IP5000 2.0 Series

VoIP Speakerphone

Also includes - IP Audio Interface information

Installation | Configuration | Operation | Troubleshooting

Administrator Guide

Code Blue®

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2 Introduction

Thank you for choosing the Code Blue **IP5000** full duplex VoIP speakerphone, intercom and paging device for indoor and outdoor applications. This speakerphone is part of our Emergency Signaling group of products built to meet the latest regulations, withstand the harshest elements and be proactive solutions for when you need them most. This guide provides basic and advanced configuration information for obtaining the best performance with the **IP5000** speakerphone.

IP5000 Single Button

IP5000 Dual Button

IP5000 Dual Button w/ Keypad

Call Privacy Laws

Some states require all parties to be aware that they are being recorded. Code Blue phones offer the ability to play a message stating that the caller is being recorded and giving the caller the option to continue or end the recorded call.

3 Getting Started

This chapter provides information for obtaining the best performance with the IP5000 speakerphone. It is strongly recommended that the entire guide is read before configuring your IP5000 speakerphone to ensure you get maximum performance.

Throughout this guide you will see the following two references:

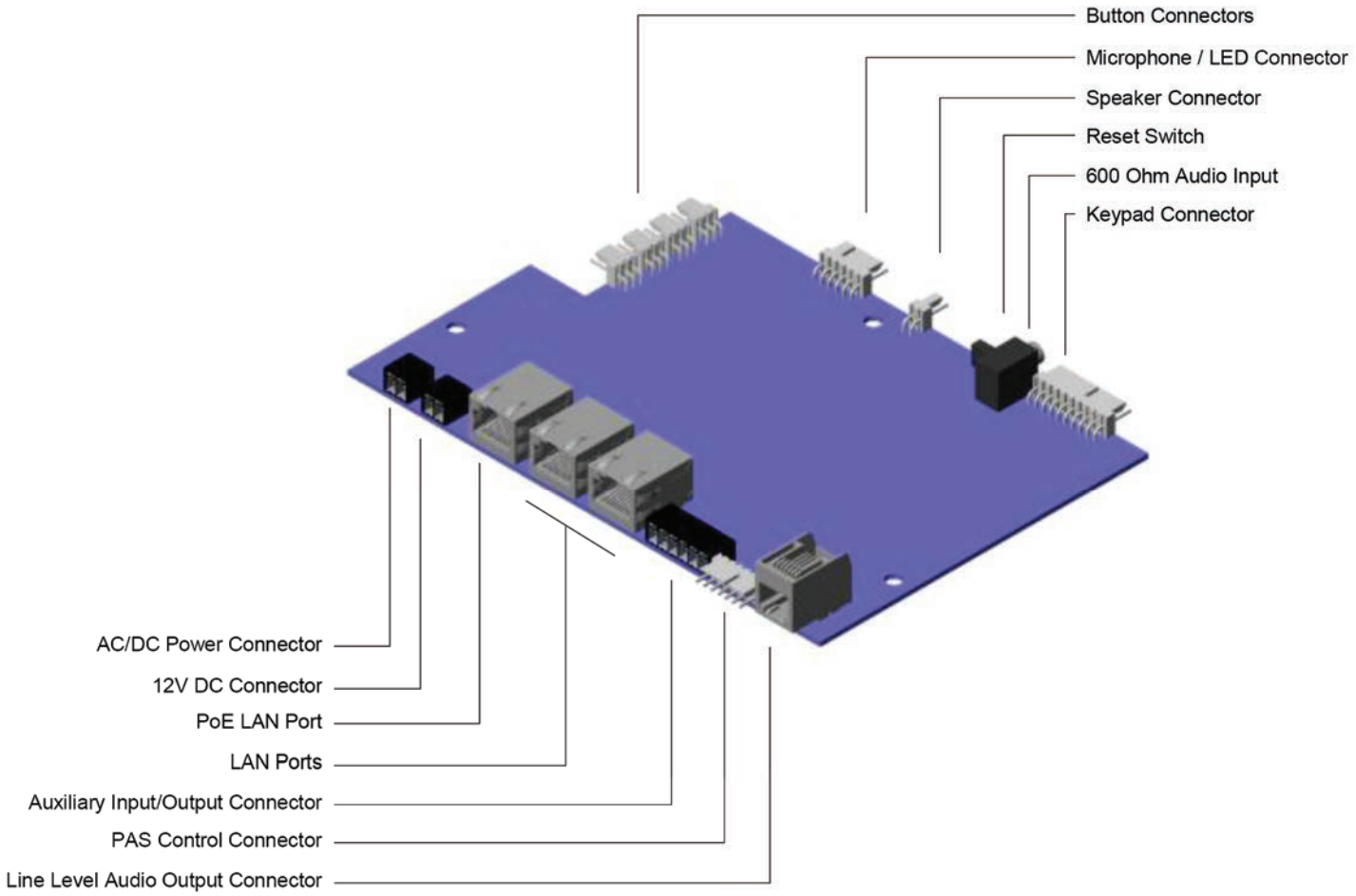
Calling Party: This is the person activating the IP5000 speakerphone by pressing a button.

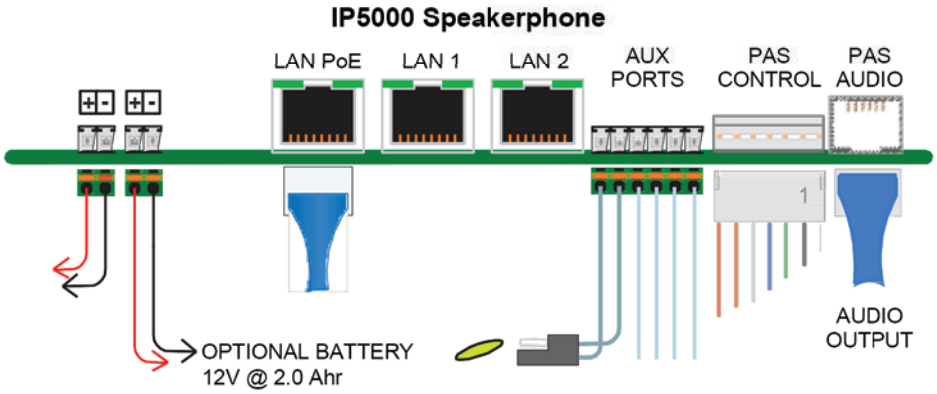
Called Party: This is the person receiving the call from the IP5000; typically a guard, 911 operator, dispatch officer, etc.

The IP5000 speakerphone provides powerful, yet flexible IP emergency communication, delivering excellent voice quality for your emergency speakerphone, intercom and paging solution.

4 Connectors, Ports and Switch List

The IP5000 speakerphone comes with your choice of single button, dual button or dual button with keypad faceplate. The internal components consist of a speaker, microphone, PCB and mounting hardware.





5 Wiring Diagram/PoE Wiring Diagram

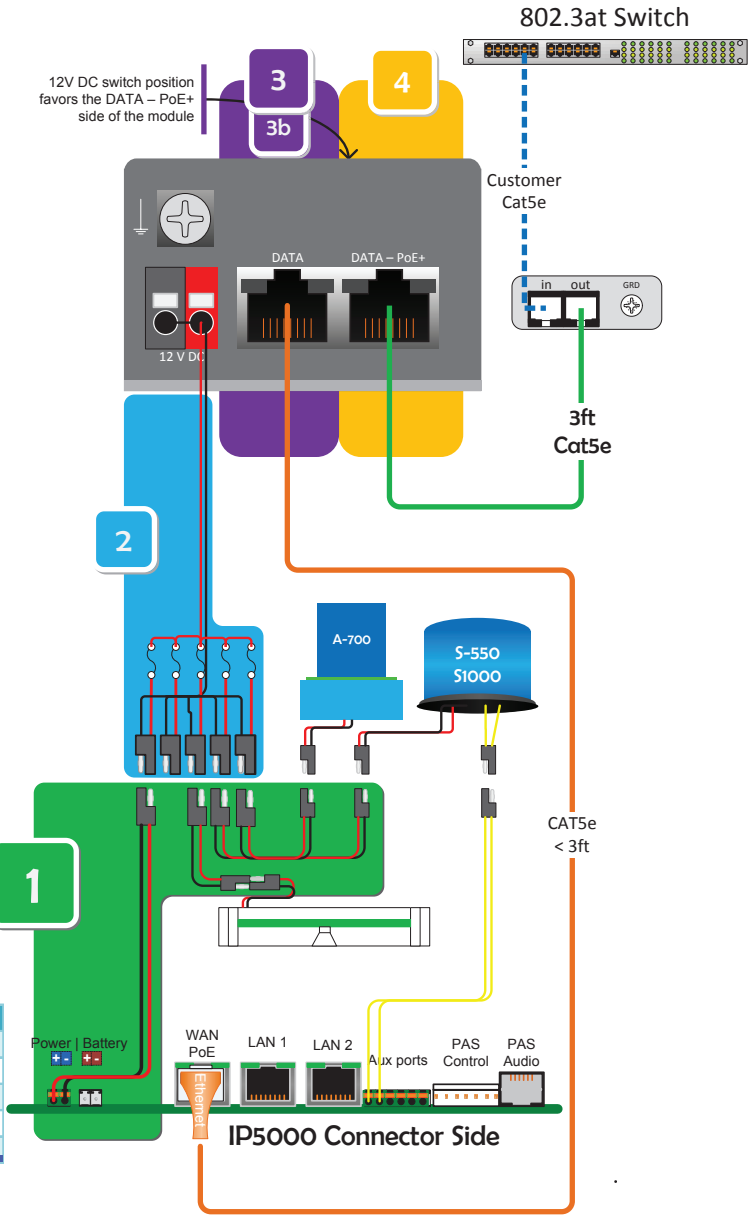
1 First: Electrical connections, All 4 Code Blue devices should to be connected to the 5 place manifold

2 Second: Manifold fused red lead and black wires are secured to spring cage connector on the PoE+ Splitter. SEE DIAGRAM

3 Third: Connect the DATA cable RJ-45 from the Splitter "DATA" to the IP5000 WAN PoE port.

3b Voltage Selector Switch on the back must be in the 12V DC position

4 Fourth: Plug in the Ethernet PoE Cat 5e Cable to Data+PoE Input jack on the Splitters. Upon PoE Negotiation with the PoE switch port, power will be granted to the Splitter, and the indicator along with the device attached will turn on.



Electrical Mode: 12VDC	Amps	Wattage
InRush (I)	2.00	24
InRush Avg	0.40	4.8
Standby	0.55	6.6
Talk - In Call	0.78	9.36

PoE Extractor Specifications

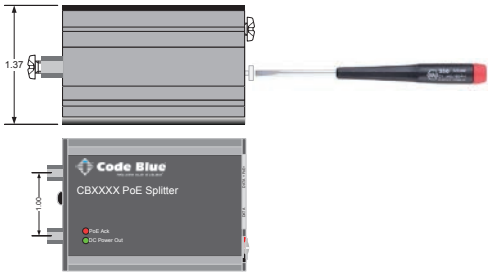
Input of the PoE Extractor
802.3af and 802.3at compliant

PoE Extractor Max Rated Output
802.3af –12V DC at 12.9 Watts
802.3at –12V DC at 24.0 Watts
-40°C to +70°C

Grounding:

Should a ground be needed, there's a ground screw on the enclosure with grounding logo next to it. When the splitter is mounted to the mounting bracket the bracket becomes the ground to the chassis of the enclosure, however local codes may require a ground wire be attached to the screw in order to comply.

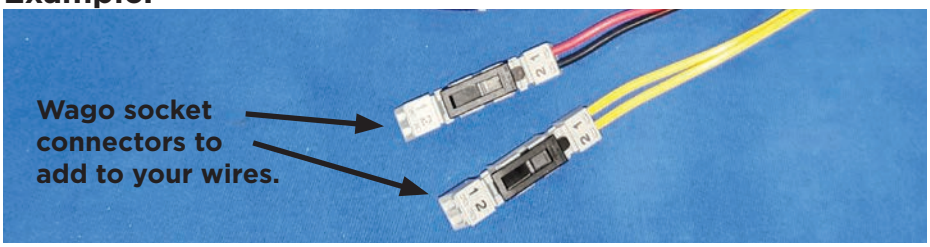
When connecting PoE to the unit's internal ground, make sure the unit itself is grounded to an outside local ground.



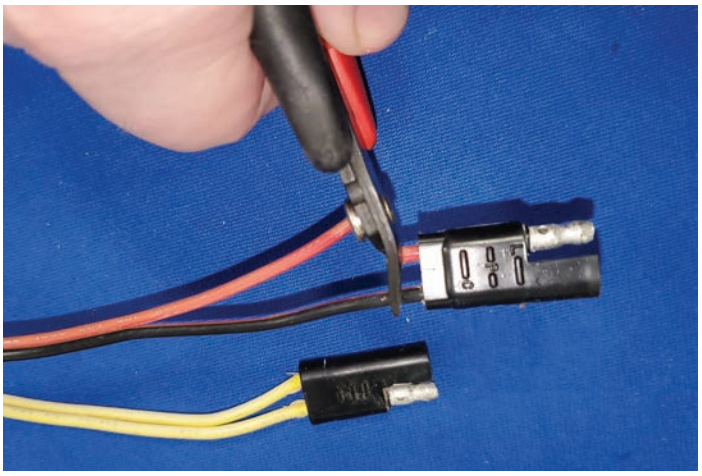
6 How to Update Connectors

As of 2020, many Code Blue products come with Wago connectors. These connectors provide ease of use and a much stronger connection. Below are the steps needed to change to the new connectors.

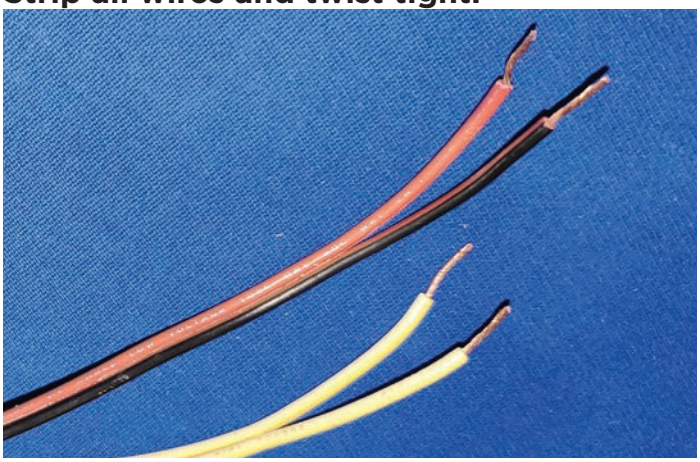
Example:



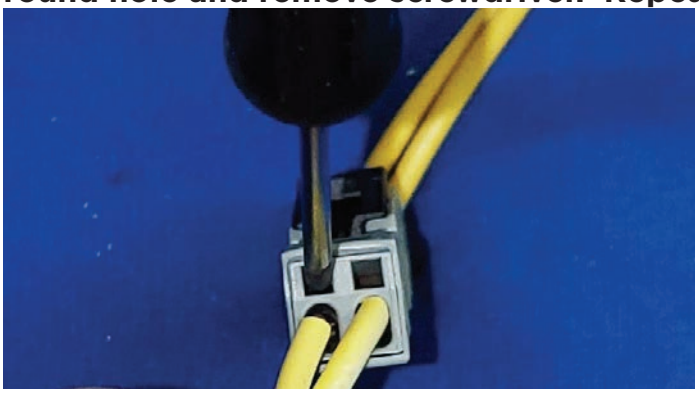
Cut off both wires.



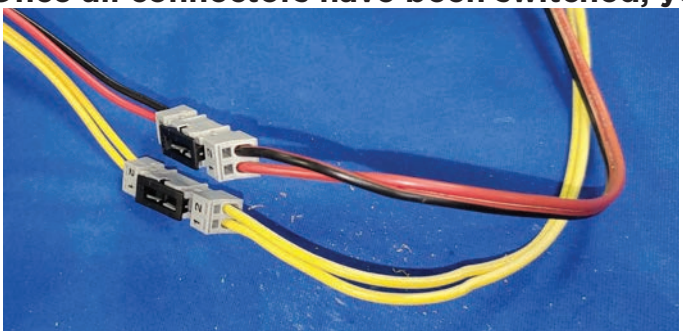
Strip all wires and twist tight.



Place small screwdriver into square hole and push down. Insert cut wire into round hole and remove screwdriver. Repeat on the rest of the connectors.



Once all connectors have been switched, you are ready to apply power.



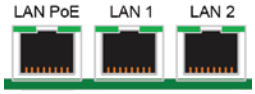
Please contact **technicalsupport@codeblue.com** if you need further assistance.

7 Quick Installation Guide

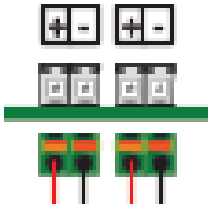
The IP5000 VoIP speakerphone is designed to fit into any existing or new Code Blue enclosure. Additionally, Code Blue offers custom faceplate sizes that allow the IP5000 to be placed in many different enclosure types.

Code Blue provides the following items with each IP5000: six security screws, one security bit, 5-foot Orange CAT6 w/RJ45 connector, phone power harness, surge suppressor and ground wire.

1. Using the provided Velcro, mount the surge suppressor to the back of the enclosure near the grounding lug. Connect the green ground wire to the grounding lug.
2. Insert the CAT6 wire first into the surge suppressor, then to the RJ45 LAN1 on the IP5000. If you are using PoE, plug it into the LAN PoE port.

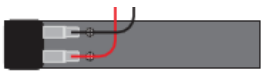


3. The phone power harness will have a 2-pin connector and a gray-and-black connector:
   a. The 2-pin power connector will connect to the AC/DC 2-pin opening. For optional battery power, run the battery into the 12V DC opening.

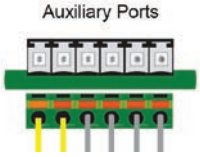


   b. Run the gray-and-black male connector into the female connector on the power supply inside the unit.

4. If you have battery backup power, plug in the battery wires. They are left unplugged for shipping to prevent running down the battery.



5. If you have a strobe light, run the yellow wires into auxiliary output 1.



You are now ready to program your IP5000.

8 Installing the IP5000 Speakerphone

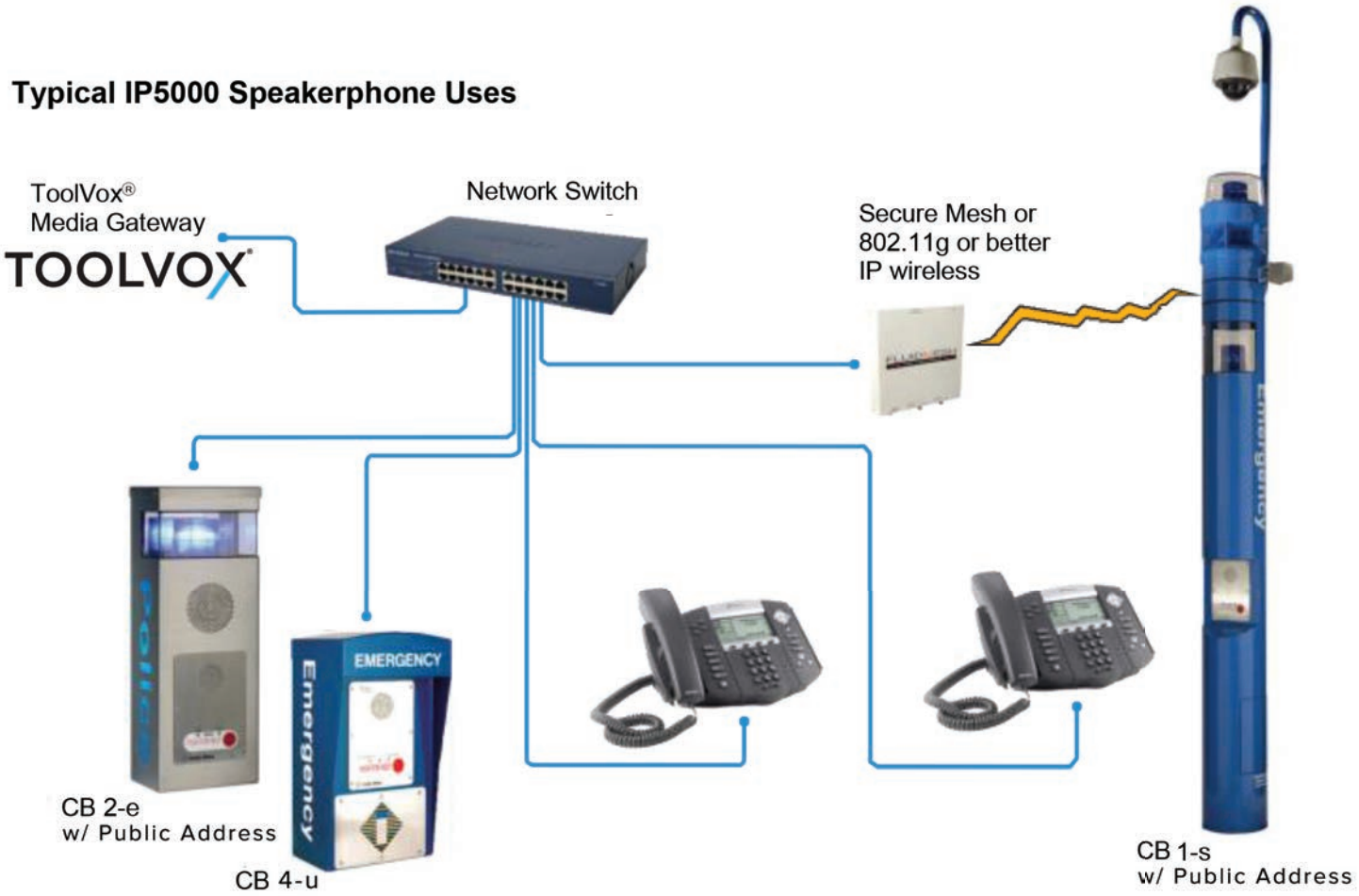
The IP5000 speakerphone is capable of being connected to PoE (802.11af & at), 12-24 Volts AC or DC power sources. Additionally, the IP5000 may also be configured with a 12-Volt DC battery backup or alternative 12V DC power source system which monitors and reports low voltage condition for ensured up time.

The IP5000 speakerphone has three Ethernet switch ports, one PoE LAN and two non-PoE LANS available for connectivity to network services and for additional network connectivity for auxiliary devices, such as IP cameras, card readers, etc. Additional LANS are not VLAN compatible.

The IP5000 speakerphone has two normally open auxiliary output contacts for connecting devices such as the LED beacon/strobe, camera preset activation inputs, third party controllers, etc. There is also one normally open auxiliary input contact closure for connecting devices, such as door contacts, relays, etc., which can be programmed to perform any function of the phone.

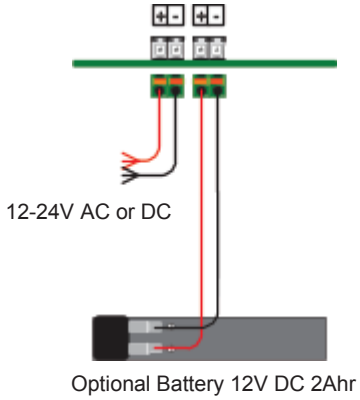
The IP5000 speakerphone has been designed to be mounted in any Code Blue enclosure. Custom faceplates are available for mounting in other product enclosures. Contact your local dealer for additional information and availability of custom options.

Typical IP5000 Speakerphone Uses



8.1 Connecting Power Sources

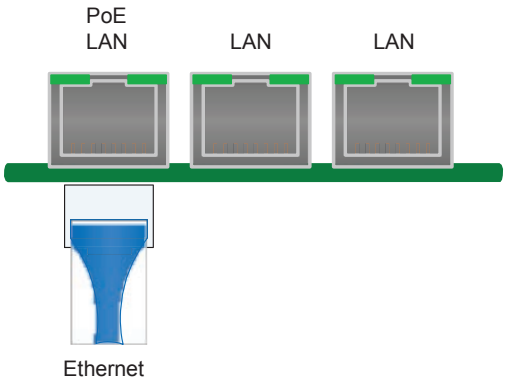
The IP5000 speakerphone is capable of being connected to any power source that provides 12-24 Volts AC or DC with a minimum of 430 mA current rating. Optionally, a 2.0Ahr battery can be connected to the secondary power input and the IP5000 speakerphone will monitor the battery for low voltage conditions. When used in solar or NightCharge® applications, the system's batteries voltage are monitored for low battery condition. It is strongly recommended that you disconnect any power to the unit prior to installation. Consult your local electrician for proper power connectivity to your Code Blue equipment.



8.2 Connecting Network Services

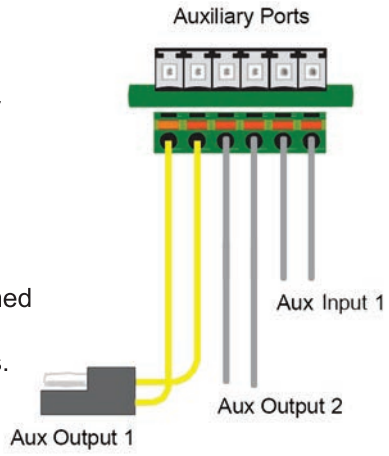
The IP5000 speakerphone has three Ethernet ports that provide both an upstream network connection point, as well as function as an Ethernet switch. Upstream network connectivity for the IP5000 can be connected to any of these ports, however, only the leftmost port accepts PoE power. Additional devices, such as IP cameras, card readers, etc. can be connected to the remaining ports.

Note that if the IP5000 is configured with a VLAN ID (see section 10, "VLAN Configuration"), only the speakerphone itself will communicate using VLAN-tagged packets. If additional devices connected to the IP5000's other Ethernet ports must communicate on a VLAN, they must either support VLAN tagging themselves (which will be passed through the IP5000's built-in switch) or the upstream connection must be providing untagged packets from that VLAN.



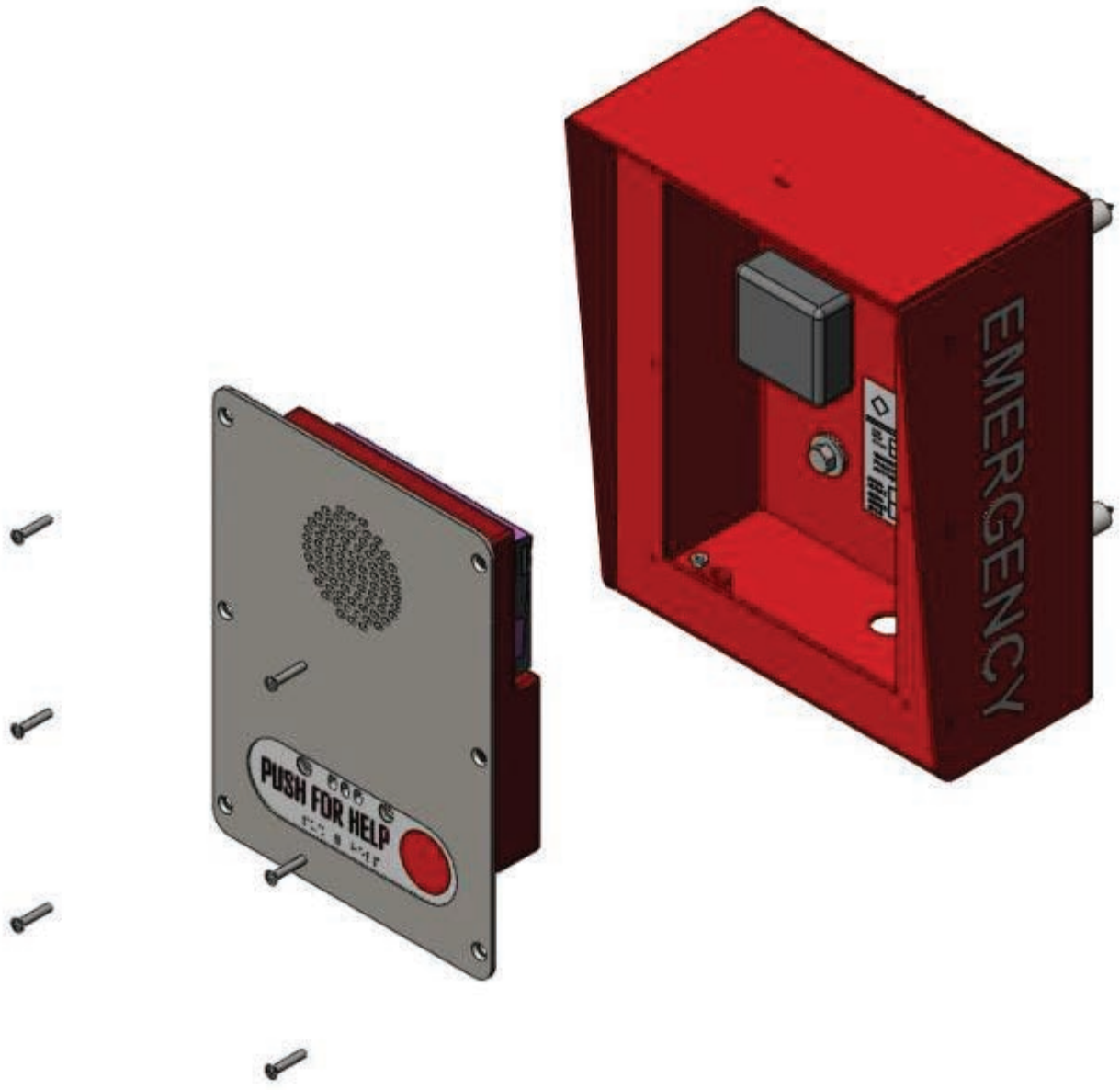
8.3 Connecting Auxiliary Devices

The IP5000 speakerphone's analog auxiliary connections are two normally open outputs and one normally open input. Typically, any Code Blue unit with an LED beacon/strobe will have the trigger connected to Auxiliary Output 1. The Auxiliary Outputs can be programmed to be active during a call or by entering a specific time period. New to Version 2, the auxiliary output could be configured for momentary on-demand timed activations via DTMF from the called party phone. The Auxiliary Input can be programmed to perform any script entered into the phone. See IP5000 User Guide for further information on programming the auxiliary outputs.



8.4 Installation into Code Blue Units

The IP5000 speakerphone is designed to fit into any existing or new Code Blue unit enclosure. It is a direct replacement for the InterAct analog series: IA2000, IA3000, IA3100 and IA4100. Additionally, Code Blue offers custom faceplate designs that allow the IP5000 to be placed in many different enclosure types. Code Blue provides six custom security screws and security bits with each Code Blue unit for attaching the IP5000 speakerphone. Consult your unit installation instructions for further information.



9 Optional Flush Mount Enclosure Installation

PRE-INSTALLATION

8.0 **Electrical preparation** – The unit may have supply wires run from either (a) behind the unit through the wall, or (b) below the unit by using an external conduit through the bottom of the unit's back plate. Mounting holes in the back, bottom or side of unit to be administered by the installer.

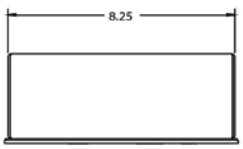
IMPORTANT: If wiring is coming in from the bottom or back, insure that the conduit is aligned at this time. Connect electrical and communications wiring (see wiring instructions). Follow all national and local codes that apply.

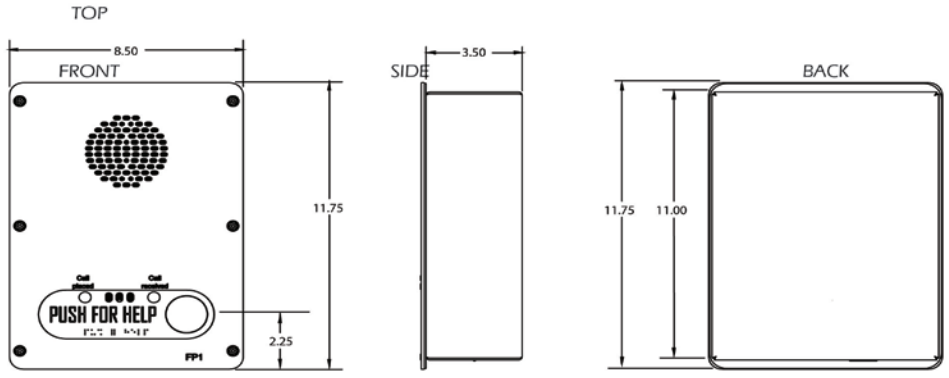
8.1 **Prepare Wall** – FME enclosure mounting hole in wall should except the housing dimensions below and must be smaller than the faceplate dimensions to ensure clean flush mount look.

INSTALLATION PROCEDURES

8.2 **Mark the flush mount mounting hole** – In order to comply with the Americans with Disabilities Act (ADA) of 1990, the speakerphone button(s) should be positioned between 34 and 48 inches from grade level. (Consult an ADA specialist in your area to verify local and federal guidelines.)

8.3 **Secure the housing to the wall** – The Flush mount enclosure can be mounted from the back, bottom or side by drilling the mounting holes where needed per the installers application while still keeping the unit within ADA compliance height. (1.2) Mounting hardware to be supplied by installer.





NOTE: mounting holes and conduit hole by others

Specifications subject to change without notice or obligation on the part of the manufacturer

10 Using the IP5000 Speakerphone

The IP5000 speakerphone can be configured for multiple uses. The main function is to provide two-way voice communications. Pressing button #1 (Red button) **PUSH FOR HELP** or **EMERGENCY** will activate the configured script programmed for button #1.

Button #1 activation overrides any other action the IP5000 is performing at the time of the button press. For example, if the IP5000 was:

1. Being programmed at the time
2. In a monitoring call
3. In the middle of a diagnostic test
4. In the process of a Public Alert session
5. In an information (button #2) call.

Button #2, **INFO** or **CALL,** are typically utilized for placing informational calls or for acquiring dial tone and utilizing the keypad, respectively. Any action other than button #1 activation is considered **Non-Priority** calling and commonly utilized for director service, student/employee parking lot escort requests, gate entry requests, guest services and similar requests.

The IP5000 speakerphone's Auxiliary Outputs are typically utilized for activating Code Blue's LED Beacon/Strobe, and can be used as a normally open (N.O.) dry contact closure (see A&E spec for relay ratings) used, for example, to activate centralized building/security management equipment.

The IP5000 speakerphone's Auxiliary Input is utilized to make an emergency call or other function when activated. It can be connected to any normally open (N.O.) output contact and will initialize the configured script when activated. Typical uses would be door or gate contacts for unauthorized entry, motion sensor activations, and activation upon removal of Life Rings on piers or beaches. The auxiliary Input can be used to reset an output left enabled for location identification after a call has been terminated by the security desk.

Auxiliary Input requires a voltage of 9-32 volts AC or DC to detect a remote devices contact closure.

Incoming calls: The IP5000 auto-answers an incoming call, Based on the settings configured in **General Configuration > Incoming Calls > Answer in** Immediately or after a number of rings. If the IP5000 **Public Address > Always Route Incoming Calls to Public Address** was enabled, all answered calls will now be broadcast to the Public Address System. In order to counter that automatic answer/public address enable feature, the caller (guard) can exit out of that mode using the #2 key on his keypad.

11 Network Setup

If no DHCP server is available, download and install TFTPD32 from tftpd32.jounin.net to turn a computer into a DHCP server.

Determine the IP Address

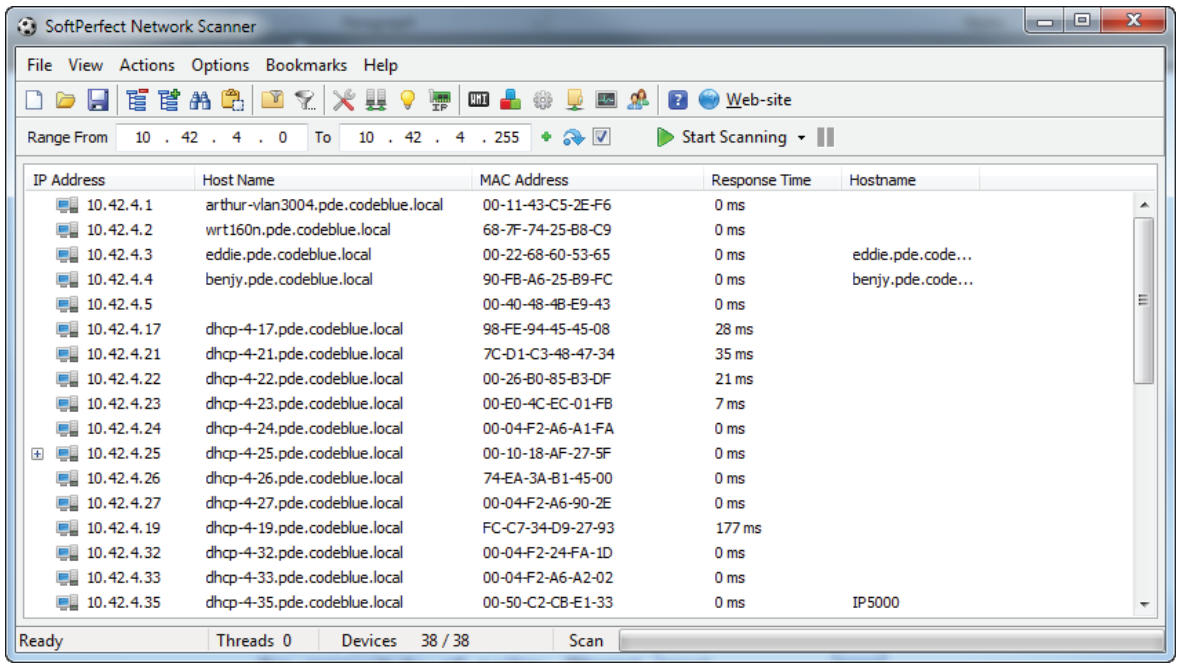
The IP5000 speakerphone is DHCP by default.

1. Connect the IP5000 speakerphone to your network. The LED will flash momentarily and an audible beep will be heard out of the speaker to indicate the OS is loading. The IP5000 speakerphone will acquire IP Network settings from your DHCP server.

2. Check your DHCP lease records or utilize a network scanner such as SoftPerfect's Network Scanner to match the MAC address of the IP5000 speakerphone to the correct IP address in your lease table or output of the network scanner.

Lease Table and Network Scanner Example

IP Address	Ethernet	Hostname	Start Date	End Date
172.1.100.234	00:0f:1f:17:55:63	IP5000	2010/09/29 04:52:45	2010/09/29 16:52:45
172.1.100.228	00:1c:c0:b0:41:e6	IP5000	2010/09/29 05:26:40	2010/09/29 17:26:40
172.1.100.238	00:1c:c0:b0:3a:20	IP5000	2010/09/29 09:17:08	2010/09/29 21:17:08
172.1.100.234	00:0f:1f:17:55:63	IP5000	2010/09/29 09:53:35	2010/09/29 21:53:35



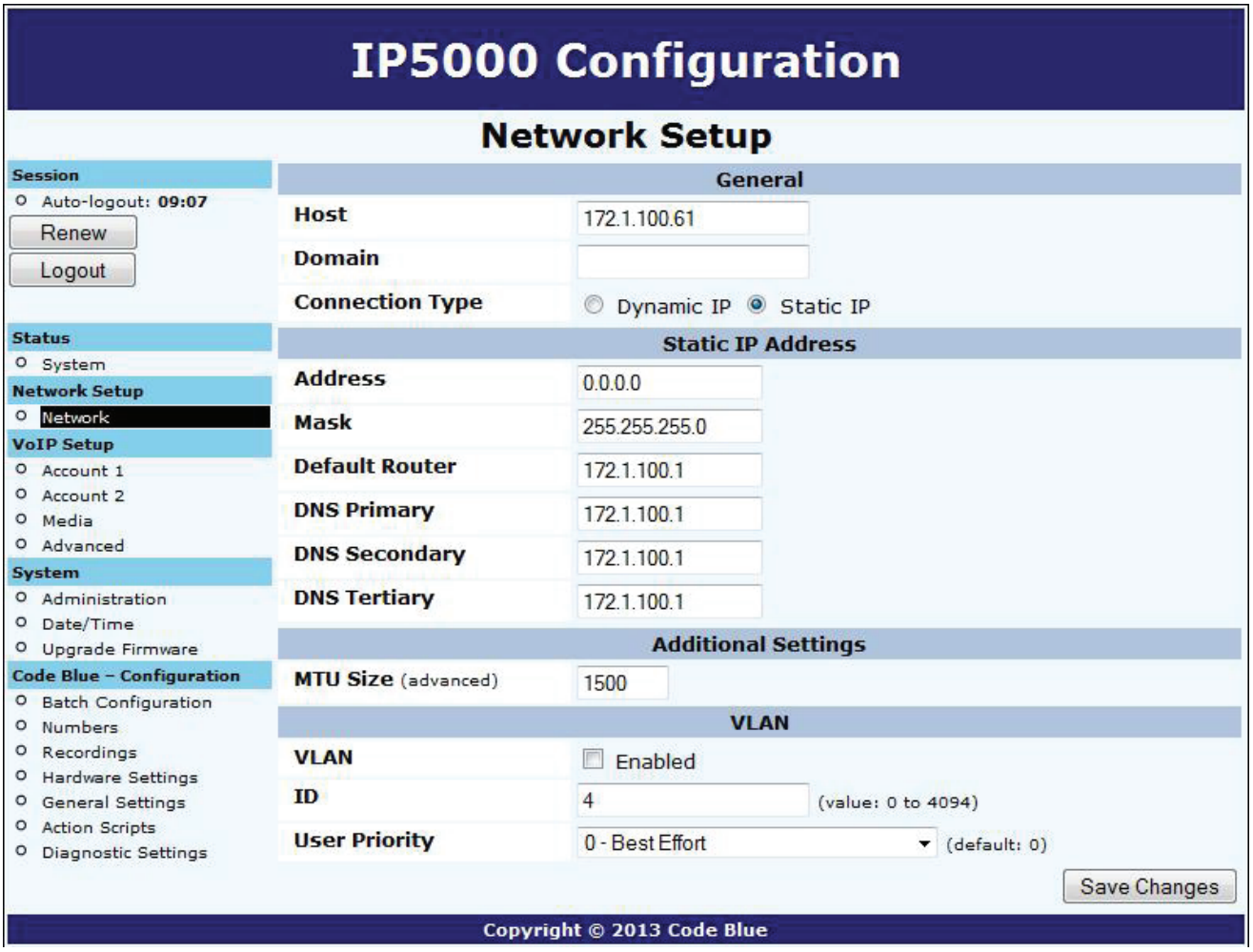
12 Provisioning the Phone

12.1 Setting a Static IP Address

Once you have obtained the DHCP address of the IP5000 and are logged in to the speakerphone, you have the option of leaving the speakerphone set at DHCP (default setting) or setting a static IP address. To set a static IP address:

1. Click on the **Network** menu item under **Network Setup** (see far left-hand column).
2. Under the **General** section, select **Static IP** as the Connection Type.
3. Enter your desired IP settings under the Static IP Address heading.
4. Once you have entered all your settings, click on **Save Changes**.

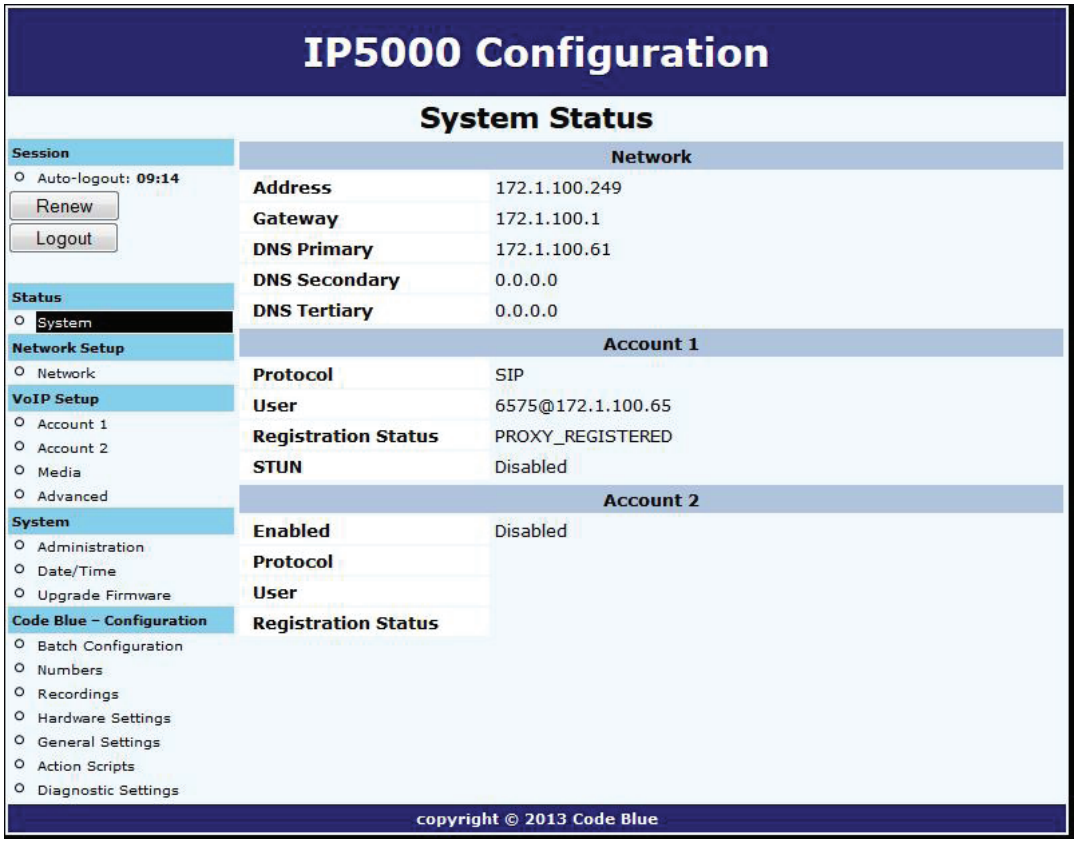
Note: If you have moved your IP5000 to a network your PC cannot access, you will have to configure your PC to access that network before configuration can continue.



12.2 Logging into and out of the System

Logging into the System

1. Log in using a web browser.
    A. Place the IP Address of your IP5000 into the URL address bar and press ENTER.
    B. Depending on the browser being used, a certificate warning may pop up. Go ahead and approve in order to load the login dialog box.
    C. Enter user name “admin” and password “admin” and press ENTER.
2. System Status Screen.
    A. Current session time before Auto-Logout is executed.
    B. Clicking **Renew** will restart the timer to 10 minutes, effectively keeping you logged in. This state helps prevent others from logging in and taking over the session, therefore erasing any unsaved changes made.
    C. Clicking **Logout** will log you out of the GUI.
    D. Network: Displays current IP address, DNS address, DNS Tertiary address, Account 1’s current status and Account 2’s current status.



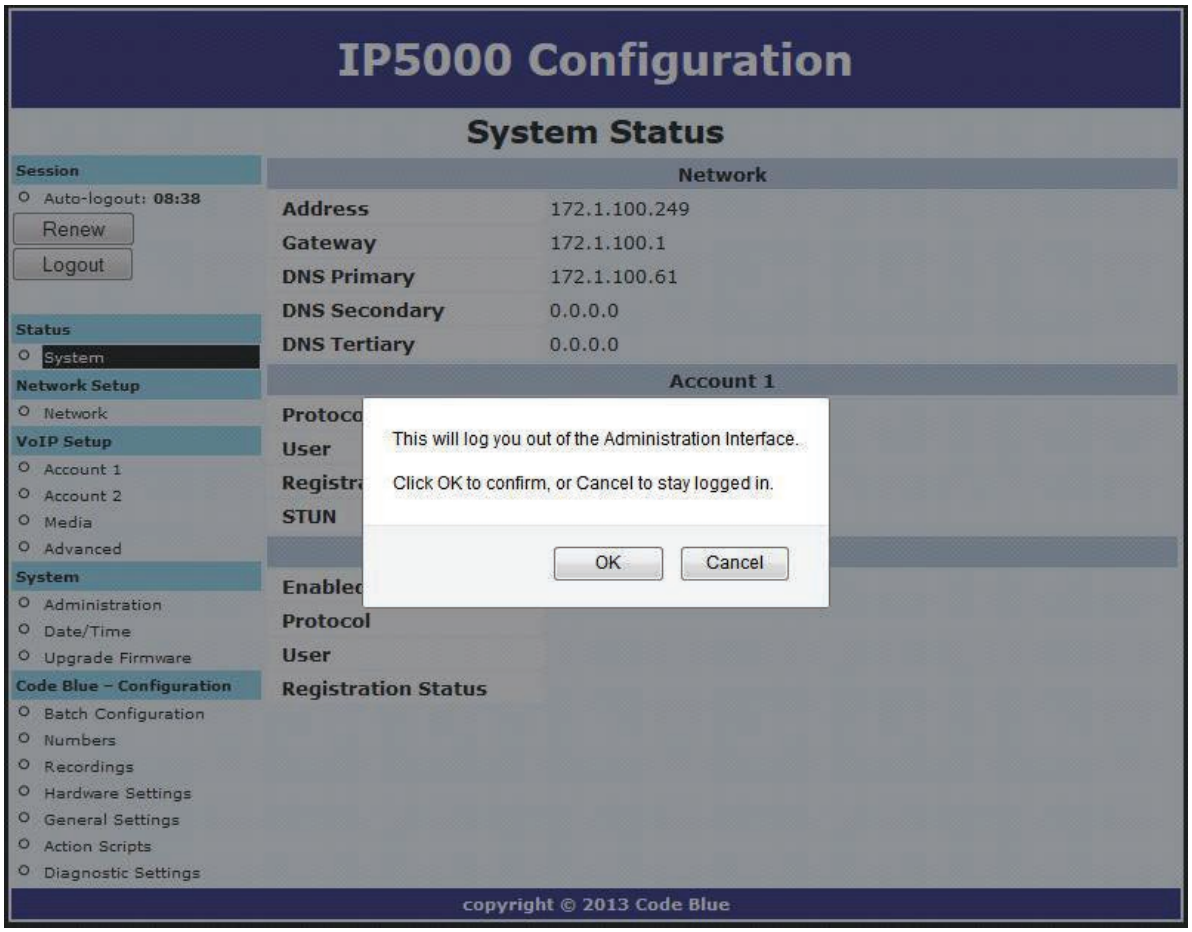
Logging into the System

1. To log out of the IP5000 speakerphone, simply click on **Logout** under **Session** (see far left-hand column).

   The speakerphone will also log you out automatically after 10 minutes.

   You will be prompted for confirmation.

2. Click **OK** to complete the logout process or Cancel to continue configuring your IP5000.

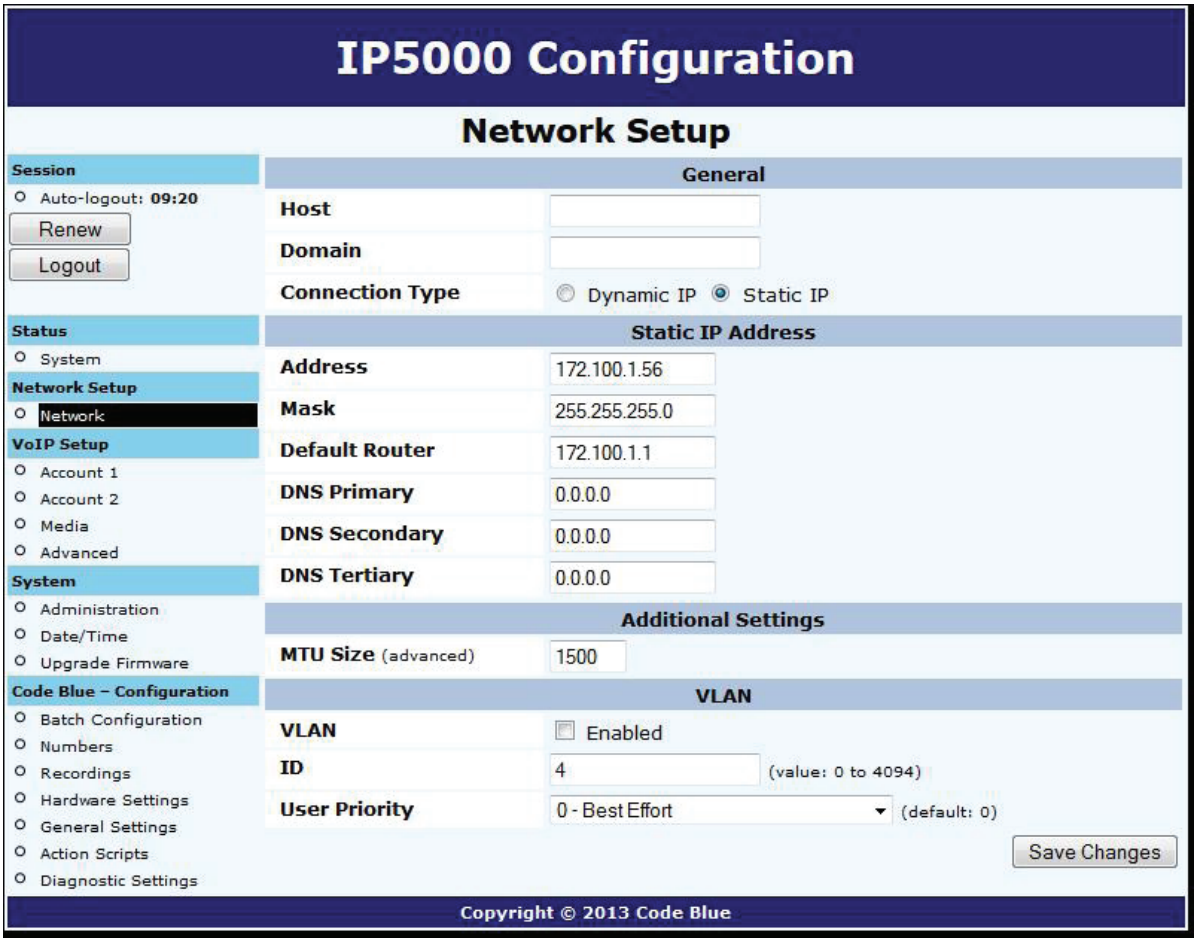


12.3 Network Configuration

Once you have obtained the DHCP address of the IP5000 speakerphone, you can log in and set a static IP address.

1. Click on the **Network** menu item under **Network Setup** (see far left-hand column).
2. Under **General**, click on **Static IP** for **Connection Type**.
3. Enter your desired IP settings under **Static IP Address**.
4. Once you have entered your settings, click on **Save Changes**.

Note that if you have moved your IP5000 to a network your PC cannot access, you will have to configure your PC to access that network before configuration can continue.

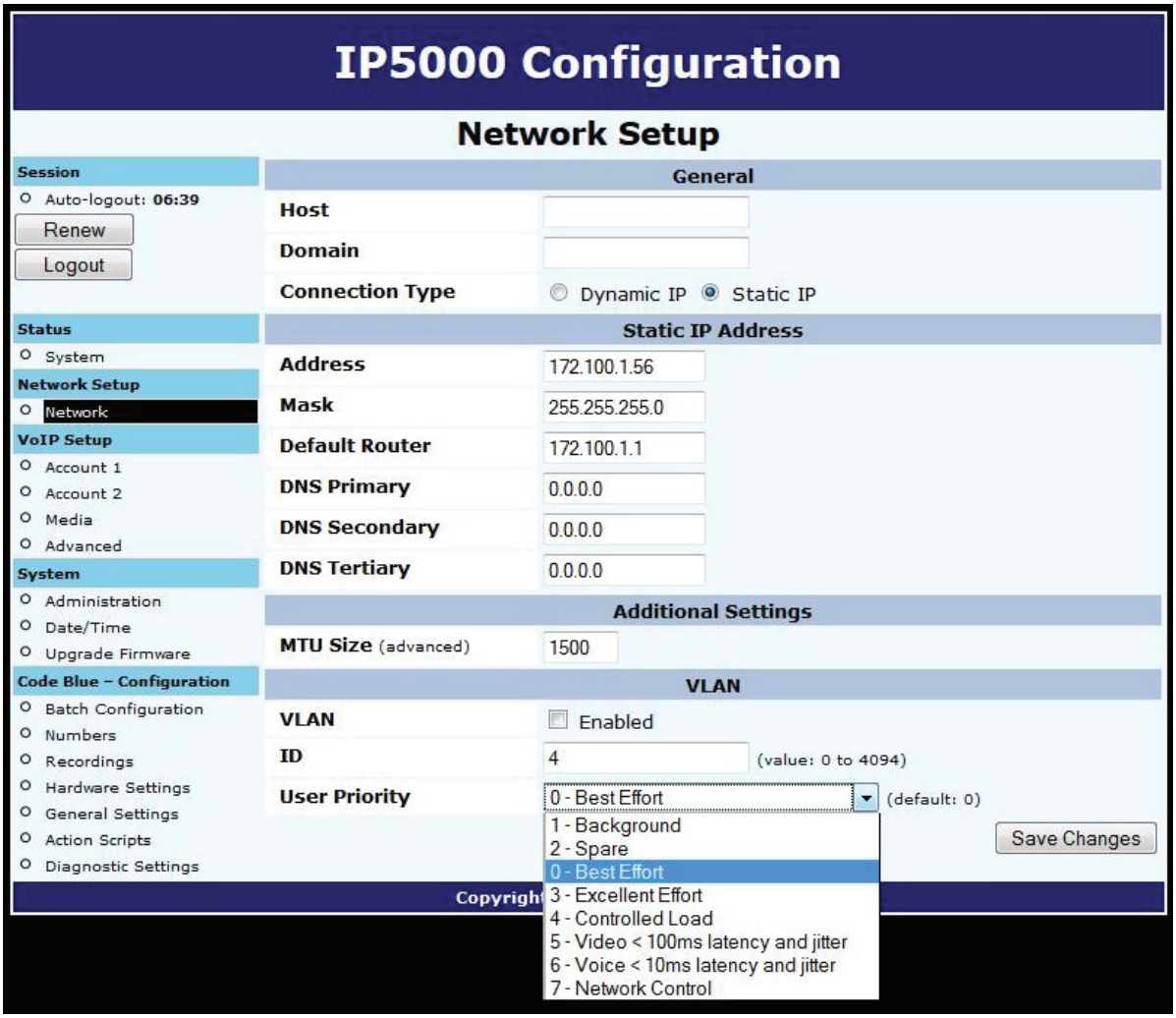


VLAN Configuration

The IP5000 speakerphone is capable of performing IEEE 802.1Q frame tagging and user priority settings.

1. Click on the **Network** menu item under **Network Setup** (see far left-hand column).
2. Then click on the **VLAN Enabled** check box in the **VLAN** section and select your desired VLAN ID and User Priority.
3. Once you have entered your settings, click on **Save Changes**.

Note that if your PC cannot access the new VLAN, you will have to correct this problem before continuing configuration, as you will lose access to the IP5000. If you wish to disable VLAN support and cannot reach the IP5000 on its configured VLAN, factory-reset the unit to clear network configuration.



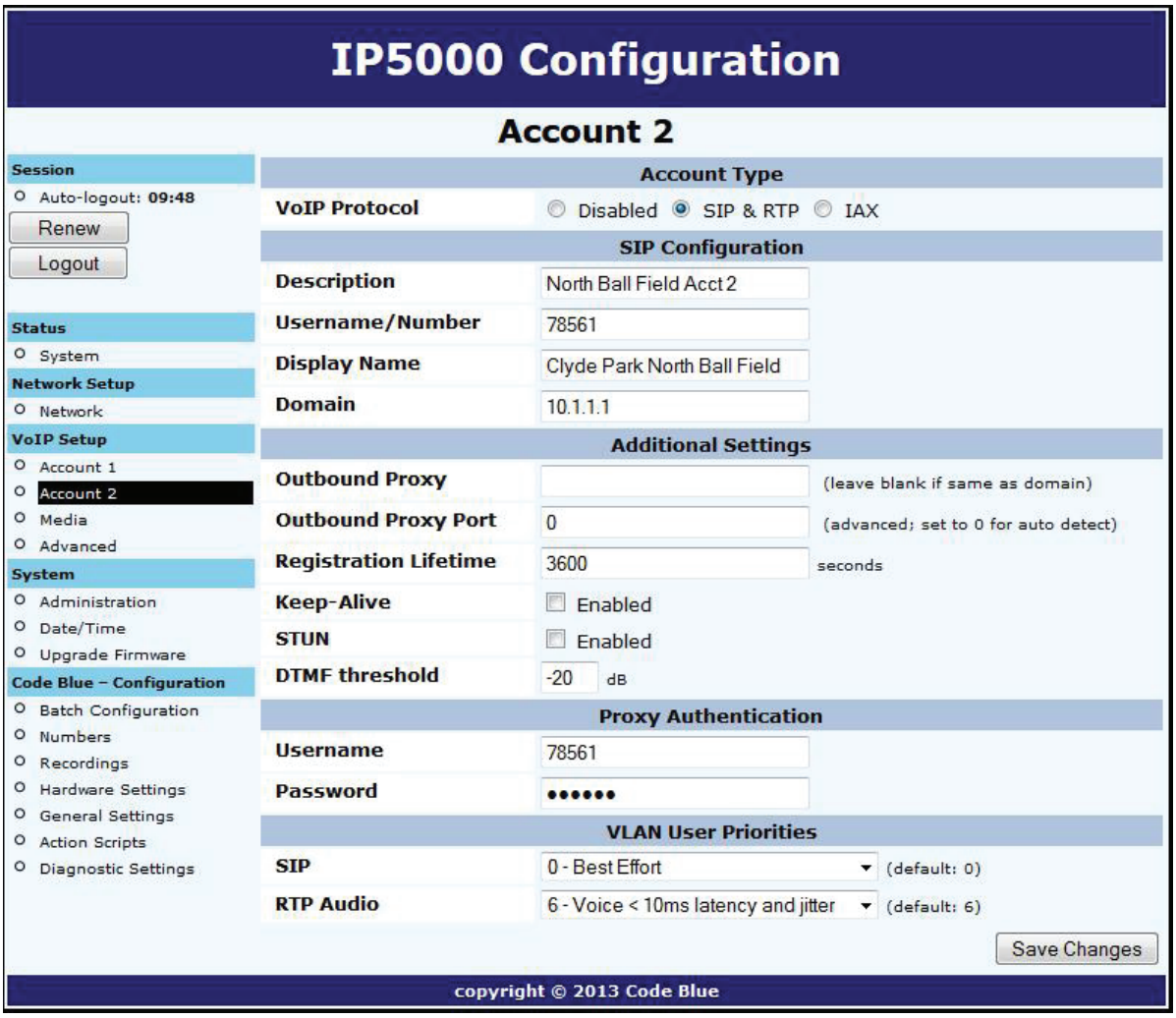
12.4 Configuring the IP5000 VoIP Settings

The IP5000 speakerphone is an advanced VoIP device capable of connectivity to VoIP systems via SIP and IAX2 protocols. Built-in codecs provide multiple options for communicating with your VoIP system or Code Blue's ToolVox® Media Gateway. STUN server capabilities are also built-in for helping traverse firewalls when connecting the unit outside of the hosting network.

CONFIGURING VOIP ACCOUNTS

The IP5000 speakerphone can register to VoIP systems using either the SIP or IAX protocols, and has the ability to register to two separate VoIP systems simultaneously to provide redundancy.

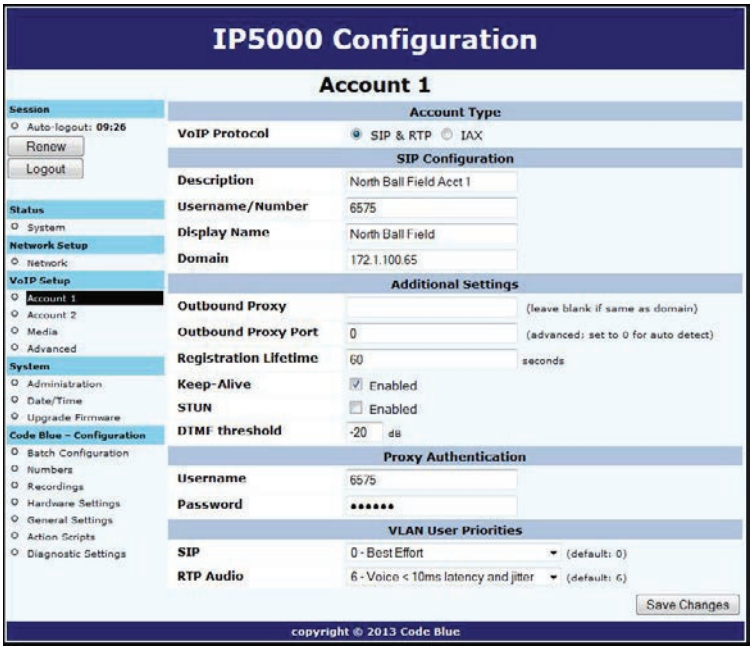
Each of the IP5000's two accounts, available under VoIP Setup as Account 1 and Account 2, can be configured as either SIP or IAX, subject to the limitation that you can only have one of the two accounts configured as IAX. If you wish to use only one account, set Account 2 to Disabled.



Configuring a SIP Account

Either of the IP5000 speakerphone's two accounts can be configured to register to a VoIP system via SIP. Configuration is as follows:

- Set the VoIP Protocol to SIP and RTP.
- For Description, enter a name the IP5000 will use internally to refer to this account.
- For Username/Number, enter the number that the IP5000 will use for SIP addressing. This will often be the extension number in a VoIP-based PBX.
- For Display Name, enter the name the IP5000 will send in SIP transactions. This will often be the calling name of the extension.
- For Domain, enter the domain the IP5000 will register to.
- For Outbound Proxy, enter a SIP proxy the IP5000 should send outbound calls to. If this is the same as the domain, you can leave this field blank.
- For Outbound Proxy Port, enter an IP port number the IP5000 will send outbound calls to. Typically, this should be left at 0.
- For Registration Lifetime, enter the time in seconds the IP5000 will request that its registration be valid for. The IP5000 will automatically re-register before this time period expires.
- Check Keep-Alive if you want the IP5000 to periodically send OPTIONS requests to the SIP server, e.g. to keep a NAT connection alive.
- Check STUN if you want to enable STUN support for this account.
- You can adjust the DTMF Threshhold value if you have difficulties with the IP5000 activating in-call commands when no DTMF is present.
- For Username and Password, set the username and password the IP5000 will use to authenticate to the domain and outbound proxy. Note that the username is used for authentication only and need not match the Username/Number field if the VoIP system does not expect it to.
- VLAN user priorities can be adjusted for SIP and RTP audio.

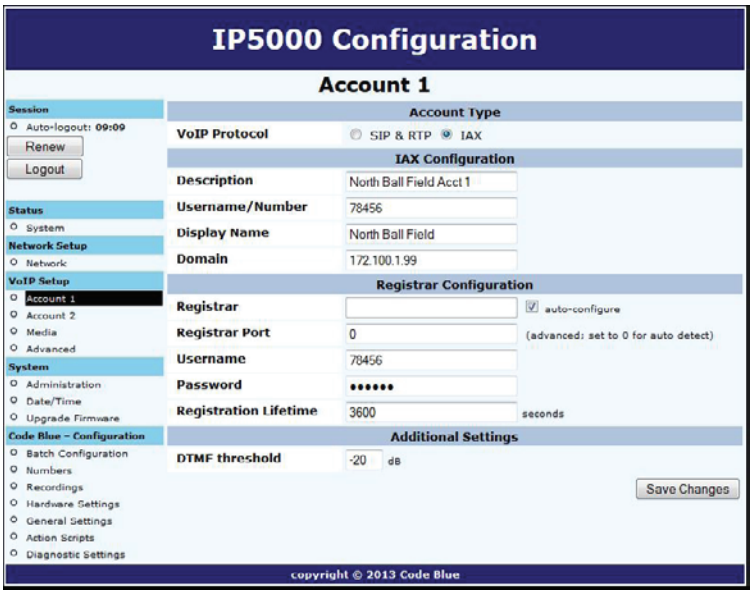


Configuring an IAX Account

Either of the IP5000 speakerphone's two accounts can be configured to register to a VoIP system via IAX. (Note, however, that only one of the two accounts may be configured as IAX - the IP5000 does not support two simultaneous IAX accounts.)

Configuration is as follows:

- Set the VoIP Protocol to IAX.
- For Description, enter a name the IP5000 will use internally to refer to this account.
- For Username/Number, enter the number that the IP5000 will use for IAX addressing. This will often be the extension number in a VoIP-based PBX.
- For Display Name, enter the display name the IP5000 will send in IAX transactions. This will often be the calling name of the extension.
- For Domain, enter the domain the IP5000 will use in its IAX address.
- For Registrar, enter the address of the IAX server the IP5000 should register and send outbound calls to. If this is the same as the domain, you can leave this field blank.



- For Registrar Port, enter an IP port number the IP5000 will register and send outbound calls to. Typically, this should be left at 0.
- For Username and Password, set the username and password the IP5000 will use to authenticate to the domain and outbound proxy. Note that the username is used for authentication only and need not match the Username/Number field if the VoIP system does not expect it to.
- For Registration Lifetime, enter the time in seconds the IP5000 will request that its registration be valid for. The IP5000 will automatically re-register before this time period expires.

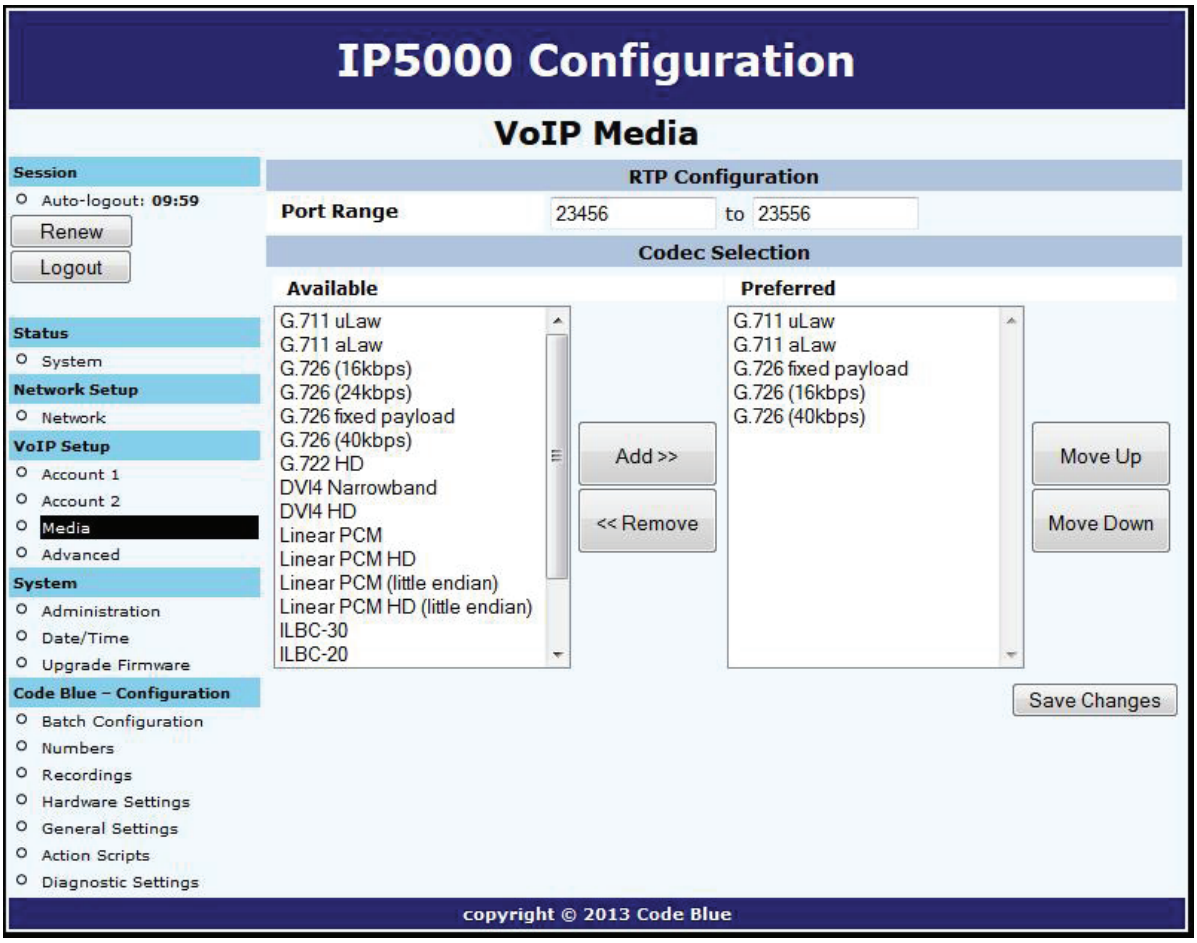
Configuring Media Settings

For the SIP protocol, you can specify a port range from which the IP5000 will select IP ports to offer to the other system for use with RTP communication.

The IP5000 speakerphone can use any one of a suite of codecs for voice communication. Which codec is used is dependent on negotiation with the remote system, but you can use Codec Selection to specify a list of preferred codecs that will be offered in negotiation.

- To add codecs to the Preferred list, highlight them in the Available list and click Add.
- To remove codecs from the Preferred list, highlight them and click Remove.
- To change the order preferred codecs are offered, highlight them and click either Move Up or Move Down to reorganize them.

Note that some codecs corrupt DTMF tones, e.g. G.729. If RFC2833 out-of-band DTMF signaling is not in use, be sure to configure your codecs appropriately or you may not be able to use in-call commands. Be sure to test your configuration to make sure all features are available.

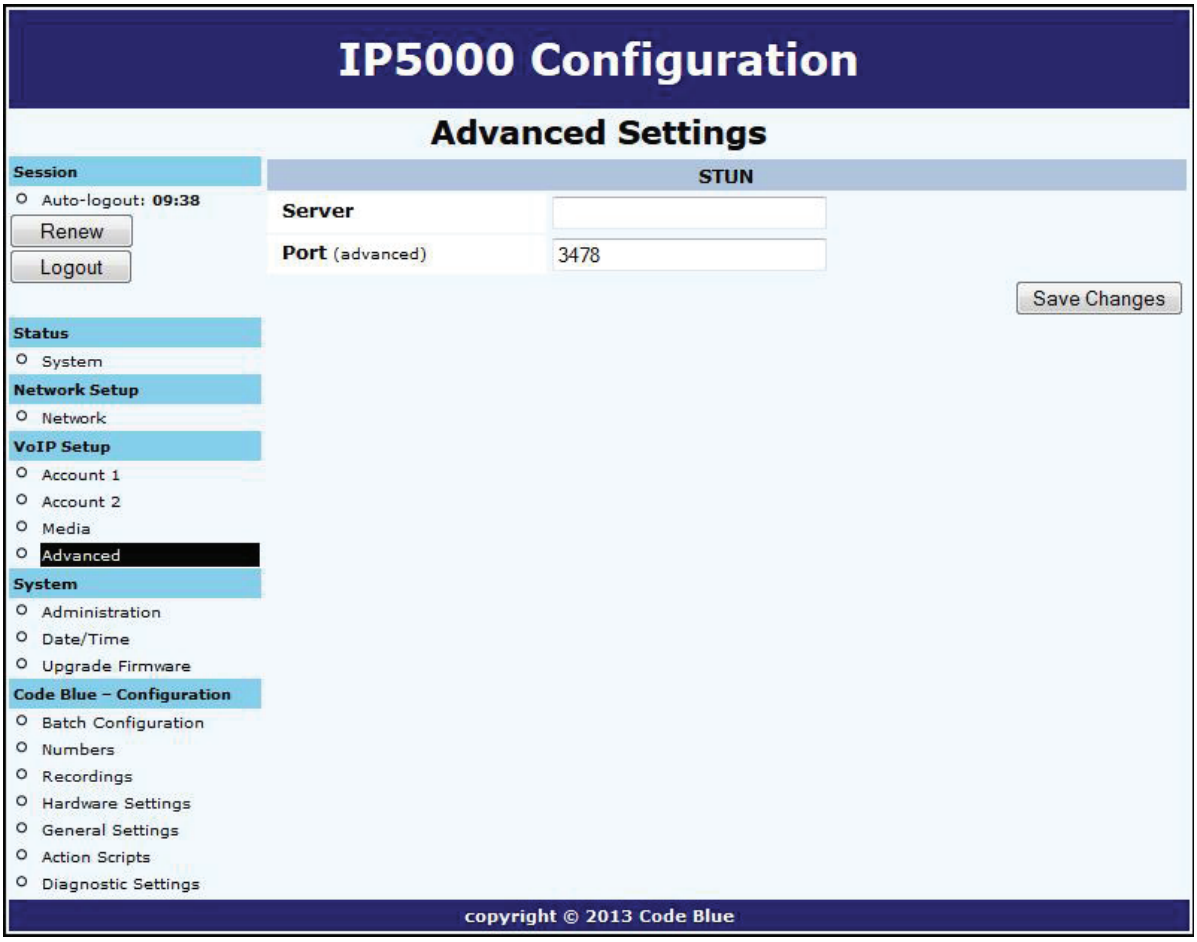


Configuring Advanced Settings

The IP5000 speakerphone can be configured to utilize a STUN server for transversal of firewall devices for the setup of a VoIP call.

1. Click on **Advanced** under **VoIP Setup** (see far left-hand column) to configure the STUN server IP address and Port.

2. Upon completion, click **Save Changes**.



12.5 Configuring the System Settings

IP5000 speakerphone system administration is provided under the System Settings dialog, which allows you to change the following:

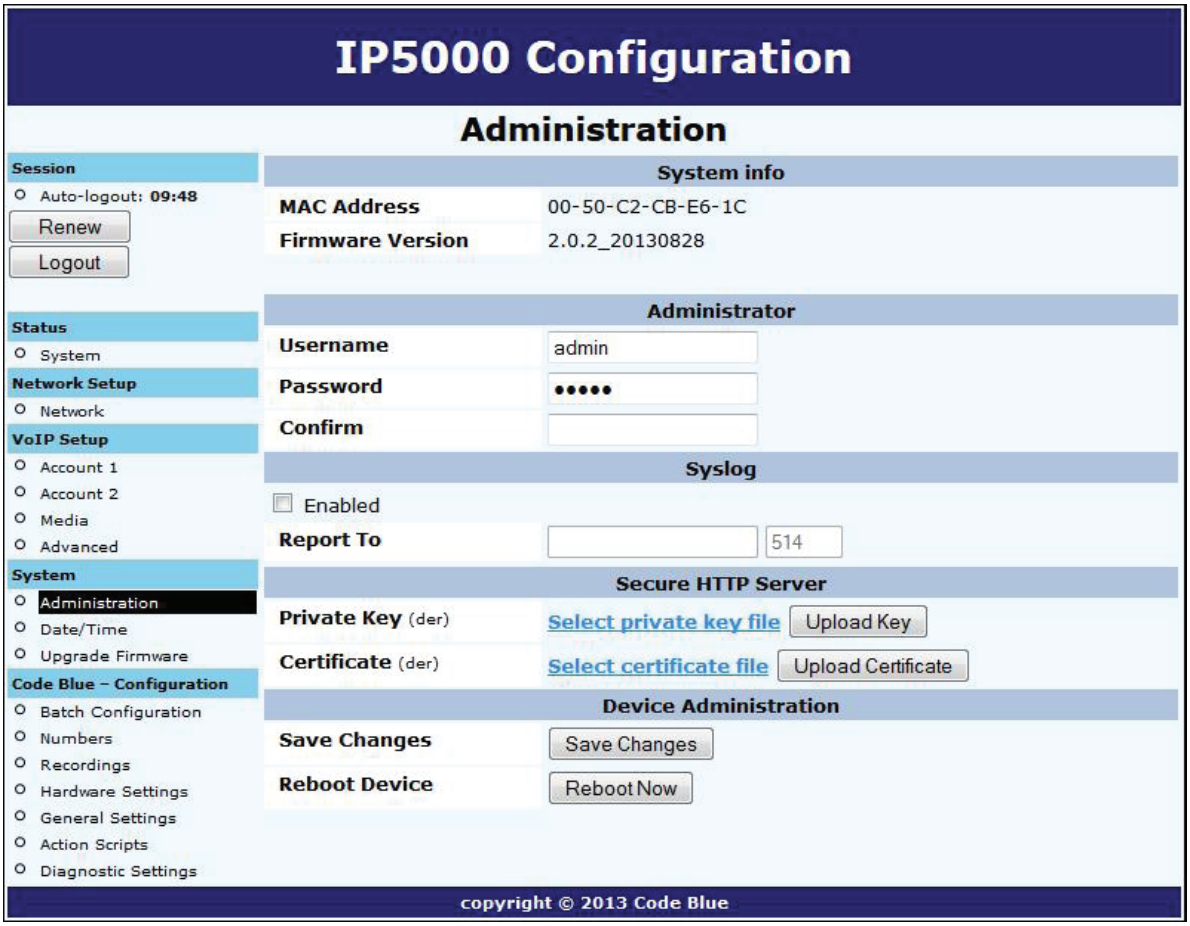
- **Administrative Logon Credentials**
- **Syslog Service Reporting**
- **Secure HTTP Server**
- **Date and Time**
- **Upgrade Firmware**

System Administration Settings

The Administration page under System contains several settings:

- **System Info** displays the MAC address and firmware version running on the IP5000.
- **Administrator** allows the administrator username and password to be changed. Enter a new **Username**, if desired, and enter the new **Password** and again in the **Confirm** box to change these parameters.
- The IP5000 can send RFC 5424 Syslog messages to a **Syslog** server by specifying it in this section.
  Note that Syslog messages are only useful for advanced troubleshooting and are not intended for general monitoring.
- A new private key and certificate can be uploaded to the IP5000's **Secure HTTP Server** if you do not wish to use the system's built-in key and certificate. The key should be PKCS#8, DER-formatted and the certificate X.509, DER-formatted.

When you are finished , click Save **Changes**. You can also reboot the device directly from this page by clicking **Reboot Now**.



Date and Time Configuration

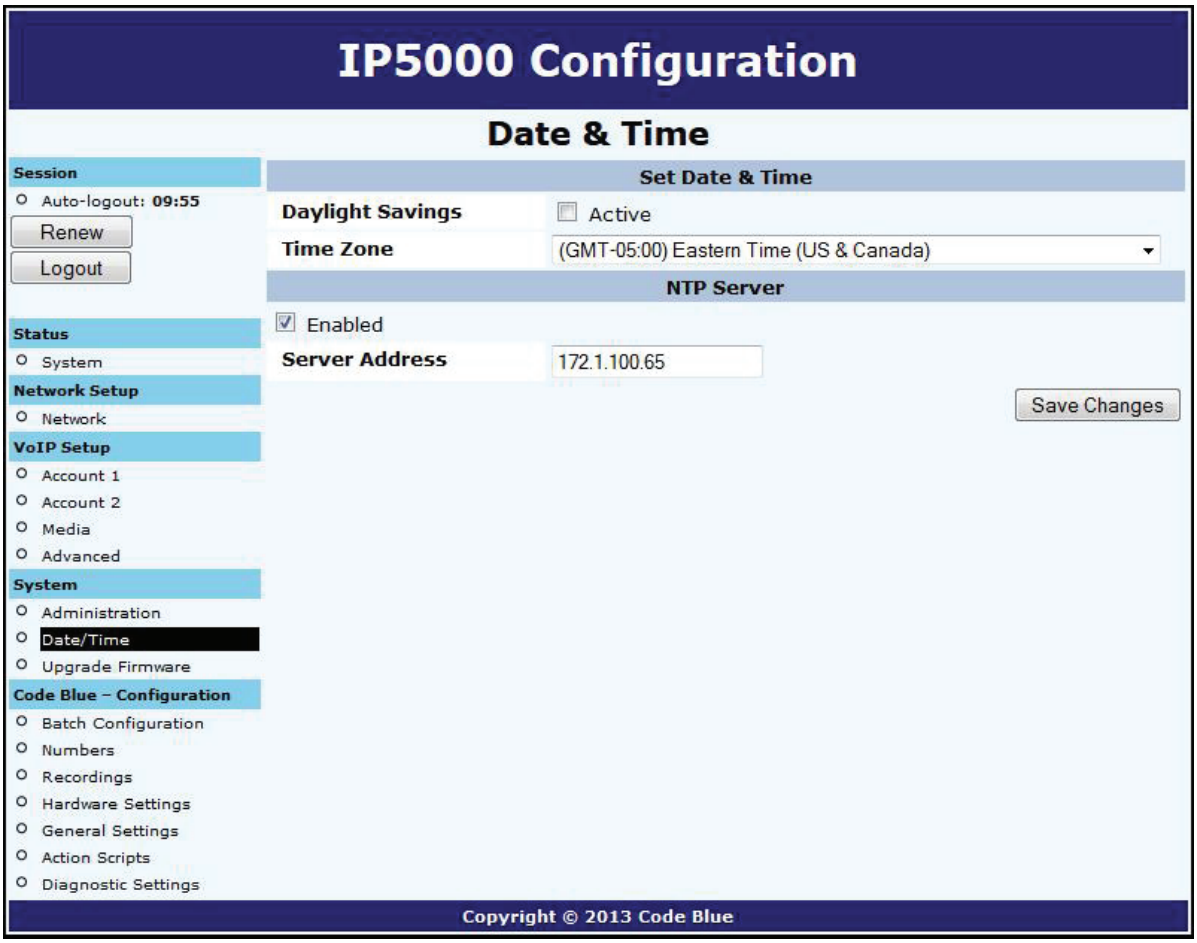
The IP5000 speakerphone date and time are managed by:

1. Clicking **Date/Time** under **System** (see far left-hand column).

   Under **Set Date & Time**, you can manually set the Date, Time, Daylight Savings (if applicable) and Time Zone.

2. To automatically synchronize with an NTP (Network Time Protocol) server, check **Enabled** and enter the IP or URL of the NTP server (i.e. **Server Address**).

3. Click **Save Changes.**

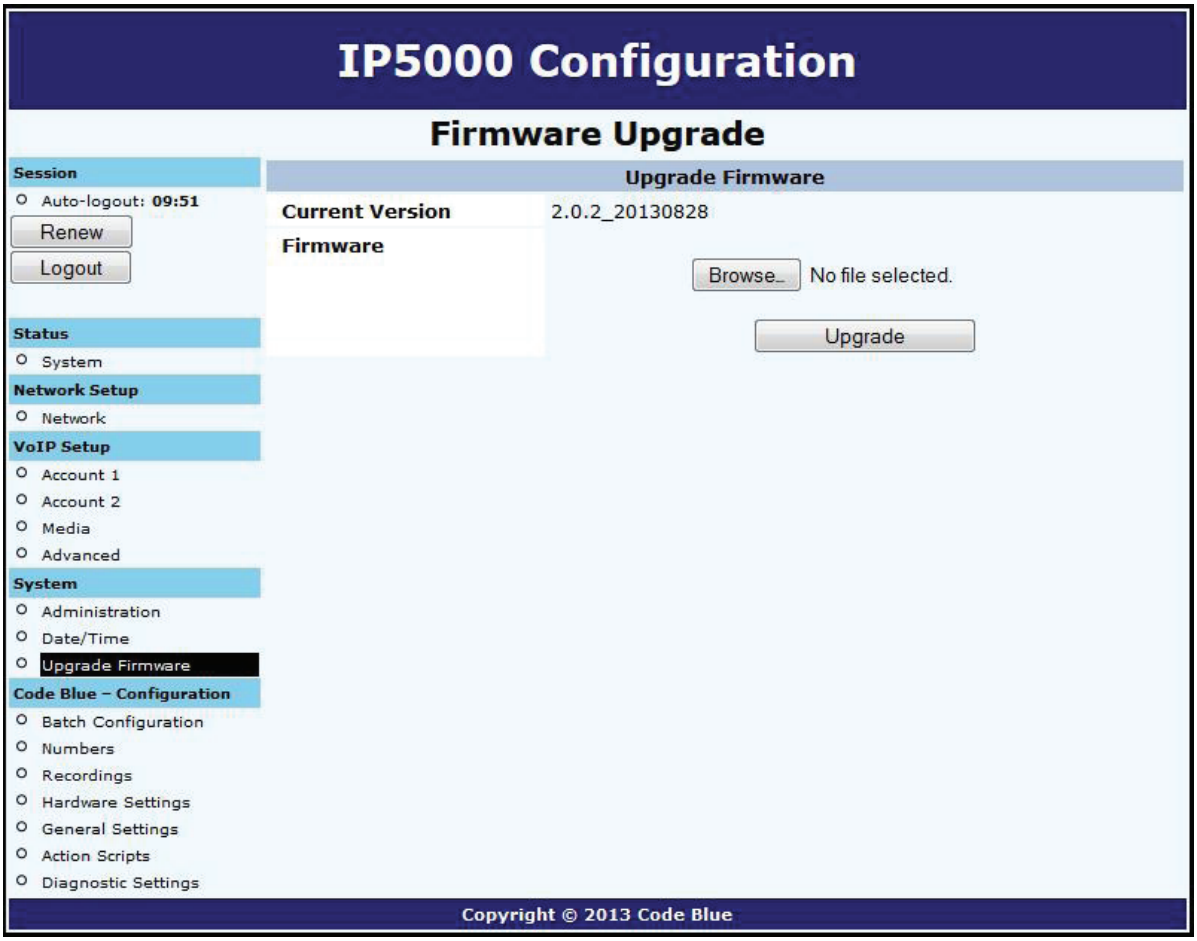


Upgrading the IP5000 Firmware

The IP5000 speakerphone firmware file can be changed by:

1. Select **Upgrade Firmware** under **System** (see far left-hand column).
2. Click **Browse** (or **Select File**) and select the appropriate firmware file.
3. Click the **Upgrade** button.
4. The IP5000 speakerphone will update, automatically back up the new firmware and reboot. Once this is complete, your new firmware will be in use and should be displayed next to **Current Version.**

Note: Firmware version is also reported in the **Administration** section.



12.6 Configuring System Options and Scripts

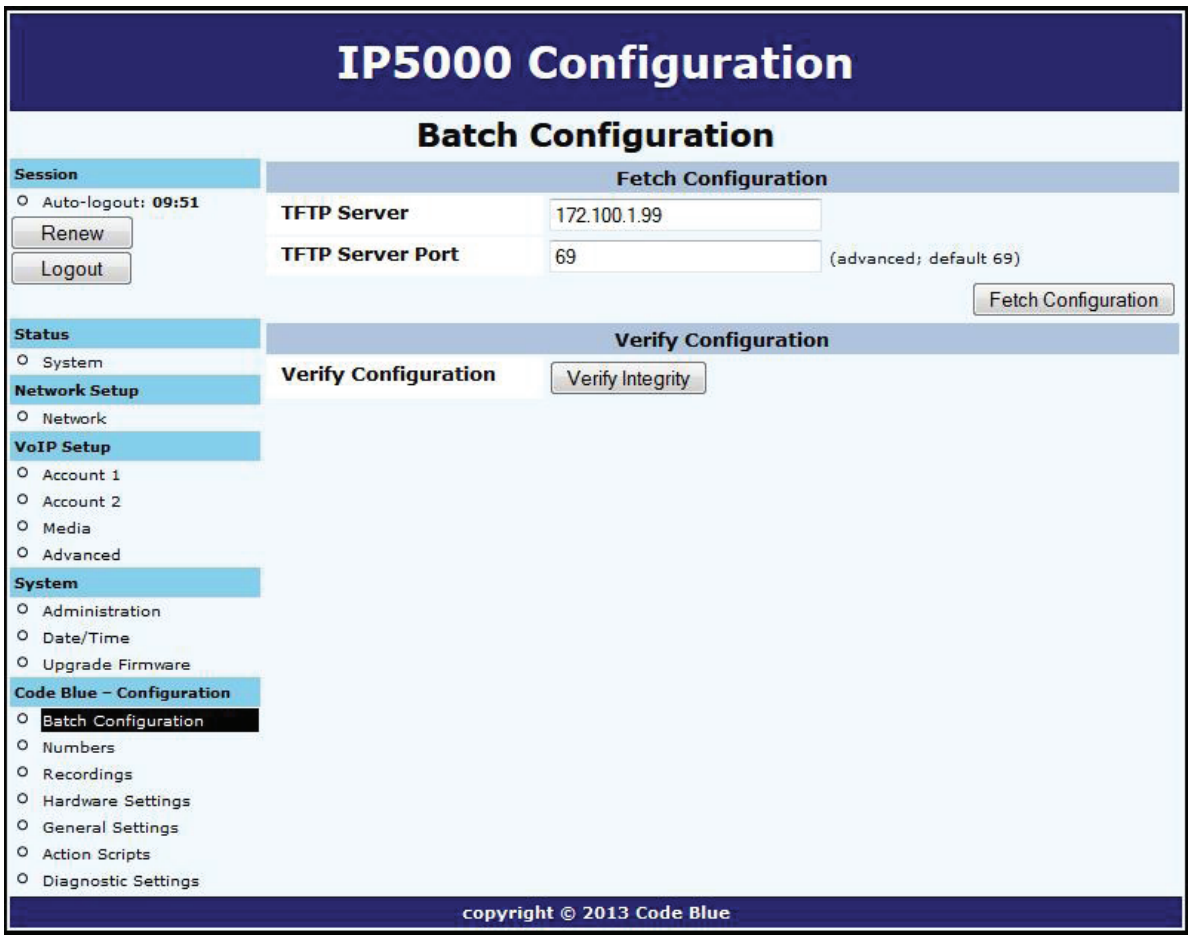
The IP5000 speakerphone has advanced configuration settings that allow for complete control of the hardware and how the system performs. A memory capacity of 3 MB provides multiple phone numbers and recorded message capabilities. Incoming call routing, SNMP and advanced diagnostics enhanced with advanced scripting capabilities provide for flexible configurations.

Batch Configuration

The IP5000 speakerphone can be configured from a TFTP server, e.g. UPD.

1. Click on **Batch Configuration** under **Code Blue** (see far left-hand column)
2. Enter the **TFTP Server** IP address and **TFTP Server Port**.
3. Click on **Fetch Configuration** to pull the configuration files from your TFTP server.
4. Click on **Verify Integrity** to validate the configuration files are suitable for use.

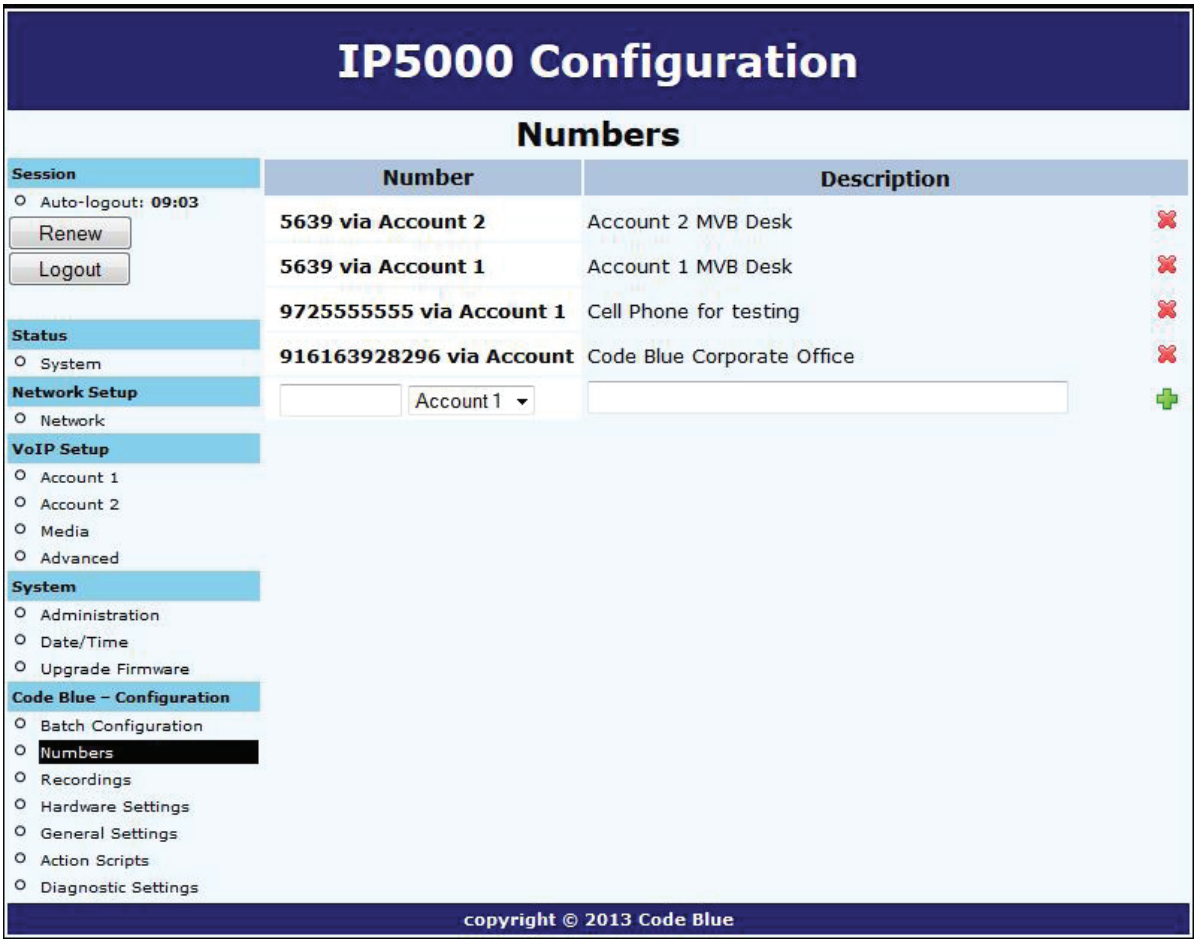
This functionality can be used in lieu of UPD's program functionality to have the IP5000 pull its configuration instead of having it pushed from UPD.



Entering Phone Numbers

The IP5000 speakerphone number configuration is made by:

1. Clicking **Numbers** under **Code Blue** (see far left-hand column).
2. Enter the extension (i.e. SIP account, user extension). Choose which account this extension number will be related to, then enter a description for this extension. See account reference on page 11.
3. Select the **green plus sign** to add the number.
4. To delete a number simply click the **red X**.
5. Select the **green check mark** when prompted, **Are you sure?**



Recording Administration

The IP5000 speakerphone recording configuration is made by:

1. Selecting **Recordings** under **Code Blue** (see far left-hand column).
2. Click on **Select recording file,** choose the file you wish to upload to the IP5000 and click **Open**.
3. Enter the Description within the **Description Field**.
4. Click on the **green plus sign** to add the recording and wait for it to finish.

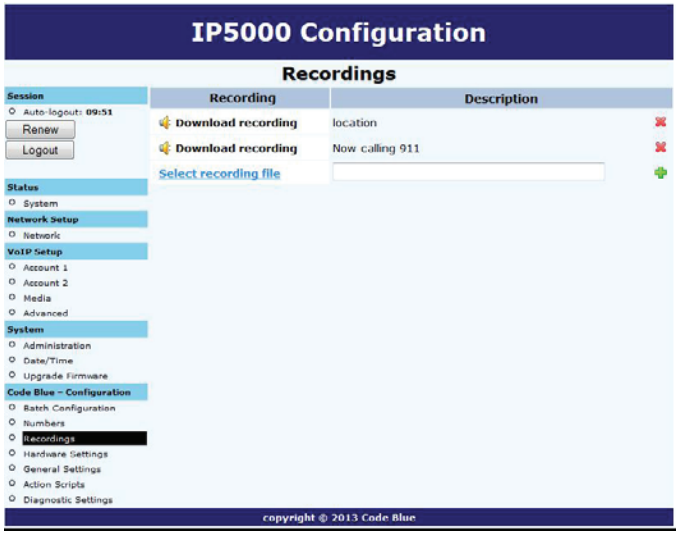
   During the upload process the screen will display, **Uploading file…**

   At this point do not refresh the page or click away from the page or the file will not be uploaded. Once the file upload is complete, you will see **Download Recording** and a new line for uploading additional recordings.
5. To delete a number, simply click the **red X**.
6. Select the **green check mark** when prompted, **Are you sure**.

The IP5000 speakerphone supports the following formats and all files must contain mono (single channel) data.

- File containing raw PCM uLaw data (extension .ulaw)
- Wave file containing 8 KHz or 16 KHz Linear PCM data (extension .wav)

Note: Audio files will consume space within the 3 MB shared memory allocation.



Hardware Settings

The IP5000 speakerphone hardware settings are configured by:

1. Selecting **Hardware Settings** under **Code Blue** (see far left-hand column).

2. Select the appropriate Button Count, Keypad Available and Public Address Available settings under the Interface section. Public Address Available is utilized when the IP5000 is controlling the optional Code Blue PAS components (i.e. CB 1, CB 2, CB 5 with Public Address or WM180).

3. The **Power Sources** section allows you to select the power sources connected to the IP5000.

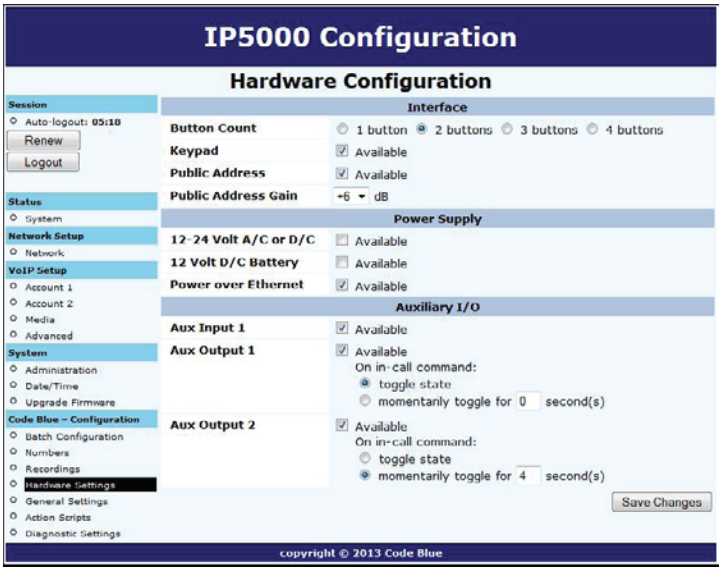
   Note: By default, A/C is selected. If the IP5000 power source is solely PoE, failure to un check the A/C Box will result in SNMP traps noting the failure of A/C, when in fact there is no A/C power applied.

4. Checking **Aux Output 1 or 2** will enable the auxiliary output relay. By default, the port is set to enable (Toggle State) when used in an Action Script.

   When **momentary toggle** has been selected, the called party now has the ability to activate the auxiliary output remotely for the time period chosen via DTMF tones, from their phone's keypad.

   Note: Momentary toggle is intended for remote control use by the called party. It's important to understand that scripted use of the aux output not be used on any aux output port that has been selected to act in the momentary (remote control aspect) toggle function. Also, it is not recommended to use General Settings > Incoming Calls > Aux Output 1 or 2's Enable on Incoming Call check box.

5. With selections made, click **Save Changes**.



General Settings

The IP5000 speakerphone general configuration can be accessed by:

1. Clicking on **General Settings** under **Code Blue** (see far left-hand column). In this section you can select how many rings the IP5000 will wait before answering an incoming call.

2. Click the **down arrow** next to **Answer In** to change settings.

3. Additionally, to route all incoming calls to the PAS line level audio output for mass notification, check the box (i.e. Always route incoming calls to public address) next to Public Address.

   When checked, Auxiliary Output 1 and 2 check boxes will enable the A/O 1 & 2 on incoming call and is disabled when incoming call is terminated.

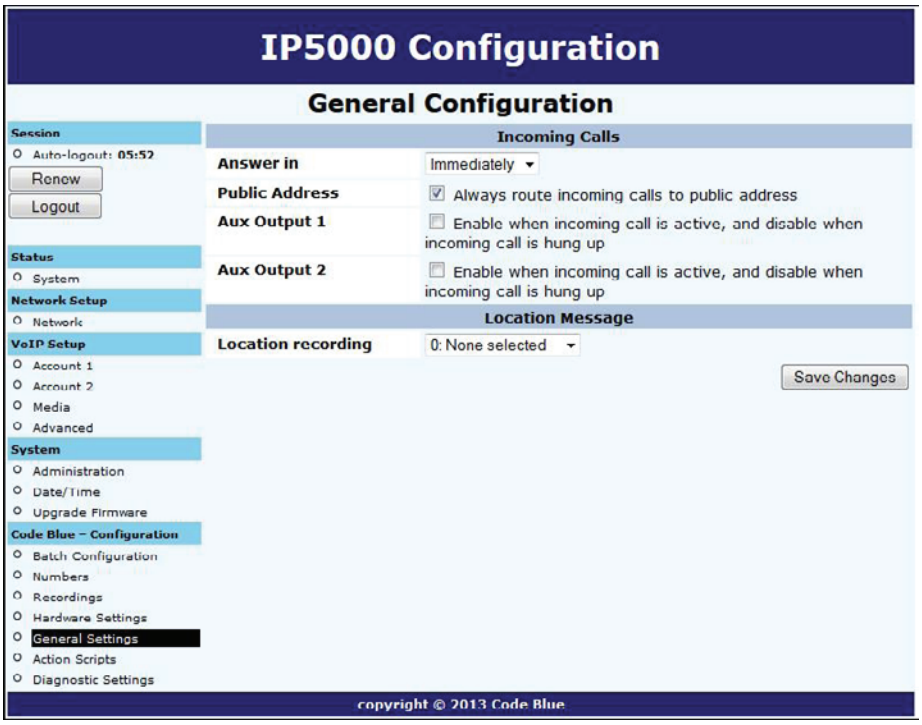
   This feature was not intended to be used with Auxiliary Outputs configured with the momentarily (Hardware Settings Dialog) choice.

The IP5000 can also be configured with a standard location message.

1. Click on the **down arrow** next to **Location Recording** to select this recording as the default Location Message.

   The location message must be uploaded before this choice can be made. See **Recording's dialog**.

2. Once you have configured the options on this page, click **Save Changes**.



Action Script Configuration

Action Scripts are based on Hardware Settings made earlier in the setup process. For example, if your IP5000 has two physical button, and only one was selected in Hardware Settings "Interface" "Button Count," some scripts choices will be missing.

Scripting Requirements
The Action Script in the IP5000 can be very extensive, yet only if all the correct features are enabled. Understanding all the abilities of the phone is required. Only then can the user configure the IP5000 for maximum functionality.

Numbers:
Load phone numbers for all of your planned calls from this IP5000.

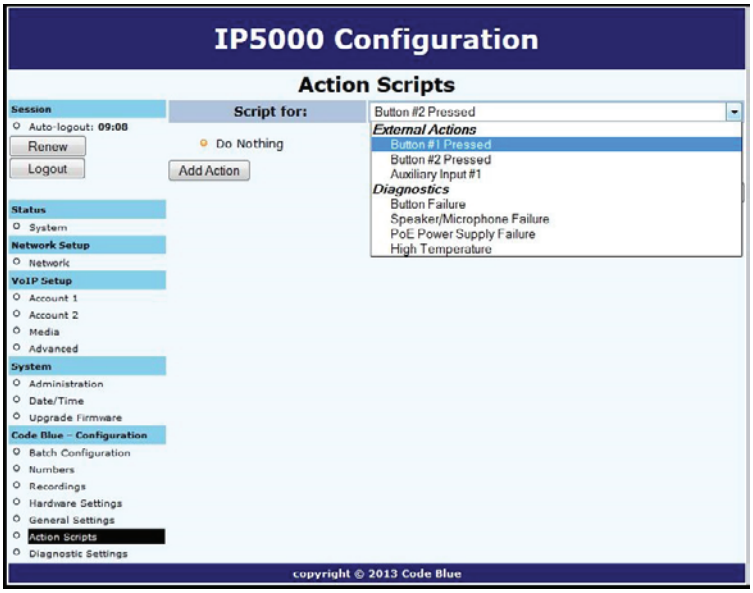
Recordings
Record all message and upload them to this IP5000.

Hardware Settings
Ensure the IP5000 features are represented in the Hardware Settings portion of the GUI.

Diagnostic Settings
When using remote monitoring services, for example, SNMP Server service or Code Blue's ToolVox® Server w/UPD application, the IP5000 will send SNMP traps or use the "Action Scripts" generate calls to a monitoring service and play pre-recorded messages as a notification when an issue has been detected.

Scripting Basic Call

The IP5000 has GUI interface for building scripts. Scripting can consist of a single action or combination of actions related to a button press or Auxiliary Output Trigger alone.

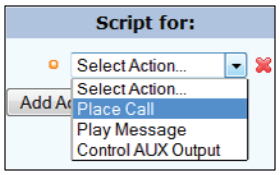


- Click on **Action Scripts** under **Code Blue** (see far left-hand column) to program the action scripts you wish the unit to perform during button activation or diagnostic condition.
- To program, select a **Button** or **Diagnostic** condition from the option list by clicking on the down arrow across from Script for: For this example, select **Button #1 Pressed**
- Click on **Add Action.**

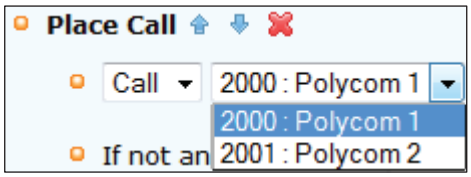
(Continued on next page)

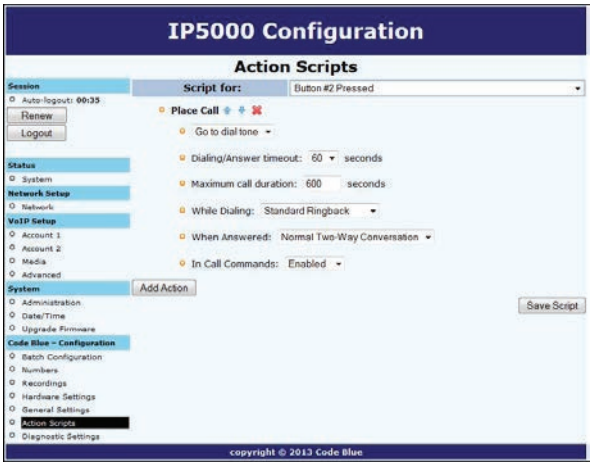
Scripting Basic Call *(continued)*

- From the **Select Action** drop down, choose **Place Call**.



- By default, the first number placed in memory will be present here. If another number is desired, use the drop-down arrow to locate and select another phone number.
- Click on the **Save Script** button. This completes the basic programming needed to place a call.

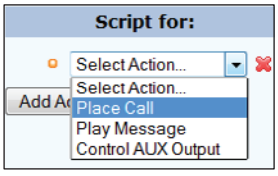




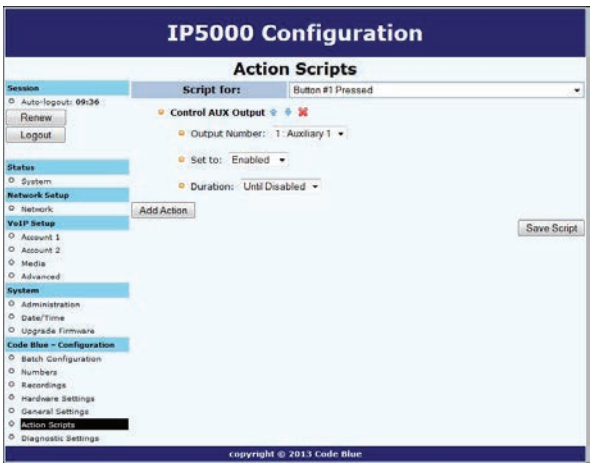
Other Basic Script Choices
Scripting in the IP5000 allows for non-phone call scripting to be programmed to meet the unique needs of the customer.

Here are some examples:

1. For this example, we'll use "Button #1 Pressed" as seen in the example "Basic Call"
2. Instead of choosing "Place Call" let's select "Control Aux Output"



3. By default, the Auxiliary 1 is presented, but note only those Aux Outputs selected in Hardware Settings will be available in this list.



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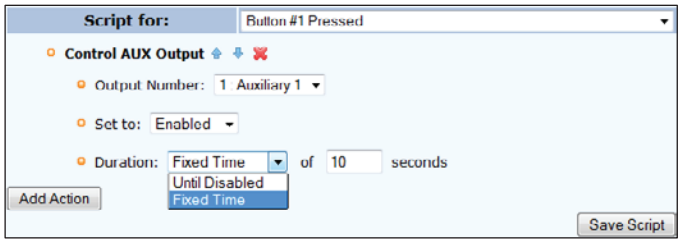
Scripting Basic Call *(continued)*

4. The next choice is to **Enable** this Aux Output and/or set the Duration for this **Aux Output Action**. In this example, let's request a 10-second duration upon the touch of button #1.



5. Next click on **Save Script.** This script is now ready to be tested. Touch Button #1 to test.

Combining Multiple Actions in One "Script -- Advance Programming"
The following example would be the most common configuration deployed.

1. Using **Action Scripts > Script for:** "Button #1 Pressed".

   Add the following as seen in the example:

   A. Control Aux Output – Enable
   B. Place Call – with messages for Caller and Called Party
   C. Control Aux Output – Disable

2. The Script should look like this:

   A. Click **Save Script** when finished.

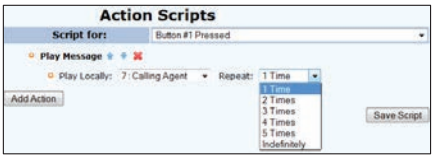
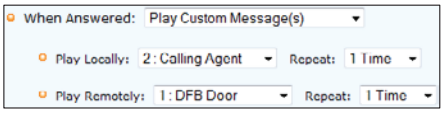
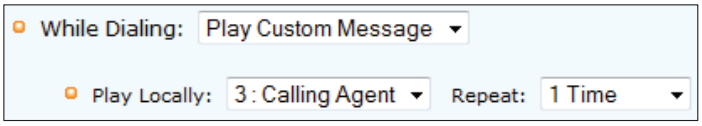
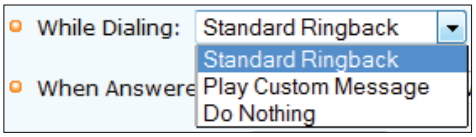
Action Script Parameters

Within the Scripts are many settings controlling the next step in the process of the **Action Script:**

- **Duration** of the process
- **Enable / Disable** features
- A reactivation of an **Aux Output** with a timed limitation

The following will provide detailed explanations into these Script controls.

Note: Scripts, Phone Numbers, and Recordings all share a 1MB memory cap.

Playing a Message	Messages can be set to play any time upon the activation of a Script or during a call. Plus, they can be set to repeat as shown here: 
Place Call	**Placing a Call:** the administrator sets up which numbers will be attempted and in which order. The administrator could choose multiple numbers stored in "Numbers" or the same number can be repeated many times. "If not answered, then" Call. Select additional numbers to be dialed.  **Dialing/Answer Timeout:** The default time is **60 seconds** and can be stepped down to as little as 5 seconds, before the call attempt times out. **Maximum Call Duration:** The default time is 600 seconds (10 mins). Duration range 0001 to 9999 seconds (1 second up to 166.65 minutes). Thirty seconds before the timer exhausts, an audible tone will play to notify both parties the call is about to terminate, unless the timer is disabled through a During call Command (DTMF tone 3). **While Dialing:** Standard Ringback is the default setting. Other choices are: A message can be set to play to the person at the IP5000 or Do Nothing, until the call is connected.  

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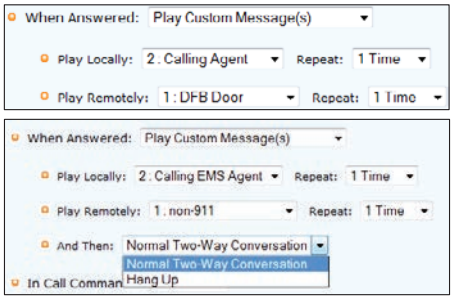
Action Script Parameters *(continued)*

Place Call (continued)	**When Answered:** The default setting is Normal Two-Way Conversation. The option is to Play Custom Messages. A message can be set to play Locally (at the IP5000) or Remotely (to the Called Party). Choosing this option will add another option to the Place call sequence, **And Then**. The **And Then** choice allows the call to continue through to normal two-way conversation mode or **Hang Up** and reset the IP5000.  ***Note:*** *In this feature, it is prohibited to use the same exact message in both local and remotely selection.* **In Call Commands:** The default is Enabled. All Remote Control DTMF tone commands are available for use by the called party. The alternate choice is Disabled, effectively locking out all DTMF tone commands from the Called Party's control. 
Control AUX Output	• Auxiliary Outputs can be activated and deactivated throughout a Script. • Auxiliary Outputs can also be set to activate on incoming answered calls. • It is strongly advised when this feature is used no other configurations are enabled for an Auxiliary Output with Momentary Toggle selected in **Hardware Settings**.

Auxiliary Output Expanded Functionality and Use Case

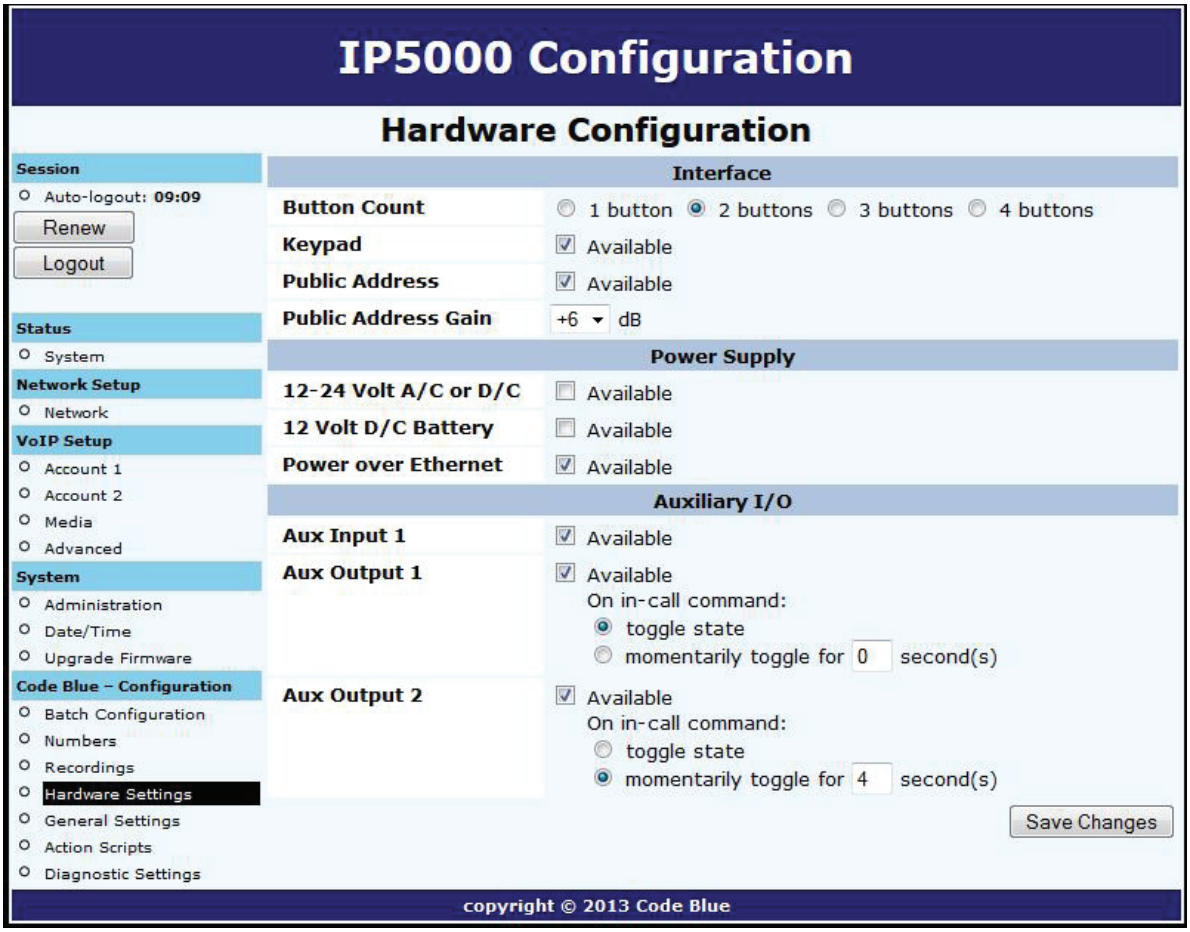
The IP5000 Auxiliary Output abilities have been expanded for unique use cases: Security Personal Access Controls.

Example:

Gate or Door Control
Either output can be configured to activate upon the called party's use of DTMF keys 4 or 5 on the phone for a predetermined time period by the Gate Mechanism (example - four seconds).

1. Setting up Auxiliary Output 1 to Momentarily Toggle for four seconds:

Aux Output Momentary Toggle is best used for remote control operations and should not be combined with **Scripted Timed Aux Output** timers or **Incoming Calls > Aux Output > Enable** when an **Incoming Call is active.**

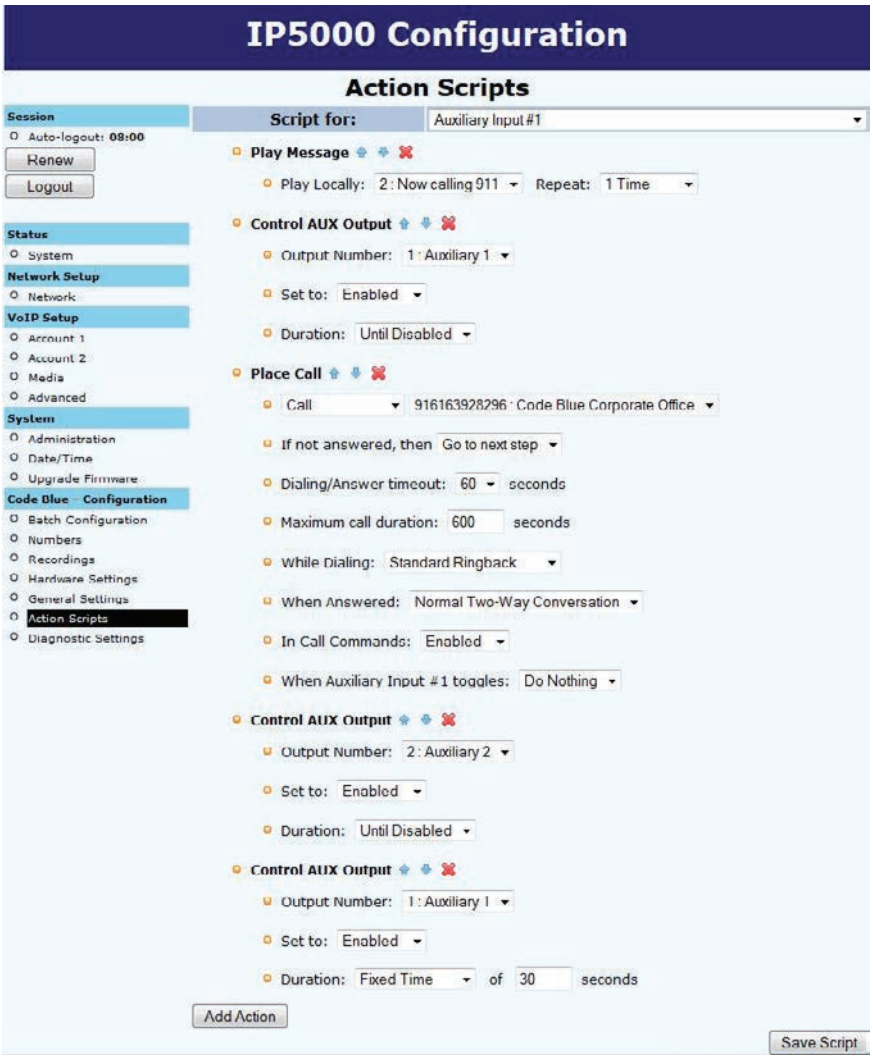


Auxiliary Input Activated Scenario

In this example, the IP5000 has been configured to perform the following Script upon an Auxiliary Input Contact Closure:

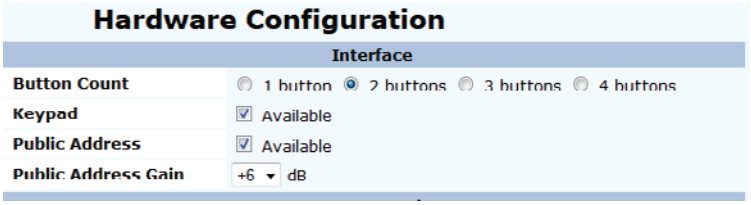
1. Play a Message out of the speaker.
2. Trigger Aux Output #1 (strobe light).
3. Place a Call to “Security”
    A. Upon connecting, activate Aux Output #2 until remotely released by the Called Party (Security).
    B. Release for Aux Output #2 is accomplished by the Called party’s phone keypad – Key #5.
4. Called Party disconnects.

Disable Aux Output #1 (strobe light) 20 seconds after the Called Party hangs up.

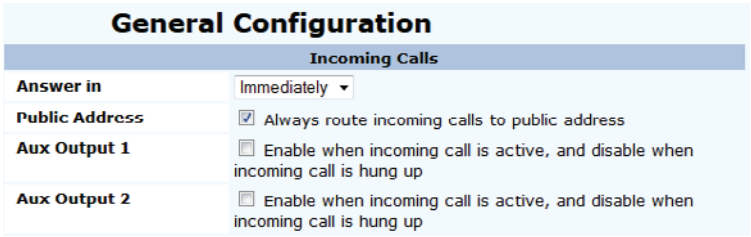


Public Address

If your IP5000 is connected to a Code Blue PAS speaker system, configure the below.



Hardware Configuration > Public Address feature enabled.



General Settings > Public Address checked to always route incoming calls to public address.

CONFIGURING DIAGNOSTICS

Diagnostic Settings
The IP5000 speakerphone diagnostic settings are configured by:

- Selecting Diagnostic Settings in the Code Blue Configuration.
- Click the Enable check box.
- Input the SNMP Server IP address and SNMP Server Port number to monitor the IP5000 with an SNMP management software or with Code Blue's ToolVox® Gateway, w/Unit Programming & Diagnostic (UPD) Software.

Power Supply Failure Timeout
The IP5000 monitors the power sources for loss of power or, in the case of the 12Volt / Battery, the circuit monitors for Low Voltage condition(11.5 – 11.0V).

Note: Backup power must be available for the phone to report a power failure. If no power is available, a network management system must periodically check the phone for the power failure to be reported. Code Blue's UPD can provide this function.

- Power supply monitoring is based on the selections made in Hardware Settings > Power Supply section.
- 12-24 Volt A/C or D/C monitoring will be checked within the time interval provided. (Example: 900 seconds = 15 minutes.) The interval range 0 - 9999999 (1 second - 2,777.7775 hours), should the voltage become unavailable or a problem has been detected. The **CODEBLUE-MIB::powerSource** parameter will be issued.
- Main power MIB value is **CODEBLUE-MIB::powerSource.0 ac**. The SNMP trap will be issued again if at the next interval the voltage issue has not been rectified within the timed interval another Trap will be sent. The AC power failure script will also be run.
- 12 Volt D/C - Battery monitoring will check the battery voltage every 900 seconds and report a voltage condition via a SNMP trap.
- 12V DC battery MIB value is **CODEBLUE-MIB::powerSource.0 dc**. Replace the fully charged battery if possible. If replacing with an uncharged battery, allow up to 48 hours for a full re-charge. The DC power script will also be run.
- PoE Power Failure: When PoE power is the sole power source and interruption in service is experienced, no Trap will be sent unless the IP5000 has a second power source to back up the IP5000 operations.

Note: PoE power failures will only be reported if data service is still available.

- PoE Power MIB value is **CODEBLUE-MIB::powerSource.0 poe**. The PoE power failure script will also be run.

Others – (Tests)

Microphone testing is disabled by default. Enabling will show a number of reoccurring test routines. The microphone is supported by the speaker's ability to generate tones at the schedule intervals.

- The test consists of beeps from the speaker, which will be received by the microphone.
  - » The maximum number of beeps: 2 - 10 beeps.
    Once the microphone detects the beeps, the test is complete until the next scheduled test is present.

  - » The beep tone volume choices are soft, loud, or soft to loud.
    The beep tone volume setting should be set to anticipate ambient noise level at the time of the test.

The test schedule choices are:
- Every 15 minutes
- Hourly
- Daily
- Weekly

- Testing on demand: When microphone speaker testing is enabled, the administrator may select to Run Test while logged into the IP5000. The results of the test will only be present in a failed SNMP trap, which would appear in the SNMP server logs or UPD Diagnostic Reports logs. The MIB value is **CODEBLUE-MIB::micSpeakerFailure**.

PAS – Public Address System Failure
The IP5000 monitors the state of the Code Blue Blue Alert® PAS amplifiers for failures. The amplifiers signal the IP5000 of a problem, and the IP5000 sends an SNMP trap of the problem.

The MIB values for these SNMP traps are:

- **CODEBLUE-MIB::publicAddressFailure**

- **CODEBLUE-MIB::highTemperature**

13 Dual Accounts

Sample Application using Dual Accounts on the IP5000 phone

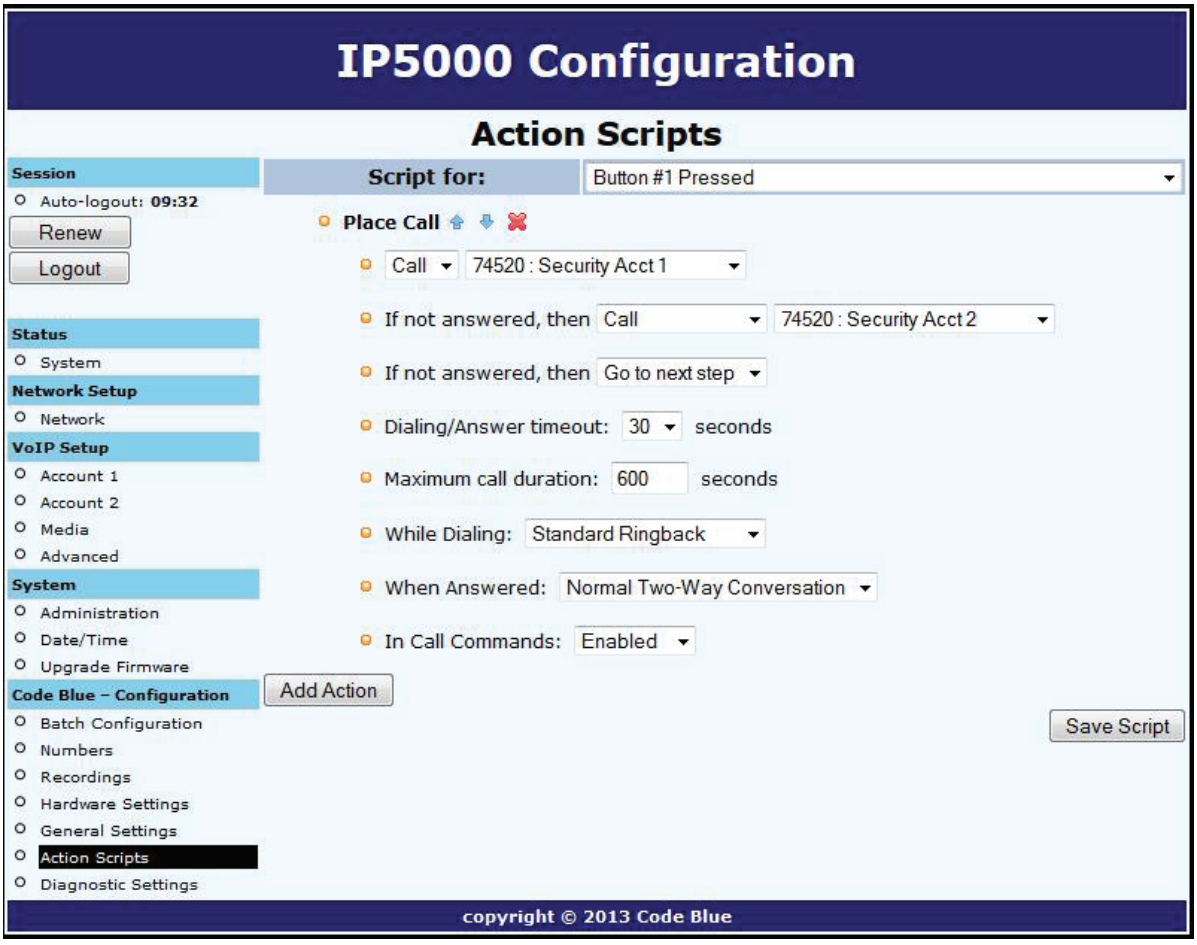
If using both accounts on an IP5000, you must set up two numbers (one "**via Account 1**" and the other "**via Account 2**"), and an action script with a single dial step with "**call first number**" and "**if not answered then call second number**".

Use outcomes dependent on the network:

1. If server 1 is considered registered and responds, the call goes through to server 1 immediately.

2. If server 1 is considered registered and unresponsive, it will be tried for up to **Dialing/ answer timeout**, but no more than 30 seconds. Then server 2 will be tried.

3. If server 1 is not considered registered, server 1 will be skipped and server 2 will be tried immediately.

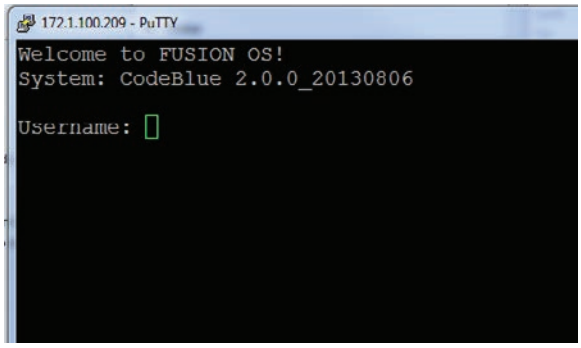


14 CLI (Command Line Interface)

The IP5000 has extensive commands that can be used by telnetting into the device.

You can use windows telnet or download a common free telnet client, “putty”.

Telnet to the IP Address of the IP5000 phone: use port 23 if unsure.



Login is the same as through the Web GUI.

admin

admin

You can type “help” to see a list of available commands.

The most commonly used are:

format c: codeblue – Using this command, you format the phone and return it to factory default. This command must be followed up with a reboot.

reboot – Make the phone reboot.

ping IP Address or Domain Name – Ping the IP PBX to see if the phone can reach its registrar.

button 1 – Select button 1-4 and initiate a button push remotely. This is handy for remote testing. Button #1 is the red button. Button #2 is the black button, if equipped.

15 In-Call Commands

The IP5000 speakerphone provides enhanced functionality through the utilization of In Call Commands. These commands are DTMF or phone keypad entries made by the Called Party. Below is a list and explanation of each command.

In-Call Command	Function	Description
1	Play Location Message	Plays the Location Recording selected in General Settings
2	Switch from Speaker to PAS Output and Mute the Mic	Transfers the audio to the PAS audio output and mutes the microphone to eliminate a feedback loop
3	Deactivate Call Timer	Deactivates the Maximum call duration timer setting in the operational script currently running
4	Activate/Deactivate Auxiliary 1	Toggle Auxiliary 1 state; activate or deactivate
5	Activate/Deactivate Auxiliary 2	Toggle Auxiliary 2 state; activate or deactivate
6	Mic Volume Up	Increase the microphone volume; used to decrease the Called Party volume
7	Mic Volume Down	Decrease the microphone volume; used to decrease the Called Party volume
8	Speaker Volume Up	Increase the speaker volume; used to increase the Calling Party volume
9	Speaker Volume Down	Decrease the speaker volume; used to decrease the Calling Party volume

Note: Some VoIP codecs do not fully support DTMF Tone signaling and may not function as intended.

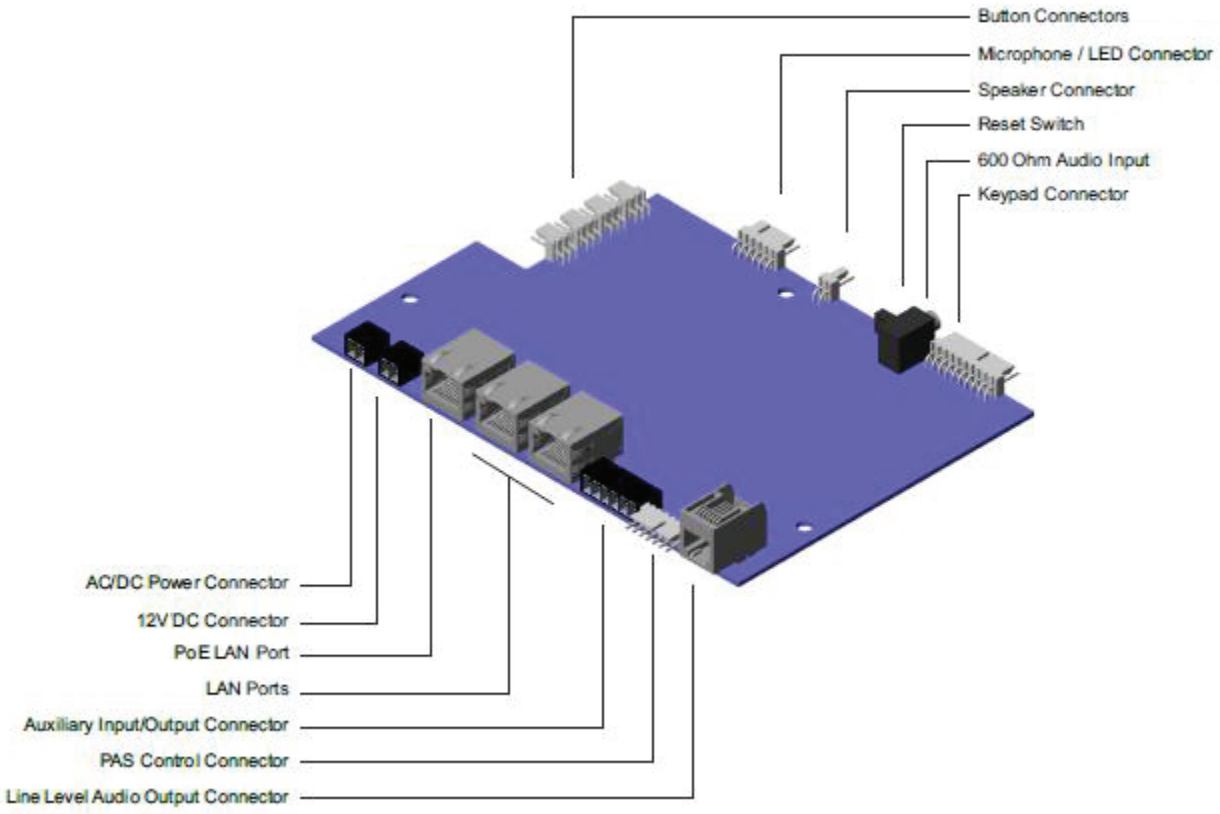
16 Factory Reset

The system can be reset via two different methods.

First Method:

Press the reset button for five seconds and it will delete the IP5000 network config files; scripts and recordings will remain.

Press reset button for 10 seconds or more and the IP5000 file system will be formatted resetting to factory defaults.



(Continued on next page)

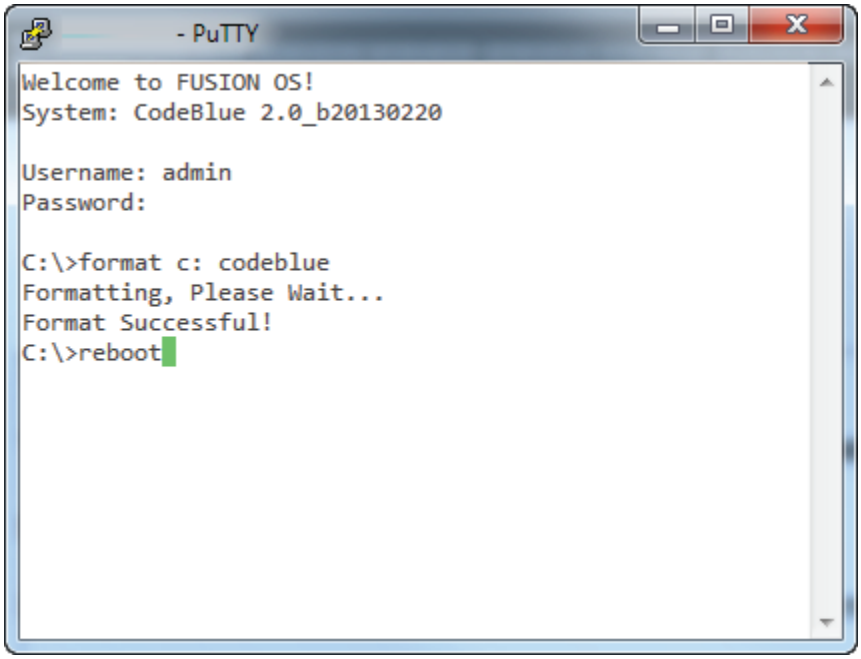
Factory Reset *(continued)*

Second Method:

If you have telnet access to the unit, you can default the unit through the command line interface.

You can use windows telnet or download a common free telnet client, “putty”.
Telnet to the IP Address of the IP5000 phone: use port 23 if unsure

- Enter Username: admin and Password: admin
- At the prompt, type .advanced
- At the prompt, type format c: codeblue
- After successfully formatting the phone, type reboot



17 Compatibility

The IP5000 phone is a SIP version 2.0 (RFC3261) device and is compatible with IP Gateways and PBXs that can register third Party SIP devices to them.

You must verify that the IP PBX you are registering the IP5000 to can handle Third Party SIP devices, whether through licensing and/or Hardware add-ons.

Some examples of mainstream IP PBXs the IP5000 has registered to as a Third Party SIP device are:

Avaya
Asterisk
Cisco Call Manager
Nortel

and many others…

18 Configuring for Cisco Unified Communications Manager 9

PREPARATION

1. Record the MAC address and determine the current IP address for each IP1500/2500/5000 device you wish to use with CUCM.
2. Determine which partition you will put the IP1500/2500/5000 directory numbers into.
3. Obtain one directory number for each IP1500/2500/5000 device.
    a. If you are going to use the IP1500/2500/5000's dual account configuration to regis ter to redundant CUCM servers, obtain a second directory number for each IP1500/2500/5000 device.
4. Determine which calling search space you will assign to the IP1500/2500/5000.

IP5000 CONFIGURATION

Refer to the IP1500/2500/5000 Administration AND User Guide located on our website

Clear Existing Configuration

If necessary, clear the IP1500/2500/5000's existing configuration. This will reset it to DHCP, so make sure you have the capability to find the device's IP address again if you do this. For each unit:

1. Open a Telnet client and connect to the IP1500/2500/5000.
2. Log in using the username admin and the default password admin.
3. Type format c: codeblue and press Enter.
4. Type reboot and press Enter.

Configure Account(s)

1. Log in to the IP1500/2500/5000 via its web interface. The default username and password are admin and admin.
2. Select Account 1.
3. For VoIP Protocol, select SIP & RTP.
4. Under SIP Configuration, for Username/Number, enter the directory number you assigned earlier.
5. For Display Name, enter caller ID text.
6. For Domain, enter the hostname or IP address of the CUCM node you wish to register this account to.

7. Insure Keep-Alive is enabled.

8. Under Proxy Authentication, for Username, enter the username you assigned the CUCM end user, e.g. the hexadecimal representation of the MAC address or the local-use variant for a secondary account.

9. For Password, enter the password you entered into Digest Credentials under the CUCM end user.

10. Click Save.

11. Repeat steps 3-10 with Account 2 if you are using the second account.

Other Settings

Refer to the IP1500/2500/5000 Administration AND User Guide to complete the setup of the IP1500/2500/5000, including Numbers, General Settings, Hardware Settings, and Action Scripts. When finished, click Apply Now to restart the phone; it should now register to CUCM and be able to place calls in the assigned calling search space as well as receive calls at the directory number it is configured with.

Note: if you are setting up the IP1500/2500/5000 with secondary account support, make sure that you create each failover number twice.

UCM CONFIGURATION

All UCM-side configuration is done within the Cisco Unified CM Administration web interface.

Create Phone Security Profile

1. Navigate to System > Security > Phone Security Profile.

2. Do a Find on “Third-party” to locate the Third-party SIP Device Basic - Standard SIP Non-Secure Profile. Click the Copy icon.

3. Check Enable Digest Authentication.

4. Change the Name and Description to Code Blue IP1500-2500-5000 Profile.

5. Click Save.

Configure End Users

For each IP5000 device, configure a new end user for SIP authentication.

1. Navigate to User Management > End User.

2. Click Add New.

3. For the User ID, enter the hexadecimal version of the MAC address; e.g. 00:50:C2:17:7B:E8

would become 0050c2177be8.

a. Use of the MAC address as user ID is only a recommendation. If local configuration permits, you can use any other form of user ID; just be sure to record which user ID goes with which phone and which of the phone's accounts.

4. Fill in the Last name field with a description of the station.

5. Create and record a secure SIP password and fill in the Digest Credentials and Confirm Digest Credentials fields with this password. You will be entering this password later into the IP1500/2500/5000.

6. Click Save.

Configuring End Users for Secondary Accounts

If you are going to use the IP1500/2500/5000's secondary account functionality to register to a separate directory number to a separate CUCM node for failover support, repeat the above process using a local-use-only MAC address. A local-use-only MAC address has the U/L bit set to 1 to indicate the address is locally administered.

Since all IP1500/2500/5000 units' MAC addresses start with 0, you can create a locally-administered address that is unlikely to conflict with other locally-administered addresses simply by setting the U/L bit simply means changing the second 0 to a 2, e.g. 0250c2177be8.

Configure Phones and Directory Numbers

For each IP5000 device, configure a new Phone and associated directory number.

1. Navigate to Device > Phone.

2. Click Add New.

3. For Phone Type, select Third-party SIP Device (Basic).

4. Enter the MAC Address of the phone in hexadecimal format; e.g. 00:50:C2:17:7B:E8 would become 0050c2177be8.

5. For Device Pool, select Default (or some other locally-configured device pool).

6. For Phone Button Template, select Third-party SIP Device (Basic).

7. For Calling Search Space, select the calling search space the IP1500/2500 is to use.

8. For Device Security Profile, select Code Blue IP1500-2500-5000 Profile.

9. For SIP Profile, select Standard SIP Profile.

10. For Digest User, select the end user matching the MAC address of the phone, or the alternate user ID you created when you were configuring the end user.

11. Click Save.
12. On the left side of the screen, click Line [1] - Add a new DN.
13. Fill in the Directory Number.
14. For Route Partition, select the partition the directory number resides in.
15. Under Line 1, for Display (Internal Caller ID), enter a descriptive name for Caller ID pur poses.
16. If you wish to return a busy signal for silent monitoring if the IP1500/2500/5000 is in use, disable Call
    Waiting: under Multiple Call/Call Waiting Settings, For both Maximum Number of Calls and Busy Trigger, enter 1.
17. Click Save.

Configuring Phones and Directory Numbers for Secondary Accounts

If you are going to use the IP1500/2500/5000's secondary account functionality, repeat the above process with a local-use-only MAC address as outlined in Configuring End Users for Secondary Accounts, and specify a distinct directory number.

Integrating InformaCast Utilizing Cisco Call Manager

Access to the InformaCast emergency notification system produced by Singlewire Software frequently is included with Cisco Unified Communication Manager (CUCM). Code Blue's VoIP speakerphones (IP1500/2500/5000) can be registered and configured with CUCM as SIP devices that are compatible with IP Gateways and PBXs that can register third-party SIP devices. Refer to Section 10.4 of this guide for additional details.

To send audio pages from InformaCast to Code Blue speakerphones, select the Code Blue devices as end point phones for the messages. The Code Blue phones will have the ability to answer and play the audio by default.

19 Avaya IP Office Integration Guide

Introduction

This Avaya IP Office Integration Guide provides general instructions for integration of the **IP1500/2500/5000 Series Phones** with an IP Office installation. Read this instruction set completely before starting any installation. For detailed **IP1500/2500/5000** setup instructions, please consult the **IP1500/2500/5000 Guides**.

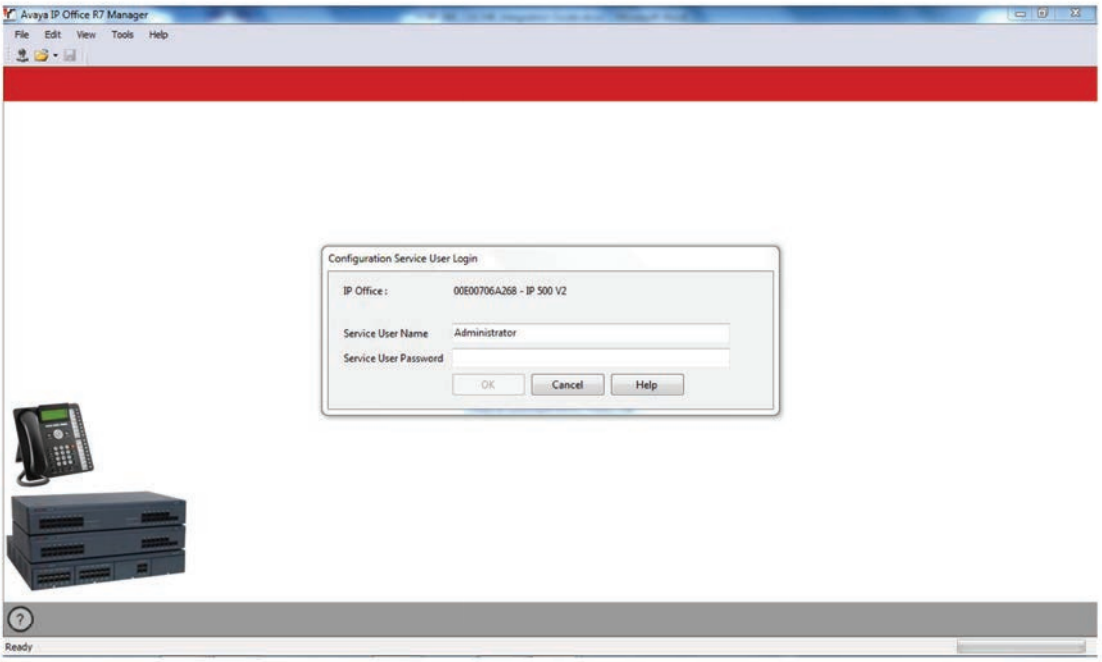
Prerequisites

- Avaya IP Office Manager Version 9 pre-installed
- SIP Device Licensing for 3rd Party IP Endpoints
- Network access to the IP Office Manager, **IP1500/2500/5000 Series Phones** and all network services (SIP, HTTP, FTP, RTP/SRTP)

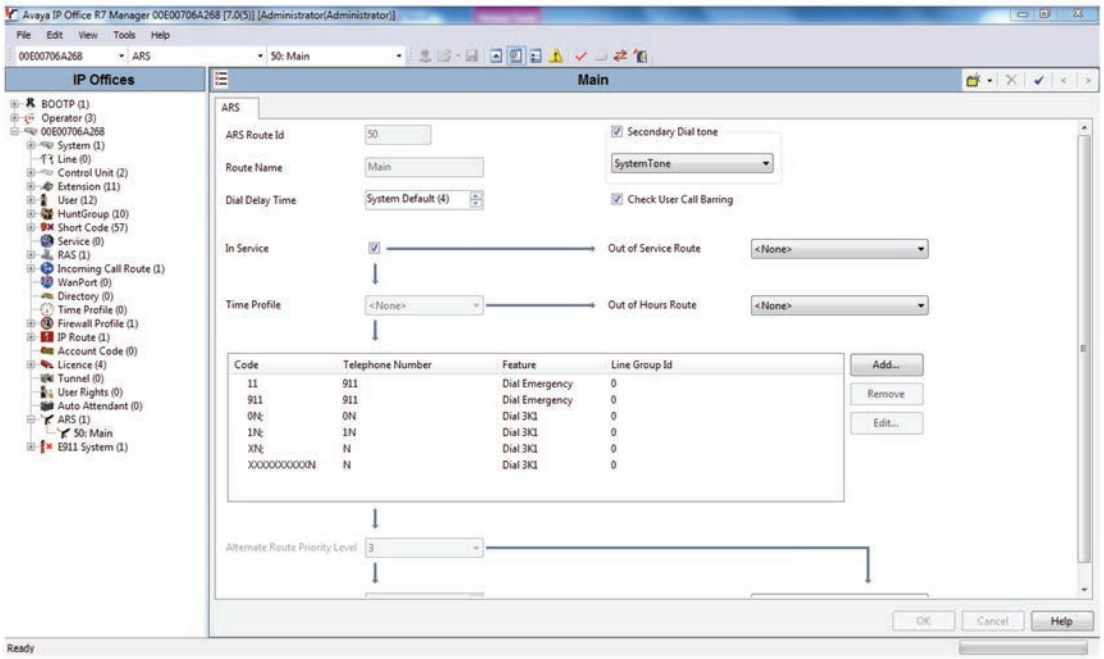
IP Office Manager Basic Configuration

Basic instructions for integrating **IP1500/2500/5000 Series Phones** with an Avaya IP Office R7 Manager are included. Advanced setup of IP Office Manager features is outside the scope of this document.

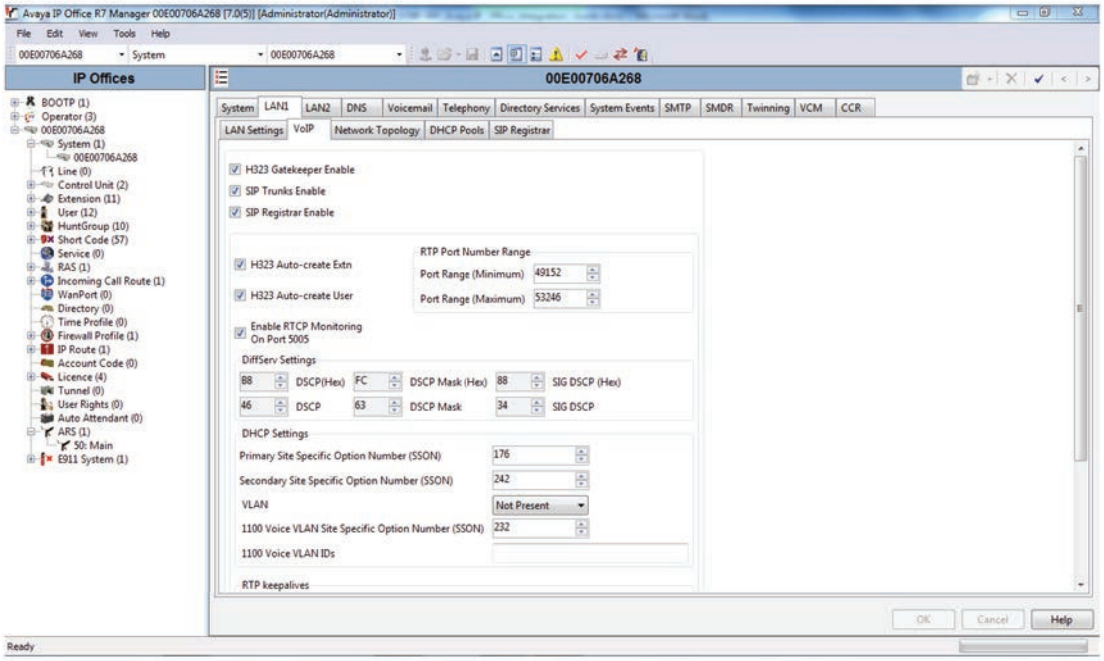
1. Using IP Office R7 Manager, connect to the IP Office Control Unit.



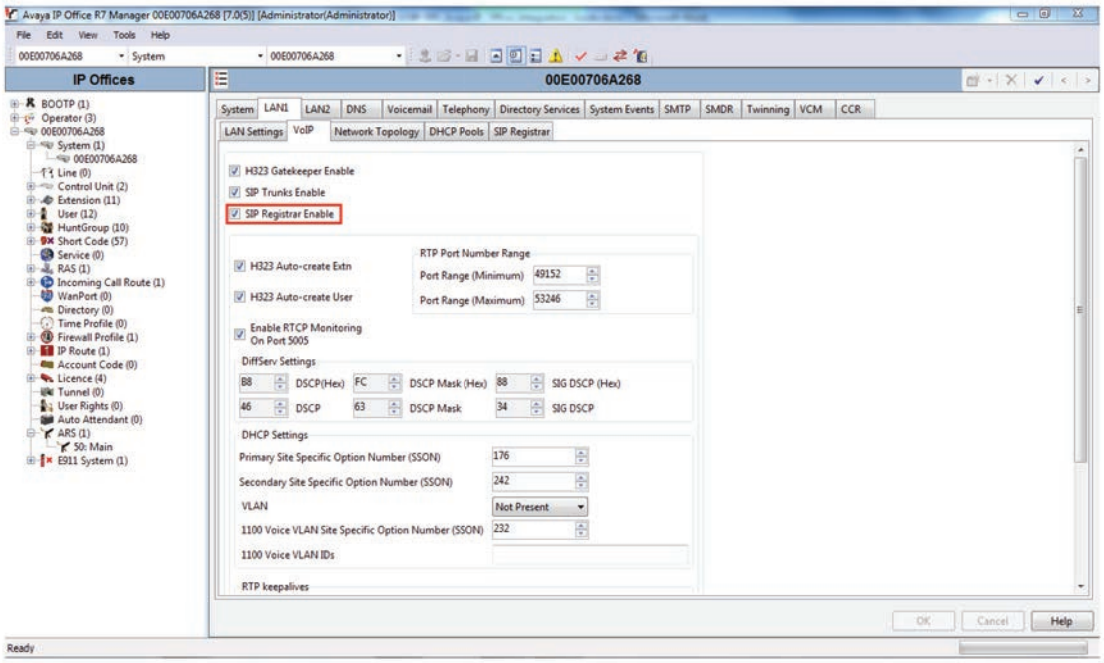
2. Log in to Avaya IP Office Manager:



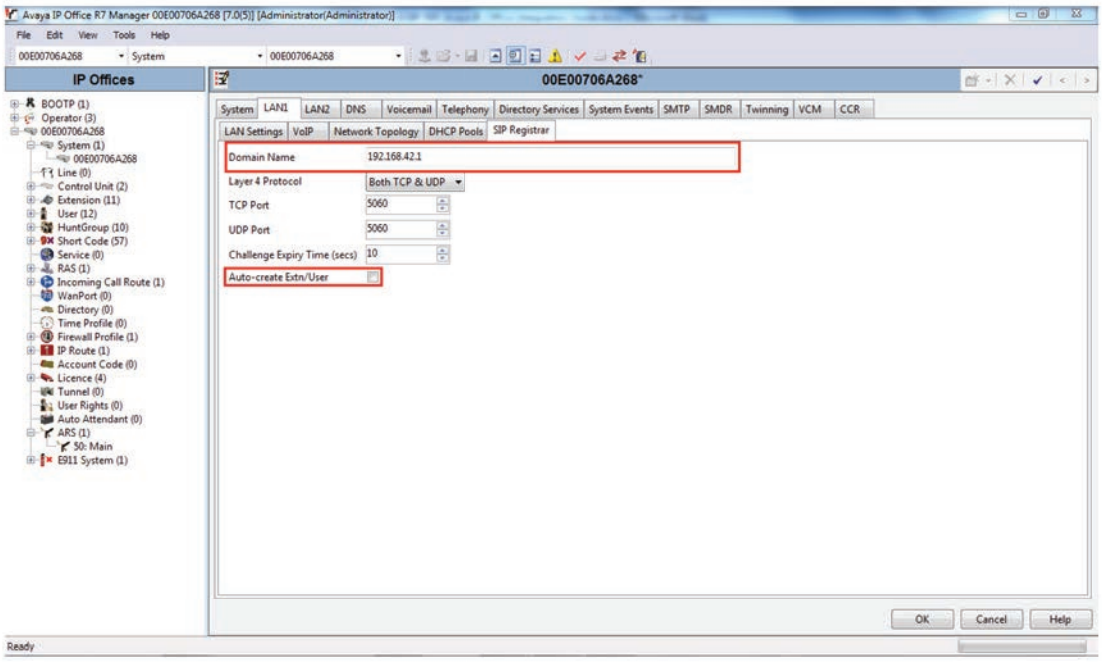
3. SIP Extension Support is required for **IP1500/2500/5000** integration. Select **System > LAN1 (or LAN2) > VoIP** in IP Office Manager:



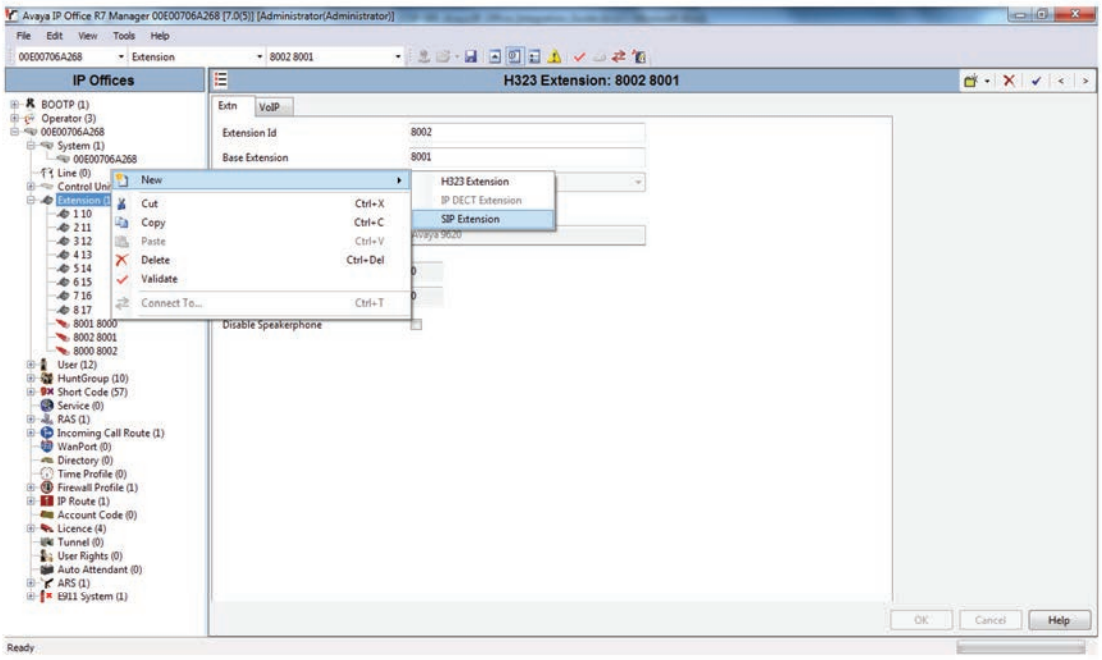
4. Check that **SIP Registrar Enable** is enabled.



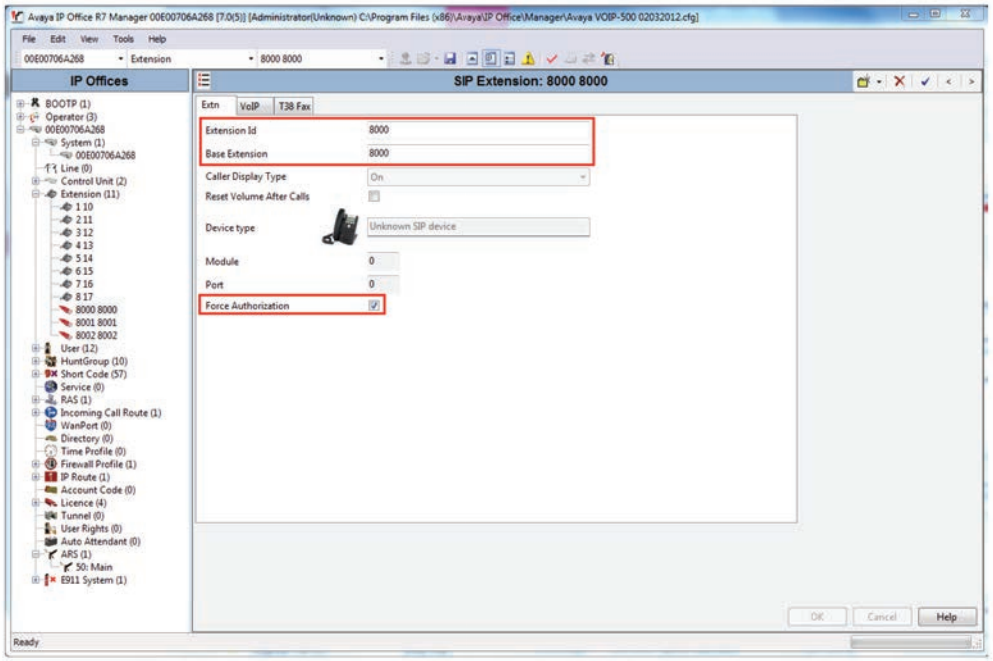
5. Select the **SIP Registrar** sub-tab.
6. In **Domain Name,** enter the Fully Qualified Domain Name (FQDN) or the IP ad dress associated with the correct LAN port on the IP Office Control Unit. Deselect **Auto-create Extn/User.** Click **OK.**



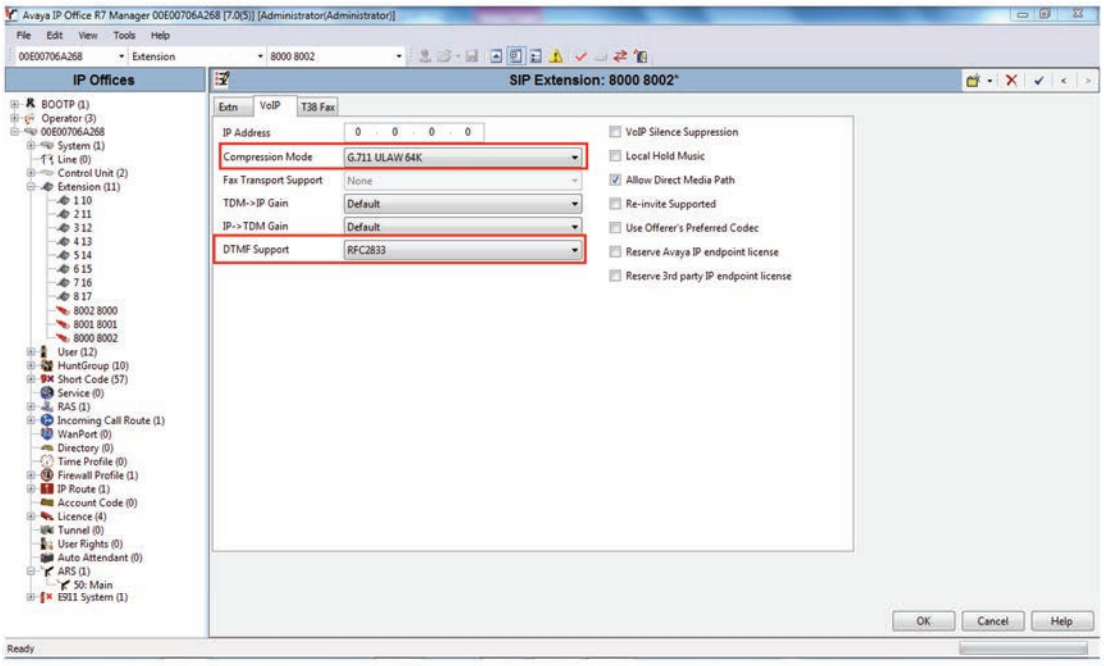
7. A SIP extension will need to be created for each **IP1500/2500/5000 Series Phone**. Right click on **Extension**, select **New** and then click on **SIP Extension**.



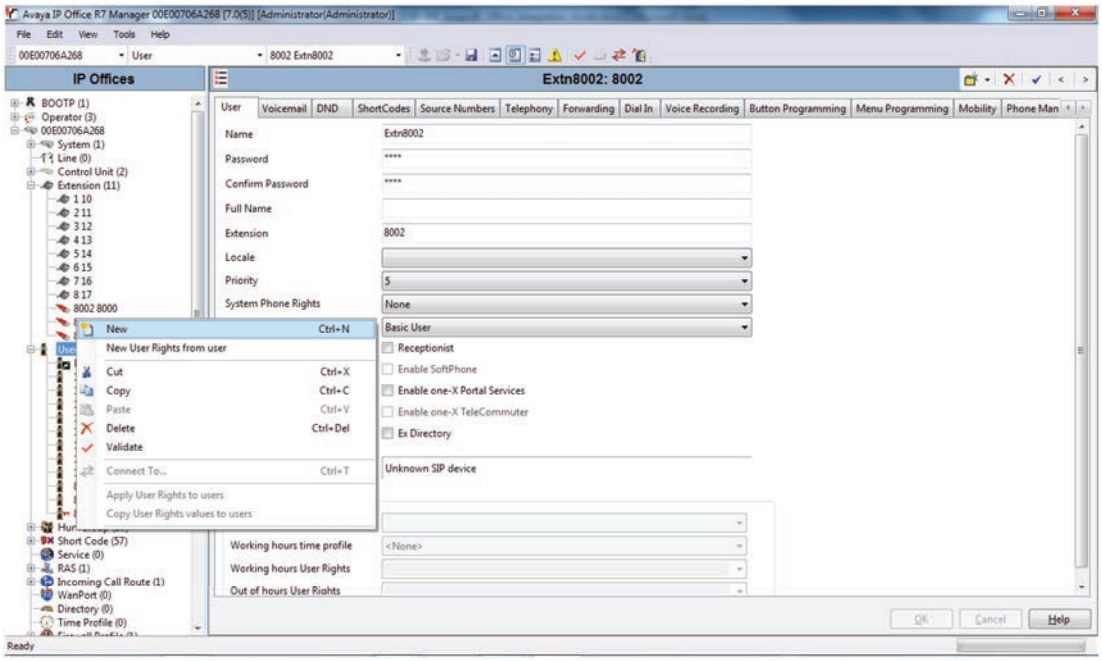
8. Enter the following fields to create a new extension:
   - **Extension ID:** A unique extension to identify the logical extension in IP Office. By default, IP extensions start at 8000.
   - **Base Extension:** This is the extension used to call the **IP1500/2500/5000 Series Phone**.
   - **Force Authorization:** Select to force authentication of the **IP1500/2500/5000 Series Phone**.



9. Select the **VoIP** tab and select the **Compression Mode**. The default of the **IP1500/2500/5000 Series Phone** is **G.711 U-LAW** and will work in most cases. More information on audio codecs can be found in the **IP1500/2500/5000 Series Phone Guides**. Set **DTMF Support to RFC2833.**

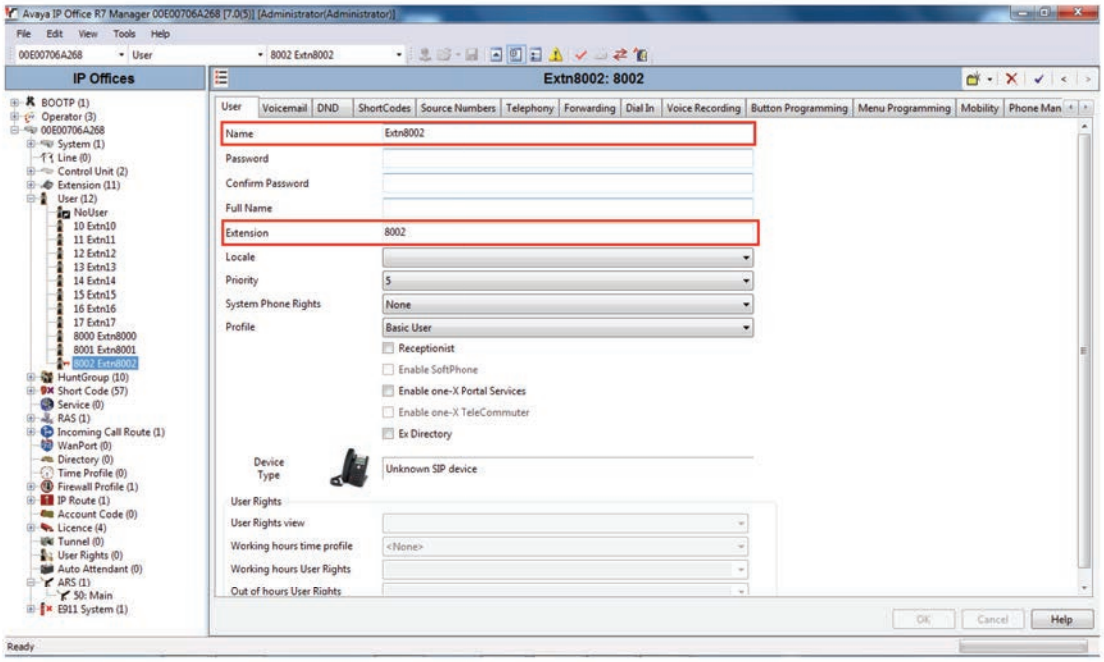


10. Each **IP1500/2500/5000 Series Phone** should have a unique User. Right click on **User** and select **New.**

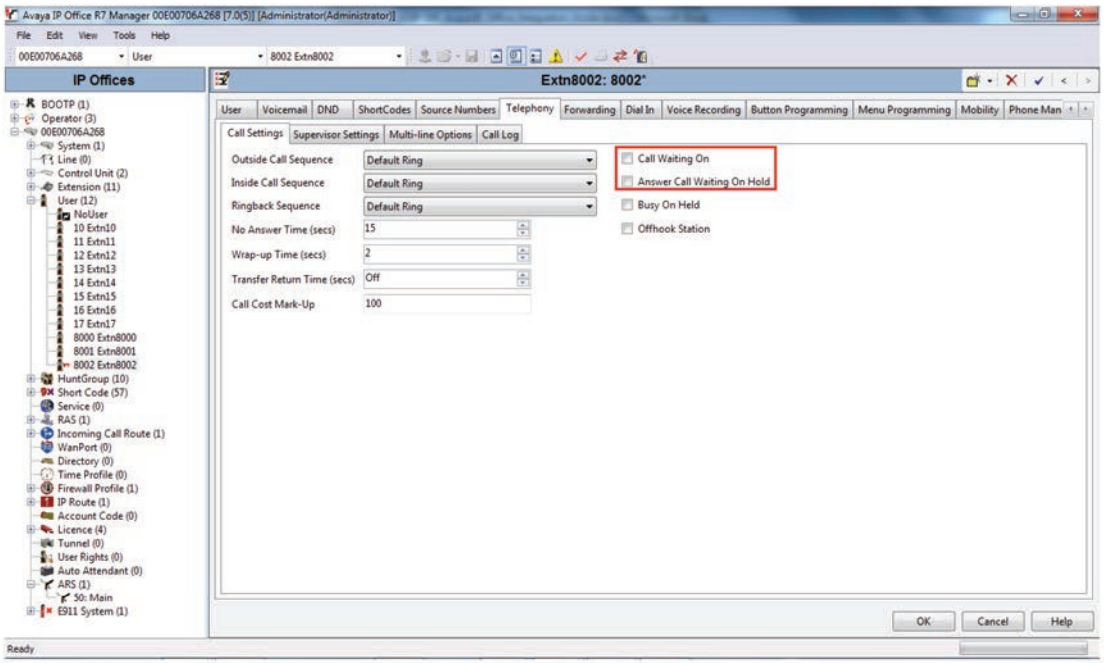


11. Enter the following fields to create a new user;

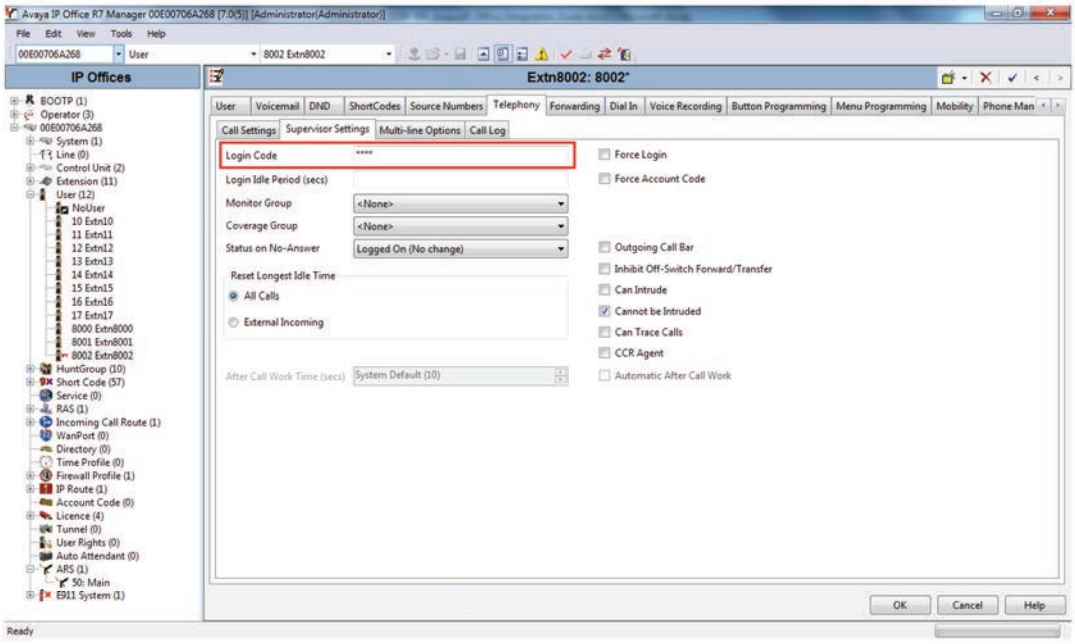
- **Name:** This will be displayed as the user's name in IP Office Manager, and is used as the username for SIP registration when configuring the **IP1500/2500/5000 Series Phone**.
- **Extension:** This should match the **Base Extension** configured for the SIP extension in Step 8. This is also used as the phone number when configuring the **IP1500/2500/5000 Series Phone**.



12. Select the **Telephony** tab and then the **Call Settings** sub-tab. Disable **Call Waiting On** and **Answer Call Waiting on Hold**. Call waiting is not supported on the **IP1500/2500/5000 Series Phone**.



13. Select the **Supervisor** sub-tab. In the **Login Code** field enter a password to be used by the **IP1500/2500/5000 Series Phone** for authentication. Avaya IP Office will only accept numbers in this field.



14. If adding multiple **IP1500/2500/5000 Series Phones**, repeat Steps 7-13 for each device.

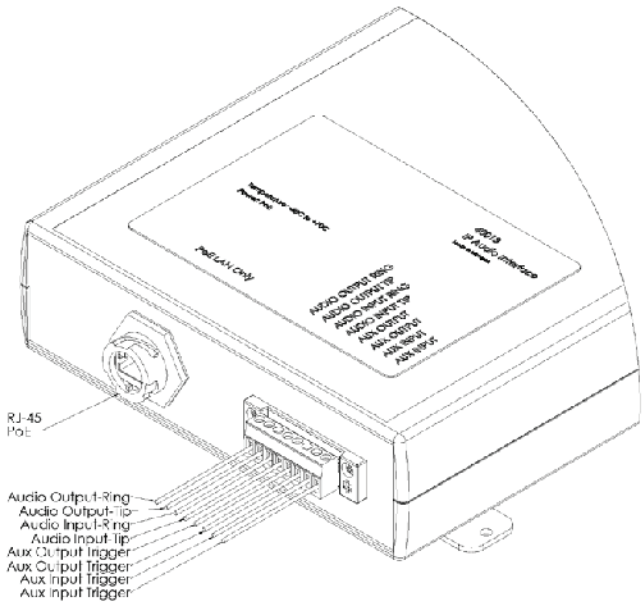
20 IP Audio Interface

The IP Audio Interface (IAI) is an IP-based audio device supporting VoIP and Audio over IP applications. The IAI full duplex technology is the most advanced on the market today. It is an ideal solution for bridging audio and contact closures over long distance LAN/WAN networks. It extends and interfaces to non-network based traditional public address systems and allows for two-way communication with existing fire panels so they may be used as emergency endpoints. The IAI is designed to support Code Blue's Blue Alert® Mass Notification System over the wired or wireless network.

Blue Alert, NFPA 72® ECS (Chapter 24) compliant, allows flexibility in announcement delivery by providing text to speech, live broadcast, pre-recorded messages and warning tone options, as well as announcement repeat and scheduling features.

The following are examples of how to set up the IAI and interface with both line level audio and a 25/70 volt PA system.

Optional software allows multiple unit template programming, audio storage, phone and public address email fault reporting, and manages all incoming emergency and non-emergency events with an easy-to-use Graphical User Interface. Code Blue's IAI fulfills the need for effective, reliable emergency network communication and enhances full system integration.

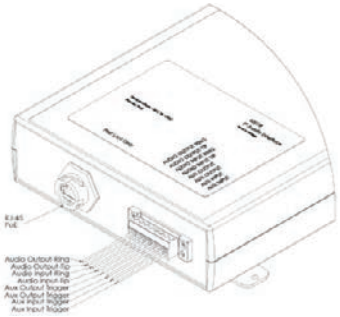


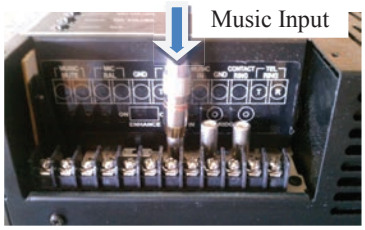
- The Line Level Audio Input or Output can be utilized by connecting to pins 1-4 of the Phoenix Plug.
- The Auxiliary Output is utilized to activate a contact closure on a 3rd party system typically to activate a group of audio paging devices or wake the audio amplification system from a sleep mode and then pass audio from the Blue Alert system to the 3rd party system connected to Line Level Audio Output.
- The Auxiliary Input is utilized to initiate a call to a Blue Alert group and pass audio from the activating system, connected to the Line Level Audio Input, to devices configured within the Blue Alert group

- Various devices exist on the market to convert 25/70/100 volt audio to line level audio. See Appendix B for examples. However, the IAI requires a 600ohm input. It is the responsibility of the end user to convert if necessary.

The following are examples of how to set up the IAI and interface with both line level audio and a 25/70 volt PA system.

1. Scenario: IAI connected and configured to interface with a Bogen paging amplifier TPU100B.
    a. Mount and configure the TPU100B per installation instructions.
    b. Find a suitable mounting place for the IAI. It is suggested that the IAI be mounted on a standard ¾ inch plywood telecom backboard typical in communications MDF/IDF closets.
    c. The IAI is PoE powered which should be supplied by a PoE switch connected to a UPS power backup system to ensure functionality during a power outage.
    d. Connect the Ethernet port to the appropriate switch for connectivity to the ToolVox or M series platform.
    e. Connect the line level audio output of the IAI to Music input on the TPU100B.



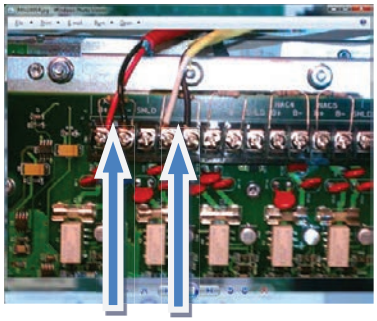


TPU100B

Figure 9

2. Scenario: IAI connected and configured to interface with a fire alarm panel. Two-way communication can be achieved to utilize the Blue Alert system as fire alarm endpoints and the fire panel voice enabled endpoints as emergency MNS endpoints. This scenario is typical for all fire panel integrations:
    a. Mount and configure the fire panel per manufacturer's installation instructions.
    b. Find a suitable mounting place for the IAI. It is suggested that the IAI be mounted on a standard ¾ inch plywood telecom backboard typical in communications MDF/IDF closets.
    c. The IAI is PoE powered which should be supplied by a PoE switch connected to a UPS power backup system to ensure functionality during a power outage.
    d. Connect the Ethernet port to the appropriate switch for connectivity to the ToolVox or M series platform.
    e. Connect the line level audio output of the IAI to a line level audio input on the fire alarm panel.

f. Connect the line level audio output of the fire panel to the line level audio input on the IAI.
Note: Some panels may require a 25/70 volt input. Refer to Appendix B for audio line level converters and audio enabled relays which are to be supplied by the end user.



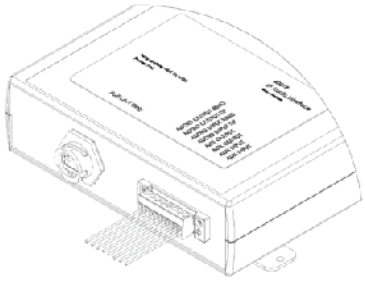
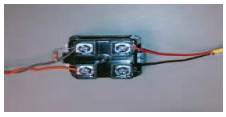


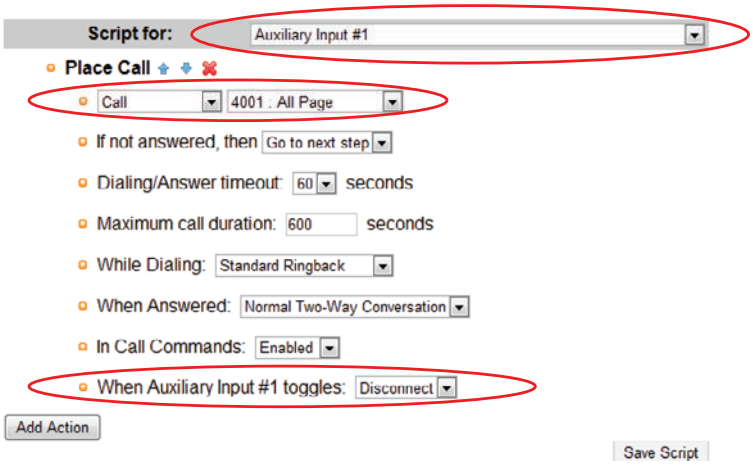
Figure 17

g. Connect the auxiliary output of the IAI to a contact closure input on the fire panel.
Note: Some fire panels may require a signaling device be placed on the dry contact closure of the IAI to send the active/inactive signaling to the panel. Please refer to your fire panels manufacturing specifications for proper connectivity. See Appendix B for additional options supplied by end user.

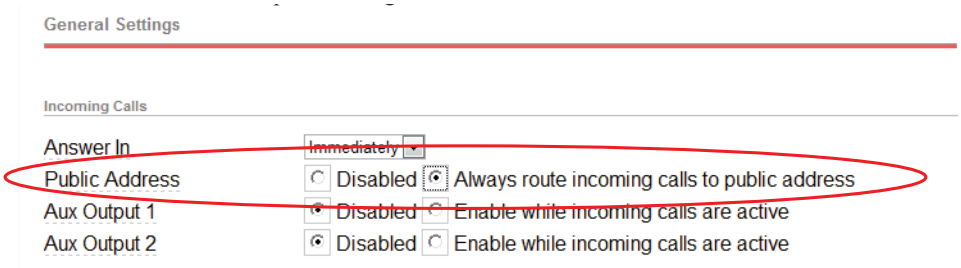
Signaling relay example:



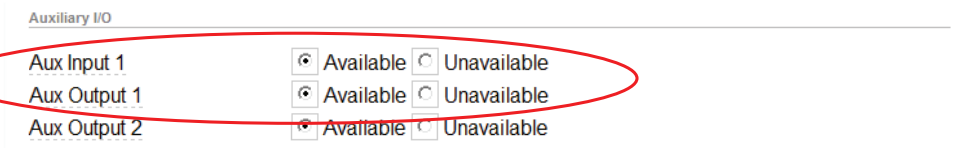
h. Connect a normally open contact closure on the fire panel to the auxiliary input on the IAI.
i. Configure your IAI to place a call to the appropriate Blue Alert group when the Auxil iary #1 input is activated allowing the fire panel to pass audio to all endpoints con figured in the Blue Alert group. Ensure that Disconnect is chosen when Auxiliary Input #1 toggles.



j. Ensure that calls are always routed to Public Address under General Settings of the IAI. This will pass audio to the fire panel during a Blue Alert announcement.



k. Ensure Auxiliary Input #1 and Auxiliary Output #1 are Available in the IAI settings.



l. Program a contact closure on the fire panel to activate the desired voice enabled endpoints and pass the IAI audio to them.
m. Program a contact closure on the fire panel to activate the IAI and pass the fire panel audio to the IAI.

21 Button and Activation Specifications

The button requires a force of 3 -5 N (Newton - si units). Another way to explain this:
6 – 18 oz of pressure over time applied, which is between 125 –300ms (0.15 –0.3 seconds).

Slapping or sliding your fingers across the button will not activate it. It requires pressure over time. The outer edge of the button will not be that sensitive. Normal use of the button would be someone rushing to activate it and using their hand, finger, arm, knee, forehead, etc.

No other piezoelectric button on the market will function as well.

The only differences between the analog and IP buttons are the output on the wires and the state of the button, N.O or N.C. The button can and piezo elements are identical. The analog button (2 wire) is N.O. (Normally Open), and closes momentarily when pressed. The digital button (3 wire) is N.C. (Normally Closed) and when pressed the state goes to open momentarily, which is translated to a P then R data output to the IP1500/IP2500/IP5000 boards.

The specification of the button is:

Switching Current: 0.200 A

Actuation Force: 3-5 N : 6 – 18 oz of pressure over time applied. Which is between 125 –300ms (0.15 –0.3 seconds)

Make Impulse Time: 125-300 mSEC

Switch Resistance :	“ON” <20 ohms
Switch Resistance:	“OFF” >5 MOhms
Make Pulse Time:	125-300 mSEC
Surface Deflection:	1 micron - activation
Button Temperature :	-40°C to +85°C (-40°F to 185°F)
Functional Life:	>50 million activations
Functional in Freezing Rain:	Yes

22 Speaker Specifications

SPL Level Test Results
Meter used: EXTECH Instruments
Model 407732

Mode dBA
Settings: FAST & Hi (Hi=65~130dB)
Tone was generated within Asterisk and assigned to extension number.

The phone was programmed to dial the assigned number for the frequency of choice, which created a signal to be played through the speaker of the phone.

Tone (Hz)	IP5000 3.5” spkr
1000	103.7 dBA
2000	104.1 dBA
5000	102.9 dBA

EXTECH meter was placed exactly one meter from the speaker on the same plane.
Each tone was played for three seconds, and the MAX reading was logged.

23 Troubleshooting the IP5000 Speakerphone

The IP5000 speakerphone is a network device. The following are tips for troubleshooting:

Power - Ensure the power to your device is working and rated for 802.11af/at PoE specifications if using POE. The IP5000 should only have one source of power other than a backup battery. If not using POE, then main power needs to fall into 12-24 Volts AC or DC.

Ping Test - This determines connectivity and the packet loss and latency time to and from your destination and the quality of your network connection to the IP5000. If you receive no response and power is confirmed, contact your network administrator. You can also Ping from within the phone towards your IP PBX to test that it can reach its IP PBX/SIP Gateway.

Network – If you're putting the IP5000 on a network that restricts ports then the below ports must be open for the IP5000 to communicate to its appropriate IP PBX/SIP Gateway.

1. IAX2/UDP outgoing to port 4569 on IP PBX/SIP Gateway (only needed if using IAX2 instead of SIP on the accounts page).
2. SIP/UDP outgoing to port 5060 IP PBX/SIP Gateway.
3. RTP/UDP incoming from IP PBX/SIP Gateway to UDP ports 23456-23556 (configurable).

DHCP - The IP5000 is setup for DHCP by default. If you cannot determine the IP address of your IP5000, contact your network administrator.

Account - Ensure your SIP or IAX2 account is set up correctly. Account username and password must match the account credentials on your VoIP system. This is the most common mistake with setting up SIP accounts.

Codec - Ensure the codec settings on your VoIP system match the IP5000 codec settings.

Firewall - Firewalls commonly block or partially block VoIP calls. Check with your network administrator if you cannot communicate with your IP5000 from behind a firewall.

Contact info for Code Blue Technical Services and Support staff can be located at the end of this Guide if you need further assistance troubleshooting your IP5000 phone. Depending on your issue, a firmware upgrade may be needed.

Note: If you do not have a DHCP server running, use a standard home/wireless router and plug your speakerphone and laptop into the same router. Once you know the IP Address, you can browse to it via your web browser.

24 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.

25 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 5 p.m. Monday through Friday Eastern Time

26 Download Information

Code Blue now has a centralized location where you can find installation, setup, information, configuration and operation instructions.

1. Centry® Administrator Guide: www.codeblue.com/resources/guides
2. CB 1 Series Administrator Guide: www.codeblue.com/resources/guides
3. CB 2 Series Administrator Guide: www.codeblue.com/resources/guides
4. CB 4 Series Administrator Guide: www.codeblue.com/resources/guides
5. CB 5 Series Administrator Guide: www.codeblue.com/resources/guides
6. CB 9 Series Administrator Guide: www.codeblue.com/resources/guides
7. CB RT Administrator Guide: www.codeblue.com/resources/guides
8. Phone Enclosures Administrator Guide: www.codeblue.com/resources/guides
9. Stainless Steel Maintenance Guide: www.codeblue.com/support
10. IA4100 Administrator Guide: www.codeblue.com/resources/guides
11. IP5000 Administrator Guide: www.codeblue.com/resources/guides
12. IP1500/2500 Administrator Guide: www.codeblue.com/resources/guides
13. ToolVox® X3 Administrator Guide: www.codeblue.com/resources/guides
14. Public Address Administrator Guide: www.codeblue.com/resources/guides
15. Blue Alert® MNS User Guide: www.codeblue.com/resources/guides
16. Blue Alert® EMS User Guide: www.codeblue.com/resources/guides
17. IP1500/IP2500 Firmware: www.codeblue.com/support/firmware
18. IP5000 Versions 1.X & 2.X Firmware: www.codeblue.com/support/firmware

For Legacy Product Information:

www.codeblue.com/legacy-products

These guides should contain all the information needed for your application. If further information is required, please contact **customerservice@codeblue.com**.