



IP1500/IP2500 Speakerphones

Models: PHXS01, PHXS02, PHXS03, PHXS04, PHXS05, PHXS06

Admin Guide

Installation | Configuration | Support | Maintenance | Use



Code Blue

800.205.7186 • www.codeblue.com



WARNING

ONLY QUALIFIED PERSONNEL SHOULD INSTALL THESE UNITS. THE INSTALLATION SHOULD CONFORM TO ALL LOCAL CODES. IN SOME COUNTRIES, A CERTIFIED ELECTRICIAN MAY BE REQUIRED.

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Table of Contents

Section	Section Title	Page #
2	Introduction	4
3	Safety Information	5
	• Special Warning	6
	• Shielded Patch Cable	7
4	Installation Instructions	8
	• IP1500	9
	• IP1501	10
	• IP2500	12
	• IP2501	13
5	Wiring Diagrams	15
	• Printed Circuit Board Layout	16
	• IP1500/1501	17
	• IP2500/2501	18
6	Provisioning the Phone	19
	• Determine the IP Address	19
	• Logging into the System	20
	• Logging out of the System	21
	• Network Configuration	22
	• VLAN Configuration	23
	• Configuring VoIP Settings	24
	• Configuring VoIP Accounts	24
	• Configuring SIP Account	25
	• Configuring an IAX Account	26
	• Configuring Media Settings	27
	• Configuring Advanced Settings	28
	• Configuring the System Settings	29
	• System Administration Settings	30
	• Date & Time Configuration	31



Table of Contents (continued)

Section	Section Title	Page #
7	Upgrading Firmware	32
8	Configuring System Options & Scripts	33
	• Batch Configuration	33
	• Entering Phone Numbers	34
	• Recordings Administration	35
	• Hardware Settings	36
	• General Settings	37
	• Action Script Configuration	38
	• Scripting Basic Call	38
	• Action Script Parameters	41
	• Sample Application using dual Accounts on the IP1500/2500 Phone	43
	• Auxiliary Output Expanded Functionality & Use Case	44
	• Configuring Diagnostics	45
9	CLI (Command Line Interface)	46
10	In-Call Commands	47
12	Factory Reset	48
13	Compatibility	50
14	Configuring for Cisco Unified Communications Manager 9	51
15	UCM Configuration	53
16	Configuring End Users for Secondary Accounts	54
17	Avaya IP Office Integration Guide	56
18	Power Requirements	63
19	Using the IP1500 and IP2500 Series Speakerphones	67
20	Button and Activation Specifications	68
21	Speaker Specifications	69
22	Remote Mount Beacon/Strobe Installation	70
23	Maintenance Schedule	71
24	Warranty	73
25	Download Information	74
26	Legal & Regulatory Information	75



2 Introduction

Thank you for choosing the Code Blue **IP1500** and **IP2500** Series full duplex VoIP speakerphone(s), intercom, and paging device(s) for indoor and outdoor applications. These speakerphones are 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 **IP1500** and **IP2500** Series speakerphone(s).



IP2501-s Flush Mount



IP2501-d Flush Mount



IP1501 Flush Mount



IP2500-s Surface Mount



IP2500-d Surface Mount



IP1500 Surface Mount



3 Safety Information

HAZARD LEVELS LEGEND

DANGER	Indicates a hazardous situation which, if not avoided, <i>will</i> result in death or serious injury.
WARNING	Indicates a hazardous situation which, if not avoided, <i>could</i> result in death or serious injury.
CAUTION ⚠	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates a situation which, if not avoided, could result in damage to property.
IMPORTANT	Indicates significant information that is essential for proper product functionality.
NOTE	Indicates useful information that helps get the most out of a product.

Safety Instructions

WARNING • Code Blue products shall be installed by trained professionals. The installation should conform to all local codes. In some countries, a certified electrician may be required.

- NOTICE** • When transporting a Code Blue product, use the original packaging or equivalent to prevent damage to the product.
- Code Blue products shall be used in compliance with local laws and regulations.
 - Store the Code Blue product in a dry and ventilated environment.
 - Do not install the product on unstable brackets, surfaces or walls.
 - Use only applicable tools when installing Code Blue products.
 - Do not use chemicals, caustic agents, steel wool or aerosol cleaners other than those tested and recommended by Code Blue.
 - Use only accessories that comply with technical specifications of the product. These can be provided by Code Blue or a third party.
 - Use only spare/replacement parts provided by or recommended by Code Blue.

Transportation

- NOTICE** • When transporting a Code Blue product, use the original packaging or equivalent to prevent damage to the product.



Special Warning: High Voltage - Range 37 - 57V DC <12.96 watts (27mA)



Grounding

There must be an uninterruptible safety earth ground attached to the grounding lanyard provided. Whenever it is likely that the protection has been impaired, disconnect the Ethernet cable until the ground has been restored. This is a non-emergency, non-monitored product line.

Ground terminations points have been marked in accordance with UL 2017 standards. Approved icons have been applied to indication the grounding location.

Ground Wire Connection

Locate the 18g green ground wire, which is terminated with a ring lug that has been secured to a faceplate stud. The loose end of the green ground wire must be secured to an earth ground nearby.

If the enclosure has marked grounding location, and a green grounding screw is available, please use it whenever local codes dictate earth ground is required. Ground termination locations can be labelled using the following graphic symbol:



There are no user-serviceable parts inside these products. Any servicing, adjustment, maintenance or repair must be performed only by service-trained personnel. These products do not have a power switch; they are powered on when the Ethernet PoE cable is plugged in.

ELECTRICAL SAFETY WARNINGS

This device is suitable for use in non-hazardous locations only.

WARNING: Explosion Hazard - Do not replace the device unless power has been switched off or the area is known to be non-hazardous.

WARNING: Do not operate the equipment in the presence of flammable gasses or fumes. Operating electrical equipment in such an environment constitutes a definite safety hazard.

WARNING: If the equipment is used in a manner not specified by Code Blue Corp., the protection provided by the equipment may be impaired.

WARNING: Do not perform any services on the unit unless qualified to do so. Do not substitute unauthorized parts or make unauthorized modifications to the unit.

WARNING: Properly ground the unit before connecting anything else. Units not properly grounded may result in a safety risk and could be hazardous and may void the warranty. See the grounding technique section for proper ways to ground the unit.

WARNING: Do not operate the equipment in a manner not specified by this manual.

WARNING: Do not work on equipment or cables during periods of lightning activity.

WARNING: Install only in accordance with Local & National Codes of Authorities Having Jurisdiction. (Revised 2010-11-15) 5



Shielded Patch Cable

Note: Before applying power to the grounded switch, you must use a volt meter to verify there is no voltage difference between the power supply's negative output terminal and the switch chassis grounding point. If the use of shielded cables is required, it is generally recommended to only connect the shield at one end to prevent ground loops and interfere with low level signals (i.e. thermocouples, RTD, etc.). Cat5e cables manufactured to EIA-568A or 568B specifications are required for use with switches.



In the event all Cat5e patch cable distances are short (i.e. all Ethernet devices are located the same local cabinet and/or referenced to the same earth ground), it is permissible to use fully shielded cables terminated to chassis ground at both ends in systems void of low level analog signals.



4 Installation Instructions

This chapter provides information for obtaining the best performance with the **IP1500 and IP2500 Series** speakerphone. It is strongly recommended that the entire guide is read before configuring your **IP1500 and IP2500 Series 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 speakerphone by pressing a button.

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

These speakerphones provide powerful, yet flexible IP communication & deliver excellent voice quality for your speakerphone, intercom, or paging solution.

Getting Started

Important Notes:

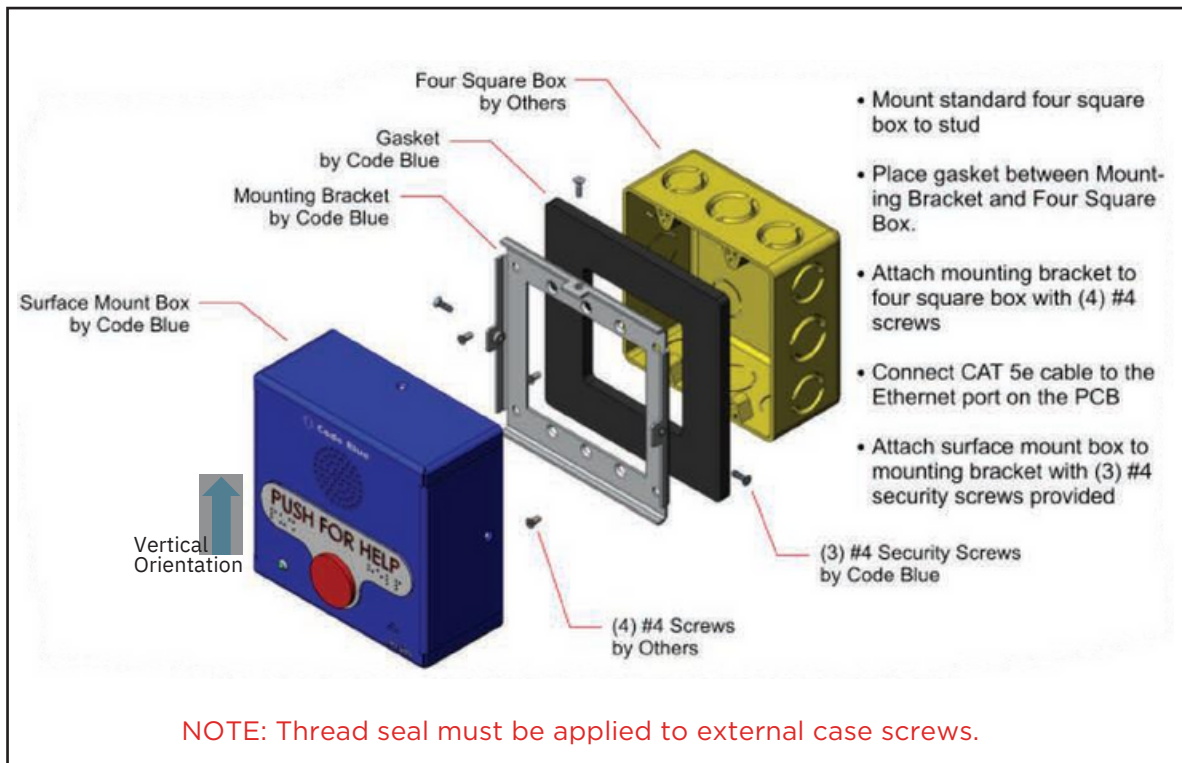
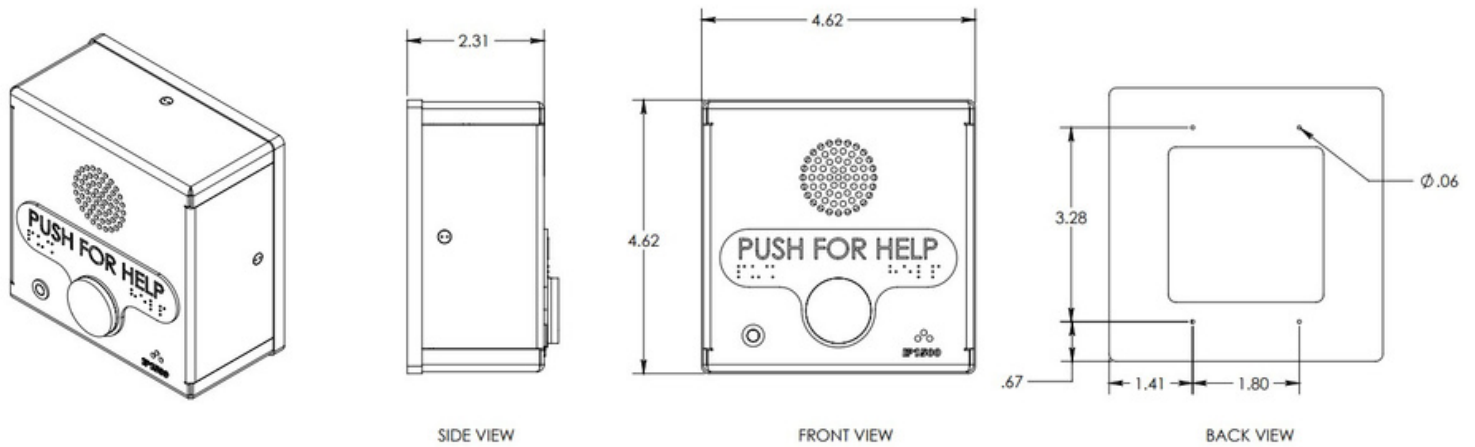
- EIA/TIA, ANSI, CSA and BICSI cabling or similar standards shall be adhered to for proper operation of Code Blue communication devices connected to copper or fiber infrastructures communications cable and electrical cable in the same conduit is not an acceptable installation and shall not be supported. Analog phones require a minimum of 23mA for proper operation (26-29mA recommended).
- Each analog speakerphone requires its own phone line or PBX extension. Multiple units shall not be supported.
- Speakerphones require programming before operation. Consult the speakerphone's Administrator Guide for instructions.
- If you are installing IP speakerphones, please read the appropriate manuals and consult with your Network Administrator.
- Size electrical wiring based on length of run.



Speakerphone Installation Instructions

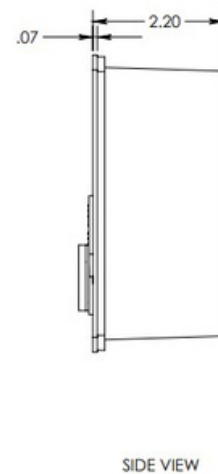
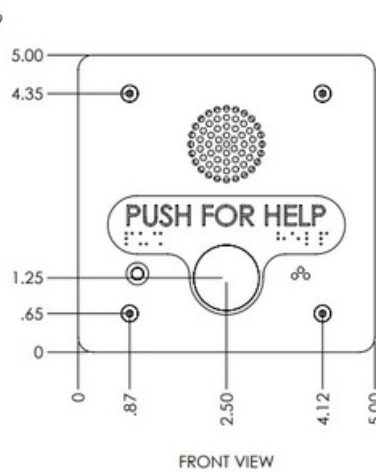
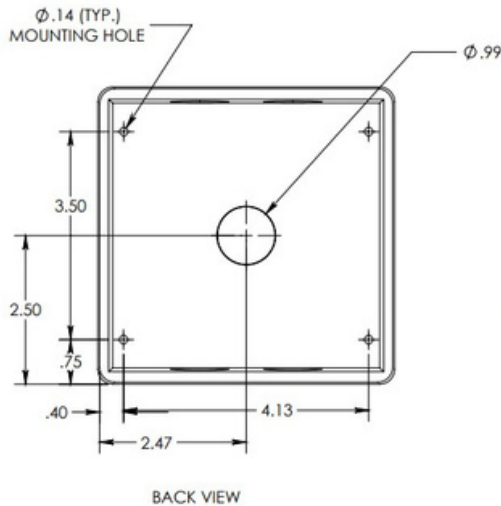
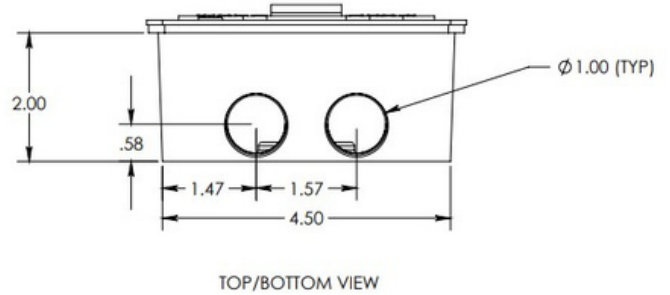
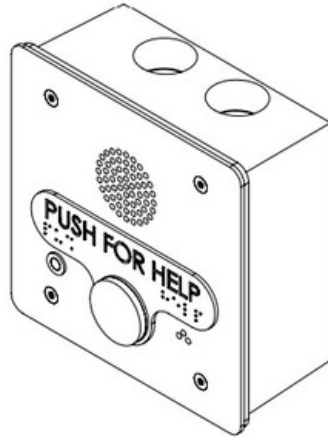
The **IP1500 and IP2500 Series** comes in surface and flush mount options. The surface mount allows the mounting bracket to be installed during rough in and the faceplate with electronics during completion. The faceplate on the flush mount is five inches square and provides an overlap to the mounting box to eliminate additional trim work.

4.1 Surface Mount IP1500 Series

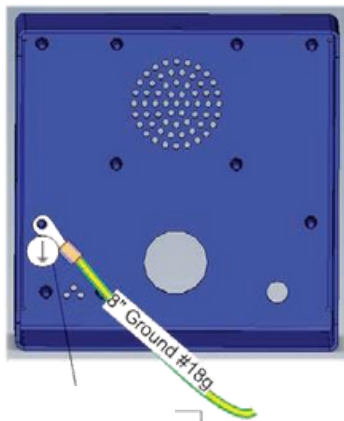




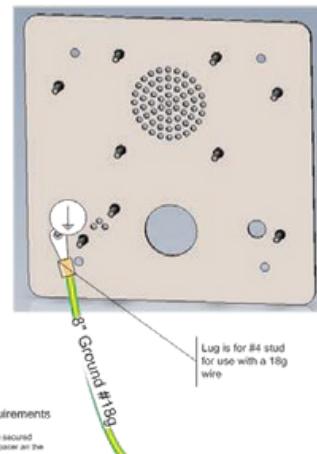
4.2 Flush Mount IP1501 Series



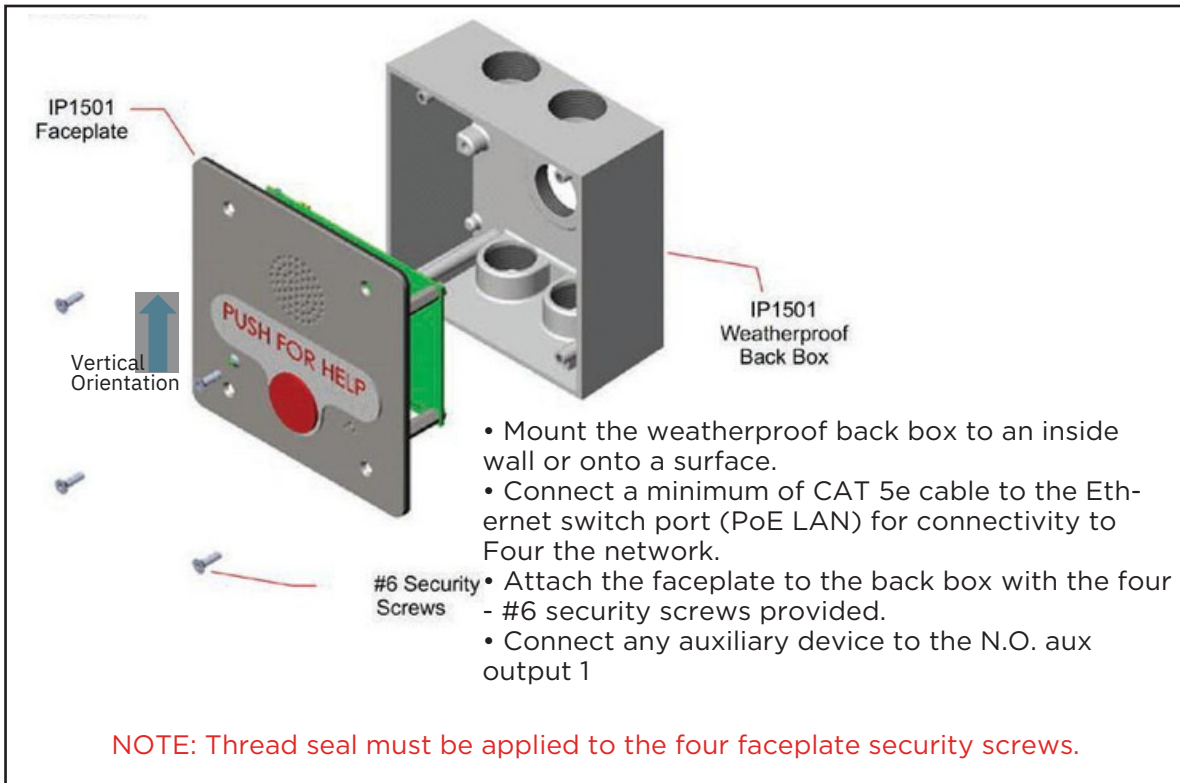
IP1500 Faceplate - Backside Grounding



IP1501 Base Faceplate - Backside Grounding

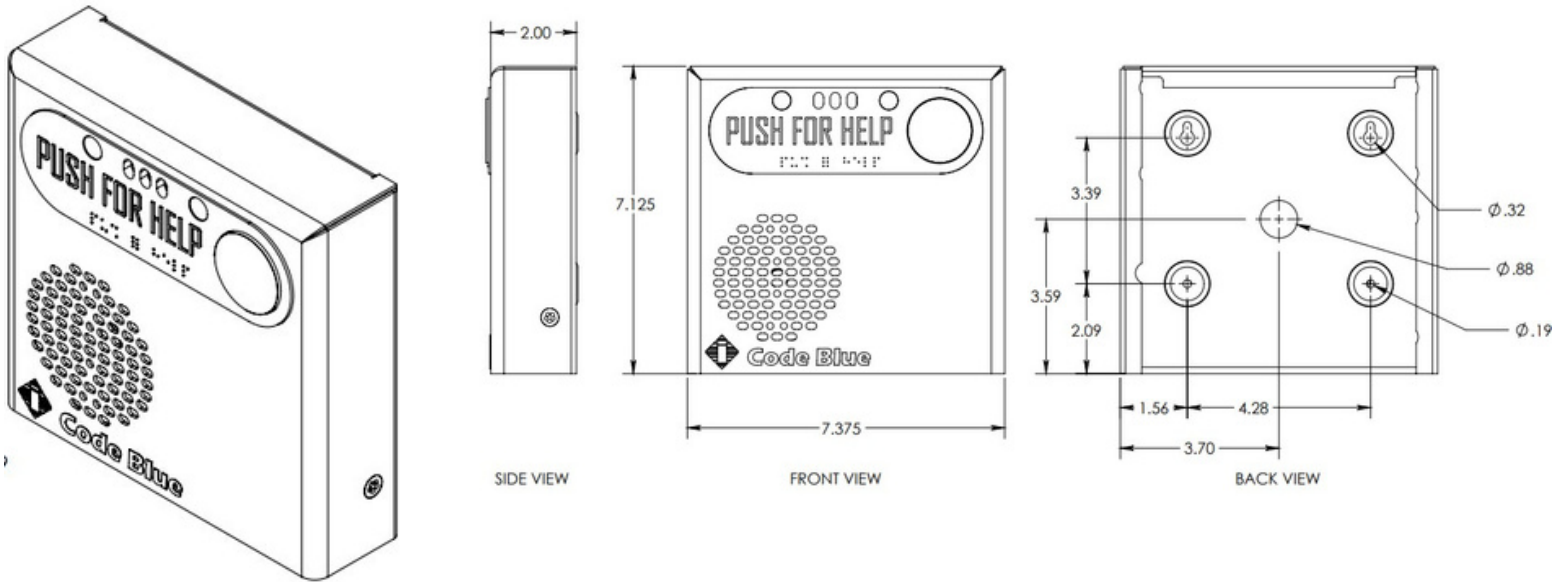


Ground lug will be placed on a stud with bare metal on one side and a kepnut holding it in place. The lug used for the 1500 requires a #6 eyelet type lug.





4.3 Surface Mount IP2500 Series



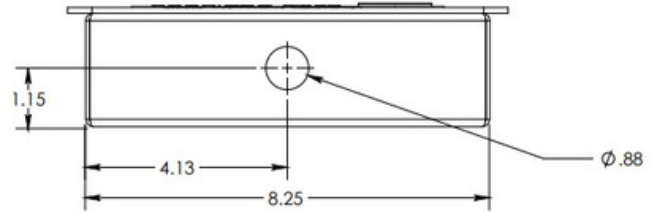
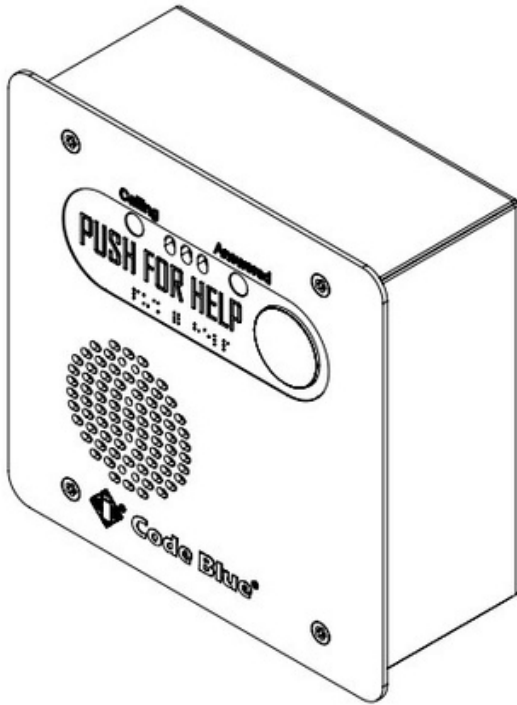
Vertical Orientation

- First, remove the two retaining screws, one from each side of the case
- Remove the rear mounting plate by sliding it downward
- Use the mounting plate as your guide on the wall, mark the mounting and conduit holes
- Remove the rear mounting plate and create the required holes, attach the mounting plate to the wall
- Pull CAT 5e cable through the conduit hole in the rear mounting plate
- Connect CAT 5e cable to the Ethernet port on the PCB
- Slide the IP2500 Series case down, starting from the top of the rear mounting plate
- Replace the two retaining screws

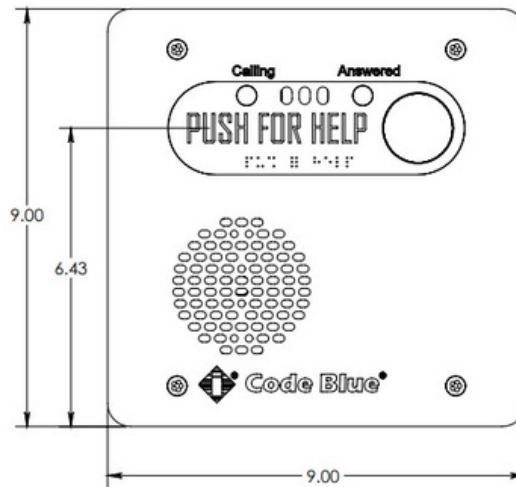
NOTE: By design, no main gasket is needed to seal the enclosures. The installer is responsible for sealing all screws with thread seal, as well as applying the proper conduit for a weather-tight seal.



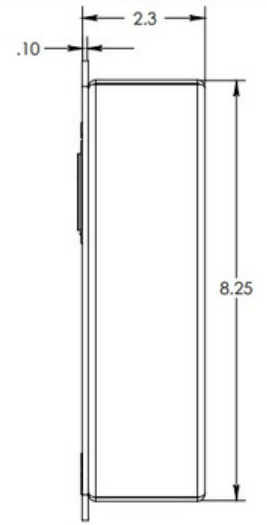
4.4 Flush Mount IP2501 Series



BOTTOM VIEW

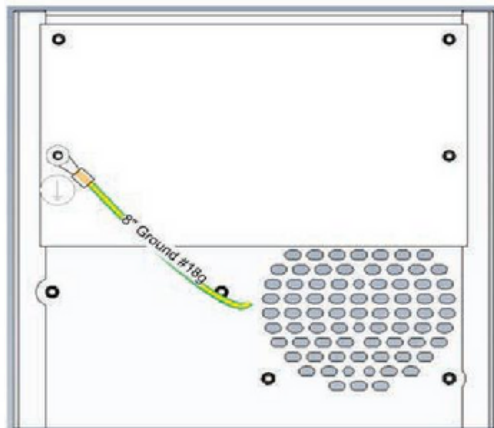


FRONT VIEW

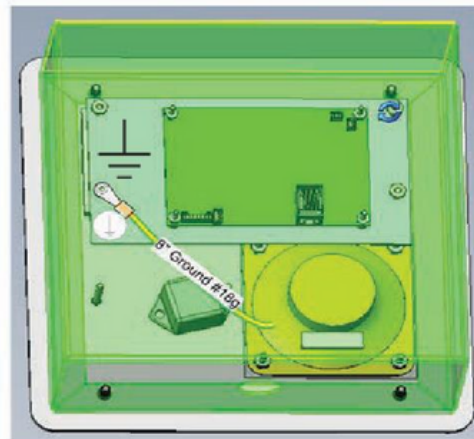


SIDE VIEW

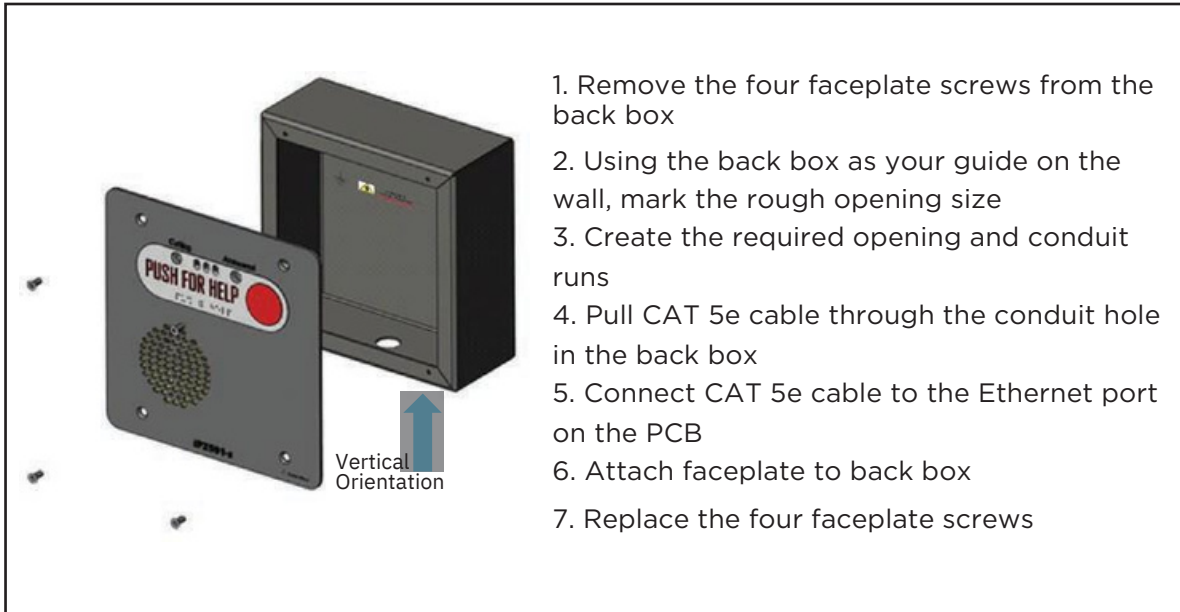
IP2500 Series Faceplate - Backside Grounding



IP2501 Series Base Faceplate - Backside Grounding



Ground lug will be placed on a stud with bare metal on one side and a kepnut holding it in place. The lug used for the 2500 requires a #6 eyelet type lug.



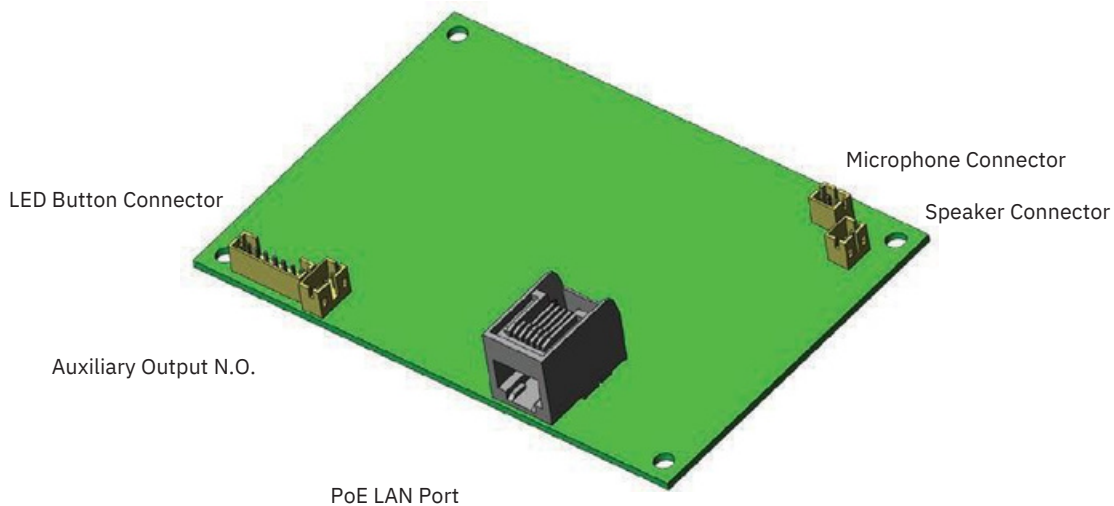


5 Wiring Diagrams

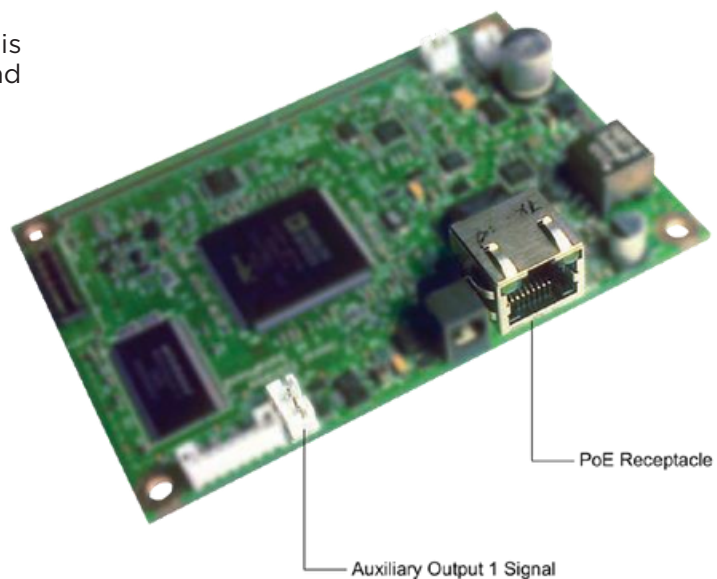
The **IP1500 and IP2500** Series has a compact design small enough and is light enough to ensure an easy installation at any new or existing location. The **IP1500/2500** has one PoE LAN port (IEEE 802.3 10/100 Ethernet Port) for connecting to a network. A single, normally open auxiliary output is available to trigger door locks, lights, gates or any other security device.

The internal components consist of a microphone connector, a speaker connector, one PoE LAN port, a button connector(s), one normally open auxiliary output and PCB mounting hardware.

5.1 IP1500 and IP2500 Series Printed Circuit Board Layout



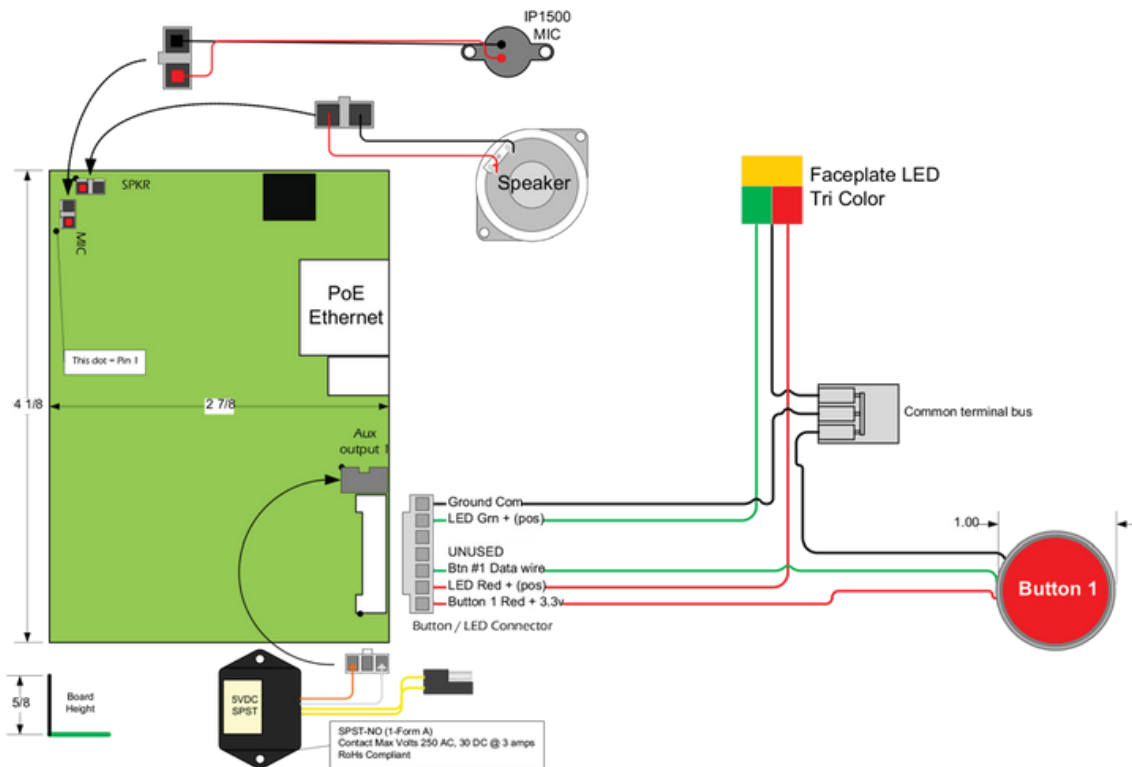
The IP1500 and IP1501 Series is solely powered by PoE, 802.3at and af Class 0 upon initialization.





5.2 Wiring Diagram IP1500 and IP1501 Series

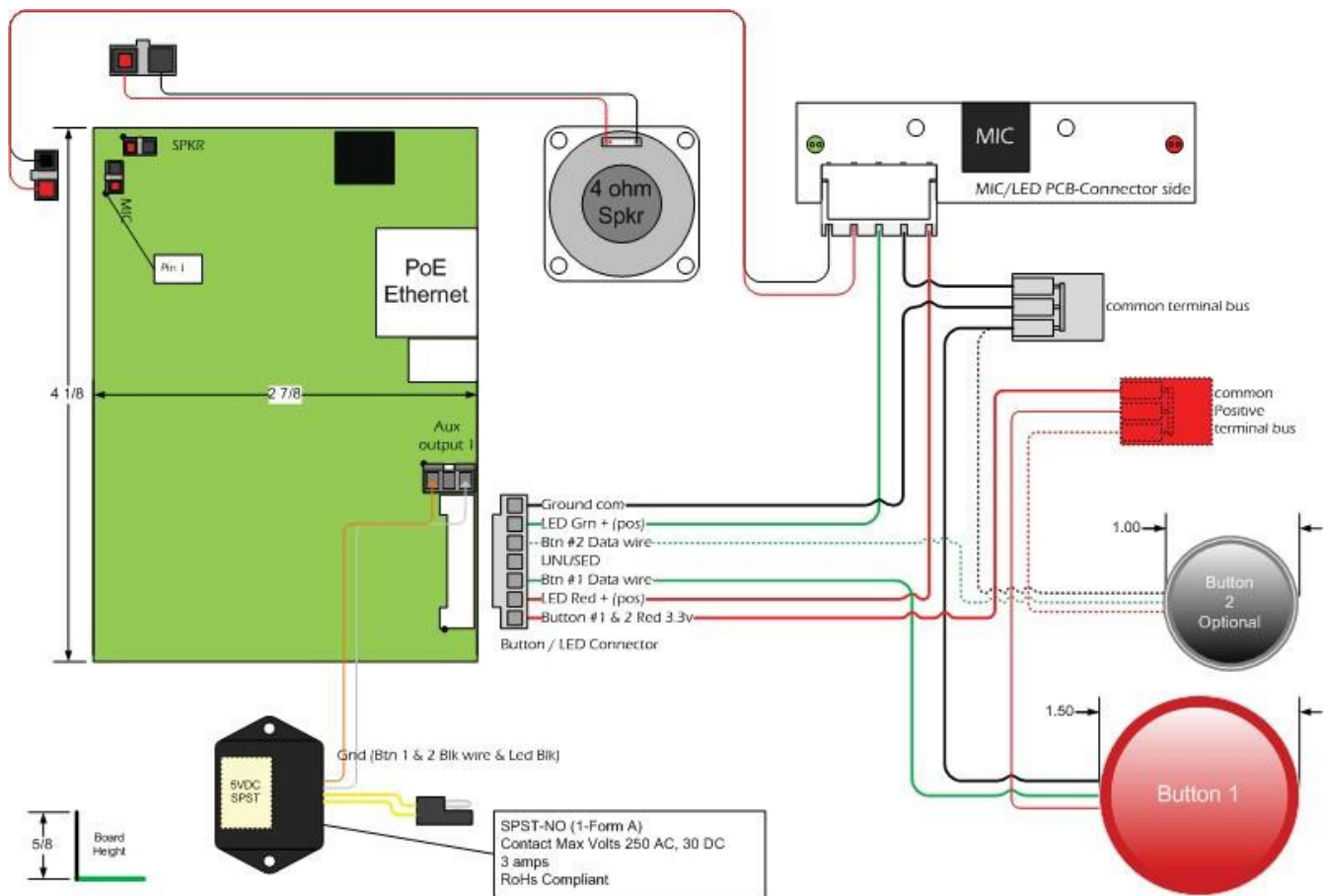
The **IP1500 and IP1501** Series has one PoE LAN port for network connectivity and one normally open auxiliary output relay for triggering devices such as a LED beacon/strobe, camera preset activation inputs, gate control or third party controllers. The relay can be programmed to hold the relay closed for the duration of the call, for a specific time period or toggled for a specific time period upon the operator's request.





5.3 Wiring Diagram IP2500 and IP2501 Series

The **IP2500 and IP2501 Series** has one PoE LAN port for network connectivity and one normally open auxiliary output relay for triggering devices such as a LED beacon/strobe, camera preset activation inputs, gate control or third party controllers. The relay can be programmed to hold the relay closed for the duration of the call, for a specific time period or toggled for a specific time period upon the operator's request. The **IP2500 and IP2501 Series** also has the option of an additional button for non-emergency calls.





6 Provisioning the Phone

If no DHCP server is available, download and install TFTP32 from tftpd32.jounin.net to turn a computer into a DHCP server.

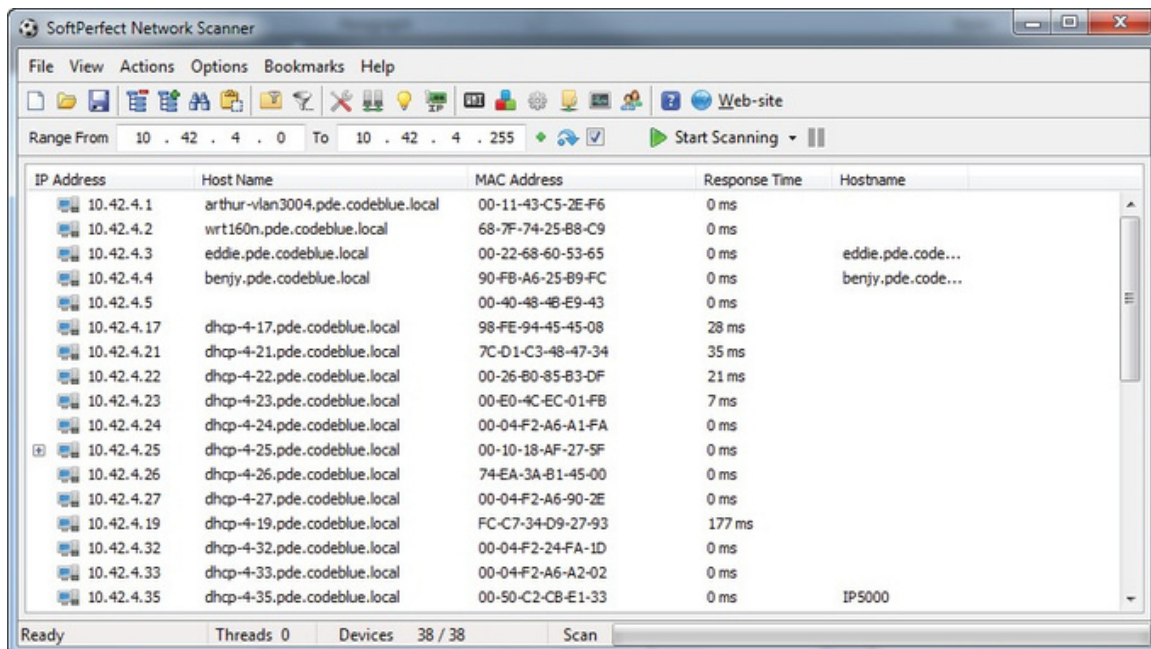
6.1 Determine the IP Address

All IP1500 and IP2500 Series speakerphones are DHCP by default. A programming video is available at www.codeblue.com/support/how-to-videos.

1. Connect the 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 IP1500/2500 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 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





6.2 Logging Into The System

1. Log in using a web browser.

- A. Place the IP Address of your speakerphone 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 up 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.

The screenshot shows the 'IP1500/2500 Configuration' web interface. The main heading is 'System Status'. On the left is a navigation menu with categories: Session, Status, Network Setup, VoIP Setup, System, and Code Blue - Configuration. The 'Session' section shows 'Auto-logout: 06:15' with 'Renew' and 'Logout' buttons. The 'Status' section has 'System' selected. The 'Network Setup' section is expanded to show 'Network' details: Address (172.1.100.200), Gateway (172.1.100.1), DNS Primary (172.1.100.61), DNS Secondary (0.0.0.0), and DNS Tertiary (0.0.0.0). Below this are 'Account 1' details: Protocol (SIP), User (6106@172.1.100.61), Registration Status (PROXY_REGISTERED), and STUN (Disabled). 'Account 2' details show Enabled (Disabled), Protocol, and User. The 'Code Blue - Configuration' section lists various settings like Batch Configuration, Numbers, Recordings, Hardware Settings, General Settings, Action Scripts, and Diagnostic Settings. A footer at the bottom reads 'copyright © 2013 Code Blue'.



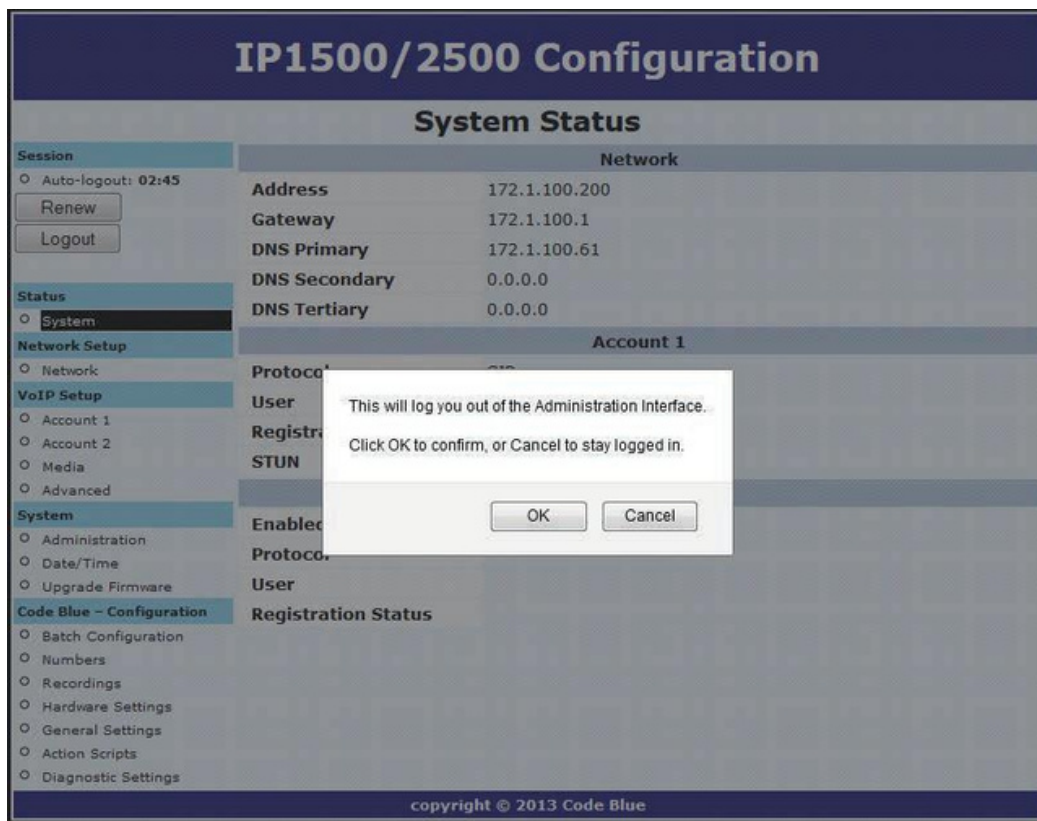
6.3 Logging Out Of The System

1. To log out of the 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 speakerphone.





6.4 Network Configuration

Once you have obtained the DHCP address of the 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 speakerphone to a network your PC cannot access, you will have to configure your PC to access that network before configuration can continue

The screenshot shows the 'IP1500/2500 Configuration' web interface. The main heading is 'Network Setup'. On the left is a navigation menu with categories: Session, Status, Network Setup, VoIP Setup, System, and Code Blue - Configuration. The 'Network Setup' section is expanded to show 'Network'. The main content area is divided into sections: 'General' (Host, Domain, Connection Type), 'Static IP Address' (Address, Mask, Default Router, DNS Primary, DNS Secondary, DNS Tertiary), 'Additional Settings' (MTU Size), and 'VLAN' (VLAN ID, User Priority). A 'Save Changes' button is at the bottom right. The footer contains 'Copyright © 2013 Code Blue'.



6.5 VLAN Configuration

The 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 speakerphone. If you wish to disable VLAN support and cannot reach the speakerphone on its configured VLAN, factory-reset the unit to clear network configuration.

The screenshot shows the 'IP1500/2500 Configuration' web interface. The main heading is 'Network Setup'. On the left is a navigation menu with categories: Session, Status, Network Setup, VoIP Setup, System, and Code Blue - Configuration. Under 'Network Setup', 'Network' is selected. The main content area is divided into sections: 'General' (Host, Domain, Connection Type), 'Static IP Address' (Address, Mask, Default Router, DNS Primary, DNS Secondary, DNS Tertiary), 'Additional Settings' (MTU Size), and 'VLAN' (VLAN Enabled checkbox, ID field, User Priority dropdown). A 'Save Changes' button is at the bottom right. The footer contains 'Copyright © 2013 Code Blue'.



6.6 Configuring VoIP Settings

The IP1500 and IP2500 Series speakerphones are an advanced VoIP devices 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.

6.7 Configuring VoIP Accounts

The 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 speakerphone'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.

IP1500/2500 Configuration

Account 2

Session

- Auto-logout: 07:17
- Renew
- Logout

Status

- System

Network Setup

- Network

VoIP Setup

- Account 1
- Account 2**
- Media
- Advanced

System

- Administration
- Date/Time
- Upgrade Firmware

Code Blue - Configuration

- Batch Configuration
- Numbers
- Recordings
- Hardware Settings
- General Settings
- Action Scripts
- Diagnostic Settings

Account Type

VoIP Protocol: Disabled SIP & RTP IAX

SIP Configuration

Description: Station 34

Username/Number: 34789

Display Name: Code Blue Unit 34

Domain: 10.42.1.132

Additional Settings

Outbound Proxy: (leave blank if same as domain)

Outbound Proxy Port: 0 (advanced; set to 0 for auto detect)

Registration Lifetime: 3600 seconds

Keep-Alive: Enabled

STUN: Enabled

DTMF threshold: -20 dB

Proxy Authentication

Username: 34789

Password: ••••••

VLAN User Priorities

SIP: 0 - Best Effort (default: 0)

RTP Audio: 6 - Voice < 10ms latency and jitter (default: 6)

Save Changes

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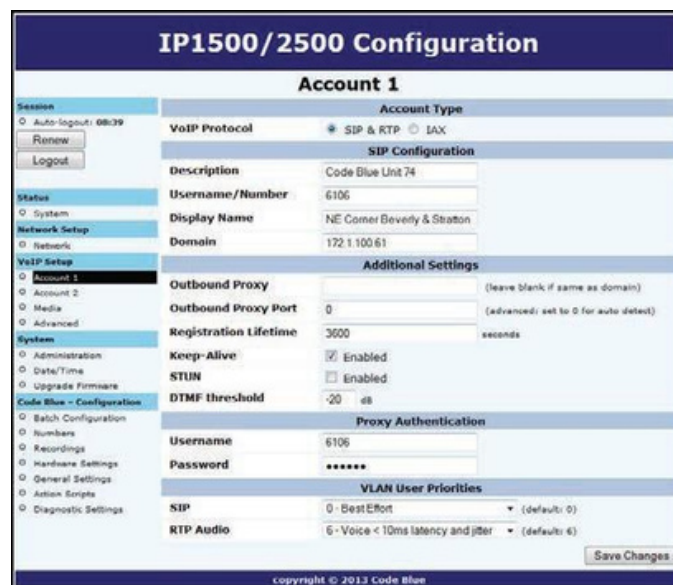


6.8 Configuring a SIP Account

Either of the 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 & RTP.
- For Description, enter a name the speakerphone will use internally to refer to this account.
- For Username/Number, enter the number that the speakerphone will use for SIP addressing.
- This will often be the extension number in a VoIP-based PBX.
- For Display Name, enter the display name the speakerphone will send in SIP transactions. This will often be the calling name of the extension.
- For Domain, enter the domain the speakerphone will register to.
- For Outbound Proxy, enter a SIP proxy the speakerphone 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 speakerphone will send outbound calls to. Typically, this should be left at 0.
- For Registration Lifetime, enter the time in seconds the speakerphone will request that its registration be valid for. The speakerphone will automatically re-register before this time period expires.
- Check Keep-Alive if you want the speakerphone 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 Threshold value if you have difficulties with the speakerphone activating in-call commands when no DTMF is present.
- For Username and Password, set the username and password the speakerphone 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.





6.9 Configuring an IAX Account

Either of the 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 speakerphone does not support two simultaneous IAX accounts.)

Configuration is as follows:

- Set the VoIP Protocol to IAX.
- For Description, enter a name the speakerphone will use internally to refer to this account.
- For Username/Number, enter the number that the speakerphone 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 speakerphone will send in IAX transactions. This will often be the calling name of the extension.
- For Domain, enter the domain the speakerphone will use in its IAX address.
- For Registrar, enter the address of the IAX server the speakerphone 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 speakerphone will register and send outbound calls to. Typically, this should be left at 0.
- For Username and Password, set the username and password the speakerphone 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 speakerphone will request that its registration be valid for. The speakerphone will automatically re-register before this time period expires.
- You can adjust the DTMF Threshold value if you have difficulties with the speakerphone activating in-call commands when no DTMF is present.

IP1500/2500 Configuration

Account 2

Session: Auto-logout: 04:23
Renew
Logout

Status: System

Network Setup: Network

VoIP Setup: Account 1, Account 2 (selected), Media, Advanced

System: Administration, Date/Time, Upgrade Firmware

Code Blue - Configuration: Batch Configuration, Numbers, Recordings, Hardware Settings, General Settings, Action Scripts, Diagnostic Settings

Account Type

VoIP Protocol: Disabled SIP & RTP IAX

IAX Configuration

Description: Station 63
Username/Number: 28456
Display Name: Code Blue Unit 63
Domain: 10.23.14.234

Registrar Configuration

Registrar: auto-configure
Registrar Port: 0 (advanced: set to 0 for auto detect)
Username: 28456
Password:
Registration Lifetime: 3600 seconds

Additional Settings

DTMF threshold: -20 dB

Save Changes

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6.10 Configuring Media Settings

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

The 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.

IP1500/2500 Configuration

VoIP Media

Session

Auto-logout: 09:53

Renew

Logout

Status

System

Network Setup

Network

VoIP Setup

Account 1

Account 2

Media

Advanced

System

Administration

Date/Time

Upgrade Firmware

Code Blue - Configuration

Batch Configuration

Numbers

Recordings

Hardware Settings

General Settings

Action Scripts

Dagnostic Settings

RTP Configuration

Port Range: 23456 to 23556

Codec Selection

Available

- G.711 uLaw
- G.711 aLaw
- G.726 (16kbps)
- G.726 (24kbps)
- G.726 fixed payload
- G.726 (40kbps)
- G.722 HD
- DVI4 Narrowband
- DVI4 HD
- Linear PCM
- Linear PCM HD
- Linear PCM (little endian)
- Linear PCM HD (little endian)
- ILBC-30
- ILBC-20

Add >>

<< Remove

Preferred

- G.711 uLaw
- G.711 aLaw
- G.726 fixed payload
- G.726 (16kbps)
- G.726 (40kbps)

Move Up

Move Down

Save Changes

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6.11 Configuring Advanced Settings

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

- Click on **Advanced** under **VoIP Setup** (see far left-hand column) to configure the STUN server IP address and Port.
- Upon completion, click **Save Changes**.

The screenshot shows the 'IP1500/2500 Configuration' web interface. The main heading is 'Advanced Settings'. On the left is a navigation menu with categories: Session, Status, Network Setup, VoIP Setup, System, and Code Blue - Configuration. Under 'VoIP Setup', 'Advanced' is selected. The main content area is titled 'STUN' and contains two input fields: 'Server' (empty) and 'Port (advanced)' (containing '3478'). There are 'Renew' and 'Logout' buttons under 'Session', and a 'Save Changes' button on the right. The footer reads 'copyright © 2013 Code Blue'.



6.12 Configuring the System Settings

The 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**



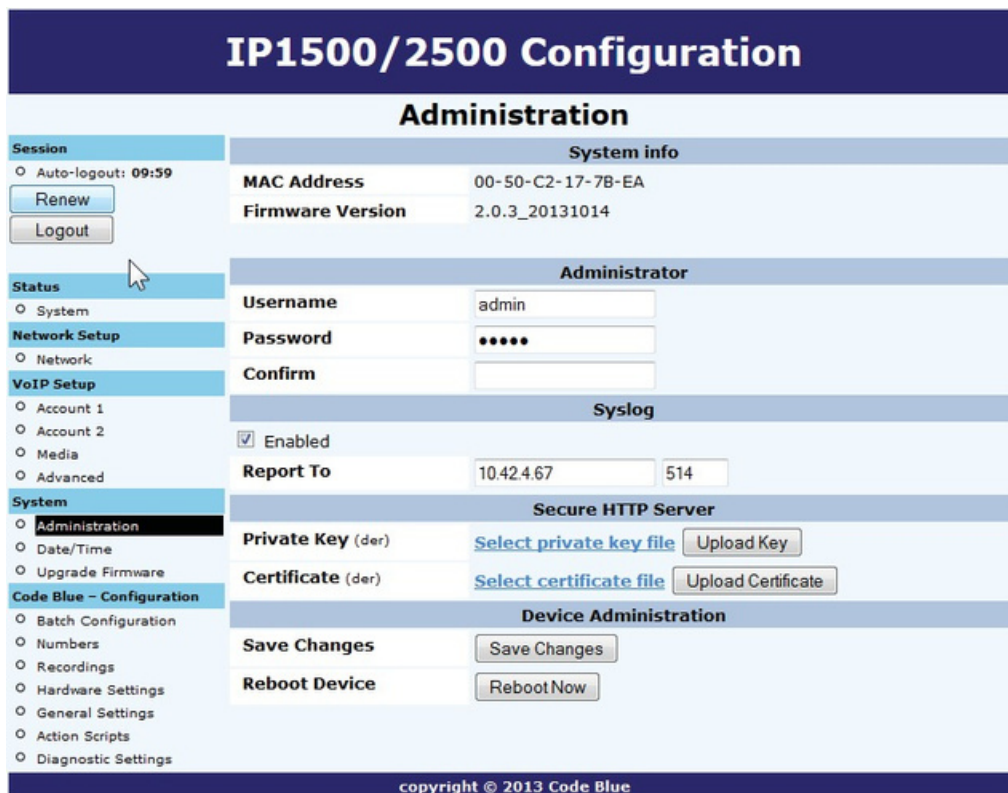
6.13 System Administration Settings

The Administration page under System contains several system settings:

- The **System Info** section displays the MAC address and firmware version running on the speakerphone.
- The **Administrator** section allows changing of the administrator username and password. Enter a new **Username**, if desired, and enter the new **Password** and again in the **Confirm** box to change these parameters.
- The speakerphone can send RFC 5424 Syslog messages to a **Syslog** server by specifying it in the Syslog 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 speakerphone'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 making changes, click **Save Changes**. You can also reboot the device directly from this page by clicking **Reboot Now**.



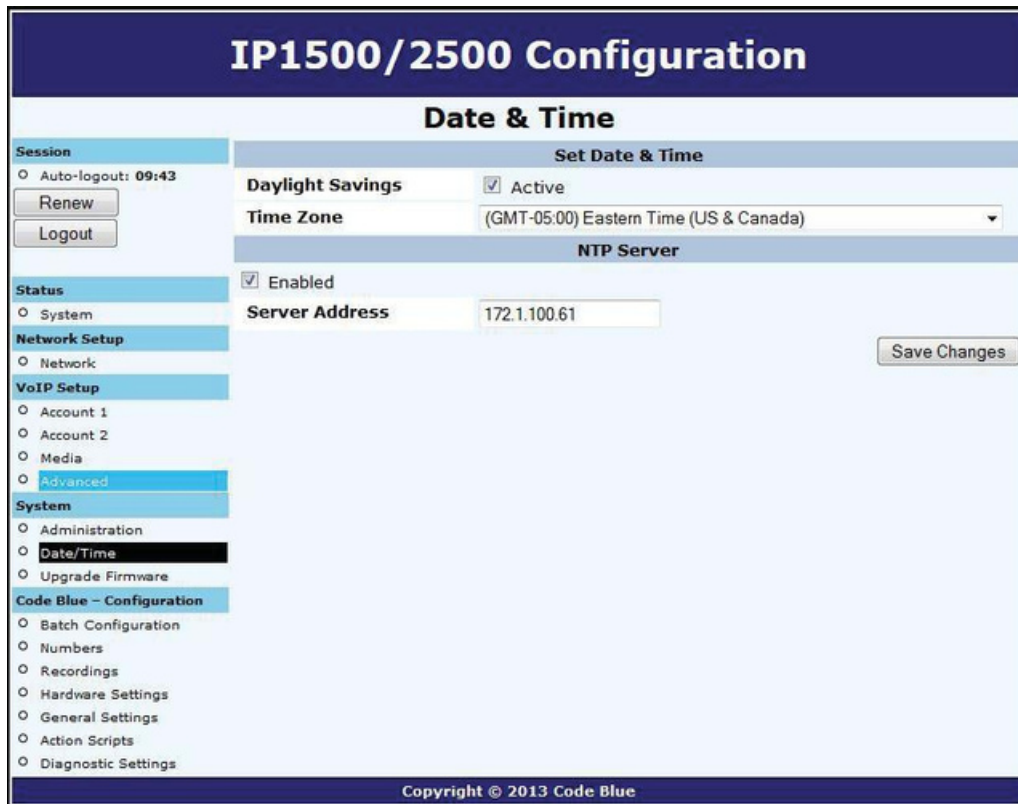


6.14 Date and Time Configuration

The speakerphone date and time are managed by:

- Clicking Date/Time under **System** (see far left-hand column).
- Under the **Set Date & Time** section, you can manually set the Date, Time, Daylight Savings (if applicable) and Time Zone.
- 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**).
- Click **Save Changes**.

If the “Apply Now” box doesn’t appear once saved, move to the administration section and use the “Reboot” button.



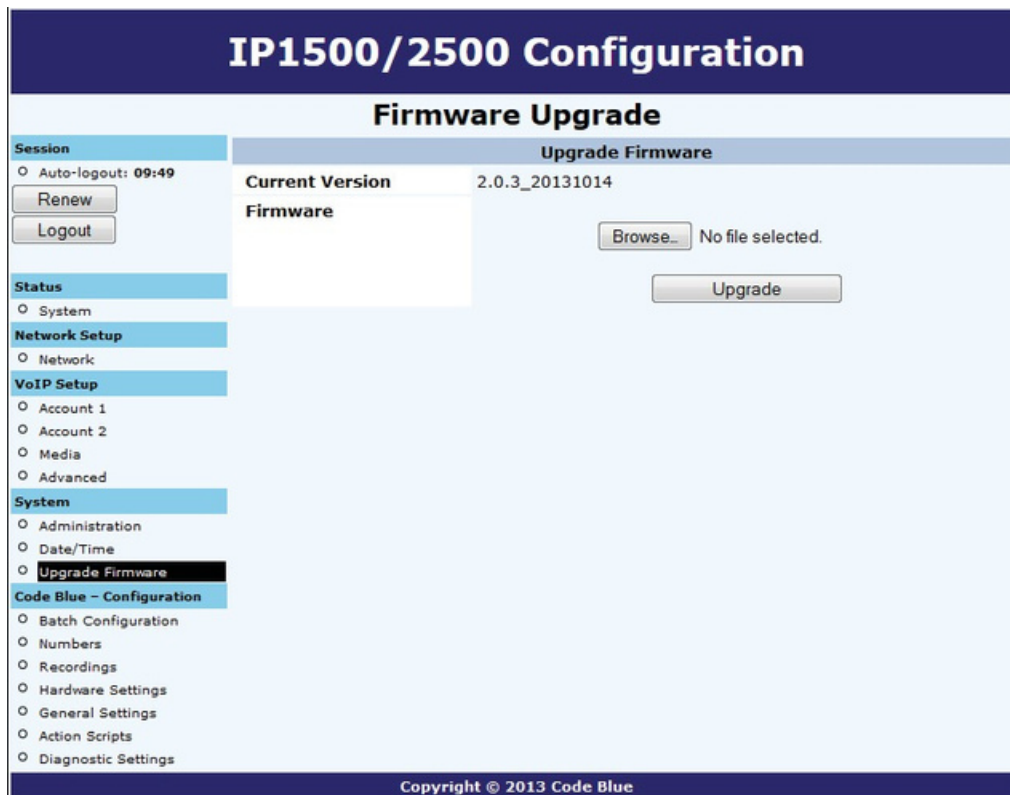


7 Upgrading the IP1500/IP2500 Firmware

The speakerphone firmware file can be changed by:

- Select **Upgrade Firmware** under **System** (see far left hand column).
- Click **Browse** (or **Select File**) and select the appropriate firmware file.
- Click the **Upgrade** button.
- The 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.





8 Configuring System Options and Scripts

The speakerphone has advanced configuration settings, which allow for complete control of the hardware and how the system performs. A memory capacity of 1 MB provides for multiple phone number and recorded message capabilities. Incoming call routing, SNMP and advanced diagnostics enhanced with advanced scripting capabilities provide for flexible configurations.

8.1 Batch Configuration

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

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

If you are not offered the change to “Apply Now”, move to the Administration dialog and manually click on the “Reboot” button.

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

IP1500/2500 Configuration

Batch Configuration

Session ○ Auto-logout: 09:38 Renew Logout	Fetch Configuration TFTP Server: 10.42.4.3 TFTP Server Port: 69 (advanced; default 69) Fetch Configuration
Status ○ System	Verify Configuration Verify Integrity
Network Setup ○ Network	Results All configuration files and script are just dandy.
VoIP Setup ○ Account 1 ○ Account 2 ○ Media ○ Advanced	
System ○ Administration ○ Date/Time ○ Upgrade Firmware	
Code Blue - Configuration ○ Batch Configuration ○ Numbers ○ Recordings ○ Hardware Settings ○ General Settings ○ Action Scripts ○ Diagnostic Settings	

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8.2 Entering Phone Numbers

The speakerphone number configuration is made by:

- Clicking **Numbers** under **Code Blue** (see far left-hand column).
- Enter the extension (i.e. SIP account, user extension) number. Choose which account this extension number will be related to. Enter a description for this extension. See account reference on page 15.
- Select the **green plus sign** to add the number.
- To delete a number, simply click **the red X**.
- Select the **green check mark** when prompted **Are you sure?**

The screenshot displays the 'IP1500/2500 Configuration' web interface. The main heading is 'Numbers'. On the left, there is a navigation menu with categories: Session, Status, Network Setup, VoIP Setup, System, and Code Blue - Configuration. Under 'Code Blue - Configuration', 'Numbers' is selected. The main content area shows a table with columns 'Number' and 'Description'. Two entries are listed: '5639 via Account 2' with description 'Security' and '5639 via Account 1' with description 'Security'. Each entry has a red 'X' icon to its right. Below the table, there is a form with a dropdown menu set to 'Account 1' and a text input field. A green plus sign icon is visible to the right of the form. At the bottom of the page, it says 'copyright © 2013 Code Blue'.



8.3 Recordings Administration

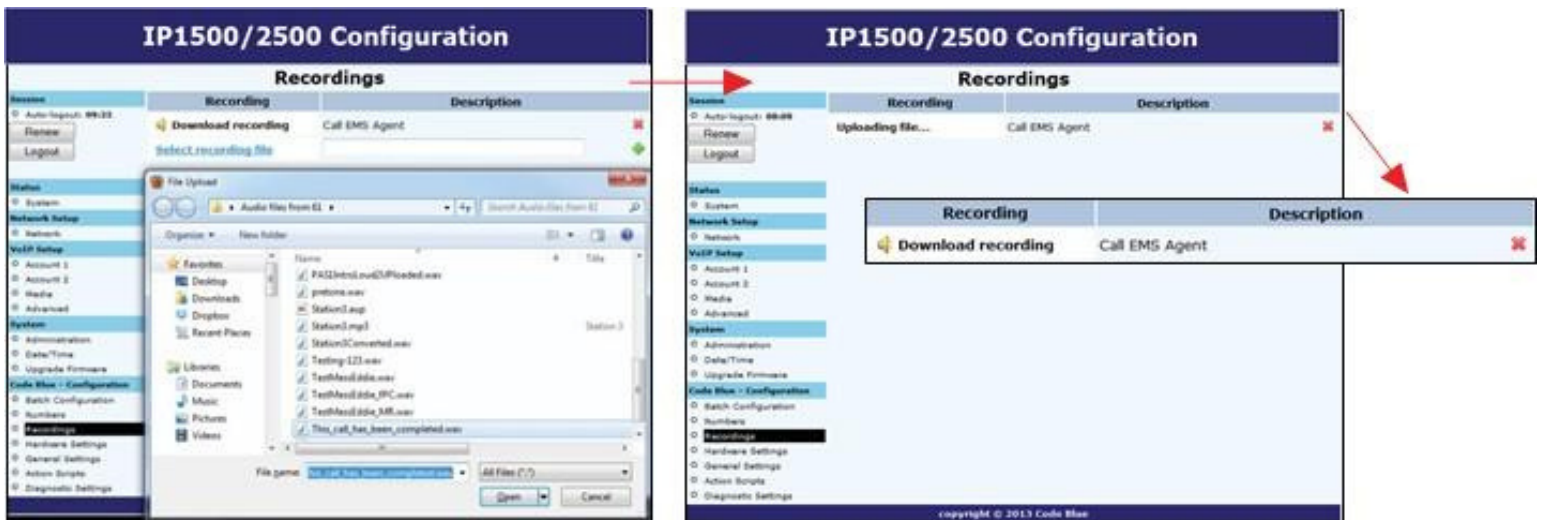
The speakerphone recording configuration is made by:

- Selecting **Recordings** under **Code Blue** (see far left-hand column).
- Click on **Select recording file** and choose the file you wish to upload to the speakerphone. Click **Open**.
- Enter the **Description** within the **Description Field**.
- 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.
- To delete a number, simply click the **red X**.
- Select the **green check mark** when prompted **Are you sure?**

The 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 mono 8 KHz or 16 KHz Linear PCM data (extension.wav)

Note: Audio files will consume memory space within the 1 MB shared memory allocation.





8.4 Hardware Settings

The speakerphone hardware settings are configured by:

- Selecting **Hardware Settings** under **Code Blue** (see far left-hand column).
- Select the appropriate **Button Count, Keypad Available** settings under the **Interface** section.
- Checking Aux Output 1 will enable the aux output relay. By default, the port is set to enable (Toggle State) when used in an Action Script.
- When **Momentary toggle** choice has been selected, the called party now has the ability to activate the aux output remotely for the time period chosen via DTMF tones from their phones 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 the

General Settings > Incoming Calls > Aux Output 1 Enable on Incoming Call check box.

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

The screenshot displays the 'IP1500/2500 Configuration' web interface. The main heading is 'Hardware Configuration'. On the left is a sidebar menu with categories: Session, Status, Network Setup, VoIP Setup, System, and Code Blue - Configuration. Under 'Code Blue - Configuration', 'Hardware Settings' is selected. The main content area is divided into sections: 'Interface' with 'Button Count' set to '2 buttons' (radio button selected), and 'Auxiliary I/O' with 'Aux Output 1' checked as 'Available'. Under 'On in-call command', 'toggle state' is selected, and 'momentarily toggle for' is set to '0' seconds. A 'Save Changes' button is located at the bottom right of the configuration area. The footer of the page reads 'copyright © 2013 Code Blue'.



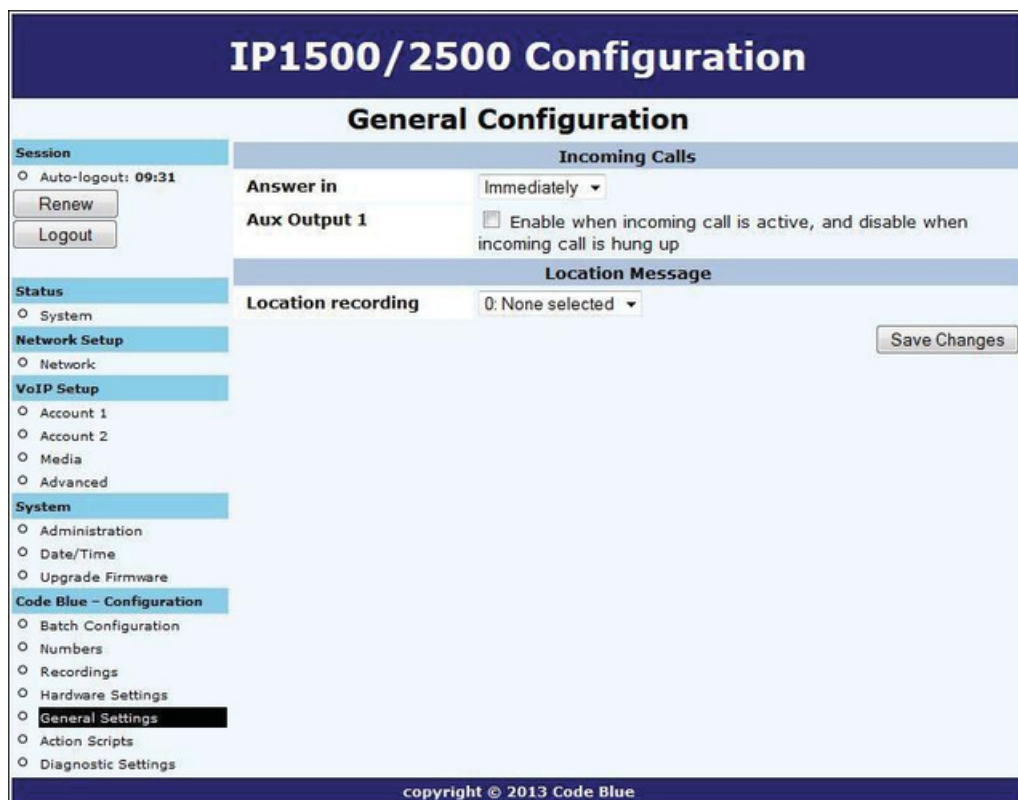
8.5 General Settings

The IP1500/2500 speakerphone general configuration can be accessed by:

- Clicking on **General Settings** under **Code Blue** (see far left-hand column).
- In this section you can select how many rings the speakerphone will wait before answering an incoming call.
- Click the down arrow next to Answer In to change settings.
- The **Aux Output 1** check box, when checked, will enable the **Aux Output 1** on incoming call and is disabled when incoming call is terminated.
- This feature was not intended to be used with **Aux Outputs** configured with the **momentarily toggle (Hardware Settings Dialog)** choice.

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

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





8.6 Action Script Configuration

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

Scripting Requirements

The Action Script in the speakerphone 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 speakerphone for maximum functionality.

Numbers

Load phone numbers for all of your planned calls from this speakerphone.

Recordings

Record all message and upload them to this speakerphone.

Hardware Settings

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

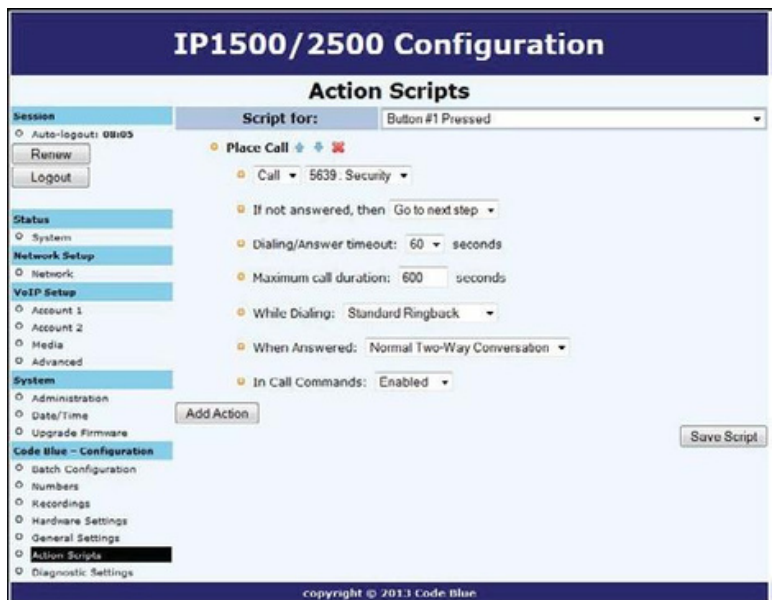
Diagnostic Settings

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

8.7 Scripting Basic Call

The speakerphone 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**.

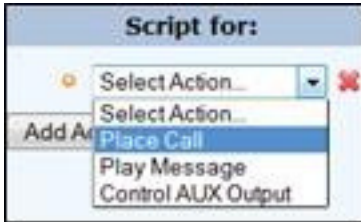


(Continued on next page)

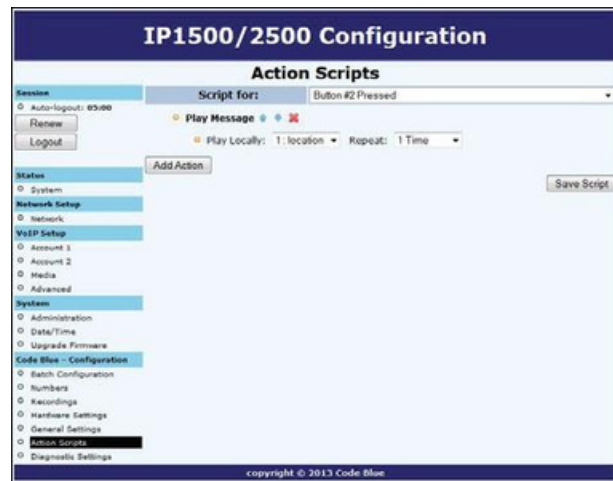


Scripting Basic Call (continued)

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



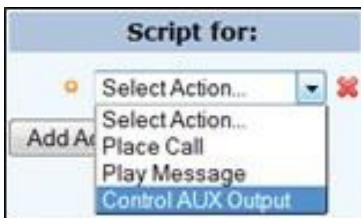
- By default, the first number placed in memory will be present here. If another number is desired, use the drop-down arrow to locate and select another phone number.
- Click on the **Save Script** button. This completes the basic programming needed to place a call.



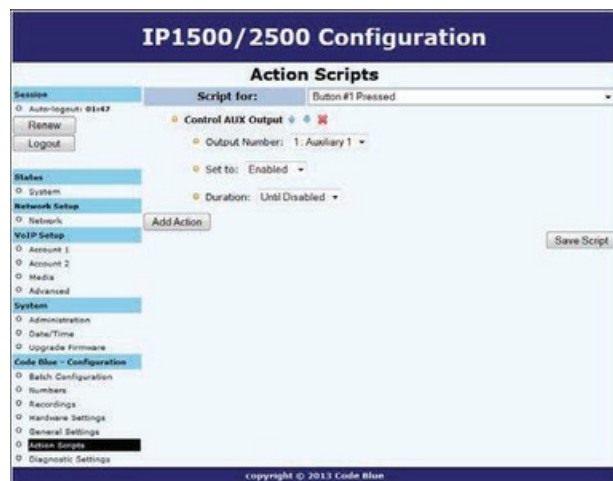
Other Basic Script Choices

Scripting in the speakerphone allows for non-phone call scripting to be programmed to meet unique needs of the customer.

- For example, use **“Button #1 Pressed”** as seen in the example **“Basic Call”**.
- Instead of choosing **“Place Call,”** select **“Control Aux Output”**.



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



(Continued on next page)



Scripting Basic Call (continued)

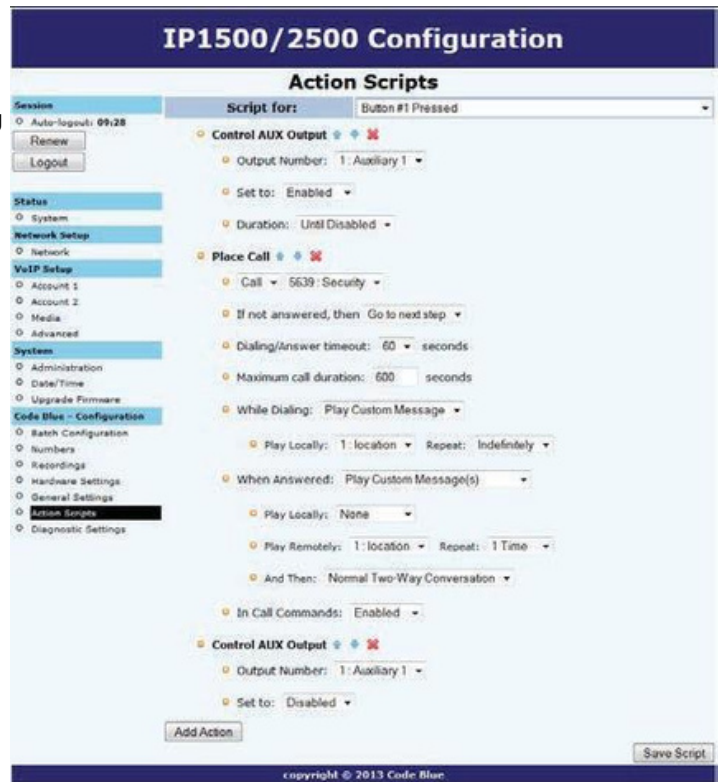
- Next choice is to **Enable** this Aux Output and/or set the **Duration** for this **Aux Output Action**. In this example, request a 10-second duration upon the touch of button 1.
- Next click on **Save Script**. This script is now ready to be tested. Touch Button 1 to test.

Combining Multiple Actions in One “Script -- Advance Programming”

The following example would be the most common configuration deployed.

- Using **Action Scripts > Script for:** “Button #1 Pressed”. Add the following as seen in the example:

- Control Aux Output – Enable
- Place Call – with messages for Calling party and Called Party
- Control Aux Output – Disable
- The Script should look like this:
- Click **Save Script** when finished.





8.8 Action Script Parameters

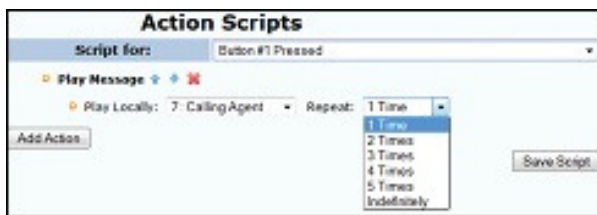
Within the Scripts are many settings controlling the next step in the process of the Action Script: Duration of the process, Enable/Disable features, or even a reactivation of an Aux Output with a timed limitation. The following will provide detailed explanations into these Script controls.

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

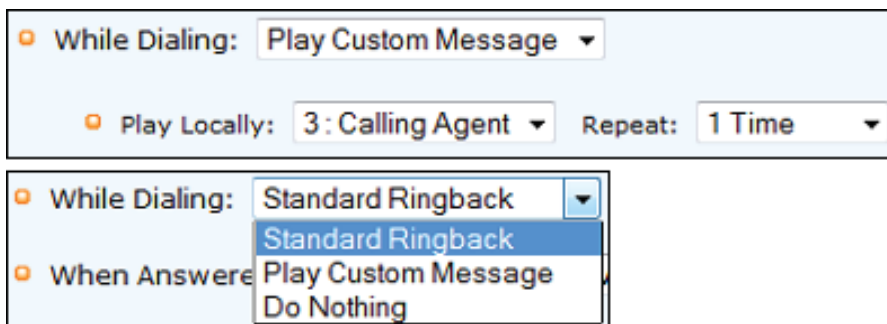
Placing a Call is where the administrator sets up which numbers will be attempted and the order. The administrator could choose multiple numbers stored in “Numbers” or the same number can be repeated many times. “If not answered, then” Call. Select additional numbers to be dialed



Dialing/Answer Timeout: The default time is 60 seconds and can be stepped down to as little as five seconds, before the call attempt times out.

Maximum Call Duration: The default time is 600 seconds (10 minutes). 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: A message can be set to play to the person at the IP1500/2500 and/or Do Nothing, until the call is connected.



(Continued on next page)



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 speakerphone) and/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 speakerphone.

When Answered: Play Custom Message(s) ▼

- Play Locally: 2: Calling Agent ▼ Repeat: 1 Time ▼
- Play Remotely: 1: DFB Door ▼ Repeat: 1 Time ▼

When Answered: Play Custom Message(s) ▼

- Play Locally: 2: Calling EMS Agent ▼ Repeat: 1 Time ▼
- Play Remotely: 1: non-911 ▼ Repeat: 1 Time ▼
- And Then: Normal Two-Way Conversation ▼
- In Call Command: Hang Up

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 Parties control.

In Call Commands: Disabled ▼

Control AUX Output

Aux Outputs can be activated and deactivated throughout a Script.

Aux Outputs can also be set to activate on incoming answered calls.

It is strongly advised that when this feature is used no other configurations are enabled for an Aux Output with Momentary Toggle selected in **Hardware Settings**.



8.9 Sample Application using dual Accounts on the IP1500/2500 Phone

If using both accounts on a speakerphone, you must then set up 2 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:

- If server 1 is considered registered and responds, the call goes through to server 1 immediately.
- If server 1 is considered registered and unresponsive, it will be tried for the time listed in **Dialing/Answer timeout**, but no more than 30 seconds; then server 2 will be tried.
- If server 1 is not considered registered, server 1 will be skipped and server 2 will be tried immediately.

The screenshot displays the 'IP1500/2500 Configuration' web interface. The main heading is 'Action Scripts'. A dropdown menu for 'Script for:' is set to 'Button #1 Pressed'. The configuration is for a 'Place Call' action. The first step is 'Call' with the number '5639 : Security Account 1'. A second step is 'If not answered, then Call' with the number '5639 : Security Account 2'. Other settings include 'Dialing/Answer timeout' set to 60 seconds, 'Maximum call duration' set to 600 seconds, 'While Dialing' set to 'Standard Ringback', 'When Answered' set to 'Normal Two-Way Conversation', and 'In Call Commands' set to 'Enabled'. There is an 'Add Action' button and a 'Save Script' button. The left sidebar shows a navigation menu with categories like Session, Status, Network Setup, VoIP Setup, System, and Code Blue - Configuration. The footer of the interface reads 'copyright © 2013 Code Blue'.



8.10 Auxiliary Output Expanded Functionality & Use Case

The speakerphone v2 Aux Output abilities has been expanded for unique use cases: Security Per-sonal Access Control.

Example:

Gate or Door Control

Either output can be configured to activate upon the called parties use of the DTMF keys 4 or 5 on His or Her phone, for a predetermined time period needed by the Gate Mechanism (example - 4 seconds).

Setting up Auxiliary Output 1 to Momentarily Toggle for 4 seconds.

The screenshot shows the 'IP1500/2500 Configuration' web interface. The main heading is 'Hardware Configuration'. On the left is a navigation menu with categories: Session, Status, Network Setup, VoIP Setup, System, and Code Blue - Configuration. The 'Code Blue - Configuration' section is expanded to show 'Hardware Settings'. The main content area is titled 'Interface' and contains the following settings:

- Button Count:** Radio buttons for '1 button' and '2 buttons' (selected).
- Auxiliary I/O:**
 - Aux Output 1:**
 - Available
 - On in-call command:
 - toggle state
 - momentarily toggle for second(s)

A 'Save Changes' button is located at the bottom right of the configuration area. The footer of the page reads 'copyright © 2013 Code Blue'.

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**.



8.11 Configuring Diagnostics

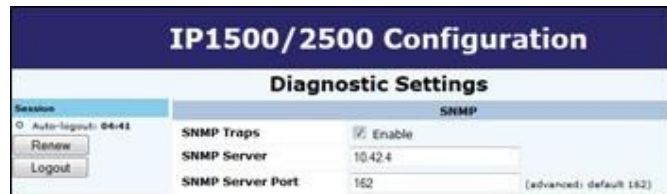
Diagnostic Settings

The 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 speakerphone with an **SNMP** management software or with Code Blue's ToolVox Gateway, with1 Unit Programming & Diagnostic (UPD) Software.



- PoE Power Failure: PoE power is the sole power source and if an interruption in service is experienced, no Trap will be sent due to loss of PoE energy. The PoE switch should alert you to PoE switch state.

Others - (Tests)

Microphone testing is disabled by default, and 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.

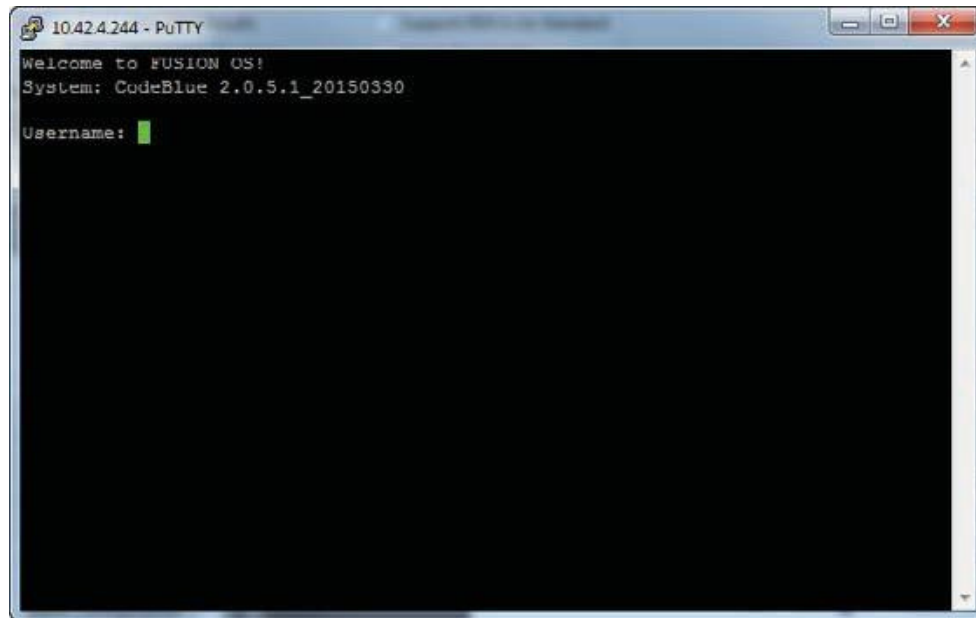
- The test consists of beeps from the speaker, which will be received by the microphone.
- The maximum number of beeps: 10 beeps
 - Once the microphone detects the beeps, the test is complete until the next scheduled test is present.
- The beep tone volume choices are soft, loud, or soft to loud.
 - 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 speakerphone. 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**.



9 CLI (Command Line Interface)

The speakerphone 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 speakerphone: 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:

Format c: codeblue - Using this command, you format the phone and return it to factory default. This command must then 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 very handy for remote testing. Button 1 is the red button. Button 2 is the black button if equipped.



10 In-Call Commands

The 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 Recordings selected in General Settings
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
6	Mic Volume Up	Increase the microphone gain; used to increase the Called party volume
7	Mic Volume Down	Decrease the microphone gain; 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



12 Factory Reset

The system can be reset via two different methods.

12.1 1st Method:

The speakerphone can be reset by following the steps below:
Use the 7 pin reset plug (sent with your order) in order to perform a full reset.

4 & 5 Long Reset = Hard Reset, sets everything back to default

2 & 3 Short Reset = Resets network configuration

- Unplug the RJ45 from the PoE switch port
- Unplug button and disconnect the LED harness
- Short the appropriate 2 pins together for short or long reset (see pic below)
- Plug the RJ 45 back into the PoE switch port
- Upon hearing two short beeps, unit has been reset
- Wait 10 seconds for phone to reboot
- Unplug power source
- Remove the jumper and reconnect the buttons
- Reconnect 7 pin harness
- Reconnect PoE

The Reset is now complete.



- Unplug PoE
 - Unplug button / Led harness and replace with shorting pin connector
 - Reconnect PoE
 - Upon hearing 2 short beeps, unit has been reset, wait 10 seconds &
 - Unplug PoE,
 - Remove jumper reconnect buttons
 - Reconnect 7 pin harness
 - Reconnect PoE
- 2 & 3 Short Reset = Reset Network Config
 - 4 & 5 Long Reset = Hard Reset, clears everything to default



(Continued on next page)



Factory Reset *(continued)*

12.2 2nd Method:

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

- Using Windows Telnet Open <IP Address> <port>
- Enter Username: **admin** and Password: **admin**
- At the prompt, type **format c: codeblue**
- After successfully formatting the phone, type **reboot**

```
- PuTTY
Welcome to FUSION OS!
System: CodeBlue 2.0_b20130220

Username: admin
Password:

C:\>format c: codeblue
Formatting, Please Wait...
Format Successful!
C:\>reboot
```

Code Blue Technical Support: 800-205-7186

Technical support hours are from 8 a.m. to 5 p.m., Monday through Friday Eastern Standard Time



13 Compatibility

The speakerphone 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 speakerphone to can handle third party SIP devices whether through licensing and/or Hardware add-ons.

Some examples of mainstream IP PBXs the speakerphone has registered to as a third party SIP device are:

Asterisk
Cisco Call Manager
and many others...



14 Configuring for Cisco Unified Communications Manager 9

Preparation

- Record the MAC address and determine the current IP address for each IP1500/2500/5000 device you wish to use with CUCM.
- Determine which partition you will put the IP1500/2500/5000 directory numbers into.
- Obtain one directory number for each IP1500/2500/5000 device.
 - If you are going to use the IP1500/2500/5000's dual account configuration to register to redundant CUCM servers, obtain a second directory number for each IP1500/2500/5000 device.
- 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

14.1 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:

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

14.2 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.

(Continued on next page)



6. Ensure Keep-Alive is enabled.

7. 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.

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

9. Click Save.

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

14.3 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.



15 UCM Configuration

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

15.1 Create Phone Security Profile

- Navigate to System > Security > Phone Security Profile.
- Do a Find on “Third-party” to locate the Third-party SIP Device Basic - Standard SIP Non-Secure Profile. Click the Copy icon.
- Check Enable Digest Authentication.
- Change the Name and Description to Code Blue IP1500-2500-5000 Profile.
- Click Save.

15.2 Configure End Users

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

- Navigate to User Management > End User.
- Click Add New.
- For the User ID, enter the hexadecimal version of the MAC address; e.g. 00:50:C2:17:7B:E8
- For the User ID, enter the hexadecimal version of the MAC address; e.g. 00:50:C2:17:7B:E8 would become 0050c2177be8.
- 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.
- Fill in the Last name field with a description of the station.
- 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.
- Click Save.



16 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.

16.1 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 purposes.
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.



16.2 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 Ac- counts, and specify a distinct directory number.

16.3 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.



17 Avaya IP Office Integration Guide

17.1 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**.

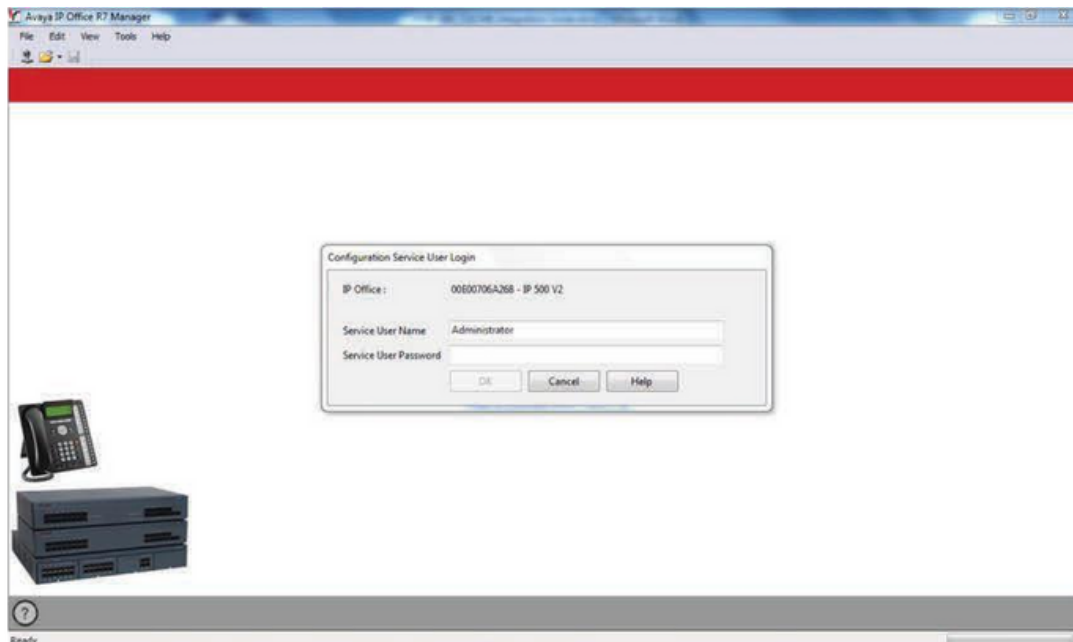
17.2 Prerequisites

- 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)

17.3 IP Office Manager Basic Configuration

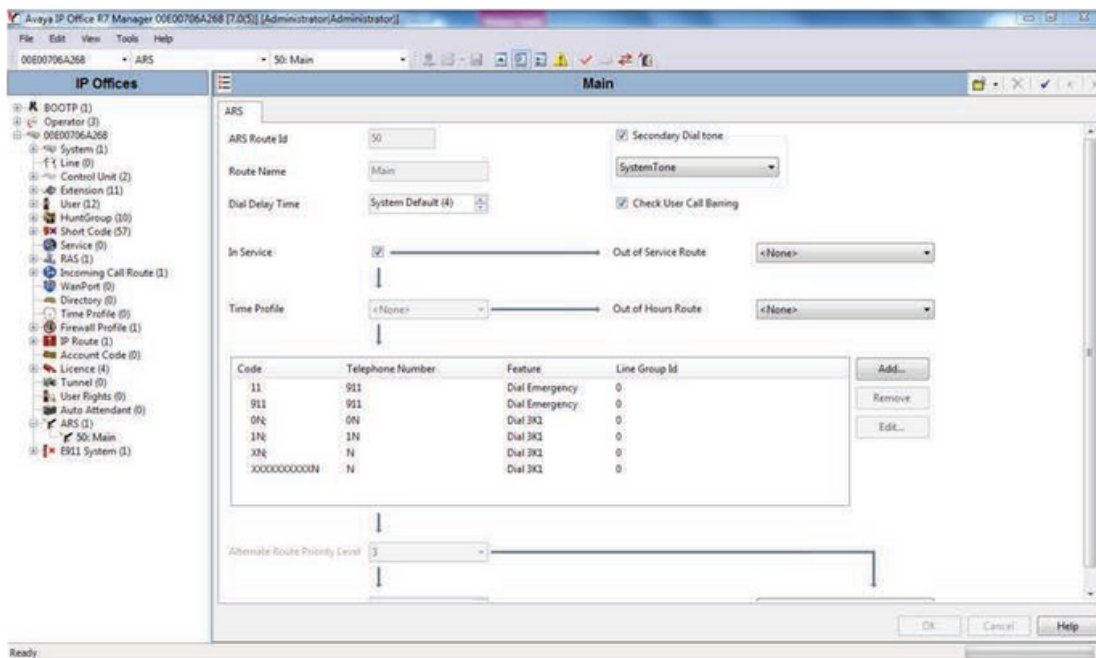
Basic instructions for integrating **IP1500/2500/5000** Series Phones with an Avaya IP Office R7 Manager are included. Advanced setup of IP Office Manager features is outside the scope of this document.

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

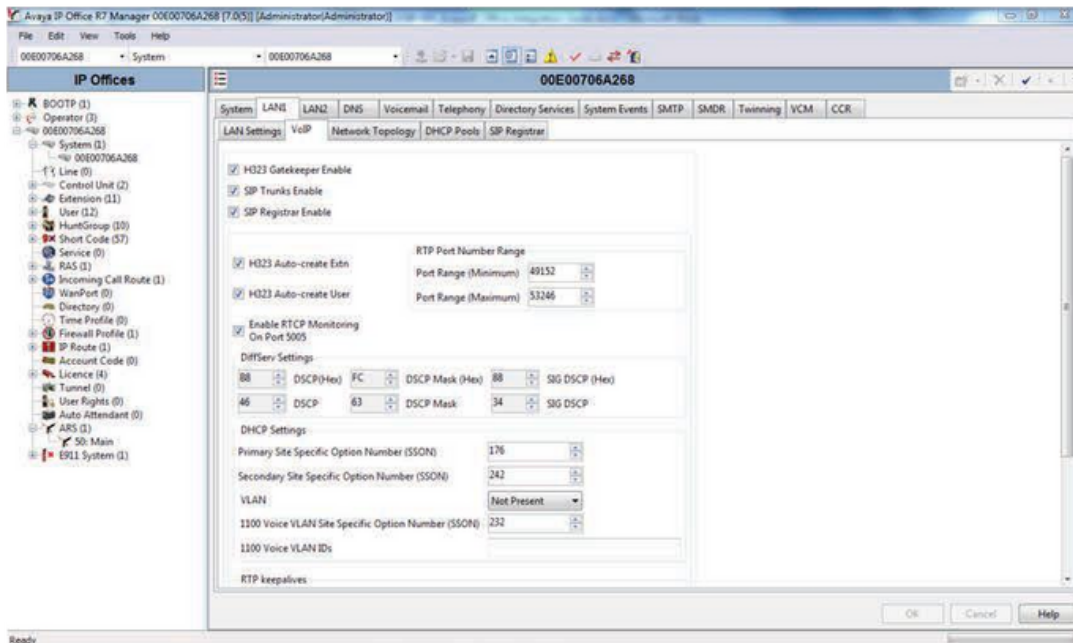




17.4 Log Into Avaya IP Office Manager

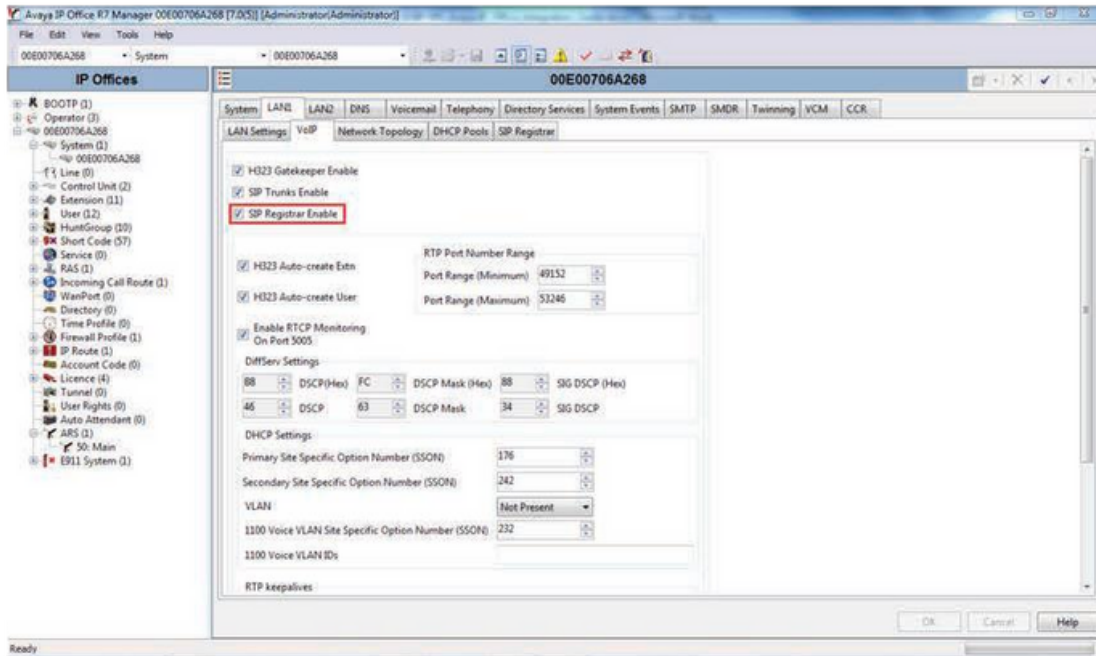


SIP Extension Support is required for **IP1500/2500/5000** integration. Select **System > LAN1 (or LAN2) > VoIP** in IP Office Manager:



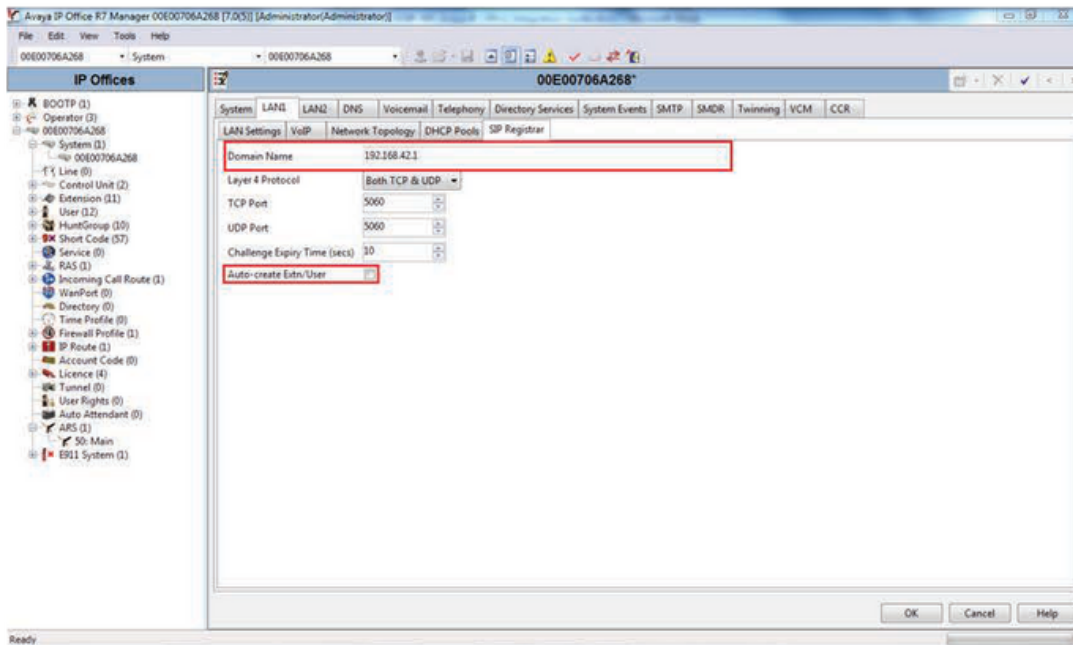


Check that **SIP Registrar Enable** is enabled.



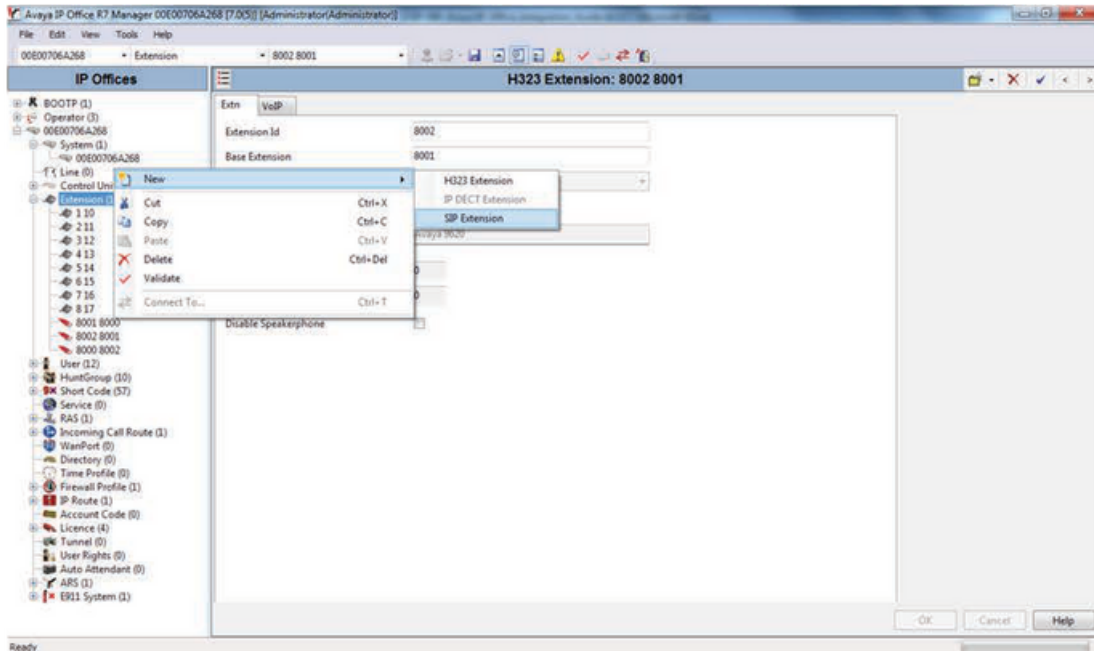
Select the **SIP Registrar** sub-tab.

In **Domain Name**, enter the Fully Qualified Domain Name (FQDN) or the IP address associated with the correct LAN port on the IP Office Control Unit. Deselect **Auto-create Extn/User**. Click **OK**.



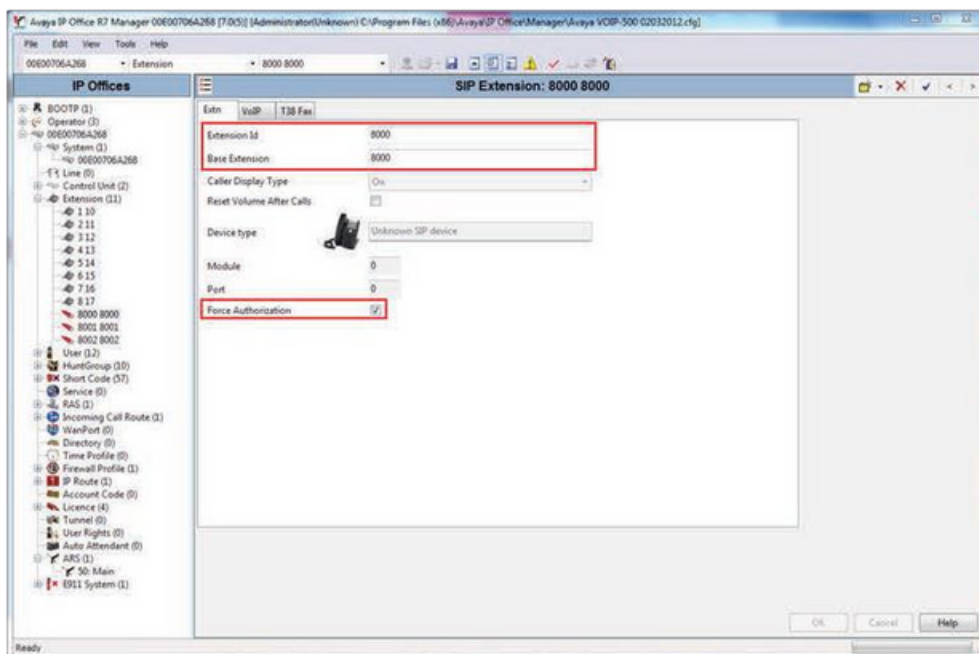


A SIP extension will need to be created for each **IP1500/2500/5000 Series Phone**. Right click on **Extension**, select **New** and then click on **SIP Extension**.



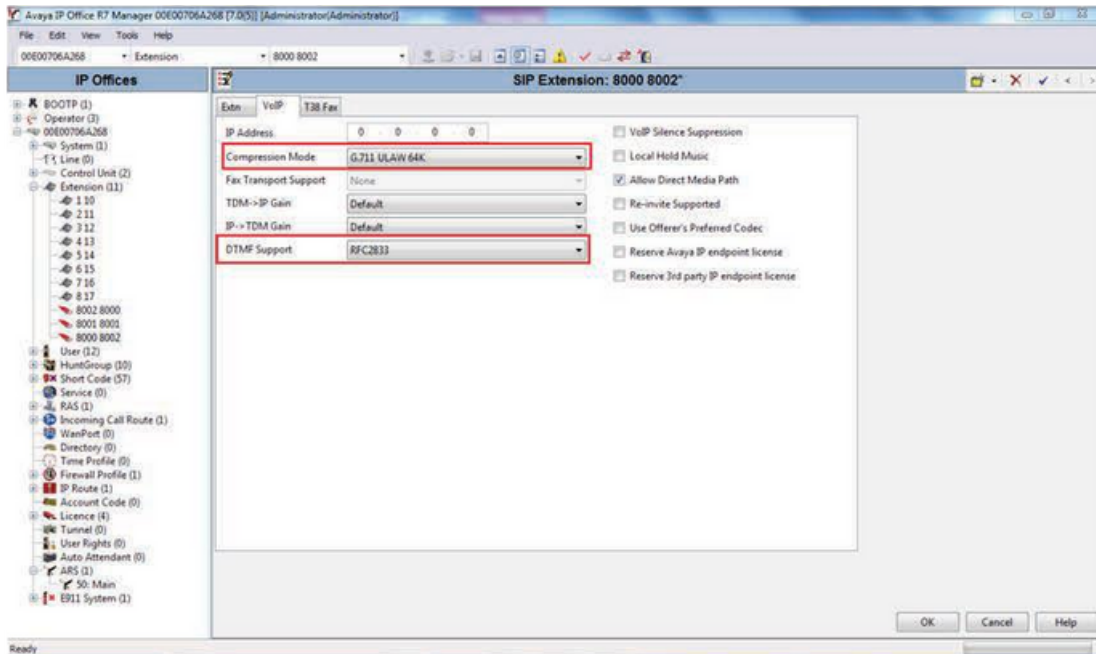
Enter the following fields to create a new extension:

- **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**.

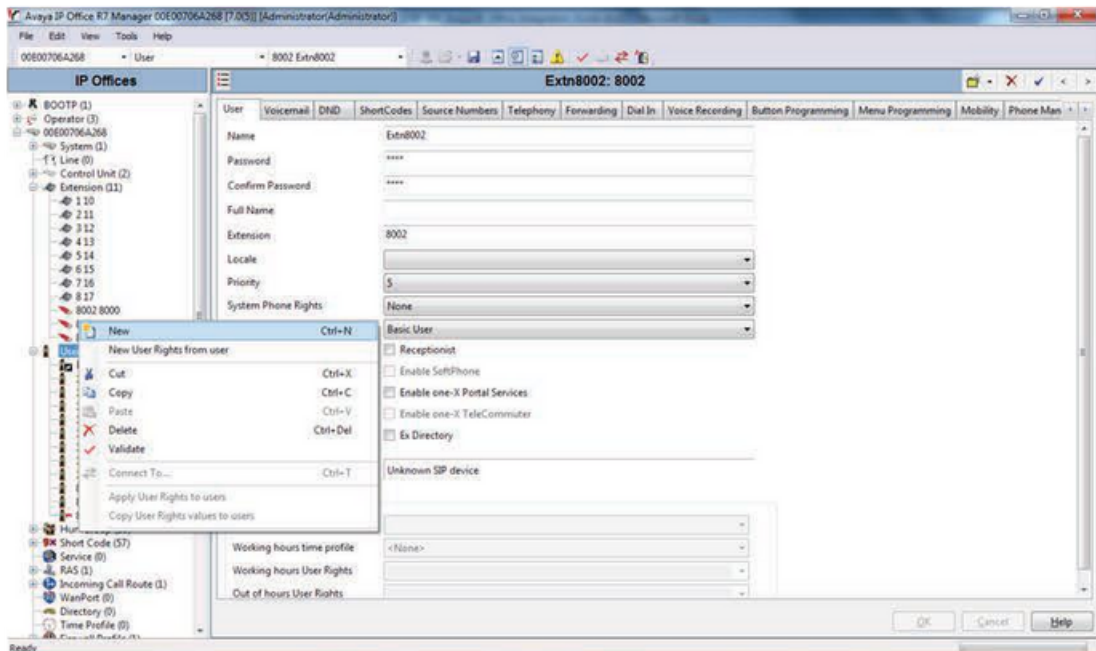




Select the **VoIP** tab and select the **Compression Mode**. The default of the **IP1500/2500/5000 Series Phone is G.711 U-LAW** and will work in most cases. More information on audio codecs can be found in the **IP1500/2500/5000 Series Phone Guides**. Set **DTMF Support to RFC2833**



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

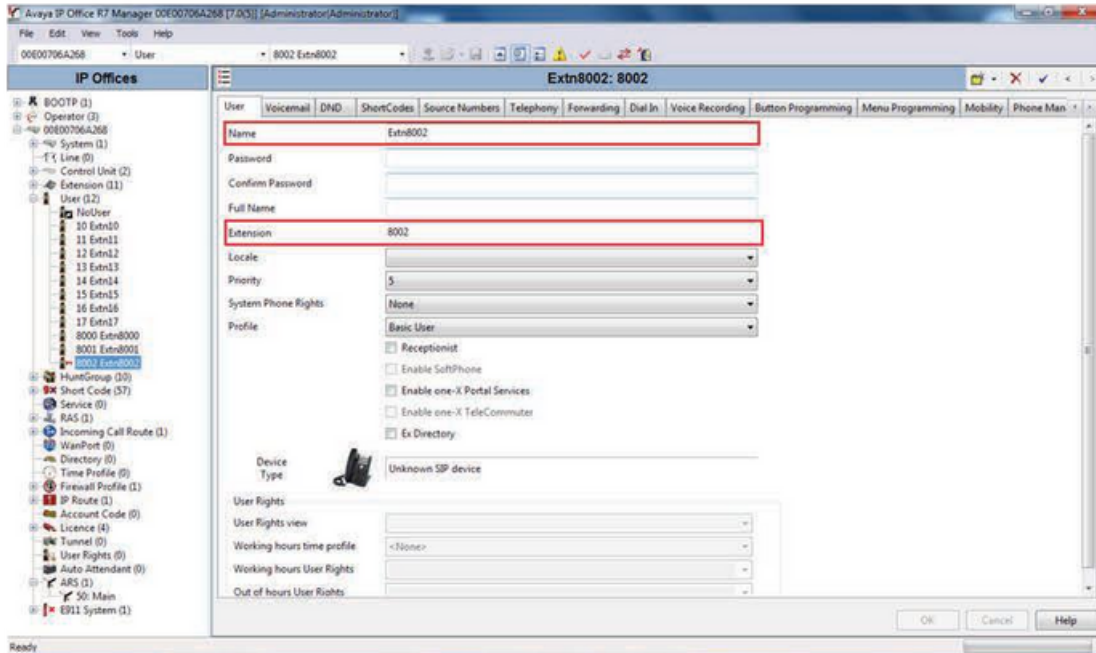




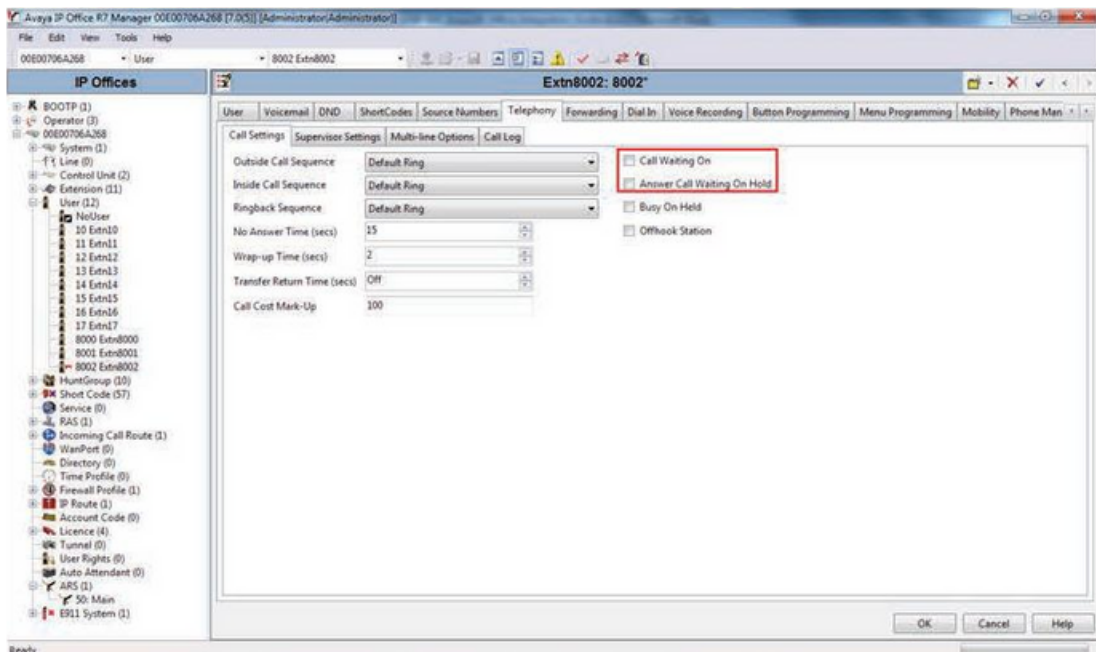
Enter the following fields to create a new user;

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. Select the **Telephony** tab and then the Call Settings sub-tab. Disable Call Waiting On and Answer Call

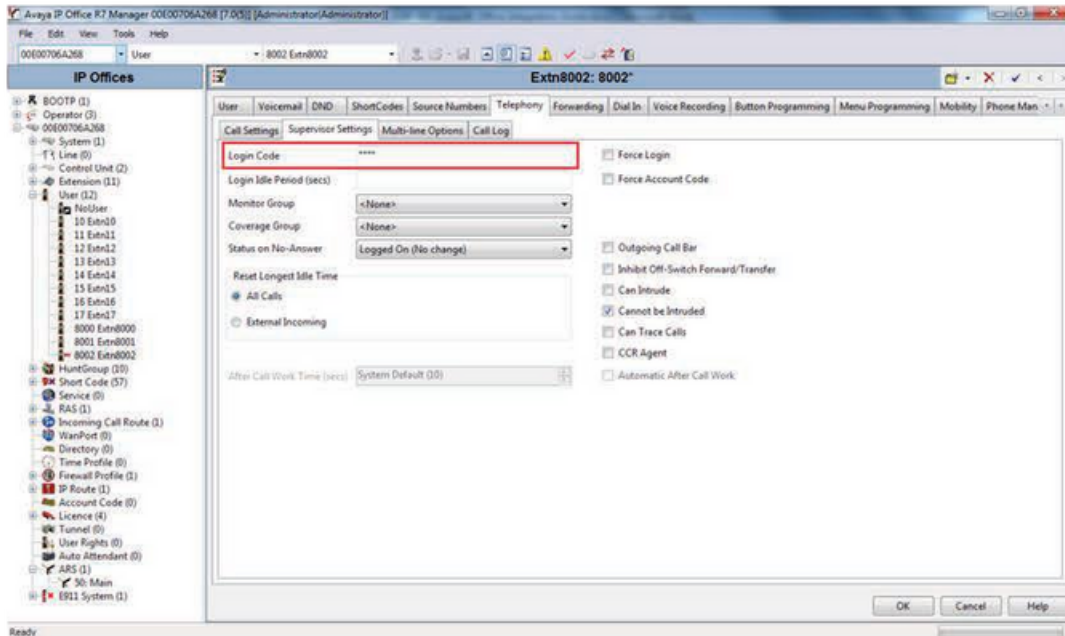


Waiting on Hold. Call waiting is not supported on the IP1500/2500/5000 Series Phone.





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.



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



18 Power Requirements

The following tables on pages 63-66 include **IP1500/2500 Series Speakerphones** and ALL OTHER Code Blue devices & enclosures for reference.

Faceplates	Voltage	Max Current	Max Watts	Norm Current	Norm Watts	KWHrs
IA4100	24V AC	0.40	9.60	0.22	5.28	0.13
	12V DC	0.90	10.80	0.39	4.68	0.11
	24V DC	0.90	21.60	0.39	9.36	0.22
IP5000	24V AC	0.10	2.40	0.07	1.68	0.04
	12V DC	0.19	2.28	0.15	1.80	0.04
	24V DC	0.19	4.56	0.15	3.60	0.09
Centry	12VDC	0.50	6.00	0.38	4.56	0.11
LS1000/LS2000	12V DC	0.50	3.60	0.40	4.80	0.12
Lights	Voltage	Max Current	Max Watts	Norm Current	Norm Watts	KWHrs
s-1000/S-2000 LED Strobe	24V AC	0.28	6.72	0.22	5.28	0.13
	12V DC	0.26	3.12	0.24	2.88	0.07
	24V DC	0.26	6.24	0.24	5.76	0.14
A-700 Area Light	24V AC	1.80	43.20	0.83	19.92	0.48
	12V DC	2.68	32.16	0.38	4.56	0.11
	24V DC	2.68	64.32	0.38	9.12	0.22
S-1050 LED Strobe W/ Photocell	24V AC	0.28	6.72	0.22	5.28	0.13
	12V DC	0.27	3.22	0.24	2.88	0.07
	24V DC	0.27	6.43	0.24	5.76	0.14
LED Light Bar	24V AC	0.04	0.96	0.04	0.96	0.02
	12VDC	0.04	0.48	0.04	0.48	0.01
	24V DC	0.04	0.96	0.04	0.96	0.02
WM180 PAS With LED Strobe	12-24V DC	7.30	175.20	2.10	50.40	1.21



Models With IA4100 Faceplate	Voltage	Current	Watts	KWHrs
CB 1-e	24V AC	0.48	11.52	0.28
	12VDC	0.67	8.04	0.19
	24V DC	0.67	16.08	0.39
CB 1-s	24V AC	1.31	31.44	0.75
	12V DC	1.05	12.60	0.30
	24V DC	1.05	25.20	0.60
CB 5-s	24V AC	0.48	11.52	0.28
	12V DC	0.67	8.04	0.19
	24V DC	0.67	16.08	0.39
CB 9-s	24V AC	0.26	6.24	0.15
	12V DC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25
CB 2-e	24V AC	0.44	10.56	0.25
	12VDC	0.63	7.56	0.18
	24V DC	0.63	15.12	0.36
CB 2-a	24V AC	0.48	11.52	0.28
	12V DC	0.67	8.04	0.19
	24V DC	0.67	16.08	0.39
CB 2-s	24V AC	1.31	31.44	0.75
	12V DC	1.05	12.60	0.30
	24V DC	1.05	25.20	0.60
CB 2 w/ Audio Paging	12-24V DC	6.44	154.56	3.71
CB 4-s	24V AC	0.22	5.28	0.13
	12V DC	0.39	4.68	0.11
	24V DC	0.39	9.36	0.22
CB 4-r	24V AC	0.26	6.24	0.15
	12V DC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25
CB 4-u	24V AC	0.26	6.24	0.15
	12V DC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25
CB 6-F & CB 6-S	24V AC	0.22	5.28	0.13
	12V DC	0.39	4.68	0.11
	24V DC	0.39	9.36	0.22
CB RT	24V AC	0.48	11.52	0.28
	12V DC	0.67	8.04	0.19
	24V DC	0.67	16.08	0.39



Models With IP5000 Faceplate	Voltage	Current	Watts	KWHrs
CB 1-e	24V AC	0.33	7.92	0.19
	12VDC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25
CB 1-s	24V AC	1.16	27.84	0.67
	12V DC	0.81	9.72	0.23
	24V DC	0.81	19.44	0.47
CB 5-s	24V AC	0.33	792.00	0.19
	12V DC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25
CB 5-s	24V AC	0.11	2.64	0.06
	12VDC	0.19	2.28	0.05
	24V DC	0.19	4.56	0.11
CB 2-e	24V AC	0.29	6.96	0.17
	12V DC	0.39	4.68	0.11
	24V DC	0.39	9.36	0.22
CB 2-a	24V AC	0.33	7.92	0.19
	12VDC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25
CB 2-s	24V AC	1.16	27.84	0.67
	12V DC	0.81	9.72	0.23
	24VDC	0.81	19.44	0.47
CB 2 w/ Audio Paging	12-24V DC	6.44	154.56	3.71
CB 4-S	24V AC	0.07	1.68	0.04
	12V DC	0.15	1.80	0.04
	24V DC	0.15	3.60	0.09
CB 4-r	24V AC	0.11	2.64	0.06
	12VDC	0.19	2.28	0.05
	24V DC	0.19	4.56	0.11
CB 4-u	2av AC	0.11	2.64	0.06
	12VDC	0.19	2.28	0.05
	24V DC	0.19	4.56	0.11
CB 6-F & CB 6-S	24VAC	0.07	1.68	0.04
	12V DC	0.15	1.80	0.04
	24V DC	0.15	3.60	0.09
CB RT	24V AC	0.33	7.92	0.19
	12V DC	0.43	5.16	0.12
	24V DC	0.43	10.32	0.25



Models with LS1000/LS2000	Voltage	Current	Watts	KWHrs
CB 1-e	12V DC	0.68	8.16	0.20
CB 1-s	12V DC	1.06	12.72	0.31
CB 5-s	12V DC	0.68	8.16	0.20
CB 9-S	12V DC	0.44	5.28	0.13
CB 2-e	12V DC	0.64	7.68	0.18
CB 2-a	12V DC	0.68	8.16	0.20
CB 2-s	12V DC	1.06	12.72	0.31
CB 4-s	12V DC	0.40	4.80	0.12
CB 4-r	12V DC	0.44	5.28	0.13
CB 4-U	12V DC	0.44	5.28	0.13
CB 6-F & CB 6-S	12V DC	0.40	4.80	0.12
CB RT	12V DC	0.68	8.16	0.20

High Voltage Models	Voltage	Current	Watts	KWHrs
CB 1 w/ Audio Paging	12-24V DC	3.83	460	11
CB 5 w/ Audio Paging	12-24V DC	3.33	400	9.6
CB 1 w/ NightCharge	120V AC	2.5	300	2.4
CB 4-U w/ NightCharge	120V AC	2.5	300	2.4

High Voltage AC Components	Voltage	Current	Watts	KWHrs
Multi-Tap Power Supply	120V AC	1.75A/210VAC	210	5.04
DIN Rail Power Supply	120V AC	1.2A/115VAC	115	2.76
Audio Paging Amp	12-24V DC	3.83	459.6	11.03



19 Using the IP1500 and IP2500 Series Speakerphones

The speakerphone can be configured for multiple uses. The main function is to provide 2-way voice communications. Pressing the red button will activate the configured script programmed for button #1.

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

1. Is being programmed at the time
2. Was in a monitoring call
3. Was in the middle of a diagnostic test
4. Is currently in an information (button #2) call.

Button #2, **INFO** or **CALL** buttons are typically utilized for placing informational calls. Any action other than Button #1 activation is consider **Non-Priority** calling and commonly utilized for director service, student/employee escort requests, gate entry, guest services and similar requests.

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

Incoming calls: The speakerphone auto-answers an incoming call. (Based on the settings configured under **General Settings** in **General Configuration > Incoming Calls > Answer in** Immediately or after a number of rings.)



20 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.

20.1 Log Into Avaya IP Office Manager

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



21 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)	IP1500 2" spkr	IP2500 3.5" spkr
1000	92.9 dBA	96.0 dBA
2000	96.0 dBA	100.0 dBA
5000	99.4 dBA	101.1 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.



22 Remote Mount Beacon/Strobe Installation

22.1 ATTACH J-BOX TO THE POLE

- Thread the banding (B) through the pole bracket (A) located on the backside of the J-box (C).
- Wrap the banding around the pole. Cut the banding to desired length.
- Using a screwdriver or nut driver, tighten the banding and make sure that the unit is in the desired location.

NOTE: J-box must be positioned so weep hole faces down.

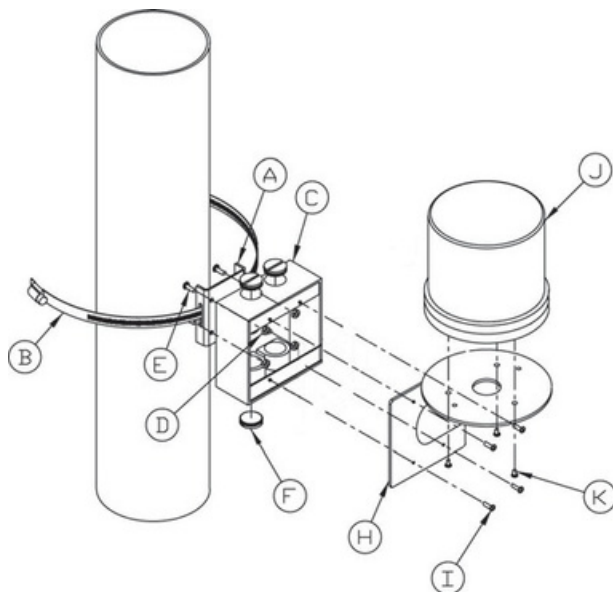
22.2 ATTACH LIGHT TO BRACKET

- Using the three M4 X 8 screws enclosed (K), fasten the strobe (J) to the round portion of the strobe bracket.

NOTE: If the beacon/strobe is mounted upside-down, a drain hole must be drilled into the lens to prevent it from filling with water.

22.3 ATTACH LIGHT AND BRACKET TO THE J-BOX

- Connect all wiring from the strobe to the wiring from the unit inside of the J-box using wire nuts.
- Attach strobe bracket to the J-box using four 6-32 X ½ screws as shown.



- A - pole-bracket
- B - banding
- C - J-box
- D - pole-bracket mount nut (4 each)
- E - pole-bracket mount screw (4 each)
- F - conduit plug
- H - strobe-bracket
- I - 6-32 X ½ screws (4 each)
- J - strobe light
- K - M4 X 8 screws (3 each) (Low voltage)
- K - 10-24 X ¾ screws (2 each) (High voltage)

All wiring must be installed and connected by experienced and certified personnel to meet local and national electrical codes, and will include a service disconnect.



23 Maintenance Schedule

LEGEND

G Guard Tasks

T Technician Tasks

DAILY OR WEEKLY

G **Perform functional communications check.**

- Action: Press Red Button
 - Strobe activates
 - Red LED "Call Placed" light turns on
 - Message plays
 - Call connects, green LED "Call Received" light turns on
 - Confirm conversation clarity with dispatch

MONTHLY OR QUARTERLY

G **Visually check lighting functions:**

- Faceplate light
- Beacon/Strobe

G **Visually inspect unit for damage to:**

- Faceplate
- Piezo Button
- Microphone
- Speaker

T **Check Batteries:**

- Functioning with full charge.
- Recharging fully, including NightCharge®/Solar Units (Note: Mid-to-late afternoon inspection is recommended)

IMPORTANT NOTE: Depending on the environment in which the batteries are installed, it is recommended that batteries for Solar & NightCharge® products are fully replaced every 2-3 years.

BIANNUALLY

T **Remove access door and faceplate assembly to inspect the following:**

- Ensure all electrical connections are secure
- Check all phone connections for corrosion (*If corroded, clean and coat with dielectric gel or replace*)
- Ensure all battery connections are tight and clean
- Verify no stains exist around gasket areas (stains indicate leaking & gasket should be replaced)
- Verify moisture weep hole on cabinet bottom is open and unobstructed
- Verify bottom of bollards are at least 1/2 inch above footing and free of obstructions (only applies to CB1, CB5, CB9, & CBRT units)

G **Apply automotive paint sealant to unit exterior for protecting finish against environmental pollutants (Suggested products include Black Magic Wet Shine Liquid Wax, Nu Finish NFP-80, and 5 Star Shine)**

G **Clean & coat exterior stainless steel cabinets with cleaner/polish (Suggested products include Chase Products' Champion Spray-on Stainless Steel Cleaner to help protect finish against environmental pollutants)**

T **Visually confirm line-of-sight is still clear to base station (i.e., confirm that new tree growth, new building construction or other obstructions are not blocking view of base station)**



UNIT SURFACE MAINTENANCE

The painted and stainless steel Code Blue models require periodic care to sustain their aesthetic appearance. Units located outdoors are vulnerable to harsh environmental conditions, including UV rays, acid rain, diesel fumes and airborne iron particles (i.e., dust) which over time may cause unit discoloring. To prevent pollutants developing harmful chemical reactions on Code Blue units, an appropriate surface maintenance schedule should be adhered to. The Surface Care Frequency table below provides general guidelines to assist in configuring a schedule. Please note that the frequency of care required to guard the Code Blue unit's surface from damage will also be dictated by local environmental characteristics.

LEGEND: POLLUTANTS LEVEL

Low	★
Low/Moderate	★★
Moderate	★★★
Moderate/High	★★★★
High	★★★★★

SURFACE CARE FREQUENCY

	MONTHLY	BIMONTHLY	QUARTERLY	BIANNUAL	ANNUAL
Painted		★★★★★	★★★★	★★★	★
Stainless Steel	★★★★★	★★★★	★★★	★	

See scheduled tasks under Biannually for suggested paint sealants or stainless steel cleaners.

AVERAGE COMPONENT LIFE

Component life is based on various mechanical, operational and environmental factors. Your local Code Blue reseller can assist you with a regularly scheduled maintenance program customized to your individual site requirements.

Code Blue strongly recommends contacting a local CB dealer to establish a proactive maintenance schedule.



24 Warranty

Code Blue Corporation provides a limited warranty on this product. Refer to your sales agreement to establish the terms. 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

In Case of Breakdown

In case of system breakdown, discontinue use and contact Tech Support at:

technicalsupport@codeblue.com or call **800-205-7186, option 3.**

In Case of Abnormal Operation

If the unit emits smoke or an unusual smell, if water or other foreign material enters the enclosure, or if you drop the unit or damage the enclosure, power off the unit immediately and contact Code Blue Customer Service at:

customerservice@codeblue.com or call **800-205-7186, option 2.**



25 Download Information

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

Admin Guides: www.codeblue.com/resources/guides

Firmware: www.codeblue.com/resources/firmware

Maintenance Tips: www.codeblue.com/support

Product Sheets: www.codeblue.com/resources/sheets

Specifications: www.codeblue.com/resources/specifications

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.



26 Legal & Regulatory Information

Legal Considerations

Video and audio surveillance can be regulated by laws that vary from country to country. Check the laws in your local region before using this product for surveillance purposes.

Liability

Every care has been taken in the preparation of this document. Please inform Code Blue Corporation of any inaccuracies or omissions. Code Blue cannot be held responsible for any technical or typographical errors and reserves the right to make changes to the product and manuals without prior notice. Code Blue makes no warranty of any kind with regard to the material contained within this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Code Blue shall not be liable or responsible for incidental or consequential damages in connection with the furnishing, performance or use of this material. This product is only to be used for its intended purpose.

Intellectual Property Rights

Code Blue Corporation has intellectual property rights relating to technology embodied in the product described in this document. This product contains open source code that also contains additional open source libraries.

Equipment Modifications

This equipment must be installed and used in strict accordance with the instructions given in the user documentation. This equipment contains no user-serviceable components. Unauthorized equipment changes or modifications will invalidate all applicable regulatory certifications and approvals.

Trademark Acknowledgments

Code Blue and Centry products are registered trademarks or trademark applications of Code Blue Corporation in various jurisdictions. All other company names and products are trademarks or registered trademarks of their respective companies.

Regulatory Information

Electromagnetic Compatibility (EMC)

This equipment has been designed and tested to fulfill applicable standards for:

- Radio Frequency emission when installed according to the instruction and used in the intended environment.
- Immunity to electrical and electromagnetic phenomenon when installed according to the instructions and used in its intended environments.

USA

This equipment has been tested using a shielded network cable (STP) and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense. The product shall be connected using a shielded network cable (STP) that is properly grounded.

Canada

This digital apparatus complies with CAN ICES-3 (Class A). The product shall be connected using a shielded network cable (STP) that is properly grounded.

Cet appareil numérique est conforme à la norme NMB ICES-3 (classe A). Le produit doit être connecté à l'aide d'un câble réseau blindé (STP) qui est correctement mis à la terre.

Disposal and Recycling

When this product has reached the end of its useful life, dispose of it according to local laws and regulations. For information about your nearest designated collection point, contact your local authority responsible for waste disposal. In accordance with local legislation, penalties may be applicable for incorrect disposal of this waste.

This guide should contain all the information needed for your application. If any further information is needed, please contact customerservice@codeblue.com.

Support

Should you require any technical assistance, please contact Code Blue.

Visit codeblue.com to:

- Download user documentation and software.
- Find answers to resolved problems in the FAQ database.

Report problems to Code Blue Technical Support via email at:

technicalsupport@codeblue.com or **800-205-7186**