

# IP Paging Zone Controller with VoIP

# User's Guide



# **Getting Started**

This step by step guide will help you setup and install your Wahsega Labs IP Paging Zone Controller with VoIP.

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Chapter 1 Overview

Receive broadcasted audio and voice to analog paging speakers within specified zones using the Wahsega IP Paging Zone Controller with VoIP. Leveraging the power of VoIP, it can use any SIP-based telephone system to create a large paging network using existing VoIP telephones. The Wahsega IP Paging Zone Controller with VoIP is perfect for paging applications in school auditoriums, multi-level buildings and retail operations with multiple branch locations.



# Functionality

- Send or received live or pre-recorded audio streams
- Available in single or two-channel configurations
- RTP Multicast, RTP Unicast or SIP inputs and/or outputs
- Built in Web server
  - All configuration options accessible via easy-to-use HTTP interface
- Easy installation
  - Standard 35mm DIN Rail (top-hat) mounting in any orientation
- PoE 802.3af powered
  - 10/100 Ethernet port with Power-over-Ethernet (802.3af PoE)
  - +9V to +16V DC input (if not using PoE)
- Customizable line level output gain
- Multiple mono codecs to choose from
  - Options include G.711, G.726 (16/24/32/40kbps), G.722, DVI4 (narrow/HD/Ultra HD), Linear PCM, iLBC, Speex, SILK
- Reset to default software/configuration button
- Remote firmware upgradeable



### **Quality Standards**

Wahsega Labs zone controllers achieve the highest standards of performance in the market by utilizing our complete quality assurance program encompassing software testing, product design and a multistage automated factory test program.

- Wahsega Labs' ultimate goal is to provide a solution that is both cost effective and unsurpassed in quality. By leveraging existing relationships with suppliers to guarantee premium components at the lowest possible prices, we are able to ensure Wahsega Labs products are the finest quality in the market while still offered at highly competitive prices directly to installers.
- In order to achieve the greatest possible voice clarity, all voice and related algorithms have been individually tested to ensure the highest potential MOS score. The accumulated error syndrome, which can cause poor voice quality, is mitigated through this testing process.
- Wahsega Labs' engineering team utilizes a wide array of dedicated test servers to pull and build the various software projects multiple times per day. Each automatic build is then run through an extensive set of automated test cases to ensure the highest performance of each and every firmware version released. This test case coverage is expanded on a continual basis.
- All Wahsega Labs products are 100% factory tested at the board level through a bed of nails full functional test, not just an "is it close enough?" flying probe test. Every finished product is 100% tested again after the final assembly via an automated test station to ensure the highest production quality product for installers.
- To assure the highest quality standards, all Wahsega Labs products are designed, developed and manufactured in the USA.



## Chapter 2 General Hardware Installation

## Wiring

Apply power to your zone controller using *either* Option A *or* Option B. The status LED will increase in brightness as the zone controller is powering up and will remain steadily lit when the unit is successfully powered.

#### **Power - Option A**

• LAN - Using Power-over-Ethernet (PoE), route Cat 5 or Cat 6 Ethernet cable through a PoE injector to the LAN port.





#### **Power - Option B**

• **9-16V DC -** If using 9-16V DC power instead of PoE, plug in via 2-pin PCB terminal connector.



#### **Audio Inputs / Outputs**

- Line 1 & Line 2 Connect audio in or out via RCA mono connectors. Configure audio settings in software as described in *Chapter 4: Configuration and Web Interface*.
- Line 1 STAT & Line 2 STAT LED status feedback for respective audio lines in and/or out.





# Chapter 3 User Experience

## **Software Capabilities**

The zone controller's configuration is accessible using an HTTP Web interface, viewable from any Web browser on the same LAN.

Here you will you configure the function of each input/output on your device as well as network/IP address, audio settings, and access administrative functions such as firmware upgrade and configuration backup/restore.

The configuration is stored in a .JSON file, which is human readable and can be edited by site administrators.



### **Getting Started**

- Connect the IP Paging Zone Controller with VoIP's Ethernet port to a network using a Power-over-Ethernet (PoE) Ethernet connection (*Option A*, page 5). When connected, it will power on immediately and the indicator light will begin to blink.
- 2. Locate and note your zone controller's MAC address. It is printed on a white sticker on the bottom of the device's enclosure. A single-channel zone controller will have one MAC address, and a two-channel zone controller will have two MAC addresses.
- 3. Discover the IP Paging Zone Controller with VoIP's IP address. Your zone controller—whether single channel or two-channel—will only have one IP address. When it boots, it uses DHCP by default to automatically obtain a suitable IP address on your local area network (LAN). It also runs Simple Service Discovery Protocol (SSDP) so you can discover it from Windows Explorer or any SSDP-enabled application.

From a Windows PC on the same LAN, open "My Computer." In the lefthand pane, go to the "Network" view.

Right-click in the right-hand Network panel and select "Refresh." This will start a search for devices on the network. You may get a popup asking if you want to allow your PC to search the network, in which case you should click "yes" or "allow."



If you are not using SSDP or cannot discover the zone controller on your network, you can:

- consult your DHCP server's logs to determine its IP address;
- use a network discovery app (such as Fing on iOS and Android); or
- use Wireshark to observe the DHCP network traffic.
- 4. Once the search is complete, the zone controller will appear in the Network view as "Wahsega Zone Controller (:XX:XX)." The last two octets of its MAC address will be included in its name, so you can easily distinguish multiple units. Double-click the zone controller's icon to open its Web interface.
- 5. After you determine the zone controller's IP address, navigate to that IP address in your Web browser (for example, <u>http://123.456.78.9</u>).
- 6. When you access the webpages, the zone controller will ask for a username and password. The default username and password are "admin" and "admin".

Authentication Required									
The server http://123.456.78.9 requires a username and password. The server says: Zone Controller.									
User Name:	admin								
Password:	****								
	Log In Cancel								



- 7. On the right side of the page is the Status bar. It shows the zone controller's current system information (current IP address, Ethernet MAC address and system time) and SIP account status.
- 8. To change the IP address settings, go to the Network tab and modify settings in the *WAN* section. To set the network for DHCP, click the *Dynamic IP* radio button. For static IP addressing, click the *Static IP* radio button and fill in the relevant IP address fields with values from your network administrator. See *Network Configuration* on pages 21-22 for examples.
- 9. After configuring the network settings for your zone controller, use the webpages described in the next section to customize the inputs and/or outputs and their settings.



# Chapter 4 Configuration and Web Interface

The Web interface is a set of webpages used to configure the various settings available on the Wahsega IP Paging Zone Controller with VoIP. It allows the zone controller to be configured from any computer or device with a Web browser.



# Input / Output Settings

Configure direction and settings for Line 1 and Line 2.

#### Input

#### **Input Method**

- **RTP Multicast** Continuous streaming, multiple recipients
- **RTP Unicast –** Continuous streaming, one recipient
- **SIP** Phone call

As you configure various settings, note that you will be prompted to save changes and/or restart your device for those changes to take effect.





#### **RTP Multicast**

🏏 wahsega	Inputs/Outputs	Audio	Network	System	Management		Time until auto-log	out: <b>09:36</b>	Renew	Logout
Inputs/ Configure au	Outputs dio inputs ar	5 nd outp	outs						Statu	IS
Line 1								User: 1 Status:	Vahsega L 5003@sip.wa Account not	<b>ine 1</b> hsega.com configured
		Direc	tion 🖲 Ir 🔾 C	nput )utput				User: 1 Status:	Vahsega L 5004@sip.wa Account not	<b>ine 2</b> hsega.com configured
		Met	hod 💿 R 🔘 R 🔘 S	TP Multica TP Unicast IP (phone	ist (continuous strea t (continuous stream call)	iming, ning, or	multiple recipients) ne recipient)	<b>IP:</b> 192 <b>MAC A</b>	<b>System</b> 168.96.131 (D ddress: 18-39	<b>1</b> DHCP) I-19-00-00-
	RTP Mu	lticast au	Idio					1D <b>System</b> 2011-1	<b>1 time:</b> 0-01 01:47:18	
		IP Addi	ress 239	.255.0.1		?	)	Uptime	<b>a:</b> 39s	
Line 2		F	Port 500	4			)			
Line 2		Direc	tion III	nput Output						
		Met	hod 🖲 R 🔘 R 🔘 S	TP Multica TP Unicast IP (phone	ist (continuous strea t (continuous stream call)	iming, ning, or	multiple recipients) ne recipient)			
	RTP Mu	lticast au	ıdio							
		IP Addi	ress 239	.255.0.2		?	)			
		F	Port 500	4		?	)			

- **IP Address** Audio from this line will be sent from and/or received on this multicast IP address. Valid addresses range from **224.0.0.1** to **239.255.255.255**.
  - Note: Some addresses, particularly in the **224.xx.xx**.xx range, are globally reserved and should not be used!
     Consider using addresses in the **239.255.xx.xx** range, which are "Administratively Scoped Local Addresses."
- Port Audio on this line will be sent to and/or received from this UDP port. Valid ports range from 1 to 65535. The default port is 5004.



#### **RTP Unicast**

🍉 wahsega 🛛 🖻	puts/Outputs				Management		Time until auto-logou	it: <b>09:33</b>	Renew	Logout
Inputs/O Configure audio	utputs ar	<b>5</b> nd outp	outs						State	JS
Line 1								User: 1	Vahsega I 5003@sip.wa	Line 1 ahsega.com
		Direc	tion 🖲 I 🗋 (	nput Dutput				User: 1 Status	Nahsega L 5004@sip.wa Account not	.ine 2 ahsega.com
		Met	hod 🔘 F ම F O S	RTP Multica RTP Unicast SIP (phone	ast (continuous stre t (continuous strea call)	eaming, i iming, or	multiple recipients) ne recipient)	IP: 192 MAC A	<b>Syster</b> .168.96.131 (i <b>ddress:</b> 18-39	<b>n</b> DHCP) 9-19-00-00-
	RTP U	Inicast au	ıdio					1D <b>System</b> 2015-0	<b>1 time:</b> 8-26 15:05:09	
		IP Addı	ress 239	9.255.0.1		?		Uptime	e: 38s	
		ſ	Port 501	00		?				
Line 2										
		Direc	tion 🖲 I 🔾 (	nput Dutput						
		Met	hod OF OF	RTP Multica RTP Unicast SIP (phone	ast (continuous stre t (continuous strea call)	eaming, i ming, or	multiple recipients) ne recipient)			
	RTP U	Inicast au	ıdio							
		IP Addi	ress 239	9.255.0.2		?				
		ſ	Port 502	200		?				

- **IP Address** Audio from this line will be sent to and/or received from this IP address.
- Port Audio from this line will be sent on or received from this UDP port. Valid ports range from 1 to 65535. The default port is 50100 for Line 1 and 50200 for Line 2.



### SIP

🍗 wahsega 🛛	nputs/Outputs Audio Netv	work System Management	Time until auto-logout: 08:09	Renew Logout
Inputs/C Configure audi	o inputs and outputs	5		Status
Line 1			User	Wahsega Line 1 : 15003@sip.wahsega.com
	Direction	<ul> <li>Input</li> <li>Output</li> <li>RTP Multicast (continuous stream</li> <li>RTP Unicast (continuous streamin</li> <li>SIP (phone call)</li> </ul>	ing, multiple recipients) ng, one recipient) IP: 19 MAC 1D	us: Account not configured Wahsega Line 2 : 15004@sip.wahsega.com us: Account not configured System 92.168.96.131 (DHCP) Address: 18-39-19-00-00-
	SIP account		Syste 2015	-08-26 15:11:51
	General Topolo	ogy QoS Advanced	Uptin	<b>ne:</b> 5m 39s
	Display name Username/Number	Wahsega Line 1		
	Domain	sip.wansega.com		
	Register with domain	· ?		
	Password	?		
Line 2				
	Direction	Input     Output     RTP Multicast (continuous stream)	ning multiple reginients)	
	Method	RTP Unicast (continuous streamin     RTP Unicast (continuous streamin     SID (phone call)	ng, one recipient)	
		<ul> <li>SiP (priorie cair)</li> </ul>		
	SIP account			
	General Topolo	ogy QoS Advanced		
	Display name	Wahsega Line 2		
	Username/Number	15004		
	Domain	sip.wahsega.com		
	Register with domain			
	Password	(?		



#### • General

Most users will only need to set *Username/Number* and *Domain*. You may also provide a *Display name*, which may be used by your SIP server depending on its configuration.

If a password is required for your SIP server or proxy server, provide it in the *Password* field. If your SIP server or proxy server requires an authentication username that is different from the name entered in *Username/Number*, enter it on the account's *Advanced* tab in the *Authentication username* field.

- **Display name** The name to report to the SIP server, which may be shown to other callers (depending on the SIP server's configuration).
- **Username/Number** The phone number or extension this phone is configured with on the SIP server.
- **Domain** The hostname or domain name of the SIP server. Not used in peer-to-peer (P2P) mode.
- **Register with domain** If checked, operates in normal SIP mode. If unchecked, operates in P2P mode.
- **Password** If the SIP server requires a password to authenticate, enter it here.



#### Output

**Output level/gain** – Select the audio line level for your application. If you are unsure of line level, choose "Consumer audio line level."

🍾 wahsega	Inputs/Outputs Audio Net	work System	Management	Time until auto-logout	:: 04:05 Renew	Logout		
Inputs/ Configure au	Outputs dio inputs and outputs	5			Stat	US		
Line 1	Direction Output line level/gain	<ul> <li>Input</li> <li>Output</li> <li>Most A/V receilered.</li> <li>Intervention of the second s</li></ul>	tivers and amplifiers use ( onal mixing decks and sig nal audio line level.	Consumer audio line Inal processors usually	User: 15003@sip.wahsega.com Status: Account not configured Wahsega Line 2 User: 15004@sip.wahsega.com Status: Account not configured System			
		If unsure, sele Consumer Profession Other	ect <i>Consumer audio line lev</i> audio line level (–10 dBV aal audio line level (+4 dBu	rel. nominal) u nominal)	MAC Address: 18 1D System time: 2015-08-26 15:19: Uptime: 6m 36s	(DHCP) 39-19-00-00- 14		
	Custom output gain	Consumer aud audio line leve −12 dB ▼ −30 dB ▲	<i>lio line level</i> is equivalent t / is equivalent to 0 <i>dB</i> .	o –12 dB. Professional				
	Method	-29 dB ic -28 dB a -27 dB he -26 dB	ast (continuous streamin st (continuous streaming, e call)	g, multiple recipients) one recipient)				
	RTP Multicast audio	-25 dB -24 dB -23 dB -22 dB		?				
Line 2	Port	-21 dB -20 dB -19 dB -18 dB		?				
	Direction	-17 dB -16 dB -15 dB -14 dB						
	Output line level/gain	<ul> <li>-13 dB</li> <li>-12 dB</li> <li>si</li> <li>-11 dB ▼ pr</li> <li>If unsure, sele</li> <li>Consumer</li> <li>Consumer</li> <li>Profession</li> <li>Other</li> </ul>	eivers and amplifiers use ( onal mixing decks and sig and audio line level. ect Consumer audio line leve audio line level (-10 dBV nal audio line level (+4 dBu	Consumer audio line nal processors usually rel. nominal) nominal)				
	Method	<ul> <li>RTP Multio</li> <li>RTP Unica</li> <li>SIP (phone</li> </ul>	ast (continuous streamin st (continuous streaming, e call)	g, multiple recipients) one recipient)				



- **Consumer audio line level** = -10 dBV nominal Most A/V receivers and amplifiers use this level.
- **Professional audio line level** = +4 dBu nominal Professional mixing decks and signal processors usually use this level.
- Other = Choose a custom level from the *Custom output gain* dropdown menu below. For reference, *Consumer audio line level* is equivalent to -12 dB and *Professional audio line level* is equivalent to 0 dB.
  - **Custom output gain** If a level other than -10 dBV or +4 dBu is needed, choose it here. Output level ranges from -30dB to +6dB.

### **Output Method**

See *Input Method* on pages 12-16 for more details on configuration for all three input options:

- **RTP Multicast** Continuous streaming, multiple recipients
  - See page 13 for more details.
- **RTP Unicast –** Continuous streaming, one recipient
  - See page 14 for more details.
- **SIP** Phone call
  - See pages 15-16 for more details.



### **Audio Settings**

Once you have configured RTP or SIP direction and method in *Inputs/Outputs*, configure specific audio and codec settings in *Audio Settings*.

🏏 wahsega	Inputs/Outputs	Audio Net	work System	Management	Time until auto-logout	: 06:20	Renew	Logout
Audio Configure aud	dio settings	and prefe	rred codec	S			Statu	ıs
RTP Input	Choose Input Lir Silence	settings for en nes, not Output Audio codec e suppression	coding RTP Mult (s.) G.711 uLaw	icast or RTP Unicast audi	o. (This only applies to	W User: 15 Status: / W User: 15 Status: /	/ahsega l 003@sip.wa Account not /ahsega L 004@sip.wa Account not Systen	.ine 1 hsega.com configured .ine 2 hsega.com configured
SIP	Choose G.711 u G.711 u G.716 (1 G.726 (1 G.726 (1 G.726 (1 G.726 (2 G.722 H DVI4 Na DVI4 HI DVI4 HI Linear P Linear P Linear P	preferred code le Law Law Law Cokbps) 24kbps) 24kbps) 24kbps) 24kbps) 24kbps) 24kbps) 24kbps) 24kbps) 20 25 25 25 25 25 25 25 25 25 25 25 25 25	cs for SIP audio.	Preferred G.722 HD DVI4 HD G.726 fixed payload DVI4 Narrowband G.711 uLaw G.711 aLaw	Move Up Move Down	IP: 192.1 MAC Ad 1D System 2015-08- Uptime:	68.96.131 (I dress: 18-39 time: -26 15:34:49 9 m 13s	DHCP) 9-19-00-00-



#### **RTP Input**

- Audio codec Used only in Multicast and Unicast RTP audio input configurations. Choose settings here for encoding audio. "HD" or "wideband" codecs have better audio quality. Default audio codec is G.722 HD.
- Silence Suppression Used only in Multicast and Unicast RTP audio input configurations. When enabled, RTP coding will enable silence suppression so that it can cease transmitting when there is no audio. Default status is silence suppression enabled.

#### SIP

• Choose preferred codecs – Used only in SIP audio configurations. These settings enable/disable audio codecs and set their order of use. The system tries codecs at the top of the "Preferred" list before trying codecs at the bottom of the list.



## **Network Configuration**

Configure settings for TCP/IP networking.

🍾 wahsega 🛛 Inp	outs/Outputs Audio Net	work System	Management		Time until auto-logo	out: 09:22	Renew	Logout
Network Configure netwo	ork settings						Statu	ıs
WAN Outgoing Network						User: 1 Status	Wahsega L 5003@sip.wa Attempting t	. <b>ine 1</b> hsega.com to register
Settings	<b>General</b> Host					User: 1 Status:	<b>Vahsega L</b> 5004@sip.wa Registered ir	<b>ine 2</b> hsega.com n peer-to-
	Domain					peer (P	Systen	n
	Connection type	<ul><li>Dynamic IF</li><li>Static IP</li></ul>	P (DHCP)			IP: 192 MAC A 1D System	.168.96.131 (5 ddress: 18-39	tatic)  -19-00-00-
	Static IP Address					2015-0	8-26 15:38:24 e: 59s	
	Address	192.168.96.1	31					
	Mask	255.255.248.0	0					
	Default router	192.168.96.1						
	DNS primary	192.168.99.1						
	DNS secondary	0.0.00						
	DNS tertiary	0.0.0.0						
	IPv6	is enabled	!					
	Additional Settings							
	MTU size (advanced)	1500						
STUN								
Global STUN Server Settings	Server							
	Port	3478						
RTP								
Configure Port Range	Port range start	23456	to	23556				



#### WAN

- Connection Type
  - **Dynamic IP** Choose this to use DHCP to assign an address automatically. Note that when using DHCP, you will have to determine the IP address assigned to the zone controller using your DHCP server or through some other method in order to access the configuration webpages in the future.
  - **Static IP** Choose this to enter IP address settings manually. *Warning: If you enter a configuration that is not* accessible from your network, you may be unable to communicate with the zone controller! Double-check that the settings you enter are correct before rebooting the zone controller to apply them.

#### **STUN**

. **Server/Port** – Enter your STUN server here. STUN servers may be required to operate with a public SIP server from behind a NAT or router. If using a STUN server, make sure to select the appropriate settings on the *Inputs/Outputs* page under *SIP Account Topology*.

gy QoS Adv	vanced
<ul> <li>Automatic</li> <li>TCP</li> <li>TLS (Secure SIP)</li> <li>UDP only</li> </ul>	
0	
	gy QoS Adv Automatic TCP TLS (Secure SIP) UDP only 0 0

#### RTP

• **Port Range** – Select the UDP port range to use for sending RTP audio network traffic during a call.



## **General System Configuration**

Configure settings for the zone controller's operating system and other administrative functions.

🍾 wahsega 🛛 Inpi	uts/Outputs Audio	Network	System	Management		Time until auto-logou	t: <b>09:11</b>	Renew	Logout
System Configure additi	onal system-sp	pecific se	ettings					State	us
Authenticati Administrative User Account	<b>on</b> Userr	ame adr	nin Chan	ge Password	?		User: Status User: Status	Wansega 15003@sip.wa s: Account not Wahsega I 15004@sip.wa s: Account not	LINE I ahsega.com t configured Line 2 ahsega.com t configured
Syslog System Logging Configuration	Report to si	erver	] 				IP: 192 MAC # 1D System 2015-0 Uptim	Syster 2.168.96.131 ( Address: 18-3 n time: 08-27 13:40:50 ne: 3h 30m 9s	<b>n</b> DHCP) 9-19-00-00- )
Date & Time System Date and Time Configuration (Time Server / NTP)	Ena Si Daylight saving <b>Time</b> :	bled 🕑 erver 0.w time 🕑	ahsega.po	ol.ntp.org r in effect					
		(GMT-05:00	) Eastern T	ime (US & Canada date & time	3)	T			



### Authentication

• **Username** – Set the username and password used on the configuration webpages and Telnet shell. Default username and password are "admin" and "admin".

### Syslog

• **Report to server** - Configures a syslog server that can receive system logs from the zone controller. This requires a PC or server running a syslog server to receive and store the logs.

### Date & Time

- **NTP Enabled** Automatically determines the time of day using an NTP server. This is recommended, as the zone controller does not have a battery-backed clock.
- **Daylight saving time** Select this only if daylight saving time is currently in effect in your location.
- **Time zone** Select the region that most closely matches your time zone. (Note that daylight saving time is *not* automatically applied based on region.)



### **Firmware Management**

Manage and update the zone controller's configuration and firmware.

💊 wahsega Inputs/Or	Outputs Audio Network System Management Time until auto-logout: 09:48 Renew Logo									Logout		
Managemer Manage system con			Statu	JS								
Configuration System configuration	Backup/Down	load D	Download configuration					Wahsega Line 1 User: 15003@sip.wahsega.com Status: Account not configured Wahsega Line 2				
Firmware	Restore/Up	load	To restore/upload system configuration, drop a saved configuration file here, or click to choose a file.						Account not <b>Syster</b> 168.96.131 () <b>Idress:</b> 18-39 <b>time:</b> -27 13:40:12 : 3h 29m 31	nisega.com configured DHCP) 9-19-00-00- 2 5		
System update	New firm	Ver vare	Version: 1.3.0-20150821 Choose File No file chosen Update firmware									

### Configuration

- **Backup/Download** Use this to retrieve a copy of the zone controller's current configuration and save to disk.
- **Restore/Upload** Use this to upload a valid configuration file that was retrieved and saved from a zone controller. *Note that a reboot will be required before the settings take effect.*

#### Firmware

• New firmware – Use this to upload new firmware. DO NOT UNPLUG THE ZONE CONTROLLER OR INTERRUPT THE FIRMWARE UPGRADE PROCESS BEFORE IT COMPLETES, OR IT MAY BE RENDERED UNUSABLE.



# Appendix A Factory Reset

### **Software-Based Factory Reset**



If you need to erase the configuration settings in your zone controller for any reason, you can do so in one of two ways. **Option A** returns all settings to factory default, and **Option B** returns only select settings to factory default.



**Option A -** Steps for activating a full factory reset:

- 1. Start with the zone controller powered off.
- 2. Using either method on pages 5-6, apply power to your zone controller. As soon as power is applied, hold the reset button until the status light begins to blink.
- 3. Once the light starts blinking, continue to hold the button for **at** least 5 seconds. NOTE 1
- 4. After 5 seconds, the status light will flash rapidly to indicate that the file system has been reformatted and all data has been erased from your device. NOTE 2
- 5. Unplug and restart your zone controller for the new settings to take effect. You have successfully reset your configuration!

**Note 1:** If you release the button early, the zone controller will proceed with normal startup.

**Note 2:** If the status light instead begins to blink more slowly, the reset was not successful. Unplug and restart your device, and then attempt a reset once again.



#### **Option B -** Steps for activating a partial factory reset:

- 1. While the unit is running and the status LED is steadily lit, press and hold the reset button.
- 2. Continue to hold down the button as the status light first turns off and then begins to advance through reset options. Every 5 seconds, the status light will blink to indicate a different reset option as described below.

1 blink = Reset type 1

- Erases network configuration, reverting back to defaults *for network configuration only*. All other configuration settings remain unchanged.
- 2 blinks = Reset type 2
- Erases all configuration settings, reverting back to factory defaults. All other system files remain unchanged.
- 3. Release the button when you reach the type of reset you need. <sup>NOTE 3</sup>
- 4. The status light will flash rapidly to indicate that the selected settings have successfully been erased. NOTE 4
- 5. Restart your zone controller for the new settings to take effect. You have successfully reset your configuration!

**Note 3:** If you release the button before the LED begins to blink, nothing will be reset, and you will not need to reboot.

**Note 4:** If the status light begins to blink more slowly after you release the button, the reset was not successful. Unplug and restart your device, and then attempt a reset once again.





# **IP Paging Zone Controller with VoIP**

WL-ZN-CTR-2CH

User's Guide

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