



wahsega

Carina IP Panic Button

User's Guide



Getting Started

This step-by-step guide will help you configure your Wahsega Carina IP Panic Button.

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Table of Contents

PREFACE	1
<i>Important Notice.....</i>	<i>i</i>
<i>Copyright Notice.....</i>	<i>i</i>
<i>Trademarks.....</i>	<i>i</i>
CHAPTER 1: OVERVIEW	3
<i>Carina IP Panic Button Functionality.....</i>	<i>4</i>
<i>Quality Standards.....</i>	<i>5</i>
CHAPTER 2: USER EXPERIENCE.....	6
<i>Software Capabilities</i>	<i>7</i>
<i>Getting Started.....</i>	<i>8</i>
<i>Endpoint Configuration Without Carina Event Manager.....</i>	<i>9</i>
CHAPTER 3: CONFIGURATION IN EVENT MANAGER	11
<i>Individual Device Configuration</i>	<i>12</i>
Details	13
SIP.....	14
Logging.....	17
Network.....	18
System	20
Config File	22
APPENDIX A: SOFTWARE-BASED FACTORY RESET.....	23

The Wahsega product line offers the highest quality two-way audio and durability in the industry today. Each and every Wahsega product is designed, developed and manufactured in the USA, ensuring a superior product at the best price available in the market.

Carina IP Panic Button Functionality

The initial functions of Wahsega's Carina IP Panic Button include:

Centralized Event Manager configuration

- Event Manager auto-detects each Carina IP Panic Button on the network
- All configuration options accessible via Carina Event Manager's centralized HTTP Web interface
- Bulk configuration options available for quick and easy setup
- Microphone volume control within configuration webpages
- Remote firmware upgradeable

SIP intercom

- Crystal clear audio
 - Multiple mono audio codecs to choose from
 - Environmental noise suppression
- Advanced panic button functionality
- Extensive interoperability with most SIP servers and PBXs

Simple installation

- Power-over-Ethernet (PoE 802.3af) powered
- Surface mount wall installation

On-board relay

- Remotely triggered by SIP or multicast

Industry-leading standby power of < 2W

Quality Standards

- Wahsega products 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's 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 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's 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 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 products are designed, developed and manufactured in the USA.

Chapter 2

User Experience

A member of Wahsega's Carina IP Intercom product family, the IP Panic Button is a surface mounted, low profile IP intercom built for placing calls in emergency situations. At the other end of the call, the listening party can remotely activate the IP Panic Button's onboard relay to unlock a door or activate a security device. With no integrated speaker, it is built for silent calls to a preconfigured number during emergency situations.

The IP Panic Button supports the SIP protocol so it can register with the Wahsega PICS, Diet IP PBX or any IP PBX for easy integration with your existing phone system. The best way to manage this device is through the Carina Event Manager or Event Manager Lite.

Advanced panic button functionality helps to reduce the number of false alarm triggers from the panic button. With this advanced functionality, a brief button press places a call to one preconfigured number—such as the front office—while a longer press-and-hold will call a second, preconfigured panic number such as a security desk.

An onboard relay on the IP Panic Button enables room lockdowns by allowing a remote party to control a powered door lock. The onboard relay could also be used to activate a camera, strobe or another security device while the remote caller monitors events via SIP audio.

The Carina Event Manager automatically discovers and registers any Carina IP Intercom at startup, and all programming and configuration can be handled individually or in bulk through the Carina Event Manager dashboard. This greatly simplifies the installation process and makes it easy to manage the system once installed.

Software Capabilities

Wahsega's Carina IP Panic Button is configured centrally at the Carina Event Manager, which allows bulk configuration as well as individual customization.

This allows access to various settings such as network/IP address, SIP account and Event Manager configuration, intercom behavior, button functionality, and 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.

The Carina IP Panic Button's configuration pages are also accessible using an HTTP Web interface, viewable from any Web browser on the same LAN. However, all Carina devices should be configured within the Carina Event Manager's configuration webpages whenever possible. Any configuration changes to a Carina device's individual webpages will be overwritten by the Event Manager.

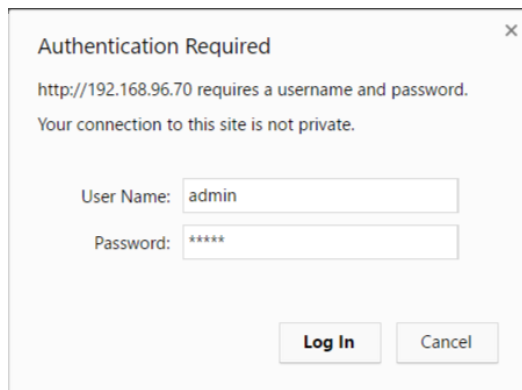
Getting Started

1. All Carina devices should be configured within the Carina Event Manager's configuration webpages. While it is possible to make changes at the device's own webpages, any configuration changes to the device's webpages will be **overwritten** by the Event Manager.
2. Locate and note your IP Panic Button's MAC address. It is printed on a white sticker located on the rear of the device.
3. Connect the IP Panic Button's main Ethernet port—labeled *LAN*—to a network using a Power-over-Ethernet (PoE) Ethernet connection. When connected, it will power on immediately, and the *LINK/ACTV* status LED will begin to blink.
4. Your Carina Event Manager will automatically detect the Carina IP Panic Button when you power up and connect to the network via PoE.
5. On the Event Manager's Web interface, navigate to the Devices page to discover your IP Panic Button's IP address. Look for the device matching the MAC address you noted in step two.
6. Following the instructions in the next sections, change Event Manager settings for your Carina IP Panic Button as needed.
7. To apply changes and settings to your Carina IP Panic Button, **save changes** and **reprovision** your intercom. This is an important step! ***Your changes in Event Manager will not take effect at the IP Panic Button until you have reprovisioned the endpoint.***

Endpoint Configuration Without Carina Event Manager

If needed, individual endpoint configuration is available via the Carina IP Panic Button's individual webpages. **However, if users choose to make configuration changes in an intercom's webpages, those changes will not be recognized by the Event Manager and will be overwritten by any configuration changes made to the endpoint in the Event Manager.** For best results, all configuration changes should be made at the Event Manager and not at the intercom's individual configuration webpage.

1. To access an individual intercom's webpages, navigate to its IP address in your Web browser (for example, <http://123.456.78.9>). Wahsega recommends using Chrome or Firefox for best results.
2. When you access the configuration webpages, the intercom will ask for a username and password. The default username and password are *admin* and *admin*.



3. On the left side of the page is the Status bar. It shows the intercom's current *System* information such IP address, MAC address, system time and uptime. The intercom's SIP account status (default status is *unconfigured* and *unregistered*) is listed under *Accounts*.

4. To change the IP address settings, go to the *Network* page 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.
5. Set time and date and change username or password on the *System* page. Please note that the Carina Event Manager may be used as a system NTP server for consistent date and time across the network. Simply enter *carina.wahsega.local* as the NTP server and make sure that NTP is enabled for this endpoint.
6. To change the SIP account settings, go to the *Accounts* page and modify settings in the account. Most users will only need to set *Username/Number* (the phone number or extension assigned to this speaker), *Domain* (the hostname or IP address of your SIP server) and *Password* (password for this SIP extension, if needed). You may also provide a *Display Name*, which may be used by your SIP server depending on its configuration.

If your SIP server or proxy server requires an authentication username that is different from the name entered in *Username/Number*, enter it under the *Authentication Username* field.

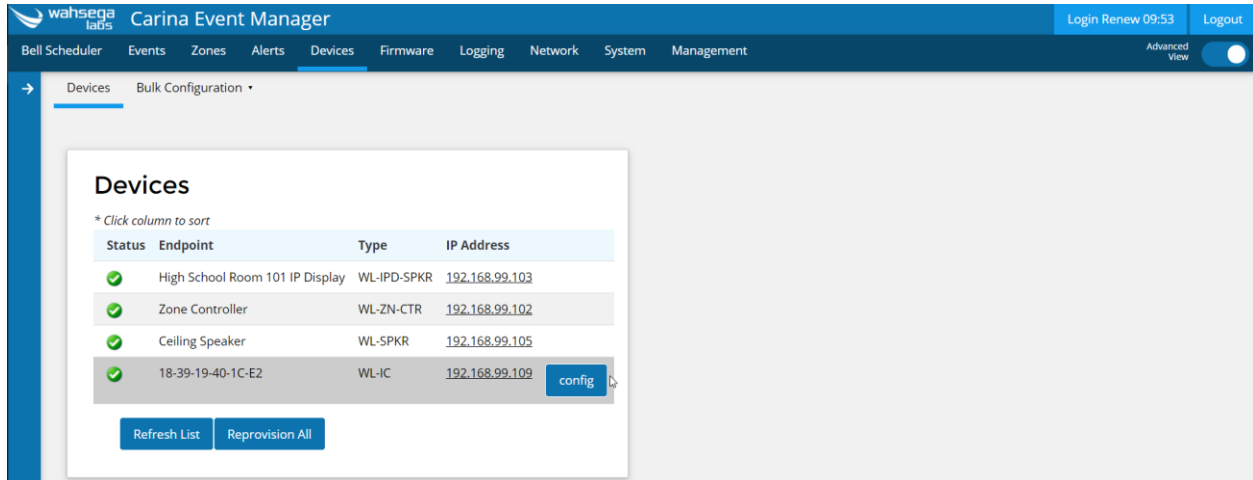
7. Load new firmware, backup configuration, or restore a configuration file on the *Management* page.

Chapter 3

Configuration in Event Manager

The Carina IP Panic Button should be configured within the Carina Event Manager's configuration webpages. Event Manager automatically detects each Carina endpoint on the same network, and it provides bulk or individual configuration options. Wahsega recommends using a Chrome or Firefox browser for best results.

Individual Device Configuration




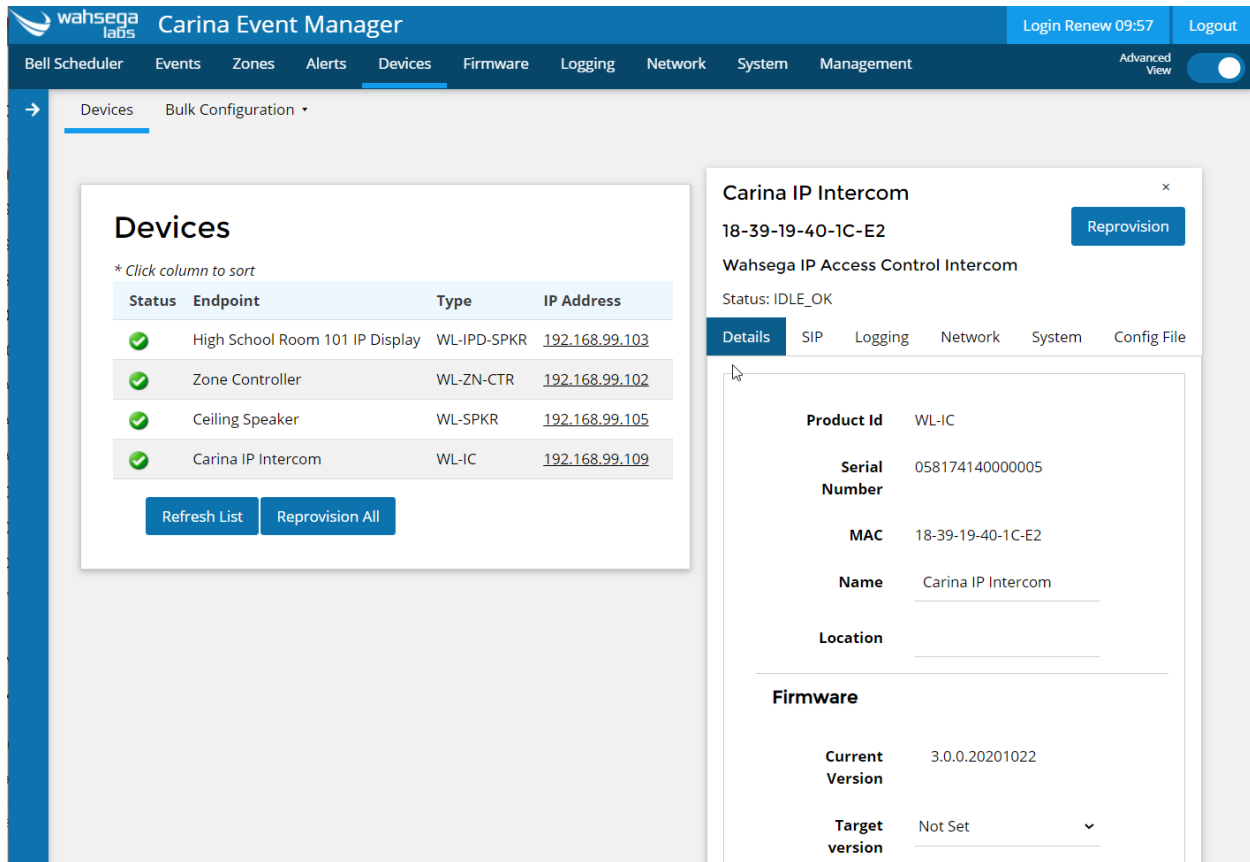
The screenshot shows the 'Carina Event Manager' interface. The top navigation bar includes 'Bell Scheduler', 'Events', 'Zones', 'Alerts', 'Devices' (selected), 'Firmware', 'Logging', 'Network', 'System', and 'Management'. On the right, there are 'Login Renew 09:53' and 'Logout' buttons. Below the navigation bar, the 'Devices' page is displayed with a 'Bulk Configuration' dropdown. A table titled 'Devices' contains the following information:

Status	Endpoint	Type	IP Address
✓	High School Room 101 IP Display	WL-IPD-SPKR	192.168.99.103
✓	Zone Controller	WL-ZN-CTR	192.168.99.102
✓	Ceiling Speaker	WL-SPKR	192.168.99.105
✓	18-39-19-40-1C-E2	WL-IC	192.168.99.109

Below the table are 'Refresh List' and 'Reprovision All' buttons. A blue 'config' button is located to the right of the last row in the table.

Navigate to the *Devices* page on your Event Manager and click the button next to the device you'd like to configure.





Devices

* Click column to sort

Status	Endpoint	Type	IP Address
✓	High School Room 101 IP Display	WL-IPD-SPKR	192.168.99.103
✓	Zone Controller	WL-ZN-CTR	192.168.99.102
✓	Ceiling Speaker	WL-SPKR	192.168.99.105
✓	Carina IP Intercom	WL-IC	192.168.99.109

Refresh List Reprovision All

Carina IP Intercom ×

18-39-19-40-1C-E2 Reprovision

Wahsega IP Access Control Intercom

Status: IDLE_OK

Details SIP Logging Network System Config File

Product Id WL-IC

Serial Number 058174140000005

MAC 18-39-19-40-1C-E2

Name Carina IP Intercom

Location

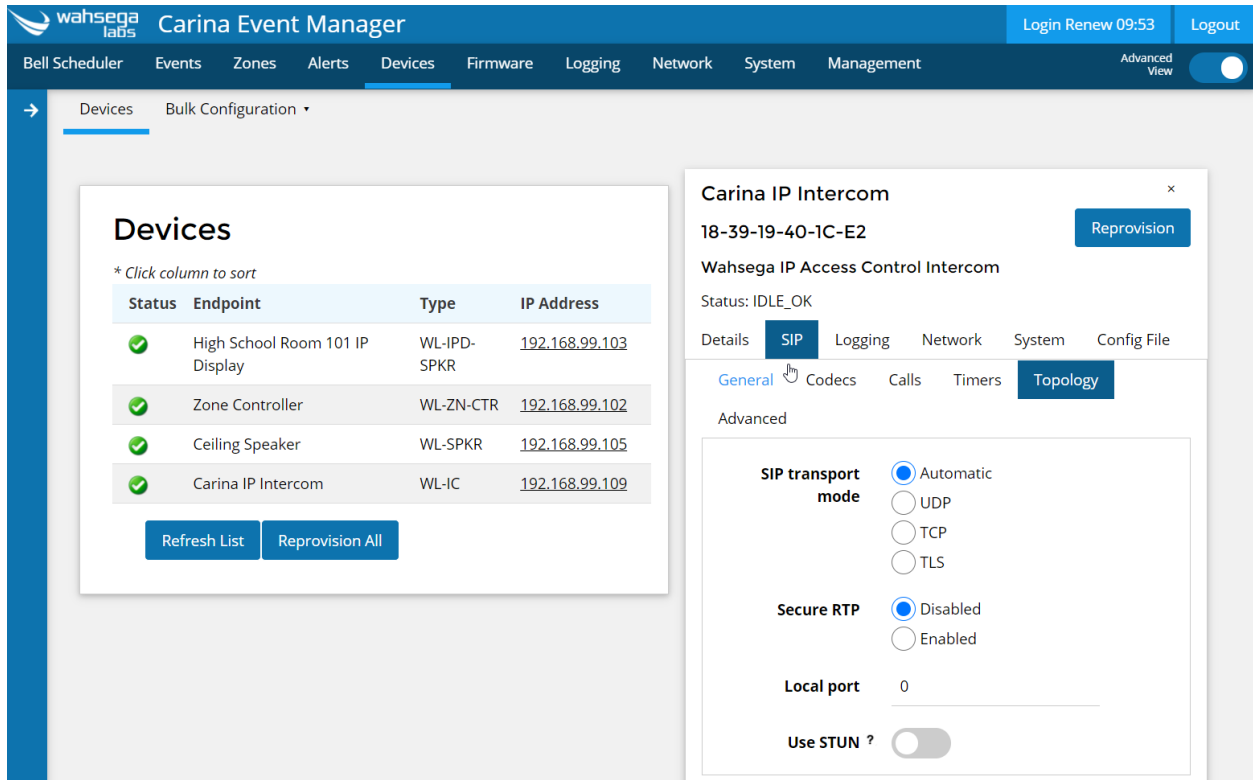
Firmware

Current Version 3.0.0.20201022

Target version Not Set

Details

- **Name** – Give this IP Intercom a unique name for your reference.
- **Location** – Physical location of intercom, for user reference.
- **Firmware**
 - **Current Version** – Firmware version this intercom is currently running
 - **Target Version** – Firmware version this intercom should be running currently or upon next reprovisioning cycle. Target version “Not Set” will keep this device at Current Version upon reprovisioning.



The screenshot shows the 'Carina Event Manager' interface. On the left, a 'Devices' table lists several devices with their status, endpoint, type, and IP address. On the right, the configuration page for a 'Carina IP Intercom' is shown, with the 'SIP' tab selected. The 'SIP transport mode' is set to 'Automatic', 'Secure RTP' is 'Disabled', and 'Local port' is '0'.

Status	Endpoint	Type	IP Address
✓	High School Room 101 IP Display	WL-IPD-SPKR	192.168.99.103
✓	Zone Controller	WL-ZN-CTR	192.168.99.102
✓	Ceiling Speaker	WL-SPKR	192.168.99.105
✓	Carina IP Intercom	WL-IC	192.168.99.109

Carina IP Intercom
 18-39-19-40-1C-E2
 Wahsega IP Access Control Intercom
 Status: IDLE_OK

Details | **SIP** | Logging | Network | System | Config File

General | Codecs | Calls | Timers | **Topology**

Advanced

SIP transport mode
 Automatic
 UDP
 TCP
 TLS

Secure RTP
 Disabled
 Enabled

Local port 0

Use STUN ?

SIP

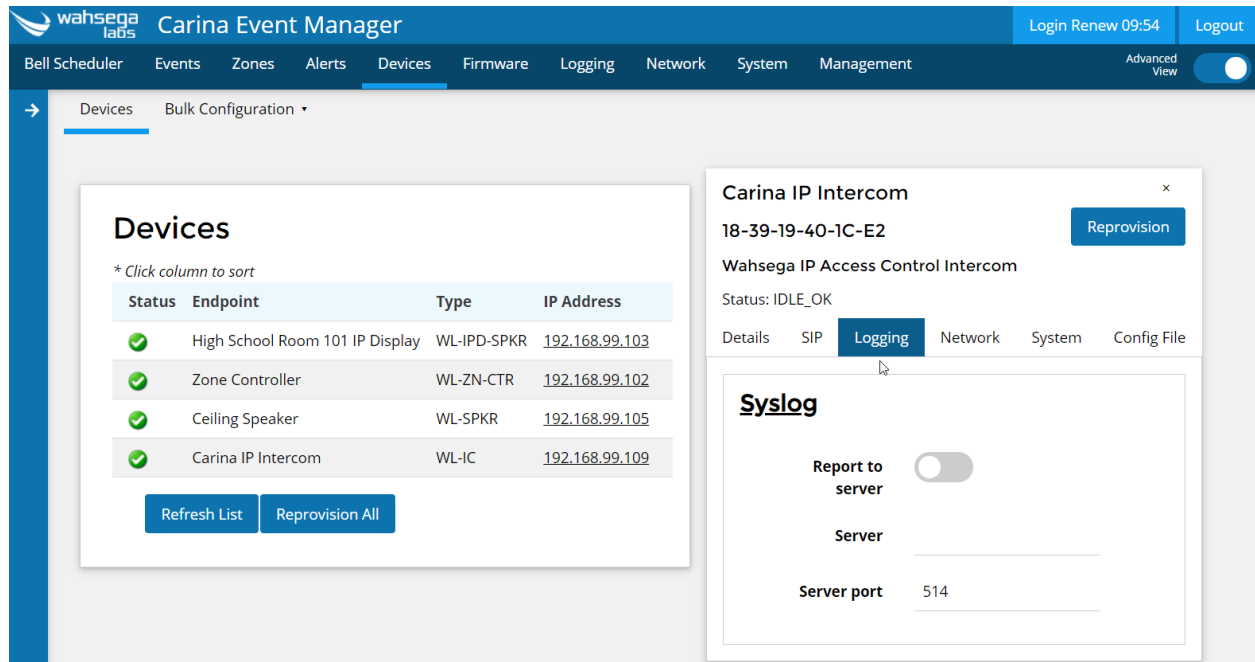
Configure registration and for two-way SIP calls.

▪ General

- **Register with SIP server** – Enable this to register this intercom’s SIP extension with your SIP server.
- **Display name** – Name to be displayed as the caller ID.
- **Username/Number** – Username, phone number or extension of the SIP account.
- **Domain** – Domain of the account (IP address of the SIP server).
- **Password** – The password used to register this account with the SIP server, if needed.
- **Authentication username** – By default, authentication is done with the Username/Number above. Fill in the Authentication Username if a different username is needed.

- **Codecs** – The Codec List is shown in preferred order from top to bottom. This list may be rearranged by dragging and dropping the codecs within the list.
 - Available codecs are: G.722 HD, DVI4 HD, G.726 fixed payload, DVI4 Narrowband, G.711 uLaw, G.711 aLaw, G.729, OPUS.
- **Calls** – Configure display behavior for inbound and outbound calls.
 - **Relay control** – When enabled, the intercom’s onboard relay will be triggered for the duration of an active SIP call.
 - **Inbound** – Adjust settings for inbound calls.
 - **Allowed** – When inbound calls are set to “not allowed,” the calls will be rejected immediately.
 - **Priority** – Priorities determine which audio event will take precedence over other audio events. A higher priority event will take over a lower priority event. If two events of the same priority occur, they will be handled in the order received.
 - **Auto-Answer** – When Auto-Answer is not enabled, an inbound call will continue ringing until the Incoming Call Timeout occurs. Auto-answer is enabled by default when inbound calls are allowed.
 - **Outbound** – Adjust settings for outbound calls.
 - **Allowed** – When disabled, outbound calls by any means from this intercom are prevented.
- **Timers**
 - **Call Attempt Timeout** – An unanswered outbound call attempt will be automatically cancelled when this timer expires. Default is 180 seconds.
 - **Incoming Call Timeout** – An unanswered inbound call attempt will be automatically cancelled when this timer expires.

- **Call Active Timeout** – An active call will be automatically terminated when this timer expires.
- **Topology**
 - **SIP transport mode** – Select mode to match your SIP server’s SIP transport mode.
 - **Secure RTP** – Disabled by default.
 - **Local Port** – Enter local port if needed.
 - **Use STUN** – When enabled, the SIP client will use the public IP address of this device when communicating with the SIP server instead of its private IP address. *Note: STUN must also be configured on the Network page if this is checked.*
- **Advanced**
 - **Proxy** – When set, all SIP traffic will be sent through the proxy server, no matter the Domain setting.
 - **Proxy port** – If set to 0, the default proxy port of 5060 will be assumed. Default value is 0.
 - **Registration lifetime** – Interval, in seconds, the SIP client will re-register with the SIP server. Default value is 3600.
 - **Keep-alive** – When enabled, the SIP client will periodically send a keep-alive message to the server. This is useful when connecting to a server across a NAT connection, or in keeping a TCP connection to the SIP server active.
 - **Silence suppression** – When enabled, RTP packets are not sent when silence is detected.



The screenshot shows the 'Carina Event Manager' interface. The top navigation bar includes 'Bell Scheduler', 'Events', 'Zones', 'Alerts', 'Devices', 'Firmware', 'Logging', 'Network', 'System', and 'Management'. The 'Devices' tab is active, displaying a table of devices. A modal window for 'Carina IP Intercom' is open, showing its configuration details, including the 'Syslog' section.

Devices

* Click column to sort

Status	Endpoint	Type	IP Address
✓	High School Room 101 IP Display	WL-IPD-SPKR	192.168.99.103
✓	Zone Controller	WL-ZN-CTR	192.168.99.102
✓	Ceiling Speaker	WL-SPKR	192.168.99.105
✓	Carina IP Intercom	WL-IC	192.168.99.109

Buttons: Refresh List, Reprovision All

Carina IP Intercom (18-39-19-40-1C-E2)

Wahsega IP Access Control Intercom

Status: IDLE_OK

Details SIP **Logging** Network System Config File

Syslog

Report to server

Server _____

Server port 514

Logging

- **Syslog** – Syslog is a network protocol to enable system logging from a device to a network server. This may be used to aid in diagnosing the behavior of a device.
 - **Report to server** – Enable to begin logging to a network server. Default value: Disabled.
 - **Server address** – The IP address or URL of the syslog server.
 - **Server port** – The port (if needed) for the syslog server.

wahsega labs Carina Event Manager Login Renew 09:57 Logout

Bell Scheduler Events Zones Alerts **Devices** Firmware Logging Network System Management Advanced View

→ Devices Bulk Configuration ▾

Devices

** Click column to sort*

Status	Endpoint	Type	IP Address
✓	High School Room 101 IP Display	WL-IPD-SPKR	192.168.99.103
✓	Zone Controller	WL-ZN-CTR	192.168.99.102
✓	Ceiling Speaker	WL-SPKR	192.168.99.105
✓	Carina IP Intercom	WL-IC	192.168.99.109

[Refresh List](#) [Reprovision All](#)

Carina IP Intercom

18-39-19-40-IC-E2 [Reprovision](#)

Wahsega IP Access Control Intercom

Status: IDLE_OK

Details SIP Logging **Network** System Config File

Basic Settings

Connection type Dynamic IP (DHCP) Static IP

Dynamic IP Options

Host Name

Static IP Options

IP Address

Mask

Default router

DNS primary

DNS secondary

STUN

Stun Server

Stun Port

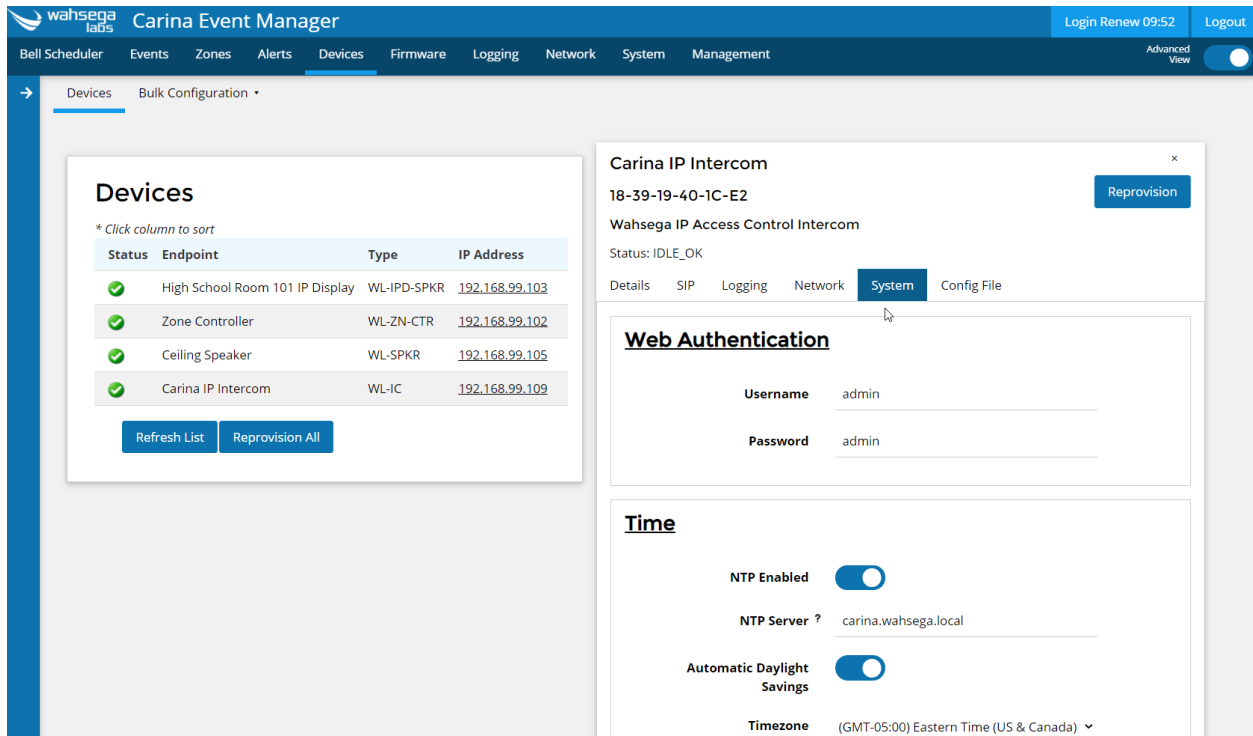
Additional Settings

Enable IGMPv3

Network

- **Basic Settings**
 - **Connection Type** – Choose DHCP or Static IP.

- **Dynamic IP Options** – If you choose to use DHCP to assign an address automatically. Note that when using DHCP, the IP address for your IP Panic Button may change. However, a new IP address will not affect configuration settings made through your Event Manager.
 - **Host Name** – Set host name to change how this device is listed in your DHCP server, if desired.
- **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 IP Panic Button! Double-check that the settings you enter are correct before reprovisioning the IP Panic Button to apply them.*
- **STUN**
 - **Server/Port** – Enter your STUN server here if applicable. STUN servers may be required to operate with a public SIP server from behind a NAT or router.
- **Additional Settings (advanced)**
 - **Enable IGMPv3** – Check to enable IGMP version 3 on your IP Speaker. If unchecked, IGMP version 2 (IGMPv2) will be used. Default setting is *disabled*. If you know that your routers have IGMPv3 enabled, you can safely enable this setting. *If unsure, leave disabled* to ensure support with routers that only use IGMPv2.
 - **MTU size** – Maximum transmission unit allowed on the Ethernet connection. The standard for Ethernet networks is 1500, and you *should not change this value* unless directed by your network administrator.



The screenshot shows the Carina Event Manager interface. On the left, a 'Devices' table lists several endpoints with their status, type, and IP address. The main panel displays the configuration for a 'Carina IP Intercom' device, specifically the 'System' tab. This tab includes sections for 'Web Authentication' (with fields for Username and Password) and 'Time' (with toggle switches for NTP Enabled and Automatic Daylight Savings, and a dropdown for Timezone).

Status	Endpoint	Type	IP Address
✓	High School Room 101 IP Display	WL-IPD-SPKR	192.168.99.103
✓	Zone Controller	WL-ZN-CTR	192.168.99.102
✓	Ceiling Speaker	WL-SPKR	192.168.99.105
✓	Carina IP Intercom	WL-IC	192.168.99.109

Carina IP Intercom
 18-39-19-40-1C-E2
 Wahsega IP Access Control Intercom
 Status: IDLE_OK

Web Authentication

Username: admin
 Password: admin

Time

NTP Enabled:
 NTP Server: carina.wahsega.local
 Automatic Daylight Savings:
 Timezone: (GMT-05:00) Eastern Time (US & Canada)

System

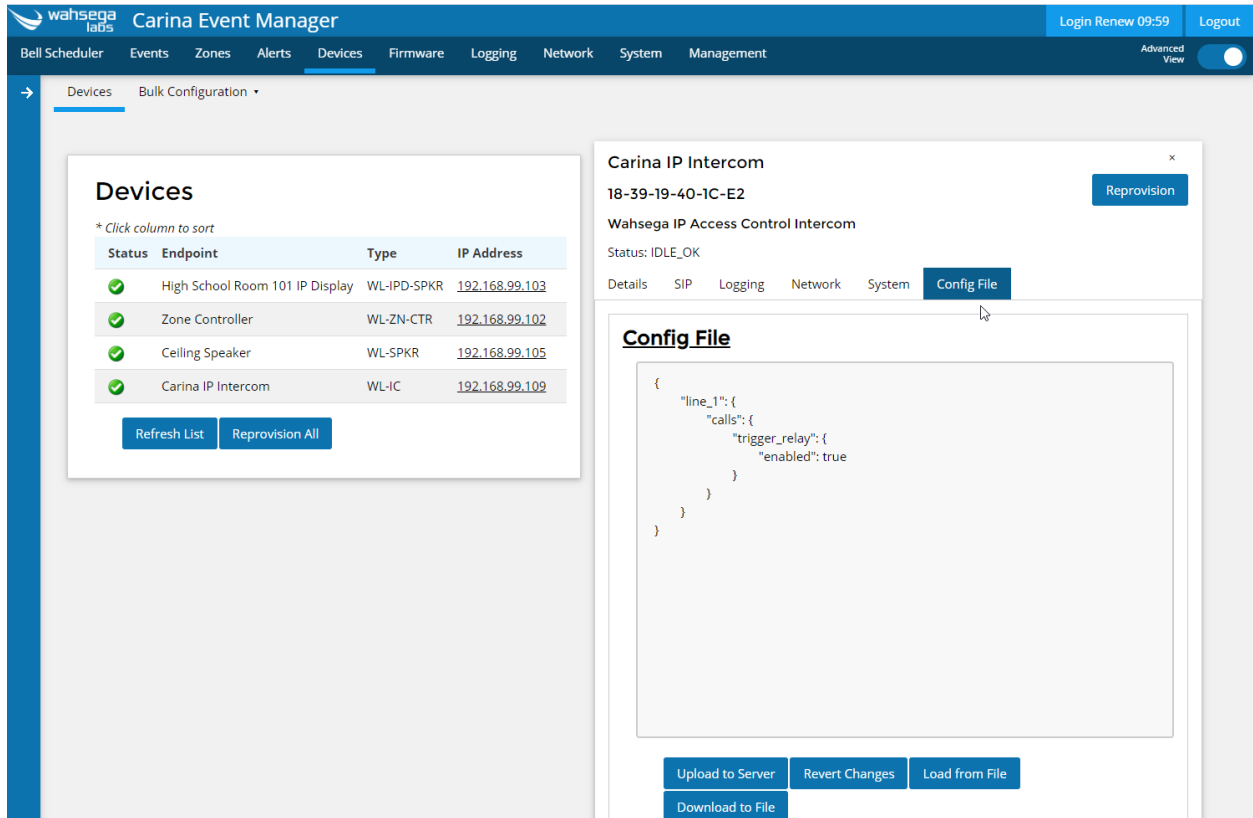
- **Web Authentication**

- **Username** – Change username for this IP Panic Button, if desired. Default username is *admin*.
- **Password** – Change password for this IP Panic Button, if desired. Default password is *admin*.

- **Time**

- **NTP Enabled** – When enabled, the system will query the NTP (network time protocol) server for the current time. The timezone and daylight savings time configuration is handled separate from the NTP time. Default value: Enabled
- **NTP Server** – The Wahsega Event Manager can behave as an NTP server. To take advantage of this, endpoints are best configured to use the default value. Default value: *carina.wahsega.local*

- **Automatic Daylight saving time** – Select this only if daylight saving time is currently in effect in your location. For more information about DST rules and dates, see <http://www.nist.gov/pml/div688/dst.cfm>.
- **Time zone** – Select the region that most closely matches your time zone. (Note that daylight saving time is *not* automatically applied based on region.)



The screenshot shows the 'Carina Event Manager' interface. On the left, a 'Devices' table lists several devices with their status, endpoint, type, and IP address. The 'Config File' section on the right displays a JSON configuration for a 'Carina IP Intercom' device. The configuration includes a 'line_1' object with a 'calls' object containing a 'trigger_relay' object with 'enabled' set to true. Below the JSON editor are buttons for 'Upload to Server', 'Revert Changes', 'Load from File', and 'Download to File'.

Status	Endpoint	Type	IP Address
✓	High School Room 101 IP Display	WL-IPD-SPKR	192.168.99.103
✓	Zone Controller	WL-ZN-CTR	192.168.99.102
✓	Ceiling Speaker	WL-SPKR	192.168.99.105
✓	Carina IP Intercom	WL-IC	192.168.99.109

```

{
  "line_1": {
    "calls": {
      "trigger_relay": {
        "enabled": true
      }
    }
  }
}

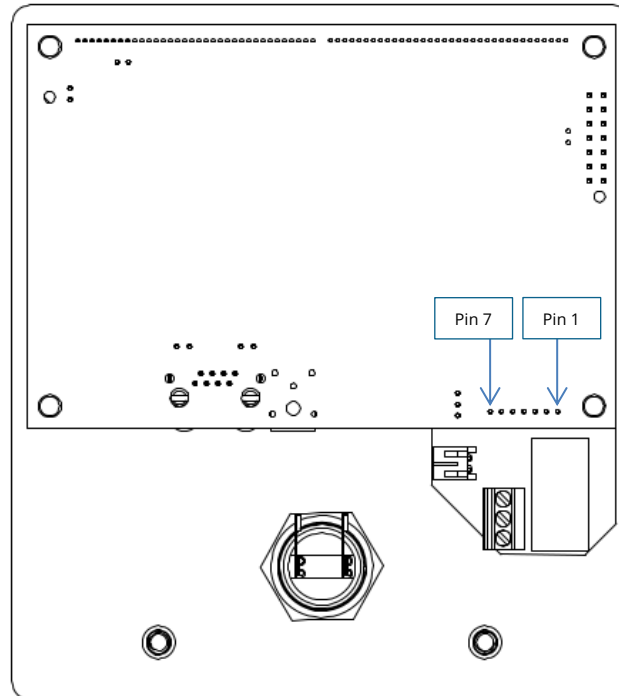
```

Config File

Users may choose the advanced option to manually edit or load a JSON configuration file here.

- **Upload to Server** – Loads changes made here to the Event Manager server, to take effect immediately.
- **Revert Changes** – Delete any changes made in this session and revert to currently loaded configuration file.
- **Load from File** – Load a JSON configuration file for a Carina IP Panic Button into this IP Panic Button.
- **Download to File** – Download this IP Panic Button’s current info.json configuration file.

Appendix A Software-based Factory Reset



As a “reset to factory defaults” function, two pins on the board can be jumpered together using a standard 2mm electrical jumper. When the IP Panic Button boots up, it will check to see if these pins are jumpered, and if so, it will perform a “factory reset”. Which pins are jumpered together determines the type of factory reset performed:

- Jumper pins **2 & 3**: Erase the info.json file and all settings revert to defaults.
- Jumper pins **4 & 5**: Format the file system.

Because this is a software-based reset, the software must be minimally functional in order to use it. In other words, it cannot be used to recover a unit which has been loaded with a firmware image that does not boot.

Steps for activating the factory reset:

1. Unplug the IP Panic Button from power.
2. Install a 2mm jumper on the two pins according to which type of factory reset you want. (For example, to erase the configuration and revert to default settings, install a jumper across pins 2 and 3.)
3. With the jumper in place, plug in power to the IP Panic Button (using PoE).
4. Wait **at least 10 seconds** for the IP Panic Button to boot, read the jumper, and apply the factory reset.
5. Unplug the IP Panic Button from power.
6. Remove the jumper.
7. Re-apply power.
8. When the IP Panic Button boots up again, it will have been restored to factory defaults based on the jumpers.

Carina IP Panic Button

WL-PBM-SIP-W-R-CAR

User's Guide

Version 3.0.0.20201022