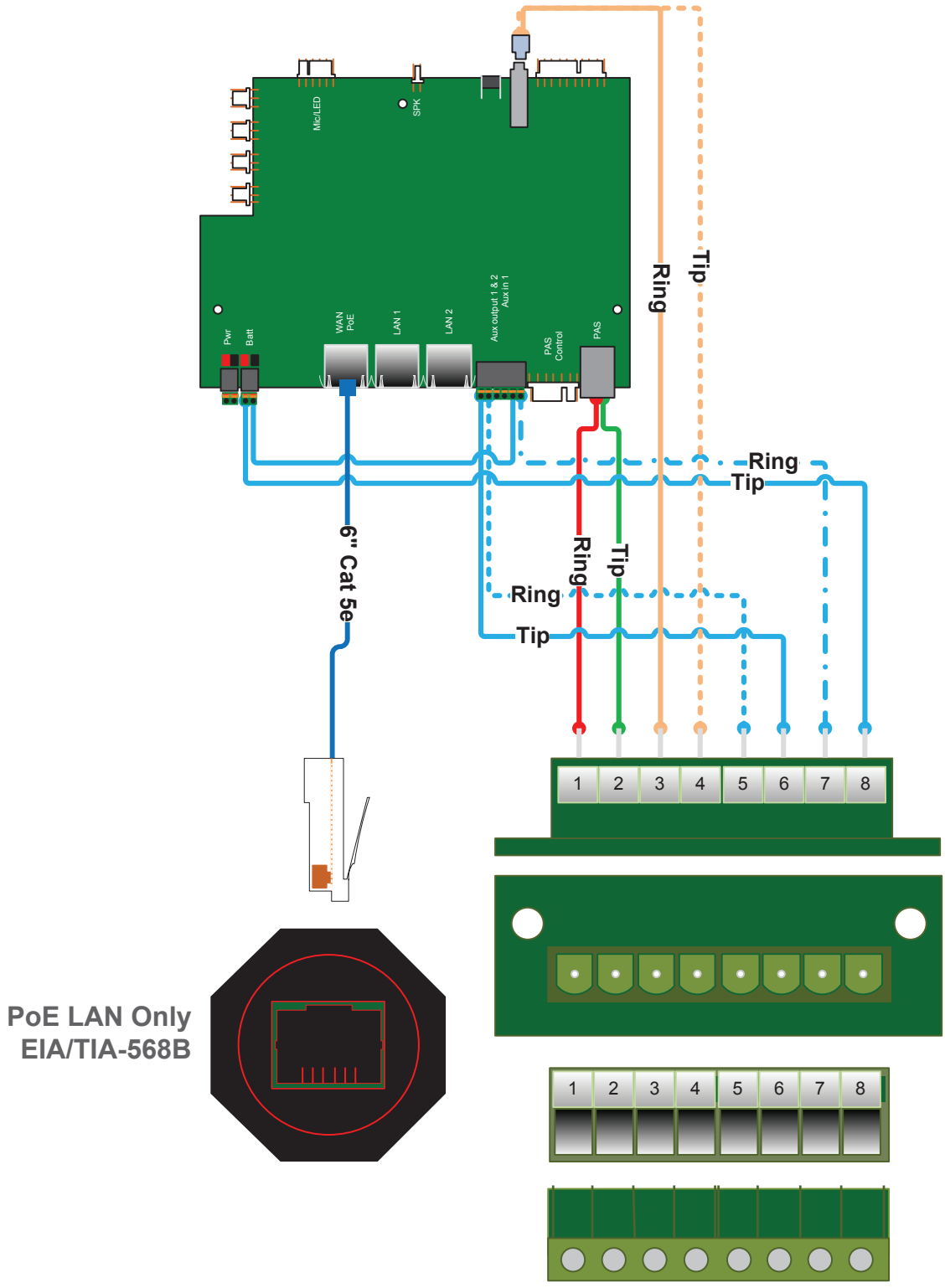
Illustration 9C

- Information pertaining to unit programming and logs from test schedules will be displayed. Click on the log you wish to view under Available Logs. Click on the **Show/Hide Detailed Logs** to view detailed information of the testing/programming of the units (ill. 9D).

Illustration 9D

- Select the check box beside each log and click on **Delete Checked Logs** to delete old log files.

IP Audio Interface Wiring Diagram



Product wiring diagram shown reasonably represents current offering and is intended to assist in component identification and service. Earlier product production may have different components and wiring connections. Reference the model and serial number from the unit ID tag and contact manufacturer to confirm replacement part version and availability.

Lightning Protection

Installation procedure for the recommended ToolVox Lightning Protection

ITW SurgeGate CO/25 Module

SurgeGate CO/25 modules are used to protect the ToolVox Analog FXO/FXS telephony card(s) and Adtran 624 units.

Installation

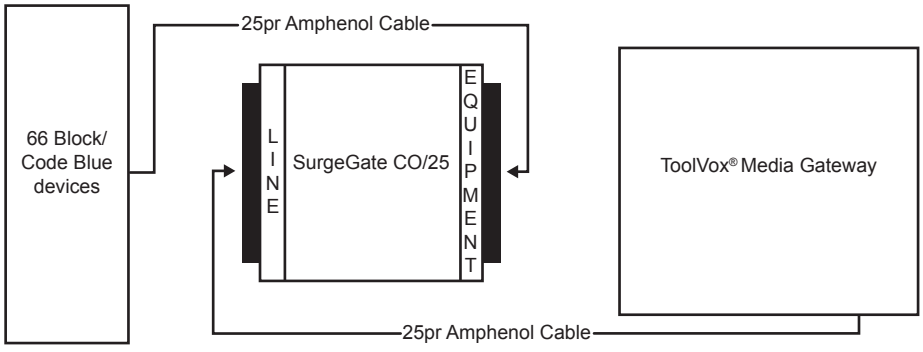
1. Install the Velcro clamps provided with the protector.

2. Securely mount the SurgeGate between the 66 block and the ToolVox Media Gateway.

3. Connect an Amphenol cable from the ToolVox to the “Line” side of the SurgeGate.

   ***Do not connect the SurgeGate directly to the back of the ToolVox. This will not provide adequate protection and will void the warranty.**

4. Connect an Amphenol cable from the 66 block to the “Equipment side of the SurgeGate. This will be the side the Code Blue devices.



5. Secure both Amphenol ends with the Velcro mounted on the clamps of the SurgeGate.

Important Safety Points

ITW Linx surge protectors and the connected equipment must be indoors in a dry location and in the same building. Although your protector is durable, its internal components are not isolated from the environment. Do not install any product near any heat-emitting appliances, such as a radiator or heat register. Do not install this product where excessive moisture is present.

ATTENTION

To ensure proper protection, the SurgeGate module MUST BE CONNECTED TO EARTH GROUND. There cannot be any exceptions. A minimum #14 green insulated copper wire, with a ring terminal at each end, should be used. Route the wire as directly as possible. Do not make any other connections to the ground terminal of the module.

Technical Data

The Code Blue **ToolVox® Media Gateway** provides flexibility to your organization's communication needs. This allows **ToolVox** to be a complete enterprise-class IP and analog call processing capability allowing for:

- Management and diagnostics for all Code Blue devices
- Blue Alert® Event Management System (EMS) to record, document and respond to emergency situations appropriately
- Robust API for third party integration
- Open and scalable architecture
- Optional software system platforms including Blue Alert®, EMS and UPD

Standard/Advanced Case Specifications	
Construction	Heavy-duty cold rolled steel
Drive Capacity	Exposed 3 x 5.25" and 1 x 3.5 drives
Cooling	1 x 12 cm ball-bearing fan • Optional 2 x 8 cm hot-swap fans
Front Panel Indicators	1 x pwr on/off, 1 x system reset
Front Panel Controllers	2 x USB, 1 x PS2 mini-DIN keyboard
Maximum Expansion Card Length	13.3 in. (33.8 cm)
Power Supply	400W, 115/230V ATX (standard) 400W, 115/230V redundant hot-swap (advanced)
Dimensions (WxLxH)	19 x 17.7 x 7 in. (48.26 x 45 x 17.8 cm)

Standard Server Specifications	
CPU	Pentium® Dual-Core 2.5GHz (minimum installed) • Supports Intel® LGA775 socket processors
Front Side Bus	1333/1066/800MHz
Chipset	Intel P43 Express and ICH10
Memory	4 x 240-pin DDR2 800/667MHz (4GB DDR2 800MHz installed); 8GB max
Video	Intel GMA 3100
Audio	5.1 HDA Realtek® AL888VC Intel HD Audio
LAN	Intel 82567V Gigabit (10/100/1000 Mbits/sec)
Expansion Slots	1 x PCI Express x 16, 5 x PCI 32-bit
IDE	1 x ATA100
Drives	2 x 500GB SATA, 7200 rpm, RAID 1 (advanced) 1 x DVD-RM/R/RW CD/RW SATA
BIOS	Intel Platform Innovation Framework for EFI 32Mbit Symmetrical flash memory device Intel Express BIOS update Intel Rapid BIOS boot SMBIOS support
Form Factor	ATX, 12 x 8 in. (30.5 x 20.3 cm)
Back Panel Connectors	Audio jack (supports 3 jacks) 1 x PS/2 keyboard port 1 x PS/2 mouse port 2 x RJ45 LAN port 1 x Serial port 1 x VGA port 6 x USB 2.0 ports
Internal Connectors	3 x USB 2.0 headers (supports 6 USB devices) 1 x Parallel ATA IDE interface with UDMA 33, ATA-66/100 support 1 x 24-pin ATX main power connector 1 x S/PDIF_OUT connector (3-pin) 6 x Serial ATAII connectors 2 x IEEE 1394a interfaces
Expansion Capabilities	3 x PCI Conventional bus connectors 3 x PCI Express 1.1 x 1 bus add-in card connector 1 x PCI Express 2.0 x 16 bus add-in card connector
Power Management	Wake on USB, PCI, PCI Express, PS/2, LAN and front panel Suspend to RAM (STR) Energy Star capable ACPI support
Hardware Monitor Subsystem	Intel Quiet System Technology implemented through the Intel Management Engine in ICH10 Out-of-range thermal values detection 4 x Fan activity sense input monitors 4 x Fan headers
Instantly Available PC Technology	PCI Local Bus Specification Rev.2.3 support PCI Express Rev.1.1 support Suspend to RAM support Wake on PCI, RS-232, front panel, PS/2 devices, and USB ports
Warranty	1 year

Advanced Server Specifications	
CPU	Pentium® Dual-Core 2.5GHz (minimum installed) • Supports Intel® next generation 45nm multi-core processors
Front Side Bus	1333/1066/800MHz
Chipset	Intel G31 and ICH7
Memory	2 x Dual channel DDR2 800/667MHz (4GB DDR2 800MHz installed); max 8GB
Video	Intel GMA 3100
Audio	5.1 HDA Realtek® ALC662-GR
LAN	Gigabit LAN, Broadcom® BCM5784
Expansion Slots	1 x PCI Express x 16, 5 x PCI 32-bit
IDE	1 x ATA100
Drives	2 x 500GB SATA, 7200 rpm, RAID 1 1 x DVD-RM/R/RW CD/RW SATA
BIOS	8MB flash EEPROM w LAN boot PnP, ACPI, WfM, DMI 2.0
Form Factor	ATX, 12 x 8 in. (30.5 x 20.3 cm)
Back Panel Connectors	Audio jack (supports 3 jacks) 1 x PS/2 keyboard port 1 x PS/2 mouse port 2 x RJ45 LAN port 1 x Serial port 1 x VGA port 4 x USB 2.0 ports
Internal Connectors	3 x USB 2.0 headers (supports 6 USB devices) 1 x Parallel ATA IDE interface with UDMA 33, ATA-66/100 support 1 x 24-pin ATX main power connector 1 x S/PDIF_OUT connector (3-pin) 6 x Serial ATAII connectors 2 x IEEE 1394a interfaces
Expansion Capabilities	3 x PCI Conventional bus connectors 3 x PCI Express 1.1 x 1 bus add-in card connector 1 x PCI Express 2.0 x 16 bus add-in card connector
Power Management	Wake on USB, PCI, PCI Express, PS/2, LAN and front panel Suspend to RAM (STR) Energy Star capable ACPI support
Hardware Monitor Subsystem	Intel Quiet System Technology implemented through the Intel Management Engine in ICH10 Out-of-range thermal values detection 4 x Fan activity sense input monitors 4 x Fan headers
Instantly Available PC Technology	PCI Local Bus Specification Rev.2.3 support PCI Express Rev.1.1 support Suspend to RAM support Wake on PCI, RS-232, front panel, PS/2 devices, and USB ports
Warranty	1 year

Regulatory & Warranty

Regulatory

The IP5000 speakerphone conforms to the following list of directives and product safety standards as applicable:

EU: EN 55022:2006+A1:2007
EN 55024:1998+A1:2001+A2:2003
EN 61000-4-2:1995
EN 61000-4-3:2006+A1:2008
EN 61000-4-4:2004
EN 61000-4-5:2006
EN 61000-4-6:2007
EN 61000-4-8:1993+A1:2001
EN 61000-4-11:2004
EN 61000-3-2:2006+A1:2007
EN 61000-3-3:2008

USA: CFR 47, Part 15
CANADA: ICES-003e

Warranty

Code Blue Corporation provides a limited warranty on this product. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Code Blue's standard warranty language, as well as information regarding support for this product, while under warranty, is available at **www.codeblue.com/support.**

Notice : Every effort was made to ensure that the information in this document was complete and accurate at the time of printing. However, information is subject to change.

Technical Services and Support

For additional support, please feel free to contact Code Blue's Technical Services and Support Staff at **ts@codeblue.com** or **(616) 392-8296, Opt 3.**

8 a.m. to 6 p.m. Monday through Thursday and 8 a.m. to 5 p.m. Friday Eastern Time