

Also includes - IP Audio Interface information

Installation | Configuration | Operation | Troubleshooting

Administrator Guide





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IP5000 2.0 Series

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2 Introduction

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



IP5000 Single Button

IP5000 Dual Button

IP5000 Dual Button w/ Keypad

Call Privacy Laws

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



3 Getting Started

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

Throughout this guide you will see the following two references:

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

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

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



Connectors, Ports and Switch List 4

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





IP5000 Speakerphone



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5 Wiring Diagram/PoE Wiring Diagram





6 How to Update Connectors

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



Cut off both wires.



Strip all wires and twist tight.





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



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



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



7 Quick Installation Guide

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

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

- 1. Using the provided Velcro, mount the surge suppressor to the back of the enclosure near the grounding lug. Connect the green ground wire to the grounding lug.
- 2. Insert the CAT6 wire first into the surge suppressor, then to the RJ45 LAN1 on the IP5000. If

you are using PoE, plug it into the LAN PoE port.



3. The phone power harness will have a 2-pin connector and a gray-and-black connector:

a. The 2-pin power connector will connect to the AC/DC 2-pin opening. For optional battery power, run the battery into the 12V DC opening.



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



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



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



You are now ready to program your IP5000.



8 Installing the IP5000 Speakerphone

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

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

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

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





8.1 Connecting Power Sources

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

8.2 Connecting Network Services

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

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

8.3 Connecting Auxiliary Devices

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





Optional Battery 12V DC 2Ahr





IP5000 2.0 Series

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8.4 Installation into Code Blue Units

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





9 Optional Flush Mount Enclosure Installation

PRE-INSTALLATION

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

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

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

INSTALLATION PROCEDURES

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

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





NOTE: mounting holes and conduit hole by others

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



10 Using the IP5000 Speakerphone

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

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

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

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

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

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

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

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



11 Network Setup

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

Determine the IP Address

The IP5000 speakerphone is DHCP by default.

- 1. Connect the IP5000 speakerphone to your network. The LED will flash momentarily and an audible beep will be heard out of the speaker to indicate the OS is loading. The IP5000 speakerphone will acquire IP Network settings from your DHCP server.
- 2. Check your DHCP lease records or utilize a network scanner such as SoftPerfect's Network Scanner to match the MAC address of the IP5000 speakerphone to the correct IP address in your lease table or output of the network scanner.

Lease Table and Network Scanner Example

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

SoftPerfect Network Scanner									
File View Actions Options Bookmarks Help									
🗋 🗁 🛃 🛅 🐮 🗛 🔁 🔎 🐒 💥 👭 💡	🗋 🗁 🛃 📴 😭 🛍 🐑 🔀 🌟 🚆 ♀ 👾 💷 🔒 🛞 💂 📾 🧟 😰 🕪 <u>W</u> eb-site								
Range From 10 . 42 . 4 . 0 To 10 . 42	. 4 . 255 🔹 🔊 🔽 🚺	🕨 Start Scanning 👻 📗							
IP Address Host Name	MAC Address	Response Time	Hostname						
📃 10.42.4.1 arthur-vlan3004.pde.codeblue.k	ocal 00-11-43-C5-2E-F6	0 ms							
10.42.4.2 wrt160n.pde.codeblue.local	68-7F-74-25-B8-C9	0 ms							
eddie.pde.codeblue.local	00-22-68-60-53-65	0 ms	eddie.pde.code						
10.42.4.4 benjy.pde.codeblue.local	90-FB-A6-25-B9-FC	0 ms	benjy.pde.code						
10.42.4.5	00-40-48-4B-E9-43	0 ms		E					
I 10.42.4.17 dhcp-4-17.pde.codeblue.local	98-FE-94-45-45-08	28 ms							
I0.42.4.21 dhcp-4-21.pde.codeblue.local	7C-D1-C3-48-47-34	35 ms							
I0.42.4.22 dhcp-4-22.pde.codeblue.local	00-26-B0-85-B3-DF	21 ms							
10.42.4.23 dhcp-4-23.pde.codeblue.local	00-E0-4C-EC-01-FB	7 ms							
10.42.4.24 dhcp-4-24.pde.codeblue.local	00-04-F2-A6-A1-FA	0 ms							
	00-10-18-AF-27-5F	0 ms							
I0.42.4.26 dhcp-4-26.pde.codeblue.local	74-EA-3A-B1-45-00	0 ms							
Lange 10.42.4.27 dhcp-4-27.pde.codeblue.local	00-04-F2-A6-90-2E	0 ms							
📃 10.42.4.19 dhcp-4-19.pde.codeblue.local	FC-C7-34-D9-27-93	177 ms							
📑 10.42.4.32 dhcp-4-32.pde.codeblue.local	00-04-F2-24-FA-1D	0 ms							
📑 10.42.4.33 dhcp-4-33.pde.codeblue.local	00-04-F2-A6-A2-02	0 ms							
10.42.4.35 dhcp-4-35.pde.codeblue.local	00-50-C2-CB-E1-33	0 ms	IP5000	-					
Ready Threads 0 Devices	38 / 38 Scan								



12 Provisioning the Phone

12.1 Setting a Static IP Address

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

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

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

	IP5000	Configu	ration
7	Net	twork Setu	p
Session		Gen	ieral
Auto-logout: 09:07 Renew	Host	172.1.100.61	
Logout	Domain		
	Connection Type	🔘 Dynamic IP 🔇	Static IP
Status		Static IP	Address
O System Network Setup	Address	0.0.00]
Network	Mask	255,255,255,0	
O Account 1	Default Router	172.1.100.1	
 Account 2 Media 	DNS Primary	172.1.100.1]
O Advanced	DNS Secondary	172.1.100.1]
O Administration	DNS Tertiary	172.1.100.1	
O Upgrade Firmware		Additiona	al Settings
Code Blue - Configuration	MTU Size (advanced)	1500	
Batch Configuration Numbers		VL	AN
O Recordings	VLAN	Enabled	
 General Settings 	ID	4	(value: 0 to 4094)
Action ScriptsDiagnostic Settings	User Priority	0 - Best Effort	▼ (default: 0)
	1 <u>-</u> 9-20-20-		Save Changes



12.2 Logging into and out of the System

Logging into the System

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

IP5000 Configuration							
	System Status						
Session		Network					
O Auto-logout: 09:14	Address	172.1.100.249					
Renew	Gateway	172.1.100.1					
Logout	DNS Primary	172.1.100.61					
	DNS Secondary	0.0.0.0					
Status	DNS Tertiary	0.0.0.0					
O System		Account 1					
O Network	Protocol	SIP					
VoIP Setup	liser	6575@172_1_100_65					
O Account 1	Registration Status	DROXY RECISTERED					
O Account 2	CTUN	Dischad					
O Media	STUN	Disabled					
Suctor	The state of the s	Account 2					
O Administration	Enabled	Disabled					
O Date/Time	Protocol						
O Upgrade Firmware	User						
Code Blue - Configuration	Registration Status						
O Batch Configuration							
O Numbers							
O Recordings							
O Hardware Settings							
O General Settings							
O Action Scripts							
O Diagnostic Settings							
	copyr	ight © 2013 Code Blue					



Logging into the System

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

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

You will be prompted for confirmation.

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

IP5000 Configuration					
	S	ystem Status			
Session		Network			
Auto-logout: 08:38 Renew Logout	Address Gateway DNS Primary	172.1.100.249 172.1.100.1 172.1.100.61			
Status O System	DNS Secondary DNS Tertiary	0.0.0.0 0.0.0.0			
Network Setup		Account 1			
VoIP Setup O Account 1 O Account 2 O Media O Advanced System O Administration O Date/Time O Upgrade Firmware	Protoco User This will log Registri Click OK to c STUN Enablec Protocol User	you out of the Administration Interface. confirm, or Cancel to stay logged in. OK Cancel			
Code Blue - Configuration 0 Batch Configuration 0 Numbers 0 Recordings 0 Hardware Settings 0 General Settings 0 Action Scripts 0 Diagnostic Settings	Registration Status				
	сор	yright © 2013 Code Blue			



12.3 Network Configuration

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

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

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

IP5000 Configuration					
	Net	twork Setup	NI.		
Session		Gen	eral		
• Auto-logout: 09:20	Host				
Renew	Domain				
Logour	Connection Type	O Dynamic IP	Static IP		
Status		Static IP	Address		
O System	Address	172.100.1.56			
Network Setup Network	Mask	255.255.255.0			
VoIP Setup	Default Router	172.100.1.1			
O Account 1	DNS Primary	0000			
O Media	DNS Secondary	0.0.0.0			
O Advanced		0.0.0.0			
System	DNS Tertiary	0.0.0.0			
O Administration		Additiona	Settings		
O Date/Time O Upgrade Firmware	MTU Size (advanced)	1500			
Code Blue - Configuration		VL	AN		
O Batch Configuration	VLAN	Enabled	11		
O Recordings	ID	4	(value: 0 to 4094)		
O Hardware Settings	User Priority	0 - Best Effort	▼ (defa	ult: 0)	
O General Settings				Save Changes	
O Diagnostic Settings					
	Соруг	right © 2013 Code Blue	12		



VLAN Configuration

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

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

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

IP5000 Configuration					
	Ne	twork Setup	2		
Session		Ger	neral		
O Auto-logout: 06:39	Host	[
Renew Logout	Domain		_		
	Connection Type	O Dynamic IP (Static IP		
Status		Static IP	Address		
O System	Address	172 100 1 56			
Network Setup Network	Mask	255.255.255.0			
VoIP Setup	Default Router	172 100 1 1			
O Account 1 O Account 2	DNS Primary	0.0.0.0			
O Media O Advanced	DNS Secondary	0.0.0.0			
System	DNS Tertiary	0.0.0.0			
O Administration		Additiona	al Settings		
O Date/Time O Upgrade Firmware	MTU Size (advanced)	1500			
Code Blue - Configuration		VL	AN		
Batch Configuration	VLAN	Enabled			
O Recordings	ID	4	(value: 0 to 40	94)	
 Hardware Settings General Settings 	User Priority	0 - Best Effort		(default: 0)	
 Action Scripts Diagnostic Settings 		1 - Background 2 - Spare	-		Save Changes
	Сору	right 3 - Excellent Effort 4 - Controlled Load 5 - Video < 100ms 6 - Voice < 10ms la 7 - Network Contro	d latency and jitter atency and jitter l		



12.4 Configuring the IP5000 VoIP Settings

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

CONFIGURING VOIP ACCOUNTS

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

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

	110000	Sonngaratio	
	A	ccount 2	
Session		Account Type	
O Auto-logout: 09:48	VoIP Protocol	Disabled SIP & RTP	◎ IAX
Renew		SIP Configuration	1
Logout	Description	North Ball Field Acct 2	
Status	Username/Number	78561	
9 System	Display Name	Clyde Park North Ball Field	
Network Setup O Network	Domain	10.1.1.1	
/oIP Setup		Additional Setting	5
Account 1	Outbound Proxy	,	(leave blank if same as domain)
P Media	Outbound Proxy Port	0	(advanced; set to 0 for auto detect)
Advanced	Registration Lifetime	3600	seconds
Administration	Keep-Alive	Enabled	
Date/Time	STUN		
^D Upgrade Firmware Code Blue – Configuration	DTMF threshold	-20 dB	
D Batch Configuration		Proxy Authentication	on
Numbers	Username	78561	
 Recordings Hardware Settings 	Password		
General Settings		VI AN LICOR Prioritic	
Action Scripts	CTD		
Diagnostic Settings	SIP	0 - Best Effort	▼ (default: 0)
	RTP Audio	6 - Voice < 10ms latency and	jitter 🔻 (default: 6)



Configuring a SIP Account

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

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

	A	ccount 1	
Session	1	Account Type	
Auto-logout: 09:26	VoIP Protocol	SIP & RTP O IAX	
Renew		STP Configuratio	an
Logout	Description	North Ball Field Acct 1	
	Ucorname (Number	North Dall Freid Aven	
Status	Username, number	6575	
0 System	Display Name	North Ball Field	
A Hetwork Setup	Domain	172 1,100.65	
VoIP Setup		Additional Cattin	
O Account 1		Additional Secon	gs
O Account 2	Outbound Proxy		(leave blank if same as domain)
O Media	Outbound Proxy Port	0	(advanced; set to 0 for auto detect)
O Advanced	Penistration Lifetime	cn	- Hormon
System	Registration Encline	60	seconds
O Administration	Keep-Alive	I Enabled	
O Date/Time	STUN	Enabled	
Code Blue - Configuration	DTMF threshold	-20 dB	
0 Batch Configuration		Proxy Authentical	tion
O Numbers	Username	6575	
O Recordings		VVIV	
Hardware Settings General Settings	Password		
O Action Scripts		VLAN User Priorit	ies
O Diagnostic Settings	SIP	0 - Best Effort	· (default: 0)
	PTP Audio	6 - Voice < 10ms latency and	d jitter 🝷 (default: 6)



Configuring an IAX Account

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

Configuration is as follows:

- Set the VoIP Protocol to IAX.
- For Description, enter a name the IP5000 will use internally to refer to this account.
- For Username/Number, enter the number that the IP5000 will use for IAX addressing. This will
 often be the extension number
 in a VoIP-based PBX.
- For Display Name, enter the display name the IP5000 will send in IAX transactions. This will often be the calling name of the extension.
- For Domain, enter the domain the IP5000 will use in its IAX address.
- For Registrar, enter the address of the IAX server the IP5000 should register and send outbound calls to. If this is the same as the domain, you can leave this field blank.
- **IP5000** Configuration Account 1 Account Type Auto-logout: VoIP Protocol SIP & RTP . IAX Renew IAX Configuration Logout Description North Ball Field Acct 1 Username/Number 78456 O System **Display Name** North Ball Field etwork Setu Domain 172.100.1.99 O Network Registrar Config Account 1 Registrar auto-configure Account 2 O Media **Registrar Port** 0 (advanced; set to 0 for auto detect) O Advanced Username 78456 System O Administration Password O Date/Time **Registration Lifetime** 3600 seconds O Upgrade Firmware Code Blue - Configure O Batch Configuration DTMF threshold -20 dB 0 Numbers O Recordings Save Changes O Hardware Settings General Settings
 Action Scripts O Diagnostic Setting copyright © 2013 Code Blue
- For Registrar Port, enter an IP port number the IP5000 will register and send outbound calls to. Typically, this should be left at 0.
- For Username and Password, set the username and password the IP5000 will use to authenticate to the domain and outbound proxy. Note that the username is used for authentication only and need not match the Username/Number field if the VoIP system does not expect it to.
- For Registration Lifetime, enter the time in seconds the IP5000 will request that its registration be valid for. The IP5000 will automatically re-register before this time period expires.



Configuring Media Settings

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

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

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

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

	IP5000	Co	onfigu	ration		
	Vo	IF	9 Media			
Session			RTP Con	figuration		
O Auto-logout: 09:59	Port Range	23	3456	to 23556		
Renew		1.000	Codec	Selection		
Logout	Available		00000	Preferred		
Status O System Network Setup O Network VoIP Setup O Account 1 O Account 2 O Media O Advanced System	G.711 uLaw G.711 aLaw G.726 (16kbps) G.726 (24kbps) 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)		Add >> <th>G.711 uLaw G.711 aLaw G.726 fixed payload G.726 (16kbps) G.726 (40kbps)</th> <th></th> <th>Move Up Move Down</th>	G.711 uLaw G.711 aLaw G.726 fixed payload G.726 (16kbps) G.726 (40kbps)		Move Up Move Down
 Administration Date/Time Upgrade Firmware Upgrade Control 	Linear PCM HD (little endian) ILBC-30 ILBC-20	Ŧ				
Code Blue - Configuration Batch Configuration Numbers Recordings Hardware Settings General Settings Action Scripts Diagnostic Settings					l	Save Changes
	copyrig	ht ©	2013 Code Blu	је		



Configuring Advanced Settings

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

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

	IP500	0 Configurati	on
	Adv	anced Settings	
Session		STUN	
O Auto-logout: 09:38	Server		
Logout	Port (advanced)	3478	Save Charges
Status			Save Changes
0 System			
Network Setup			
0 Network			
VoIP Setup			
O Account 1			
O Account 2			
O Media			
Advanced			
System			
O Administration			
O Date/Time			
O Upgrade Firmware			
Code Blue - Configuration			
O Number			
0 Recordings			
0 Hardware Settings			
0 General Settings			
O Action Scripts			
O Diagnostic Settings			
	co	oyright © 2013 Code Blue	



12.5 Configuring the System Settings

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

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



System Administration Settings

The Administration page under System contains several settings:

- System Info displays the MAC address and firmware version running on the IP5000.
- Administrator allows the administrator username and password to be changed. Enter a new Username, if desired, and enter the new Password and again in the Confirm box to change these parameters.
- The IP5000 can send RFC 5424 Syslog messages to a **Syslog** server by specifying it in this section.

Note that Syslog messages are only useful for advanced troubleshooting and are not intended for general monitoring.

• A new private key and certificate can be uploaded to the IP5000's **Secure HTTP Server** if you do not wish to use the system's built-in key and certificate. The key should be PKCS#8, DER-formatted and the certificate X.509, DER-formatted.

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

	IP5000	Configuration	
	Ad	ministration	
Session		System info	
O Auto-logout: 09:48	MAC Address	00-50-C2-CB-E6-1C	
Renew Logout	Firmware Version	2.0.2_20130828	
		Administrator	
Status	Username	admin	
Notwork Setup	Descurend		
0 Network	Password		
VoIP Setup	Confirm		
O Account 1		Syslog	
O Account 2	Enabled		
O Media			
O Advanced	Report To	514	
System		Secure HTTP Server	
Administration Administration	Private Key (der)	Select private key file Upload Key	
O Upgrade Firmware	C 416-4-44		
Code Blue - Configuration	Certificate (der)	Select certificate file Upload Certificate	
O Batch Configuration		Device Administration	
O Numbers	Save Changes	Save Changes	
O Recordings			
O Hardware Settings	Reboot Device	RebootNow	
O General Settings			
O Action Scripts			
O Diagnostic Settings			
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Date and Time Configuration

The IP5000 speakerphone date and time are managed by:

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

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

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

	IP5000	Configuration	
	D	ate & Time	
Session		Set Date & Time	
O Auto-logout: 09:55	Daylight Savings	Active	
Reliew	Time Zone	(GMT-05:00) Eastern Time (US & Canada)	•
Logout		NTP Server	
	Enabled		
O. Sustam	Server Address	172 1 100 FE	
Network Setup		172.1.100.05	
0 Network			Save Changes
VoIP Setun			
O Account 1			
O Account 2			
O Media			
O Advanced			
System			
O Administration			
O Date/Time			
O Upgrade Firmware	78		
Code Blue - Configuration			
O Batch Configuration			
0 Numbers			
O Recordings			
O Hardware Settings			
O General Settings			
O Action Scripts			
O Diagnostic Settings			
	Сору	right © 2013 Code Blue	



Upgrading the IP5000 Firmware

The IP5000 speakerphone firmware file can be changed by:

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

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

	IP5000	Configuration
	Firm	ware Upgrade
Session		Upgrade Firmware
O Auto-logout: 09:51	Current Version	2.0.2 20130828
Logout	Firmware	Browse_ No file selected.
Status		Ungrade
O System		
Network Setup		
O Network		
VoIP Setup		
O Account 1		
O Account 2		
O Media		
O Advanced		
System		
O Administration		
O Date/Time		
 Upgrade Firmware 		
Code Blue - Configuration		
O Batch Configuration		
O Numbers		
O Recordings		
O Hardware Settings		
O General Settings		
O Action Scripts		
O Diagnostic Settings		
	Сору	y r ight © 2013 Code Blue



12.6 Configuring System Options and Scripts

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

Batch Configuration

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

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

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

	IP5000	Configura	tion	
	Batch	Configuratio	n	
Session		Fetch Config	uration	
O Auto-logout: 09:51	TFTP Server	172.100.1.99		
Logout	TFTP Server Port	69	(advanced; defa	ault 69)
				Fetch Configuration
Status		Verify Config	uration	
O System	Verify Configuration	Vorific Integrity		
Network Setup	verily coniguration	veniy integrity		
O Network				
VoIP Setup				
O Account 1				
O Account 2				
O Media				
O Advanced				
System				
O Administration				
O Date/Time				
O Upgrade Firmware	12			
Code Blue - Configuration				
O Batch Configuration				
0 Numbers				
O Recordings				
O Hardware Settings				
O General Settings				
O Action Scripts				
O Diagnostic Settings				
	copyri	ght © 2013 Code Blue		



Entering Phone Numbers

The IP5000 speakerphone number configuration is made by:

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

	IP5000 Co	onfiguration	
	Nur	nbers	
Session	Number	Description	
O Auto-logout: 09:03	5639 via Account 2	Account 2 MVB Desk	×
Logout	5639 via Account 1	Account 1 MVB Desk	*
	9725555555 via Account 1	Cell Phone for testing	8
Status			
O System	916163928296 via Account	Code Blue Corporate Office	
Network Setup	Account 1 -		4
O Network			
VoIP Setup			
O Account 1			
O Account 2			
O Media			
O Advanced			
System			
O Administration			
O Date/Time			
O Upgrade Firmware			
Code Blue - Configuration			
O Batch Configuration			
O Numbers	1		
O Recordings			
O Hardware Settings			
O General Settings			
O Action Scripts			
O Diagnostic Settings			
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Recording Administration

The IP5000 speakerphone recording configuration is made by:

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

During the upload process the screen will display, Uploading file...

At this point do not refresh the page or click away from the page or the file will not be uploaded. Once the file upload is complete, you will see **Download Recording** and a new line for uploading additional recordings.

- 5. To delete a number, simply click the **red X**.
- 6. Select the green check mark when prompted, Are you sure.

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

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

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

	IP5000 C	Configuration	
	Red	cordings	
Session	Recording	Description	
Auto-logout: 09:51 Renew	4 Download recording	location	×
Logout	Select recording file	Now calling 911	
Status			
O System			
Network Setup			
O Network			
VoIP Setup			
O Account 1			
O Account 2			
O Media			
O Advanced			
System			
O Administration			
O Date/Time			
O Upgrade Firmware			
Code Blue - Configuration			
O Batch Configuration			
0 Numbers			
Recordings			
O General Settings			
O Action Sectors			
O Diagnostic Settings			
	copyright	t © 2013 Code Blue	



Hardware Settings

The IP5000 speakerphone hardware settings are configured by:

- 1. Selecting Hardware Settings under Code Blue (see far left-hand column).
- Select the appropriate Button Count, Keypad Available and Public Address Available settings under the Interface section. Public Address Available is utilized when the IP5000 is controlling the optional Code Blue PAS components (i.e. CB 1, CB 2, CB 5 with Public Address or WM180).
- The Power Sources section allows you to select the power sources connected to the IP5000.

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

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

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

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

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

	Hardwar	e Configuration	
lession		Interface	
Auto-logout: 05:18 But Renew	ton Count	© 1 button	
Logout	pad	☑ Available	
Pub	lic Address	V Available	
itatus Pub	lic Address Gain	+6 - dB	
9 System		Power Supply	
ietwork Setup 12-	24 Volt A/C or D/C	Available	
Network 12 V	olt D/C Battery	Available	
Account 1 Pow	ver over Ethernet	Available	
Account 2	Auxiliary I/O		
Aux Advanced	Input 1	Available	
iystem Aux	Output 1	✓ Available	
Administration Date/Time Upgrade Firmware		On in-call command: toggle state momentarily toggle for 0 second(s)	
Definition Aux Description Batch Configuration Description Numbers Descriptions	Output 2	Available On in-call command: toggle state	
D Hardvare Settings D General Settings		momentarily toggle for 4 second(s) Save Change	
Action Scripts			



General Settings

The IP5000 speakerphone general configuration can be accessed by:

- 1. Clicking on **General Settings** under **Code Blue** (see far left-hand column). In this section you can select how many rings the IP5000 will wait before answering an incoming call.
- 2. Click the down arrow next to Answer In to change settings.
- Additionally, to route all incoming calls to the PAS line level audio output for mass notification, check the box (i.e. Always route incoming calls to public address) next to Public Address.

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

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

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

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

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

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

	IP5000	Configuration
	Genera	al Configuration
Session		Incoming Calls
O Auto-logout: 05:52	Answer in	Immediately -
Renew	Public Address	Always route incoming calls to public address
Logout	Aux Output 1	Enable when incoming call is active, and disable when incoming call is hung up
O System	Aux Output 2	Enable when incoming call is active, and disable when incoming call is hung up
O Network		Location Message
VoIP Setup VoIP Setup Account 1 Account 2 Media Advanced System O Advanced System O Advanced/Ime Upgrade Firmware Code Blue - Configuration D Buth Configuration Buch Configuration Recordings Recordings Hardware Settings Action Scripts	Location recording	0: None selected
 Diagnostic Settings 	60 P.V	right @ 2012 Code Blue
	сору	rigin © 2015 cone bille



Action Script Configuration

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

Scripting Requirements

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

Numbers:

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

Recordings

Record all message and upload them to this IP5000.

Hardware Settings

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

Diagnostic Settings

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

Scripting Basic Call

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

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

(Continued on next page)

	Acti	on Scripts	
Session	Script for:	Button #2 Pressed	
Auto-logout: 09:08 Renew	Do Nothing	External Actions Button #1 Pressed	
Logout	Add Action	Button #2 Pressed	
	1001000	Diagnostics	
Status		Button Failure	
0 System		Speaker/Microphone Failure	
Network Setun		PoE Power Supply Failure	
O Network		High Temperature	
VoIP Setup			
O Account 1			
O Account 2			
Ó Media			
O Advanced			
	and the second se		
System			
O Administration			
9 Administration 9 Date/Time			
System O Administration O Date/Time O Upgrade Firmware			
System O Administration Date/Time Upgrade Firmware Code Blue - Configuration			
System O Administration Date/Time Upgrade Firmware Code Blue - Configuration Batch Configuration			
System Administration bac/Time Upgrade Firmware Code Blue - Configuration Batch Configuration Numbers			
System O Administration O Date/Time Upgrade Firmware Code Blue - Configuration Batch Configuration Numbers Recordings			
System O Administration O Date/Time Upgrade Firmware Code Blue - Configuration B Batch Configuration Numbers Numbers Hardware Settings Hardware Settings			
System Administration Date/Time Upgrade Firmware Code Blue - Configuration Batch Configuration Numbers Recordings Hardware Settings General Settings			


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.

º Place Call 🕆 🔻 🞇			
•	Call 👻	2000 : Polycom 1 💌)
		2000 : Polycom 1	
•	If not an	2001 : Polycom 2	

	IP5000	Configuration	
	Act	tion Scripts	
Session	Script for:	Button #2 Pressed	
Actoring to the Action of Action Renew Logout Logout Statue Statue Statue Statue Actional Statue Actional Statue Recording Renew Recordings Hardware Statue Recordings	Place Call Solution Go to dial tone Dialing/Answer Maximum Call While Dialing: When Answer In Call Comma Add Acton	r timeout: 60 • seconds Auration: 600 seconds Standard Ringback • ed: Normal Two-Way Convension • nds: Enabled •	Save Script
- waynesse percept	CODVE	ight (0 2013 Code Blue	

Other Basic Script Choices

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

Here are some examples:

1. For this example, we'll use "Button #1 Pressed" as seen in the example "Basic Call"

2.	Instead of				_
	choosing		Script for:		
	"Place Call"	•	Select Action	•	×
	let's select	Add Ad	Select Action		
	"Control Aux		Play Message		
	Output"		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)

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

Script for:	Button #1 Pressed	•			
Control AUX Output 🗁	• Control AUX Output 🔄 🐺 💥				
Output Number: 1	Auxiliary 1 💌				
• Set to: Enabled	•				
Ouration: Fixed Tir	ne 🔹 of 10 seconds				
Add Action Fixed Tir	abled ne				
		Save Script			

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

Combining Multiple Actions in One "Script -- Advance Programming"

The following example would be the most common configuration deployed.

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

Add the following as seen in the example:

- A. Control Aux Output Enable
- B. Place Call with messages for Caller and Called Party
- C. Control Aux Output Disable
- 2. The Script should look like this:
 - A. Click Save Script when finished.





Action Script Parameters

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

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

The following will provide detailed explanations into these Script controls.

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

Playing a Message	Messages can be set to play any time upon the activation of a Script or during a call.		
	Plus, they can be set to repeat as shown here: Play Hessage * 38 Play Hessage * 38 Play Locally: 7: Calling Agent * Repeat: 11me Add Action		
Place Call	Placing a Call: the administrator sets up which numbers will be attempted and in which order. The administrator could choose multiple numbers stored in "Numbers" or the same number can be repeated many times. "If not answered, then" Call. Select additional numbers to be dialed. • When Answered: Play Custom Message(s) • Play Locally: 2: Calling Agent • Repeat: 1 Time • • Play Remotely: 1: DFB Door • Repeat: 1 Time • • Play Remotely: 1: DFB Door • Repeat: 1 Time •		
	 Maximum Call Duration: The default time is 600 seconds (10 mins). Duration range 0001 to 9999 seconds (1 second up to 166.65 minutes). Thirty seconds before the timer exhausts, an audible tone will play to notify both parties the call is about to terminate, unless the timer is disabled through a During call Command (DTMF tone 3). While Dialing: Standard Ringback is the default setting. Other choices are: A message can be set to play to the person at the IP5000 or Do Nothing, until the call is connected. While Dialing: Play Custom Message 		
	 Play Locally: 3: Calling Agent Repeat: 1 Time While Dialing: Standard Ringback Standard Ringback When Answere Play Custom Message Do Nothing 		

(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 IP5000) or Remotely (to the Called Party). Choosing this option will add another option to the Place call sequence, And Then. The And Then choice allows the call to continue through to normal two-way conversation mode or Hang Up and reset the IP5000. 	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) When Answered: Play Custom Message(s) Play Locally: 2. Calling EMS Agent Repeat: 1 Time Play Locally: 2. Calling EMS Agent Repeat: 1 Time Normal Two-Way Conversation Normal Two-Way Conversation In Call Comman Hang Up	
	Note: In this feature, it is prohibited to use the s remotely selection. In Call Commands: The default is Enabled. A Remote Control DTMF tone commands are available for use by the called party. The alterna choice is Disabled, effectively locking out all DT tone commands from the Called Party's control	ame exact message in both local and II In Call Commands: Disabled MF	
Control AUX Output	 Auxiliary Outputs can be activated and deactivated throughout a Script. Auxiliary Outputs can also be set to activate on incoming answered calls. It is strongly advised when this feature is used no other configurations are enabled for an Auxiliary Output with Momentary Toggle selected in Hardware Settings. 		



Auxiliary Output Expanded Functionality and Use Case

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

Example:

Gate or Door Control

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

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

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

IP5000 Configuration				
	Hardwar	e Configuration		
Session	Interface			
O Auto-logout: 09:09	Button Count	1 button 2 buttons 3 buttons 4 buttons		
Renew	Keynad			
Logout	Rublic Addrocc			
	Public Address			
Status	Public Address Gain	+6 🔻 dB		
0 System		Power Supply		
Network Setup	12-24 Volt A/C or D/C	Available		
O Network	12 Volt D/C Battery			
VoIP Setup	Derror error Ethomat			
O Account 1	Power over Ethernet	Power over Ethernet V Available		
O Account 2	Auxiliary I/O			
O Advanced	Aux Input 1	V Available		
System	Aux Output 1	V Available		
O Administration		On in-call command:		
O Date/Time		toggle state		
O Upgrade Firmware		momentarily toggle for 0 second(s)		
Code Blue - Configuration	Aux Output 2			
O Batch Configuration	nux output 1	On in-call command:		
0 Numbers		© toggle state		
O Recordings	momentarily toggle for 4 second(s)			
O Hardware Settings				
O General Settings		Save Changes		
Action Scripts				
O Diagnostic Settings				
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Auxiliary Input Activated Scenario

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

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

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

	IP5000 Configuration	
	Action Scripts	
Session	Script for: Auxiliary Input#1	
O Auto-logout: 08:00	😐 Plav Message 🔮 🚸 🕱	
Logout	• Play Locally: 2: Now calling 911 - Repeat: 1 Time -	
	Control AUX Output 🏦 🦑 💢	
9. Sustem	Quitaut Number: 1: Auxilian: 1 -	
Natarock Salar	• Output Number: 1 Advinary 1 •	
0 Natural	Set to: Enabled	
VolD Setup		
O Account 1	Duration: Until Disabled -	
O Account 2		
0 Media	📍 Place Call 🏦 🖑 😹	
O Advanced	Colling Of Clean Colling Colling Colling Colling Colling Colling	
System	Call • 916163926296 Code blue Corporate Office •	
O Administration	B If not answord than Colta participa	
O Date/Time	- Infoctanswered, chen do to next step	
O Upgrade Firmware	9 Dipling/Answer timeout: 60 - seconds	
Code Blue Configuration		
0 Batch Configuration	Maximum call duration: 600 seconds	
O Numbers		
O Recordings	While Dialing: Standard Ringback •	
O Hardware Settings		
General Settings Action Scripts	When Answered: Normal Two-Way Conversation •	
O Diagnostic Settings	In Call Commands: Enabled -	
	When Auxiliary Input #1 toggles: Do Nothing •	
	Control AUX Output 🌸 🔮 💥	
	Uutput Number: 2: Auxiliary 2 👻	
	• Set to: Enabled -	
	Duration: Until Disabled +	
	Control AUX Output 🔅 🐇 🔀	
	Output Number: 1: Auxiliary 1 ▼	
	Set to: Enabled -	
	 Duration: Fixed Time - of 30 seconds 	
	Add Action	
		Save Script



Public Address

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

Hardware Configuration				
Interface				
Button Count	@ 1 button $@$ 2 buttons $@$ 3 buttons $@$ 4 buttons			
Keypad	Vailable			
Public Address	V Available			
Public Address Gain	+6 🔻 dB			

Hardware Configuration > Public Address feature enabled.

General Configuration				
Incoming Calls				
Answer in	Immediately -			
Public Address	Always route incoming calls to public address			
Aux Output 1	$\hfill\square$ Enable when incoming call is active, and disable when incoming call is hung up			
Aux Output 2				

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



CONFIGURING DIAGNOSTICS

Diagnostic Settings

The IP5000 speakerphone diagnostic settings are configured by:

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

Power Supply Failure Timeout

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

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

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

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

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



Others – (Tests)

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

- The test consists of beeps from the speaker, which will be received by the microphone.
 - » The maximum number of beeps: 2 10 beeps. Once the microphone detects the beeps, the test is complete until the next scheduled test is present.
 - » The beep tone volume choices are soft, loud, or soft to loud. The beep tone volume setting should be set to anticipate ambient noise level at the time of the test.

The test schedule choices are:

- Every 15 minutes
- · Hourly
- Daily
- · Weekly
- Testing on demand: When microphone speaker testing is enabled, the administrator may select to Run Test while logged into the IP5000. The results of the test will only be present in a failed SNMP trap, which would appear in the SNMP server logs or UPD Diagnostic Reports logs. The MIB value is **CODEBLUE-MIB::micSpeakerFailure**.

PAS – Public Address System Failure

The IP5000 monitors the state of the Code Blue Blue Alert[®] PAS amplifiers for failures. The amplifiers signal the IP5000 of a problem, and the IP5000 sends an SNMP trap of the problem.

The MIB values for these SNMP traps are:

- CODEBLUE-MIB::publicAddressFailure

- CODEBLUE-MIB::highTemperature



13 Dual Accounts

Sample Application using Dual Accounts on the IP5000 phone

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

Use outcomes dependent on the network:

- 1. If server 1 is considered registered and responds, the call goes through to server 1 immediately.
- 2. If server 1 is considered registered and unresponsive, it will be tried for up to **Dialing/ answer timeout**, but no more than 30 seconds. Then server 2 will be tried.
- 3. If server 1 is not considered registered, server 1 will be skipped and server 2 will be tried immediately.

IP5000 Configuration			
	Acti	ion Scripts	
Session	Script for:	Button #1 Pressed	•
O Auto-logout: 09:32 Renew Logout	 ● Place Call ◆ ◆ ◆ ● Call ▼ 74520 : 	Security Acct 1	
Status	If not answered	I, then Call • 74520 : Security Acct 2	
O System	If not answered, then Go to next step		
O Network	Oialing/Answer timeout: 30		
O Account 1 O Account 2	Maximum call du	aration: 600 seconds	
O Media O Advanced	While Dialing: \$	Standard Ringback 🗾 👻	
System O Administration	When Answered	d: Normal Two-Way Conversation 👻	
O Date/Time O Upgrade Firmware	In Call Command	ds: Enabled -	
Code Blue - Configuration	Add Action		
O Batch Configuration			Save Script
O Numbers			
O Recordings			
O Hardware Settings			
O General Settings	1		
• Action Scripts			
 Diagnostic Settings 			
	copyrig	ht © 2013 Code Blue	1



14 CLI (Command Line Interface)

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

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

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



Login is the same as through the Web GUI.

admin

admin

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

The most commonly used are:

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

reboot – Make the phone reboot.

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

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



15 In-Call Commands

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

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

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



16 Factory Reset

The system can be reset via two different methods.

First Method:

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

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



(Continued on next page)



Factory Reset (continued)

Second Method:

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

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

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

B	- PuTTY	-	- x	J
Welcome System:	to FUSION OS! CodeBlue 2.0_b20130220		*	
Usernam Passwor	e: admin d:			
C:\>for Formatt Format C:\>reb	mat c: codeblue ing, Please Wait Successful! oot			
			-	



17 Compatibility

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

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

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

Avaya Asterisk Cisco Call Manager Nortel

and many others...



18 Configuring for Cisco Unified Communications Manager 9

PREPARATION

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

IP5000 CONFIGURATION

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

Clear Existing Configuration

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

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

Configure Account(s)

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



- 7. Insure Keep-Alive is enabled.
- 8. Under Proxy Authentication, for Username, enter the username you assigned the CUCM end user, e.g. the hexadecimal representation of the MAC address or the local-use variant for a secondary account.
- 9. For Password, enter the password you entered into Digest Credentials under the CUCM end user.
- 10. Click Save.
- 11. Repeat steps 3-10 with Account 2 if you are using the second account.

Other Settings

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

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

UCM CONFIGURATION

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

Create Phone Security Profile

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

Configure End Users

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

- 1. Navigate to User Management > End User.
- 2. Click Add New.
- 3. For the User ID, enter the hexadecimal version of the MAC address; e.g. 00:50:C2:17:7B:E8



would become 0050c2177be8.

- a. Use of the MAC address as user ID is only a recommendation. If local configuration permits, you can use any other form of user ID; just be sure to record which user ID goes with which phone and which of the phone's accounts.
- 4. Fill in the Last name field with a description of the station.
- 5. Create and record a secure SIP password and fill in the Digest Credentials and Confirm Digest Credentials fields with this password. You will be entering this password later into the IP1500/2500/5000.
- 6. Click Save.

Configuring End Users for Secondary Accounts

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

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

Configure Phones and Directory Numbers

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

- 1. Navigate to Device > Phone.
- 2. Click Add New.
- 3. For Phone Type, select Third-party SIP Device (Basic).
- 4. Enter the MAC Address of the phone in hexadecimal format; e.g. 00:50:C2:17:7B:E8 would become 0050c2177be8.
- 5. For Device Pool, select Default (or some other locally-configured device pool).
- 6. For Phone Button Template, select Third-party SIP Device (Basic).
- 7. For Calling Search Space, select the calling search space the IP1500/2500 is to use.
- 8. For Device Security Profile, select Code Blue IP1500-2500-5000 Profile.
- 9. For SIP Profile, select Standard SIP Profile.
- 10. For Digest User, select the end user matching the MAC address of the phone, or the alter nate user ID you created when you were configuring the end user.



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

Configuring Phones and Directory Numbers for Secondary Accounts

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

Integrating InformaCast Utilizing Cisco Call Manager

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

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



19 Avaya IP Office Integration Guide

Introduction

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

Prerequisites

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

IP Office Manager Basic Configuration

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

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

M Avaya IP Office R7 Manager	A REAL PROPERTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY ADDRES	
File Edit View Tools Help		
	Configuration Service User Login	
	IP Office : 00E00706A268 - IP 500 V2	
	Service User Name Administrator	
	Service User Password	
	OK Cancel Help	
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0		
Ready		1



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IP Offices			Ma				
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	2	(24)		SystemTone	•		
Control Unit (2)	Route Name	Instant		(c) state of the			
1 User (12)	Dial Delay Time	System Default (4)	-	Check User Call Barring			
HuntGroup (10)							
Service (0)	In Service	191		Out of Service Route	<none></none>	•	
Go Incoming Call Route (1)	10-00000000	1					
- WanPort (0)		1			1		
- Time Profile (0)	Time Profile	<none></none>	*	Out of Hours Route	<none></none>	•	
IP Route (1)		1					
Account Code (0)	0.0		(Prop. 14)	and the second se			1
- IN Tunnel (0)	Lode	relephone Number	Peature	Line Group Id		Add	
User Rights (0)	911	911	Dial Emergency	0		Remove	
Auto Attendant (0)	ON;	ON	Dial 3K1	0		Edit	
1 50: Main	1N;	1N	Dial 3K1	0		- Second	
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			onas ona				
	1.0						
		1					
	Alternate Route Priority	Level 3	*				
		I					
		1				1	

2. Log in to Avaya IP Office Manager:

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

File Edit View Tools Help			
IP Offices		00E00706A268	≝ -] X ✔ < >
IP Offices IP Note (1) IP Note (2) IP Note (2) IP Note (2) IP Note (2) IP Note (2) <	System LANIL LANIZ DNS Voicemail Telephony Directory: LAN Settings VoIP Network: Topology DHCP Pools SIP Registrat V H323 Gatekeeper Enable Voir SIP Registrat Enable V H323 Auto-create Estin Port Range (Minimum) 60 V H323 Auto-create User Port Range (Maximum) 53 V H323 Auto-create User Port Range (Maximum) 53 V H323 Auto-create User Port Range (Maximum) 53 V H323 Auto-create User DSCP Mask (Hec) 88 6 V H325 Auto-create User DSCP Mask (Hec) 88 6 DHCP Settings DSCP Mask (Hec) 84 6 6 55CP 63 DSCP Mask 4 6 DHCP Settings Primary Site Specific Option Number (SSON) 176 242 VLAN 1100 Voice VLAN Its 222 1100 Voice VLAN Its Specific Option Number (SSON) 224 244 245 245	ODEOD706A268 Services System Events SMTP SMDR Twinning VCM CCR # 1152 © 1246 © 516 DSCP (Hee) 516 DSCP 1246 ©	
	RTP keepalives		+
			OL Cancel Help



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

IP Offices	E 00E00706A268	₫ - X ✔ <
K BOOTP (1) Gorardor (3) G	System LANI LAN2 DNS Voicemail Telephony Directory Services System Events SMTP SMDR Twinning VCM CCE LAN Settings VoiP Network Topology DHCP Pools SIP Registrar V H923 Gatekceper Enable SIP Trunks Enable Port Range Port Range Port Range Port Range Port Range (Minimum) 49152 Port Range (Minimum) 59246 Port Range (Minimum) 59246 </td <td></td>	

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

Ele Edt View Texte Mela			
ANEXATIVE A Service	- 00E0070E A 268		
IP Offices	3	00E00706A268*	# - X v < >
	System LANI LANZ DN LANI Settings VolP Netw Domain Name Layer 4 Protocol TCP Port UDP Port Challenge Expiry Time (secs) Auto-create Estin/User	Voicemail Telephony Directory Services System Events SMTP SMDR Twinning VCM CCR 192166421 Image: Construction of the service	



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

File Edit Very Tools Melo 00007004.208 Extension Moltone H323 Extension: 8002 8002 8001 8002 8002<!--</th--><th>Avaya IP Office R7 Manager 00E00706A</th><th>268 [7.0(5)] [Administrator(Administrator)]</th><th>THE R. LOW. D. LEWIS CO., House, etc., 10</th><th>And Designation of Street, or other</th><th>- C - X</th>	Avaya IP Office R7 Manager 00E00706A	268 [7.0(5)] [Administrator(Administrator)]	THE R. LOW. D. LEWIS CO., House, etc., 10	And Designation of Street, or other	- C - X
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	and a cast system (r)				OK Cancel Help

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

e Edit View Tools Help			
0E00706A268 • Extension	- 8000 8000	• 2 8 • H = 2 1 1 4 4 4 4 10	
IP Offices	E	SIP Extension: 8000 8000	🖆 - 🗙 🗸 <
R BOOTP (1)	Extn VolP T38 Fax		
@ 00E00706A268	Extension Id	8000	
System (1)	Base Extension	8000	
-17 Line (0) Control Unit (2)	Caller Display Type	On 4	
Extension (11)	Reset Volume After Calls	10	
- 1 10 - 1 10	Device hore	Uninown SIP device	
40 312	d		
	Module	0	
- 40 7 16	Port	0	
8000 8000	Force Authorization		
8001 8001			
User (12)			
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Service (0)			
Incoming Call Route (1)			
- WanPort (0) - Directory (0)			
Time Profile (0)			
Firewall Profile (1)			
Account Code (0)			
- illel Tunnel (0)			
User Rights (0)			
- X ARS (1)			
0 1× E911 System (1)			
			MR. Consol Hite



 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.

00E00706A268 • Extension	• 8000 8002	• 20-6 224	✓ → ≄ 10	
IP Offices	3	SIP Exte	nsion: 8000 8002*	🖆 • 🗙 🖌 < >
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10. Each **IP1500/2500/5000 Series Phone** should have a unique User. Right click on **User** and select **New.**

E00706A268 • User	 8002 Extn8002 	• 2 1 • 1 • 1 • 1 • 2 • 4	
IP Offices		Extn8002: 8002	≝ - X ✓ <
R BOOTP (1) © Operator (3) 00E0076-265 • • System (1) -13 Line (0) • • Control Unit (2) • Fatenoin (11) • 110 • 121 • 312 • 514 • 515 • 716 • 817 • 802 8000 • New User Rights from Cut • Cut • Cut • Cut • Paste	User Voicemail DND SP Name Password Confirm Password Full Name Extension Locale Priority System Phone Rights Ctrl=X Ctrl=X Ctrl=C Ctrl=V	hortCodes Source Numbers Telephony Forwarding Dial In Voice Recording Bu Extraooo2 **** **** 8002 5 None 8asic User Enable SoftPhone Enable SoftPhone Enable SoftPhone Enable SoftPhone Enable SoftPhone Enable SoftPhone	tton Programming Menu Programming Mobility Phone Man (+
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- 11. Enter the following fields to create a new user;
- Name: This will be displayed as the user's name in IP Office Manager, and is used as the username for SIP registration when configuring the IP1500/2500/5000 Series Phone.
- Extension: This should match the Base Extension configured for the SIP extension in Step 8. This is also used as the phone number when configuring the IP1500/2500/5000 Series Phone.

ID Offices	1=		
IF Onices	-	Extration 2. 6002	
Operator (3)	User Voicemail DND Sh	ortCodes Source Numbers Telephony Forwarding Dial In Voice Recording B	utton Programming Menu Programming Mobility Phone Man *
00E00706A268	Name	Extn8002	
-17 Line (0)	Password		
Control Unit (2)	Confirm Password		
User (12)	Full Name		
10 Extn10 11 Extn11 12 Extn12	Extension	8/02	
	Laste		
13 Extn13	Locale		
14 Extn14	Priority	· ·	
16 Extn16	System Phone Rights	None	
8000 Extn8000	Profile	Basic User ·	
8001 Extn8001		Receptionist	
HuntGroup (10)		Enable SoftPhone	
Service (0)		Enable one-X Portal Services	
- 4 RAS (1)		Enable one-X TeleCommuter	
WanPort (0)		Ex Directory	
Directory (0)	Device	Unknown SIP device	
Firewall Profile (1)	Type de		
IP Route (1) Account Code (0)	User Rights		
E 🐜 Licence (4)	User Rights view	· · · · · · · · · · · · · · · · · · ·	
User Rights (0)	Working hours time profile	<none> *</none>	
Auto Attendant (0)	Working hours User Rights	*	
S0: Main	Out of hours User Rights		

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

ile Edit View Toole Halo								_
00E00706A268 • User	 8002 Extn8002 		1 -					
IP Offices	3		Extn8002	2: 8002*	d •	×	 	< >
★ BOOTP (1) (*) Operator (3) (*) System (1) -11 Line (0) (*) System (1) -11 Line (0) (*) Control Unit (2) (*) Detention (11) (*) Detention (1	User Voicemail DND Call Settings Supervisor Sett Outside Call Sequence Inside Call Sequence Ringback Sequence No Answer Time (secs) Wrap-up Time (secs) Transfer Return Time (secs) Call Cost Mark-Up	ShortCodes Source Numbers Telephon ings Multi-line Options Call Log Default Ring Default Ring 15 4 2 6 0ff 5 100	Y Forward	Ing Dial In Voice Recording Button Programming Menu P Call Waiting On Answer Call Waiting On Held Bury On Held Offhook Station	Mobility	Phon	ie Man	
50: Main								



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

IP Offices	17	Ext	n8002: 8002*	<u>a</u> -	×	1 4 1
IP Offices IP Offices IP Offices A BOOTP (J) Creater (B) Construct (B) See System (L) -1's Line (C) See System (L) See S	Z User Voicemail DND Call Setting: Supervisor Se Login Code Login Idle Period (sec) Monitor Group Coverage Group Status on No-Answer Reset Longest Idle Time All Calls Estenail Incoming After Call Work Time (secs)	Ext ShortCodes Source Numbers Telephony tings Multi-line Options Call Log **** (None> (None> Logged On (No change) System Default (10)	Retwarding Dial In Voice Recording Button Programming Menu Programming Force Login Force Account Code Outgoing Call Bar Outgoing Call Ba		Phone	Man e

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



20 IP Audio Interface



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

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

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

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



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



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

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

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





TPU100B

Figure 9

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



f. Connect the line level audio output of the fire panel to the line level audio input on the IAI.

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





Line Level Audio Input



Figure 17

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

Signaling relay example:



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





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

	General Settings	eneral Settings			
	Incoming Calls				
	Answer In	Immediately •			
<	Public Address	C Disabled Always route incoming calls to public address			
	Aux Output 1	Disabled C Enable while incoming calls are active			
	Aux Output 2	Oisabled Enable while incoming calls are active			

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

	Auxiliary I/O				
~	Aux Input 1	Available Unavailable			
$\overline{\ }$	Aux Output 1	Available C Unavailable			
	Aux Output 2	Available C Unavailable			

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



21 Button and Activation Specifications

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

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

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

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

The specification of the button is:

Switching Current: 0.200 A

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

Make Impulse Time: 125-300 mSEC

Switch Resistance :	"ON" <20 ohms
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Switch Resistance: "OFF" >5 MOhms

Make Pulse Time: 125-300 mSEC

Surface Deflection: 1 micron - activation

Button Temperature : -40°C to +85°C (-40°F to 185°F)

Functional Life: >50 million activations

Functional in Freezing Rain: Yes



22 Speaker Specifications

SPL Level Test Results Meter used: EXTECH Instruments Model 407732

Mode dBA

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

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

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

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



23 Troubleshooting the IP5000 Speakerphone

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

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

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

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

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

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

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

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

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

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

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



24 Regulatory & Warranty

Regulatory

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

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

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

Warranty

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

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



25 Technical Services and Support

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

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



26 Download Information

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

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

For Legacy Product Information:

www.codeblue.com/legacy-products

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