



**GAI-TRONICS®**  
A HUBBELL COMPANY

# E3 Console—Version 3

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# E3 Console—Version 3

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## Confidentiality Notice

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## Introduction

Use the E3 (Elemec3) Console application to configure the PA/GA (Public Address/General Alarm) system operating parameters on easy-to-use graphical screens. Transfer the resulting configuration to the E3 controller or IP controller using the E3 Portal application.

The E3 controller resides in the system's central cabinet and controls all system functionality such as paging and alarm events, audio routing, event prioritization, hardware supervision, and status reporting.

**A Word of Caution...** Changing an E3 system's configuration is not a trivial matter, particularly in the case of emergency notification systems. Critical operating features could fail due to incorrect programming, resulting in a potentially life-threatening situation.

Strictly limit usage of the E3 Console and E3 Portal applications to individuals who are factory trained and certified on using the software and know the ramifications of uploading configuration files to the E3 controller.

## The Programming Process

The E3 controller stores the system's operating software and the system configuration file. The configuration file defines the physical and operational characteristics of the system. During system startup, the E3 controller loads and executes the operating software, reads the configuration file, and sets the system's operation to match the settings in the configuration.

Configure and monitor an E3 system's operating environment using the E3 Console and E3 Portal applications. Use the E3 Console application to create and modify a site's configuration file by selecting and setting values for each components' parameters in the system. Graphical representations of system components, along with data entry forms for parameters, facilitate recording settings to create an E3 system configuration file. Save the information in the E3 Console as a system configuration file.

Upload (*transfer*) the configuration file from the administration PC to the E3 controller using the E3 Portal application. Refer to the E3 Portal application manual, 42004-485, for information on its usage (see the Reference Documentation section). The E3 Portal can also download (*retrieve*) configuration files from the controller for viewing and editing using the E3 Console application.

The E3 Portal application cannot change a configuration file; use the E3 Console for this purpose. Use the portal application to transfer configuration files between the system administrator's computer and the E3 controller using an Ethernet network connection.

## Process Flow

The following is an overview of the typical steps to configure and program an E3 system.

Table 1. Overview—Configuring and Programming an E3 System

Action	Description
1 Gather information.	Collect hardware and operational details for the system's configuration.
2 Start the E3 Console application.	Open an existing configuration or create a new configuration.
3 Define the system's hardware devices and the system's operating parameters.	The system properties screen opens after loading a system configuration in the E3 Console. Navigate to the various screens and set the parameters that define the configuration, where applicable.
4 Save the configuration.	On demand, the E3 Console saves the configuration to a preset storage location on the host computer called the <i>Elemec bridge</i> . Optionally, store the configuration file to a custom location using the <b>BROWSE</b> button to select where to save the file. The E3 Portal application uses the <i>Elemec bridge</i> folder to access configuration files for upload to an E3 controller.
5 Run the E3 Portal application.	Connect the E3 Portal host computer to the E3 controller's Ethernet network. <ul style="list-style-type: none"> <li>For a local connection, attach a cross-over Ethernet cable from the host computer to the E3 controller.</li> <li>For a remote connection, the host computer must reside on the same Ethernet subnet as the E3 controller.</li> </ul>
6 Connect to the E3 controller.	Enter the E3 controller IP address or use the auto discover feature to establish a connection to the E3 controller.
7 Upload the configuration to the E3 controller.	Press the <b>UPLOAD CONFIGURATION</b> button and select a configuration from the <i>Elemec bridge</i> or other storage location.
8 Restart the E3 controller.	Click the <b>RESTART SYSTEM</b> button on the E3 Portal screen.

## E3 Console Process Flow

Complete the following sequence to create a new E3 configuration:

### 1) Create a Configuration File

#### Action

Create a new configuration then enter a descriptive name for the configuration.

#### Screen

Run the E3 Console and Create a New Configuration

**2) Define the System's Parameters**

<b>Action</b>	<b>Screen</b>
<ul style="list-style-type: none"> <li>• Identify the system type:               <ul style="list-style-type: none"> <li>• Elemec3 Standalone,</li> <li>• Elemec3 N+1,</li> <li>• AMI ADVANCE</li> <li>• AMI Centra-Page.</li> </ul> </li> <li>• Elemec3 A-B,</li> <li>• Elemec3 IP,</li> <li>• AMI Standalone, or</li> </ul>	System Properties ( <a href="#">Global Settings on page 14</a> )
<ul style="list-style-type: none"> <li>• Set system-wide volume and attenuation levels.</li> <li>• Assign the controller's network settings such as IP address (static) or enable DHCP.</li> <li>• Enable/disable event recorder.</li> <li>• Set the maximum mute duration.</li> <li>• Set the maximum attenuation duration.</li> <li>• Set the maximum fault acknowledge duration.</li> <li>• Enable/disable features: mix 2, mix substitution, event mismatch correction, insert 1 &amp; insert 2.</li> </ul>	

**3) Define the System's Hardware Devices**

<b>Action</b>	<b>Screen</b>
<p><b>Add Amplifiers</b></p> <ul style="list-style-type: none"> <li>• Select the amplifier type.</li> <li>• Edit the amplifier description.</li> <li>• Set the channel ID (1–64).</li> <li>• Set channel zone display.</li> <li>• Enable/disable load testing.</li> <li>• Identify if channel is a standby amplifier</li> </ul>	System Properties → Amplifiers <a href="#">Amplifiers (on page 21)</a>
<p><b>Add Speaker Masters</b></p> <p>Add Audio Channels.</p>	System Properties → Speaker Masters <a href="#">Speaker Masters (on page 27)</a>
<p><b>Add Speaker Remotes</b></p> <p>Create Speaker Remotes.</p>	System Properties → Speaker Remotes <a href="#">Speaker Remotes (on page 28)</a>
<p><b>Add I/O (Input/ Output) Modules</b></p> <ul style="list-style-type: none"> <li>• Add I/O modules.</li> <li>• Select I/O module types.</li> </ul>	System Properties → I/O Controllers <a href="#">I/O Controllers screen (on page 47)</a>
<p><b>Add Modbus Modules</b></p> <ul style="list-style-type: none"> <li>• Configure the E3 Modbus module.</li> <li>• Add and configure external IP Modbus modules.</li> </ul>	System Properties → Modbus <a href="#">Modbus (on page 59)</a>

#### 4) Define the System's Live Audio Sources

Action	Screen
<ul style="list-style-type: none"><li>• Enable Live Audio Sources:<ul style="list-style-type: none"><li>• Page/Party</li><li>• telephone interface</li><li>• Aux #1–Aux #5</li><li>• IP Aux #1–IP Aux #8</li></ul></li><li>• Set the priority of the audio input sources.</li></ul>	<p><u>Audio Inputs</u> screen (on page 66)</p> <p><u>Sources Enabled</u> (on page 66)</p>

#### 5) Define the System's Zones

Action	Screen
<p><b>Add zones</b></p> <ul style="list-style-type: none"><li>• Enter the zone description.</li><li>• Assign the audio outputs to the zone:<ul style="list-style-type: none"><li>• Monitor Output</li><li>• Aux Output</li></ul></li><li>• Assign the amplifier channels to the zone.</li><li>• Assign relay outputs to the zone.</li><li>• Assign relay groups to the zone.</li><li>• Assign logic flags to the zone.</li></ul>	<p><u>Zones</u> (on page 74)</p> <p>Zone Configuration → <u>Zone Builder</u> screen (on page 74)</p>

#### 6) Configure the Background Music Source

Action	Screen
<ul style="list-style-type: none"><li>• Select the audio input source (Aux 1–5).</li><li>• Select the zone where background music will play.</li><li>• Select the time interval for amplifier testing.</li></ul>	<p>Playback Audio → <u>Background Music</u> (on page 78)</p>

#### 7) Import Sound Files for Pre-Recorded Messages

Action	Screen
<ul style="list-style-type: none"><li>• Browse and select an .mp3 file.</li><li>• Import the .mp3 file it into the configuration file.</li></ul>	<p>Playback Audio → <u>Import MP3</u> (on page 77)</p>

#### 8) Define System Tones

Action	Screen
<ul style="list-style-type: none"><li>• Select an .MP3 sound file for a system tone (1–7).</li><li>• Enter a description for a system tone (1–7).</li><li>• Select an .MP3 sound file for the “TICK TONE”.</li><li>• Set the play volume for each system tone.</li></ul>	<p>Playback Audio → <u>System Tones</u> (on page 77)</p>

---

**9) Add Messages****Action**

- Add a new message. Enter a message description.
- Event Setup—Select automatically create events and the manual and/or auto event check boxes.
  - Select the default zone for the message to play in.
  - Configure automatic logic flag setup.
- Select the .mp3 sound files to include in the message.

**Screen**

Playback Audio → [Playback Audio Configuration Add Message \(on page 77\)](#)

Create New Message (on page 77)

[Message Builder \(on page 79\)](#)

**10) Add System Events****Action****Add Events**

- Enter an event description.
- Select the Event type:
  - live audio
  - playback
  - record/playback
  - silent
  - external

**For Live Audio Events:**

- Select the audio source of the event.
- Select pre and post announcement tones.
- Select the default broadcast zone.
- Select the output and logic flags to activate.
- Select an event chain.

**For Playback Events:**

- Select the message to play.
- Select the playback mode (repeat, continuous).
- Select the cancel and acknowledgement options.
- Select the default broadcast zone.
- Select the output and logic flags to activate.
- Select an event chain.

**For Record/Playback Events:**

- Select the audio source of the event.
- Select pre and post announcement tones.
- Select the playback mode (repeat, continuous).
- Select the default broadcast zone.
- Select the output and logic flags to activate.
- Select an event chain.

**Screen**

System Events → [Add Event \(on page 81\)](#)

[Add Event \(on page 81\)](#)

[Event Builder \(on page 81\)](#)

[Event Builder \(on page 81\)](#)

[Event Builder \(on page 81\)](#)

Action	Screen
<p><b>For Silent Events:</b></p> <ul style="list-style-type: none"> <li>Select the cancel and acknowledgement options.</li> <li>Select the output and logic flags to activate.</li> </ul>	<a href="#">Event Builder (on page 81)</a>
<p><b>For External Events:</b></p> <ul style="list-style-type: none"> <li>Select the audio source of the event.</li> <li>Select the cancel and acknowledgement options.</li> <li>Select the default broadcast zone.</li> <li>Select the output and logic flags to activate.</li> <li>Select an event chain.</li> </ul>	<a href="#">Event Builder (on page 81)</a>

## 11) Define the System Inputs and Outputs/Add Access Panels

Action	Screen
<p>Program the access panel push-button functions from the access panel button template using the features common to most panels. (Added access panels inherit the button template assignments.)</p> <ul style="list-style-type: none"> <li>Select the button function.</li> <li>Select the button color.</li> <li>Enter the button label text.</li> </ul>	<a href="#">System Properties</a> → <a href="#">Access Panels</a> → <a href="#">Access Panel Button Configuration (on page 35)</a>
<p><b>Add access panel interface cards and access panels.</b></p> <ul style="list-style-type: none"> <li>Enable API cards (1–4).</li> <li>Add access panels to each API card.</li> <li>Select the access panel type—each added panel is initially set to the functions of the access panel button template. <ul style="list-style-type: none"> <li>Edit the access panel description.</li> <li>Set the access panel address (0–F).</li> <li>Enable/disable supervision.</li> </ul> </li> </ul>	<a href="#">System Properties</a> → <a href="#">Access Panels</a>
<p><b>Program the inputs to the I/O controllers:</b></p> <ul style="list-style-type: none"> <li>Enter a description of the input.</li> <li>Select type of switch connected to the input and cable supervision (if applicable).</li> <li>Select the event triggered when the input is active.</li> <li>Enable/disable the input's auto-inhibit function.</li> </ul>	<a href="#">System Properties</a> → <a href="#">I/O Controller Properties</a> → <a href="#">Inputs Tab (on page 52)</a>
<p><b>Program the outputs to I/O controllers:</b></p> <ul style="list-style-type: none"> <li>Enter a description of the output.</li> <li>Select the inactive (idle) state of the relay output (on open or closed).</li> <li>Select if the relay should follow the audio play of the event which triggers the relay.</li> <li>Select the cadence of the relay activation (normal, pulse, or interval).</li> </ul>	<a href="#">System Properties</a> → <a href="#">I/O Controller Properties</a> → <a href="#">Outputs Tab (on page 52)</a>

## 12) Configure System Audio Mixing Parameters

### Action

- Set the attenuation threshold level.
- Set the mix threshold level.

### Screen

System Properties → [Global Audio Mix Setup \(on page 20\)](#)

## 13) Configure System Audio Muting Parameters

### Action

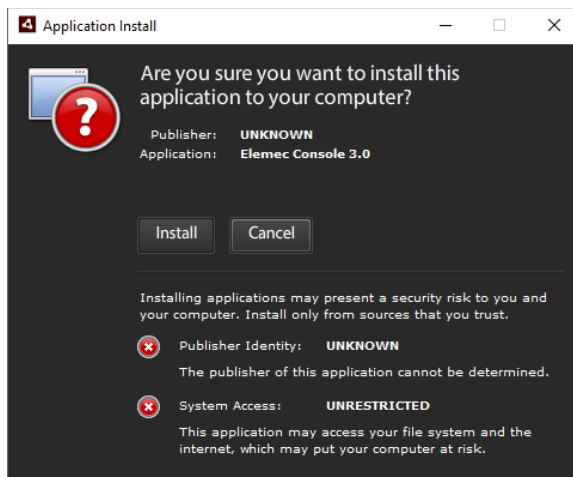
- Set the global muting parameters:
  - Edit the descriptions for global mutes 1–4.
  - Set holdover delay time for each global mute.
- Set the mute threshold for playback events.
- Set the mute threshold for live speech events.

### Screen

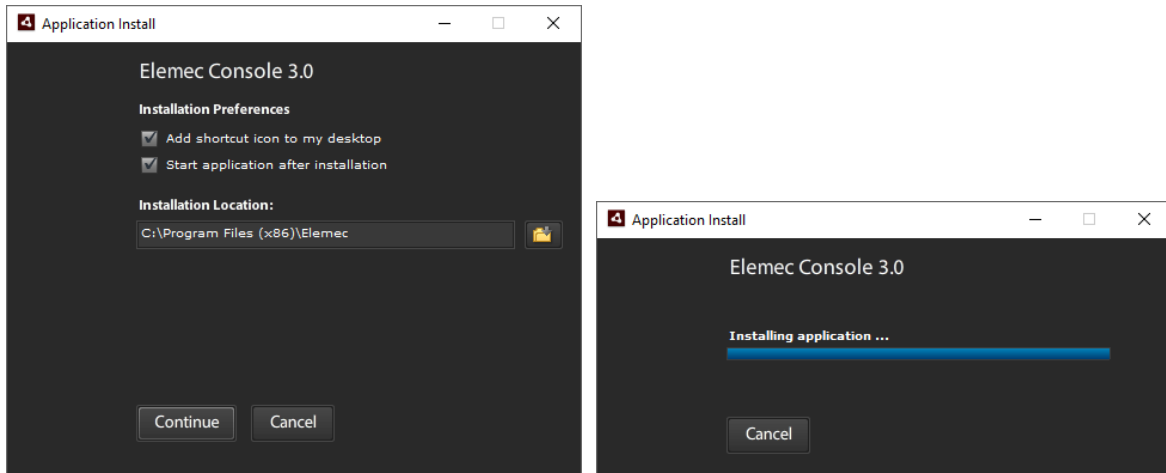
System Properties → [Global Audio Mix Setup \(on page 20\)](#)

# Install and Run the E3 Console

1. Download and install the AIR Runtimes from <https://airsdk.harman.com/>.
2. Uninstall any existing E3 Console application version from the PC.
3. Download and open the ElemecConsole3\_x\_y\_z.air to install the *E3* Console application version *x.y.z*.
4. Click **INSTALL** to start the installation.



5. Select the options, as desired, and click the CONTINUE button.



Run the E3 Console application from the *Start Menu*. Go to *Programs* → *GAI-Tronics Corporation* and click on *ElemecConsole3*. Optionally, double click the desktop shortcut, if created during the installation process.

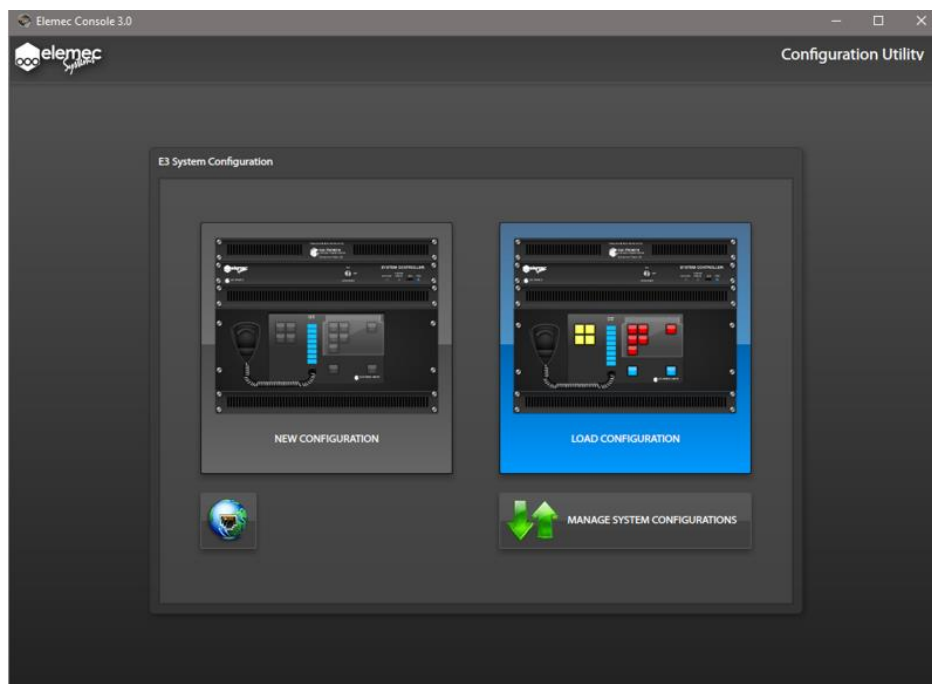


Figure 1. Create New or Load Existing Configuration

The program displays the E3 SYSTEM CONFIGURATION screen (see [Figure 1](#)) with options to:

- create a new configuration,
- load an existing configuration,
- network E3 systems, and
- manage system configurations.




After creating or loading a configuration file, configure the *E3* system, on the screens accessed using the tabs, along the left side of the window. When using the E3 Console application, selection of multiple items from one list for inclusion in another is necessary. When this occurs, select multiple entries using *click* with **CTRL+click** or *click* with **SHIFT+click** mouse/keyboard combinations to select individual or contiguous list elements, respectively.

Select the NEW CONFIGURATION button to create a new configuration or select the LOAD CONFIGURATION button to open an existing configuration.



—*Elemec3* Networking—See GAI-Tronics Pub. 42004-521 for instructions on networking multiple *Elemec3* systems (see the [Reference Documentation](#) section).

Click the MANAGE SYSTEM CONFIGURATIONS button to access the MANAGE CONFIGURATIONS screen. Use the MANAGE CONFIGURATIONS screen to import and export configurations to the working directory on the local computer.

## Manage Configurations

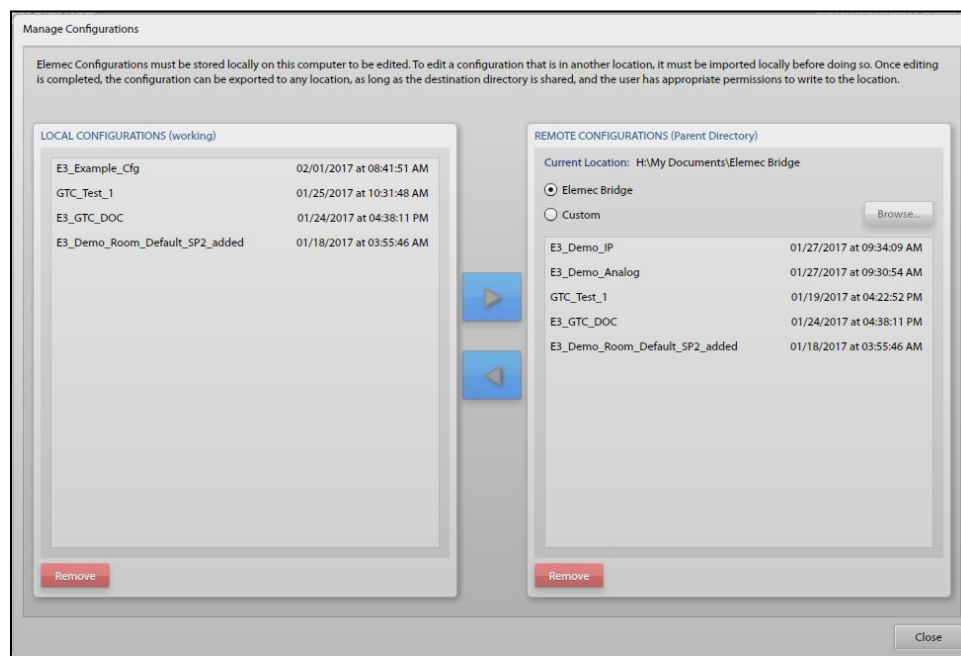


Figure 2. Manage Configurations

### Local Configurations (Working Directory)

Open an *E3* configuration, in the *working directory* on the local computer, in the E3 Console for editing. Import configuration files, from remote storage locations to the local working directory, to work on them. Export a configuration file back to a remote custom storage location or to the *Elemec3 bridge* folder for upload to an E3 controller or IP controller using the E3 Portal application.

Use the MANAGE CONFIGURATIONS screen (see [Figure 2](#)) to transport configuration files between the working directory, on the host computer and a remote storage location. The local working directory configurations appear in the left, LOCAL CONFIGURATIONS (WORKING), pane. Remotely stored configurations appear on the right, REMOTE CONFIGURATIONS (PARENT DIRECTORY), pane. All configurations sort and list by their modified date, from newest to oldest.

Select a configuration in the remote storage list and click the left arrow key to import the configuration to the working directory. To export a configuration to the remote directory, highlight the configuration file in the working directory list and click the right arrow key. The import/export operation copies the configuration file to the local or remote folder, respectively.

A CONFIRM CONFIGURATION IMPORT/EXPORT dialog box displays (see Figure 3) when a configuration with the current name already exists in the destination directory. Click **IMPORT**, **EXPORT**, or **CANCEL** as necessary to continue or cancel the operation. Remove configuration files by selecting the configuration and clicking **REMOVE**. A CONFIRM CONFIGURATION DELETE window opens for confirmation.

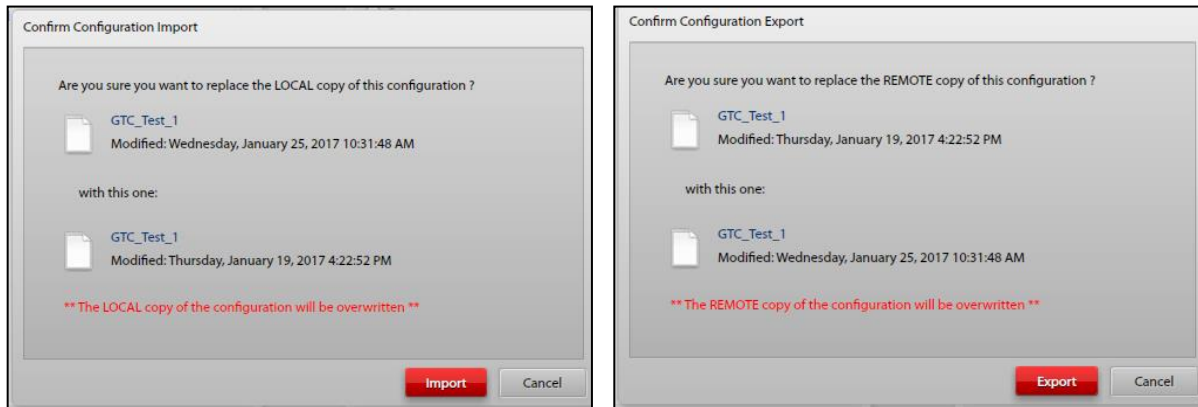


Figure 3. Import/Export Confirmations

## Remote Configurations (Parent Directory)

Select the remote directory using the ELEMEC BRIDGE or CUSTOM radio buttons:

**Elemec Bridge**—An E3 configuration storage location, on the local computer that is common with the E3 Portal application.

The Elemec bridge is useful when running the E3 Console and E3 Portal applications on the same computer. Use the Elemec bridge to share configuration files between the two programs.

**Custom**—Allows selection of any folder location that is accessible from the PC (Use the **BROWSE...** button to select a local or remote storage location.)

## Create a New Configuration

1. Click the NEW CONFIGURATION button.  
The CREATE NEW CONFIGURATION screen opens (see Figure 4).
2. Enter a description for the configuration.
3. Click **CREATE CONFIGURATION** or **CANCEL** to return to the E3 SYSTEM CONFIGURATION home screen.

**NOTE:** Do not use spaces in the description. Use an underscore character to separate words, if needed.  
Example: *My\_Configuration\_File*.

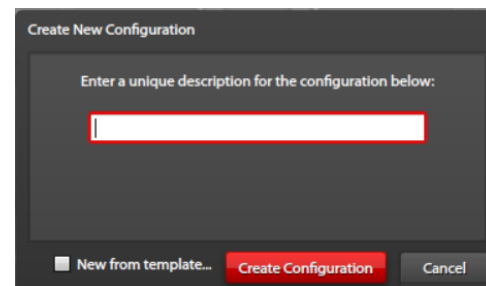


Figure 4. Create New Configuration

## Create a New Configuration from a Template

1. Click the NEW FROM TEMPLATE checkbox (see Figure 5) to create a new configuration file based on an existing configuration. A pull-down list showing all existing local configurations displays:
2. Select the desired configuration file from the list and click **CREATE CONFIGURATION**.

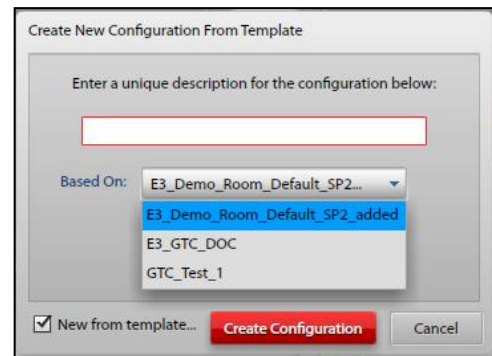


Figure 5. Create New Configuration from Template

**NOTE:** Opening a configuration from an earlier version of the E3 Console application displays a warning screen (see Figure 6). The E3 Console can upgrade the configuration database to the correct version. The versions will change incrementally with the release of new software.

3. Click **UPGRADE DATABASE** to proceed with the configuration version upgrade; otherwise, click **CLOSE**.



Figure 6. Invalid Database Version

## Load an Existing Configuration

1. Click the LOAD CONFIGURATION button. The list of existing configurations, in the LOCAL CONFIGURATIONS (WORKING) folder, on the computer, appears. Configurations sort and list by the modified date, from newest to oldest (see Figure 7).
2. Select the desired file name from the list and click **LOAD**.

**NOTE:** Opening a file from an earlier version of the E3 Console application opens an INVALID DATABASE VERSION warning screen (see Figure 8). The E3 Console can upgrade the configuration database to the correct version. The versions will change incrementally with the release of new software.

3. Click **UPGRADE DATABASE** to proceed with the configuration version upgrade; otherwise, select the **CLOSE** button (see note: on the next page).

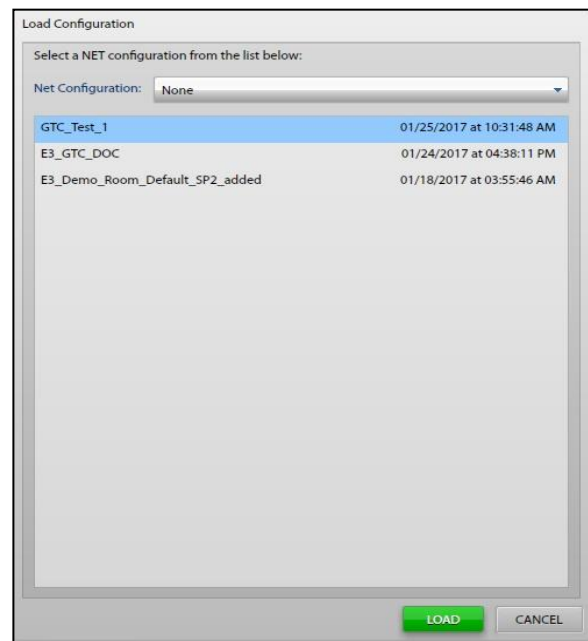


Figure 7. Load Configuration

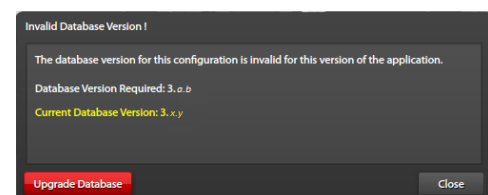


Figure 8. Invalid Database Version

**NOTE:** If the version of E3 Console in use is older than the version of the E3 Console used to create the configuration, then upgrade the E3 Console application to enable loading the newer configuration (see [Figure 9](#)).

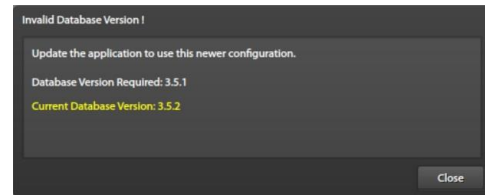


Figure 9. Invalid Database Version Update E3 Console

## System-Wide Functions

The E3 Console displays the SYSTEM PROPERTIES screen after loading a configuration. Six system wide functions, at the top of the screen, are accessible from all primary screens. Click the toolbar icon to access the desired function.



Figure 10. System Wide Functions

**New**—Creates a new system configuration and loads it into the console.

A prompt to save changes appears if there are unsaved changes to the currently loaded configuration. Choose **SAVE CHANGES** or **DISCARD CHANGES** as desired to continue to the **CREATE NEW CONFIGURATION** screen (see the [Create a New Configuration](#) section).

**Save**—Saves the currently loaded configuration.

**Open**—Opens the **LOAD CONFIGURATION** screen.

This option is helpful for discarding changes by reloading the existing configuration without saving the changes. A prompt to save changes appears if there are changes to the currently loaded configuration.

**Home**—Prompts the user to save changes, exits the currently loaded configuration screens, and opens the **E3 SYSTEM CONFIGURATION** screen.

**Reports**—Provides a report containing the addresses, types, descriptions, locations, and parent devices for all hardware devices other than the controller.

**Settings**—Provides application and database version information and facilitates setting options in the console software (see [Figure 11](#)).

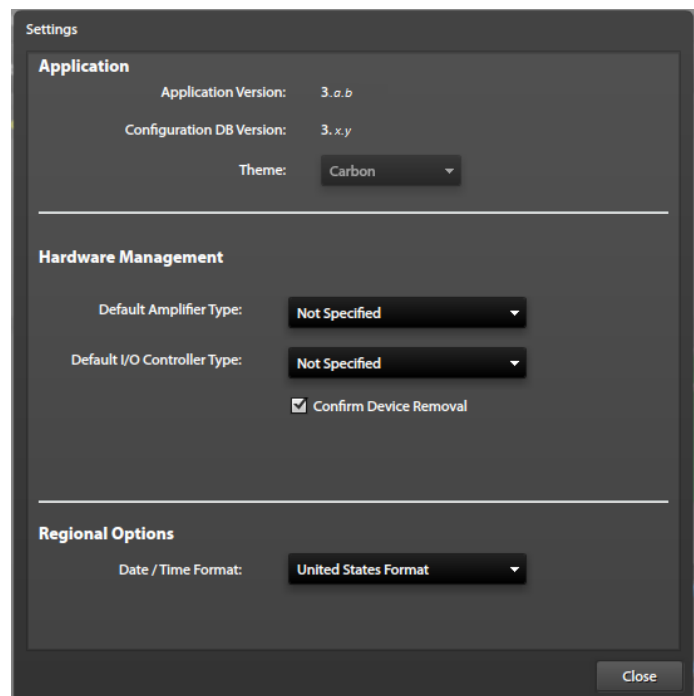


Figure 11. Application Options

# System Properties

The SYSTEM PROPERTIES screen appears after loading a configuration in the E3 Console application (see Figure 12).

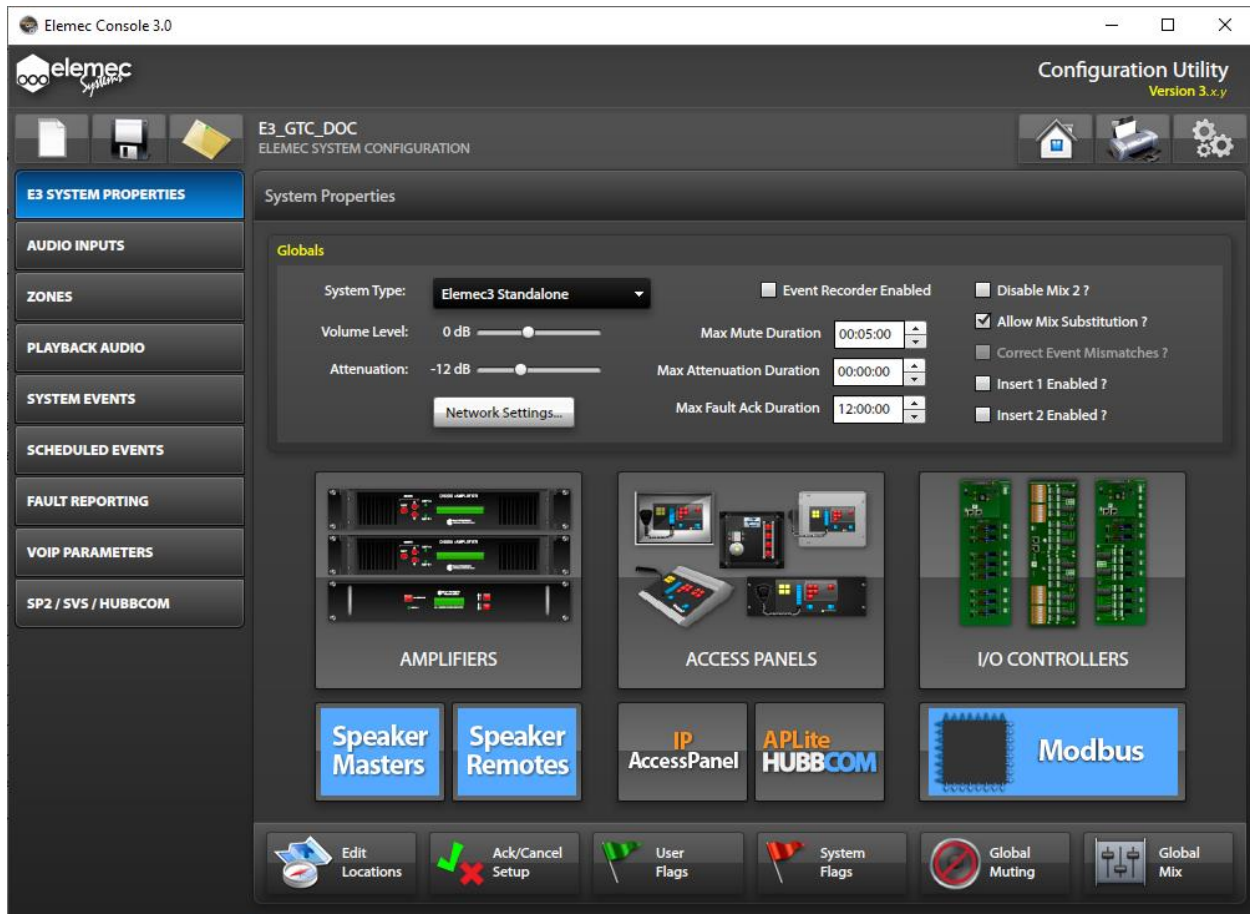


Figure 12. System Properties

## Globals

The GLOBALS pane contains universal settings for the E3 configuration.

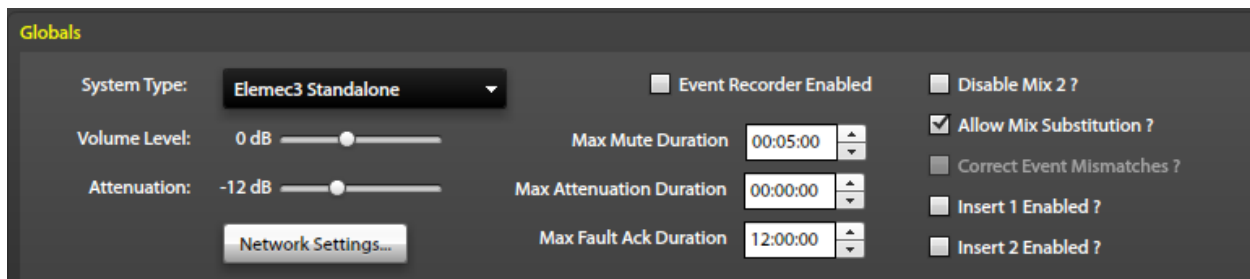


Figure 13. Globals

## Global Settings

**System Type**—Select the system type using the pull-down menu:

- **Elemec3 Standalone**—A system consisting of a single E3 controller with associated amplifiers, access panels, I/O controllers, etc.
- **Elemec3 A-B**—A system consisting of two E3 controllers. Each controller has its own associated amplifiers access panels, I/O controllers, etc. If a controller fails, the amplifiers connected to the failed controller switch to the healthy controller. The system contains two sets of all devices. A-B systems require dual access panels.

**NOTE:** Redundant E3 systems require NTP (Network Time Protocol) network service.

- **Elemec3 N+1**—A system consisting of two E3 controllers sharing a single set of amplifiers with duplicated access panels and I/O controllers.

The first controller operates as the *primary* controller and the second controller operates as the *back-up*. The primary controller manages system operation under normal conditions. The back-up controller becomes active to maintain system operation upon failure of the primary controller.

**NOTE:** Redundant E3 systems require NTP (Network Time Protocol) network service.

- **Elemec3 IP**—A system consisting of an IP controller that supports only IP audio streams and IP devices. The IP controller does not support the event recorder or inserts to the system.

**NOTE:** Switching to an IP only system type from any other type removes all non-IP only information from the configuration. The E3 Console notifies the user of this when this occurs.

- **AMI ADVANCE**—Reserved for future use with Elemec3 AMI.
- **AMI Standalone**—Reserved for future use with Elemec3 AMI.
- **AMI CentraPage**—Reserved for future use with Elemec3 AMI.

**Volume Level**—Sets the system-wide volume for all stored audio playback [–12 dB+18 dB].

**Attenuation**—Sets the system-wide attenuation level. Audio attenuates to this level, either through mixing (live speech and playback audio) or through an access panel’s ATTENUATE button [–18 dB–0 dB].

**Network Settings**—Refer to the [Network Settings](#) section on page 15.

**Event Recorder Enabled**—(*Not applicable to the IP Controller*) Records specific events and live audio broadcasts using one or two external recording device(s), connected to the AUXILIARY AUDIO OUTPUT ONE terminals, on the E3 controller. See Pub. 42004-497, *Elemec3 System Controllers*, for event recorder connection information (see the [Reference Documentation](#) section).

Enable audio event recording if using an event recorder connected to the E3 controller.

**Max Mute Duration**—The maximum period of audio muting.

Select a MUTE push button on an access panel or the MUTE ON ACK property of an event to mute the event. After the specified mute duration, the audio resumes broadcasting if it can access the resources to do so.

**Max Attenuation Duration**—The maximum period of audio attenuation.

Select the ATTENUATE ALARM push button on an access panel at normal volume level to attenuate an audio event. A setting of 00:00:00 sets the maximum attenuation duration to forever.

**Max Fault Acknowledge Duration**—The maximum duration that active faults remain acknowledged before the system requires reacknowledgement. Use the E3 Portal application to acknowledge faults.

---



**Disable Mix 2?**—Disables the second audio mix, limiting the system to a single audio pathway. A *mix* is an audio pathway to the system amplifiers. The system has two audio pathways or *mixes* to the amplifiers.

**NOTE:** This feature supports legacy *Elemec* systems. Do not enable this setting in current systems. The E3 system will be incapable of multiple simultaneous broadcasts when enabled.

**Allow Mix Substitution?**—Allows for mixed audio (Live Speech + Playback) routing to the Aux, Page/Party, or Monitor outputs.

Select ALLOW MIX SUBSTITUTION? to mix events targeting the same audio output before sending the mixed audio to that audio output. Bridge outputs to the remote system always allow mix substitution, regardless of this setting.

**Correct Event Mismatches? (A-B, N+1 only)**—Configures automatic correction of event mismatches between systems.

This happens when either controller fails to receive an input that initiates an event. The system recognizing the event activates the same event in the other system. The E3 Portal application receives a report of the event mismatch error.

**Insert 1 Enabled? & Insert 2 Enabled?**—(Not applicable to the IP Controller) Inserts are external hardware devices that prevent acoustic feedback or provide other audio signal conditioning. They are applicable to all audio sources other than playback audio.

Check the INSERT 1 and/or INSERT 2 check boxes to enable the feature when using an insert device. The inserts must be identical when using both. Enabling inserts on the SYSTEM PROPERTIES screen adds the INSERT REQUIRED checkbox for each audio source in the configuration (see the [Output Groups](#) section).

## Network Settings

Click the NETWORK SETTINGS button to access the ELEMEC NETWORK CONFIGURATION screen (see [Figure 14](#)). Use this screen to set the network parameters for the E3 controller(s). Redundant systems display a second pane for the REDUNDANT (B) SYSTEM IP information. Enter settings for both controllers for an A-B or N+1 system.

**NTP Host**—Host IP address or the DNS name of the network timeserver.

**Domain**—Fully qualified domain name (Ex. Mydomain.com). Required when the network uses DNS.

**Discovery TTL**—Number of router hops for multicast traffic in the E3 system before routers discard packets.

### DCC (Device Command and Control)

**Socket**—Multicast socket address for communication between the E3 controller and SP2, SVS, and HUBBCOM stations.

Figure 14. Elemec Network Configuration

**NOTE:** Use a different DCC socket for each E3 controller that manages separate groups of SP2/SVS/HUBBCOM stations on the same network.

**NOTE:** The SVS portion of the SP2 to E3 Integration is non-functional in this software release.

**DCC TTL**—Number of router hops for IP traffic, from the DCC socket, before the next router discards the IP traffic.

**DHCP (Dynamic Host Configuration Protocol) Enabled**—Select if using a DHCP server to automatically assign network settings for the E3 controller(s). (This disables the IP address, subnet mask, gateway, and DNS parameter fields.)

**Hostname**—A unique descriptive name for the E3 controller(s).

**IP Address**—Static IP addressing for the E3 controller(s). (Disabled when DHCP is enabled.)

**Gateway**—IP address of the router that is the default gateway. (Disabled when DHCP is enabled.)

**DNS**—IP address of the DNS server. (Disabled when DHCP is enabled.)

**Enable SNMP**—Enables *simple network management protocol* for network device management/monitoring. (Disabling SNMP disables the SNMP NOTIFICATIONS check box.)

**SNMP Notifications**—Enable SNMP notifications.

Select this check box to display the notification handler field. Enter the NOTIFICATION HANDLER host or deselect the ENABLE SNMP NOTIFICATIONS check box to activate the CLOSE button.

**Notification Handler**—The IPv4 address or the FQDN (fully qualified domain name) for the SNMP notification handler.

## Locations

1. Click the EDIT LOCATIONS button on the SYSTEM PROPERTIES screen to open the MANAGE DEVICE LOCATIONS screen (see Figure 15).
  - Locations are text-only descriptors associated with any hardware device (optional).
  - Locations normally specify the physical location of a hardware device at the facility, location within a cabinet, or any other text designation as required.
2. Enter a description.
3. Click **ADD LOCATION** to create the location.

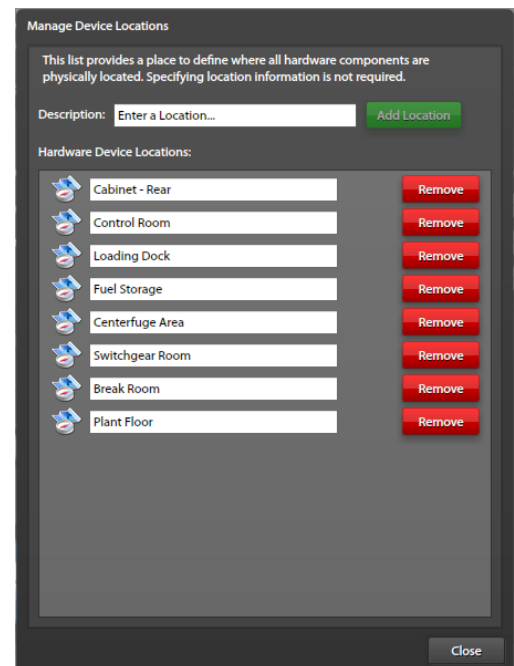


Figure 15. Manage Device Locations



## Ack/Cancel Configuration

Click the ACK/CANCEL SETUP button, at the bottom of the SYSTEM PROPERTIES screen, to configure acknowledgment and cancellation actions for events (see Figure 16). An event's scope and filter determine the acknowledge and cancel actions. User defined Ack/Cancel actions are in addition to the four system Ack/Cancel (ALL/CURRENT) actions.

### Create an Ack/Cancel Action

1. Select the type to create; ACKNOWLEDGE/CANCEL.
2. Click **ADD..** to add the acknowledgement or cancel action.
3. Enter a description.
4. Select the type, scope, and filter properties.

The new action item appears in the list.

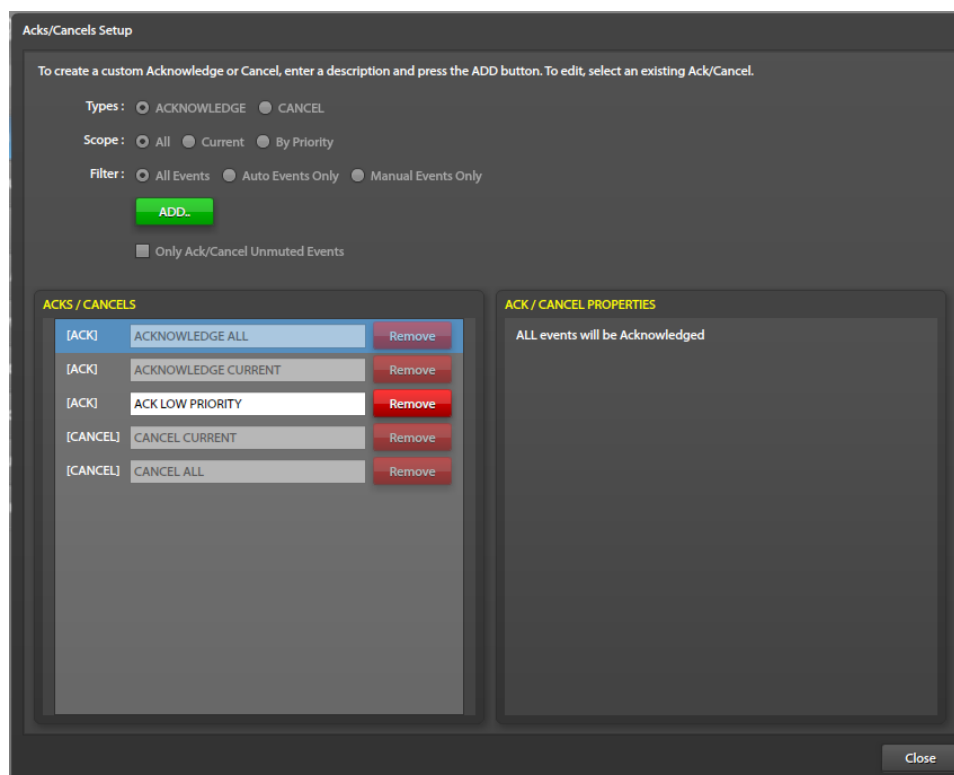


Figure 16. ACKs and Cancels Setup

### Delete an Ack/Cancel Action

Click **REMOVE** next to the description in the list to remove an ack/cancel.

The four-built-in system ack/cancel actions are not removeable.

**Description**—The description of the Ack/Cancel action.

**Types**—The type of action; acknowledge or cancel. (The ACKS/CANCELS list sorts by type.)

**Scope**—The range of events that the acknowledge or cancel action includes when the system executes the Ack/Cancel event.

Choose ALL or CURRENT to configure an action that may acknowledge or cancel all events or just the current event, if possible. Select BY PRIORITY to enable the configuration of ack/cancel actions that act upon events with equal or lower priority threshold than the event chosen from the EVENT PRIORITY THRESHOLD dropdown list.

**Filter**—Display only the items of the specified type. Enable the FILTER: radio button by selecting ALL for the scope selection.

**Only Ack/Cancel Unmuted Events**—Prevent the acknowledgement or cancellation of muted events.

**Event Priority Threshold**—Selects the events with the same or lower priority that the Ack/Cancel action affects when the Ack/Cancel scope is set to *By Priority*. The ACK/CANCEL PROPERTIES pane, on the right side of the screen lists the events with equal or lower priority than the event selected for the priority threshold.

## User Flags

User flags (also referred to as *logic flags*) are internal state indicators that identify when a system event is active. Use them to set up LED triggers to illuminate access panel buttons, activate relay outputs, or activate other events, etc. Select the AUTOMATICALLY CREATE LOGIC FLAG FOR THIS MESSAGE option to automatically create message flags when creating messages (see the [Add Message](#) section in the [Playback Audio](#) section). To manually create a user flag:

1. Click the USER FLAGS button from the SYSTEM PROPERTIES screen to open the MANAGE USER FLAGS screen (see [Figure 17](#)).
2. Enter a description and click **ADD FLAG**.

**Description**—A unique description for the user flag.

**followAudio**—Specifies if the flag asserts only while the event is active, and its audio is broadcasting. (If the audio event is inactive or the audio is not actively playing, the flag's state is false.)

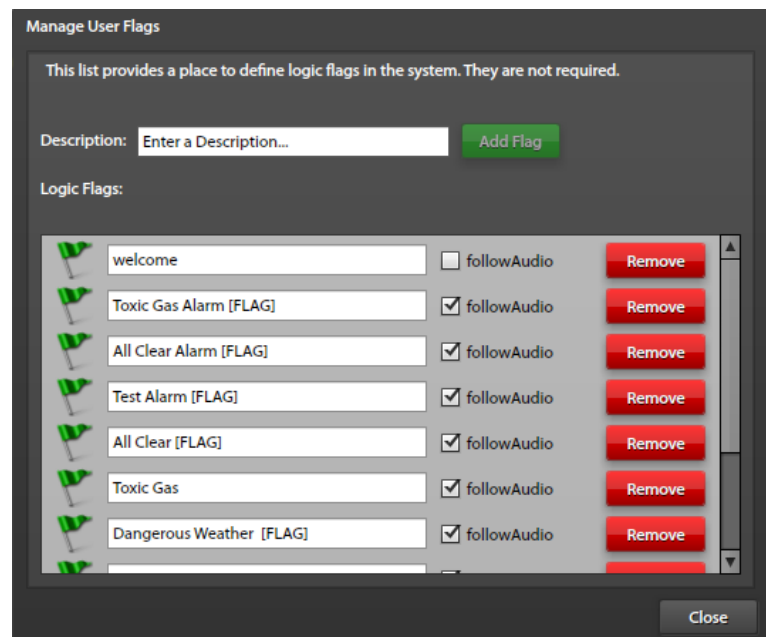


Figure 17. Manage User Flags

## System Flags

Click the SYSTEM FLAGS button from the SYSTEM PROPERTIES screen to open the MANAGE SYSTEM FLAGS screen (see Figure 18). The system manages system flags to specify different conditions in the system at any given time. The system checks the flags for event chaining. Any system flag can activate relay outputs. System flags are pre-defined. It is not possible to change or delete them.

Add the *auto alarm* and *manual alarm* system flags to specific events, as necessary. Do this automatically by specifying it when creating a message (see the [Messages](#) section).

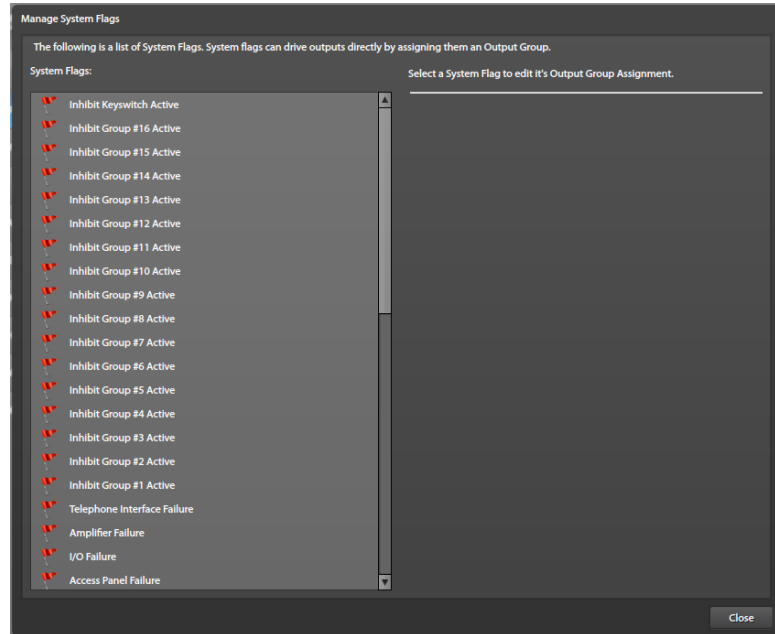


Figure 18. Manage System Flags

## Manage Global Mutes

Click the GLOBAL MUTING button, on the SYSTEM PROPERTIES screen, to open the MANAGE GLOBAL MUTES screen (see Figure 19). There are four global mutes available to the system. Access panel push buttons or input contacts on an I/O controller can activate global mutes.

Rename each mute, as appropriate, by editing the name in the list.

**Holdover Delay**—The period that audio remains muted after the mute condition expires (default 0).

**Playback Threshold**—Priority that determines the muting of playback events. The system mutes all playback events at or below the priority of the selected event.

**Live Speech Threshold**—Priority that determines the muting of live speech events. The system mutes all live speech events at or below the priority of the selected event.

The lists, shown in the PLAYBACK EVENT MUTING and LIVE SPEECH EVENT MUTING panes, represent the effects of the playback and live speech mute threshold settings.

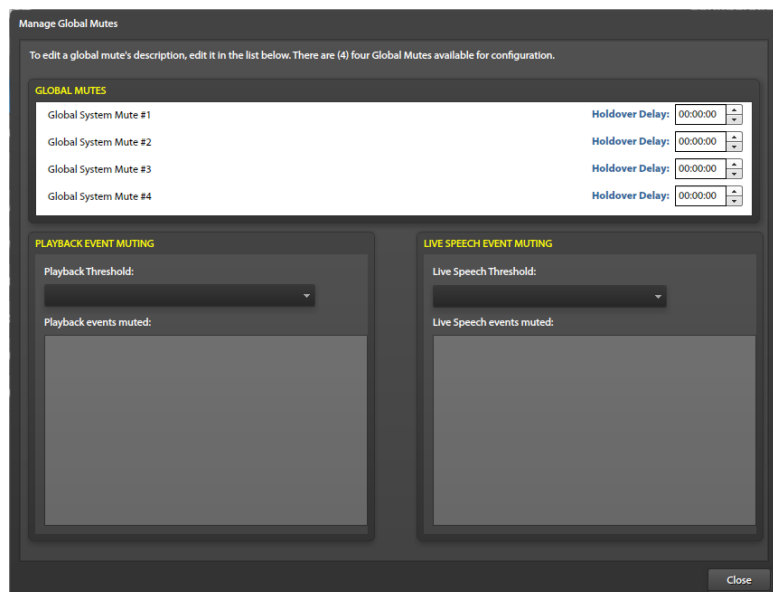


Figure 19. Manage Global Mutes

## Global Audio Mix Setup

Click the GLOBAL MIX button, on the SYSTEM PROPERTIES screen, to open the GLOBAL AUDIO MIX SETUP screen (see [Figure 20](#)). This screen specifies the mixing, attenuation, and non-mixing properties of system audio. Mixed audio plays without attenuation. Attenuated audio mixes at the attenuation level specified in the GLOBALS pane on the SYSTEM PROPERTIES screen. This is a global setting.

Event groups have their own unique mix configuration that affects the playback of the events within the group. Configure mixing for event groups on the EVENT GROUP screen (see the [Event Groups](#) section).

**Attenuation Threshold**—Priority that determines attenuation of playback events when mixed with live speech. All events at or above the selected threshold will attenuate the playback events when mixed with listed live speech events.

**Mix Threshold**—Priority that determines what playback events mix without attenuation with live speech. All events at or above the selected threshold will not attenuate playback events when mixed with listed live speech events.

**Not Mixed**—Lists all live speech and playback events not listed in the MIXED WITH PLAYBACK list.

### \*\* Important Programming Note \*\*

If the configuration requires live speech audio to mix with playback audio, then the priority of the live speech event(s) must be lower than the playback event(s), and the above mix setup must achieve that.

If the live speech event(s) have a higher priority than the playback event(s), the live speech event(s) mutes (overrides) the playback event(s).

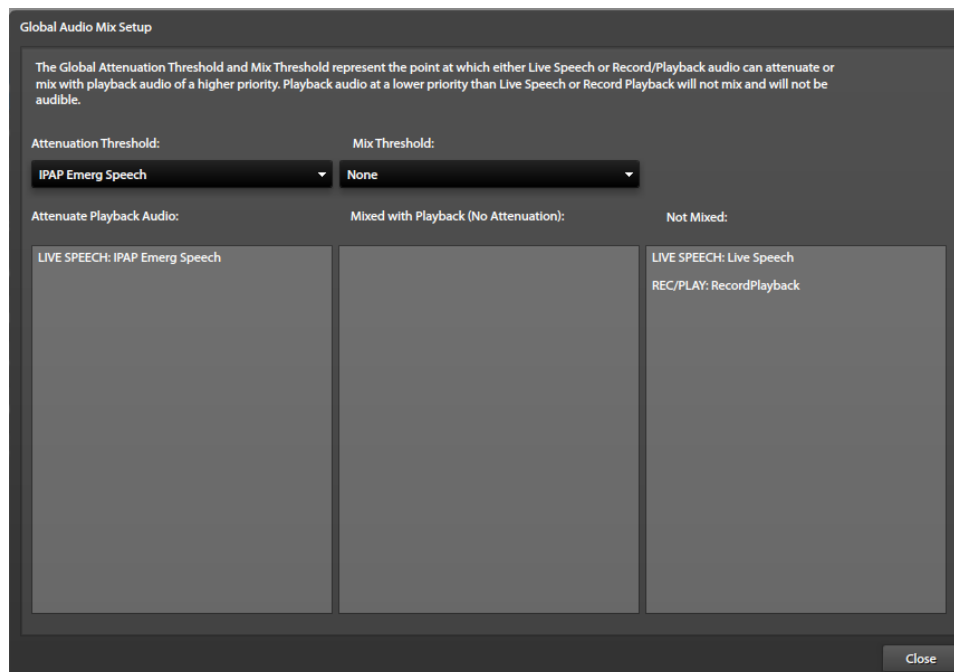


Figure 20. Global Audio Mix Setup

## Amplifiers *Not applicable to the IP controller*

1. Click the **AMPLIFIERS** button on the **SYSTEM PROPERTIES** screen to open the **AMPLIFIERS SUMMARY** screen (see Figure 21). The summary screen displays all amplifiers in the system.

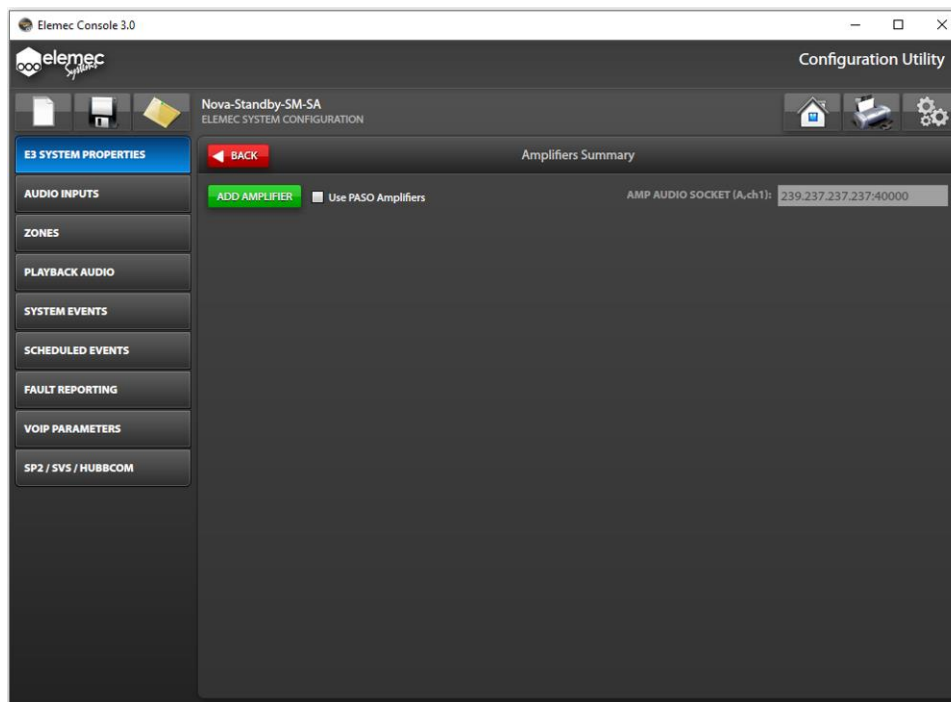


Figure 21. Amplifiers Summary

2. If the system uses PASO® amplifiers, select the **USE PASO AMPLIFIERS** check box (see the [PASO® Amplifiers](#) section).

**NOTE:** Using PASO® amplifiers is mutually exclusive from GAI-Tronics' digital amplifiers. When selecting this option, a dialog box opens to confirm removal of any existing amplifiers (see Figure 24).

3. Click **ADD AMPLIFIER** to add an amplifier.
4. Select the appropriate amplifier model on the **ADD AMPLIFIER** screen.
5. Select the **SET AS DEFAULT** checkbox if the amplifiers are all the same type.

Click the *gears icon*, in the upper right corner of all primary console-configuration screens, to open the [System-Wide Functions](#) screen to change the default.

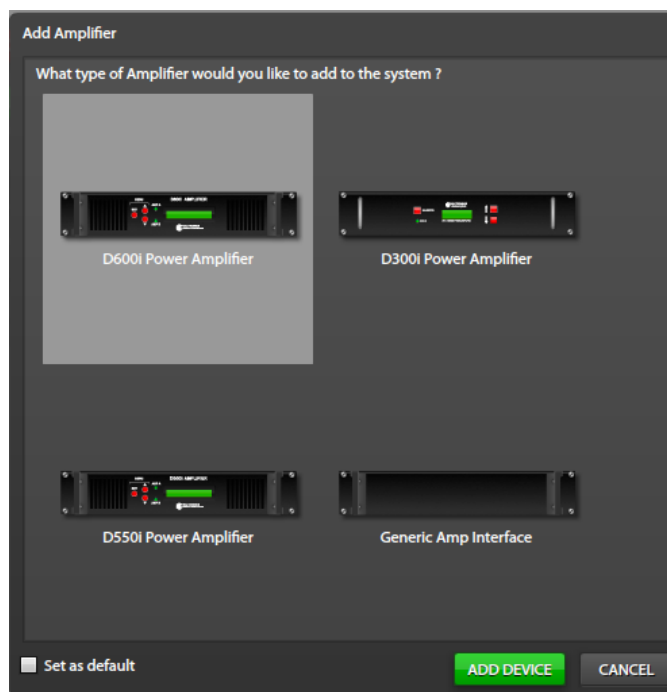


Figure 22. Add Amplifier

## D600i, D300i, and D550i Power Amplifier Properties

Click on an amplifier from the AMPLIFIER SUMMARY screen to open the AMPLIFIER PROPERTIES window for that amplifier (see [Figure 23](#)).

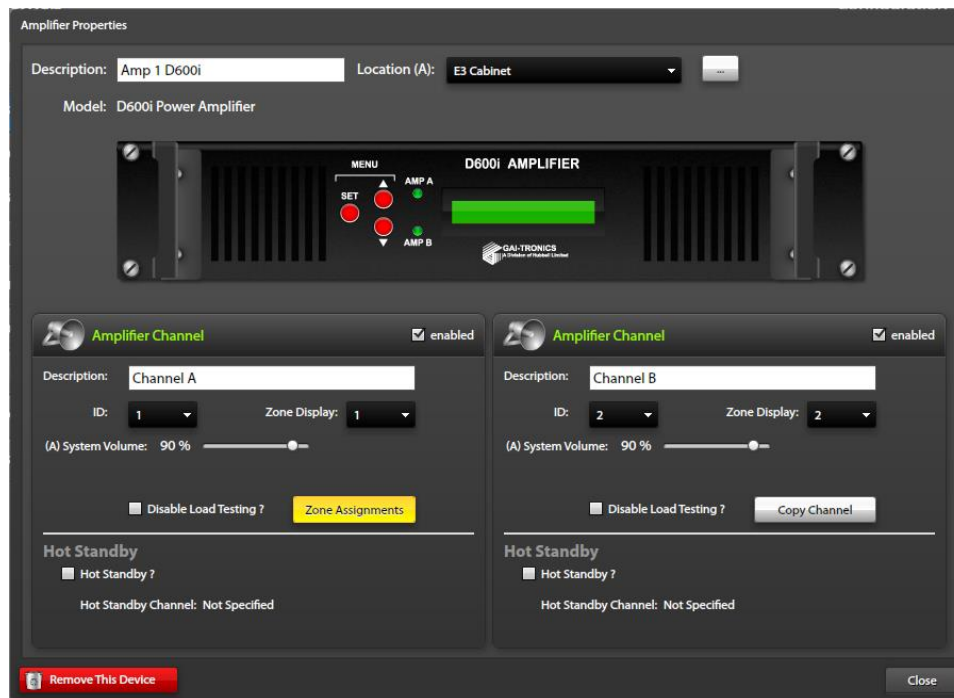


Figure 23. Amplifier Properties

**Description**—A generic (unique) name for the amplifier (generated by default).

**Location**—The amplifier's location (See the [Locations](#) section on [page 16](#)).

**Amplifier Channel**—On the AMPLIFIER PROPERTIES screen, the two channels (for this model) display below the amplifier graphic. The number of channels, physically present in the amplifier, determines the number of panes onscreen.

**Description**—Generic name for each amplifier channel (generated by default).

Enter a new appropriate description.

**ID**—Enter the ID of the physical amplifier channel for correct operation. Assigning the same ID to more than one amplifier channel displays the ADDRESS CONFLICT dialog box (see [Figure 24](#)). Choose the option that conforms to the physical amplifier installation and click **CLOSE**.

**Zone Display**—Number shown on the amplifier's display.

Select the zone identifier this amplifier channel broadcasts to. If the amplifier is a member of only one zone, set it to that zone number.

**NOTE:** Amplifier channels and zones can be members of more than one zone so the zone display may not always be meaningful.



Figure 24. Amplifier Address Assignment Conflict

**(A) System Volume**—Each amplifier channel has a volume setting that controls its master volume. The hot-standby amplifier channel uses this setting.

**Disable Load Testing?**—Suspends load testing for the channel. This setting is automatically set to false for an amplifier channel that is a hot standby channel.

**Zone Assignments**—Button appears for channels with a zone or zones already assigned. Click the button to open the ZONE ASSIGNMENT SUMMARY window showing what zone(s) the amplifier channel broadcasts to (see the [Zone Builder](#) section).

**Copy Channel**—Configures the current channel to be identical to an existing, already configured amplifier channel. Click COPY CHANNEL to open the ZONE AUTO ASSIGNMENT dialog box. This button is available when the channel zone assignment is incomplete. Use this option to automatically assign the current amplifier channel to the same zones as the selected amplifier channel.

**Hot Standby?**—Designates the amplifier channel as a hot standby amplifier channel. Click the HOT STANDBY SETUP button to display the HOT STANDBY SETUP screen (see the [Hot Standby Amplifiers](#) section).

## GAI (Generic Amplifier Interface) Properties

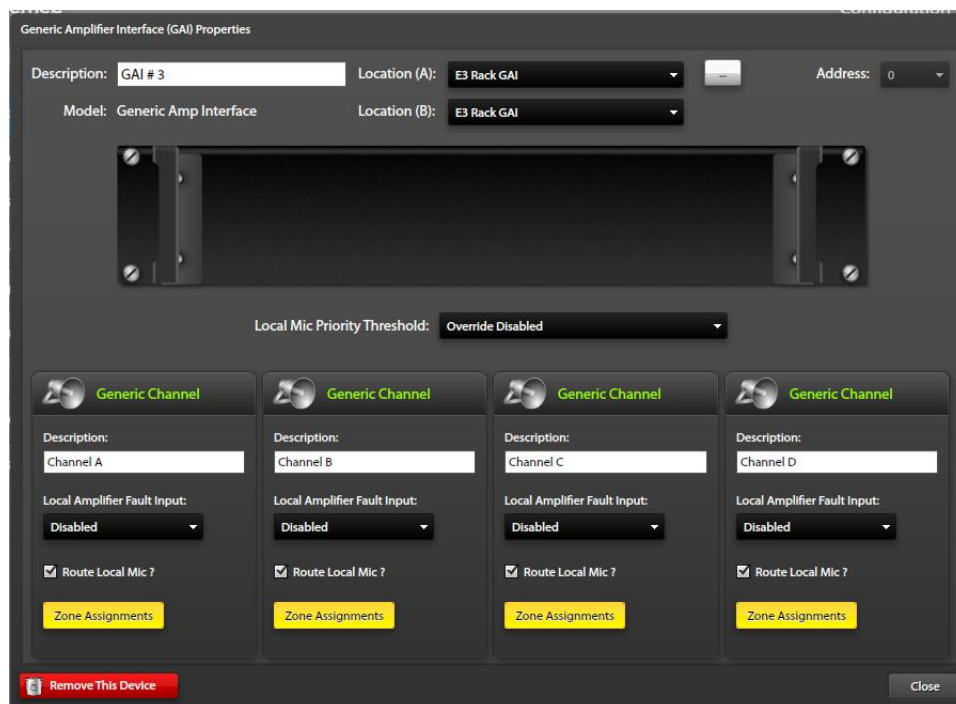


Figure 25. Generic Amplifier Interface Properties

**Description**—Unique name for the GAI (generated by default).

**Location**—Refer to the [Locations](#) section under SYSTEM PROPERTIES—GLOBALS (on page 16) for information on creating and assigning locations.

**Local Mic Priority Threshold**—Priority that the local microphone overrides system audio. The local microphone overrides all events at and below the specified event.

**Generic Channels**—Four available channels display below the graphic on the GENERIC AMPLIFIER INTERFACE (GAI) PROPERTIES screen.

**Description**—Unique description for the amplifier channel.

**Local Input**—Set to disabled (default), N.O. maintained, or N.C. maintained.

**Route Local Mic ?**—Toggles routing the local microphone audio to the channel.

**Zone Assignments**—Displays the zone assignments for the generic channel. (Clicking the button has no effect when there are no assigned zones.)

**NOTE:** When connecting PASO amplifier to the GAI, move jumper P8, on the GAI, to the NOVA position. Leave P8 in the default position for all other amplifiers.

## PASO® Amplifiers

Selecting the USE PASO AMPLIFIERS checkbox displays the following dialog box (see [Figure 26](#)):

1. Click **CONFIRM** to accept the change or **CANCEL** to return to the AMPLIFIERS SUMMARY screen.
2. Click the **ADD AMPLIFIER** button to add an amplifier.

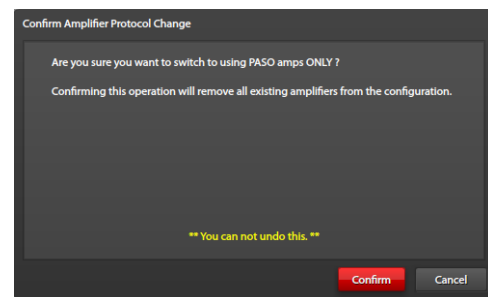


Figure 26. Protocol Change Confirmation

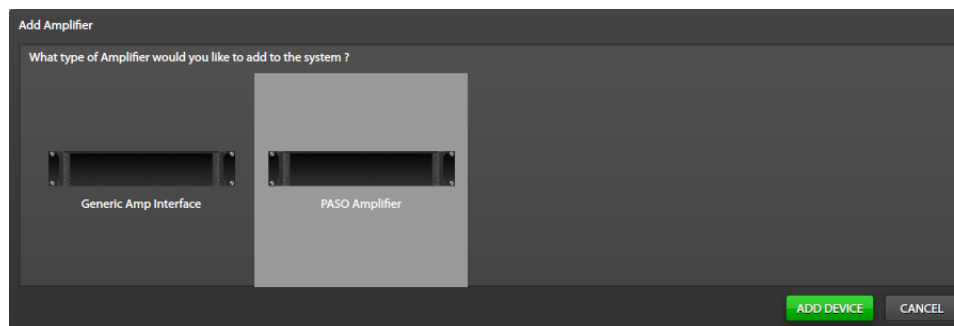


Figure 27. Add PASO Amplifier

3. Select the PASO AMPLIFIER and click the **ADD DEVICE** button.

The PASO amplifier is added to the configuration:

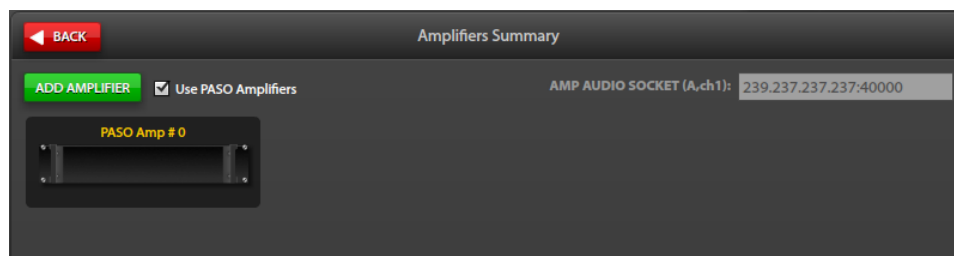


Figure 28. Amplifiers Summary Screen



- Click on the PASO amplifier, from the **AMPLIFIERS SUMMARY** screen, to open the **AMPLIFIER PROPERTIES** window for that amplifier (see [Figure 29](#)).

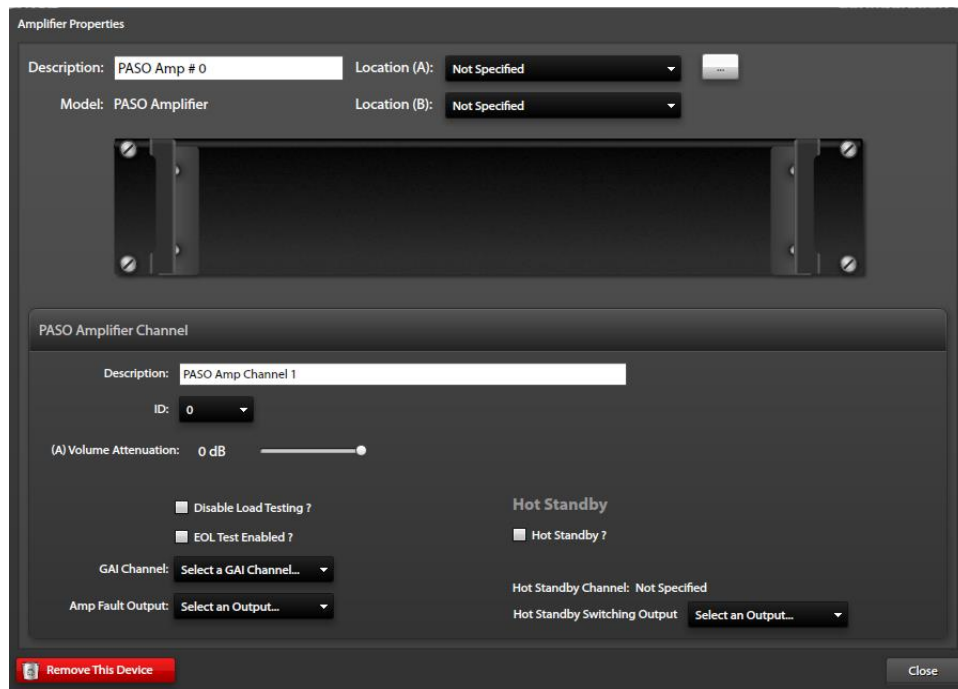


Figure 29. PASO Amplifier Properties

**Description**—A generic (unique) name for the amplifier (*generated by default*).

**Location**—The amplifier’s location (see the [Locations](#) section on page 16).

### PASO Amplifier Channel Properties

**Description**—Generic name for each amplifier channel (*generated by default*). Enter a new appropriate description.

**ID**—Enter the ID of the physical amplifier channel for correct operation.

Assigning the same ID to more than one amplifier channel displays the Address Conflict dialog box (see [Figure 30](#)). Choose the option that conforms to the physical amplifier installation.

**(A) Volume Attenuation**—0 db is the amplifier’s maximum volume. Maximum attenuation is –40 db.

The hot-standby amplifier channel also uses this setting.

**Disable Load Testing?**—Suspends load testing for the channel.

This setting is automatically set to false for an amplifier channel that is a hot standby channel.

**GAI Channel**—Select the GAI Channel for the amplifier’s physical input connection.

**Amp Fault Output**—Select an I/O output to activate if this amplifier has a fault condition.

**Hot Standby?**—Designates the amplifier as a hot standby amplifier. Click the **HOT STANDBY SETUP** button to display the **HOT STANDBY SETUP** screen (see the [Hot Standby Amplifiers](#) section).

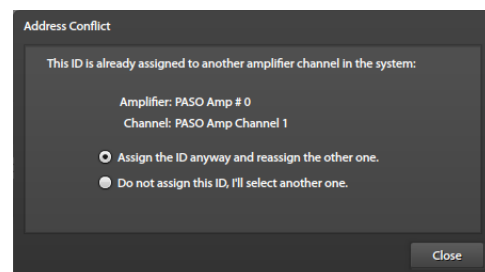


Figure 30. Amplifier Address Conflict

**Hot Standby Switching Output**—Select an I/O output to activate when the amplifier is in a *hot standby* condition. (*Only for use with amplifier change over for Unit model BRD00134*).

**NOTE:** Do not wire PASO amplifiers' audio inputs directly to the E3 Controller. A GAI must feed the PASO amplifier inputs. If the system contains *speaker masters/remotes*, use a separate GAI channel for each PASO amplifier input.

## Hot Standby Amplifiers

Hot standby amplifiers add redundancy for the amplifiers driving the speaker loops. For GAI-Tronics' amplifiers, it is crucial that the amplifier wiring match the hot standby E3 configuration for proper operation. The wiring sequence determines the priority for failed amplifiers switching to the hot standby amplifier. In the event of multiple amplifier failures, the amplifier closest to the standby amplifier, in the daisy chain wiring, has the highest priority, followed by the next closest, etc.

PASO® amplifiers use a Model BRD00134 Amplifier change over unit and an E3 I/O output to activate the standby amplifier. In this system, the E3 controller sets the priority for the standby amplifier. The PASO® amplifiers' *hot standby* audio is not wired in a daisy chain, which means the wiring order does not affect the priority of the standby amplifiers.

**Hot Standby Setup**—Use the HOT-STANDBY SETUP screen to prioritize the switching of failed amplifier channels to the hot standby amplifier channel. Use the left, right, up, and down arrows in the middle of the two panes to add, remove, and reorder the amplifier channels to set each amplifier's priority.

**NOTE:** For GAI-Tronics amplifiers, it is crucial for proper system operation that the amplifier channel order is the same as their connection order.

Ex. The hot standby amplifier is in position four (wired fourth, from the top of the cabinet, in [Figure 31](#)).

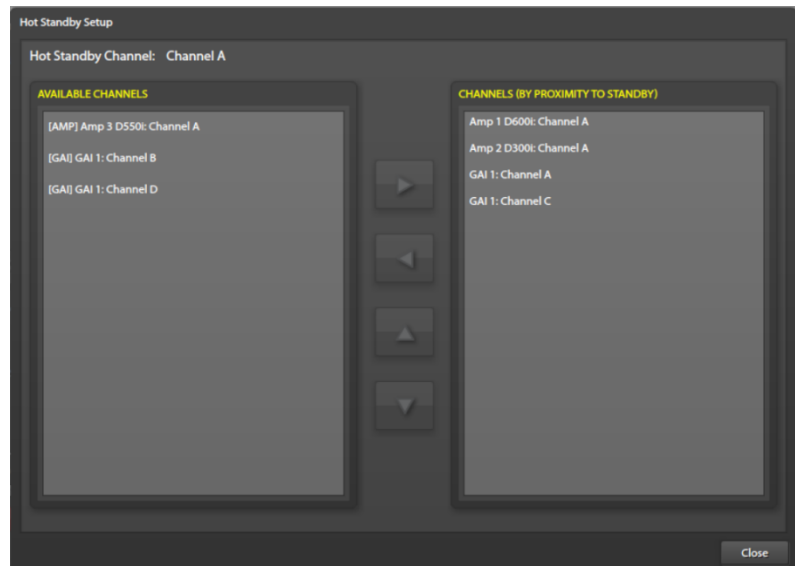


Figure 31. Hot Standby Setup

## Speaker Masters *Not applicable to the IP controller*

Speaker master modules work with speaker remote modules in an E3 system to control volume levels of speakers driven from central amplifiers. The E3 speaker master module changes individual loudspeaker power tap levels on command from the E3 controller on a system-wide or individual speaker basis. The range of adjustment is in steps from off/mute to full power. Each speaker master monitors and controls up to four audio channels:

1. Assign amplifier channels to each of the four audio channels.

An amplifier channel is assigned to only one speaker master audio channel.

2. Assign up to 24 speaker remotes to each speaker master audio channel.

The speaker master powers the speaker remote modules on each channel and transmits power level tap commands and receives speaker coil health check status from the speaker remote modules.

The E3 system excludes speaker masters from the B system in A-B systems the same way it excludes amplifiers when redundancy is not a requirement.

### Add Speaker Master

1. Click the **SPEAKER MASTERS** button, under the **AMPLIFIERS** button, on the **SYSTEM PROPERTIES** screen, to open the **SPEAKER MASTER SETUP** screen (see [Figure 32](#)).

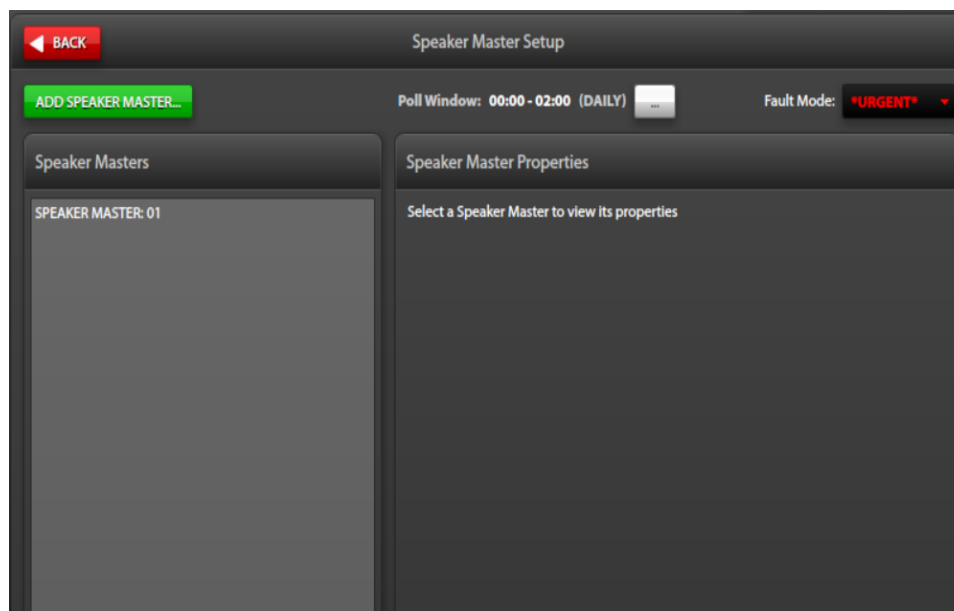


Figure 32. Speaker Mater Setup

**Poll Window**—HH:MM–HH:MM(DAILY)—Click the ellipsis button to change the period the speaker masters use to poll the speaker remotes to set transformer tap levels and obtain status from the remotes.

**NOTE:** View and configure the global **TIME ZONE SETTING** from the **SPEAKER MASTER POLL WINDOW** dialog box and from the **SCHEDULED EVENT CONFIGURATION** screen (see the [Scheduled Events](#) section).

**Fault Mode:**—Ignore, Normal, or **\*URGENT\***

2. Click **ADD SPEAKER MASTER** to add speaker master modules to the system.
  - Assign up to 15 speaker masters, to the E3 system.
  - Speaker masters receive a hexadecimal address, from 01–0F, in the order created.
  - Each speaker master controls one to four amplifier audio channels.

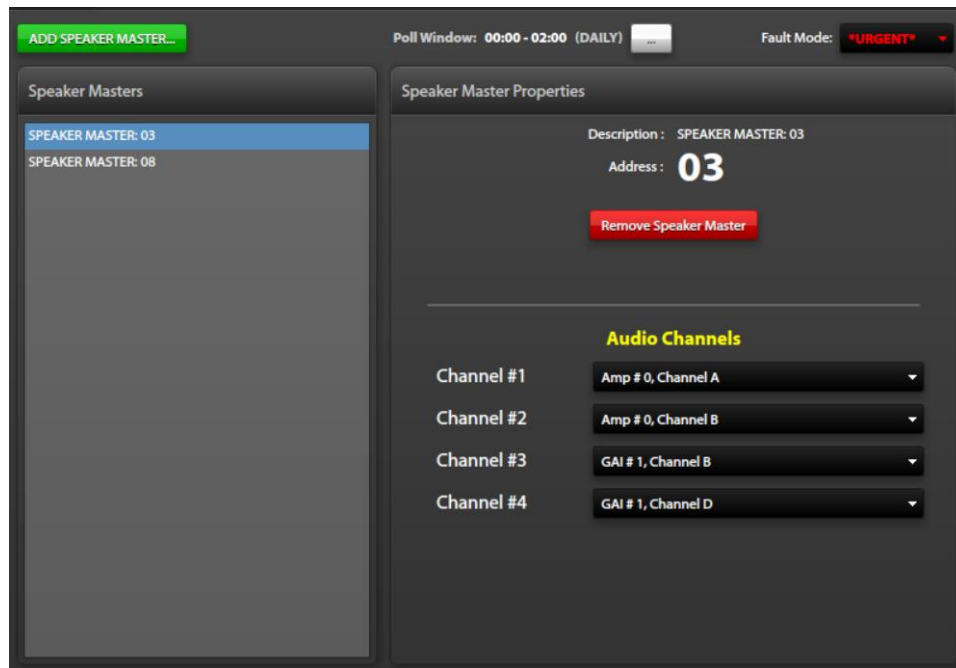


Figure 33. Speaker Master Properties

**Description**—Description of the speaker master module (*E3 Console assigned*).

**Address**—Hexadecimal address of the speaker master controller (*E3 Console assigned*).

3. Assign AUDIO CHANNELS to the speaker master controller.
 

**Channel #1–Channel #4**—Select the amplifier channel to assign to each of the four audio channels. Amplifier channels are assignable to only one speaker master controller.

**NOTE:** Setting an audio channel to **Not Specified** removes all speaker remotes assigned to that audio channel from the configuration.

4. Click **BACK** to return to the SYSTEM PROPERTIES screen.

## Remove Speaker Master

1. Click **REMOVE SPEAKER MASTER** to remove the selected speaker master controller from the system. A confirmation dialog box displays.
2. Click **REMOVE** to remove the device from the system configuration or **CANCEL** to go back to the speaker master properties screen.

**NOTE:** Exclude speaker masters from the B system in an A-B system where redundancy is not necessary.

## Speaker Remotes *Not applicable to the IP controller*

Speaker remotes control the transformer tap setting of each speaker driven from a central amplifier channel and obtains audio coil status from the connected speaker.

## Add Speaker Remotes

1. Click the SPEAKER REMOTES button from the SYSTEM PROPERTIES screen.

The SPEAKER REMOTES SETUP screen displays (see Figure 35).

2. Click **ADD SPEAKER REMOTES** to add speaker remotes to the E3 system.

The CREATE SPEAKER REMOTES dialog box opens:

Figure 34. Create Speaker Remotes

3. Select the amplifier channel to assign the speaker remotes to.
4. Use the HOW MANY? selector to enter the number of speakers with speaker remotes on the amplifier channel.
  - Specify the number of remotes to add to the A system and the B system in A-B systems.
  - The speaker remotes appear in the list if the filter does not prevent their display:

SYSTEM	MASTER	ADDRESS	DESCRIPTION	AMP CHANNEL	VOLUME (TAP)
SYSTEM A	01	not set	SPEAKER REMOTE ID: 0	Amp # 0, Channel A	Lowest Volume
SYSTEM A	01	not set	SPEAKER REMOTE ID: 1	Amp # 0, Channel A	Lowest Volume
SYSTEM A	01	not set	SPEAKER REMOTE ID: 2	Amp # 0, Channel A	Lowest Volume
SYSTEM A	01	not set	SPEAKER REMOTE ID: 3	Amp # 0, Channel A	Lowest Volume
SYSTEM A	01	not set	SPEAKER REMOTE ID: 4	Amp # 0, Channel A	Lowest Volume
SYSTEM B	01	not set	SPEAKER REMOTE ID: 5	Amp # 0, Channel A	Lowest Volume
SYSTEM B	01	not set	SPEAKER REMOTE ID: 6	Amp # 0, Channel A	Lowest Volume
SYSTEM B	01	not set	SPEAKER REMOTE ID: 7	Amp # 0, Channel A	Lowest Volume
SYSTEM B	01	not set	SPEAKER REMOTE ID: 8	Amp # 0, Channel A	Lowest Volume
SYSTEM B	01	not set	SPEAKER REMOTE ID: 9	Amp # 0, Channel A	Lowest Volume

Figure 35. Speaker Remotes Setup

The speaker remotes display in a list format with columns for SYSTEM, SPEAKER MASTER, SPEAKER REMOTE ADDRESS, DESCRIPTION, AMP CHANNEL, and VOLUME (TAP) parameters.

**Showing:**—Displays the textual result of the filter selections.

**Fault Mode**—Ignore, Normal, *\*URGENT\**

**Filter Speaker Remotes**—Drop down list to filter the speaker remotes in the list by system, speaker master, and amplifier channel.

1. Set the address of each speaker remote on each amplifier channel.  
The valid speaker remote address range is 0–32,767.
2. Change the description as appropriate for identification of the speaker remote.
3. Set the volume level for the speaker to LOWEST VOLUME, MID VOLUME, or HIGHEST VOLUME using the drop-down list selector.

The speaker audio output power corresponds to the position of jumper P6, on the speaker remote module and the volume level selection in the E3 Console:

Table 2. Speaker Audio Output Power

Speaker Remote Model	Jumper P6 Position	E3 Console Volume (TAP) Setting	Audio Output Power
13317-001 (8-ohm, 25-watt)	High	Highest Volume	25 W
		Mid Volume	12.5 W
		Lowest Volume	6.25 W
	Low	Highest Volume	6 W
		Mid Volume	3 W
		Lowest Volume	1.5 W
13317-002 (16-ohm, 30-watt)	High	Highest Volume	30 W
		Mid Volume	15 W
		Lowest Volume	7.5 W
	Low	Highest Volume	6 W
		Mid Volume	3 W
		Lowest Volume	1.5 W

## Remove Speaker Remote

1. Select the speaker remote from the list on the SPEAKER REMOTES SETUP screen.
2. Click **REMOVE SELECTED**.  
A confirmation dialog box displays for confirmation.
3. Click **REMOVE**.

## Access Panel Interfaces Summary *Not applicable to the IP controller*

Click the ACCESS PANELS button on the SYSTEM PROPERTIES screen to open the ACCESS PANEL INTERFACES SUMMARY screen. Use this screen to add access panels to the configuration.

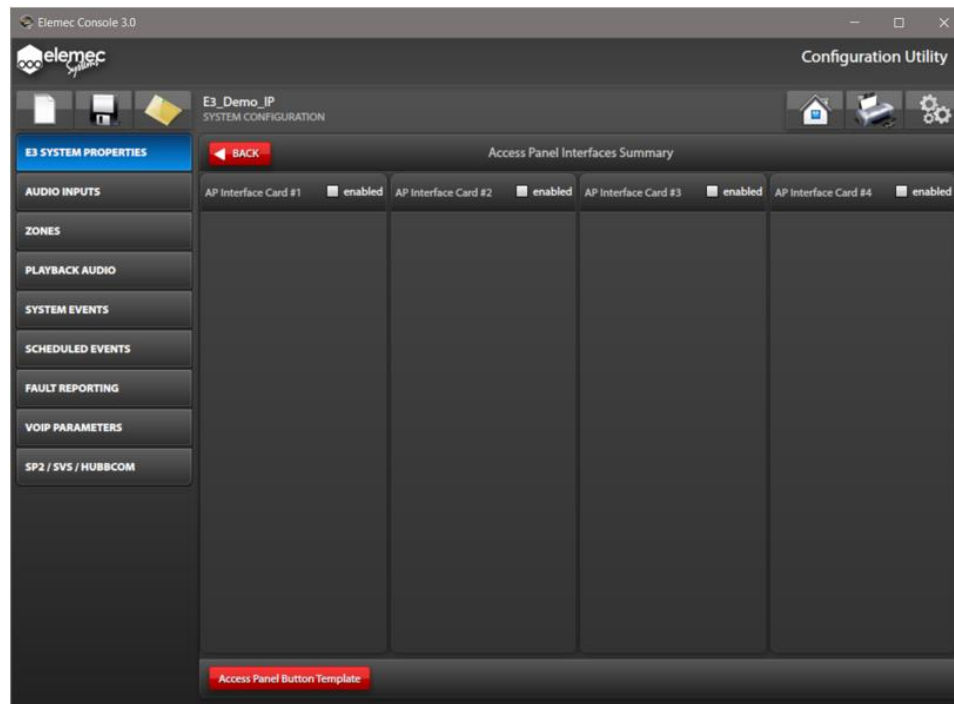


Figure 36. Access Panels Interfaces Summary

Click the ENABLED checkbox to add access panels connected to the physical API card(s) installed in the system.

### Access Panel Interface Type Selection

There are two types of API cards; both types permit connection of up to four access panels:

- Type I cards provide a single audio channel shared by the connected access panels.
- Type II API cards provide four audio channels; each connected access panel is on a separate audio channel.

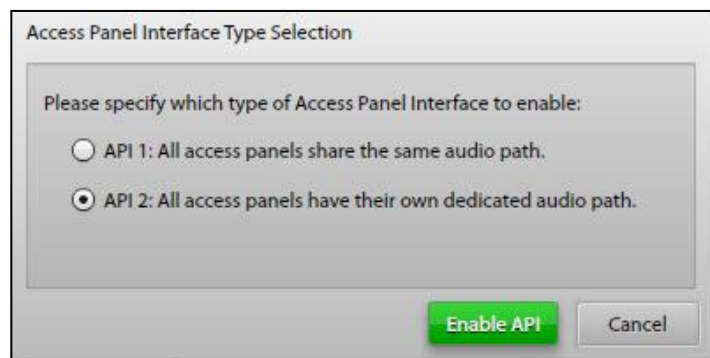


Figure 37. Access Panel Interface Type Selection

1. Select the type of API card installed and click **ENABLE API**.

The ADD ACCESS PANEL screen (see [Figure 38](#)) appears if the current configuration does not include a default access panel type, in the console options (see [Figure 11](#)).

2. Assign hex addresses 0–3 to type I cards. Assign hex addresses 4–7 to type II cards.

The columns in the ACCESS PANEL INTERFACES SUMMARY screen display the address assigned to the card after defining the card type. Column one corresponds to 0x0 and 0x4, column two represents addresses 0x1 and 0x5, and so on.

3. Click **◀BACK** to return to the SYSTEM PROPERTIES screen.
4. Click **ACCESS PANEL BUTTON TEMPLATE** to configure the button template layout.

The button template defines the default button layout for the physical access panels in the Elemec3 system (see the [Access Panel Button Configuration](#) section).

## Add Access Panels

The ADD ACCESS PANEL screen opens when an API card is first enabled or by clicking the **ADD ACCESS PANEL** button from the ACCESS PANEL INTERFACES SUMMARY screen.

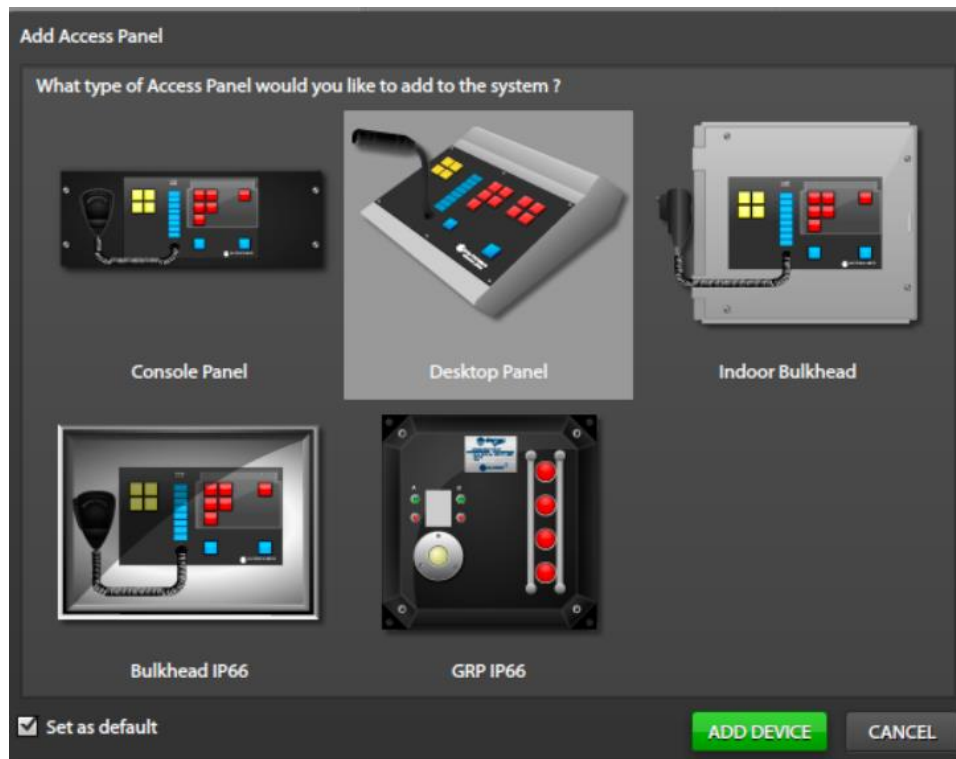


Figure 38. Add Access Panel

1. Select the type of access panel to add and click **ADD DEVICE**.
  - The access panel appears under the API on the ACCESS PANEL INTERFACES screen.
  - An **ADD ACCESS PANEL** button appears under each API after defining the first access panel for that API.
2. Select the SET AS DEFAULT checkbox to skip the AP selection screen if the remaining access panels are the same type.



## Access Panel Properties

Select an access panel from the ACCESS PANEL INTERFACES SUMMARY screen. The ACCESS PANEL PROPERTIES dialog box opens:

**Description**—A unique description for the access panel.

**Intrinsically Safe?**—Configures the access panel as intrinsically safe.

**Local Cancel Only?**—Only allows cancelling events initiated at this access panel.

**Local Ack Only?**—Only allows acknowledging events initiated at this access panel.

**Audio Path**—Audio path assigned to the current access panel.

This automatically assigned value is changeable for access panels connected to an API type II card. Editing this property while the selected audio path is in use causes the current access panel to swap audio path values with the other panel. Audio path assignments of access panels connected to an API type I cards are set by the system.

**Location**—The physical location of the access panel (see the [Locations](#) section).

**Volume Level**—Sets the microphone volume level for the access panel.

**Supervision**—

- **NORMAL**—a continuously supervised always-present access panel.
- **WHEN PRESENT**—an access panel supervised only when present. (Specify an input contact to notify the system when the panel is present and must be supervised.)
- **UNSUPERVISED**—an unsupervised access panel.

**Address**—The access panel's address. This setting must match the physical address on the access panel.

**Max Duration (\*Global setting for all panels)**—Maximum duration of a live page for all access panels.

**Button Lockout (\*Global setting for all panels)**—The period after the maximum duration elapses before reporting a stuck button fault and a panel lockout occurs.

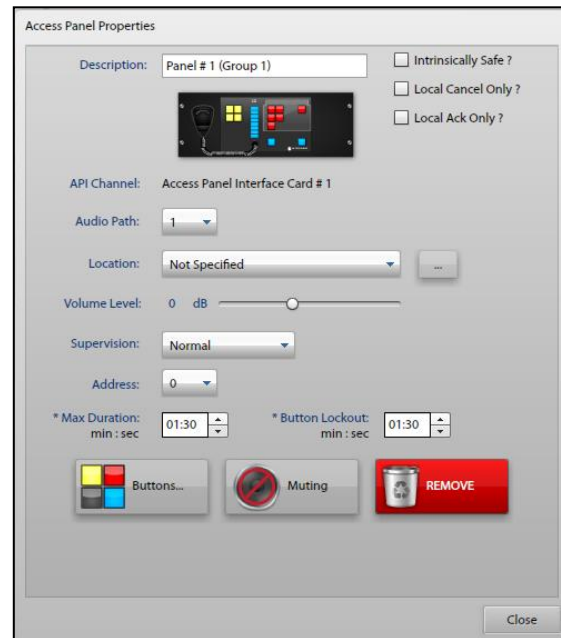


Figure 39. Access Panel Properties

## Buttons... Button

Click the **BUTTONS...** button to configure the buttons for the current access panel. Each access panel has a specific button configuration inherited from the default button template. Configure the default button template first for the buttons common to all access panels. Import button configurations from one access panel to another to simplify access panel setup (see the [Access Panel Button Configuration](#) section).

**NOTE:** The Model GRP IP66 Access Panel does not inherit the button configuration defined by the template and can only import button configurations from other Model GRP IP66 panels.

## Muting Button—Access Panel Mute Setup

Click the **MUTING** button on the **ACCESS PANEL PROPERTIES** screen to configure muting of local loudspeaker(s). Use this feature to prevent acoustic feedback through an access panel's microphone. The **ACCESS PANEL MUTE SETUP** screen has five panes (see [Figure 40](#)) to configure the settings of the local mute relays.

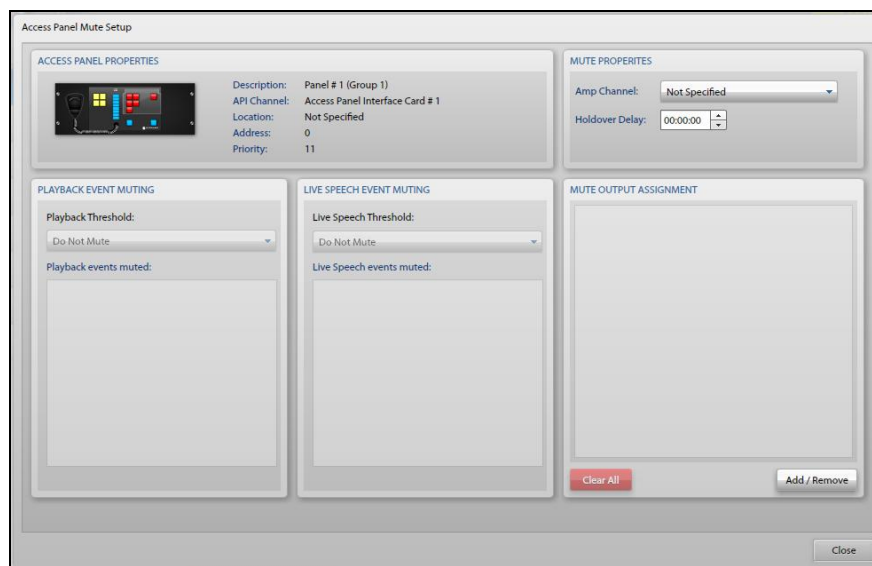


Figure 40. Access Panel Mute Setup

### Access Panel Properties Pane

This pane displays the access panel graphic, and the **DESCRIPTION**, **API CHANNEL**, **LOCATION**, **ADDRESS**, and **PRIORITY** parameters for the access panel.

### Mute Properties Pane

**Amp Channel**—The amplifier channel that mutes when targeted in a live speech destination from this panel. Leaving the amplifier channel set to *Not Specified* activates the local mute relay for all live speech destinations defined in the **MUTE OUTPUT ASSIGNMENT** pane.

**Holdover Delay**—The period that the local mute relay remains activate after the live speech event terminates (HH:MM:SS).

### Playback Event Muting Pane

**Playback Threshold**—Priority that determines what playback events the system will mute. The system mutes all events at or below the priority of the selected event.

**NOTE:** Only applicable when the mute properties specify an amplifier channel.

## Live Speech Event Muting Pane

**Live Speech Threshold**—Priority that determines what live speech events the system will mute. The system mutes all events at or below the priority of the selected event.

**NOTE:** Only applicable when the mute properties specify an amplifier channel.

## Mute Output Assignment Pane

This pane lists the I/O card output relays that disconnect speakers from the amplifier channel(s).

## Remove Button

Click **REMOVE** on the ACCESS PANEL PROPERTIES screen to remove an access panel from the configuration. A confirmation prompt displays unless it is disabled by the DON'T SHOW THIS AGAIN application option (see the [Settings](#) section).

## Close Button

Click **CLOSE** to return to the ACCESS PANEL INTERFACES SUMMARY screen.

## Access Panel Button Configuration

Click **ACCESS PANEL BUTTON TEMPLATE** from the [Access Panel Interfaces Summary](#) screen to open the ACCESS PANEL BUTTON CONFIGURATION screen (see [Figure 41](#)).

Or:

Click on the **BUTTONS...** button to edit the button configuration of an individual access panel from the ACCESS PANEL PROPERTIES screen (see [Figure 41](#)).

**NOTE:** The Model GRP IP66 Access Panel does not inherit the button configuration defined by the template and can only import button configurations from other Model GRP IP66 panels.

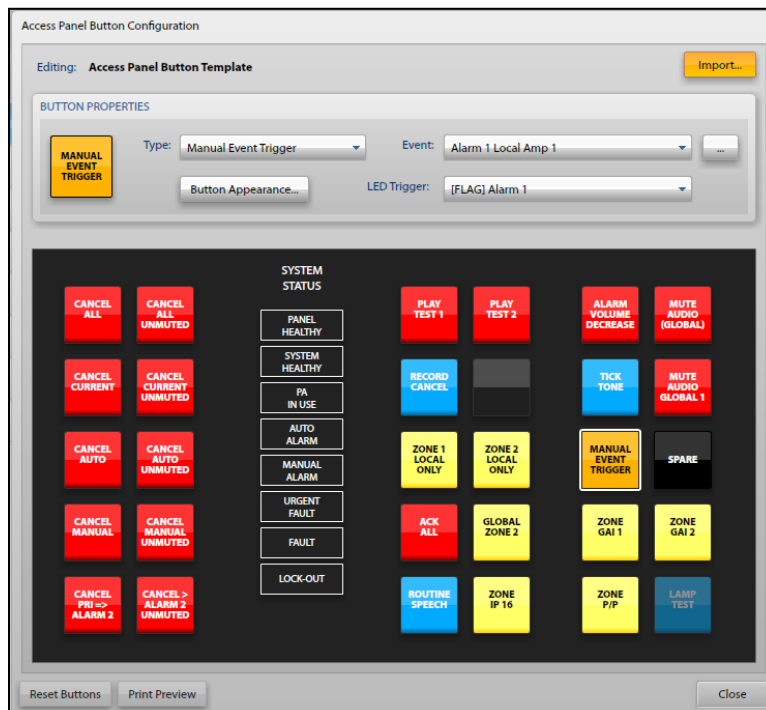


Figure 41. Access Panel Button Configuration

**Editing:**—Displays the button panel configuration name. Displays the access panel name when configuring the buttons for an individual access panel.

**Import...**—Click **IMPORT...** to copy an existing button configuration to the current configuration. Copy from one panel to another, from a button panel to the template, or from the template to a panel.

## Button Properties

The BUTTON PROPERTIES pane in the center of the screen contains a representation of the button panel with the fields used to define each button above it. Each button has a type, appearance, and additional unique properties for the required functionality in the system design.

## Create and Modify AP Buttons

Click a button in the button panel and make the necessary selections from the available fields in the BUTTON PROPERTIES pane above to define each required button.

**NOTE:** Selecting a button type with required settings makes the fields to completely define the button the only selectable elements on screen. To abandon the current button definition or exit the ACCESS PANEL BUTTON CONFIGURATION screen, set the button's type to NOT PRESENT.

### Button Types:

The following types of access panel push buttons are available:

- **Not Present**—(*default*) All unassigned buttons. These buttons have a gray top and black bottom.
- **Indicator**—Provides LED indication and status information only.
- **LED Trigger:**—Select a flag, input, or output to activate the LED.
- **Acknowledge**—Acknowledges alarms, either current (audible), by priority (ACK/cancels), or all (audible and non-audible).
  - Acknowledge Type:**—Select the acknowledgement type from the list.
  - EDIT ACK/CANCELS...**—Use this button to jump to the Ack/Cancel Configuration screen.
- **Cancel**—Cancels an alarm, either current (audible), by priority (ACK/cancels), or all (audible and non-audible).
  - Cancel Type:**—Select the cancel type from the list.
  - EDIT ACK/CANCELS...**—Use this button to jump to the Ack/Cancel Configuration screen.
- **Attenuate Alarm**—Attenuates alarm audio using the global attenuation setting.
- **Mute Audio**—Mutes audio using one of the four global mutes (requires mute selection).
  - Global Mute:**—Select a configured global mute from the list.
  - ...**—Opens the Manage Global Mutes screen.
- **Playback**—Initiates an alarm (requires event selection).
  - Event:**—Select the event that triggers the playback.
  - ...**—Opens the Manage Global Mutes screen.
  - LED Trigger:**—Select a flag, input, or output to activate the LED.
- **Live Speech**—Initiates a live speech page (requires live speech or record/playback event selection).
  - Event:**—Select the event that the live speech triggers.
  - ...**—Opens the Manage Global Mutes screen.

**Aux PTT?**—Select if contact input is necessary for the live speech event.

- **Record Cancel**—Cancels a record/playback event during recording, playback, or both.
  - Record Cancel Type:**—Select the RECORDING ONLY, PLAYBACK ONLY, or BOTH radio button.
- **Manual Event Trigger**—Activates any available event (requires event selection).
  - Event:**—The event that triggers the playback.
    - ...—Opens the Event Builder screen.
  - LED Trigger:**—The flag, input, or output to activate the LED.
- **Zone Select**—Selects/deselects a zone for inclusion in an event that allows zone selection.
  - Zone:**—The selected zone.
    - ...—Opens the Zone Builder screen.
- **Tick Tone**—Activates/deactivates the tick tone in a selected zone. The tick tone deactivates without zone selection.
- **Delay Override**—Cancels the delay period for delayed or staged events. Any active events currently delayed immediately activate.
  - Select the OVERRIDE ALL or OVERRIDE CURRENT radio button.
- **Background Music**—Activate/deactivate the background music in one or more selected zones. The background music deactivates without zone selection.
- **Spare**—Create a button with no function.

### Button Appearance

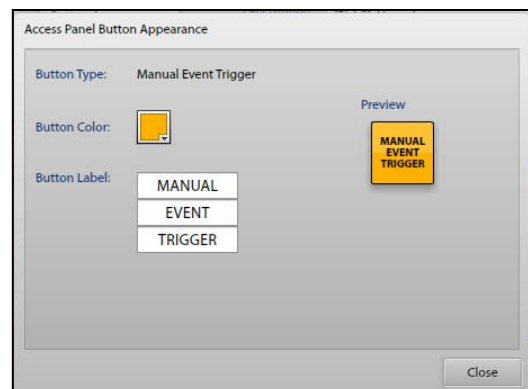
Click **BUTTON APPEARANCE...** to set the button text and color. Each button type has a changeable default text and color.

**Button Type:**—Type of the button.

**Button Color:**—Color of the button.

**Button Label:**—Text label for the button's text label. Enter up to three lines of eight characters for each button.

**Preview**—Shows what the button looks like in the panel.



### Reset Buttons

Click **RESET BUTTONS** to delete all the buttons in the current button configuration.

### Print Preview

Click the print preview button to open the ACCESS PANEL BUTTON LABEL PRINT screen. A preview of the button layout appears. Click **PRINT** to access the standard Windows® PRINT dialog box or **CLOSE** to exit this screen.

### Close

Click **CLOSE** to exit the ACCESS PANEL BUTTON CONFIGURATION screen.

## IP Access Panels

IPAPs (IP Access Panels) are a software implementation of an *Elemec3* physical access panel. Click the IP ACCESS PANELS button to open the IP ACCESS PANELS SUMMARY screen. Use the IP ACCESS PANELS SUMMARY screen to add IPAP definitions to the *Elemec3* configuration. Define a maximum of 16 IPAPs in an *Elemec3* system.

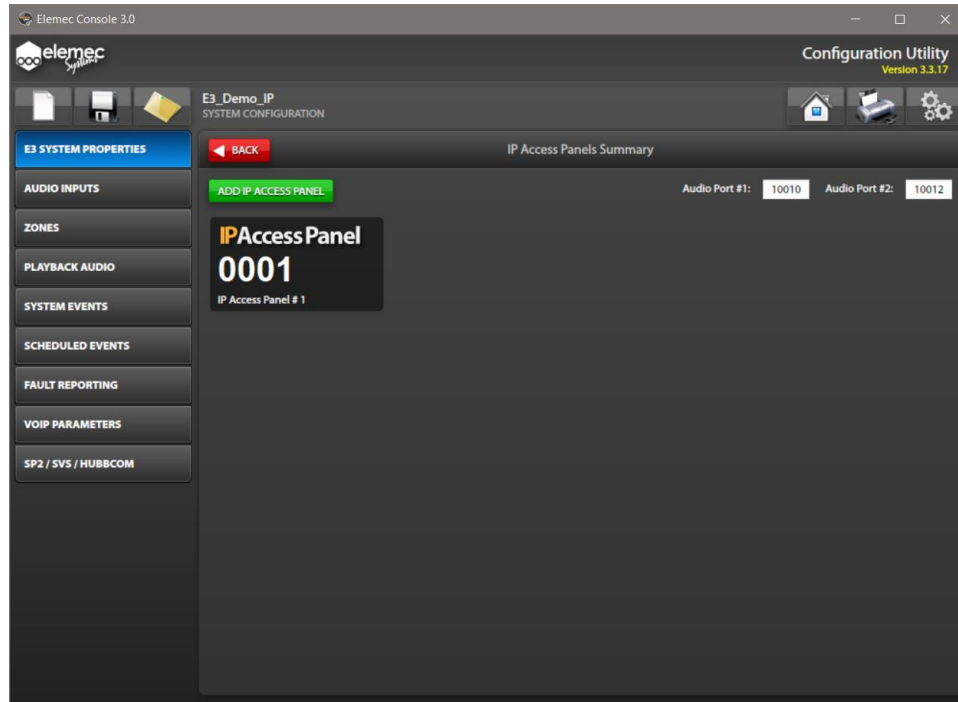


Figure 42. IP Access Panels Summary

1. Click **ADD IP ACCESS PANEL** to add an IPAP (IP Access Panel) to the configuration.  
Each button click adds an additional IPAP for definition in the system. The screen above shows one unconfigured IPAP.
2. Click an IPAP in the IP ACCESS PANELS SUMMARY screen to configure the IPAP properties (see [Figure 43](#)).

**Audio Port #1**—IP port number for audio port one.

**Audio Port #2**—IP port number for audio port two.

## IP Access Panel Properties

**Description**—A unique description for the IPAP.

**Local Cancel Only?**—Only allows cancellation of events initiated at this access panel.

**Local Ack Only?**—Only allows acknowledgement of the events initiated at this access panel.

**PIN**—The PIN for PCs running the IPAP software to access this IPAP configuration.

**Volume Level:**—Adjusts the volume level of the IPAP microphone audio stream.

**Supervision:**—

**Microphone Fault:**—Select between IGNORE, NORMAL, and **\*URGENT\*** (see below).

**Connection Fault:**—Select between IGNORE, NORMAL, and **\*URGENT\*** (see below).

- Ignore—The access panel does not report faults.
- Normal—The access panel reports faults that the operator can acknowledge.
- **\*Urgent\***—Fault acknowledgement must occur before clearing the fault.

**Time to Live (TTL):**—The maximum number of router hops that the multicast packets traverse before the next router discards the packets.

**\*Max Duration (\*Global setting for all panels)**—The maximum duration of a live page for all access panels.

**Multicast Group:**—The multicast IP address that this IPAP listens to.

**Port:**—The port number of the multicast group that this IPAP listens to.

**Buttons... Button**—Configure the button screens for the current access panel (See the [Access Panel Button Configuration](#) section).

Additional button functionality for IPAPs is in the following section (see the [IPAP Buttons... Button](#) section).

**Muting Button**—Not applicable to IP access panels.

**Remove Button**—Removes the access panel from the configuration.

A confirmation prompt appears unless the application option **DON'T SHOW THIS AGAIN** is on in the configuration (see the [Settings](#) section).

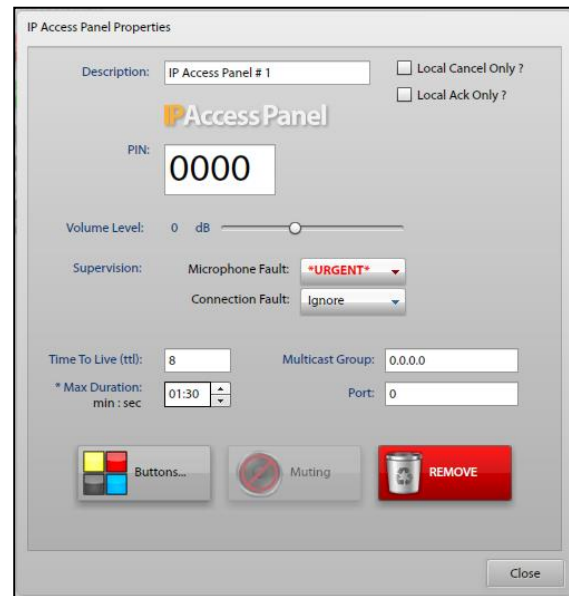


Figure 43. IP Access Panel Properties



## IPAP Buttons... Button

Click the **BUTTONS...** button from the IP ACCESS PANEL PROPERTIES screen to configure the access panel button screens for the current IPAP. See the [Access Panel Button Configuration](#) section for information on configuring individual access panel buttons. Available resources of the PC running the IPAP software is the only limit to the maximum number of button-screens an IPAP can support.

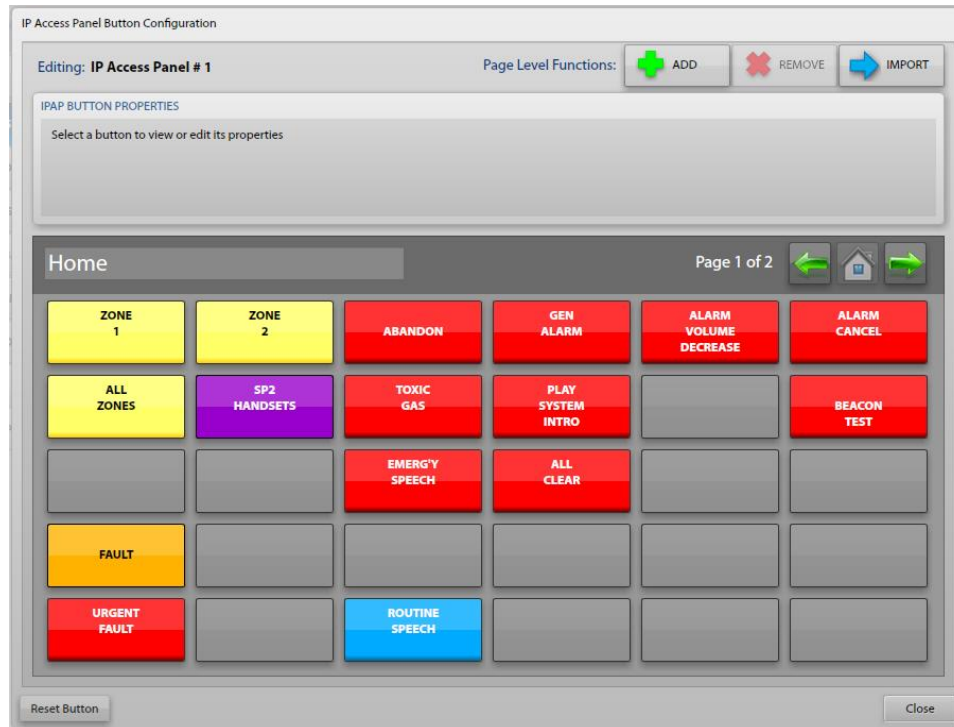


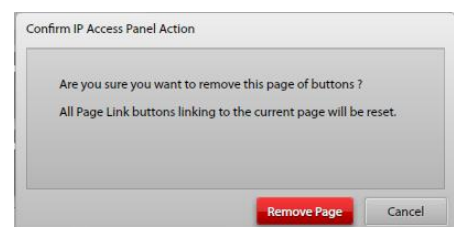
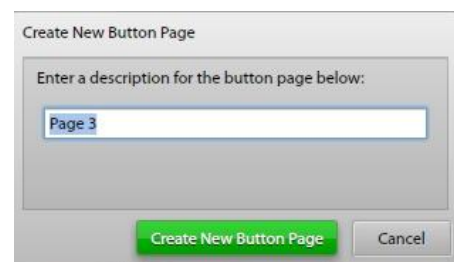
Figure 44. IPAP Button Configuration

**Editing:**—Displays the description of the IPAP being configured.

### Page Level Functions

Each button page in the IPAP configuration is a button panel in the IPAP application.

- **ADD Button**—Adds button pages to the IPAP's configuration.
  1. Click the **ADD** button to open the **CREATE NEW BUTTON PAGE** screen.
  2. Enter a description for the button page.
  3. Click **CREATE NEW BUTTON PAGE** or **CANCEL** to abort the button page addition.
- **REMOVE Button**—Removes button pages from an IPAP's configuration, including all defined buttons on that page. Click **REMOVE PAGE** or **CANCEL** to complete the operation.
- **IMPORT Button**—Imports access panel button layouts and overwrites the current button page with the buttons defined in the selected button configuration. Click **IMPORT** or **CANCEL** to complete the operation (see [Figure 45](#)).





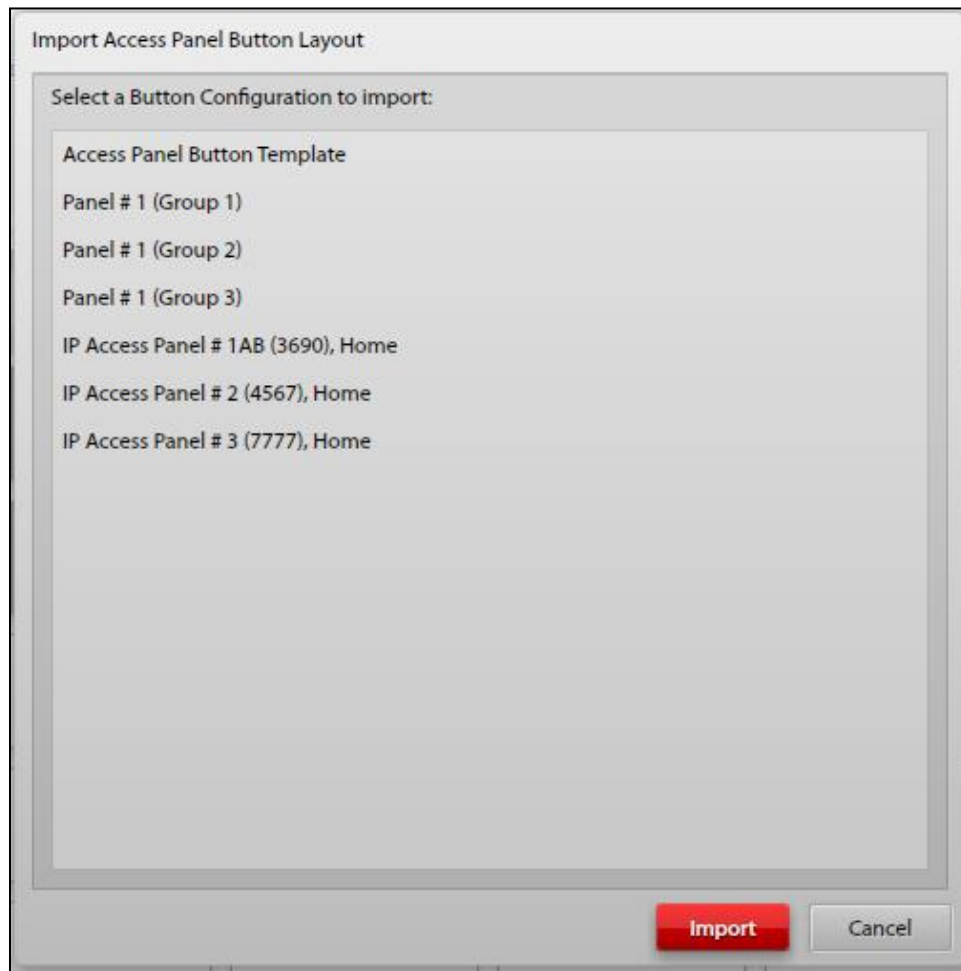


Figure 45. Import Access Panel Button Layout

## IPAP Button Properties

Use the IPAP BUTTON PROPERTIES pane to configure the buttons on each button page for the current IPAP.

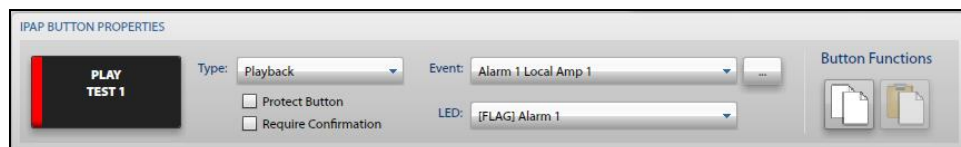


Figure 46. IPAP Button Properties

There are two BUTTON FUNCTIONS at the right end of the IPAP BUTTON PROPERTIES pane:

- **Copy IPAP Button**—Copies the configuration of the currently selected button on the button screen.
- **Paste IPAP Button**—Pastes the copied configuration to the currently selected button.

## Button Screen

The bottom section of the IP ACCESS PANEL BUTTON CONFIGURATION screen displays the button panels.

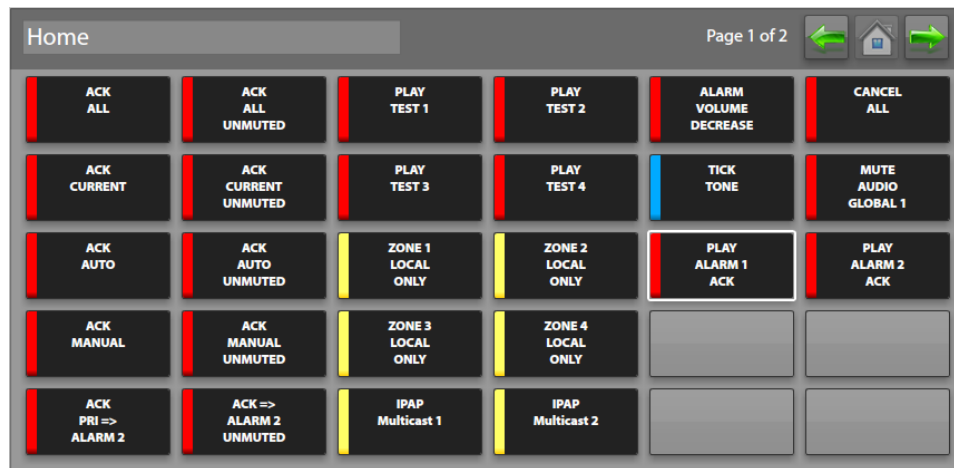





Figure 47. IPAP Button Page

## Button Screen Navigation




The left end of the button screen contains the name of the current button screen. There are three navigation buttons, at the top right side of the button screen. The current page number of the total screen pages appears to the left of these buttons.

The navigation buttons have dual functionality. Click the navigation buttons without pressing the *Shift* key for the following functionality:

- NEXT PAGE —Navigate to the next button panel page.
- PREVIOUS PAGE —Navigate to the previous button panel page.
- HOME —Navigate to the page defined as home.

## Button Screen Order

Press the *Shift* key and click the navigation buttons for the following functionality:

- Move Page Right —Move this page up in the order of pages.
- Move Page Left —Move this page down in the order of pages.
- Set Page Home —Set the current page as the home page.

## Button Definitions

Create, copy, paste, modify, move, or remove buttons from button pages.

- Undefined buttons are two-tone gray.
- The currently selected button has a white outline.
- Click on a button to select it and define its properties in the IPAP BUTTON PROPERTIES pane (see the [Access Panel Button Configuration](#) section).

The differences between hardware access panel buttons and IPAP buttons are as follows:

### Button Types

There is one additional button type for IP access panels. (See the [Button Types](#) section for the standard AP button types.):

**Page Link**—Navigates to the configured button page.

**Page:**—Select the button page this button links to.

Playback and live audio event types have two new check boxes to simulate *button protection* and *confirmation* features available on hardware access panels:

- **Protect button**—Simulates a hardware button protected by a plastic shield. The button appears with gray hashes in the IPAP software. Press the button twice to activate the event.
- **Require Confirmation**—Simulates a hardware button that requires two consecutive presses. A confirmation dialog box appears in the IPAP application for confirmation.

### Button Appearance

Click the button in the IPAP BUTTON PROPERTIES pane (see [Figure 46](#)) to configure button appearance. IPAP panels have two tone colors or are black with a color ribbon.

**Button Type:**—Displays the button type.

**Button Color:**—Click and select a color from the palette.

**Button Label:**—Sets the label text for the button. Enter up to three lines of 16 characters per line for the button label.

**Preview:**—Shows what the button will look like.

**COLOR RIBBON ▼**—Choose SOLID COLOR or COLOR RIBBON (SOLID COLOR covers the button with two-tone color and COLOR RIBBON is a black button with a colored stripe down the left side.)

### Button Copy/Paste

See the [IPAP Button Properties](#) section.

### Move Buttons

Select a button and press the *Shift* key with the *arrow* keys to move a button on an IPAP page. The button will move in the selected direction and will trade locations with an existing button. Buttons cannot be moved off the edges of the page. Use *copy/paste* to move a button to a different page and then use **RESET BUTTON** to remove it from the previous location.

### Reset Button

The **RESET BUTTON** immediately deletes the selected button. No confirmation prompt is given.

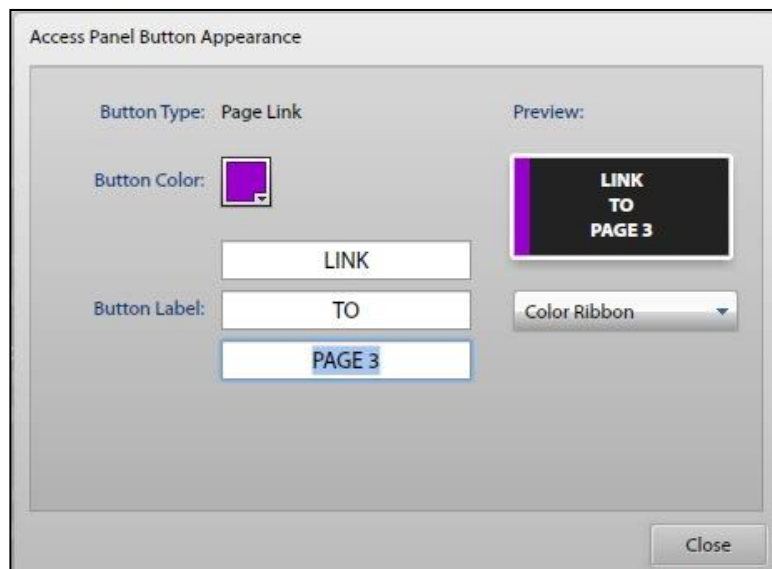


Figure 48. IPAP Button Appearance

## APLite HUBBCOM

APLite HUBBCOM is a mini access panel using a GAI-Tronics HUBBCOM station. Configure APLite profile PINs (Panel Identification Numbers) for HUBBCOM stations to load an access panel button screen. Use the GUDA (GAI-Tronics Universal Device Application) software to configure the HUBBCOM station(s) with a profile PIN that matches an APLite profile PIN. HUBBCOM stations with a profile PIN matching a profile PIN in the *Elemec3* configuration load that profile's button screen. Configure multiple HUBBCOM stations with the same profile PIN to load a common screen on multiple HUBBCOM stations.

GAI-Tronics publication 42004-531 covers downloading, installing, and running the GUDA. Publication 42004-551 provides configuration information for HUBBCOM devices using the GUDA (see the [Reference Documentation](#) section).

Click the APLite HUBBCOM button to open the APLITE PROFILES screen (see [Figure 49](#)). The AP LITE PROFILES screen contains two panes:

- APLite Profiles pane—Displays the HUBBCOM profiles added to the configuration using the **ADD PROFILE...** button (*left pane*).
- AP LITE PROPERTIES pane—Contains information on the APLite profile currently selected in the profiles list (*right pane*) (see the [AP Lite Properties](#) section).

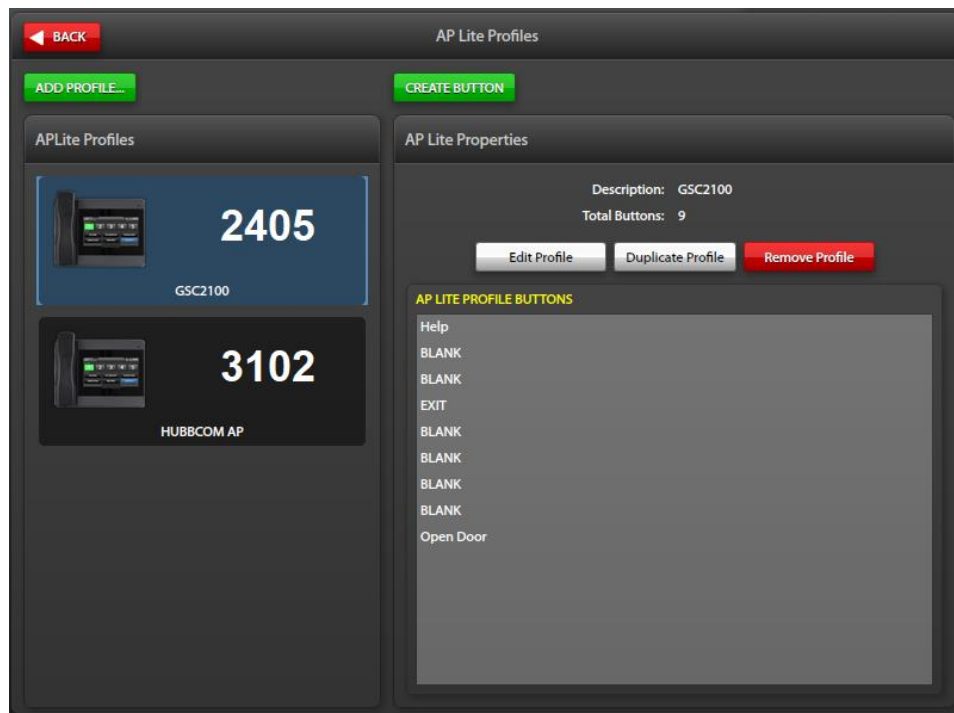


Figure 49. AP Lite Profiles

## APLite HUBBCOM Access Panel Creation

1. Click **ADD PROFILE...** to create a new AP Lite profile PIN.

A dialog box appears for a description of the AP Lite profile.

2. Enter a descriptive name for the profile and click **CREATE NEW AP LITE PROFILE**.

The APLITE PROFILE BUILDER screen appears (see [Figure 50](#)):

3. Create the buttons for the access panel if they do not already exist (see the [APLite Button Creation](#) section).
4. Use the left, right, up, and down arrows to assign and order the buttons for the APLite HUBBCOM access panel.

Buttons appear on the APLite HUBBCOM screen in the position they occupy in the list. Create and insert a blank button to place functional buttons in the desired position on the HUBBCOM APLite screen.

5. Click **CLOSE** to return to the APLITE PROFILES screen.

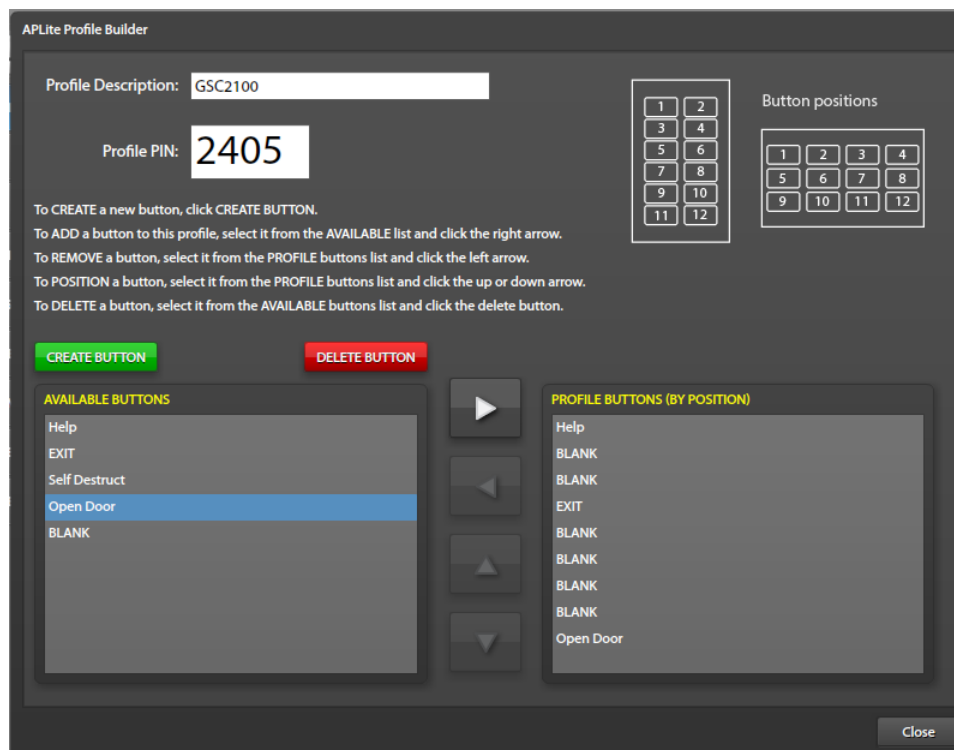


Figure 50. APLite Profile Builder

## APLite Button Creation

APLite HUBBCOM stations use a static button layout for portrait and landscape displays as shown in the upper right corner of the APLITE PROFILE BUILDER screen (see [Figure 50](#)). Buttons appear on the HUBBCOM screen in the position they occupy in the PROFILE BUTTONS (BY POSITION) list. Create and insert a blank button in the list to position functional buttons in the desired location on screen. Use existing APLite buttons with multiple APLite profiles. (The figure above shows an APLite profile for a landscape display, placing the **Help**, **Exit**, and **Open Door** buttons at positions one, four, and nine on the display).

Create APLite buttons:

1. Click **CREATE BUTTON** to create buttons for the access panel(s).  
The CREATE NEW AP LITE BUTTON dialog box appears requesting a description for the button.
2. Enter a description for the button and click **CREATE NEW AP LITE BUTTON**.  
The ACCESS PANEL BUTTON APPEARANCE dialog box opens (see Figure 51).

**Button Description:**—Enter a description for the button.

**Button Action:**—Use the drop-down list control to select the action to initiate.

**Require Confirmation?**—Select the check box for events that will require confirmation.

**Button Label:**—Enter the text to appear on the button in the three fields.

**Button Color:**—Click the button color palette and select the desired color for the button.

**Use Transparent Button:**—Select this check box to make a transparent button. This disables the button color and button style options.

**Button Style:**—Select the desired button style; color ribbon or solid color from the drop-down list.

**Preview:**—View-only field displays what the button will look like.

3. Click **CLOSE** to return to the previous screen.

## AP Lite Properties

The right pane in the AP LITE PROFILES screen contains the properties of the AP lite panel currently selected in the APLITE PROFILES list pane. The pane contains the description of the currently selected AP lite profile, the number of assigned buttons, **EDIT PROFILE**, **DUPLICATE PROFILE**, and **REMOVE PROFILE** action buttons, and the AP LITE PROFILE BUTTONS field listing the assigned buttons.

- Use the **EDIT PROFILE** button to access the APLITE PROFILE BUILDER screen. Edit the profile description, PIN, add/remove, and reorder the buttons for the selected APLite HUBBCOM access panel.
- Use the **DUPLICATE PROFILE** button to create a new copy of an existing APLite HUBBCOM access panel to simplify creating new panels.
- Use the **REMOVE PROFILE** button to delete the currently selected profile. A confirmation dialog box displays requesting confirmation to remove the panel. Click **REMOVE** or **CANCEL**.

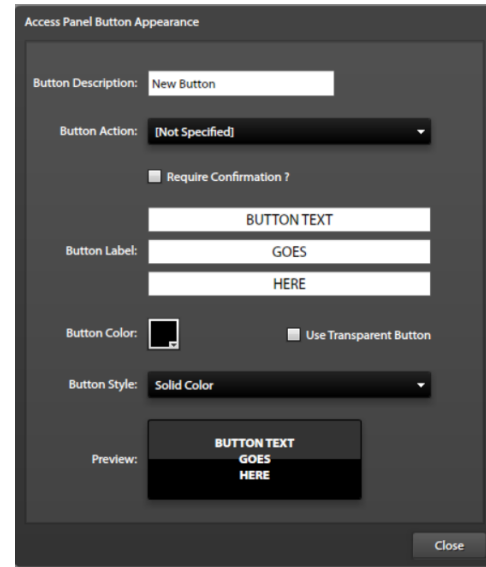


Figure 51. Access Panel Button Appearance

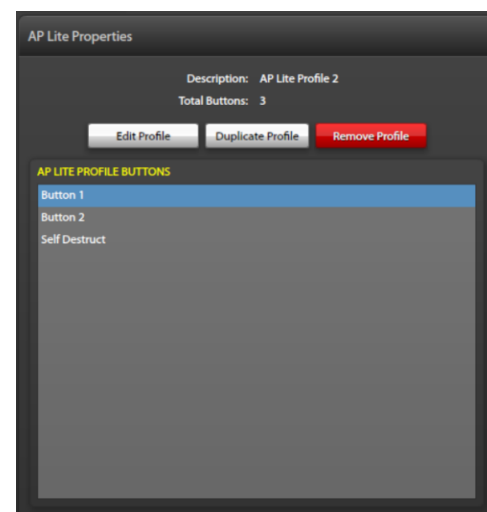


Figure 52. AP Lite Properties

## I/O Controllers

I/O controllers accept external inputs to the E3 system and activate relay contacts or logical outputs from the E3 system. The I/O CONTROLLERS SUMMARY screen displays the I/O controllers in the system.

**NOTE:** The IP controller includes 8 input contacts, 8 output relays, and only supports IP I/O cards.

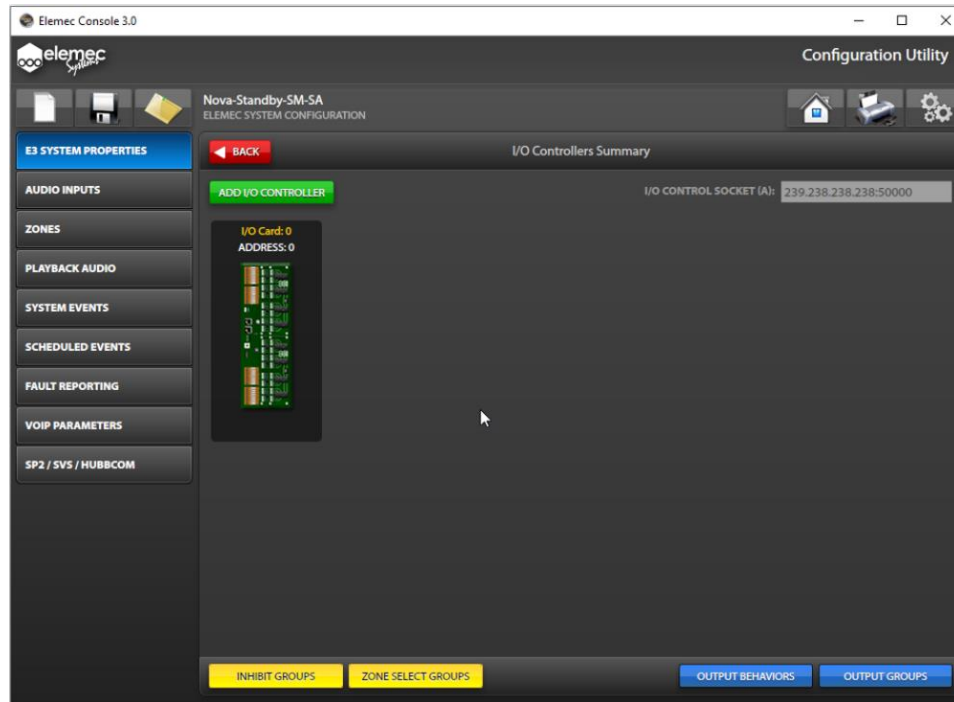


Figure 53. I/O Controllers Summary

**IO Control Socket**—This field is only for IP I/O cards. It defines the IP communication channel between the E3 controller and the IP I/O devices on the network. All IP I/O devices communicate on the same control socket. The socket number consists of a multicast IP address and port number, separated by a colon (:). The default I/O control socket is 239.238.238.238:50000.

### IP Controller Built-in I/O

The IP controller includes eight built-in inputs and eight built-in outputs. The built-in inputs and outputs do not provide monitoring. Inputs activate from NO switch contacts only. Inputs are idle while the input contact is open and activate when the input contact closes.

1. Click the I/O CONTROLLERS button from the SYSTEM PROPERTIES screen to open the I/O CONTROLLERS SUMMARY screen for the IP controller.

The I/O CONTROLLERS SUMMARY screen contains the E3 INTERNAL I/O for the IP controller (see [Figure 54](#)).

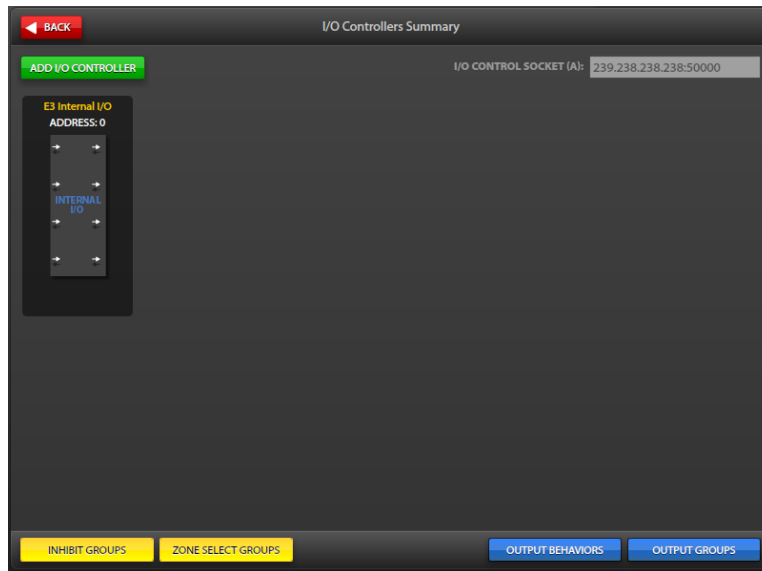


Figure 54. IP Controller Built-in I/O

2. Click the E3 INTERNAL I/O card on the I/O CONTROLLERS SUMMARY screen to open the I/O CONTROLLER PROPERTIES screen for the built in I/O (see the [I/O Controller Properties](#) section).

## Add I/O Controllers

1. Click **ADD I/O CONTROLLER** to add an I/O controller to the system.
2. Select one of the seven types of I/O controller on the ADD I/O CONTROLLER screen (see [Figure 55](#)).  
**NOTE:** The IP controller only supports IP I/O controllers.
3. Click **ADD DEVICE** to add the selected controller to the configuration.
  - The I/O CONTROLLER PROPERTIES screen appears.
  - Select the set as default button to add new controllers without having to select the controller type to add. Clear this system option by clicking the gear icon, in the upper right corner, on all primary console configuration screens.



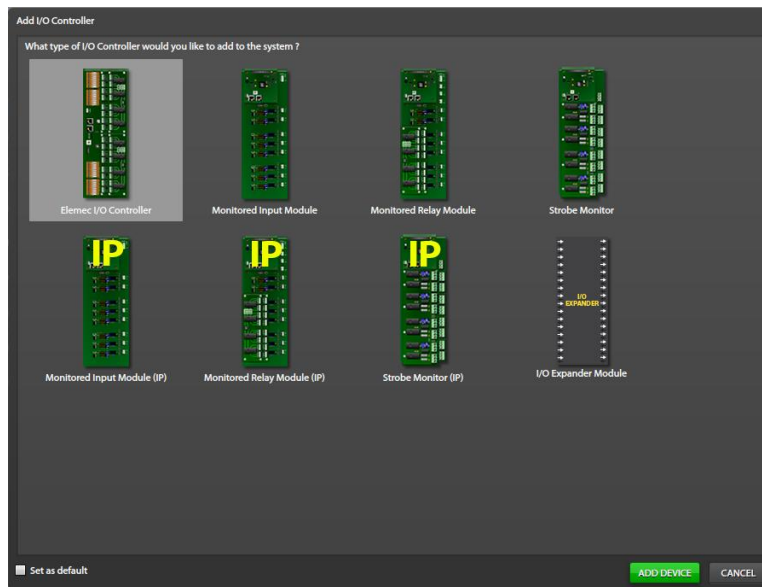


Figure 55. Add I/O Controller

**Types of I/O controllers:**

- E3 Internal I/O—8 unsupervised NO inputs and 8 unsupervised outputs (*IP controller only*)
- Elemec I/O Controller—16 unsupervised inputs and up to 16 unsupervised outputs.
- Monitored Input Module—8 optionally supervised inputs.
- Monitored Relay Module—8 relay outputs with 8 optionally supervised inputs.
- Beacon Monitor—8 supervised outputs with monitoring for power distribution circuits.
- IP Monitored Input Module—8 optionally supervised inputs.
- IP Monitored Relay Module—8 relay outputs with 8 optionally supervised inputs.
- IP Strobe Monitor—8 supervised outputs with monitoring for power distribution circuits.
- I/O Expander—Reserved for future use with the Elemec3 AMI.

**Set as default**—Select this option to automatically add the same controller type when adding additional controllers.

## I/O Controller Properties

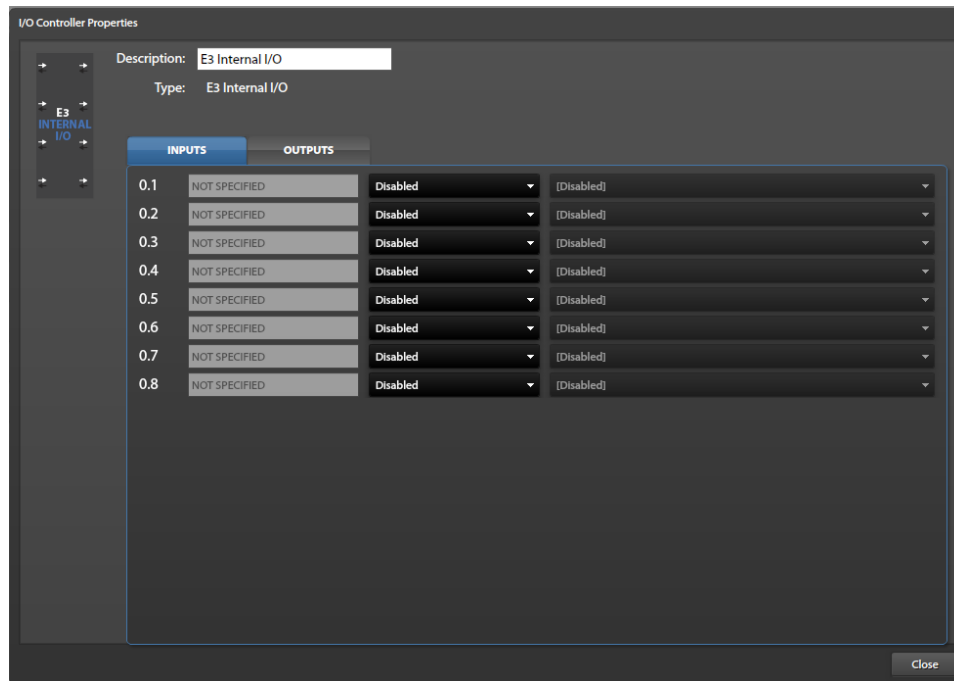


Figure 56. E3 Internal I/O Properties (*IP Controller Only*)

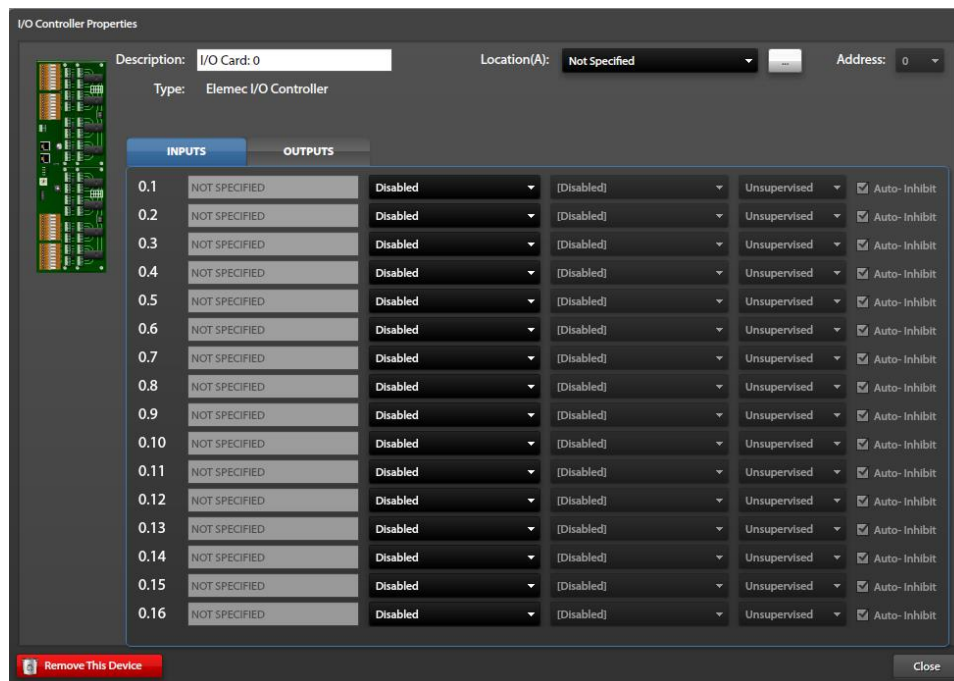


Figure 57. Elemec I/O Controller Properties

**Description**—A generic (unique) name for the I/O controller (generated by default).

**Location(A)**—The location of the I/O controller card (see the [Locations](#) section).

**Address**—The physical address of the I/O controller card.

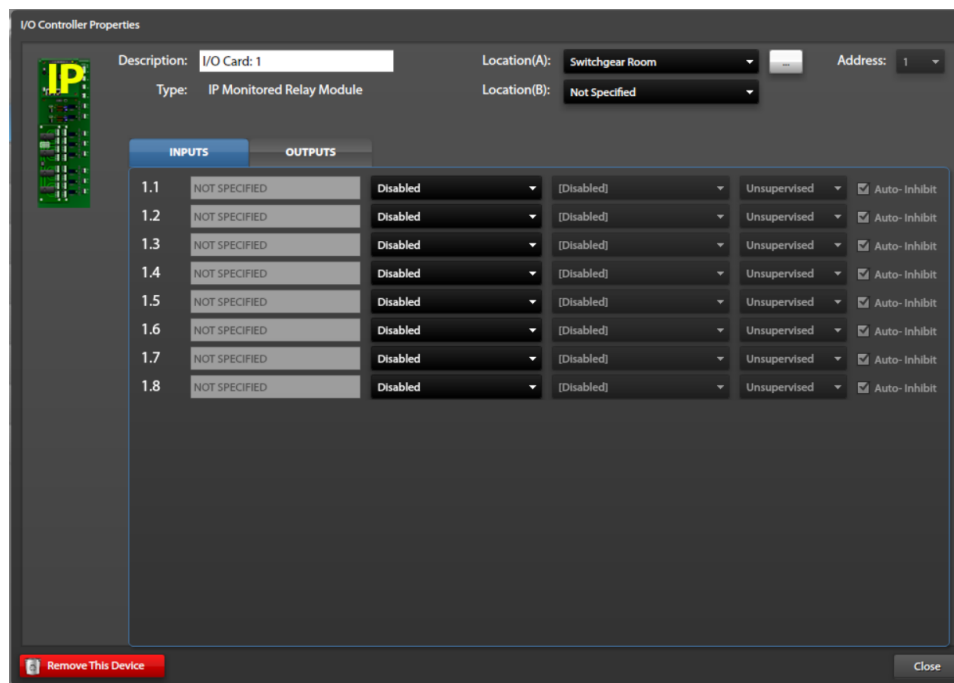


Figure 58. IP I/O Controller Properties

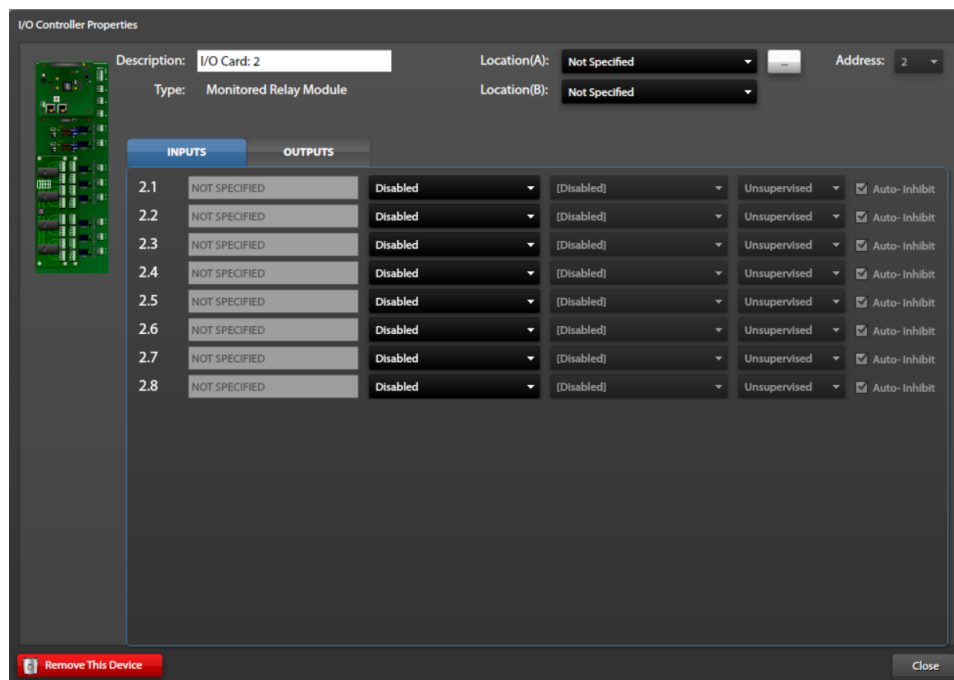


Figure 59. Monitored Relay Module Controller Properties

The E3 Console sequentially assigns I/O card addresses when defining the I/O cards in the console. Valid addresses are 0–F (hexadecimal). Configure the hardware address on each I/O card to match the address assigned in E3 Console. On CAN bus I/O interface cards, set the address using the hexadecimal switch, on the card. On IP interface I/O cards, set the address using a serial port connection and command line interface (CLI). Refer to individual I/O card manuals to set the card's address (see the [Reference Documentation](#) section).

## Inputs Tab

The inputs tab lists the inputs for the current I/O controller or the IP controller. The E3 Console sequentially assigns each input address based on the card address and input number. The first input on I/O card zero is **0.1**, the second input on card zero is **0.2**, and so on. The properties for each input appear in the columns. From left to right, across the inputs tab and define the address, description, input type, trigger, fault category, and inhibit state.

The first built-in input for the IP controller is **0.1**, the second input on card zero is **0.2**, and so on. The IP controller only supports IP I/O cards.

Select the input switch type from the drop-down list in column three to enable the remaining fields to define each input.

**NOTE:** Select the input type first to activate the remaining fields.

**Description**—A unique description for the input.

**Input Switch Type**—The switch type for the input contacts. Input types include maintained, momentary, NO, NC, supervision, etc. The available input types are dependent on the I/O controller type. The IP controller inputs are unmonitored NO.

**Trigger (Event) Selection**—Event to trigger when the input activates.

**Fault Reporting Category**—IGNORE, NORMAL, or **\*URGENT\*** (only selectable for monitored inputs.)

**Auto Inhibit**—The auto-inhibit key switch controls the suppression of the input.

## Outputs Tab

Click the I/O controller properties **OUTPUTS** tab to configure the output contacts of the I/O controllers. The E3 Console sequentially assigns each output a numeric address in an X.Y format, where X is the I/O controller card's address and Y is the contact number on the I/O controller PCBA. The IP controller addresses its internal outputs first, so they have addresses **0.1** through **0.8**.

The output property fields appear from left to right across the outputs tab (see [Figure 60](#) and [Figure 61](#)). Configure the relay state in column two to enable the other fields in the row to define the output.

**Description**—User-defined unique description of the output.

**Relay Normal (idle) State**—Specifies the relay's idle state; disabled, normally on, or normally off.

**Follow Audio**—The relay activates only while the event audio is broadcasting. (The output will activate regardless of audio broadcast when deselected.)

**Behavior**—The output behavior of the relay (see the [Output Behaviors](#) section).

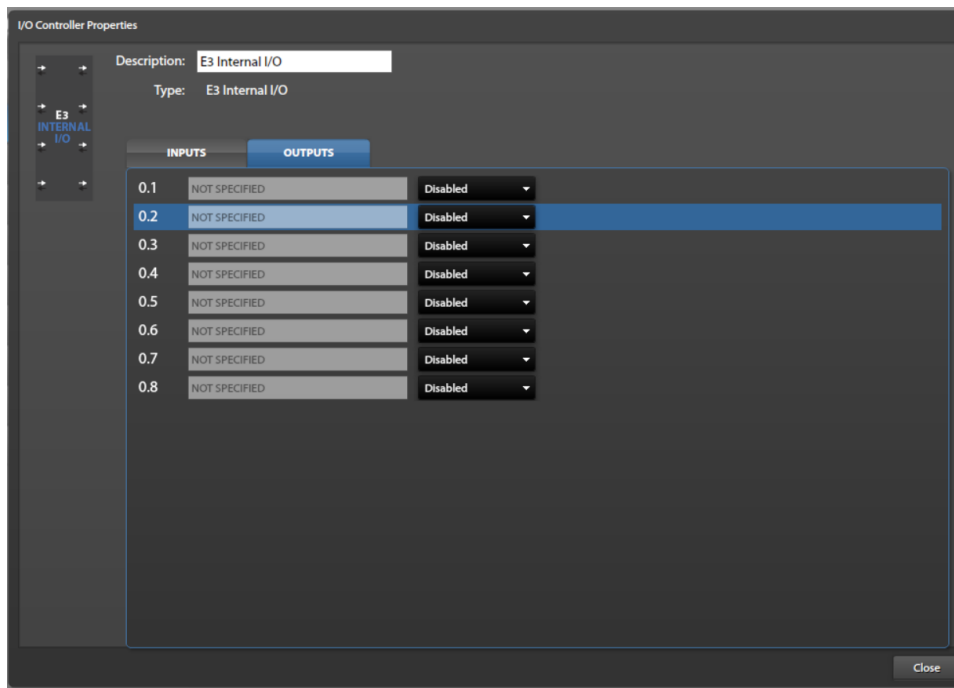


Figure 60. IP Controller Built-In Outputs

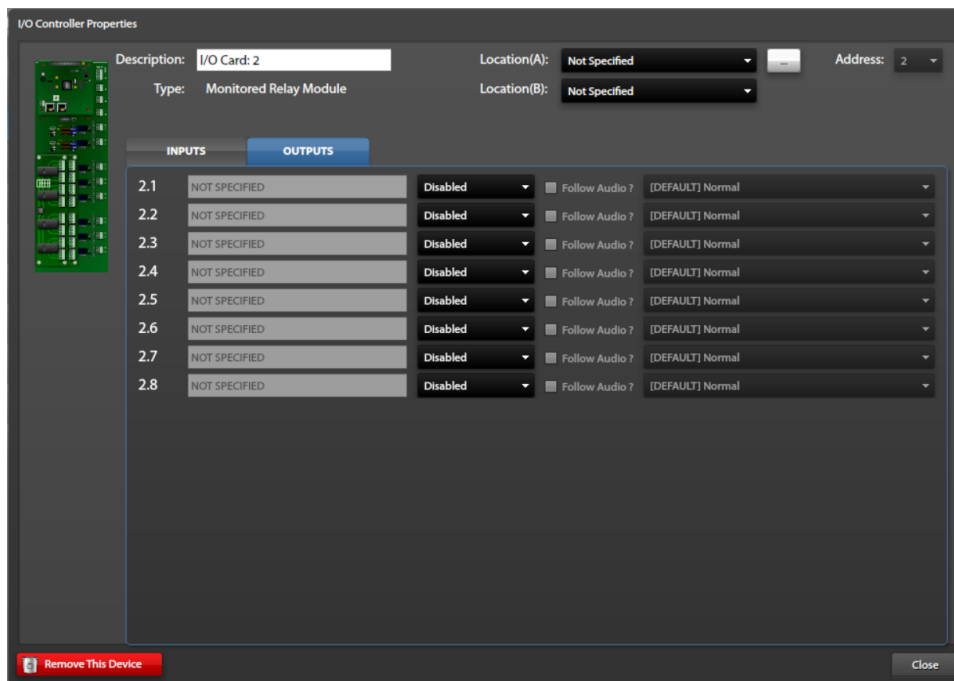


Figure 61. I/O Controller Output Contact Definitions

## Inhibit Groups

Inhibit groups allow for selectively inhibiting inputs to the E3 system. Configure system inputs to trigger an inhibit group that inhibits all inputs in the group. Click **INHIBIT GROUPS** to access the INHIBIT GROUP CONFIGURATION screen from the I/O CONTROLLERS SUMMARY screen (see [Figure 53](#)).

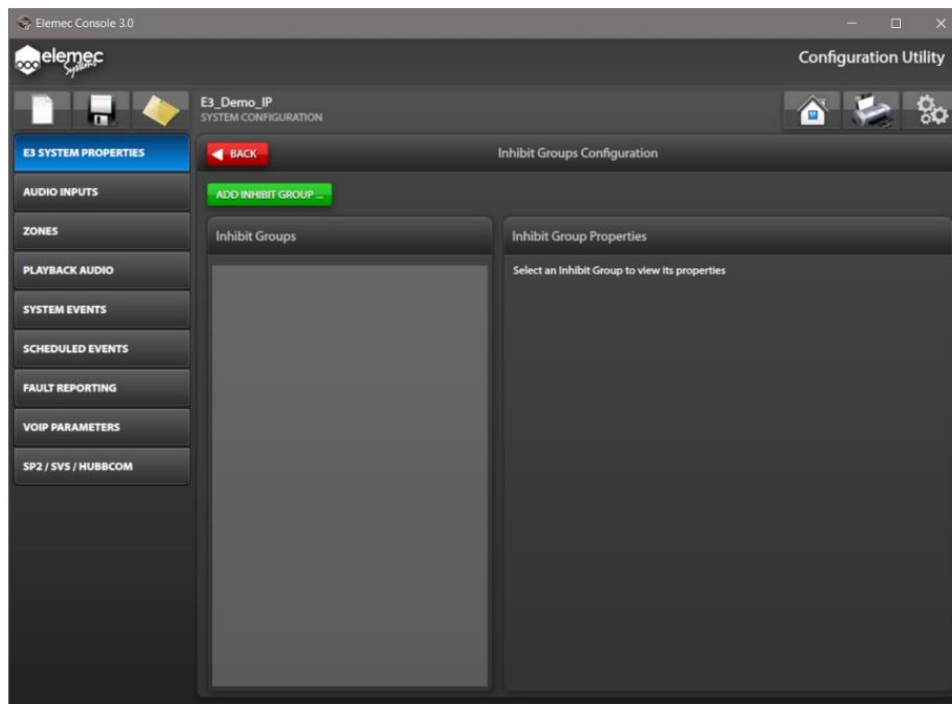


Figure 62. Inhibit Groups Configuration

### Add Inhibit Groups

Click **ADD INHIBIT GROUP...** and enter a description for the inhibit group. The INHIBIT GROUP BUILDER screen opens (see Figure 63). Use the INHIBIT GROUP BUILDER screen to create and configure inhibit groups in the E3 system.

### Inhibit Group Builder

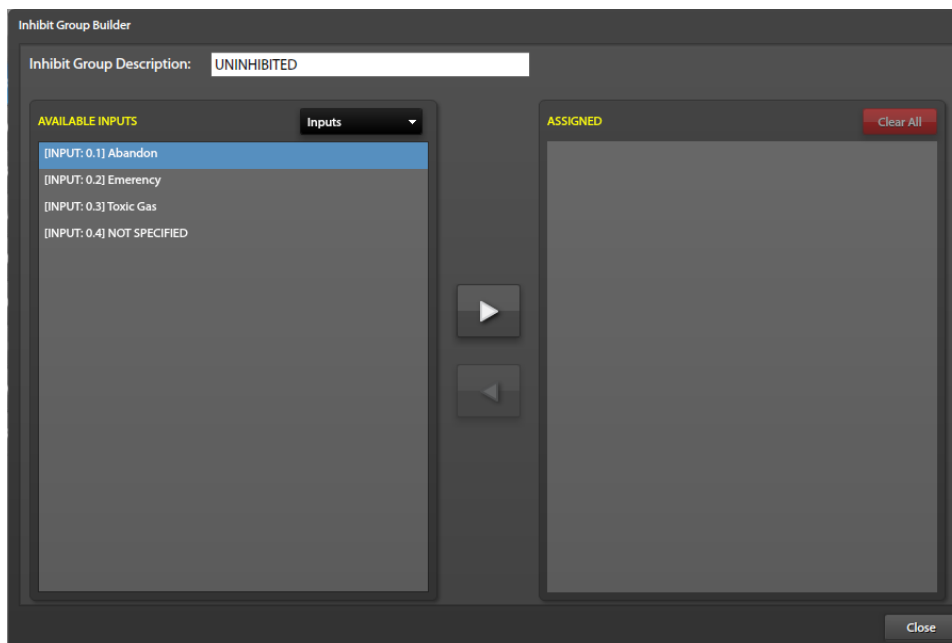


Figure 63. Inhibit Group Builder

**Inhibit Group Description**—Unique descriptive name of the inhibit group.

## Available Inputs Pane

Select enabled input contacts on the I/O controller cards listed in the AVAILABLE INPUTS pane for addition to the ASSIGNED list. The AVAILABLE INPUTS drop-down list displays only the I/O controller cards' enabled contacts.

## Assigned Pane

1. Select an input from the AVAILABLE INPUTS list in the left pane.
2. Click the right arrow button to add the input to the group.

The selected input moves to the ASSIGNED list on the right.

To remove entries:

3. Select the input from the assigned pane.
4. Click the left-arrow button to move them back to the AVAILABLE INPUTS list.

To remove all list elements, click **CLEAR ALL**.

## Zone Select Groups

*Zone select groups* allow I/O inputs to select the destination zone for an audio event triggered from another input. Assign inputs to zones, in the system configuration, and then group them to allow an audio event to use the active state of those inputs to determine the destination zone.

Before creating a zone select group:

1. Assign zones to I/O inputs necessary for the zone select groups.
2. Create systems events and assign them to the I/O inputs that will trigger zone select groups.

Click the **ZONE SELECT GROUPS** button, from the I/O CONTROLLERS SUMMARY screen (see Figure 53) or the MODBUS SUMMARY screen (see Figure 69) to access the ZONE SELECT GROUPS CONFIGURATION screen (see Figure 64).

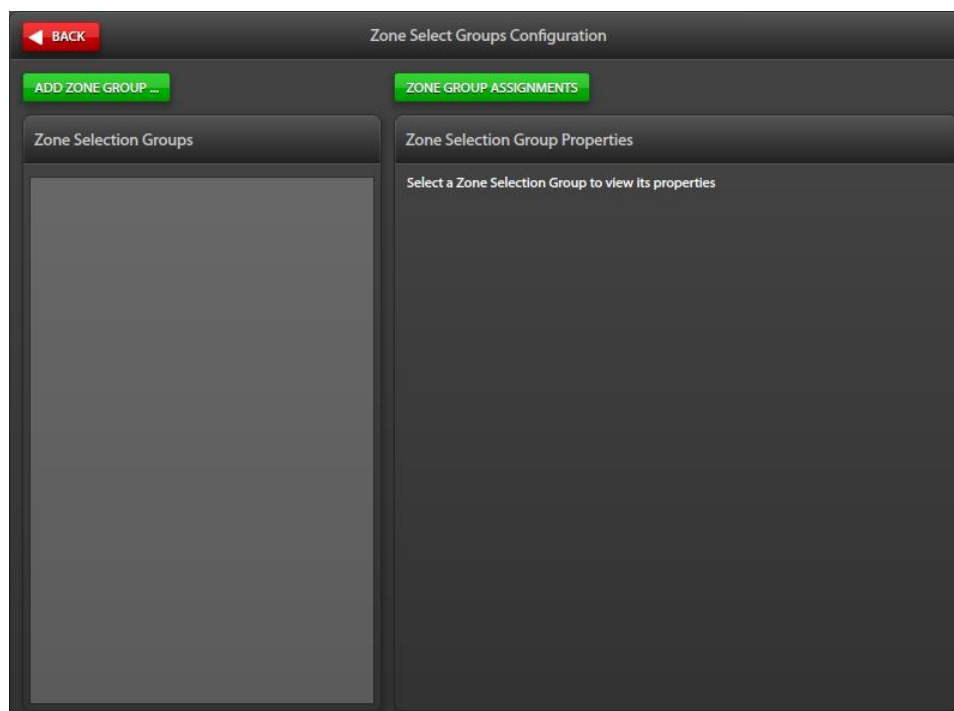


Figure 64. Zone Select Groups Configuration

## Add a Zone Select Group

Click the **ADD ZONE GROUP...** button and enter a description for the new zone selection group. The ZONE GROUP BUILDER screen opens (see [Figure 65](#)). Use the ZONE GROUP BUILDER screen to create and configure zone groups in the E3 system.

## Zone Select Group Builder

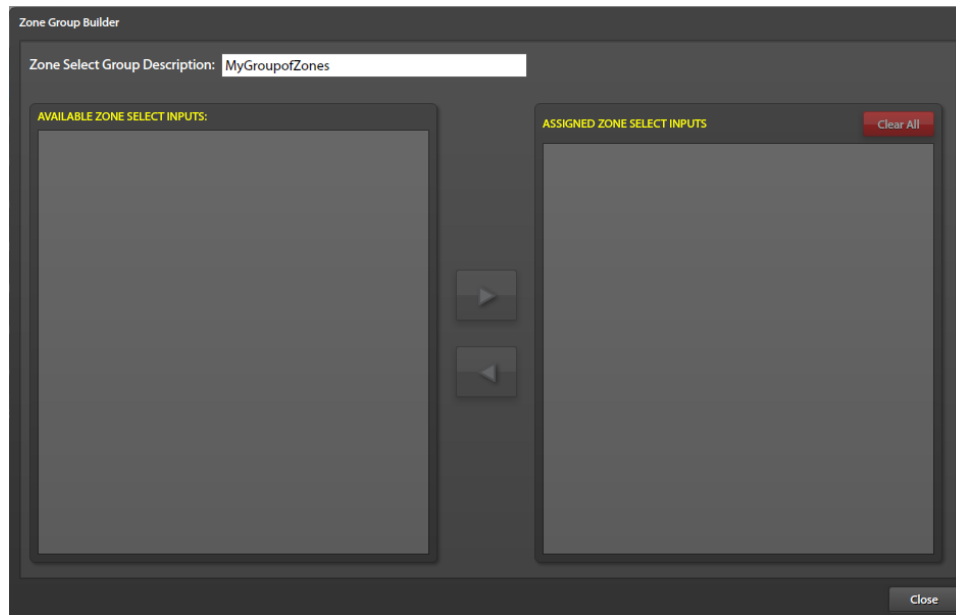


Figure 65. Zone Select Group Builder

**Zone Select Group Description**—Unique descriptive name of the *zone select* group.

### Available Zone Select Inputs Pane

Select enabled input contacts on the I/O controller cards, in the AVAILABLE ZONE SELECT INPUTS pane, for addition to the ASSIGNED ZONE SELECT INPUTS list.

### Assigned Zone Select Inputs Pane

1. Select an input from the AVAILABLE ZONE SELECT INPUTS list in the left pane.
2. Click the right arrow button to add the zone selection inputs to the group.

The selected input moves to the ASSIGNED list on the right.

To remove entries:

3. Select the input from the assigned pane.
4. Click the left-arrow button to move them back to the AVAILABLE INPUTS list.

To remove all list elements, click **CLEAR ALL**.



## Zone Select Group Configuration

Click the **ZONE GROUP ASSIGNMENTS** button, from the Zone Select Groups Configuration screen to open the ZONE SELECTION GROUP ASSIGNMENTS screen (see Figure 66) containing the INPUTS TRIGGERING EVENTS panel. This panel contains a list of all enabled I/O inputs. Each enabled input has a drop-down list that allows selection of a zone select group for that input. For the inputs that will trigger zone select groups, select the desired zone select group from the drop-down list.

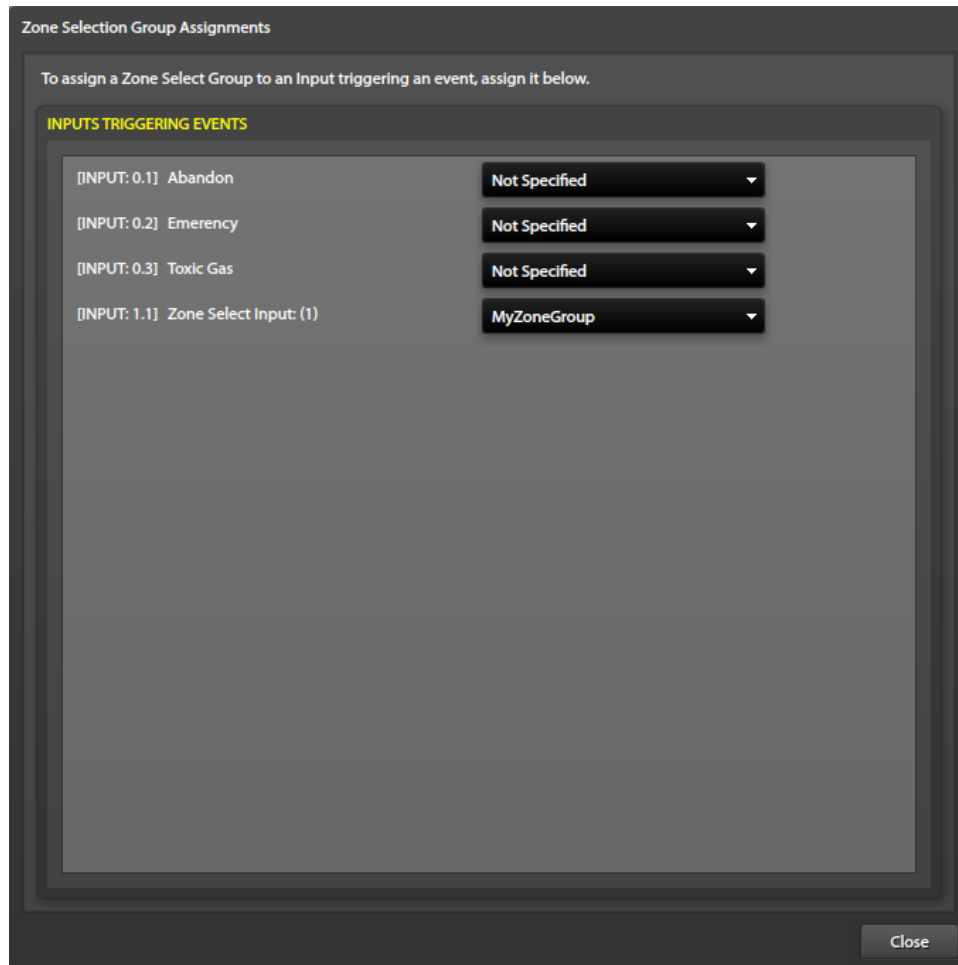


Figure 66. Zone Selection Group Assignments

## Output Behaviors

Click the **OUTPUT BEHAVIORS** button in the lower right corner of the I/O CONTROLLERS SUMMARY screen (see Figure 53) to configure output behaviors on the MANAGE OUTPUT BEHAVIORS screen. Output behaviors allow for customization and creation of output timing properties. There are three default behaviors; *Normal*, *Interval*, and *Pulse* that can be modified but not deleted from the system. Create new behaviors using the **ADD BEHAVIOR** button.

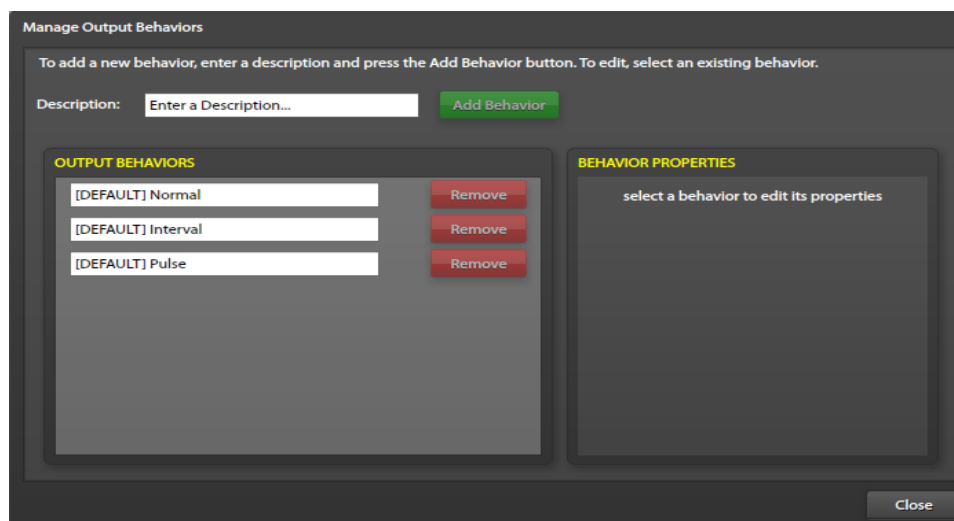


Figure 67. Manage Output Behaviors

**Normal**—Output is either ON or OFF. (The *initial delay* setting delays the transition to active; the *holdover delay* setting delays the transition to idle.)

**Interval**—Continuously cycles the output between active and idle.

The *initial delay* setting delays the initial transition to active. The output remains active for the duration of the *on-time* setting. The output remains idle for the duration of the *off-time* setting. The output then continuously cycles between active and idle using the *on time* and *off time* values. Cycling continues for the *holdover delay* period when the output deactivates.

**Pulse**—Output activates once. The *initial delay* parameter delays the transition to active. The output remains active until the configured *on-time* setting expires and then transitions back to idle.

## Output Groups

Use output groups to group outputs together to simplify output assignments for events. Output groups contain outputs, output groups, logic flags, SP2 relay groups, and Modbus outputs. Configure output groups when setting up outputs for events.

1. Click the OUTPUT GROUPS button in the lower right corner of the I/O CONTROLLERS SUMMARY screen to configure output groups.

The OUTPUT GROUP BUILDER screen opens (see [Figure 68](#)).

2. Click **ADD OUTPUT GROUP**.

**Output Group Description**—A descriptive name for the output group.

**Available Outputs/Logic Flags**—Controls the types of outputs displayed in the left pane for assignment to the output group. The available types are outputs, logic flags, output groups, SP2 relay groups, and Modbus outputs.

3. Use the right and left arrows to add/remove the entries from the output group.

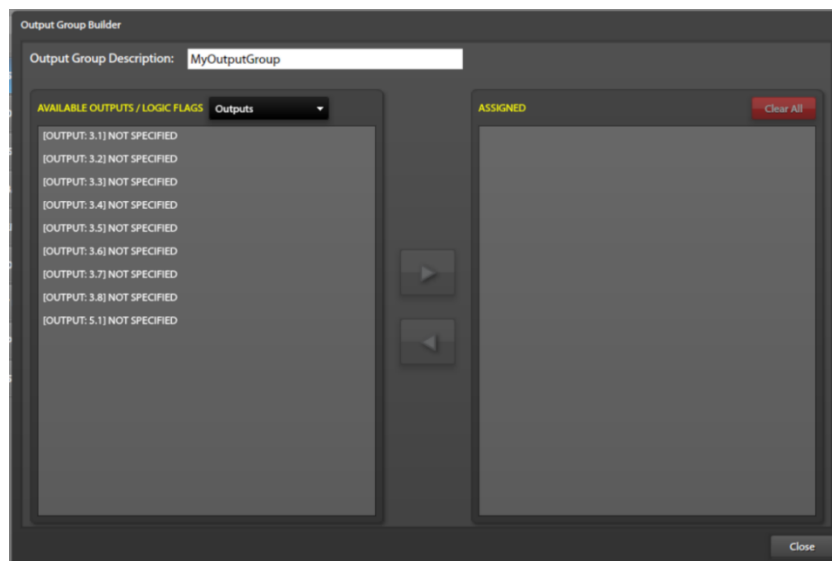


Figure 68. Output Groups Builder

## Modbus

### Terminology

Modbus TCP uses the terms *client* and *server* to describe devices. A Modbus client establishes a connection (virtual circuit) on a TCP network to a Modbus server. Through the established connection, the client requests information from the server and the server replies to the client with the information requested. A typical industrial control application consists of a network with multiple servers (i.e., instruments or PLC inputs/outputs) and one (or more) clients (e.g., PLC CPU or SCADA system). Unique IP addresses identify each client and server.

The E3 controller functions as both a client and a server. The E3 system internal Modbus device supports up to 255 Modbus inputs and 255 Modbus outputs. The configuration screen displays the quantity of available remaining I/O ports.

1. Click the MODBUS button from the SYSTEM PROPERTIES screen to access the MODBUS SUMMARY screen (see [Figure 69](#)).

The Modbus summary screen contains the built in E3 Modbus I/O controller, external Modbus TCP devices in the configuration, and command buttons to add external TCP Modbus devices and edit inhibit groups.



2. Select the **INHIBIT GROUPS** button to selectively inhibit groups of inputs to the *Elemec3* system (see the [Inhibit Groups](#) section).
3. Select the **ZONE SELECT GROUPS** button to configure zone groups (see the [Zone Select Groups](#) section).
4. Double click an existing device to configure the inputs and outputs.
5. Click the **ADD EXTERNAL DEVICE** button to add external TCP Modbus devices (see the [External Modbus TCP Devices](#) section).

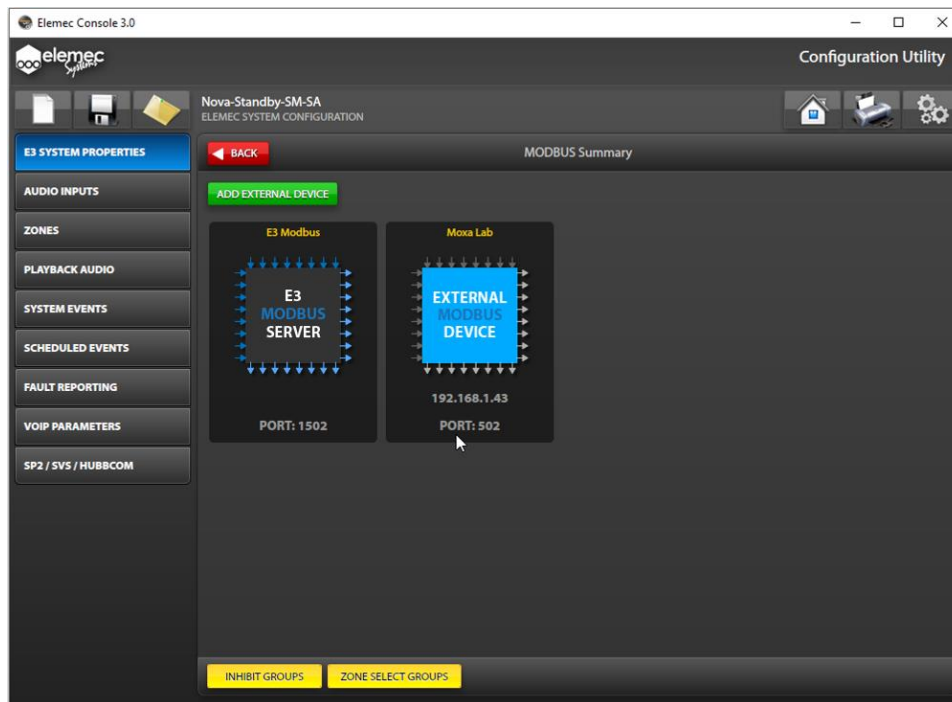


Figure 69. MODBUS Summary

## Modbus TCP Server

Double click the E3 MODBUS SERVER device icon in the MODBUS SUMMARY screen to configure the Modbus TCP server parameters. Modbus TCP modules have two tabs on their property screens; INPUTS and OUTPUTS. Inputs allow Modbus clients to trigger events in the E3 system. Outputs allow Modbus clients to read ON/OFF event status or other conditions within the E3 system.

**Description**—The device's description in the E3 system.

**Port**—TCP port number for the Modbus protocol. Default: *1502*

## Inputs Tab

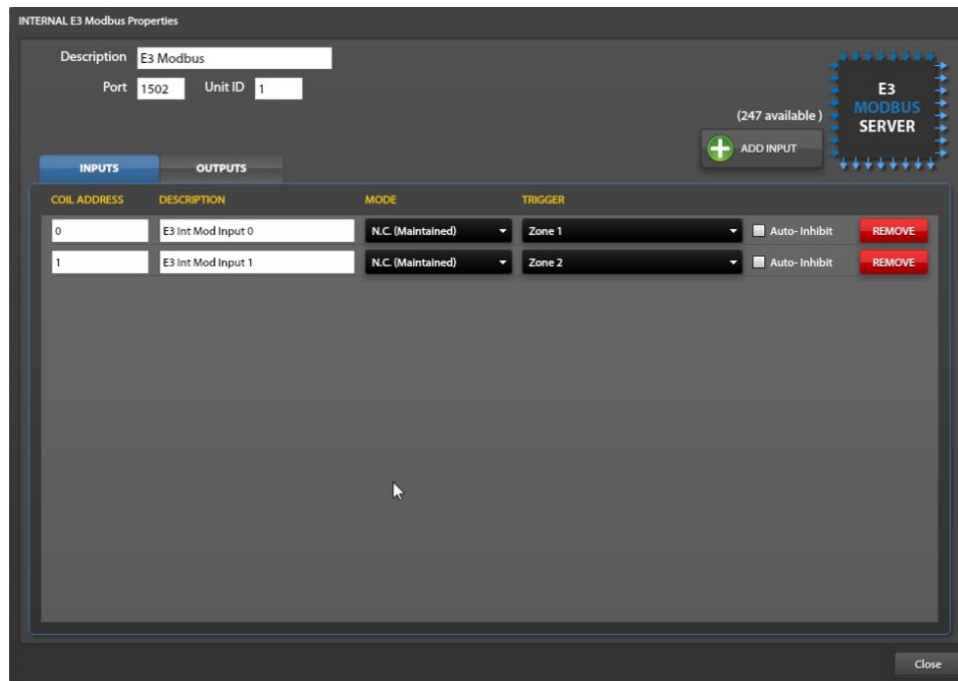


Figure 70. E3 Modbus TCP Server Properties—Inputs Tab

**Coil Address**—Modbus coil input address. Valid coil addresses are 00000–65535.

**Description**—A unique description of the input’s function (i.e., general alarm, process shut-down, etc.)

### Mode:

- **Disabled**—The system ignores the input.
- **N.C. Maintained**—The E3 controller activates the trigger event while the external Modbus client sends an ON value (FF00), for the input coil, and cancels the event when the external modbus client sends an OFF value (0000), for the input coil.
- **N.O. Maintained**—The E3 controller activates the trigger event while the external Modbus client sends an OFF value (0000), for the input coil, and cancels the event when the external modbus client sends an ON value (FF00), for the input coil.
- **N.C. Momentary**—The E3 controller activates the trigger event when the external Modbus client input coil changes from an OFF value (0000) to an ON value (FF00). The event remains active until the E3 controller receives an *event cancel* command.
- **N.O. Momentary**—The E3 controller activates the trigger event when the external modbus client input changes from an ON value (FF00) to an OFF value (0000). The event remains active until the E3 controller receives an *event cancel* command.

**Trigger**—The event the E3 controller activates.

**Auto Inhibit**—Sets the E3 system to ignore the input when the *auto-inhibit* key switch is ON, thus preventing triggered events when the input(s) turn ON.

1. Click the ADD INPUT button to add a new logical input (Modbus coil).
2. Configure the COIL ADDRESS, DESCRIPTION, MODE, TRIGGER, and AUTO-INHIBIT properties for the input.
3. Click **REMOVE** to delete the selected input from the list.
4. Click **CLOSE** to return to the MODBUS SUMMARY screen.

**NOTE:** To trigger or cancel an event, the Modbus client must request *function code 05* (force/write single coil) for the specific coil address.

**NOTE:** To obtain E3 input status, the Modbus client requests function code 01 (read single input) for each coil address.

**NOTE:** Valid data values are FF00 (hexadecimal) = ON, 0000(hexadecimal) = OFF. All other data values are invalid.

## Outputs Tab

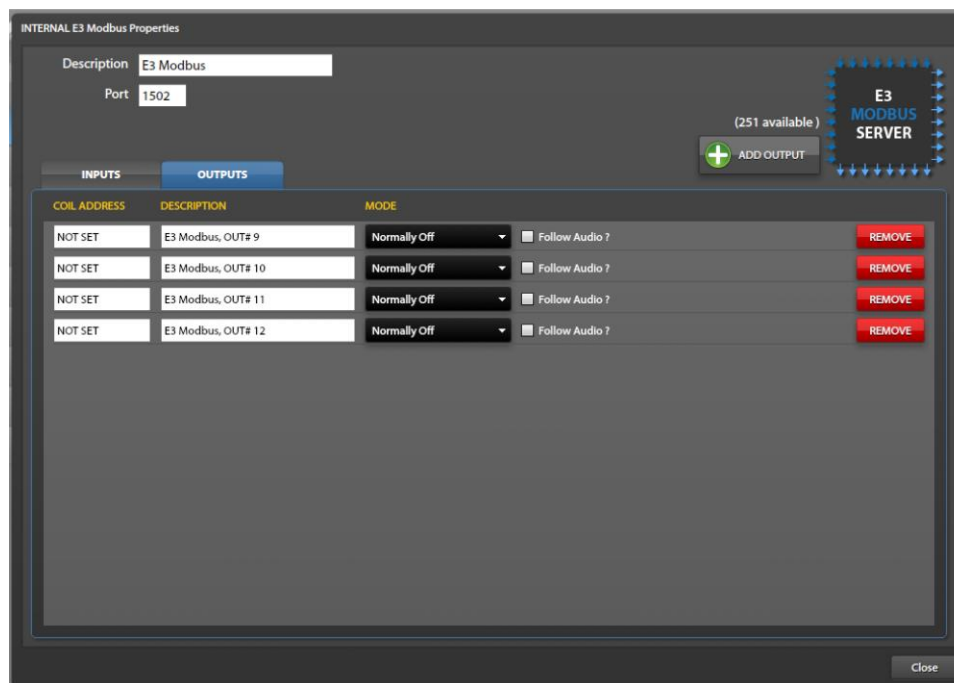


Figure 71. Modbus Outputs Tab

**Coil Address**—The output’s Modbus coil address. Valid coil addresses are 00000–65535.

**Description**—A unique description of the output’s function (i.e., red beacon activation, open entry gate, etc.)

### Mode:

- **Disabled**—The output is not in use.
- **Normally ON**—The output’s data value is (FF00) ON while the event is *inactive* and changes to (0000) OFF while the event is *active*.
- **Normally OFF**—The output’s data value is (0000) OFF while the event is *inactive* and changes to (FF00) ON while the event is *active*.

**Follow Audio**—Assuming the event is a playback type, the Modbus logical output will change from its normal ON/OFF state only while playback audio is broadcasting.

1. Click the ADD OUTPUT button to add a new logical output (Modbus coil).
2. Configure the COIL ADDRESS, DESCRIPTION, MODE, and FOLLOW AUDIO? properties for the output.
3. Click **REMOVE** to delete the selected output from the list.
4. Click **CLOSE** to return to the MODBUS SUMMARY screen.

**NOTE:** To obtain E3 output status, the Modbus client requests *function code 02* (read single input) for each coil address.

**NOTE:** Returned data values are FF00 (hexadecimal) = ON, 0000 (hexadecimal) = OFF.

## External Modbus TCP Devices

1. Click **ADD EXTERNAL DEVICE** to add an external Modbus TCP server device module.

The ADD EXTERNAL MODBUS DEVICE dialog box opens:

Figure 72. Add External Modbus Device

2. Enter the description, IP address or hostname, and the number of inputs and outputs to configure.
3. Click **ADD DEVICE** to add the Modbus device to the system.

The EXTERNAL MODBUS DEVICE PROPERTIES screen opens to the INPUTS tab (see [Figure 73](#)).

- **Description**—Device description in the E3 system.
- **IP Address**—IP address of the external TCP Modbus device.
- **Port**—TCP port number for the Modbus protocol. Default: **502**
- **Fault Mode**—IGNORE, NORMAL, **\*URGENT\***

## Inputs Tab

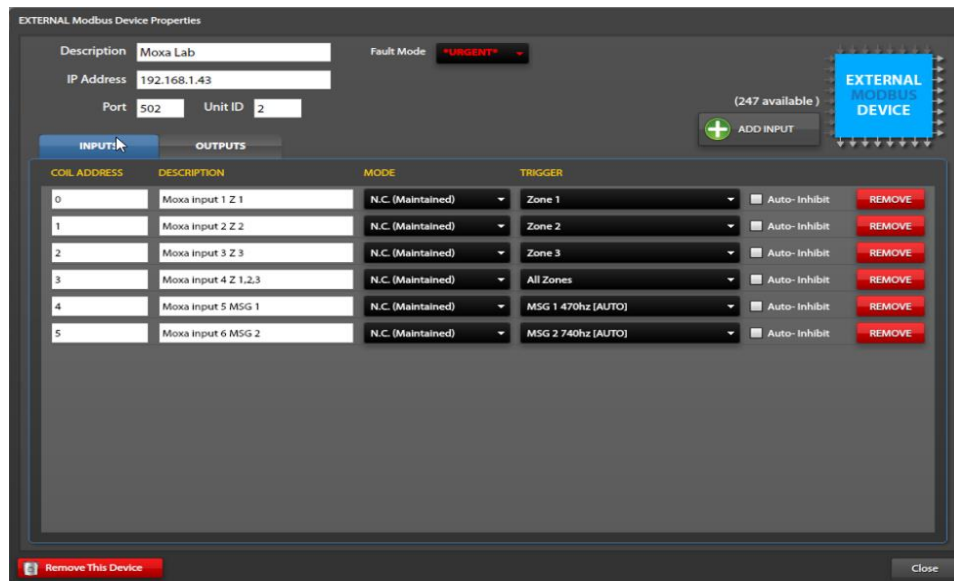


Figure 73. External Modbus Device Properties/Inputs Tab

**Coil Address**—A discrete input’s Modbus coil address, on the field device (Modbus server). Refer to the Modbus server manufacturer’s manual to obtain this information.

**Description**—Unique name for this device in the E3 system.

### Mode:

- **Disabled**—The system ignores the input.
- **N.C. Maintained**—The E3 controller activates the trigger event while the external Modbus server sends an ON value (FF00) for the input coil and cancels the event when the external Modbus server sends an OFF value (0000) for the input coil.
- **N.O. Maintained**—The E3 controller activates the trigger event when the external Modbus server sends an OFF value (0000) for the input coil and cancels the event when the external Modbus server sends an ON value (FF00) for the input coil.
- **N.C. Momentary**—The E3 controller activates the trigger event when the input coil, on the external Modbus server, changes from an OFF value (0000) to an ON value (FF00). The event remains active until the E3 controller receives an *event cancel* command.
- **N.O. Momentary**—The E3 controller activates the trigger event when the input, coil on the external Modbus server, changes from an ON value (FF00) to an OFF value (0000). The event remains active until the E3 controller receives an *event cancel* command.

**Trigger**—The event the E3 controller activates.

**Auto Inhibit**—Sets the E3 system to ignore the input when the *auto-inhibit* key switch is ON, thus preventing triggered events when the input(s) turn ON.

1. Configure the ADDRESS, DESCRIPTION, MODE, TRIGGER, and AUTO-INHIBIT properties for each input in the list.
2. Use the ADD INPUT button to add and configure additional inputs.
3. Click **REMOVE** on any input to remove that input definition from the system.
4. Click **CLOSE** to return to the MODBUS SUMMARY screen.



## Outputs Tab

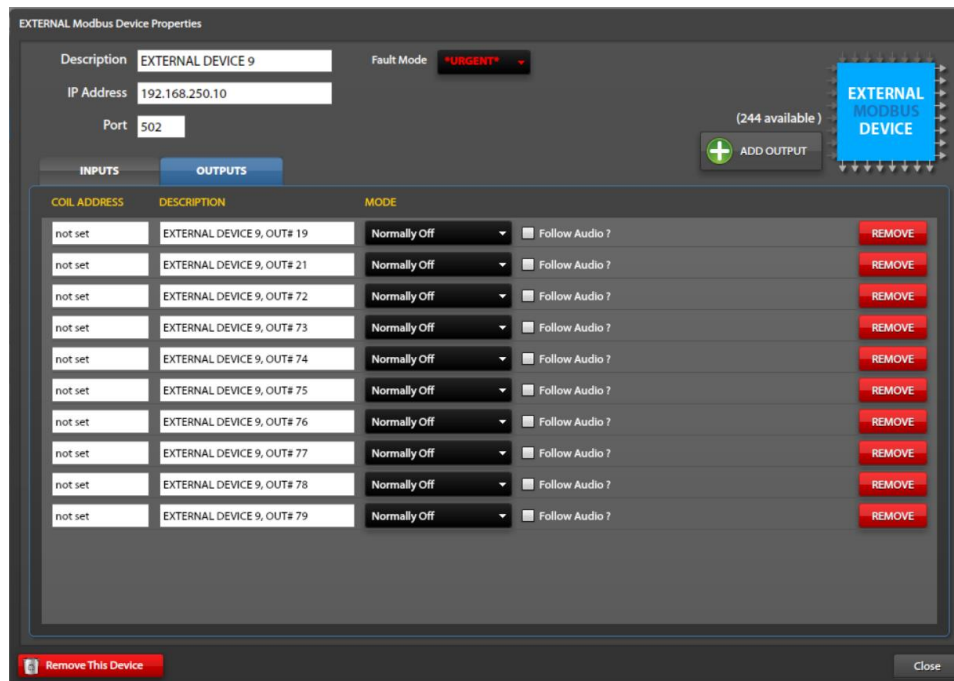


Figure 74. External Modbus Device Properties/Outputs

**Coil Address**—Address of the discrete output on the field device (Modbus server). Refer to the manufacturer user manual to obtain this information.

**Description**—A unique description of the output function. (i.e., red beacon activation, open entry gate, etc.)

**Mode:**

- **Disabled**— The output is not in use.
- **Normally ON**—The output (Modbus coil) is ON (data = FF00) when the event is inactive. The output (Modbus coil) is OFF (data = 0000) when the event is active.
- **Normally OFF**—The output (Modbus coil) is OFF (data = 0000) when the event is inactive. The output (Modbus coil) is ON (data = FF00) when the event is active.

**Follow Audio**—Assuming the event is a playback type, the output (Modbus coil) will change from its normal ON/OFF state only while the playback audio is broadcasting.

1. Use the ADD OUTPUT button to add and configure additional outputs.
2. Configure the COIL ADDRESS, DESCRIPTION, MODE, and FOLLOW AUDIO? properties for each output in the list.
3. Click **REMOVE** on any output to remove that output definition from the system.
4. Click **CLOSE** to return to the MODBUS SUMMARY screen.

**NOTE:** Refer to the Modbus field device manual for Modbus mapping parameters that define the available data, data addresses, and data types. Configure the ADDRESS, DESCRIPTION, MODE, and FOLLOW AUDIO? properties for each input in the list.

## Audio Inputs

Use the AUDIO INPUTS screen to enable/disable live audio sources and configure and prioritize them for the E3 system.

- The AVAILABLE AUDIO INPUTS (BY PRIORITY) pane lists the enabled audio sources and assigns priorities to the sources in the order listed.
- Configure priorities so that higher priority sources override lower priority sources when used by the same event.
- Use the AUDIO INPUT PROPERTIES pane to configure the parameters necessary for the audio input currently selected in the prioritized list.

## Sources Enabled

The SOURCES ENABLED: checkboxes enable *live audio* sources in the E3 system.

1. Select the check boxes for the audio input sources in the E3 system.  
Each input appears in the AVAILABLE AUDIO INPUTS (BY PRIORITY) pane when selected.
2. Use the up and down arrows at the bottom of the pane to configure the relative priorities of the audio inputs after selecting all necessary inputs.

**NOTE:** Aux #2 is only available if insert one is not enabled. Aux #3 is only available if insert two is not enabled. Aux #4 and Aux #5 are only available in stand-alone systems. In the figure shown (see [Figure 75](#)), INSERT 1 is enabled on the SYSTEM PROPERTIES screen, which disables AUX IN #2 here.

**NOTE:** IP Only systems do not support selection of Page/Party, AuxIn#2, Aux In #3, Aux In #4 or Aux In #5 inputs.

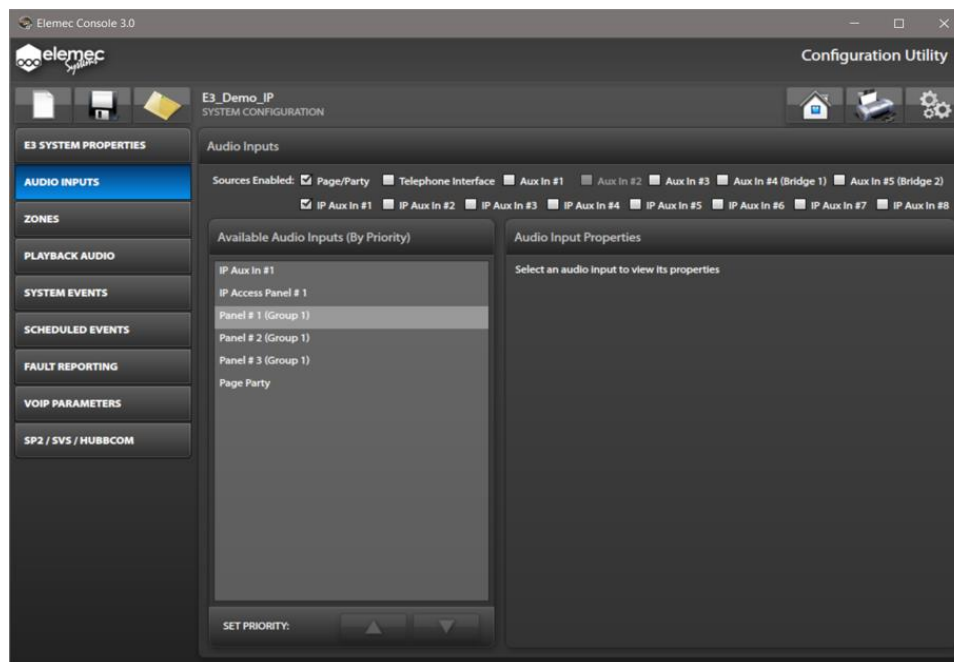


Figure 75. Audio Inputs Configuration

## Page/Party Audio Input Properties

Select PAGE/PARTY from the AVAILABLE AUDIO INPUTS (BY PRIORITY) pane to configure the Page/Party audio input properties.

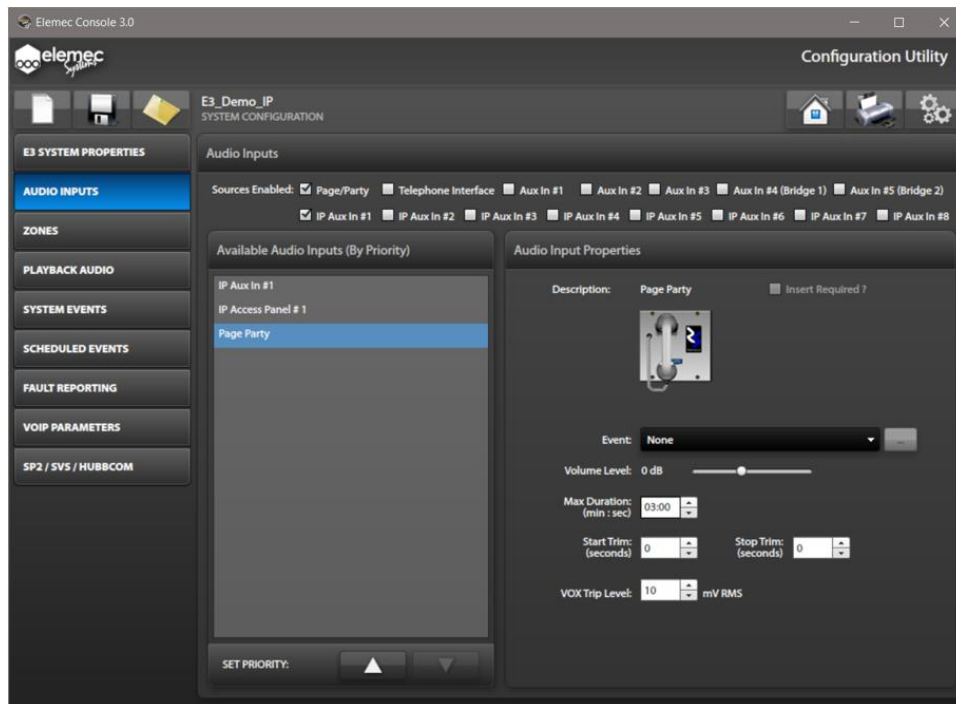


Figure 76. Page/Party Audio Input Properties

**Insert Required?**—Select the checkbox if the Page/Party input requires an insert.

Enable inserts on the GLOBALS pane from the SYSTEM PROPERTIES screen to use them on any of the enabled audio input sources (see [Insert 1 Enabled?](#) & [Insert 2 Enabled?](#)).

**Event**—Choose the event from the dropdown list that will initiate when the controller detects audio on the Page/Party input.

**Volume Level**—Gain of the Page/Party audio.

**Max Duration**—Maximum duration of a single Page/Party broadcast.

**Start Trim**—The recording delay at the beginning of a record/playback event.

**Stop Trim**—How much playback audio to remove at the end of the playback.

**NOTE:** Set a minimum of 3.5 seconds of stop trim to compensate for VOX hold time.

**VOX Trip Level**—Detection level of Page/Party audio that triggers the event. This setting will vary depending on the quality of the incoming Page/Party audio.

## Telephone Interface Audio Input Properties

Select the TELEPHONE INTERFACE checkbox from the SOURCES ENABLED to configure the telephone interface audio input properties.

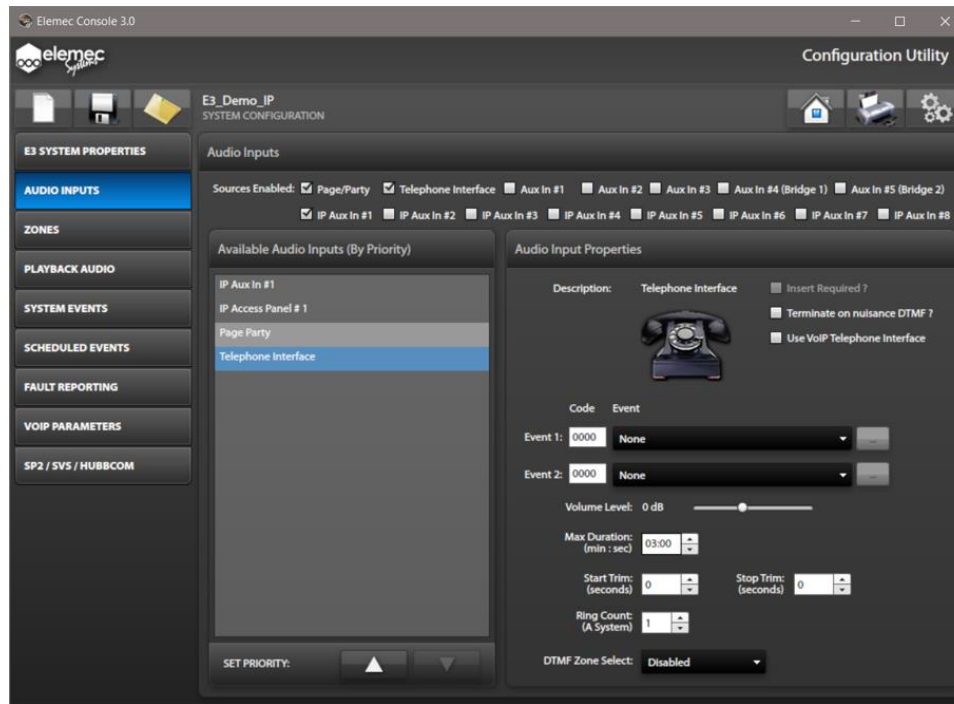


Figure 77. Telephone Interface Audio Input Properties

**Insert Required?**—Select the checkbox if the telephone interface requires an insert.

Enable inserts on the GLOBALS pane from the SYSTEM PROPERTIES screen to use them on any of the enabled audio input sources (see [Insert 1 Enabled?](#) & [Insert 2 Enabled?](#)).

**Terminate on Nuisance DTMF?**—Terminates calls when the controller receives nuisance DTMF commands. (The definition of nuisance DTMF commands is three consecutive DTMF digits while broadcasting or recording audio.)

**Use VoIP Telephone Interface?**—The E3 controller uses the VoIP telephone interface instead of an analog PSTN connection for all telephony functions. (This removes the *Ring Count: (A System)* property and replaces it with a [VOIP TELEPHONE INTERFACE PROPERTIES](#) button discussed below.)

**Event 1/Event 2 Code & Event**—The DTMF code to trigger events one and two.

- If either event has a DTMF code specified, the system prompts the caller and provides up to three seconds for the caller to begin entering a DTMF code. If both events have a DTMF code, the call terminates after three seconds if the caller enters neither code.
- If event one has a DTMF Code of **0000** and event two has a non-zero DTMF code, the caller must enter event two's code within 3 seconds, or the system automatically selects event one. If both events have a DTMF Code of **0000**, the system selects event one immediately on call answer.
- If event one has a non-zero DTMF code, event two must have a non-zero DTMF code for the system to use it. The system never selects event two automatically.
- Enabling the DTMF ZONE SELECT for the telephone interface, immediately broadcasts the selected event after entering a valid zone. Disabling zone selection or not entering a valid zone broadcasts the event to the event's default zone.

- The Ellipsis buttons provide shortcuts to the EVENT BUILDER screen to configure the event that the selected DTMF activates (see the EVENT BUILDER under the System Events section).

**Volume Level**—The telephone interface audio gain setting.

**Max Duration**—The maximum duration of a single telephone interface broadcast.

**Start Trim**—The recording delay, at the beginning of a record/playback event.

**Stop Trim**—How much playback audio to remove at the end of the playback. The STOP TRIM duration is dependent on the operation of the PBX at call termination.

**Ring Count: (A System)**—The number of rings before the telephone interface answers. Selecting the VoIP telephone interface option replaces this setting with the **VOIP TELEPHONE INTERFACE PROPERTIES** button (see the VoIP Telephone Interface Setup section).

**DTMF Zone Selection**—The number of DTMF digits for zone selection. (Use the ZONE CONFIGURATION screen to configure DTMF zone selection codes) (see Page 74).

## VoIP Telephone Interface Setup

**VoIP Telephone Interface Properties**—Configure the IP PABX (registrar) when using the VoIP telephone interface for proper registration of the E3 controller. The IP address and port number of the IP PABX must be known along with the username and password assigned to the E3 controller telephone interface. Enter this information on the VOIP TELEPHONE INTERFACE SETUP screen shown here:

Figure 78. VoIP Telephone Interface Setup

### SIP Properties

**Audio Setup Delay**—Provides compensation for varying call set-up times between different IP PABXs resulting in lost audio, at the beginning of a voice page. Enter the value to delay the *talk-now* confirmation tone the caller hears. This prevents the caller from talking to allow the IP PABX additional time to set up the call. Multiply the value by 200 milliseconds to determine the actual delay period.

**Regtimeout**—The period (seconds) for the E3 controller to re-register with the SIP Registrar (IP PABX). The SIP Registrar and the E3 controller negotiate this parameter, so the actual registration interval may be different than the value entered.

**Keep-Alive Interval**—The period (seconds) that the E3 controller sends keep alive messages to ensure the port remains open. Set this number to zero (0) to disable.

**SIP Transport**—(Session Initiation Protocol) sends VoIP data packets over an IP network. TCP guarantees the recipient receives the packets in the order sent. UDP packets provide no guarantee of delivery.

Figure 79. Configure SIP Registrar Properties

**Description**—Text description for the IP PABX (Registrar).

**Username**—Username for the E3 controller (as configured in the IP PABX).

**Password**—Password for the E3 controller username (as configured in the IP PABX).

**IP Address**—IP address of the IP PABX.

**Port**—IP port number of the IP PABX.

**NOTE:** SIP clients typically use TCP or UDP on port numbers 5060 or 5061 to connect to SIP servers and other SIP endpoints. Use port 5060 for non-encrypted signaling traffic and port 5061 for traffic encrypted with TLS (Transport Layer Security).

**Hang Up On Reg Failure**—Select this option to terminate active calls if the re-registration fails. (Re-registration with the IP PABX is independent of active calls.)

**Hang Up On RTP Failure**—Active calls terminate if the data rate drops below 250 bytes per second. (Excessive packet loss is present at this data rate.)

## SIP Registrar Configuration

Click the **ADD REGISTRAR** button to configure the SIP telephone interface registration properties.

**Description**—Text description for the SIP Registrar (IP PABX).

**Extension**—Extension number assigned to the telephone interface by the SIP Registrar.

**Authentication ID**—Account username assigned by the SIP Registrar.

**Authentication Password**—Account password assigned by the SIP Registrar.

Figure 80. Configuring SIP Registrar Properties

**IP Address or FQDN**—IP address of the SIP Registrar or FQDN (fully qualified domain name) of the SIP Registrar (requires DNS service).

**Port**—Port number for SIP registration/signaling.

**NOTE:** SIP clients use port number 5060.

**Hang Up On Reg Failure**—Select this option to terminate active calls if the re-registration fails. (Re-registration is independent of active calls.)

**Hang Up On RTP Failure**—Select this option to terminate active calls if the data rate drops below 250 bytes per second. (Excessive packet loss is present at this data rate.)

## SP2 Properties

**Party Drop Destination**—The incoming call connects to the selected party line for two-way conversation with SP2 handset users (see the [SP2 Integration](#) section).

**Party Max Answer Delay**—The amount of time (minutes/seconds) the telephone interface waits for an SP2 handset user to access the party line before disconnecting the call.



**Party Max Duration**—The maximum duration (minutes/seconds) the telephone caller and SP2 handset user can talk on the party line before the call disconnects.

**Party Extended Duration**—Time (minutes/seconds) to add to the PARTY MAX DURATION allowing the call to continue, if needed. The caller hears a beep, indicating the party line time limit is about to expire.

1. Press the \* button on the telephone's keypad to extend the conversation for the PARTY EXTEND DURATION (minutes/seconds).
2. Repeat this process to further extend the conversation as needed.

**Hang up On Party Disconnect**—Telephone calls terminate when the SP2 handset user hangs up (following a party line conversation).

## Auxiliary Inputs #1–5 Audio Input Properties

Select an AUX IN checkbox from the SOURCES ENABLED to configure the audio input properties. Enabling INSERT ONE in the GLOBALS pane disables AUX IN #2 audio input selection. Enabling INSERT TWO in the GLOBALS pane disables AUX IN #3 input selection (see the [Global Settings](#) section). A-B and N+1 configurations disable the AUX #4 and AUX #5 inputs.

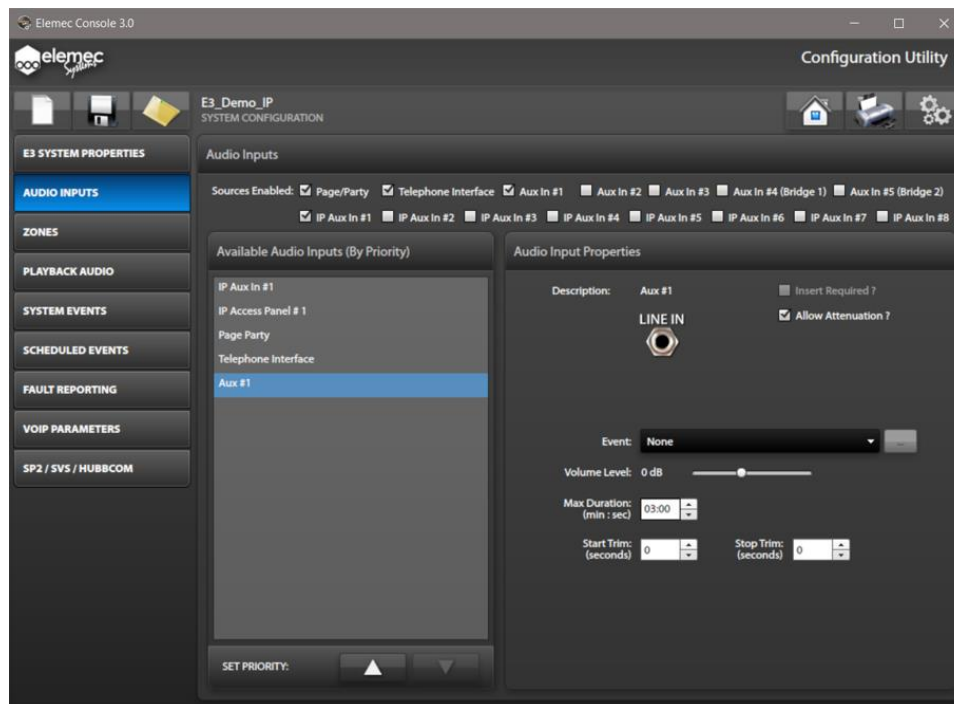


Figure 81. Auxiliary Interface Audio Input Properties

**Insert Required?**—The AUX interface requires an insert.

Enable inserts on the GLOBALS pane from the SYSTEM PROPERTIES screen any of the enabled audio input sources use them (see [Sources Enabled](#) section).

**Allow Attenuation ?**—Applies attenuation to the input. (Configure the attenuation setting on the [Global Settings](#) pane on the SYSTEM PROPERTIES screen.)

**Event (Aux #1 only)**—Event initiated by the Aux #1 PTT contact.

**Volume Level**—The Aux input's gain.

**Max Duration**—Maximum duration of an auxiliary input broadcast.



**Start Trim**—Recording delay at the beginning of a record/playback event (seconds).

**Stop Trim**—Amount of playback audio to remove at the end of the playback (seconds).

## IP Aux #1–8 Audio Input Properties

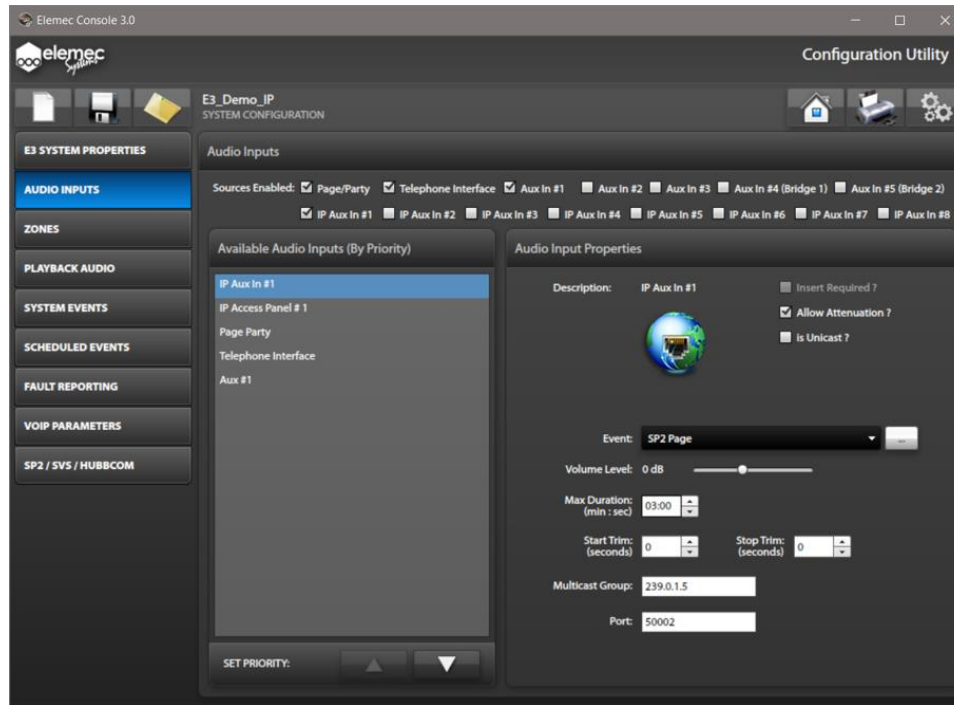


Figure 82. Configuring IP Auxiliary Audio Inputs

**Insert Required?**—The input requires an insert.

Enable inserts on the GLOBALS pane from the SYSTEM PROPERTIES screen if any of the enabled audio input sources use them (see [Insert 1 Enabled?](#) & [Insert 2 Enabled?](#)).

**Allow Attenuation?**—The system can attenuate the input. Configure the attenuation setting on the GLOBALS pane on the SYSTEM PROPERTIES screen (see the [Global Settings](#) section).

**Is Unicast**—An IP auxiliary input that is a source only endpoint.

**Event**—Event to initiate by the input when audio is detected.

**Volume Level**—Gain of the selected input.

**Max Duration**—Maximum duration of the input broadcast.

**Start Trim**—Recording delay at the beginning of a record/playback event.

**Stop Trim**—Amount of playback audio removed at the end of the playback.

**Multicast Group**—IP address of the multicast input.

**Multicast Port**—IP port of the multicast input.

## Zones

Use the ZONES configuration screen to create and manage communication zones in an *E3* system. A zone is a set of output destinations for events. Zones can include destination types: amplifier channels, configured zone(s), outputs, output groups, logic flags, and IP destinations.

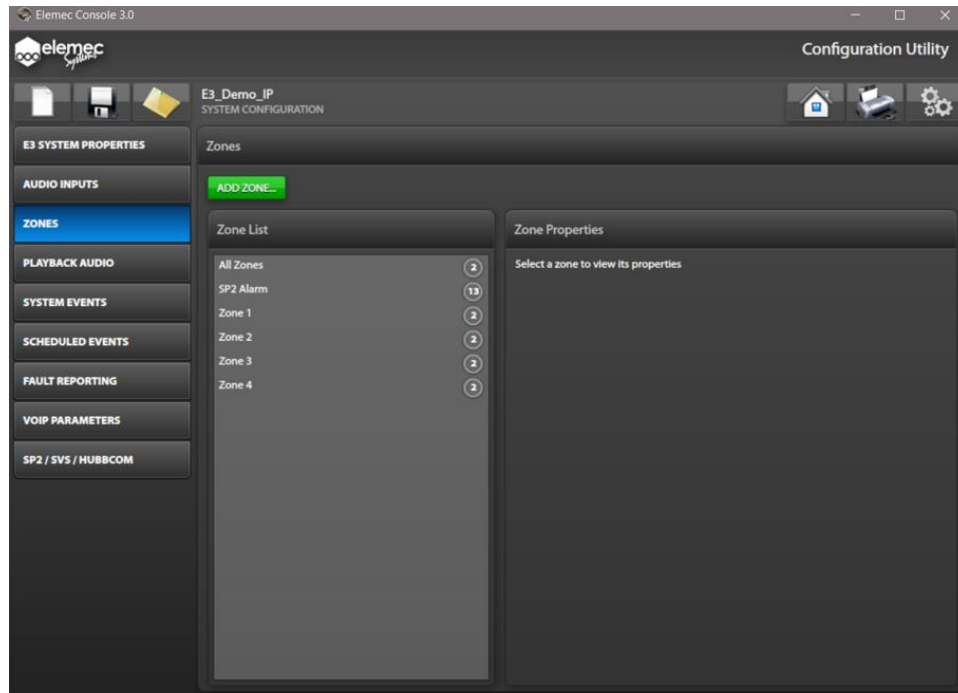
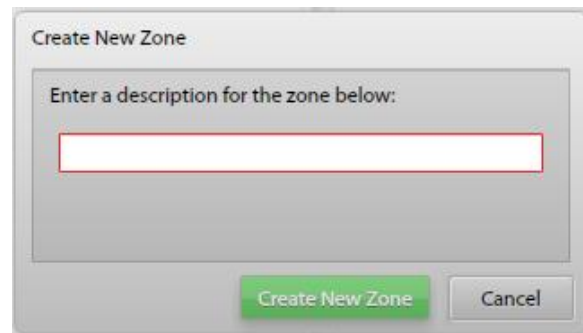


Figure 83. Zone Configuration

### Add Zones

1. Click **ADD ZONE...** to open the CREATE NEW ZONE dialog box.  
The CREATE NEW ZONE dialog box opens.
2. Enter the zone description.
3. click **CREATE NEW ZONE** to continue to the ZONE BUILDER screen.



### Zone Builder

Use the ZONE BUILDER screen to configure zones in an *Elemec3* system. The ZONE BUILDER screen opens when creating a new zone or when selecting an existing zone from the ZONE LIST on the ZONES screen. Make zone changes by highlighting the zone in the AVAILABLE DESTINATIONS pane and clicking the **EDIT ZONE** button.

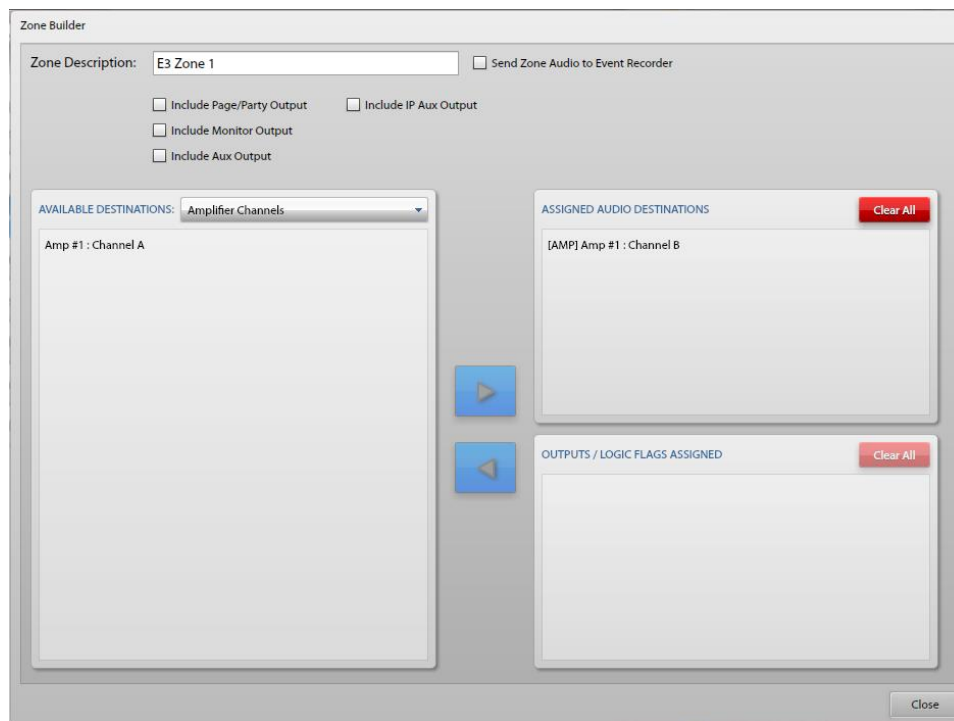


Figure 84. Zone Builder

**Zone Description**—A unique descriptive name of the zone.

**Send Zone Audio to Event Recorder**—Records all audio for this zone in the event recorder. Enable this option on the SYSTEM PROPERTIES screen (see the [Globals](#) section) to enable the option here.

Beneath the ZONE DESCRIPTION field are four selectable audio outputs. Select the audio outputs to include in the zone. The available audio outputs are:

- **Include Page/Party Output**—Includes Page/Party output. Enable the Page/Party audio source under the SOURCES ENABLED section of the AUDIO INPUTS tab (see the [Sources Enabled](#) section) to enable this option.
- **Include Monitor Output**—Includes the monitor output and the IP monitor out, if configured. Enabling insert two on the GLOBALS pane on the SYSTEM PROPERTIES screen (see the [Globals](#) section) disables this option.
- **Include Aux Output**—Sends all audio for this zone to the auxiliary output. Enabling insert one on the GLOBALS pane on the SYSTEM PROPERTIES screen (see the [Globals](#) section) disables this option.
- **Include IP Aux Output**—Sends audio for this zone to the IP auxiliary output.

### Available Destinations Pane

Select each destination type to include in the zone's outputs from the AVAILABLE DESTINATIONS drop-down list. The destinations for the selected destination type appear in the list. The types of available destinations are AMPLIFIER CHANNELS, ZONES CONFIGURED, OUTPUTS, OUTPUT GROUPS, LOGIC FLAGS, IP DESTINATIONS, SP2 RELAY GROUPS, and MODBUS OUTPUTS.

### Assigned Audio Destinations Pane

**Amplifier Channels**—Add amplifier channels to this zone. Select AMPLIFIER CHANNELS from the AVAILABLE DESTINATIONS list, on the left, and click the right-arrow button to move selected amplifier channels to the ASSIGNED AUDIO DESTINATIONS list, on the right.

**NOTE:** When using PASO amplifiers, assign both the GAI amplifier channel and the PASO amplifier channel to the zone's *assigned audio destinations*.

**Zones Configured**—Add previously defined zones to this zone. Select ZONES CONFIGURED from the AVAILABLE DESTINATIONS list on the left and click the right-arrow button to move selected zones to the ASSIGNED AUDIO DESTINATIONS list on the right.

**IP Destinations**—Add previously defined IP destinations to this zone. Select the IP DESTINATIONS from the AVAILABLE DESTINATIONS list on the left and click the right-arrow button to move IP destinations to the ASSIGNED AUDIO DESTINATIONS list on the right.

## Output/Logic Flags Assigned Pane

To add outputs, output groups, or logic flags to this zone, select the destination type from the AVAILABLE DESTINATIONS drop down list then select the items from the list on the left and click the right-arrow button to move the items to the OUTPUTS/LOGIC FLAGS ASSIGNED list. Items, in the list, assert only when the event includes the item, and the event is targeting this zone.

## Playback Audio

Playback audio is any prerecorded audio in MP3 format for broadcast by the system (i.e., alarm audio, informational messages, tones, etc.).

- Use the PLAYBACK AUDIO CONFIGURATION screen to create and manage prerecorded clips, configure system tones, background music, and create messages from the audio clips.
- The screen contains three panes:
  - PLAYBACK AUDIO CONFIGURATION,
  - MESSAGES, and
  - MESSAGE PROPERTIES

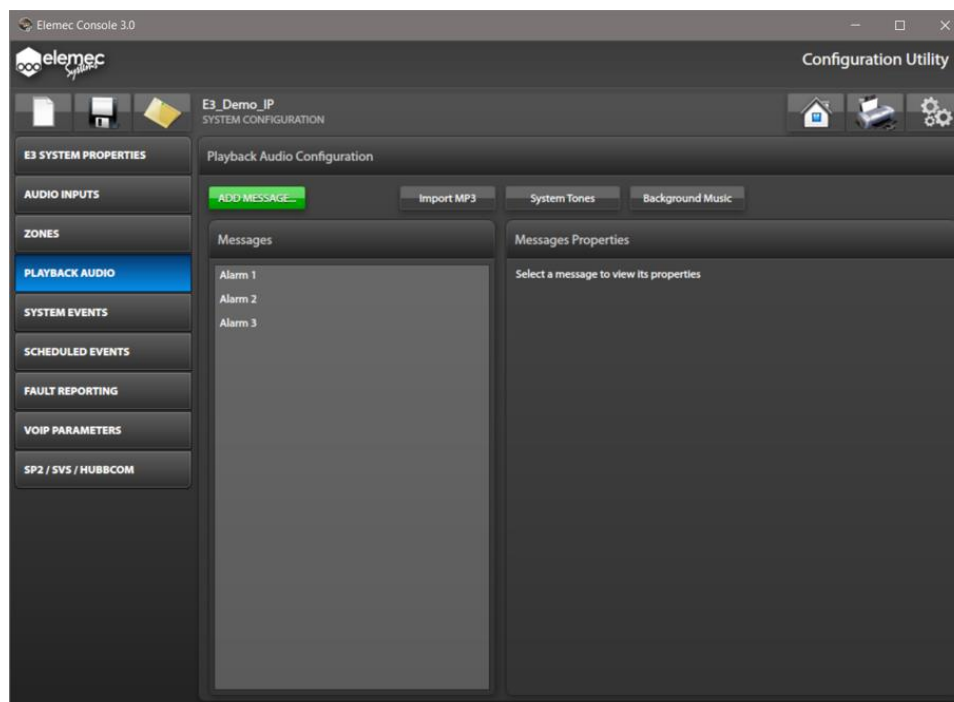


Figure 85. Playback Audio Configuration

## Playback Audio Configuration

### Add Message

Click **ADD MESSAGE...** on the PLAYBACK AUDIO CONFIGURATION screen to open the CREATE NEW MESSAGE screen.

Figure 86. Create New Message

**Description**—A unique description of the message. This name identifies the message in all areas of the system.

### EVENT SETUP

**Automatically Create Events**—(Recommended) To automatically create events and expedite the configuration process, click AUTOMATICALLY CREATE EVENT(S). This creates the playback events for the message. (Suitable for manual or auto events.)

**Create Manual Event**—Creates a playback event for this message with the proper default settings for use with manually actuated access panel buttons.

**Create Auto Event**—Creates a playback event for this message with the proper default settings for use with an input contact or scheduled event.

**Default Zone**—The default zone for the event(s).

**LOGIC FLAG SETUP**—Select AUTOMATICALLY CREATE LOGIC FLAG FOR THIS MESSAGE to have user logic flag(s) with the same description as the message automatically added to the created event(s).

**Create New Message**—Click **CREATE NEW MESSAGE** to finish creating the message.

### Import MP3

Click **IMPORT MP3** to import audio files using a FILE OPEN dialog box.

### System Tones

System tones are audio files used for pre-announcement tones, post-announcement tones, or as a tick tone. Click on **SYSTEM TONES** to show the SYSTEM TONES SETUP screen. Use any audio file less than 10 seconds in duration for the system tone.

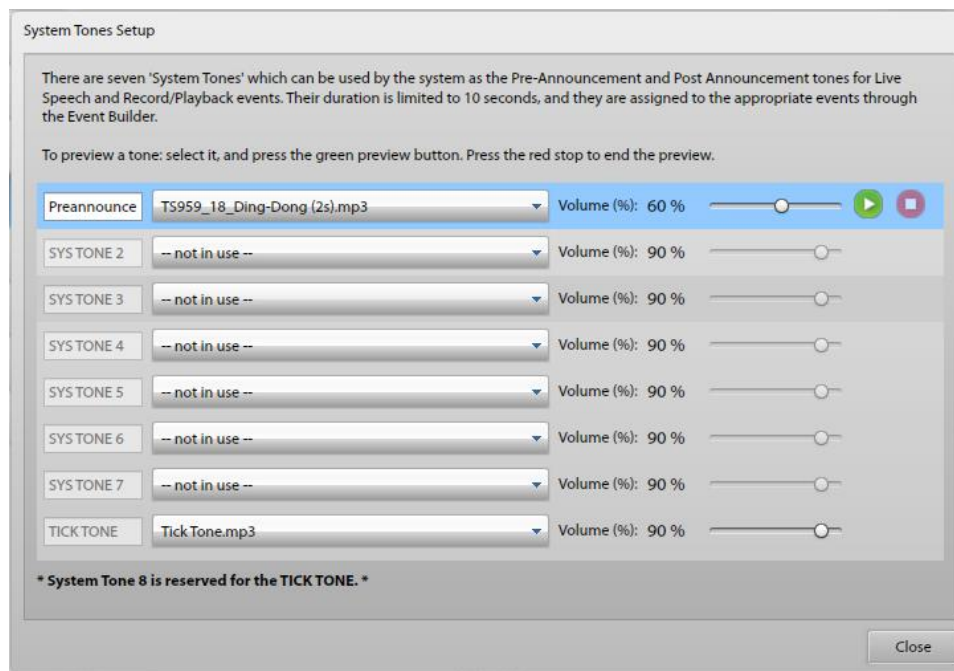


Figure 87. System Tones Setup

Select a tone from the drop-down list to enable the description field, volume control, and audio preview controls. The E3 Console automatically sets the last system tone (SYSTEM TONE 8) for the tick tone. These tones are available in the LIVE SPEECH EVENT OPTIONS pane of the EVENT BUILDER screen for assignment **only** with live speech and record/playback events (See the [Live Speech Event Options](#) or [Record/Playback Event Options](#) sections).

**Description**—Description of the tone for identification in live speech and record/playback events.

**Volume (%)**—Move the slider to the required percent volume. The VOLUME (%) represents a percentage of the VOLUME LEVEL setting, on the GLOBALS pane of the SYSTEM PROPERTIES screen (see the [Global Settings](#) section).

## Background Music

Click on the **BACKGROUND MUSIC** button to show the **BACKGROUND MUSIC SETUP** screen. Play background music in any zone of a system. Connect the external background music source to an enabled auxiliary input.

**Background Music Source**—Select an unused, enabled auxiliary input from the drop-down list. Connect the external background music source to the selected auxiliary input.

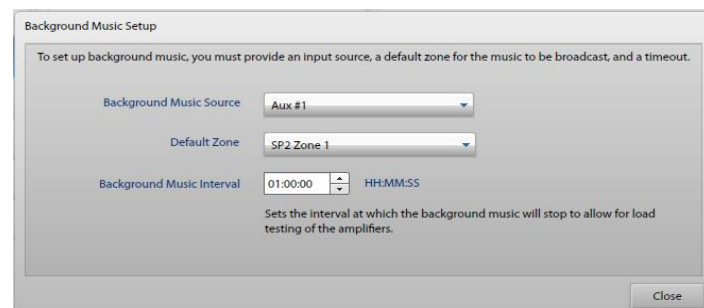


Figure 88. Background Music Setup

**Default Zone**—Select an available zone from the drop-down list. Background music only plays in the default zone after a system reset. An access panel can override the default zone for broadcasting background music.

**Background Music Interval**—The period in hours, minutes, and seconds for the background music to stop to allow for amplifier audio path and load tests. (The background music resumes when the tests are complete.)

## Messages

The MESSAGES pane lists the messages for use with the E3 system. Messages consist of one or more message fragments sequenced together (see the [Message Builder](#) section below).

### Message Properties

Select a message from the MESSAGES pane (see [Figure 85](#)) to view its properties. The console displays the message description, duration, number of fragments in the message, and playback volume information in the MESSAGE PROPERTIES pane. The properties pane also contains buttons for **EDIT MESSAGE**, **DUPLICATE MESSAGE**, or **REMOVE MESSAGE**. Make individual adjustments to the volume level of each fragment making up the message in the MESSAGE SUMMARY subpanel by clicking and dragging the sliders. The volume percentage of the system volume displays in a tooltip, when selected. Use the MESSAGE PREVIEW subpanel to listen to the message through the PC's local speakers.

### Message Builder

Use the MESSAGE BUILDER screen to assemble audio message fragments into message sequences. Click **CREATE NEW MESSAGE** from the CREATE NEW MESSAGE dialog box to open the MESSAGE BUILDER screen. Clicking **EDIT MESSAGE** from the MESSAGE PROPERTIES pane also opens the MESSAGE BUILDER to modify the selected message's included message fragments or to reorder the fragments.

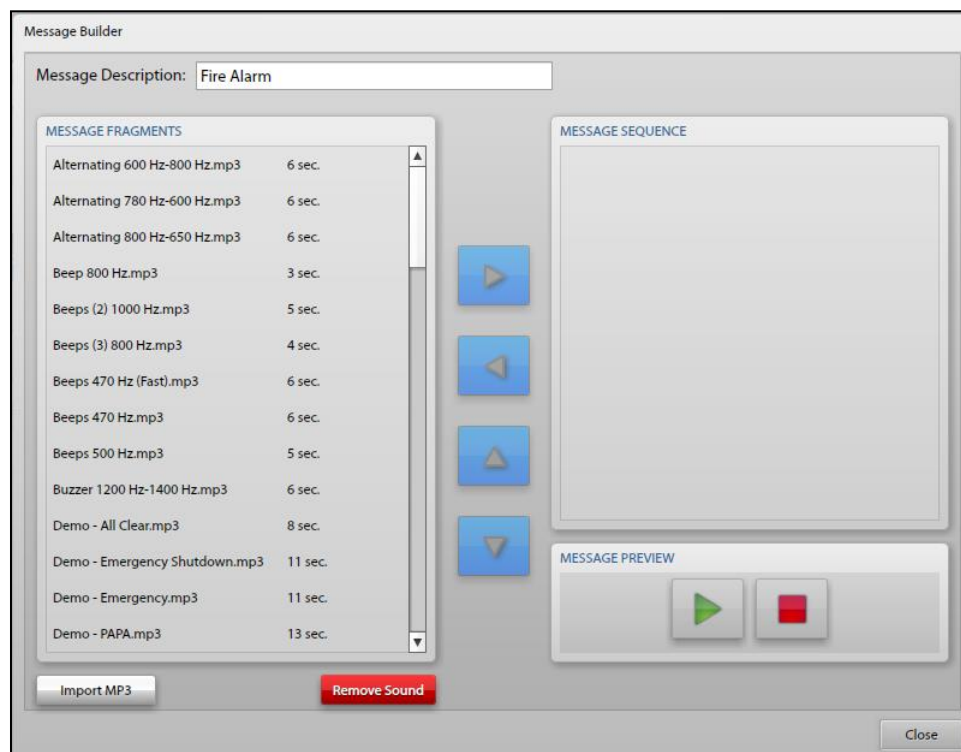


Figure 89. Message Builder

**Message Description**—A user-defined unique description for the message. (This name identifies the message in all areas of the system.) Define the message description when creating a message or modify it here.

**NOTE:** Update all related events with the new description after changing a message description here.



## Message Fragments

Add a message fragment to a message sequence by selecting the fragment from the list on the left, then click the right-arrow button to move the fragment to the MESSAGE SEQUENCE pane.

Select a message fragment in the MESSAGE FRAGMENTS list to access the play button. Press the green play button to listen to the fragment.

## Message Sequence

Change the playback sequence of the message by highlighting the fragments in the MESSAGE SEQUENCE pane and then use the up and down arrows to place the fragment in the desired playback position.

Remove a fragment from the MESSAGE SEQUENCE pane by selecting the fragment, then click the left-arrow button.

## Message Preview

Click the green play arrow to preview the message. Press the red stop button, at any time, to stop playback.

**Import MP3**—A FILE OPEN dialog box opens to import audio files into the list of MESSAGE FRAGMENTS.

**REMOVE SOUND**—Removes the highlighted audio file from the MESSAGE FRAGMENT list.

**NOTE:** It is not possible to delete message fragments in use in the configuration.

## System Events

The E3 system uses system events to control system behavior. The SYSTEM EVENTS CONFIGURATION screen lists the EVENTS AND EVENT GROUPS by order of priority, with the event at the top of the list having the highest priority. Change the priority of an event/event group by highlighting the item and using the SET PRIORITY: up and down arrows to change the position in the list. Event priority is critical to the desired operation of an E3 system.

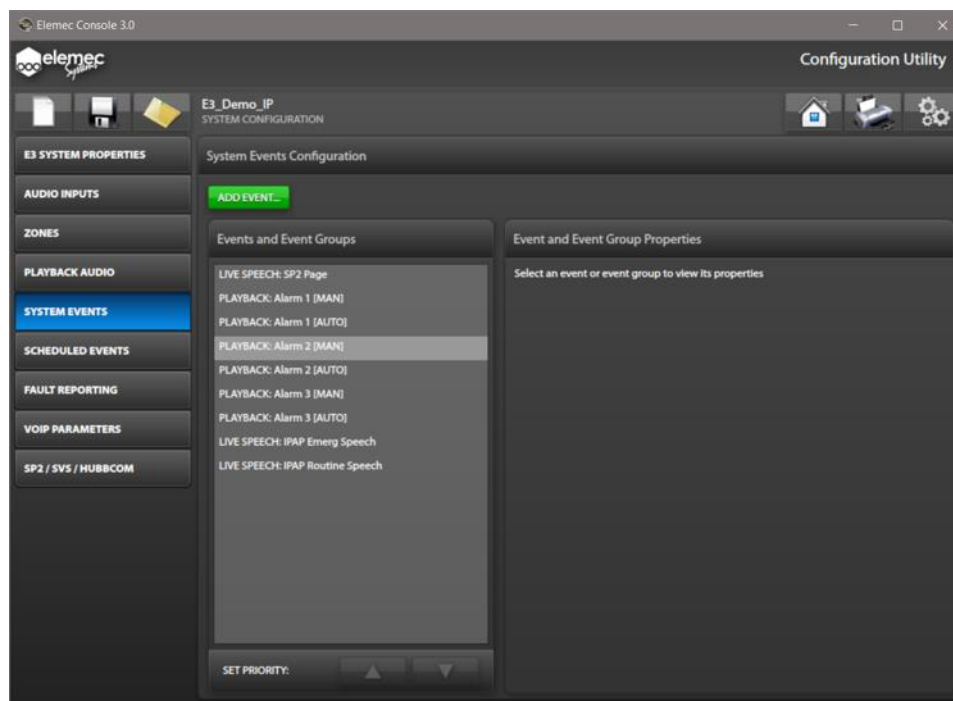


Figure 90. System Events Configuration



Messages created with the AUTOMATICALLY CREATE EVENT option are in the EVENTS AND EVENT GROUPS pane.

## Add Event

Click **ADD EVENT...** to open the CREATE NEW EVENT OBJECT screen.

**Enter a description for the event object below:**—Enter a unique description for the event.

**Event/Event Group**—Select either EVENT or EVENT GROUP (see the [Events](#) or [Event Groups](#) section).

## Events

**Type:**—There are five available event types:

- **Playback**—Broadcasts a previously configured message.
- **Live Speech**—Broadcasts live audio.
- **Record/Playback**—Records live audio for playback.
- **Silent**—Activates outputs, output groups, or triggers an event chain. (No audio broadcast.)
- **External**—Broadcasts externally generated audio.

Click the **CREATE NEW EVENT OBJECT** button after entering the description and selecting the event type from the drop-down list. The EVENT BUILDER screen opens.

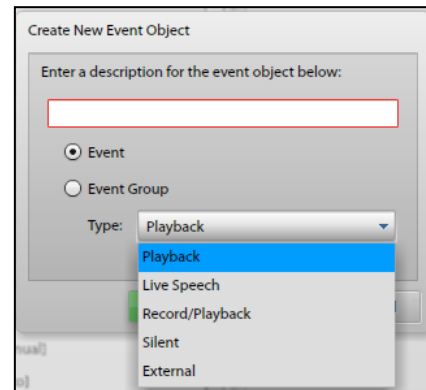


Figure 91. Create New Event Object

## Event Builder

The event builder screen contains a parent section displaying the event's root properties and six additional panes to configure the event's DEFAULT OUTPUT ASSIGNMENTS, DEFAULT AUDIO DESTINATIONS, PLAYBACK EVENT OPTIONS, EVENT CANCEL, EVENT ACKNOWLEDGE, and EVENT CHAIN properties. Building an event involves assembling all these components into a single action for execution by the system.

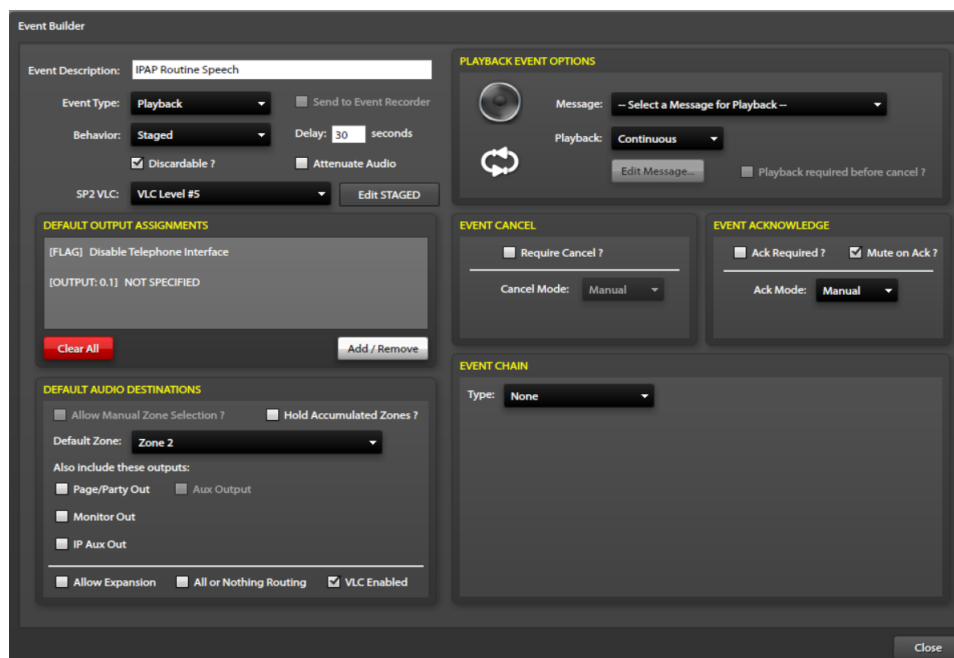


Figure 92. Event Builder

**Event Description**—A user-defined unique description.

**Event Type**—The type of event (see the [Add Event](#) section above).

The EVENT OPTIONS pane, in the upper right corner of the EVENT BUILDER screen, is dependent upon the event type selected (see the [Event Options](#) section).

**Behavior** (*Playback and External events only*)—Event behavior for playback and external audio events.

- **Normal**—Attempts to play the specified message immediately upon initiation.
- **Delayed**—Attempts to play the specified message after an initial delay period. (Selecting this option adds the following field to the event builder properties:)

**Delay**—Delay period (seconds) that the system will wait before executing the event.

- **Staged**—Attempts to play the specified message immediately using the DEFAULT OUTPUT ASSIGNMENTS and DEFAULT AUDIO DESTINATIONS. After the configured delay, the staged portion of the event activates using the STAGED OUTPUT ASSIGNMENTS and STAGED AUDIO DESTINATIONS pane accessible via the **EDIT STAGED** button. Selecting the STAGED option adds the **EDIT STAGED** button and the DELAY field to the screen.

**Delay**—Delay period (seconds) that the system will wait before initiating the staged execution of the event.

**NOTE:** The system creates both normal and staged output audio destination assignment records in the database regardless of the type of event. This covers the potential future action of changing an event from normal to staged.

**Send to Event Recorder?**—Sends event audio to the event recorder. Enable the event recorder on the GLOBALS pane on the SYSTEM PROPERTIES screen (see the [Global Settings](#) section) to enable this option.

**Discardable?**—Higher priority events permanently terminate the event, otherwise, higher priority events suspend the event until it can resume.

**Attenuate Audio**—Attenuates audio using the attenuation setting in the GLOBALS pane under SYSTEM PROPERTIES (see the [Global Settings](#) section). Attenuate audio is independently configurable for both portions of a staged event.

**SP2 VLC:**—Select the VLC relative priority from the dropdown list. This assigns a VLC priority created in the SP2 configuration assets for comparison to the VLC threshold parameter configured on the SP2 station using the VLC AMP MODE operator to perform the comparison.

**EDIT STAGED**—Click **EDIT STAGED** to configure the staged portion of an event's output assignments and audio destinations.

The STAGED OUTPUT ASSIGNMENTS and STAGED AUDIO DESTINATIONS panes open over the top of the DEFAULT OUTPUT ASSIGNMENTS and DEFAULT AUDIO DESTINATIONS panes (see Figure 93). Click **EDIT DEFAULT** to return to editing the default assignments. See the next two sections;

Default/Staged Output Assignments and Default/Staged Audio Destinations for information on configuring the output assignments and audio destinations for events.

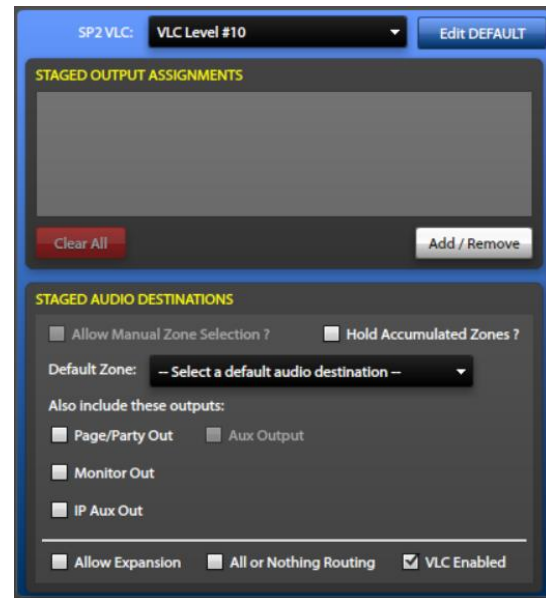


Figure 93. Staged Output Event Configuration

## Default/Staged Output Assignments

Output assignments are sets of contact outputs, flags, and output groups triggered by the action of an event. Create groups of assignments to simplify the configuration of events when the event triggers multiple flags and output contacts. Use the OUTPUT GROUP BUILDER screen to specify the default and staged output assignments and the flags asserted for an event. Both parts of a staged event have their own independent output assignment behaviors. Configure both the default and the staged output assignments the same way on the OUTPUT GROUP BUILDER Screen:

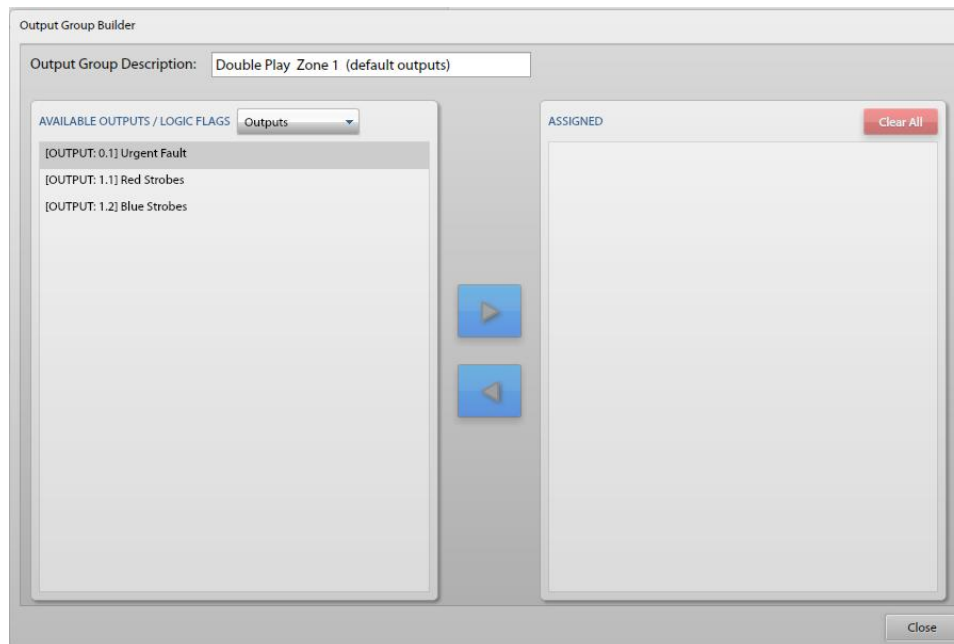


Figure 94. Configuring Event Outputs

The OUTPUT GROUP BUILDER screen layout displays the OUTPUT GROUP DESCRIPTION field at the top and the AVAILABLE OUTPUTS/LOGIC FLAGS and ASSIGNED panes below to assign the outputs, flags, and/or output groups to the output group.

**Output Group Description**—Description of the event’s output activation group. The name of the output group includes either (DEFAULT OUTPUTS) or (STAGED OUTPUTS) appended to the name. This signifies which behavior, normal (default) or staged, the output group belongs to; and therefore, also indicates the screen used to access the event builder.)

### Available Outputs/Logic Flags

The title bar of this pane contains a drop-down list to select the type of assignments to assign to the output group. The available options are OUTPUTS, FLAGS, and OUTPUT GROUPS. Select each output type as necessary and then select the items in the list to add and click the right pointing arrow button to add them to the ASSIGNED list. For each I/O card, Only the enabled outputs appear in this list. Enabling an I/O card’s contact without defining the assignments in the I/O CONTROLLER PROPERTIES OUTPUTS tab (see the [Outputs Tab](#) section) causes them to show up here as *not specified*.

### Assigned

The ASSIGNED pane contains the outputs, flags, and output groups assigned to the output group. To remove entries, select them and click the left pointing arrow to move them back to the available list. Click **CLEAR ALL** to move all listed outputs back to their respective available lists.

### Default/Staged Audio Destinations

Default and staged audio destinations specify the audio destination properties for an event. Each portion (normal and staged) of a staged event has its own independent audio destination. When first creating a message, a default zone is selectable that will appear in the *default zone*: property drop-down list.

**Allow Manual Zone Selection ?**—Zones are dynamically selectable from either access panels or input contacts.

**Hold Accumulated Zones ?**—Zones activated via input contacts remain active after the associated input contact resets; otherwise, zones activated via input contacts deactivate after the associated input contact resets.

**Default Zone**—An event’s zone with no additional zone selections.

**Also include these outputs**—Always include the following audio outputs as part of the audio destination:

- Page/Party Out,
- Aux Output,
- IP Aux Out, and
- Monitor Out.

**Allow Expansion**—Expands the event into locations not targeted by the event if the current allocation of audio resources would otherwise prohibit its broadcast. Event expansion broadcasts the events audio over the required resources, including any others that are in use.

**All or Nothing Routing**—Broadcast the event only if all destinations are available; otherwise, the event plays only in the available destinations (i.e., play where possible).

**VLC Enabled**—System broadcasts a VLC (volume level control) tone to the Page/Party output.

---

## Event Options

Use the EVENT OPTIONS pane, in the upper right corner of the EVENT BUILDER screen, to configure the audio source properties for events. Event types differ in the type-specific properties shown in this pane. Only four of the five event types have event audio source properties since the *silent* event type has no audio.

### Playback Event Options



Figure 95. Playback Event Options

**Message**—The previously defined message to broadcast.

**Playback**—The playback behavior:

- **Play Once**—Plays the message one time.
- **Repeat**—Plays the message the number of times specified by *play count*.
- **Continuous**—Plays the message until an operator cancels the event.

**Edit Message**—Opens the MESSAGE BUILDER screen to enable modifying the message fragments of the message (see the [Message Builder](#) section).

**Playback required before cancel ?**—An operator cannot cancel the event until the message broadcasts the specified number of times. The event is cancellable at any time if not selected.

### Live Speech Event Options

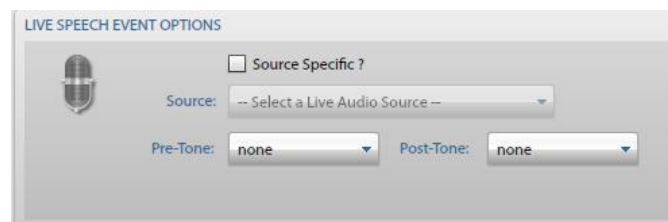


Figure 96. Live Speech Event Options

**Source Specific ?**—Use to source audio for an event via an input contact on an I/O card. Select the SOURCE from the drop-down list for when the event triggers from an input that does not provide its own audio.

**Pre-Tone**—Pre-announcement tone for the live audio broadcast. These tones are accessible through the PLAYBACK AUDIO, SYSTEM TONES screen (see the [System Tones](#) section).

**Post-Tone**—Post-announcement tone for the live audio broadcast. These tones are accessible through the PLAYBACK AUDIO, SYSTEM TONES screen (see the [System Tones](#) section).

## Record/Playback Event Options

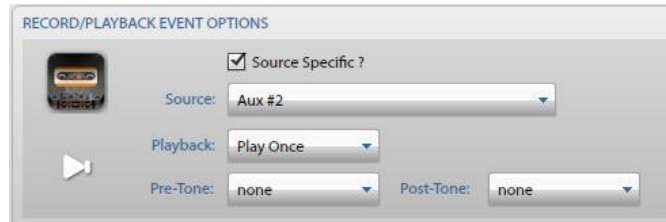


Figure 97. Record/Playback Event Options

**Source Specific ?**—Use to source audio for an event via an input contact on an I/O card. Use this setting whenever an input source doesn't have its own push to talk (PTT) capability.

Select the SOURCE from the drop-down for when this event is triggered from an input that does not provide its own audio. AUX #2 requires a source specific input because it does not have a push to talk (PTT) button, so an input contact enables the AUX #2 audio source. Select source specific for all external audio sources other than AUX #1.

**Playback**—The playback behavior:

- **Play Once**—Plays the message one time.
- **Repeat**—Plays the message the number of times specified by *play count*.
- **Continuous**—Plays the message until the event an operator cancels the event.

**Pre-Tone**—Pre-announcement tone for the live audio broadcast. These tones are accessible through the PLAYBACK AUDIO, SYSTEM TONES screen (see the [System Tones](#) section).

**Post-Tone**—The post-announcement tone for the live audio broadcast. These tones are accessible through the PLAYBACK AUDIO, SYSTEM TONES screen (see the [System Tones](#) section).

## External Event Options

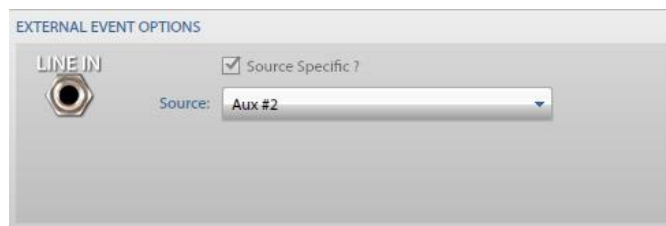


Figure 98. External Event Options

**Source Specific ?**—Selected and disabled because all external audio sources need an input contact to trigger the source since they do not have PTT buttons.

**Source**—Available sources are enabled in the LIVE AUDIO SOURCES, LIVE AUDIO CONFIGURATION pane (on page 66).

## Event Cancel

Specifies how the system cancels events:

**Require Cancel**—Requires cancelling the event from an access panel button before the system can clear it.

### Cancel Mode:

- **Manual**—An access panel must cancel the event.
- **Auto**—Cancel the event manually or it will cancel automatically after the *Auto-Cancel Delay* expires.
- **Auto-Cancel Delay**—Delay (seconds) for the event to cancel.

## Event Acknowledge

**Ack Required**—An access panel must acknowledge the event before it clears.

**Mute on Ack**—Acknowledging an event mutes the audio for the *Max Mute Duration*, on the GLOBALS panel on the SYSTEM PROPERTIES screen (see the Global Settings section).

### ACK MODE:

**Manual**—Requires event acknowledgement from an access panel.

**Auto**—Manually acknowledge the event or configure it to automatically acknowledge after the *Auto-Ack Delay* expires.

**Auto-Ack Delay**—Delay (in seconds) for the event to auto-acknowledge.

## Event Chaining

Event chaining allows events to initiate other events in the system. There are three options for linking events: *None*, *Direct*, or *Conditional*:

**None**—No event chaining takes place.

**Direct Chain**—Initiate the event in the DO: drop down list.

The chained event initiates either immediately or when the parent event completes. Selecting *Manual Cancel* or *Manual Ack*, prevents initiation of the chained event when cancelling or acknowledging the parent event.

**Conditional Chain**—Initiate one of two events in the DO: drop down list based on the status of the trigger selected in the IF: drop down list.

The dropdown list contains inputs, outputs, and logic flags. The chained event initiates either immediately or when the parent event completes. Selecting *Manual Cancel* or *Manual Ack* prevents initiation of the chained event when cancelling or acknowledging the parent event.

---

## Event Groups

An event group is a collection of playback events that require different mix/attenuation properties than a standard event. Use event groups to sequence alarms when multiple events are active simultaneously. The maximum number of event groups is 16. There are three types of event groups; standard, sequenced, and contingent override.

**Event Group Description**—A user-defined unique description of the event group. This name identifies the event group in all areas of the system.

### Type: (of Event Group)

- **Standard**—Included events can have *mix/attenuation* properties that differ from the *Global Mix/Attenuation* properties. Use standard event groups for various scenarios when the implementation requires unique *Mix/Attenuation* properties.
- **Sequenced**—Active events play in sequence if more than one event in the group becomes active. Active events in the group will effectively take turns playing as long as they are active.
- **Contingent Override**—Initiate an alternate event if more than one event in the group becomes active.

The contingent event must have a higher priority than the group. For example, if multiple fire alarm events within the group initiate; the contingent event overrides the active events within the group.

**Group Mix Setup Button**—See the Global Audio Mix Setup section.

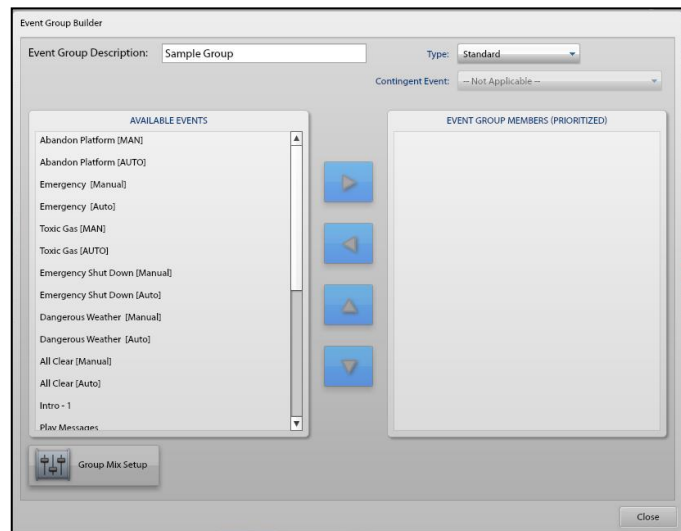


Figure 99. Event Group Builder



## Scheduled Events

Create scheduled events to schedule recurring events in an E3 system. The SCHEDULED EVENTS screen lists the E3 system's scheduled events and displays the properties of the currently selected scheduled event.

**NOTE:** The E3 controller requires NTP (Network Time Protocol) service access to implement scheduled events.

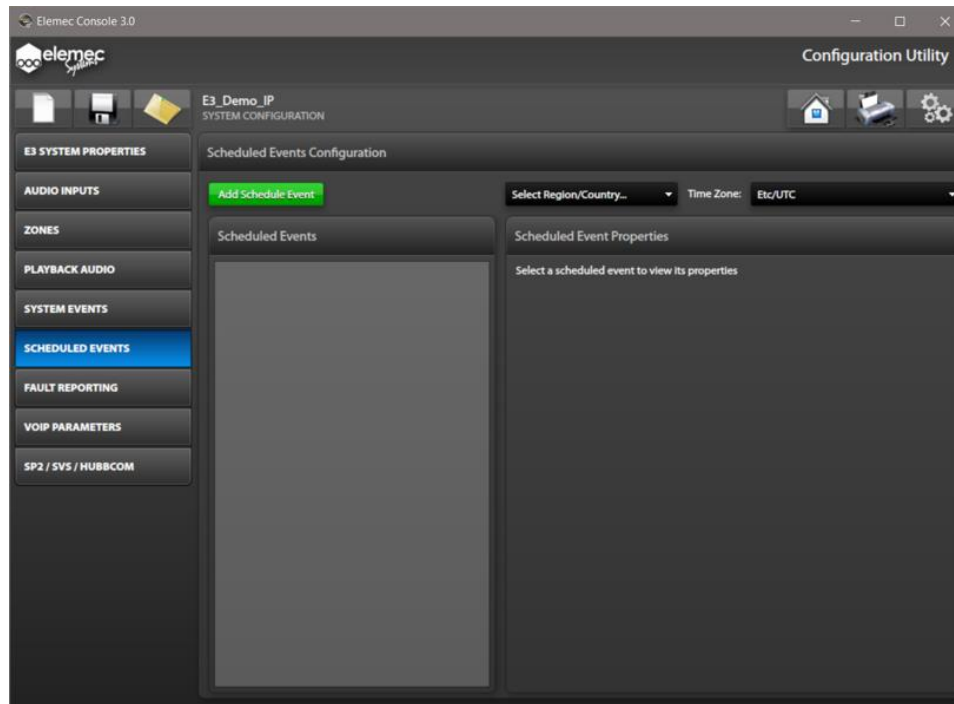


Figure 100. Scheduled Events

**Select Region/Country...**—Select the region or country for the E3 system installation to narrow the TIME ZONE selection list.

**Time Zone:**—Click the drop-down list and select the time zone for the E3 system installation.

1. Click **ADD SCHEDULED EVENT** to create a new scheduled event.

The CREATE NEW SCHEDULED EVENT dialog box opens:

2. Enter a description for the new scheduled event and click **CREATE NEW SCHEDULED EVENT**.

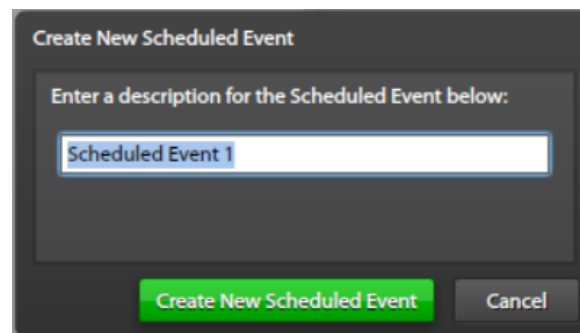


Figure 101. Create New Scheduled Event

The SCHEDULED EVENT BUILDER window opens:

Figure 102. Scheduled Event Builder

**Description:**—The description entered in the CREATE NEW SCHEDULED EVENT dialog box.

**Interval Type:**—Use the drop-down list to select: DAY OF WEEK, WEEK OF MONTH, or DAY OF MONTH.

**Event:**—Use the drop-down list to select the event that runs at the selected START TIME for the entered DURATION.

**Start Time:**—Use the rotary buttons to select the hour and minute that the event should run. Use the dropdown to select AM or PM.

**Duration:**—Use the rotary buttons to select the hours and or minutes for the period of the event.

**Month(s) of Year:**—Select **EVERY MONTH**, or the individual months of the year.

**Day(s) of Week**—Select **EVERY DAY**, or the individual days of the week.

**Week(s) of Month**—Select **EVERY WEEK**, or select the individual weeks of the month.

**Available Zones:** Pane—Contains the list of zones in the E3 system.

**Assigned Zones:** Pane—Contains the list of zones assigned to this scheduled event.

1. Configure the parameters for the scheduled event using the fields described above.
2. Select the zones where the event will play by selecting the zone(s) from the AVAILABLE ZONES: pane, then click the right arrow to add the selected zones to the ASSIGNED ZONES: pane.
3. Click **CLEAR ALL** in the ASSIGNED ZONES pane to remove all the zones assigned to the scheduled event to reassign new zones.
4. Click **CLOSE** to exit back to the SCHEDULED EVENTS CONFIGURATION screen.

## Fault Reporting

There are five categories of faults in *Elemec3* systems: *system*, *software*, *access panel*, *I/O card*, and *amplifier* faults. Assign each fault under each category one of three fault reporting levels; *ignore*, *normal*, or *urgent*.

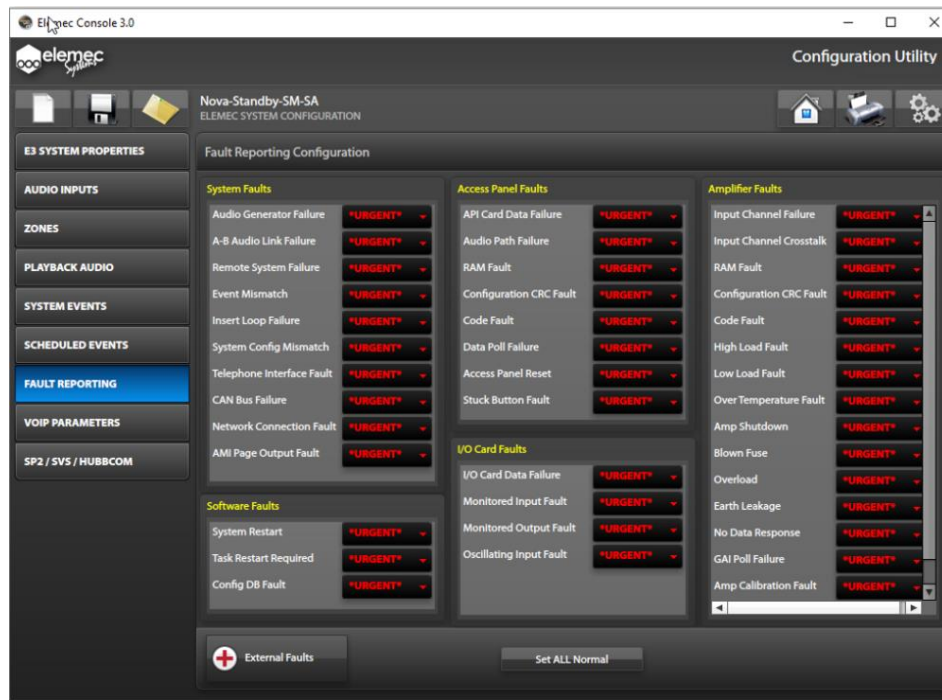


Figure 103. Fault Reporting Configuration

## Fault Levels

**IGNORE**—No access panel status indication occurs.

**NORMAL**—A *normal* fault appears on access panel status indicators. Normal faults automatically acknowledge when the fault clears.

**URGENT**—Access panels status indicators show an *Urgent* fault.

Urgent faults are critical system faults that require acknowledgement regardless of the current fault state (active or cleared). Use the E3 Portal application to acknowledge urgent faults. See the E3 Portal application manual, Pub. 42004-485 (see the [Reference Documentation](#) section).

**External Faults**—User-defined faults triggered by input contacts. Assign external faults a *Normal* or *Urgent* fault level. Assign to an input contact on an I/O module to the fault immediately after defining it (see the [Inputs Tab](#) under the [I/O Controller Properties](#) section).

## VoIP Parameters

There are two main categories of IP parameters: SYSTEM IP and IP DESTINATIONS.

### SYSTEM IP

The SYSTEM IP screen shows all available IP AUX INPUTS and IP AUX OUTPUTS. These inputs and outputs are part of the system and are not removable.

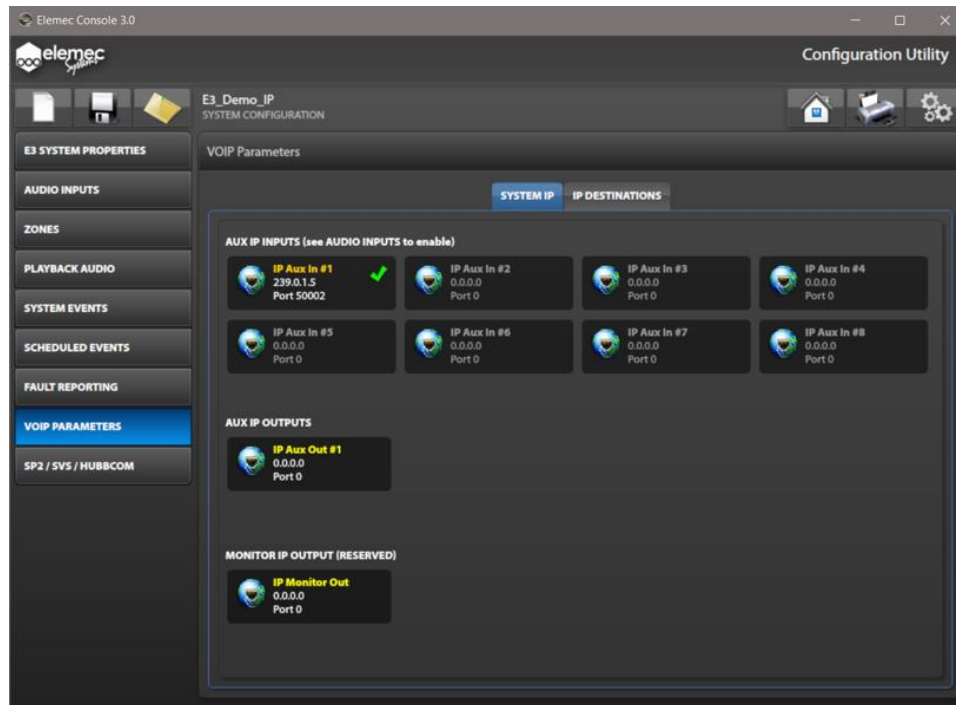


Figure 104. System IP

### Aux IP Inputs

Enable the necessary auxiliary IP inputs on the SOURCES ENABLED portion of the AUDIO INPUTS screen before they become active on this screen (see the [Sources Enabled](#) section). Select an enabled *IP AUX INPUT* to open the EDIT IP INPUT PROPERTIES dialog box (see the [IP Aux #1–8 Audio Input Properties](#) section for information on these inputs).

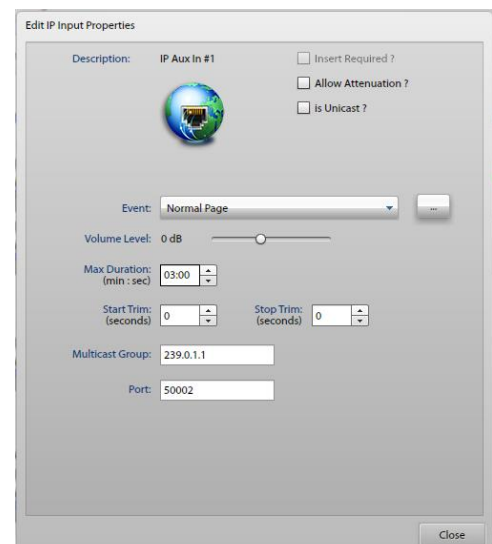


Figure 105. Edit IP Output Properties

## Aux IP Outputs/Monitor Out

Selecting either the IP AUX OUTPUT or the IP MONITOR OUT opens the EDIT IP OUTPUT PROPERTIES screen. The IP MONITOR OUT audio destination transmits all audio that the analog MONITOR OUT transmits from the system.

**Multicast Group**—IP address for the IP aux output.

**Multicast Port**—Port address for the IP aux output.

**Time to Live**—Multicast time to live for the IP packets.

**MTU**—Maximum transmit unit for the IP packets.

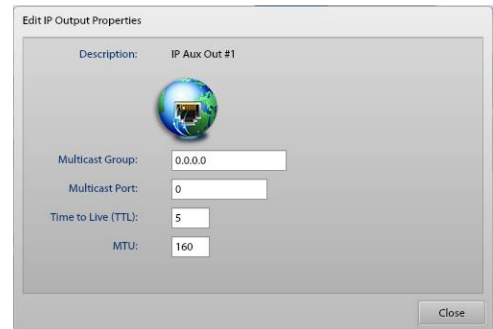


Figure 106. Edit IP Output Properties

## IP DESTINATIONS

The IP DESTINATIONS screen shows all available USER defined IP destinations. Add, edit, or remove IP destinations on this screen. The parameters for IP destinations are the same as the IP AUX OUTPUT.

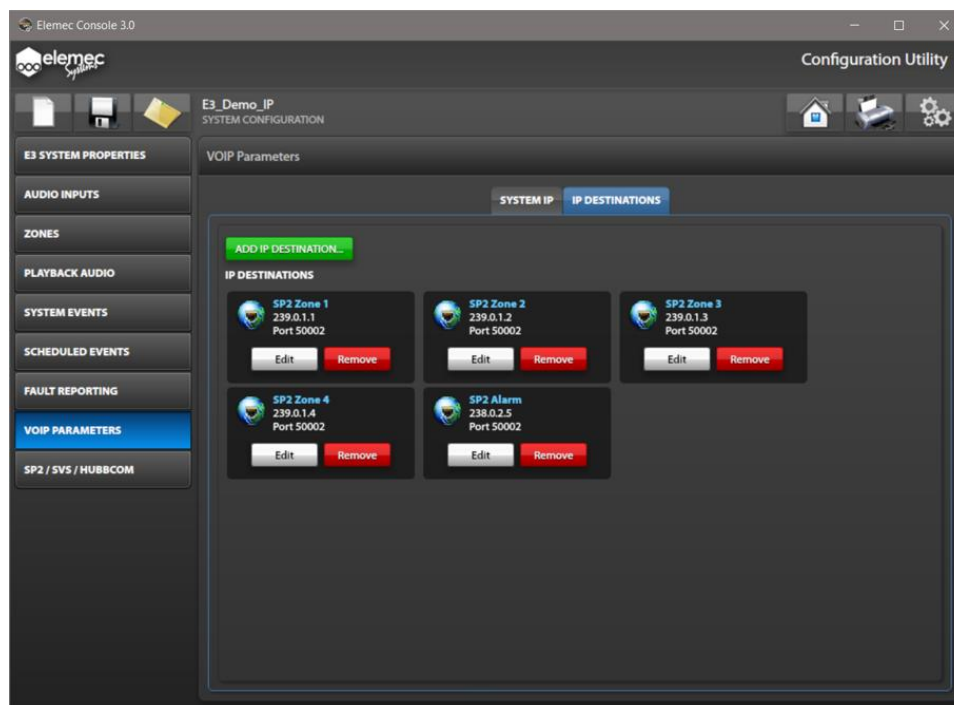


Figure 107. IP Destinations

## ADD IP DESTINATION

1. Click **ADD IP DESTINATION...** to access the CREATE NEW IP DESTINATION window.
2. Enter a description and click **CREATE NEW IP DESTINATION**; the EDIT IP DESTINATIONS window appears:

**Description**—Unique and descriptive name of the IP destination.

**Multicast Group**—IP address for the IP destination.

**Multicast Port**—Port for the IP destination.

To target an IP destination for broadcast, add it to a zone and target the zone. Add IP destinations to any zone (see the [Zones](#) section).

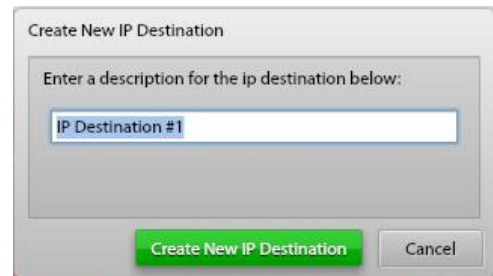


Figure 108. Create New IP Destination

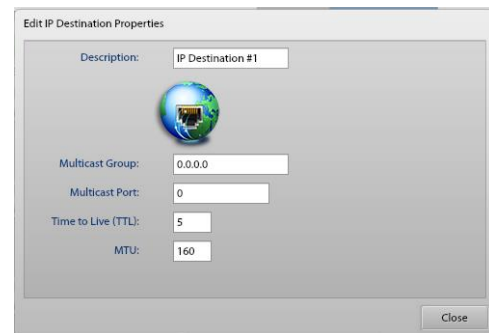


Figure 109. Edit IP Destination Properties

## SP2 Integration

E3 systems integrate SP2/SVS/HUBBCOM devices to add the features and flexibility of these systems. The E3 Console implements portions of the SP2 Console to configure SP2/SVS/HUBBCOM devices in an E3 system. The following sections provide information to configure SP2/SVS/HUBBCOM devices in the E3 Console. Please refer to the SP2/SVS Configuration Guide, GTC Pub. 42004-784 (see the [Reference Documentation](#) section) for complete information on configuring SP2, and SVS devices.

**NOTE:** The E3 Console does not provide the device control capabilities of the SP2 Console. The E3 Console is strictly an E3 system configuration tool. Use the E3 Portal application for operational control of an E3 system. GTC Pub. 42004-485 provides information to install and use the E3 Portal application (see the [Reference Documentation](#) section).

**NOTE:** The SVS portion of the SP2 to E3 Integration is non-functional in this software release.

Click the SP2/SVS/HUBCOM tab, on the left side of the E3 Console, to access the SP2 CONFIGURATION. The SP2 CONFIGURATION opens to the SYSTEM PROPERTIES tab with the GLOBAL SYSTEM SETTINGS parameter group expanded.

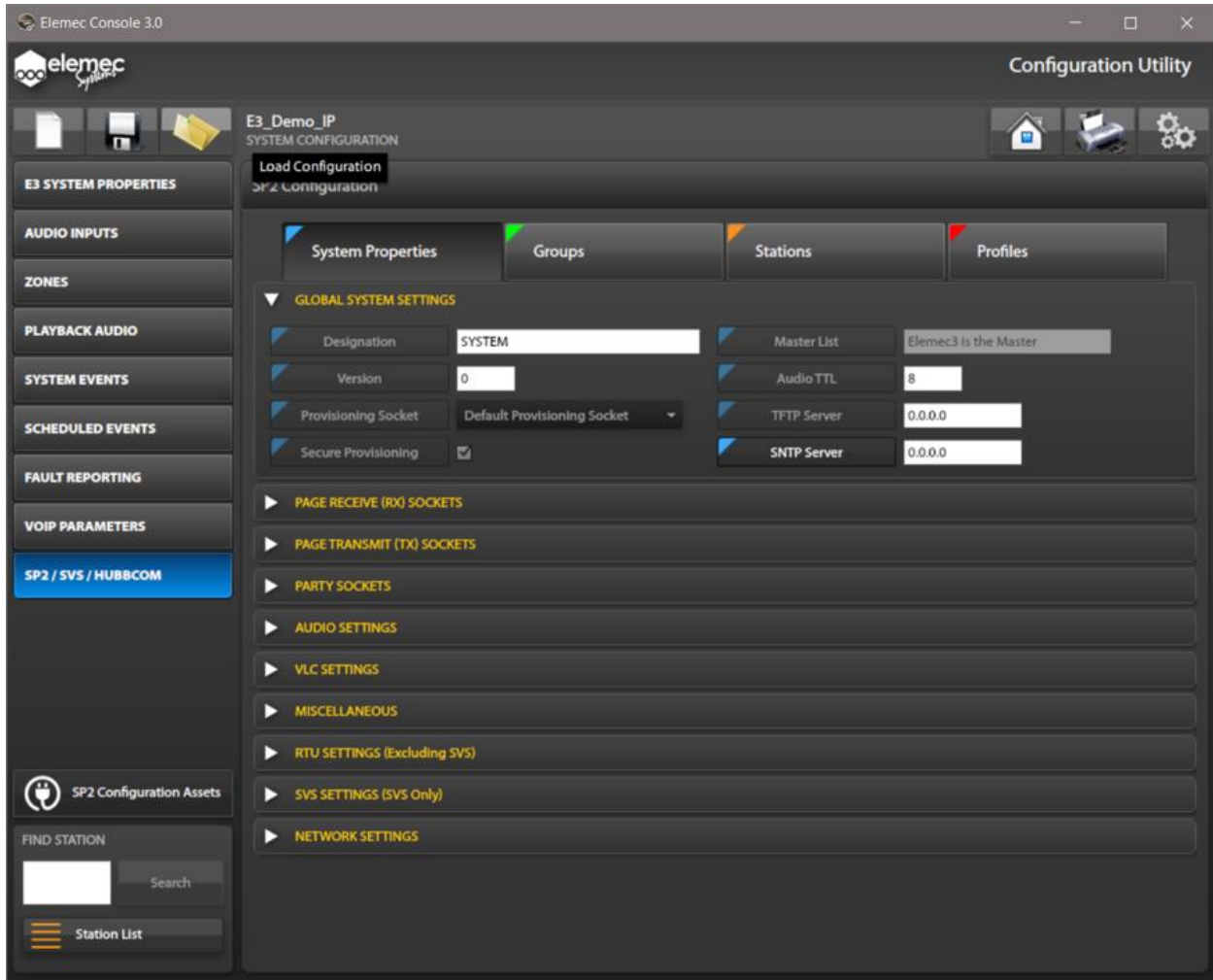


Figure 110. SP2 Configuration

## Configuration Parameter Field Flags

The E3 Console SP2 CONFIGURATION uses colored flags on each parameter's field label to indicate the configuration location for that parameter in the SP2 configuration. The flags display as colored triangular overlays on the upper left corner of each parameter field label and match the color of the location in the configuration where it was set. The flag colors are:

- blue for parameters configured on the SYSTEM PROPERTIES screen,
- green for parameters configured on the GROUPS screen,
- orange for parameters configured on the STATIONS screen, and
- red for parameters configured on the PROFILES screen.

The flags are visible on every SP2 parameter field in the console and appear exactly as displayed on the screen label buttons across the top of the SP2 CONFIGURATION screen.

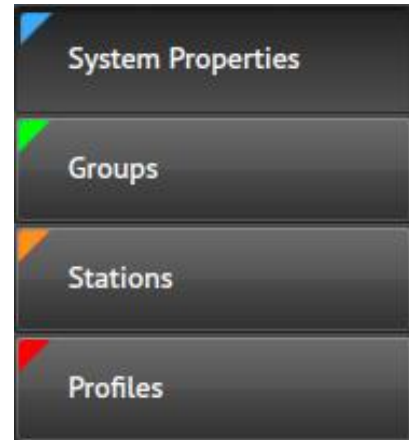


Figure 111. Section Label Buttons Showing Flag Colors

## Station Parameter Configuration and Precedence

The SYSTEM PROPERTIES level of the SP2 configuration hierarchy includes settings for all SP2/SVS/HUBBCOM station essential parameters. They appear with slightly dimmed flags to indicate they have default settings. Change an attribute's value, at this level of the hierarchy, by clicking the desired field and modifying the value using the method appropriate for the field type.

On the GROUPS, STATIONS, and PROFILES levels of the hierarchy, click a field label to activate the field before clicking in the field to modify the value. The configuration utility always displays the value for each attribute, with the flag illustrating the configuration level where that parameter is set.

The order of precedence from lowest to highest is SYSTEM (blue), GROUP (green), STATION (orange), PROFILE (red):

- GROUP parameters take precedence over SYSTEM parameters,
- STATION parameters take precedence over GROUP and SYSTEM level parameters, and
- PROFILE parameters take precedence over STATION, GROUP, and SYSTEM parameters.

**NOTE:** Do not implement audio settings in the system configuration that affects stations with physical hardware adjustments implemented. Mutual provisioning configuration settings overwrite configured hardware audio settings with the last applied value. Attempting to modify one of these parameters will superimpose a red exclamation point over the field name to draw attention to the operation of this parameter when configured in mutual provisioning.



## I/O States

SP2/SVS/HUBCOM stations maintain I/O parameters in RAM while energized. These parameters are variables containing information regarding the current state of the station. Use these logical states to control the function of the five LEDs (SP2 stations only) and RTU output(s).

Table 3. SP2 Input/Output States

<b>Variable Name</b>	<b>Description &amp; Valid Values</b>
<b>RXPAGEANY</b>	A page line is receiving a page.
<b>RXPAGEn</b>	Page line <i>n</i> is receiving a page, where <i>n</i> :=1–8.
<b>TXPAGEANY</b>	A page line is transmitting a page.
<b>TXPAGEn</b>	Page line <i>n</i> is transmitting a page, where <i>n</i> :=A–E for SP2 stations or <i>n</i> :=A–P for HUBBCCOM stations.
<b>PARTY</b>	One or more party lines is receiving audio.
<b>PARTYn</b>	The station is receiving audio on party line <i>n</i> , where <i>n</i> :=1–5.
<b>ONHOOK</b>	The handset is on-hook.
<b>OFFHOOK</b>	The handset is off hook.
<b>ON</b>	Always ON.
<b>OFF</b>	Always OFF.
<b>HEALTHY</b>	The station is not detecting any fault conditions.
<b>FAULTY</b>	The station is detecting a fault condition.
<b>LINKUP</b>	The network interface physical link is up.
<b>LINKDOWN</b>	The network interface physical link is down.
<b>RTUIP1ACTIVE</b>	RTU input one is in the active state.
<b>RTUIP1INACTIVE</b>	RTU input one is in the idle state.
<b>RTUIP1OPEN</b>	The station is detecting an open circuit fault on RTU input one.
<b>RTUIP1SHORT</b>	The station is detecting a short circuit fault on RTU input one.
<b>RTUIP1GROUND</b>	The station is detecting an earth ground fault on RTU input one.
<b>RTUIP1LINE</b>	The station is detecting a short circuit line fault on RTU input one.
<b>RTUIP2ACTIVE</b>	RTU input two is in the active state.
<b>RTUIP2INACTIVE</b>	RTU input two is in the idle state.
<b>RTUIP2OPEN</b>	The station is detecting an open circuit fault on RTU input two.
<b>RTUIP2SHORT</b>	The station is detecting a short circuit fault on RTU input two.
<b>RSIP1ACTIVE</b>	The desktop subset's input one is active.
<b>RSIP1INACTIVE</b>	The desktop subset's input one is inactive.
<b>RSIP2ACTIVE</b>	The desktop subset's input two is active.
<b>RSIP2INACTIVE</b>	The desktop subset's input two is inactive.

## SP2 System Properties

Click the SYSTEM PROPERTIES button, at the top of the screen, to access the SYSTEM PROPERTIES screen.

The GLOBAL SYSTEM SETTINGS parameter pane expands by default (see the [Global System Settings](#) section).

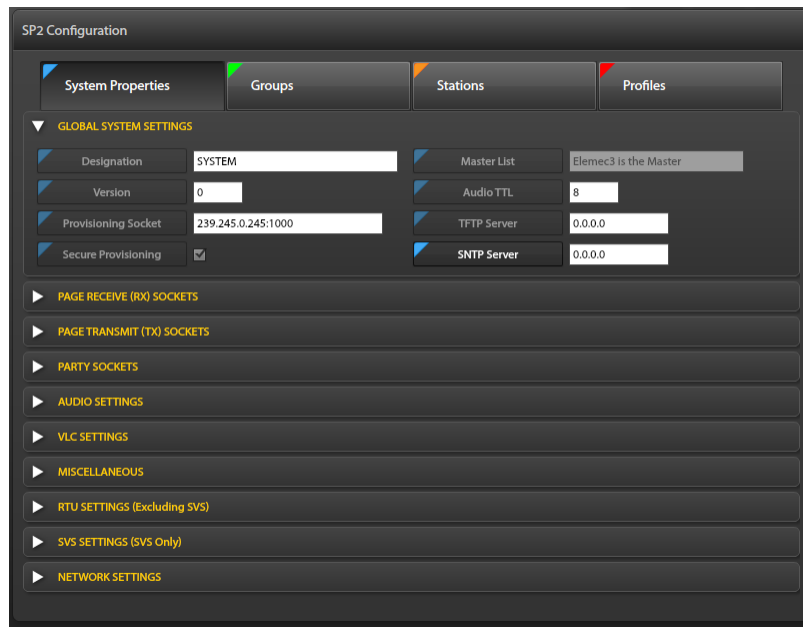


Figure 112. System Properties Pane with Global System Settings Pane Expanded

## SP2 Groups

Click the GROUPS button, at the top of the screen, to access the parameter panes at the groups level. SP2/SVS groups relate to the hexadecimal group-selector switch position in the physical SP2 stations. All stations with the same switch setting are in the same group. Organize stations in up to 16 groups of up to 250 stations each.

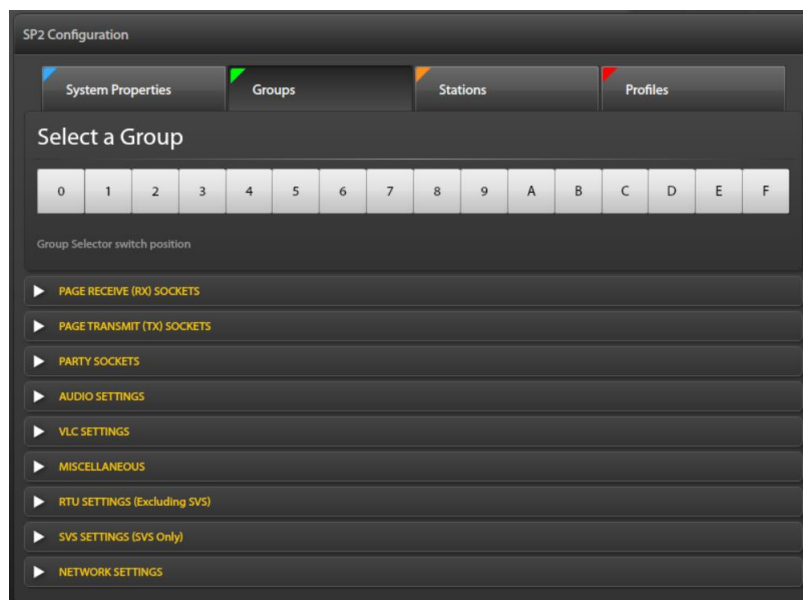


Figure 113. Manage Groups Pane

**Select a Group**—Select a group from the 16 available groups when the SP2 stations need the same parameter values at this level in the hierarchy.

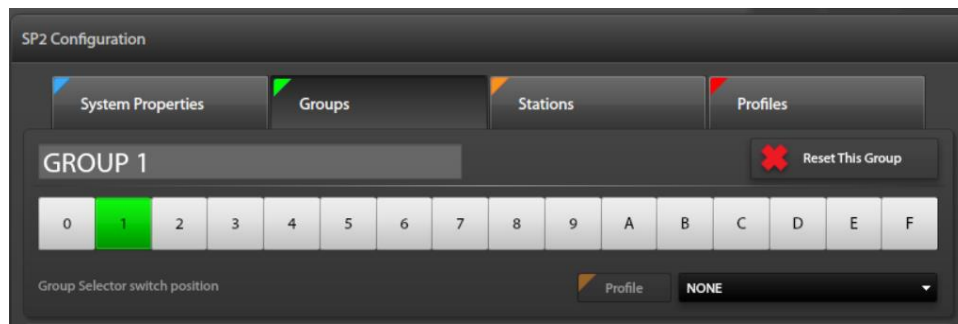


Figure 114. Group 1 Selected

**Group 1**—The current group appears above the group selection buttons.

**Reset this Group**—Removes all attribute settings for the selected group.

**Profile**—Assign a profile, as required, to SP2 stations with the same group selector switch position. Profiles provide a method of assigning profile specific values to attributes at the group and station levels of the hierarchy. To assign a profile to a group, click the PROFILE field label and select profile one through nine from the dropdown list (see the [Profiles Screen](#) section).

**Collapsed Parameter Panes**—Below the SP2 group information pane are the collapsed parameter panes. Click the arrow to expand the pane containing parameters needing modification (see the [Parameter Panes](#) section).

## Stations Screen

Click the STATIONS button, at the top of the screen, to access the parameter panes at the stations level. The STATIONS screen permits configuration of attributes for individual SP2/SVS/HUBCOM stations in the E3 system. The STATION VIEW PANE works with the STATION LIST to open the properties of individual stations in the configuration.

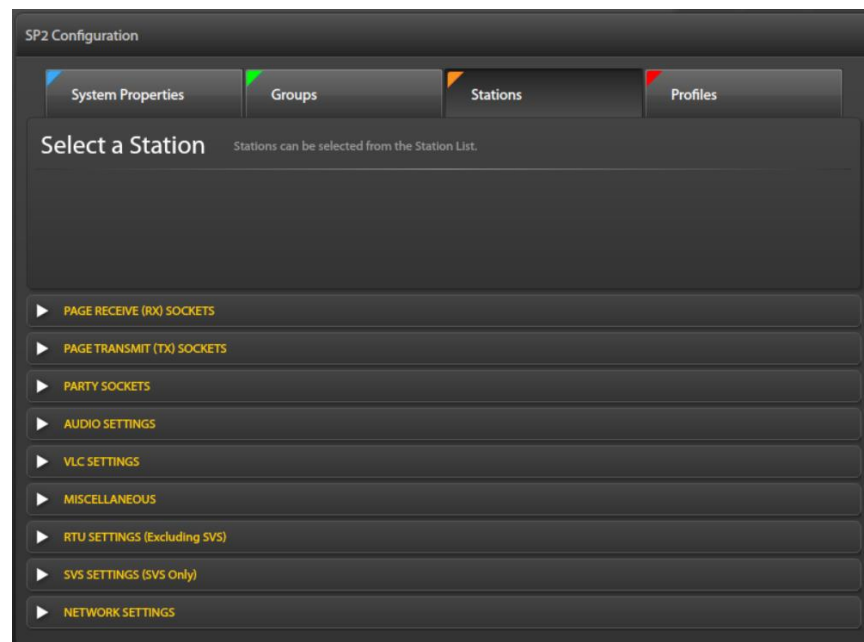


Figure 115. Station View Screen (No Station Selected)

**Select a Station**—Select stations from the station view list (see the [Find Station and Station List Utility](#) section). The configuration properties for the station appear in the STATION VIEW pane after selecting a station.

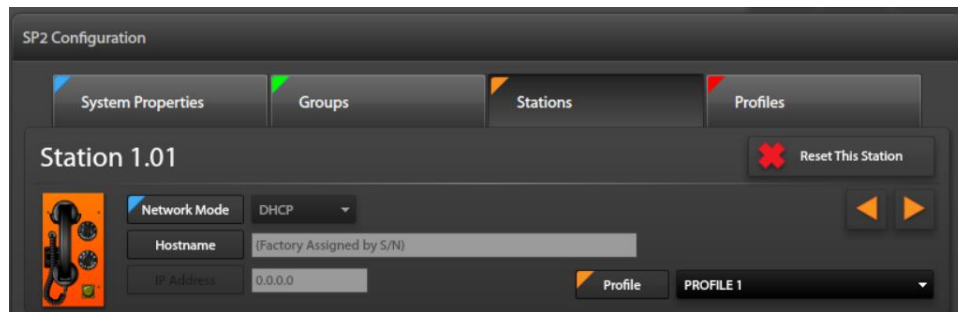


Figure 116. Station 1.01 in the Station View Pane on the Stations Screen

**Station 1.01**—The currently selected station address appears at the top of the STATION VIEW pane.

**Reset This Station**—Removes all changes to the station’s parameters. This is an undo action for all parameters modified in all parameter groups for the station.

**Network Mode**—Designates the current mode this station uses to obtain its IP address.

◀ ▶—Cycles through the SP2 stations that have identifiers in the system. This allows browsing to a different station’s settings without having to use the station list utility.

**Hostname**— This station’s name on the IP network. The E3 Console assigns the factory assigned serial number for the hostname.

**IP Address**—Currently grayed out because the network mode for this station is DHCP. Change the NETWORK MODE parameter to unlock this field, enabling entry of a valid IP address.

**Profile**—Allows additional parameter changes to this station by assigning settings in a profile to the station. The flag button is orange, indicating the setting is set at the [STATION] level in the hierarchy. Configure profiles on the MANAGE PROFILES screen, in the next section.

**Collapsed Parameter Panes**—Collapsed parameter panes display below the station information pane. Click the expand arrow to open the group containing the parameter(s) for modification (see the [Parameter Panes](#) section).

## Profiles Screen

Click the PROFILES button, at the top of the screen, to access the parameter panes at the profile level. Assign profiles to groups and stations. Apply profile settings to a station or group of stations on the GROUPS and/or STATIONS screens in the configuration.

**NOTE:** Configuration changes to parameters implemented in a profile override the previously set value for all parameters assigned in the profile.



Figure 117. Manage Profiles Screen

**Select a Profile**—Click on a profile number to select it.

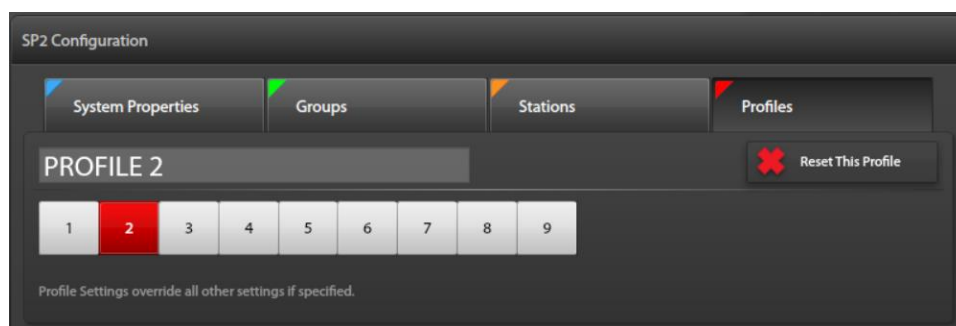


Figure 118. Profile Selected

**Profile 2**—The currently selected profile, at the top of the MANAGE PROFILES pane. The box selected containing the profile number is red.

**Reset This Profile**—Removes all changes to this profile.

**Collapsed Parameter Panes**—Collapsed parameter panes display below the selected profile. Click the expand arrow to open the pane containing parameters needing modification (see the [Parameter Panes](#) section for information on the settings in each parameter group).

## Parameter Panes

The SP2 screens group SP2/SVS/HUBBCOM station attributes by function in expandable *parameter panes*. The parameter panes are:

- GLOBAL SYSTEM SETTINGS (only on the SYSTEM PROPERTIES level)
- PAGE RECEIVE (RX) SOCKETS
- PAGE TRANSMIT (TX) SOCKETS
- PARTY SOCKETS
- AUDIO SETTINGS
- VLC SETTINGS
- MISCELLANEOUS
- RTU SETTINGS (EXCLUDING SVS)
- SVS SETTINGS (SVS ONLY)

**NOTE:** The SVS portion of the SP2 to E3 integration is non-functional in this software release.

- NETWORK SETTINGS

The GLOBAL SYSTEM SETTINGS parameters are only applicable at the system level; this set of parameters does not appear on any other screen (see [Figure 110](#)).

The following sections discuss each parameter pane. Except for the GLOBAL SYSTEM SETTINGS parameters, the remaining parameter panes are identical on each screen, so this manual covers each parameter pane only once. The SP2 Configuration Guide, Pub. 42004-784 provides information for the function of each individual station parameter (see the [Reference Documentation](#) section).

### Global System Settings

The GLOBAL SYSTEM SETTINGS parameter pane contains settings that apply to the entire E3 system. Only the SYSTEM pane includes these parameters. The flags on the field names appear slightly grayed, indicating the current settings are system default settings.



Figure 119. Global System Settings Pane

- **Designation**—String value indicating the name of the SP2 system. A network can have only one system designation.
- **Version**—Current configuration version. It is important to update the *VERSION* parameter in the configuration file by one whenever making a change to the configuration. The SP2 stations use this in conjunction with the CRC of the file to determine whether to use and save these parameters.

- **Provisioning Socket**—Multicast socket address for communication between the E3 controller and SP2/SVS/HUBBCOM stations.  
**NOTE:** Use a different DCC socket for each E3 controller that manages separate groups of SP2/SVS/HUBBCOM stations on the same network.  
**NOTE:** The SVS portion of the SP2 to E3 Integration is non-functional in this software release.
- **Secure Provisioning**—Setting is for compatibility with stations having firmware earlier than version 3.2.0. Selected for E3 operation.
- **Master List**—The E3 Console defines *Elemec3 is the Master*.
- **Audio TTL**—(Time to Live) determines the number of routers that IP audio data will traverse before the next router discards the data (Valid settings: 1 to 255).
- **TFTP Server**—IP address of the TFTP server in IPv4 format.
- **SNTP Server**—IP address of the time server in IPv4 format.

## Page Receive (Rx) Sockets

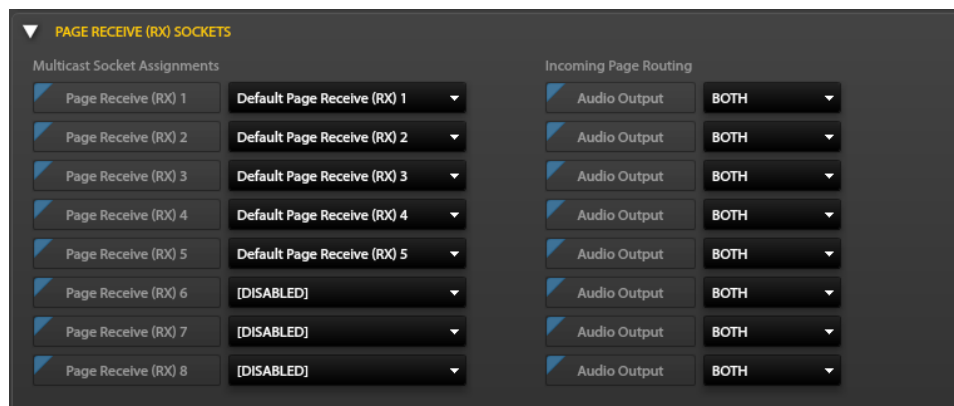


Figure 120. Page Receive (RX) Sockets Pane

### Multicast Socket Assignments

The E3 Console includes five page-receive sockets for use in the E3 system. Three additional page-receive sockets are available for configuration by assigning multicast sockets to PAGE-RECEIVE (RX) 6–8 parameters. Manage multicast sockets on the MULTICAST SOCKETS tab of the SP2 CONFIGURATION ASSETS utility (see the [Multicast Sockets](#) section).

### Incoming Page Routing

The AUDIO OUTPUT fields control the destination of received page audio. Select 600OHMOUT, SPEAKER, or BOTH using the drop-down list for each AUDIO OUTPUT.

## Page Transmit (TX) Sockets

Multicast Socket Assignments	Page Transmit Defer	Pre-Announcement Tone
Page Transmit (TX) A	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) B	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) C	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) D	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) E	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) F	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) G	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) H	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) I	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) J	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) K	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) L	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) M	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) N	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) O	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
Page Transmit (TX) P	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>
600 Ohm Transmit (TX)	DEFER <input checked="" type="checkbox"/>	PRE <input type="checkbox"/>

\*\* Page Transmit (TX) F - Page Transmit (TX) P Hubbcom ONLY \*\*

Figure 121. Page Transmit (TX) Sockets Pane

**NOTE:** SP2 stations use page transmit sockets A–E; HUBBCOM stations use page transmit sockets A–P.

### Multicast Socket Assignments

Use 1–5 page-transmit sockets with SP2 stations and up to 16 page-transmit sockets on HUBBCOM stations. The E3 Console includes default settings for PAGE TRANSMIT (TX)(A–P) parameters for use in the E3 system. Create additional multicast sockets, as needed, using the SP2 CONFIGURATION ASSETS utility (See the [Multicast Sockets](#) section).

Default setting: *disabled*

### Page Transmit Defer

Configure the page channel (A–E (SP2) or A–P (HUBBCOM) or the 600-ohm TX) to add a delay to help eliminate feedback. Select the field to enable it and then uncheck the checkbox if necessary.

Default setting: *selected*

### Pre-Announcement Tone

Configure each page-transmission channel with a preannouncement tone. This parameter is a selection checkbox parameter.

Default setting: *Not Selected*



## Party Sockets

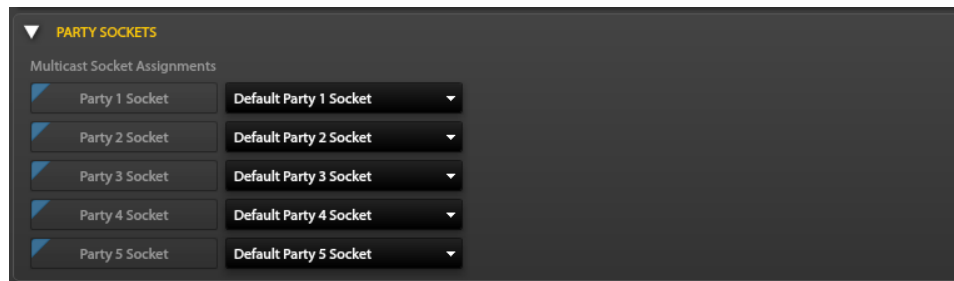


Figure 122. Party Line Sockets Pane

**Multicast Socket Assignments**—There are five party-line multicast sockets in the SP2 configuration for use in the E3 system.

## Audio Settings

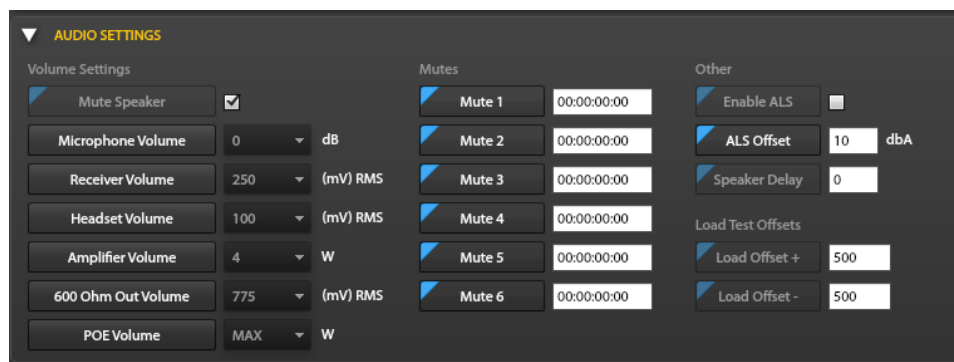


Figure 123. Audio Settings Pane

### Volume Settings

- Mute Speaker**—Mutes incoming pages during page transmission on any PAGETX socket (A–E). Valid settings are:
  - Selected*—Mutes all locally generated and received page audio while transmitting audio pages.
  - Deselected*—Broadcasts received page audio over the station’s external speaker simultaneously while transmitting an outgoing page.
- Microphone Volume**—Sets the handset microphone gain in decibels (dB).  
Valid settings: -12, -6, 0, 6, 12, 18, 24, 30  
**NOTE:** Specify this setting here to override the microphone volume potentiometer adjustment on all SP2 stations.
- Receiver Volume**—Sets the handset receiver volume. The value represents the amplitude in millivolts (mV)<sub>RMS</sub>.  
Valid settings: 100, 125, 150, 175, 200, 225, **250**, 275, 300, 325, 350  
**NOTE:** Specify this setting here to override the receiver volume potentiometer adjustment on all SP2 stations.

- **Headset Volume**—Sets the volume of the headset receiver. The value represents the amplitude in millivolts (mV)<sub>RMS</sub>.  
Valid settings: 75, **100**, 125, 150, 175, 200  
**NOTE:** Specify this setting here to override the headset volume potentiometer adjustment on all SP2 stations.
- **Amplifier Volume**—Sets the audio volume level of the output amplifier for page line speaker output. The value represents the power output of the station amplifier in watts (RMS).  
Valid settings: .008, .016, .032, .063, .125, .25, .5, 1, 2, **4**, 9, 14, 18, 24, 30  
**NOTE:** Specify this setting here to override the headset volume potentiometer adjustment on all SP2 stations.
- **600 Ohm Out Volume**—Sets the page line audio level of the 600-ohm audio. The value represents the amplitude in millivolts (RMS). If the **Page Destination** parameter is set to **BOTH**, then the value stored in the **Amplifier Volume** parameter overrides this setting.  
Valid Settings: 100, 200, 300, 500, 700, **775**, 900, 1000  
**NOTE:** Setting this parameter in the configuration file overrides any adjustments made to the potentiometer on the SP2 PCBA.
- **POE Volume**—Volume setting for stations powered via PoE.  
Valid Settings: 0, .008, .016, .032., 063, .125, .25., .5, 1, 2, 4, 10, 12, 14, MAX

### Mutes

**MUTE1...MUTE6**—These parameters implement feedback prevention by mutually muting stations close to the transmitting station. Configure the parameters with the last four octets of the MAC addresses of the stations that cause feedback. Format: 00:00:00:00

### Other Settings

- **Enable ALS**—Enables the ambient level sensing (Smart Volume) feature on SP2 stations. Valid settings are:
  - **TRUE**—Smart volume enabled or
  - **FALSE**—Smart volume disabled.
- **ALS\_OFFSET**—Speaker broadcast volume level above the measured ambient noise level. The value entered represents the offset in decibels (dBA).  
Valid settings are: **10** dB to 80 dB SPL
- **Speaker Delay**—Delays broadcasting from the speaker in 20-ms multiples. Enter 1 for 20 ms delay, 2 for 40 ms delay, etc.

### Load Test Offsets

The load test offsets define the pass/fail measurement range when the amplifier tests the loudspeaker(s). The amplifier determines the speaker load is healthy when it measures a speaker load value that is within the measurement range.

- **Load Offset +**—Defines the amount of offset to add to the *calibrated speaker load value* to provide an upper bound of the impedance range the amplifier uses to test the station's speaker(s).
- **Load Offset -**—Defines the amount of offset to subtract from the *calibrated speaker load value* to provide a lower bound of the impedance range the amplifier uses to test the station's speaker(s).

## VLC Settings

VLC (volume level control) enables broadcasting audio at different volume levels than an event's configured volume level. The E3 controller broadcasts the current VLC level. The VLC level is IDLE when no event is occurring. This is the lowest VLC level possible. Create VLC levels on the VLC LEVELS tab of the SP2 CONFIGURATION ASSETS utility (see the [VLC Levels](#) section). Assign VLC levels to events (see the [Event Builder](#) section) to configure the VLC priority level for the event. Assign the VLC levels to SP2 stations on the VLC Settings Pane

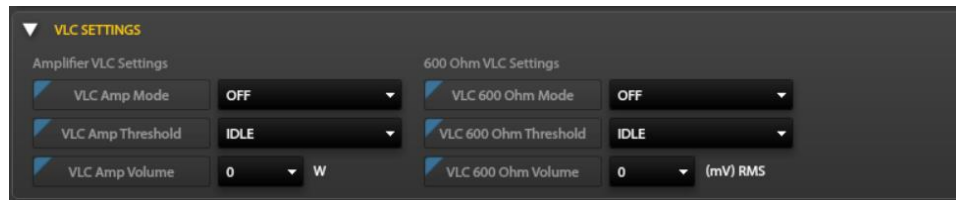


Figure 124. VLC Settings Pane

### Amplifier VLC Settings

- **VLC Amp Mode**—OFF/LOWER THAN/GREATER THAN/EQUAL operator used to compare the SP2 station's VLC amplifier threshold to the event's VLC threshold to control VLC while the event targets an SP2 amplifier for the output.
- **VLC Amp Threshold**—Select a threshold level created on the VLC LEVELS tab in the SP2 CONFIGURATION ASSETS utility (see the [VLC Levels](#) section) or select VLC SETTINGS to open the VLC LEVELS tab of the SP2 CONFIGURATION ASSETS screen.
- **VLC Amp Volume**—Amplifier volume level set by VLC.  
valid values: 0.008, 0.016, 0.032, 0.063, 0.125, 0.25, 0.5, 1, 2, 4, 9, 14, 18, 24, 30, 0 (watts)

### 600 Ohm VLC Settings

- **VLC 600 Ohm Mode**—OFF/LOWER THAN/GREATER THAN/EQUAL setting controls VLC while an event targets the 600-Ohm audio output.
- **VLC 600 Ohm Threshold**—Select a threshold level from the list of VLC LEVELS tab in the SP2 CONFIGURATION ASSETS utility (see the [VLC Levels](#) section) or select VLC SETTINGS to open the VLC LEVELS tab of the SP2 CONFIGURATION ASSETS screen.
- **VLC 600 Ohm Volume**—600-ohm volume level set by VLC  
valid values: 100, 200, 300, 500, 700, 775, 900, 1000, 0 (mV<sub>RMS</sub>)

## Miscellaneous

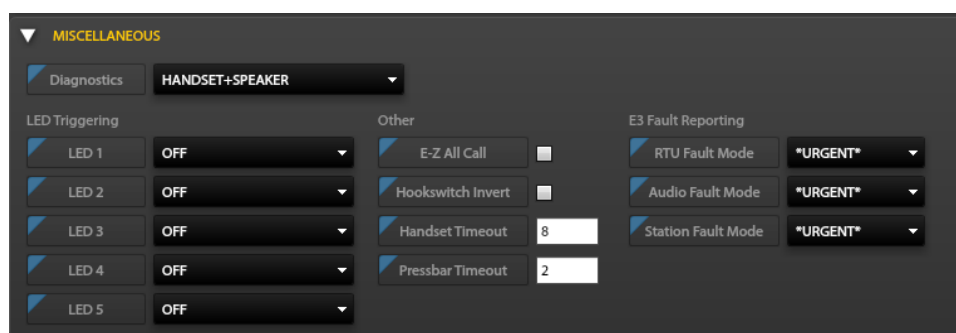


Figure 125. Miscellaneous Parameters Pane

**Diagnostics**—Determines what the station tests each time the diagnostic self- test runs. Set this to **HANDSET+HEADSET+SPEAKER** to execute all diagnostics, any combination of the three, or OFF.

Valid settings: OFF, HANDSET, HANDSET + HEADSET, SPEAKER, **HANDSET + SPEAKER**, HEADSET + SPEAKER, HANDSET + HEADSET + SPEAKER.

### LED Triggering Parameters

**LED1–LED5**—Configure each LED to turn on during various station conditions (see the I/O States section).

### Other

- **E-Z All Call**—Only valid on handset stations with an ALL CALL paging pushbutton. This parameter determines whether an operator must press the handset pressbar when making a page to the **PAGETX\_B SOCK** multicast socket. Valid values are:
  - **TRUE**—Only press the ALL CALL button after lifting the handset to start paging to the **PAGETX\_B SOCK** multicast address. Do not press the handset pressbar to initiate the page. Pressing the handset pressbar without holding the ALL CALL button initiates a page on **PAGETX\_A SOCK**.
  - **FALSE**—The operator must always press the handset pressbar to make a page; including the use of the ALL CALL button.

**NOTE:** Do not set this parameter to TRUE on stations that do not have an ALL CALL button.

- **Hookswitch Invert**—This parameter enables the inversion of the current physical state of the hookswitch represented by the ON-HOOK and OFF\_HOOK variables. Valid settings are:
  - **TRUE**—ON-HOOK and OFF-HOOK values are reversed or
  - **FALSE**—ON-HOOK and OFF-HOOK values are represent the actual current state of the handset.
- **Handset Timeout**—Limits the period that a station is off hook (in minutes with a default of eight minutes). A setting of zero disables the hookswitch timeout.
- **Pressbar Timeout**—Limits the period that a page can continue (in minutes with a default timeout of two minutes). A setting of zero disables the pressbar timeout.

### E3 Fault Reporting

- **RTU Fault Mode**—Specifies the reporting level the system uses to report RTU-related faults.
- **Audio Fault Mode**—Specifies the reporting level the system uses to report audio-related faults.
- **Station Fault Mode**—Specifies the reporting level the system uses to report station faults.

## RTU Settings (Excluding SVS)

NOTE: The SVS portion of the SP2 to E3 integration is non-functional in this software release.

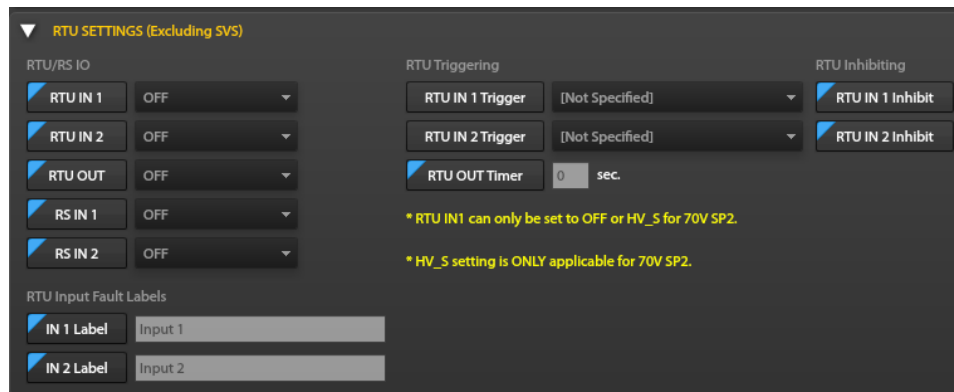


Figure 126. RTU Settings (Excluding SVS) Pane

### RTU RS IO

- **RTU IN 1 & RTU IN 2**—Specifies the normal operating mode (OFF, NO, NC, NO\_S, NC\_S, MNO\_S, SB\_S, HV\_S). The station's valid options at the station level of the configuration limit the available options. All options are available at the remaining configuration levels.
- **RTU OUT**—Specifies what activates the RTU output on the station.
- **RS IN 1 & RS IN 2**—Specifies the remote station inputs as NO (normally open), or NC (normally closed).

### RTU Triggering

- **RTU IN 1 Trigger and RTU IN 2 Trigger**—Specifies the action taken or triggered when the RTU input is active. Selections include Global Mutes, ACKs, CANCELs, and E3 events.
- **RTU OUT Timer**—Specifies the RTU output period. Enter zero to activate the RTU output for the duration of the trigger.

### RTU Inhibiting

**RTU IN 1 Inhibit & RTU IN 2 Inhibit**—Specifies the inhibit groups that affect the RTU inputs (see the [Inhibit Groups](#) section).

**RTU Input Fault Labels** (SP2 station level only, only valid for SP2 stations)

**IN1 Label and IN2 Label**—Configure names for the inputs to identify the exact input that is active in the Portal application when monitoring an E3 system.

## SVS Settings (SVS Only)

NOTE: The SVS portion of the SP2 to E3 integration is non-functional in this software release.

Figure 127. SVS Settings (SVS Only) Pane

### SVS IO

- **SVS IN1** and **SVS IN 2**—*Normal operation*: the output fires when the input is present if SVS IN 1 and SVS OUT are both set to **IN1**.
- *Operation in an E3 system*: the E3 system receives the status of the inputs (SVS IN1 and SVS IN 2) and processes it according to the E3 configuration.
- **SVS OUT**—Condition that activates the RTU output on the station.

### SVS Triggering

**SVS IN 1 Trigger** and **SVS IN 2 Trigger**—Specifies the action taken or triggered upon activation of the SVS input. Selections include Global Mutes, ACKs, CANCELS, and E3 events.

### SVS Inhibiting

**SVS IN 1 Inhibit** and **SVS IN 2 Inhibit**—Specifies the inhibit groups that affects the SVS inputs (see the [Inhibit Groups](#) section).

### SVS Volume Settings

- **SVS Amplifier Volume**—The default volume for SVS stations.
- **SVS POE Volume**—The volume level for SVS stations receiving power via PoE.

## Network Settings Pane

Figure 128. Network Settings Pane

### Network Properties

- **Network Mode**—*DHCP* or *STATIC*
- **Subnet Mask**—Mask that defines the logical IP network.

- **Gateway**—IP address of the router to access destinations outside the logical IP network.
- **DNS**—IP address for the DNS. DNS converts domain names to IP addresses.
- **Telnet Locked**—Enabled/*Disabled*
- **SNMP Enabled**—*Enabled/Disabled*

### SMTP Setup—System Only

The parameters under this heading are view only parameters, inherited from the SYSTEM PROPERTIES screen GLOBAL SYSTEM SETTINGS pane (see the [Global Settings](#) section).

- **SMTP Server**—IP address of the SMTP server that will receive email from the E3 system.
- **SMTP Port**—IP port address of the SMTP service. default 25.
- **SMTP From**—Sending SMTP address from the E3 system.
- **SMTP To**—Address to receive email from the E3 system.
- **SMTP Password**—Password required to authenticate the **SMTP From** account on the SMTP server.

### SNMP Setup—System Only

The parameters under this heading are view only parameters, inherited from the SYSTEM PROPERTIES screen GLOBAL SYSTEM SETTINGS pane (see the [Global Settings](#) section).

- **SNMP Server**—IP address of the SNMP server
- **SNMP Port**—IP port address of the SNMP service on the SNMP server.
- **RTU/RS IO**—See the [RTU Settings \(Excluding SVS\)](#) section.
- **SVS I/O Settings**—See the [SVS Settings \(SVS Only\)](#) section.

NOTE: The SVS portion of the SP2 to E3 Integration is non-functional in this software release.

## SP2 Configuration Assets

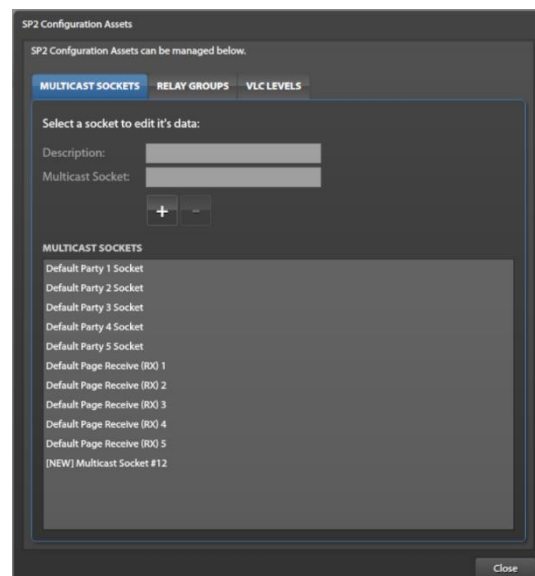
SP2 configuration assets are multicast sockets, relay groups, and VLC levels, for the SP2 configuration in the E3 system.

### Multicast Sockets

Configure multicast sockets for each page and party line:

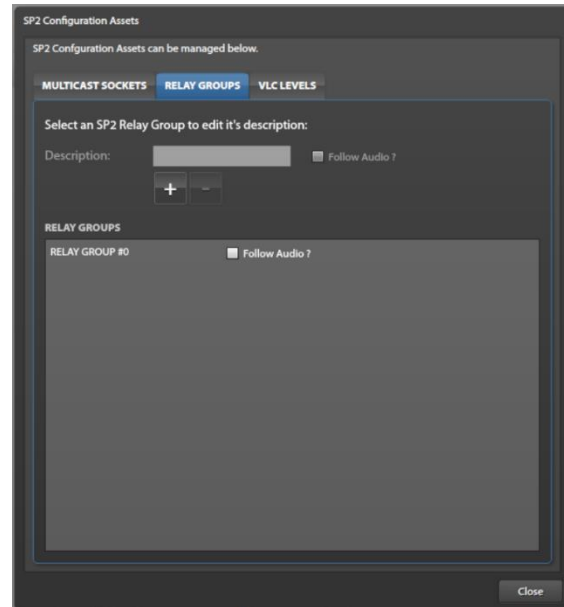
1. Create additional multicast sockets by clicking the + **ADD SOCKET** button and entering a description and a valid multicast socket address.  
  
Valid multicast sockets must have IP addresses and ports in the following range: (239.1–127|129–255.0–255.0–255: 0–65534).
2. Delete manually created multicast sockets by clicking the – **DELETE SOCKET** button.

The E3 Console does not allow deletion of the five *default* page and party sockets.




## Relay Groups

Relay groups combine relays on separate devices into a group to activate the group of relays with a single event.



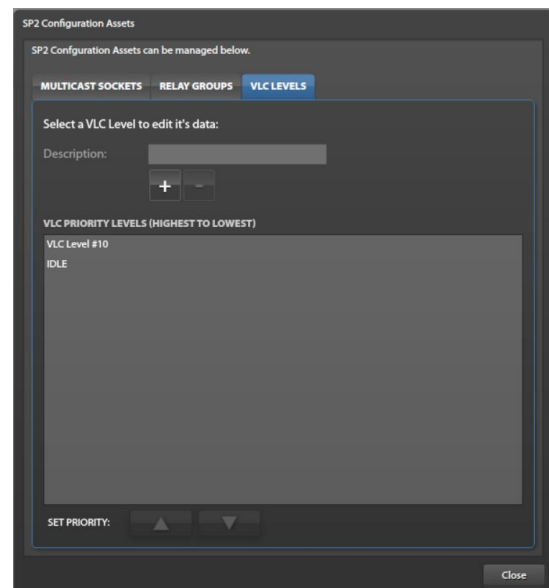
## VLC Levels

VLC levels allow setting volume levels independently by event or source:

—Click **+** to create a new VLC level.

A new VLC level with a default description (*VLC Level#N*) appears in the VLC PRIORITY LEVELS (HIGHEST TO LOWEST) list.

3. *Optional*: Change the description of the VLC level to represent its purpose.
4. Add VLC levels for all necessary VLC usage needs.
5. Use the SET PRIORITY: up and down arrows to configure the relative priority of the VLC levels.





## Find Station and Station List Utility

The find station utility locates existing SP2 stations in the configuration for assignment of specific parameter values on the GROUP, STATION, or PROFILE screens in the E3 Console. It also provides the ability to add additional SP2/SVS/HUBBCOM stations to the system configuration.

**NOTE:** The SVS portion of the SP2 to E3 integration is non-functional in this software release.

**Search Button**—Locates stations already in the configuration. Enter a valid station ID with the format G.SS, where G is the group number to which the station belongs, and SS is the station number in that group. Enter a valid station ID to activate the SEARCH button. The utility displays:

- The station's STATION VIEW pane (see the [Stations](#) section) if the station identifier already exists in the configuration.
- A prompt to add the station to the configuration if the station is not already in the configuration (see [Figure 130](#)).

Click the **CREATE STATION** button to add the station's ID to the configuration or **CANCEL** to exit the dialog box without adding the station to the configuration. Adding the station will open that station's STATION VIEW pane.

**Station List Button**—Opens the MANAGE STATIONS screen (see [Figure 131](#)). This screen displays filtered lists of station identifiers in the E3 SP2 configuration. All stations in the configuration appear in the list of stations without a filter. The list displays the SP2 stations with the **UNIT** parameter preceding the station identifier. Double click any station in the list to open the STATION VIEW pane for that station.

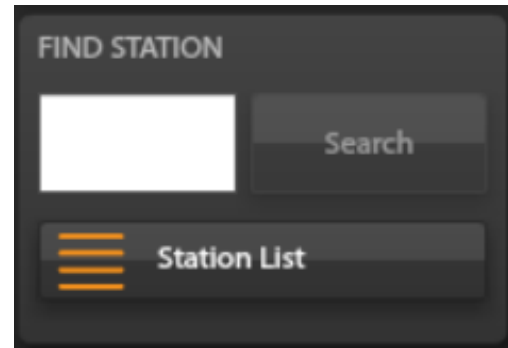


Figure 129. Find Station and Station List Utility

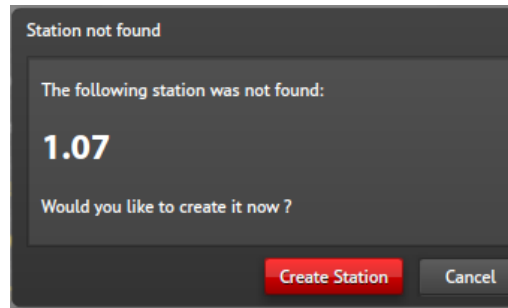


Figure 130. Station Not Found

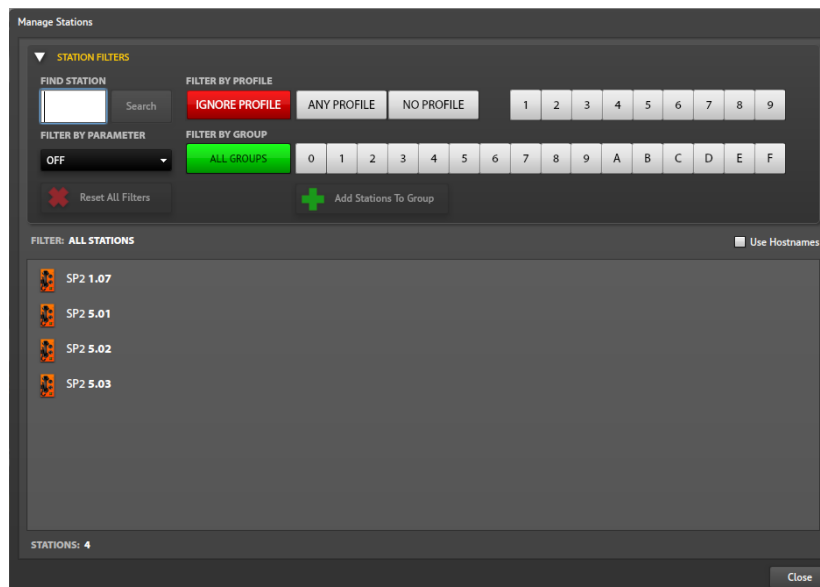


Figure 131. Manage Stations

**STATION FILTERS**—Provides multiple methods to display the desired stations. Expand and collapse the filter pane by clicking on the **STATION FILTERS** expansion button.

- **Find Station/Search**—Facilitates finding stations in the configuration that the active filter is hiding (see the [Search Button](#) section).
- **Filter by Parameter**—Display the stations with the parameter configured in the [G.SS] section of the configuration by selecting a parameter from the dropdown list. All station parameters configurable at the station level are selectable from the list.
- **Reset All Filters**—Removes all existing filters in the pane to display all stations with identifiers in the E3 configuration.
- **Filter by Profile**—Has four selectable options; IGNORE PROFILE, ANY PROFILE, NO PROFILE, or PROFILE 1–9. The **RED BUTTON** is the currently selected option (see the [Profiles Screen](#) section).
  - **Ignore Profile**—This is the default option that displays all stations regardless of profile assignment.
  - **Any Profile**—This option displays all stations that have a profile.
  - **No Profile**—Lists only the stations that do not have a profile.
  - **Profile 1..9**—Finds and lists the stations that apply profile 1–9.
- **Filter by Group**—Locates all stations in the configuration with their group selector switch set to group number, 0–F.
- **Add Stations to Group**—Opens the dialog box at the right to add stations to the configuration in the group selected above.

- **STATIONS TO ADD:**—The number of stations, 1–250, to add to the configuration where their group selector switch is set to the group number selected in the filter.
- **CREATE AS...**—Selects the type of station; SP2 STATION, SVS SPEAKER, or HUBBCOM.

**NOTE:** The SVS portion of the SP2 to E3 Integration is non-functional in this software release.

- **SET NWMODE STATIC**—Sets the station’s **NW-MODE** parameter to static. Configure static IP addresses for all stations in the configuration.
- **Start Address**—The class C IP address of the first station. The console automatically configures the remaining stations with incremental IP addresses.
- **CREATE STATIONS**—Creates the number of stations in the **STATIONS TO ADD:** field. Selection of **SET NWMODE STATIC** requires entry of a valid class C address IP address.
- **CANCEL**—Closes the dialog box without creating any stations in the configuration.
- **Filter**—Displays the applied filters. Ex. GROUP1, IGNORING PROFILES.
- **Use Hostnames**—Lists the SP2 stations by their host names instead of by their station IDs. Valid SP2 station hostnames are up to 28 characters long. Select this option to show fewer stations on screen.
- **Stations**—Number of stations currently displayed in the pane inside the **MANAGE STATIONS** screen. The number of creatable stations in the group also displays when applying a group filter.
- **Close**—Closes the **MANAGE STATIONS** screen.

## Save the Configuration

Select the diskette icon from the toolbar shown below to save the configuration:

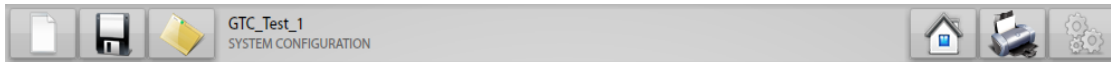


Figure 132. Example—Save the Configuration

Click the SAVE toolbar icon (diskette) to open the SAVE CONFIGURATION dialog box. It includes options for SAVE AS COPY and EXPORT CONFIGURATION TO BRIDGE FOR UPLOAD.

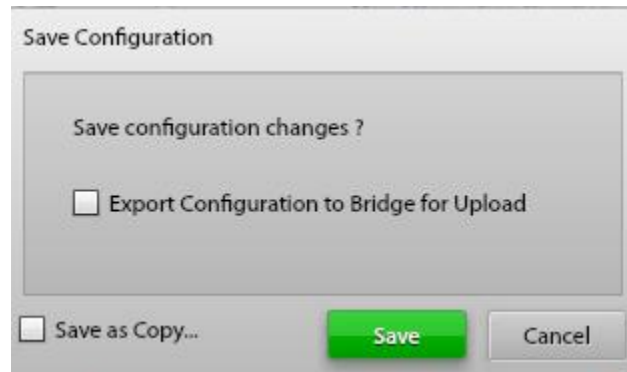


Figure 133. Save Configuration

**Export Configuration to Bridge for Upload**—Copies the configuration to the Elemec Bridge location for upload to an E3 controller using the E3 Portal application.

**Save as Copy**—Saves the current configuration with a new name.

**Save Configuration Changes?**—Click the **SAVE** button to save the current configuration.

## Reference Documentation

GAI-Tronics' documentation and the GUDA software are available on GAI-Tronics' website at <https://www.hubbell.com/gai-tronics/en>.

<i>Elemec3</i> Networked Systems Configuration Guide.....	42004-521
SP2 Configuration Guide .....	42004-784
<i>Elemec3</i> Portal System-Administration Utility User Manual—Version 3 .....	42004-485
<i>Elemec3</i> System Controllers .....	42004-497
E3 IP Controller .....	42004-556
GAI-Tronics Universal Device Application .....	42004-531
HUBBCOM Device Configuration Guide .....	42004-551

# Glossary of Terms

<b><u>Term</u></b>	<b><u>Definition</u></b>
<b>A-B System</b>	The arrangement of two E3 systems to achieve redundancy through coordinated duplicated operations. The B ‘Redundant’ system may have some amplifiers excluded.
<b>Access Panel</b>	End user interface device to control alarms and generate live speech broadcasts. The panel is available in three formats—19-inch rack mounting, desk mounting, and bulk-head mounting. Stalk or fist microphones are available.
<b>Access Panel Muting</b>	Method of feedback prevention by way of automatic disconnection of local speakers during an access panel live speech broadcast. Disconnection employs an output of an I/O controller.
<b>Amplifier</b>	Device containing one or two amplifier channels.
<b>Attenuate</b>	To reduce the broadcast volume by a specified amount. Attenuate audio on-demand (from an access panel), or by a higher priority event (in accord with the <i>Global Audio Mix</i> setup).
<b>Aux 1–Aux 5</b>	Designations for the five auxiliary audio channels (inputs to the controller).
<b>IPAux 1–IPAux 8</b>	Designations for the eight IP auxiliary audio channels (inputs to the controller).
<b>Configuration</b>	A named collection of settings that describe system behavior. The Elemec Console application creates, modifies, and manages configurations. Store the configurations in a directory. A configuration consists of a main file (config.db) plus several audio message (.mp3) files.
<b>Controller</b>	The central device of the PAGA system that coordinates audio routing and event activation requests in accord with the configuration.
<b>Contingent Override</b>	A type of event group that automatically substitutes a general event to occur if multiple specific events initiate.
<b>E3 Portal</b>	Software application that provides for viewing of an <i>E3</i> system’s status, for initiating Tick Tone, and for managing Configuration updates.
<b>Event</b>	A defined set of actions that an E3 controller performs. An event may generate audio, route audio, and activate outputs. Set up events using the E3 Console application. At any given time, an event in the system is either active or idle. Each event has many characteristics that govern the system’s response to the activation of the event and to the event’s progression. Event types include live speech, playback, record/playback, silent, and external.
<b>Event Chaining</b>	E3’s mechanism for allowing an Event to trigger another Event, with the possibility of the trigger being dependent on the state of an input, an output, or a Flag. A sequence of activations setup through chaining of Events.
<b>Event Group</b>	A collection of Playback Events.
<b>Fault</b>	The system detects trouble conditions. The <i>E3</i> Console categorizes faults as either <i>Normal</i> or <i>Urgent</i> (or <i>Ignore</i> ) depending on their severity level. Set a fault to <i>ignore</i> if it is insignificant; the <i>E3</i> Portal application does not display faults set to ignore.
<b>Global Mute</b>	Time-limited suppression of audio in accord with one of four preset settings.
<b>Global Settings</b>	A group of configuration settings, on the <i>System Properties</i> pane, that governs overall operation of the controller.
<b>Inhibit Group</b>	A group of inputs that another input inhibits.
<b>Insert 1 and 2</b>	An audio processor such as an equalizer or feedback eliminator connected to the <i>E3</i> system, inserted into one of the two mix channels.
<b>I/O Controller</b>	A class of <i>E3</i> devices that accepts voltage-free input contacts (for event activation, etc.) and provides outputs having DPDT relays (employed to control beacons, to mute speakers, or to provide signals to external equipment).

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<b><u>Term</u></b>	<b><u>Definition</u></b>
<b>IP Destination</b>	A multicast destination for IP audio.
<b>Live Speech Event</b>	An Event that provides for live speech broadcast.
<b>Locations</b>	Optional text description of device physical location within site.
<b>Mix 1/Mix 2</b>	The two audio channels in the controller that provide audio to the amplifiers.
<b>Mute</b>	To discontinue broadcast audio (see the <a href="#">muting button—access panel mute setup</a> and <a href="#">manage global mutes</a> sections)
<b>N+1 System</b>	A duplicated (A-B) type system in which the B system contains no amplifiers.
<b>PAGA</b>	Acronym for Public Address/General Alarm.
<b>Playback Event</b>	An event that broadcasts a preset audio message.
<b>Record/Playback Event</b>	An event that records live speech and then broadcasts the recording. The primary purpose of this is to prevent acoustic feedback.
<b>Stand-Alone System</b>	An <i>E3</i> system that consists of a single system <i>E3</i> controller. This type of system has no backup in the case of controller failure.
<b>System Flag</b>	One of several logic outputs (without relays) originating within the <i>E3</i> system that provide real-time active/idle status of system operation. When one of these conditions occurs, the logic flag status is <i>active</i> ; otherwise, they are <i>idle</i> . The system checks these flags, as well as <i>user flags</i> , to affect <i>event chaining</i> , provide access panel LED indication, or I/O controller output.
<b>Telephone Interface</b>	A device within the controller that allows PABX subscribers to access the PAGA system.
<b>Tick Tone</b>	A low-priority fixed playback event (with selectable mp3 file) to confirm zone setup and speaker loop wiring. It is <i>system tone 8</i> (chosen through playback audio). Initiate the <i>tick tone</i> event from the Portal or access panels.
<b>User Flag</b>	The system programmer using the <i>E3</i> Console application defines user flags. Like the system flags, these are system conditions to indicate operating parameters in the system. Create user flags for conditions that a system flag does not define. When any of these conditions occur, the User Flag is <i>active</i> ; otherwise, it is <i>idle</i> . Use flags to trigger LED indicators on access panels or as triggers for conditional event chaining.
<b>VLC</b>	Acronym for <i>volume level control</i> .
<b>Zone</b>	A zone is a collection of amplifier channels, digital/analog outputs, logic flags, output groups, as well as other zones that is a destination for an event.

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