



GAI-TRONICS® CORPORATION
A HUBBELL COMPANY

Elemec3 Console

User Manual—Version 2.0

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Confidentiality Notice

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Introduction

Using the *Elemec3* (E3) Console application, a system administrator can configure the Public Address/General Alarm (PAGA) system operating parameters by setting data values on easy-to-use graphical screens. The resulting configuration file is transferred to the E3 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 a system used for emergency notification. Critical operating features could fail due to incorrect programming, resulting in a potentially life-threatening situation.

The use of the E3 console and portal applications should be strictly limited to individuals who have been factory trained and certified on using the software and the ramifications of uploading the 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 contents define the physical and operational characteristics of the system. During system startup, the E3 Controller loads and executes the operating software, reading the configuration file to set the system operation to match the defined settings.

A system administrator configures and monitors an *Elemec3* system's operating environment using the ***E3 Console*** and ***E3 Portal*** application packages. The E3 Console application is used to create and modify a site's configuration files by methodically selecting and setting data values for each system parameter. Graphical representations of system components are presented along with various data entry forms to facilitate recording the settings to create the configuration file. When the system administrator is finished entering the settings, the resulting file is saved as a system configuration file.

The configuration file is then uploaded (*transferred*) from the system administrator PC to the E3 Controller using the E3 Portal application. Refer to the E3 Portal application manual, [Pub. 42004-485](#), for information on its usage. The E3 Portal can also download (*retrieve*) configuration files from the controller, which can then be viewed and edited using the E3 Console application.

The E3 Portal application cannot be used to change a configuration file; this is the role of the E3 Console. The portal application is simply used for configuration file transfer between the system administrator's computer and the E3 Controller using an Ethernet network connection.

Process Flow

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

Table 1. Overview—Configuring and Programming an *Elemec3* System

Action	Description
1. Gather information.	Collect hardware and operational details for the system's configuration.
2. Start the E3 Console application.	Either open an existing configuration or create a new configuration.
3. Define all of the system's hardware devices and the system's operating parameters.	Once a system configuration is loaded in the E3 Console, the System Properties screen is displayed. Navigate to the various screens and set the associated configuration attributes 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 "Elemec Bridge". The configuration file can also be stored to a custom location by using the BROWSE button to select where the file will be stored. The Elemec Bridge location is used by the E3 Portal application as the storage location for accessing configurations for upload to the controller.
5. Run E3 Portal application.	An Ethernet connection is required between the host computer and the E3 Controller. For a local connection, the system administrator attaches a cross-over Ethernet cable from the host computer to the E3 Controller. For a remote connection, the host computer must reside on the same Ethernet subnet as the E3 Controller.
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 UPLOAD CONFIGURATION button and then select a configuration from the Elemec Bridge or other storage location.
8. Restart the E3 Controller.	A RESTART SYSTEM button is provided on the E3 Portal screen.

E3 Console Process Flow

Table 2 lists the suggested sequence for creating a new configuration using the E3 Console.

Table 2. Sequence for Creating a New Elemec3 Console Configuration

Create a Configuration File	
Action	Screen
Select “Create New Configuration”, then enter a descriptive name for the configuration.	Start-up screen & Create New Configuration screen (See Page 8 and Page 10)
Define the System Parameters	
Action	Screen
Identify the system type (Standalone, A-B, N+1). Set system-wide volume and attenuation levels. Assign the controller’s network settings such as IP address (static) or enable DHCP. Enable/disable event recorder. Set the maximum mute duration. Set the maximum attenuation duration. Set the maximum fault acknowledge duration. Enable/disable features: mix 2, mix substitution, event mismatch correction, insert 1 & insert 2.	System Properties (Globals Settings) (See Pages 12 through 15)
Define the Hardware Devices in the System	
Action	Screen
Add Amplifiers	System Properties → Amplifiers
Select the amplifier type. Edit the amplifier description. Set the channel ID (1–64). Set channel zone display. Enable/disable load testing. Identify if channel is a standby amp.	Amplifier screen (See Page 22)
Add Input/ Output (I/O) Modules	System Properties → I/O Controllers
Add I/O modules. Select I/O module type.	I/O Controllers screen (See Page 31)
Define the System’s Live Audio Sources	
Action	Screen
Enable Live Audio Sources: <ul style="list-style-type: none"> • Page/Party® • Telephone interface • Aux #1–Aux #5 • IP Aux #1–Aux #8 	Audio Inputs screen (See Page 38)
Set the priority of the audio input sources.	Live Audio Sources screen (See Page 38)

Define the Zones in the System	
Action	Screen
Add zones.	Zone Configuration screen (See Page 45)
Enter the zone description. Assign the audio outputs to the zone: <ul style="list-style-type: none"> • Monitor Output • Aux Output Assign the amplifier channels to the zone. Assign relay outputs to the zone. Assign relay groups to the zone. Assign logic flags to the zone.	Zone Configuration → Zone Builder screen (See Page 47)
Configure the Background Music Source	
Action	Screen
Select the audio input source (Aux 1–5). Select the zone in which the background music will be played. Select the time interval for amplifier testing.	Playback Audio → Background Music (See Page 49)
Import Sound Files for Pre-Recorded Messages	
Action	Screen
Browse and select an .mp3 file. Import the .mp3 file it into the configuration file.	Playback Audio → Import MP3 (See Page 49)
Define System Tones	
Action	Screen
Select an .MP3 sound file for a system tone (1–7). Enter a description for a system tone (1–7). Select an .MP3 sound file for the “TICK TONE”. Set the play volume for each system tone.	Playback Audio → System Tones (See Page 49)

Add Messages	
Action	Screen
Add a new message.	Playback Audio → Add Messages (See Page 48)
Enter a message description. Select whether an event should automatically be created. Select whether a logic flag should automatically be created. Select a default zone for the message to be heard.	Create New Message (See Page 49)
Select the .mp3 sound files to be included in the message.	Message Builder Screen (See Page 52)
Adjust the playback volume of the message. Adjust the playback volume of individual .mp3 files inside the message.	Playback Audio screen (See Page 48)
Add System Events	
Action	Screen
Add an Event.	System Events → Add Events (See Page 54)
Enter an event description. Select the Event type: <ul style="list-style-type: none"> • Live audio • Playback • Record/playback • External 	Add Events (See Page 54)
<p>For Live Audio Events:</p> <ul style="list-style-type: none"> • 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 <p>For Playback Events:</p> <ul style="list-style-type: none"> • Select the message to be played • 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 	Event Builder screen (See Page 54)

Add System Events (continued)	
Action	Screen
<p>For Record/Playback Events:</p> <ul style="list-style-type: none"> • 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. <p>For Silent Events:</p> <ul style="list-style-type: none"> • Select the cancel and acknowledgement options. • Select the output and logic flags to activate. <p>For External Events:</p> <ul style="list-style-type: none"> • Select the audio source of the event. • Select the cancel and acknowledgement options. • Select the default broadcast zone. • Select the output and logic flags to activate. • Select an event chain. 	<p>Event Builder screen (See Page 54)</p>
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. (As access panels are added, they inherit the settings assigned to the button template.)</p> <ul style="list-style-type: none"> • Select the button function. • Select the button color. • Enter the button label text. 	<p>System Properties → Access Panel → Access Panel Button Template (See Pages 26 & 32)</p>
<p>Add access panel interface cards and access panels.</p>	<p>System Properties → Access Panels</p>
<p>Enable API cards (1–4). Add access panels to each API card. Select the access panel type—each added panel is initially set to the functions of the access panel button template.</p>	<p>Access Panel Interface Summary screen (See Page 26)</p>
<p>Edit the access panel description. Set the access panel address (0–F). Enable/disable supervision.</p>	<p>Access Panel Properties screen (See Page 28)</p>

Define the System Inputs and Outputs/ Add Access Panels (continued)	
Action	Screen
Program the inputs to the I/O controllers: <ul style="list-style-type: none"> • Enter a description of the input. • Select type of switch connected to the input and cable supervision (if applicable). • Select the event to be triggered when the input is active. • Enable/disable the input’s auto-inhibit function. 	System Properties → I/O Controller→ Inputs (See Page 35)
Program the outputs to I/O controllers: <ul style="list-style-type: none"> • Enter a description of the output. • Select the inactive (idle) state of the relay output (on open or closed). • Select if the relay should follow the audio play of the event which triggers the relay. • Select the cadence of the relay activation (normal, pulse, or interval). 	System Properties → I/O Controller→ Outputs (See Page 17)
Configure System Audio Mixing Parameters	
Action	Screen
Set the attenuation threshold level. Set the mix threshold level.	System Properties → Global Audio Mix Setup (See Page 21)
Configure System Audio Muting Parameters	
Action	Screen
Set the global muting parameters: <ul style="list-style-type: none"> • 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.	System Properties → Global Mute Setup (See Page 20)

Installing the E3 Console Application

Download and install Adobe AIR from www.adobe.com.

Run ElemecConsole2.air to install the *Elemec3* Console application. There is no need to uninstall an existing *Elemec3* Console application; the installer will prompt for instructions.

Running the E3 Console Application

To start the E3 Console application, click the *Start Menu*. Go to *Programs* → *GAI-Tronics Corporation* and click on *ElemecConsole2*.

Optionally, if a desktop shortcut icon was created during the installation process, simply double click the icon.

The program displays the E3 SYSTEM CONFIGURATION screen with options for creating a new configuration, loading an existing configuration, or managing the system configurations as shown in Figure 1. Once a configuration file is loaded the Elemec3 system is configured using a series of screens accessed using eight tabs along the left side of the window. In many places it will be necessary to select items from one list for inclusion in another. When this occurs, multiple entries can be selected using click with CTRL+click or click with SHIFT+click mouse/keyboard operations to select separate or contiguous list elements respectively.

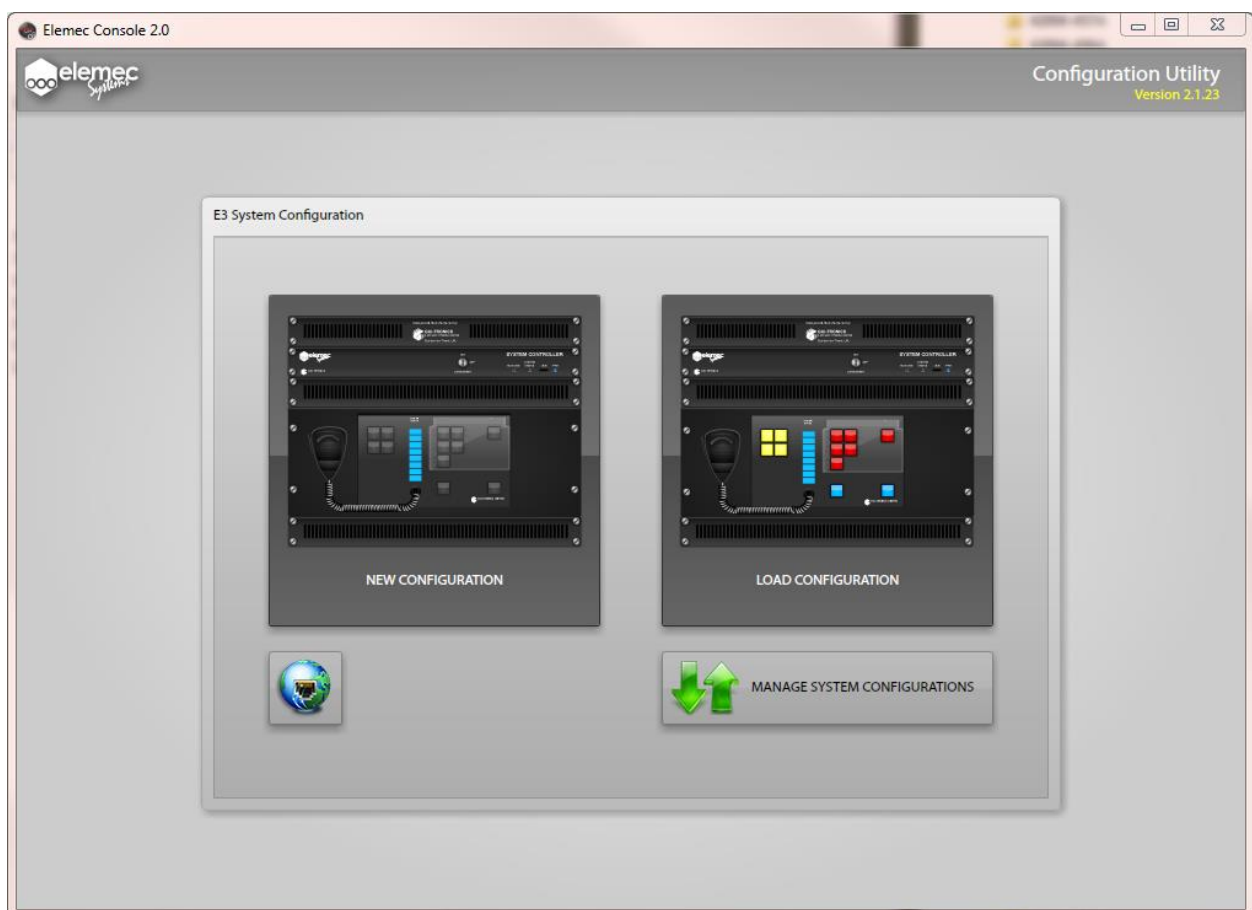


Figure 1. Create New or Load Existing Configuration screen

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

Pressing the MANAGE SYSTEM CONFIGURATIONS button accesses the MANAGE CONFIGURATIONS screen, which allows configurations to be imported and exported to the working directory on the local computer.

Managing Configurations

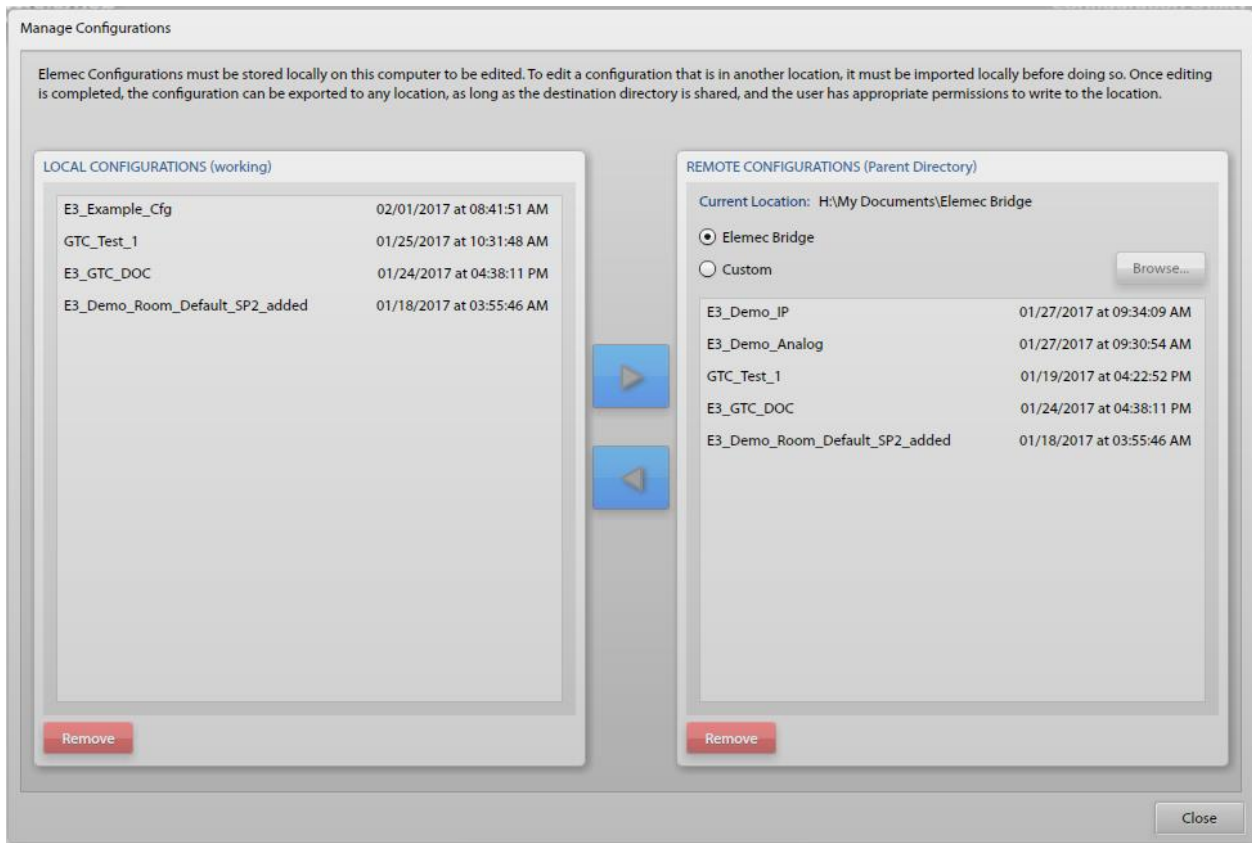


Figure 2. Manage Configurations screen

LOCAL CONFIGURATIONS (Working Directory)

Elemec3 configurations must be stored in the working directory on the local computer to permit opening them in the console for editing. To edit a configuration file saved in a remote storage location, the file must first be imported to the local working directory. When editing is complete, the configuration file can then be exported back to a remote custom storage location or to the *Elemec3* Bridge folder to be uploaded to an E3 controller using the E3 Portal application.

The MANAGE CONFIGURATIONS screen shown above is used for transporting configuration files between the working directory on the user's host computer and a remote storage location. The local working directory configurations are shown in the left pane labeled LOCAL CONFIGURATIONS (WORKING). Remotely stored configurations are shown in the right pane labeled REMOTE CONFIGURATIONS (PARENT DIRECTORY). All configurations are sorted by their modified date and are listed from newest to oldest.

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

When a configuration with the current name already exists in the destination directory, a CONFIRM CONFIGURATION IMPORT/EXPORT dialog box is displayed as shown in Figure 3. Click the **IMPORT**, **EXPORT**, or **CANCEL** button as necessary to continue or cancel the operation. If a configuration file located in either location is no longer needed, it can be removed by selecting the desired configuration and clicking the **REMOVE** button. A CONFIRM CONFIGURATION DELETE window is then displayed for confirmation.

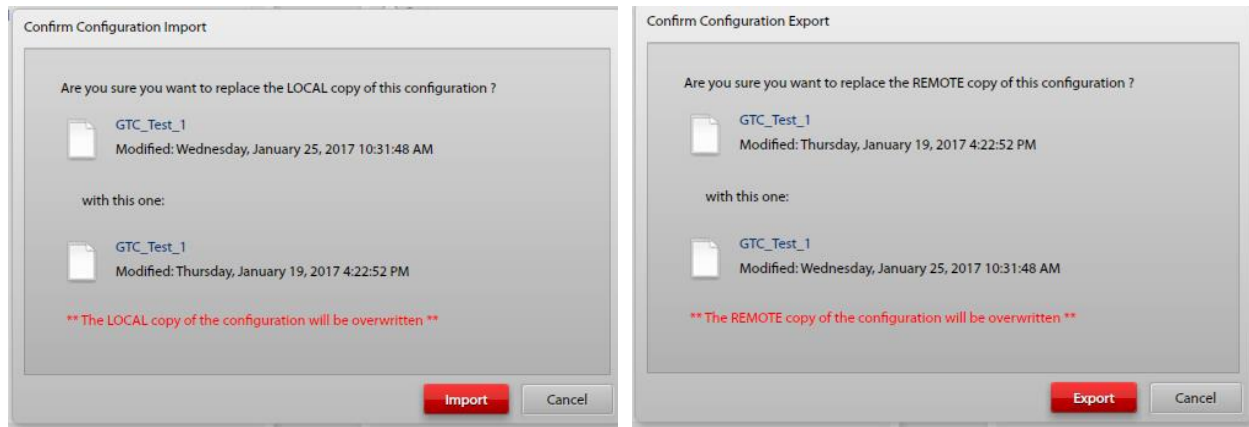


Figure 3. Import/Export Confirmations

REMOTE CONFIGURATIONS (Parent Directory)

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

Elemec Bridge—is a storage location on the local computer that is shared with the *Elemec3* Portal application. Using the Elemec Bridge is useful when operating the E3 Console application and the E3 Portal application on the same computer. Using the Elemec Bridge allows the configuration file to be easily shared between the two programs.

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

Creating a New Configuration

Enter a description for the new configuration in the text box and select the **CREATE CONFIGURATION** button on the CREATE NEW CONFIGURATION screen shown in [Figure 4](#) below.

Note: Spaces are not allowed in the description. Use an underscore character to separate words if needed. Example: *My_Configuration_File*

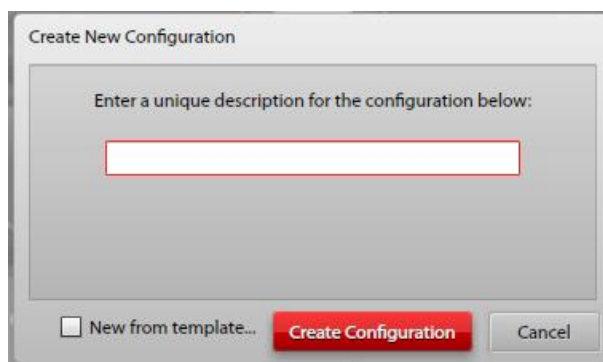


Figure 4. Create New Configuration screen

Creating a New Configuration Using a Template

Select the NEW FROM TEMPLATE checkbox as shown in [Figure 5](#) to create a new configuration file based on an existing configuration. When this check box is selected, a pull down list is displayed showing all existing local configurations.

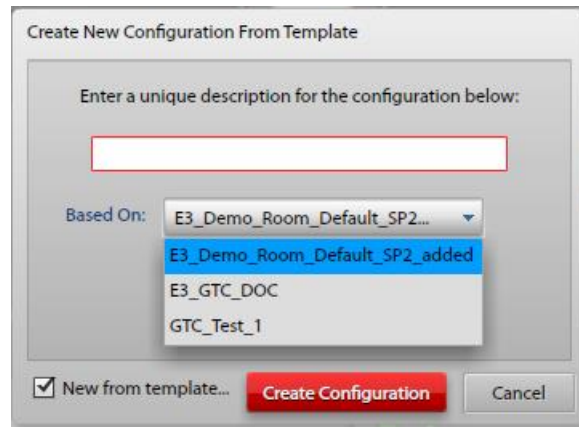


Figure 5. Create New Configuration from Template Screen

Select the desired configuration file from the list and then click the **CREATE CONFIGURATION** button.

Note: If the selected file was created in an earlier version of the E3 Console application, the warning screen shown in [Figure 6](#) will be displayed. If necessary, the E3 Console will automatically upgrade the configuration database to the correct version.



Figure 6. Invalid Database Version Screen

Select the **UPGRADE DATABASE** button to proceed with the configuration version upgrade; otherwise, select the **CLOSE** button.

Opening an Existing Configuration

Pressing the LOAD CONFIGURATION button displays a list of all existing configurations that are saved in the LOCAL CONFIGURATIONS (WORKING) folder on the computer. All configurations are sorted by the modified date and are listed from newest to oldest. An example is shown in [Figure 7](#) below.

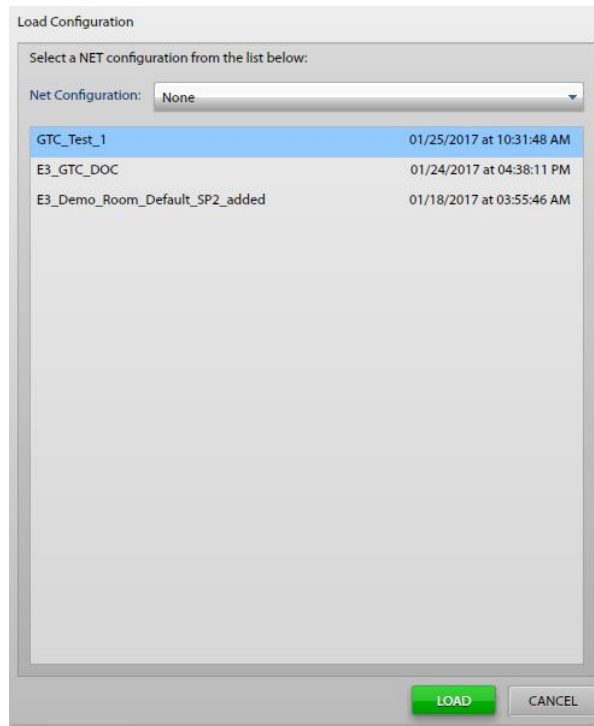


Figure 7. Load Configuration screen

Select the desired file name from the list and click the **LOAD** button.

System-Wide Functions

Once a configuration is loaded, the E3 Configuration Utility displays the SYSTEM PROPERTIES screen. At the top of this screen are six system wide functions that can be accessed while on any of primary screens. These functions are accessed by clicking the toolbar icon for the desired action.



Figure 8. System Wide Functions

New—Creates a new system configuration and loads it into the console. If changes were made to the currently loaded configuration then a prompt to save changes is displayed. Choose **SAVE CHANGES** or **DISCARD CHANGES** as desired to continue to the CREATE NEW CONFIGURATION screen. See the [Creating a New Configuration](#) section.

Save—Immediately saves the currently loaded configuration.

Open—Opens the LOAD CONFIGURATION screen where an existing configuration can be loaded. This option is helpful when changes have been made that need to be discarded at which time the existing configuration can be reloaded without saving the changes first. A prompt to save changes will be displayed if changes were made to the currently loaded configuration.

Home—Prompts the user to save changes then exits the currently loaded configuration screens and displays the E3 SYSTEM CONFIGURATION screen that opens when the application is initially launched.

Reports—This button provides a report that provides the addresses, types, descriptions, locations, and parent devices for all hardware devices other than the controller.

Settings—The SETTINGS screen shown in below provides application and database version information and facilitates setting several options in the console software.

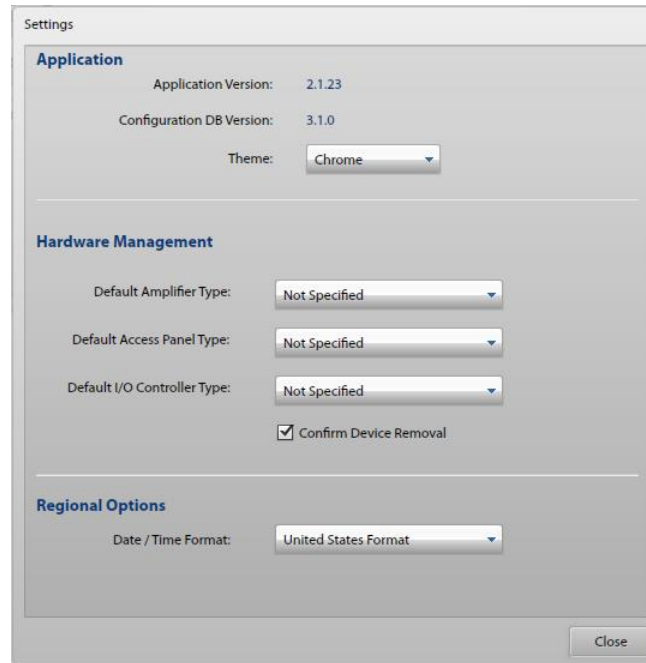


Figure 9. Application Options

System Properties

The SYSTEM PROPERTIES screen shown in [Figure 10](#) is displayed when the E3 Console application is started and a configuration is loaded.



Figure 10. System Properties screen

Globals

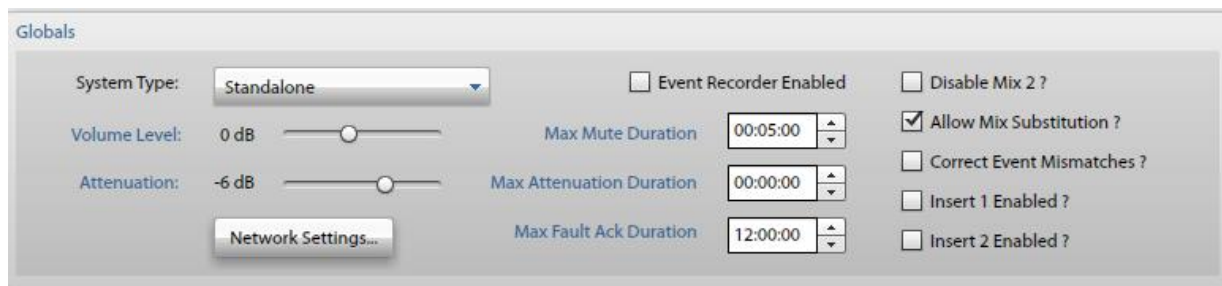


Figure 11. Globals screen

Globals Settings

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

- **Standalone System**—A system consisting of a single E3 controller with associated amplifiers, access panels, I/O controllers, etc.
- **A-B System**—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 are switched to the healthy controller. In summary, the system contains two sets of all devices. Dual access panels are required.
- **N+1 System**—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”. Under normal conditions, the system operation is managed by the “primary” controller. Upon failure of the “primary” controller, the “back-up” controller becomes active to maintain system operation.

Volume Level—Sets the system-wide volume for all stored audio playback.

Attenuation—Sets the system-wide attenuation. This value is used whenever audio is attenuated, either through mixing (live speech and playback audio) or through an access panel’s “Attenuate” button.

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

Event Recorder Enabled—Specific events and live audio broadcasts can be recorded using one or two external recording device(s) connected to the auxiliary audio output one terminals of the E3 Controller. See [Pub. 42004-497 Elemec3 System Controller](#) for event recorder connection information. If using an event recorder, the audio outputs on the E3 Controller must be enabled by checking the EVENT RECORDER ENABLED check box.

Max Mute Duration—specifies the maximum duration that audio can be muted. Muting is accomplished by selecting a MUTE push button on an access panel or by the MUTE ON ACK property of an event. After the specified mute duration, the audio will resume broadcasting if it can access the resources to do so.

Max Attenuation Duration—specifies the maximum duration that audio can be attenuated. Attenuation is accomplished by selecting an ATTENUATE ALARM push button on an access panel at normal volume level. A setting of 00:00:00 sets the maximum attenuation duration to forever.

Max Fault Acknowledge Duration—specifies the maximum duration that an active fault will remain acknowledged before the system requires it to be acknowledged again. Faults are acknowledged using the *Elemec3* Portal application.

Disable Mix 2?—An audio pathway to the system amplifiers is referred to as a “Mix”. The system has two audio pathways or “Mixes” to the amplifiers. This setting will disable the second audio mix, which will limit the system to a single audio pathway. i.e., the system will be incapable of multiple simultaneous broadcasts. This feature is implemented for the purpose of supporting legacy *Elemec* systems and is not recommended for use in current systems.

Allow Mix Substitution?—This setting allows for mixed audio (Live Speech + Playback) to be sent to the Aux, Page/Party®, or Monitor outputs. If this is checked and the events being mixed are both targeting the same audio output, then the mixed audio will be sent out 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)—determines whether or not an event mismatch between the systems should be automatically corrected. This would happen if one of the controllers failed to receive the input that initiates an event. In this case the system recognizing the event will activate the same event in the other system. The event mismatch error will still be reported through the E3 Portal application.

Insert 1 Enabled? & Insert 2 Enabled?—Inserts are external hardware devices that are used to prevent acoustic feedback or to provide other audio signal conditioning. They can be used for all audio sources other than playback audio. If using an “insert” device, the feature must be enabled by checking the INSERT 1 and/or INSERT 2 check boxes. If using two inserts, they must be identical. Each audio source configuration contains an INSERT REQUIRED check box that can be enabled when the inserts are enabled on the SYSTEM PROPERTIES screen. See the [Audio Input Configuration](#) section on Page 38 for further information.

Network Settings

Click on the NETWORK SETTINGS button to access the ELEMEC NETWORK CONFIGURATION screen shown in [Figure 12](#) below. Use this screen to set the network parameters for the E3 controller(s). Standalone systems will only display one system. If the system is an A-B or N+1 system, enter the settings for both controllers.

Figure 12. Elemec Network Configuration screen

NTP Host—Network Time Protocol (NTP) is a protocol designed to synchronize the clocks of computers on a network. If using a network time server on the E3 controller network, enter the NPT host IP address or the name of the network timeserver.

Domain—Is required when the network contains a Domain Name Server (DNS). Enter the fully qualified domain name (Ex. Mydomain.com).

Dynamic Host Configuration Protocol (DHCP Enabled)—DHCP is a protocol used to automatically configure the IP settings of network devices. If using a DHCP server to automatically configure network settings for the E3 controller(s), select the DHCP check box. This will disable the IP address, subnet mask, gateway, and DNS parameter fields.

Hostname—Enter a descriptive name for the E3 controller(s).

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

Gateway—Disabled when DHCP is enabled. If the E3 controller's network is connected to a router, enter the router's IP address for the default gateway.

DNS—Disabled when DHCP is enabled. If using a DNS server for name resolution, enter the IP address of the DNS server.

Enable SNMP—Select this checkbox if using simple network management protocol for network device management/monitoring . Disabling SNMP will disable the SNMP NOTIFICATIONS check box.

SNMP Notifications—Select this check box to enable SNMP notifications. Selecting this check box causes the notification handler field to appear.

Notification Handler—Enter the fully qualified domain name for the SNMP notification handler.

Locations

After selecting the EDIT LOCATIONS button on the SYSTEM PROPERTIES screen, the MANAGE DEVICE LOCATIONS screen shown in [Figure 13](#) is displayed. Locations are text-only descriptors that can be associated with any hardware device(optional). They can specify the physical location of a hardware device at the facility, a location within a cabinet, or any other text designation as required. To create a location, enter a description and select the green **ADD LOCATION** button.

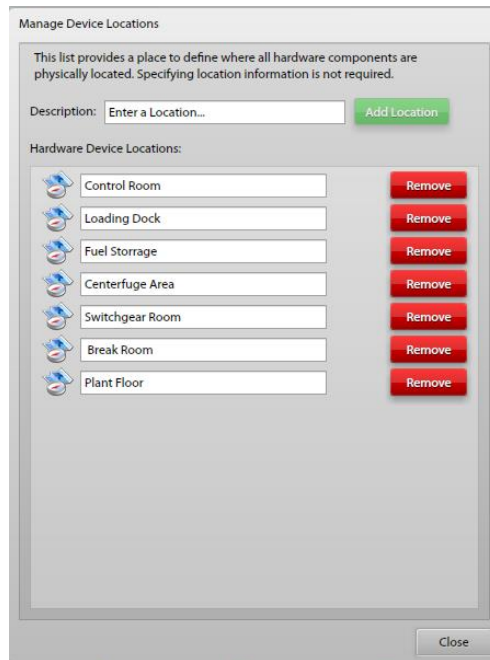


Figure 13. Manage Device Locations screen

Ack/Cancel Configuration

Clicking on the ACK/CANCEL SETUP button at the bottom of the SYSTEM PROPERTIES screen enables the configuration of acknowledgment and cancellation actions for events. Acknowledge and cancel actions are created to acknowledge or cancel events based on the event scope and filter. User defined Ack/Cancel actions are in addition to the four system Ack/Cancel (ALL / CURRENT) actions. The ACKS/CANCELS SETUP screen is shown here:

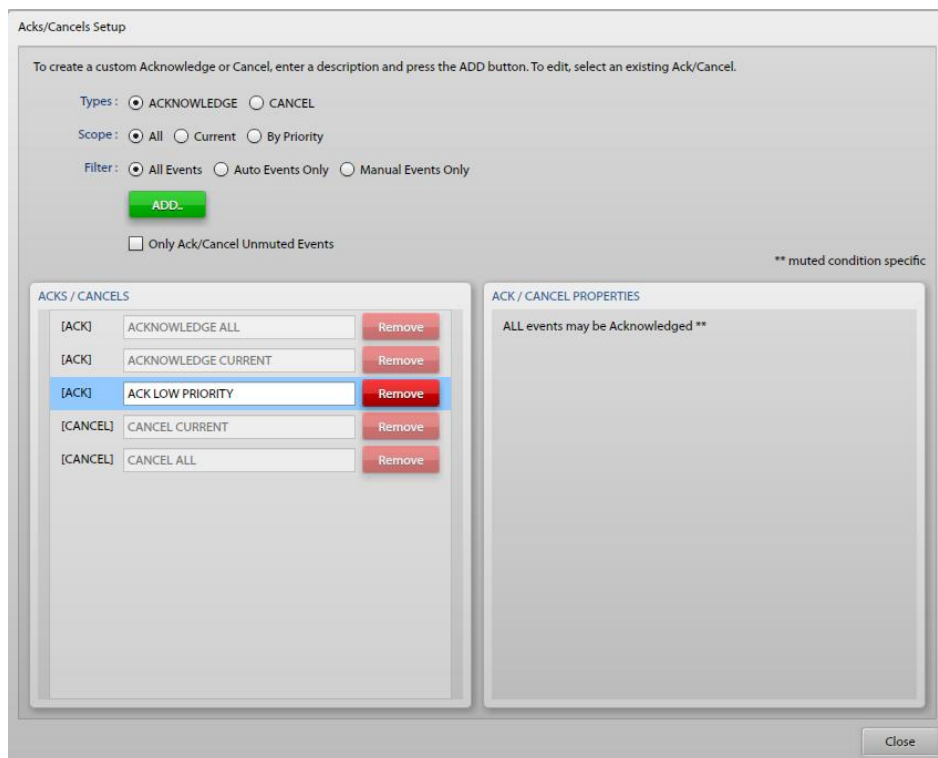


Figure 14. ACKs Cancels Setup screen

To add an acknowledgement or cancel action, click the **ADD..** button to insert the new action into the list and then enter the desired description. Next, select the type, scope, and filter properties. The new item appears in the list where its properties can be modified if necessary.

To remove an ack/cancel, press the **REMOVE** button beside of the description in the list. The four built-in system ack/cancel actions cannot be removed.

Description—Specifies the description of the Ack/Cancel action. A meaningful description of the acknowledgement or cancellation action should be entered.

Types—Specifies whether the action is an acknowledge or cancel action. The ACKS/CANCELS list is sorted by type.

Scope—Determines the range of events that may be acted on when the configured acknowledge or cancel action is executed. Choose ALL or CURRENT to setup an action that may acknowledge or cancel all events or just the current event, if possible. Selecting BY PRIORITY enables the configuration of ack/cancel actions that act upon events with an equal or lower priority threshold than the event chosen from the EVENT PRIORITY THRESHOLD dropdown list.

Filter—The FILTER: radio button is enabled when the scope selection is set to ALL. the list to only items of the specified type.

Only Ack/Cancel Unmuted Events—Selecting this check box prevents the acknowledgement or cancellation of events that have been muted.

Event Priority Threshold—When the Ack/Cancel scope is set to “BY PRIORITY”, the EVENT PRIORITY THRESHOLD dropdown list is used to select the events with the same or lower priorities that may be affected by the Ack/Cancel action. Events that may be affected by the event selected for the priority threshold are then listed in the ACK/CANCEL PROPERTIES pane on the right side of the screen.

User Flags

User Flags (also referred to as “logic flags”) are internal state indicators that are created and associated with an event to identify when a particular system event is active. The most likely use is for specifying when a particular event is active and to set up LED triggers to illuminate access panel buttons, activating a relay output, or activating another event. They can be created automatically when messages are being created.

Selecting the USER FLAGS button from the SYSTEM PROPERTIES screen opens the MANAGE USER FLAGS screen shown below. To manually create a user flag, enter the description and select the **ADD FLAG** button.

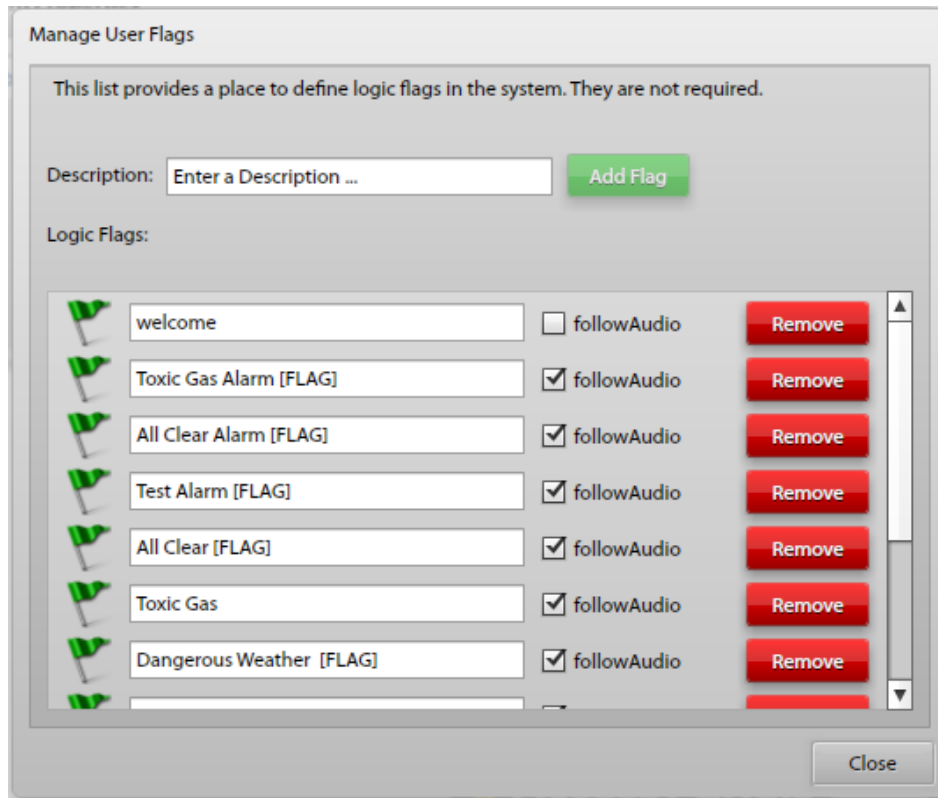


Figure 15. Manage User Flags screen

Description—Enter a unique description for the user flag.

followAudio—This option specifies whether or not the flag is asserted only when the event is active and the event’s audio is being broadcast. If the audio event is inactive or the audio is not being actively played, the flag’s state is false.

System Flags

After selecting the SYSTEM FLAGS button from the SYSTEM PROPERTIES screen, the MANAGE SYSTEM FLAGS screen shown in [Figure 16](#) is displayed. System flags are managed by the system to specify different conditions in the system at any given time. They can be checked by the system as part of event chaining. Any system flag can activate relay outputs. System flags are pre-defined, and cannot be changed or deleted.

The auto alarm and manual alarm system flags can also be added to specific events. This is also usually done automatically (if specified) during the creation of messages.

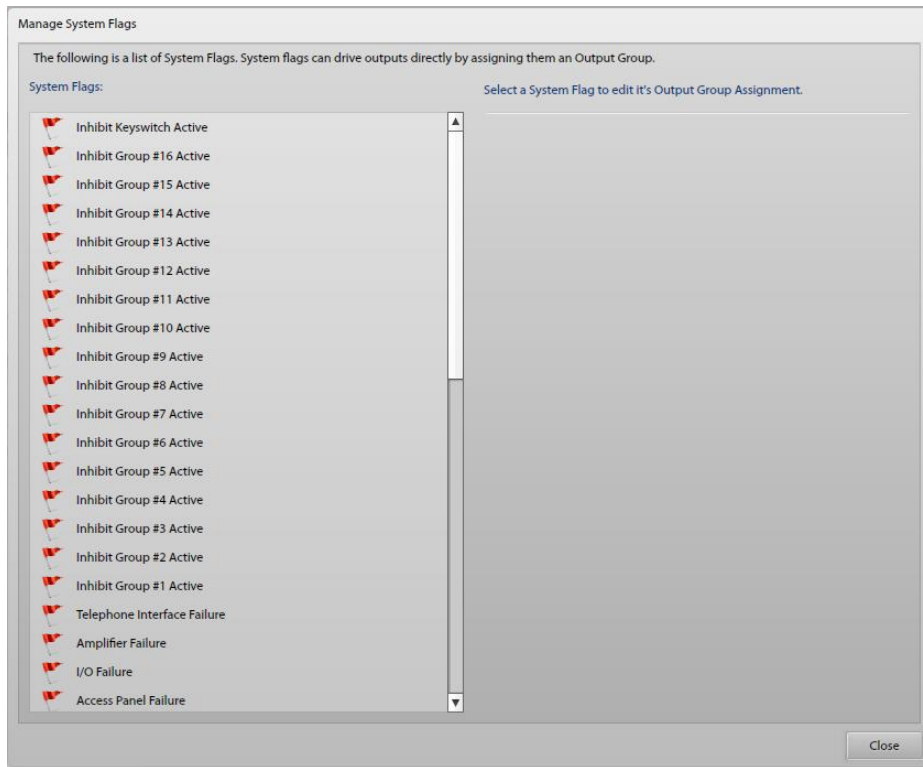


Figure 16. Manage System Flags screen

Global Mute Setup

After selecting the GLOBAL MUTE SETUP button on the SYSTEM PROPERTIES screen, the MANAGE GLOBAL MUTES screen opens as shown in [Figure 17](#) below. There are four global mutes available to the system. They can be activated from access panel push buttons or from input contacts on an I/O controller. These mutes can be renamed. The main properties are described below.

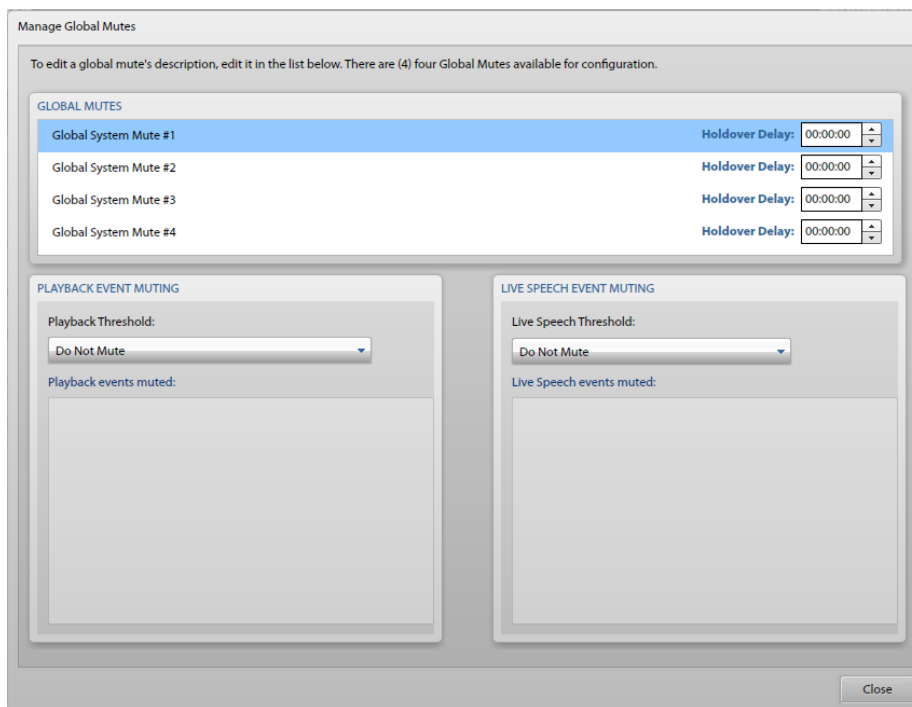


Figure 17. Manage Global Mutes screen

Holdover Delay—specifies the amount of time that the audio remains muted after the mute condition expires (default 0).

Playback Threshold—specifies the priority threshold at which playback events will be muted. All playback events at or below the priority of the event selected will be muted.

Live Speech Threshold—specifies the priority threshold at which live speech events will be muted. All live speech events at or below the priority of the event selected will be muted.

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

Global Audio Mix Setup

Select the GLOBAL AUDIO MIX SETUP button on the SYSTEM PROPERTIES screen to open the GLOBAL AUDIO MIX screen shown in [Figure 18](#) below. This screen specifies if the audio in the system will be mixed, attenuated, or not mixed. Mixed audio is played without attenuation while attenuated audio is mixed at an attenuated level specified in the GLOBALS panel of the SYSTEM PROPERTIES screen.

This is a global setting. Event groups also have their own unique mix configuration that will affect playback events within the group. Event groups contain their own mix set-up that is configured on the EVENT GROUP screen.

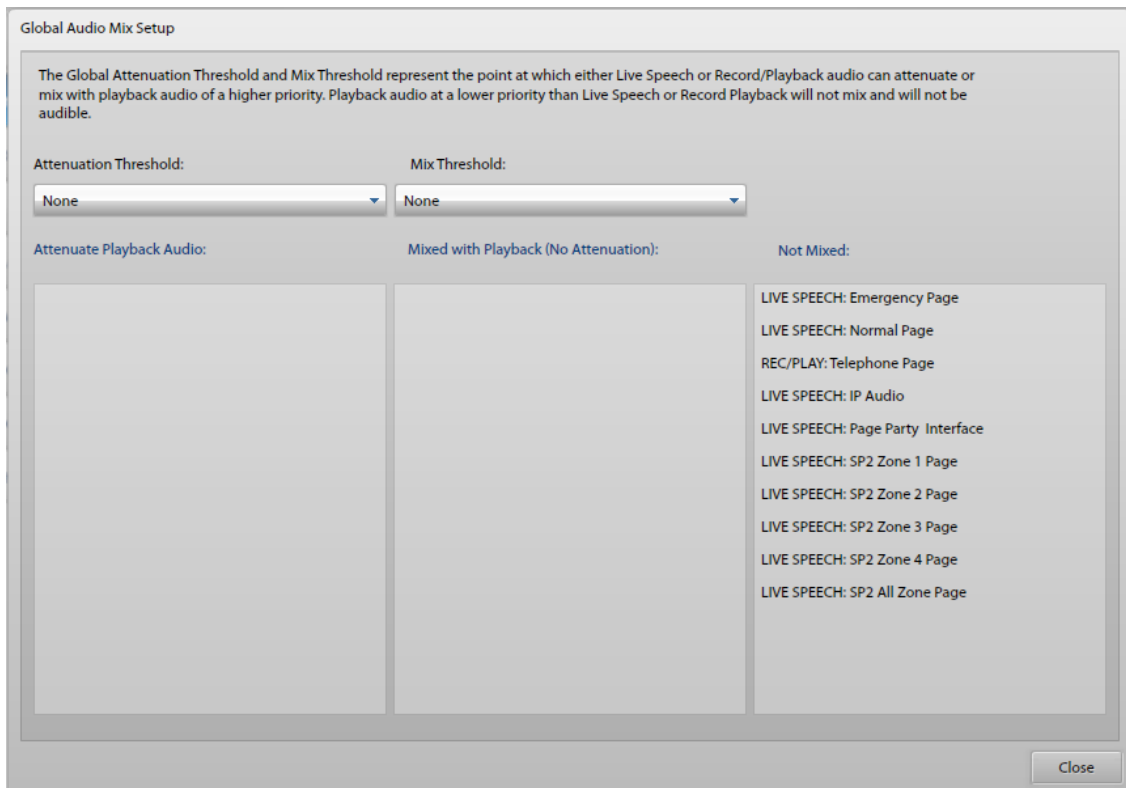


Figure 18. Global Audio Mix Setup screen

Attenuation Threshold—specifies the priority threshold at which playback events will be attenuated 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—specifies the priority threshold at which playback events will be mixed 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—All remaining live speech and playback events not listed will be listed in the not mixed 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 below that of the playback event(s), and the above mix setup must be set up to achieve that.

If the live speech event(s) are of a higher priority than the playback event(s), the playback audio will be muted (overridden).

Amplifiers

After selecting the AMPLIFIERS button on the SYSTEM PROPERTIES screen, the AMPLIFIERS SUMMARY screen shown in [Figure 19](#) opens. The summary screen shows all of the amplifiers in the system.

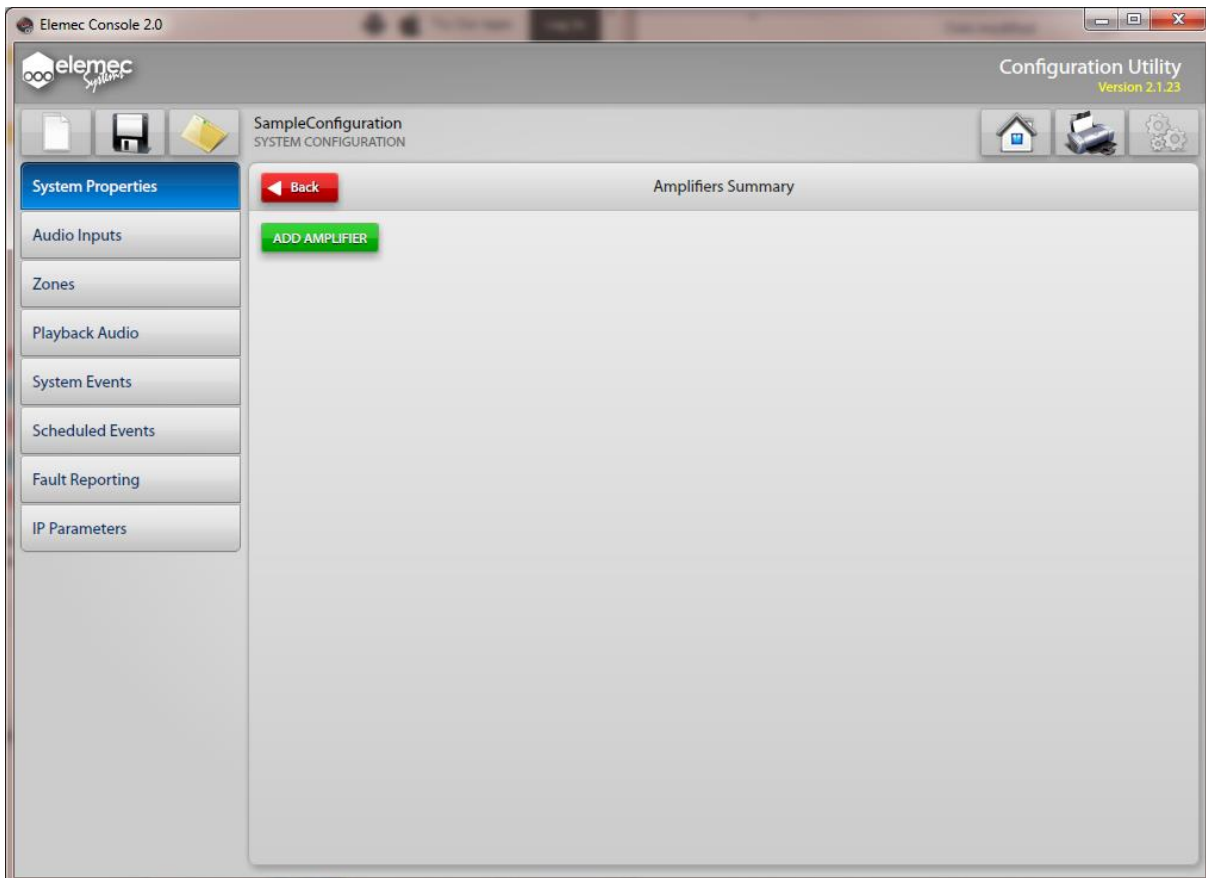


Figure 19. Amplifiers Summary screen

To add an amplifier, click the **ADD AMPLIFIER** button and then select the appropriate amplifier model on the ADD AMPLIFIER screen. If all of the amplifiers will be the same type then selecting the SET AS DEFAULT checkbox will eliminate the need to use the ADD AMPLIFIER screen to select the amplifier type again. To change the default, go to the **SETTINGS** screen by clicking the gears icon in the upper right corner on all of the primary console configuration screens. There are three standard amplifier models and one generic amplifier interface that can be used in an *Elemec3* system.



Figure 20. Add Amplifier screen

D600i, D300i, and D550i Power Amplifier Properties

Clicking on an amplifier from the AMPLIFIER SUMMARY screen will bring up the AMPLIFIER PROPERTIES window for that amplifier as shown in Figure 21.

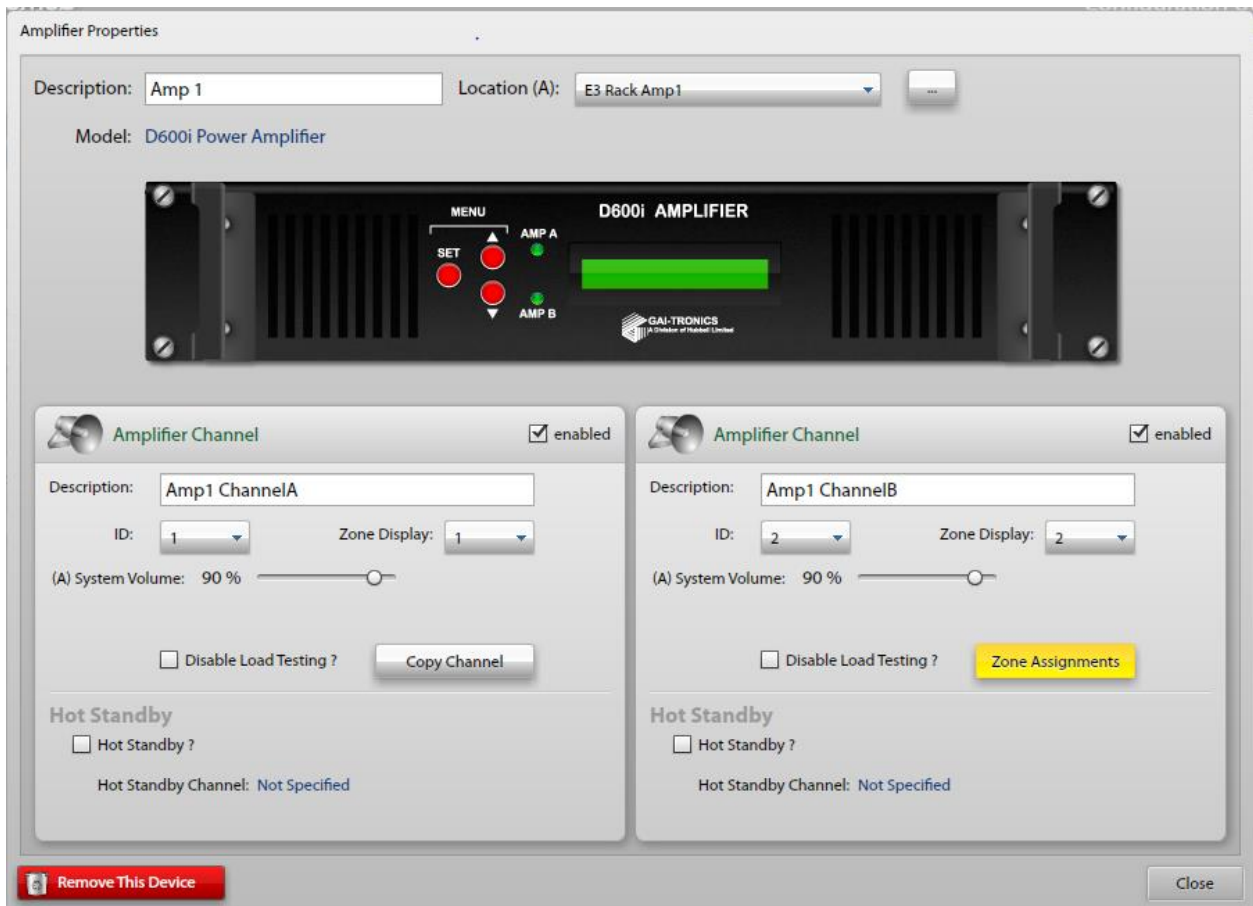


Figure 21. Amplifier Properties screen

Description—A generic (unique) name for the amplifier will be generated by default. The description can be changed by entering a new, unique description.

Location—Refer to the [Locations](#) section on Page 16 for complete information.

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

Description—A generic (unique) name for each amplifier channel is generated by default. The description can be changed by entering a new, unique description.

ID—The ID entered must match the ID that is set on the physical amplifier channel for correct operation. If the ID selected is assigned to another amplifier the ADDRESS CONFLICT dialog box shown here will be displayed. Choose the desired option to conform to the physical amplifier installation and click **CLOSE**.

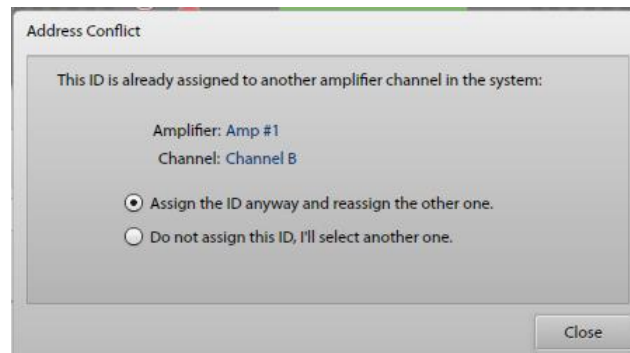


Figure 22. Amplifier Address Assignment Conflict

Zone Display—This denotes the zone identifier that will be shown on the amplifier display. If the amplifier is a member of only one zone, it should be set to that zone number. However, amplifier channels and zones can be members of more than one zone, so the zone display may not always be meaningful.

(A) System Volume—Each amplifier channel has a volume setting that controls its master volume. This setting will be used by the hot-standby amplifier channel when necessary.

Disable Load Testing?—If checked, the load testing for the channel is suspended. This setting is automatically set to false if a channel is configured as a hot standby channel.

Zone Assignments—If the channel has already been assigned to a zone or zones then the **ZONE ASSIGNMENTS** button will be displayed. Clicking this button opens the ZONE ASSIGNMENT SUMMARY window showing what zone(s) the amplifier channel is assigned to

Copy Channel—Clicking the **COPY CHANNEL** button opens the ZONE AUTO ASSIGNMENT dialog box, providing a method to configure the current channel to be identical to an existing, already configured amplifier channel. This button is available when the channel has not yet been assigned to any zones. Using this option automatically assigns the current amplifier channel to all of the zones that the selected amplifier channel is already assigned to.

Hot Standby?—if checked, this option causes the channel to become a hot standby amplifier channel. Click the **HOT STANDBY SETUP** button to display the **HOT STANDBY SETUP** screen shown in [Figure 24](#).

Generic Amplifier Interface (GAI) Properties

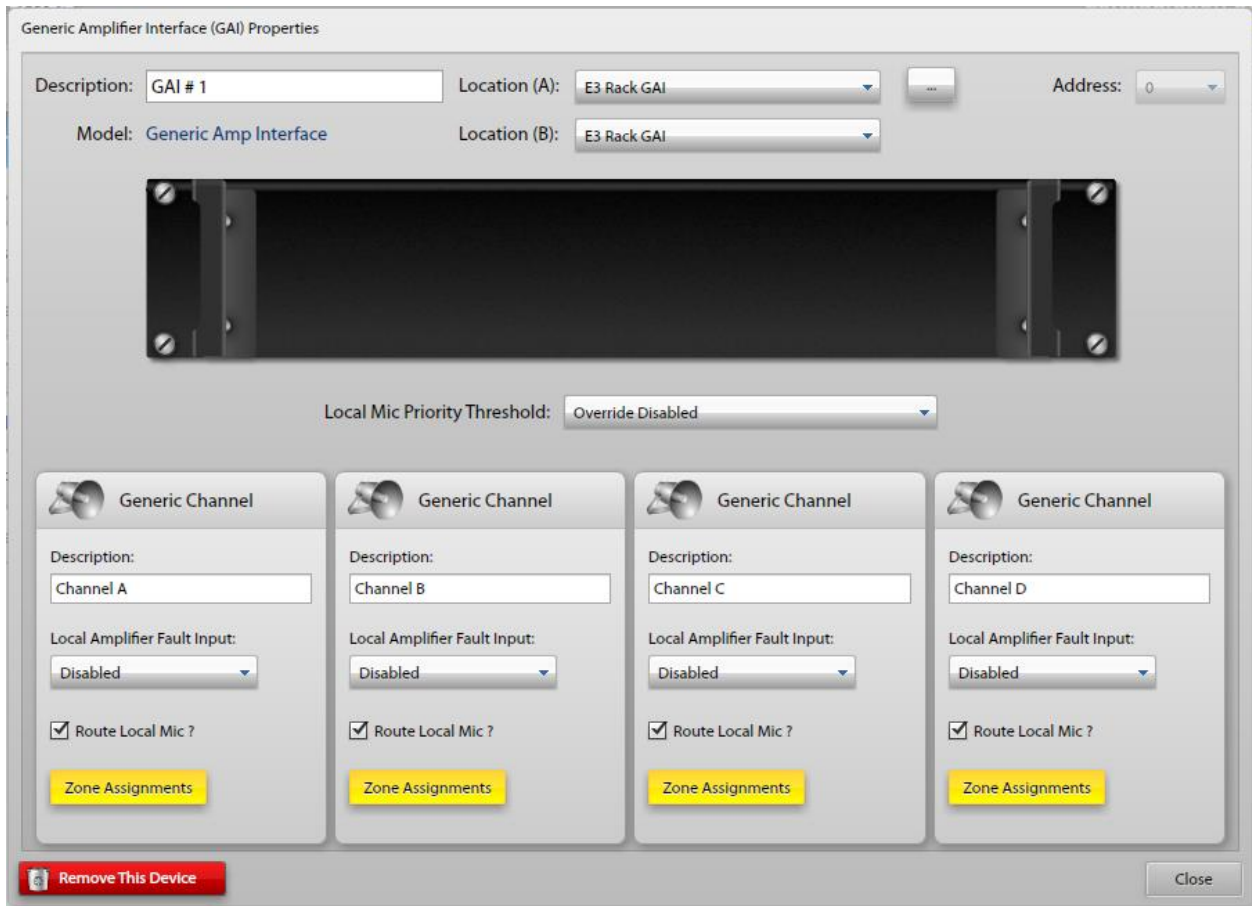


Figure 23. GAI Properties screen

Description—A unique name for the GAI will be generated by default. The description entered for the GAI must be unique.

Location—Refer to the Locations section under SYSTEM PROPERTIES—GLOBALS on Page 16 for information on creating and assigning locations.

Local Mic Priority Threshold—Specifies the priority at which system audio will be overridden by the local microphone. The local microphone will override all events at and below the specified event.

Generic Channel—On the GENERIC AMPLIFIER INTERFACE (GAI) PROPERTIES screen, the four available channels are displayed below the graphic.

Description—Enter a unique description for the amplifier channel.

Local Input—Set as either disabled (default), N.O. maintained, or N.C. maintained.

Route Local Mic ?—Specifies whether to route the local microphone audio to the channel.

Zone Assignments—Displays the zone assignments for the generic channel. If no zones have been assigned then clicking the button will have no effect.

Hot Standby Amplifiers

Hot standby amplifiers are used to add redundancy for the amplifiers driving the speaker loops. When setting up an amplifier for hot standby, it is crucial that the amplifier wiring match the hot standby configuration for proper operation. The priority for failed amplifiers switching to the hot standby amplifier is determined by the sequence in which they are wired. In the event of multiple amplifier failures, the amplifier closest to the standby amplifier in the daisy chain wiring will have the highest priority, followed by the next closest, etc.

Hot Standby Setup—The Hot-Standby Setup screen is shown (configured) in [Figure 24](#). In this case, the hot standby amplifier is in position five (wired fifth from the top of the cabinet). Use the left, right, up, and down arrows in the middle of the two panels to reorder the amplifier channels to match their wired positions. It is crucial for proper system operation that the amplifier channels are listed in the same order in which they are connected.

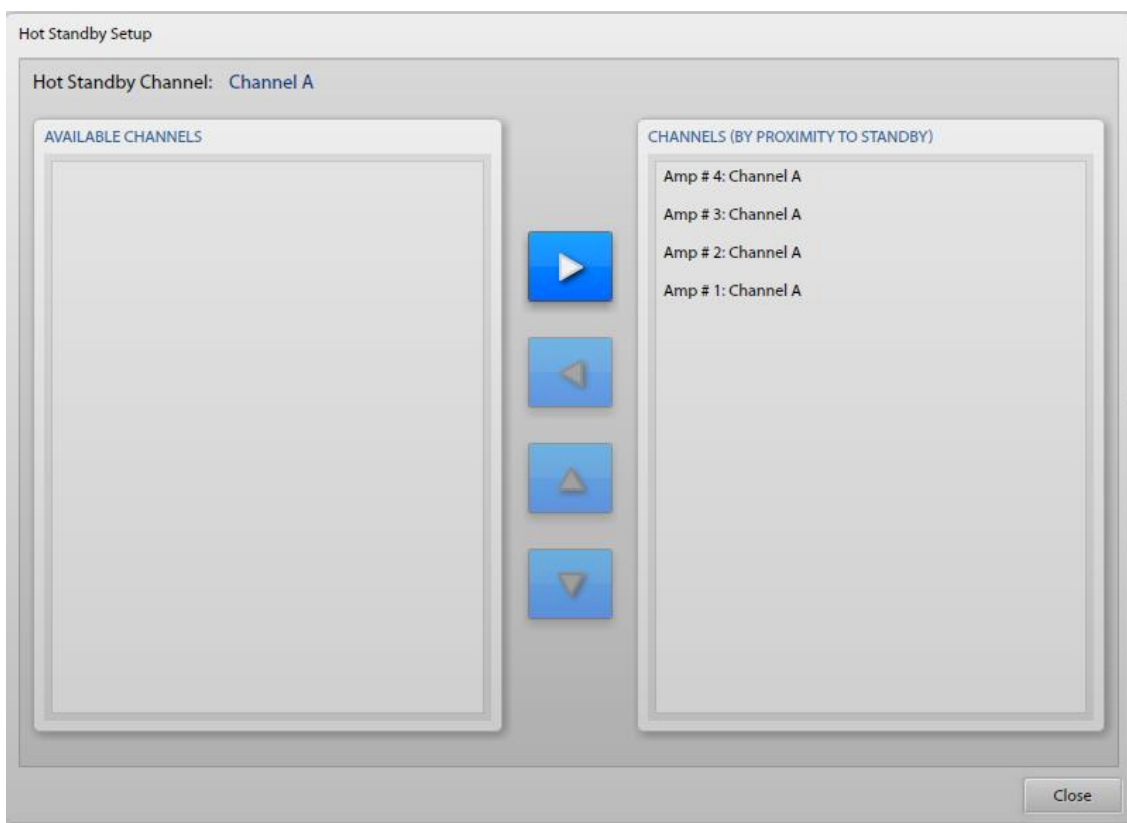


Figure 24. Hot Standby Setup screen

Access Panel Interfaces (API)

The ACCESS PANEL INTERFACES SUMMARY screen is where access panels are added to the configuration. To add access panels, enable the access panel interface card(s) corresponding to the physical API cards installed in the system. There are two types of API cards; both types permit the connection of up to four access panels. Type I cards provide a single audio channel that is shared by the connected access panels. Type II API cards provide four audio channels so that each connected access panel can be assigned a separate audio channel. Both types of API card are assigned a hexadecimal address during installation. Type 1 cards are assigned hex addresses 0–3 and type II cards are assigned hex addresses 4–7. The columns in the ACCESS PANEL INTERFACES SUMMARY screen correspond to the addresses assigned to the cards. Column one corresponds to 0x0 and 0x4, column two represents addresses 0x1 and 0x5, and so on.

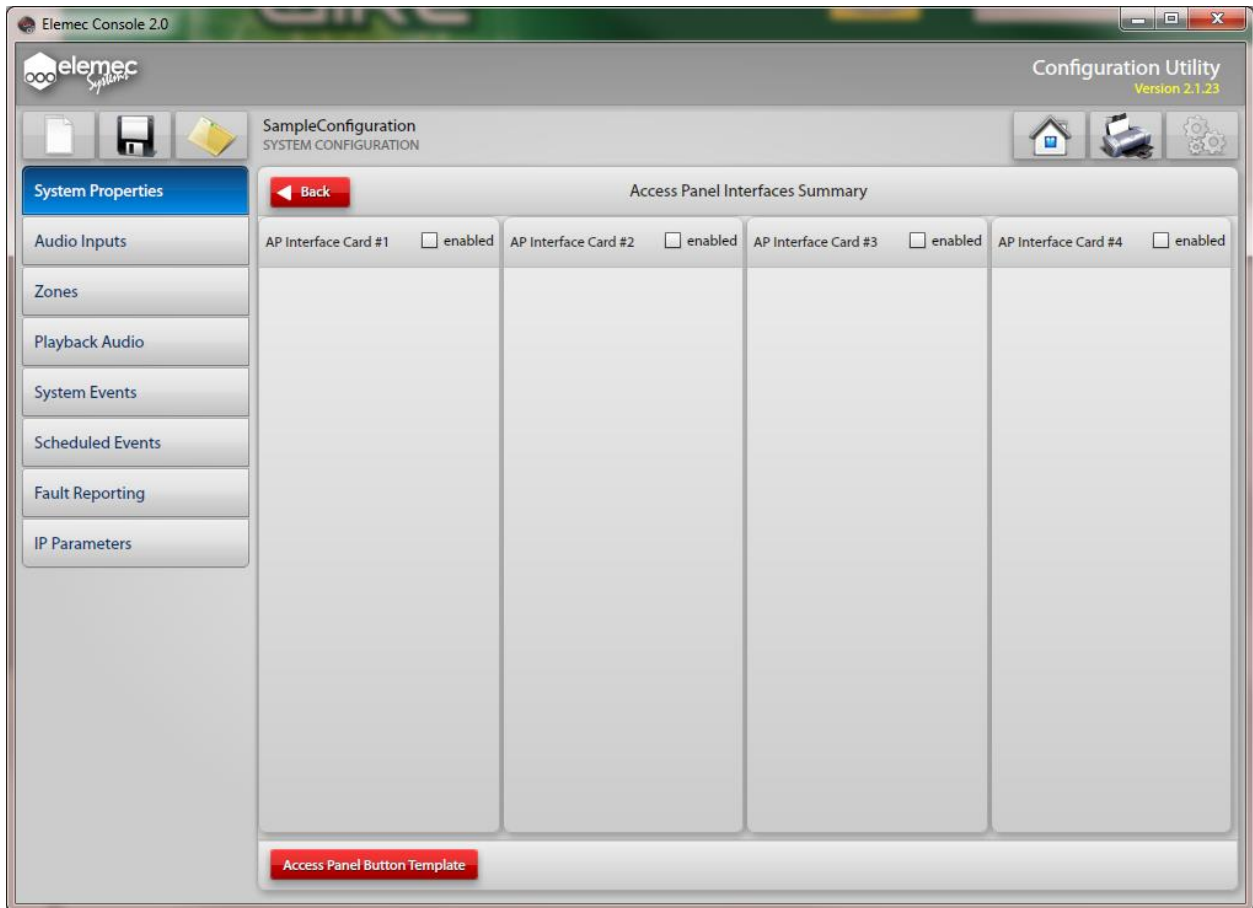


Figure 25. Access Panels Interfaces Summary screen

Enabled—Checking the enabled box for an access panel interface (API) card causes the ACCESS PANEL INTERFACE TYPE SELECTION screen shown in Figure 26 to appear. Adding API cards and access panels is discussed after the ACCESS PANEL BUTTON TEMPLATE to simplify the configuration of the installed access panels.

Access Panel Interface Type Selection

The following screen appears immediately upon clicking the enabled check box of any of the four access panel interface cards.

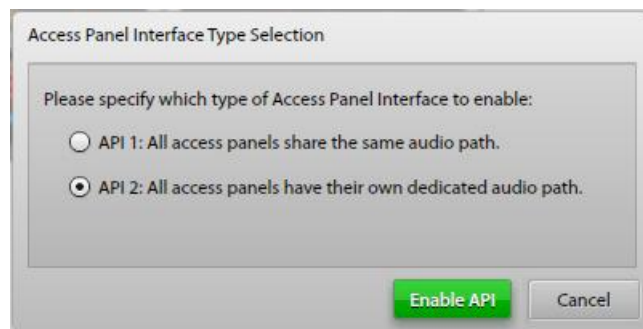


Figure 26. Access Panel Interface Type Selection screen

Select the type of API card installed and click the **ENABLE API** button. If a default access panel type has not been specified in the console options, the ADD ACCESS PANEL screen as shown in Figure 27 will appear.

Adding Access Panels

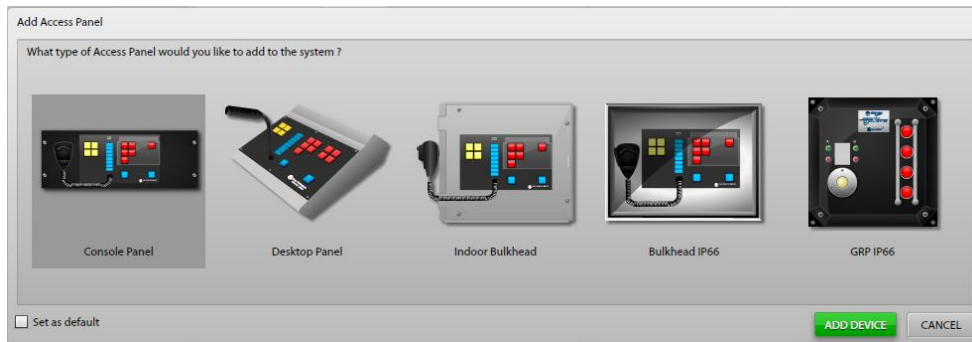


Figure 27. Add Access Panel screen

Select the type of access panel to be added and click the **ADD DEVICE** button. The access panel will now be populated under the enabled access panel. After the first device has been added, there will be an **ADD ACCESS PANEL** button for adding additional access panels.

Access Panel Properties

When an access panel device is selected, the **ACCESS PANEL PROPERTIES** dialog box opens as shown here:

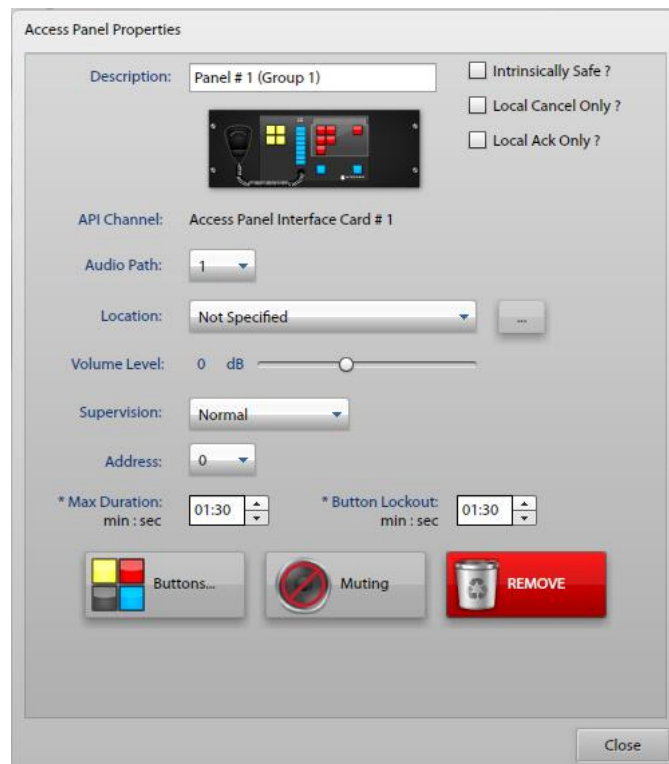


Figure 28. Access Panel Properties screen

Description—Enter a unique description for the specific access panel.

Intrinsically Safe?—If checked, this indicates that the access panel is designated as intrinsically safe.

Local Cancel Only?—This specifies that the current access panel can only cancel events it has initiated through a button press.

Local Ack Only?—This specifies that the current access panel can only acknowledge events it has initiated through a button press.

Audio Path—Specifies the audio path to be used by the current access panel. This value is automatically assigned, but can be changed by access panels connected to an API 2 card. If this property is edited and the audio path selected is already in use, the current panel will swap audio path values with the other panel. Access panels connected to an API 1 are automatically assigned their audio path.

Location—Specifies the physical location of the access panel.

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

Supervision—

- Normal—An always-present access panel that is continually supervised.
- When Present—An access panel that is only supervised when present. With this setting an input contact must be specified to notify the system that the panel is present and should be supervised.
- Unsupervised—An unsupervised access panel.

Address—Sets the address of the panel. This setting must match the physical address on the access panel.

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

Button Lockout (*Global setting for all panels)—Specifies the amount of time after the maximum duration elapses that a stuck button fault is reported and a panel lockout occurs.

Buttons... Button

Pressing the **BUTTONS...** button enables configuration of the access panel buttons for the current access panel. See the Access Panel Button Template section for information on configuring the access panel buttons.

Muting Button—Access Panel Mute Setup

Access panel mute setup is used to configure muting of local loudspeaker(s) to prevent acoustic feedback through the access panel's microphone. Pressing the **MUTING** button on the **ACCESS PANEL PROPERTIES** dialog box facilitates configuration of the access panel local mute relays using the **ACCESS PANEL MUTE SETUP** screen. The screen is divided into five panels as seen in Figure 29 and described in the following paragraphs.

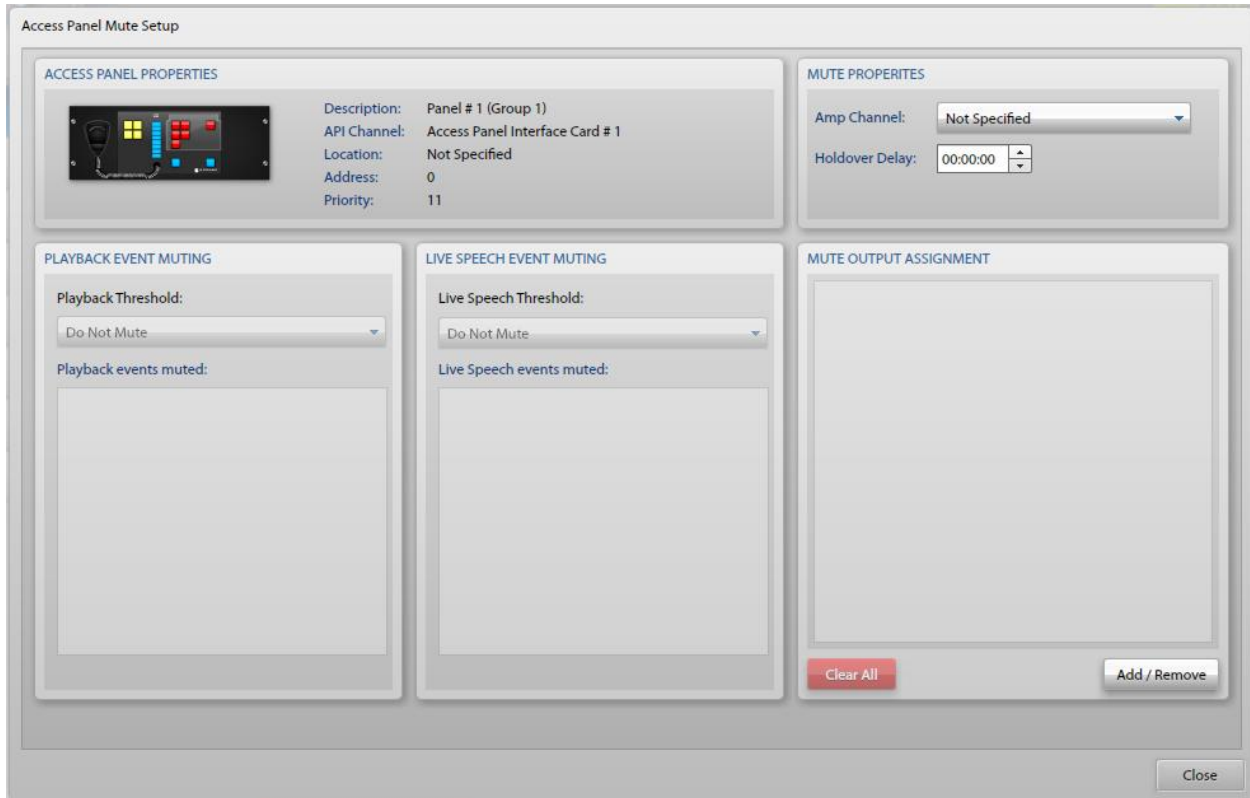


Figure 29. Mute Setup screen

Access Panel Properties

This section displays the access panel graphic, description, API channel, location, address, and the priority of the access panel that is being configured.

Mute Properties

Amp Channel—Specifies a particular amplifier channel that will be muted only when this amplifier channel is targeted in a live speech destination from this panel. If an amplifier channel is not specified, the local mute relay will be activated for all live speech destinations as defined in the MUTE OUTPUT ASSIGNMENT pane.

Holdover Delay—Specifies how long the local mute relay will remain activated after the live speech event is terminated.

Playback Event Muting

Playback Threshold—Specifies the priority at which playback events will be muted. All events at or below the priority of the selected event will be muted.

NOTE: This is only applicable if an amplifier channel has been specified in the mute properties.

Live Speech Event Muting

Live Speech Threshold—Specifies the priority at which live speech events will be muted. All events at or below the priority of the selected event will be muted.

NOTE: This is only applicable if an amplifier channel has been specified in the mute properties.

Mute Output Assignment

Specifies which I/O card output relay(s) will be used to disconnect the desired speakers from the amplifier channel(s).

Remove Button

Pressing the **REMOVE** button on the ACCESS PANEL PROPERTIES screen removes the access panel from the configuration. A confirmation prompt is displayed unless it has been disabled by selecting the DON'T SHOW THIS AGAIN check box. The DON'T SHOW THIS AGAIN can be configured on the SETTINGS screen described on Page 13.

Access Panel Button Template

When configuring an E3 system, access panel buttons and button configurations should be created near the end of the process since access panels are dependent on most of the other system settings.

Each access panel has its own specific button configuration. By clicking the **ACCESS PANEL BUTTON TEMPLATE** button on the ACCESS PANEL INTERFACES SUMMARY screen shown on Page 27, duplicated effort can be minimized by configuring a template before creating any access panels. With the exception of the Model GRP IP66 Access Panel, all access panels added will automatically inherit the button configuration defined by the template.

In addition, the button configuration of a single specific access panel can be edited by clicking on the **BUTTONS...** button shown on the ACCESS PANEL PROPERTIES screen shown in Figure 28 on Page 28.

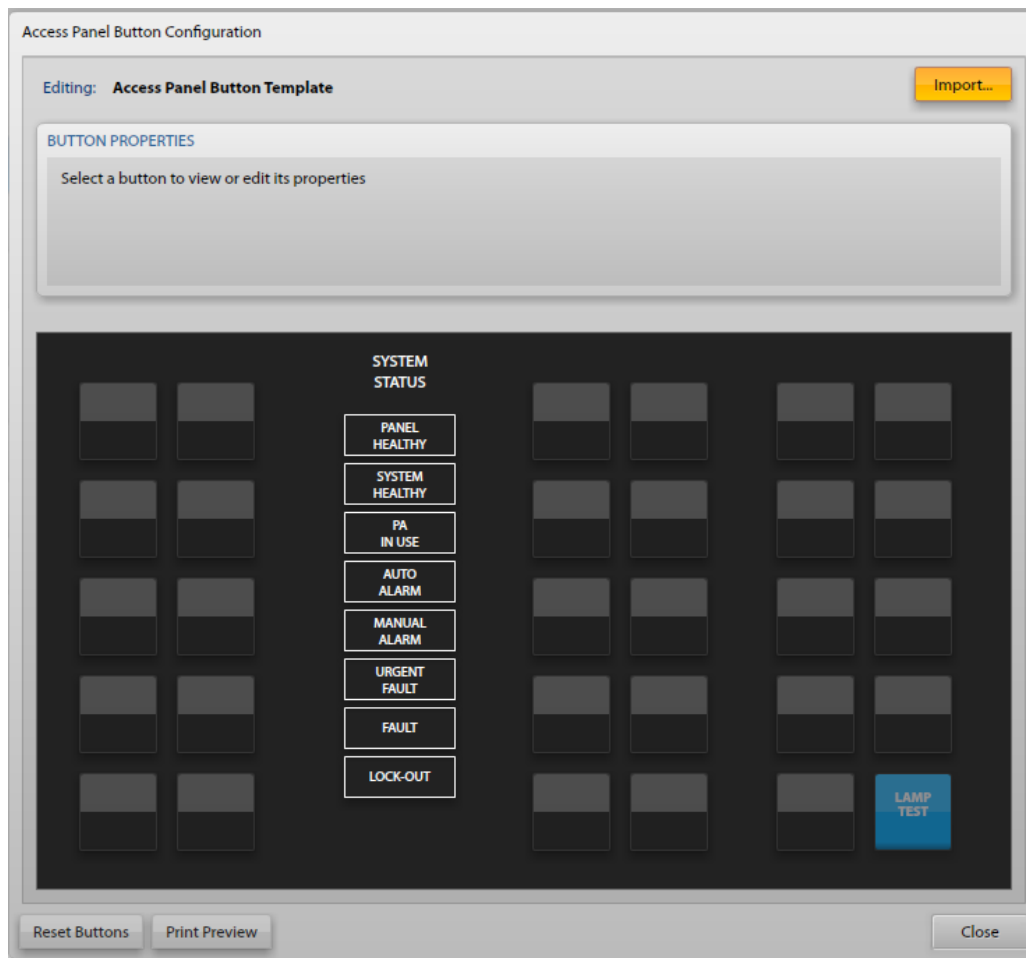


Figure 30. Access Panel Button Configuration screen

Import...—By selecting the **IMPORT...** button, access panel button configurations can be copied from one panel to another, imported from a panel into the template, or copied from the template to a panel.

Button Types and Properties The types of access panel push buttons available are listed below:

- **Indicator**—Provides LED indication and status information only.
- **Acknowledge**—Acknowledges alarms, either current (audible), by priority (ACK/cancels), or all (audible and non-audible).
- **Cancel**—Cancels an alarm, either current (audible), by priority (ACK/cancels), or all (audible and non-audible).
- **Attenuate Alarm**—Attenuates alarm audio using the global attenuation setting.
- **Mute Audio**—Mutes audio using one of the four global mutes. Mute selection is required.
- **Playback**—Initiates an alarm. Event selection is required.
- **Live Speech**—Initiates a live speech page. Live speech or a record/playback event selection is required.
- **Record Cancel**—Cancels a record/playback event during recording, playback, or both.
- **Manual Event Trigger**—Activates any available event. Event selection is required.
- **Zone Selection**—Selects/deselects a zone for inclusion in an event that allows zone selection.
- **Tick Tone**—Activates/deactivates the tick tone in a selected zone. If no zones are selected, the tick tone will be deactivated.
- **Delay Override**—Cancels the delay period for delayed or staged events. Any active events currently delayed will be activated immediately.
- **Background Music**—activated/deactivated the background music in one or more selected zones. If no zones are selected, the background music will be deactivated.

LED Trigger—When available, the LED trigger allows the selection of a flag, input, or output to activate the LED.

Button Appearance—Each button type has a default text and color. Clicking on **BUTTON APPEARANCE...** allows the text and color to be changed. Labels for the access panel buttons can be printed for use on the physical access panels.

- **Color**—Sets the color of the button.
- **Label**—Sets the label text for the button. Three lines of eight characters can be entered for each button.

Input/Output (I/O) Controllers

The **I/O CONTROLLERS SUMMARY** screen displays all of the I/O controllers in the system. I/O controllers are added by pressing the **ADD I/O CONTROLLER** button. I/O controllers are given unique default descriptions by the system but can be renamed if desired.

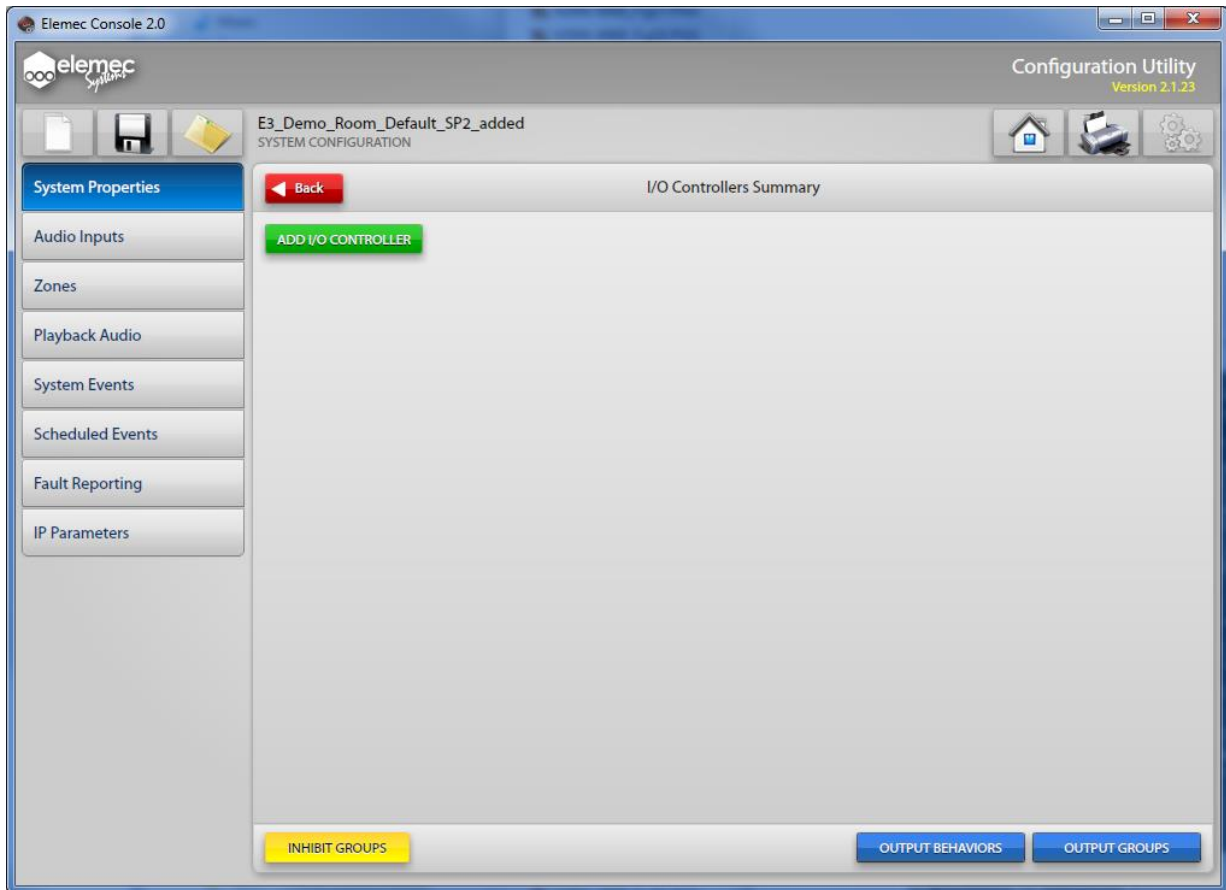


Figure 31. I/O Controllers Summary screen

Adding I/O Controllers

The ADD I/O CONTROLLER screen is shown in Figure 32 below. When adding I/O controllers, one of the three types described below must be selected. Clicking on the **ADD DEVICE** button adds the selected controller type to the configuration and displays the I/O CONTROLLER PROPERTIES screen. If the default controller type checkbox is selected then each new controller is added without having to choose which type to add. This system option can be cleared by clicking the SETTINGS icon located in the upper right corner on all of the primary console configuration screens.

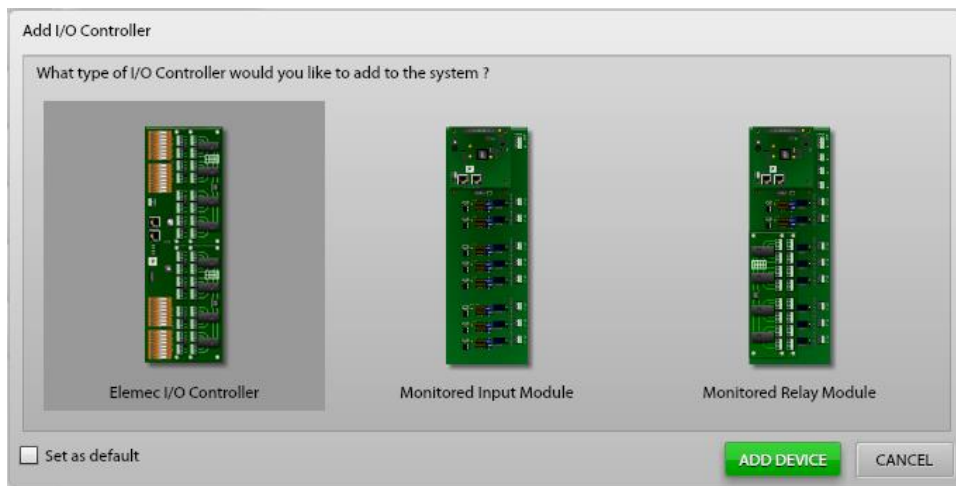


Figure 32. Add I/O Controller screen

Types of I/O Controllers

- Elemec I/O Controller—16 unsupervised inputs and up to 16 unsupervised outputs
- Monitored Input Module—Eight optionally supervised inputs
- Monitored Relay Module—Eight optionally supervised inputs and outputs.

Set as default—if checked, the selected controller is automatically added when adding additional controllers.

ADD DEVICE Button

When the desired I/O controller is highlighted, clicking the **ADD DEVICE** button adds it to the configuration and displays the I/O PROPERTIES screen INPUTS tab shown in [Figure 33](#) on [Page 34](#).

I/O Controller Properties

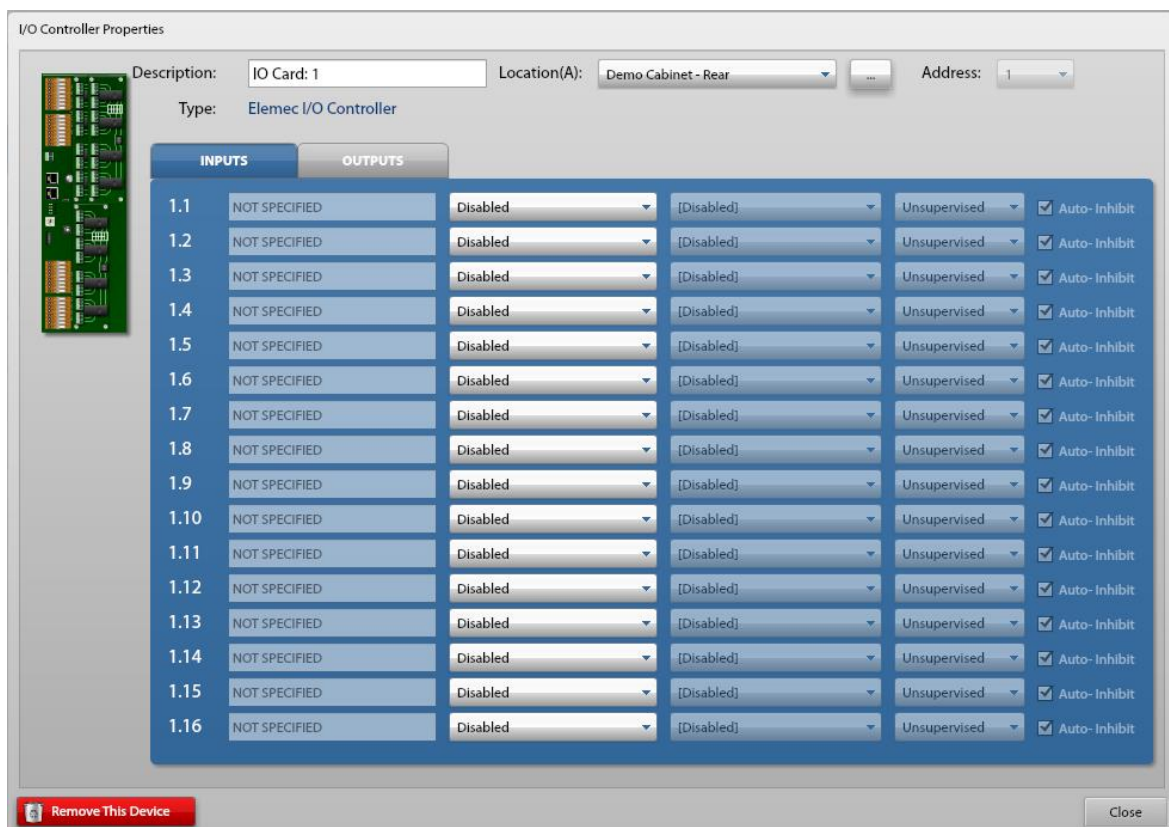


Figure 33. I/O Controller Properties screen

Description—Specifies the unique description of the I/O controller.

Location(A)—Specifies the location of the I/O controller card.

Address—Specifies the physical address of the I/O controller card. The card address is used to define the input and output contact numbers.

Inputs Tab

Each input for the currently displayed I/O controller is listed down the left side of the tab. Inputs are assigned addresses sequentially based on the card address and input number so 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 input switch type must be selected from the drop down list in column three before the remaining fields can be populated for each input being defined.

Description—This is the user-defined unique description of the input. This name will be used to identify the input in all areas of the system.

Input Switch Type—Specifies the switch type for the input contacts. The possible input types include maintained, momentary, NO, NC, supervision, etc. and are dependent on the I/O controller type. The input type must be selected before the remaining fields can be populated for the desired input.

Trigger (Event) Selection—Specifies what action is to be taken when the input is activated.

Fault Reporting Category—Specifies whether a fault will be reported and if it is normal or urgent.

Auto Inhibit—If checked, the auto-inhibit key switch controls the suppression of the input.

Outputs Tab

The I/O controller properties OUTPUTS tab is used to configure the output contacts of the I/O controllers installed in the E3 system. Each output is automatically assigned numeric addresses in a X.Y sequence where X is the I/O controller address and Y is the contact number on the I/O controller board. The OUTPUTS tab is shown here:

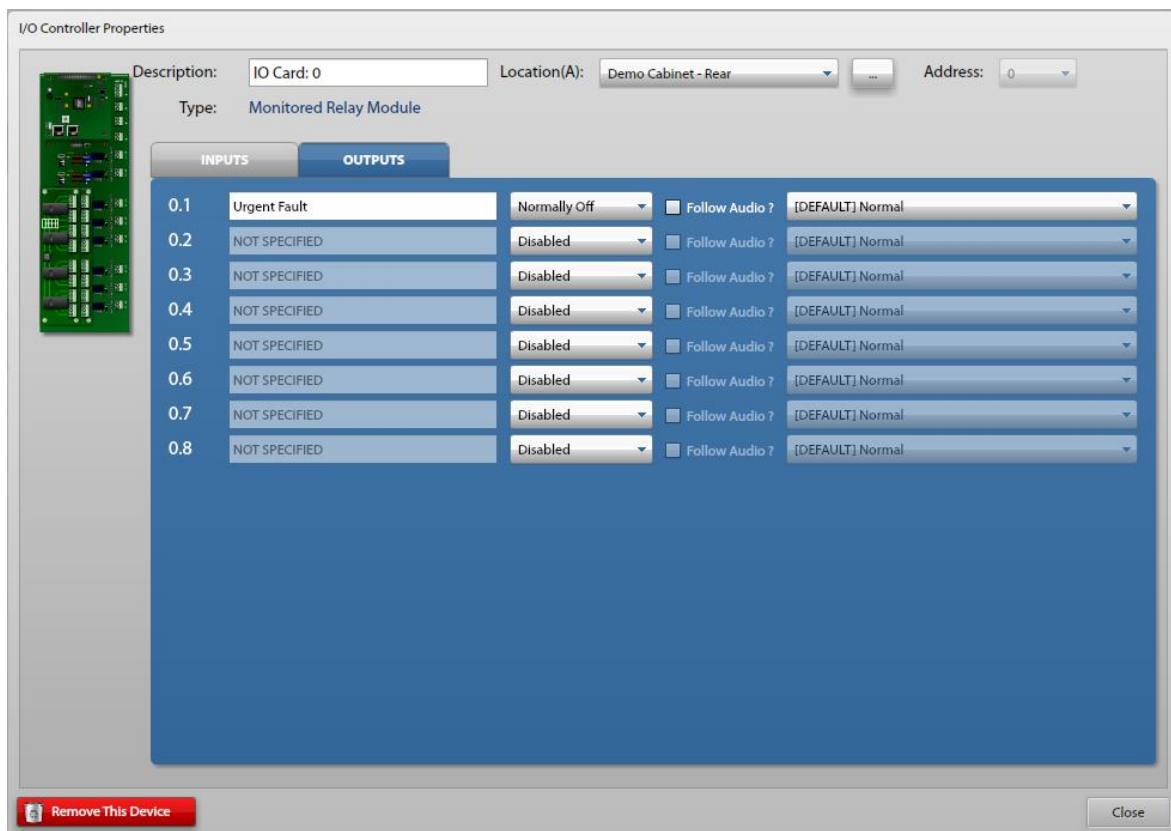


Figure 34. I/O Controller Output Contact Definitions

The property fields defined here appear from left to right across the outputs tab. The relay state in column two must be configured before the other fields in that row are enabled so that they can be modified to define the output.

Description—user-defined unique description of the output. This name will be used to identify the output in all areas of the system.

Relay Normal (idle) State—specifies whether the relay is disabled, normally on or normally off.

Follow Audio—specifies whether the relay is activated only while the event audio is being broadcast. Otherwise, the output will activate regardless of audio broadcast.

Behavior—specifies the output behavior of the relay as described in the [OUTPUT BEHAVIORS](#) section below.

Inhibit Groups

Inhibit groups allow for selectively inhibiting inputs to the E3 system. Once inputs have been placed into an inhibit group, other inputs in the system can be configured to trigger the group and inhibit the inputs in the group. The INHIBIT GROUP CONFIGURATION screen is accessed from the I/O CONTROLLERS SUMMARY screen shown in Figure 31 on Page 33 by clicking on the yellow **INHIBIT GROUPS** button located near the lower left corner of the window.

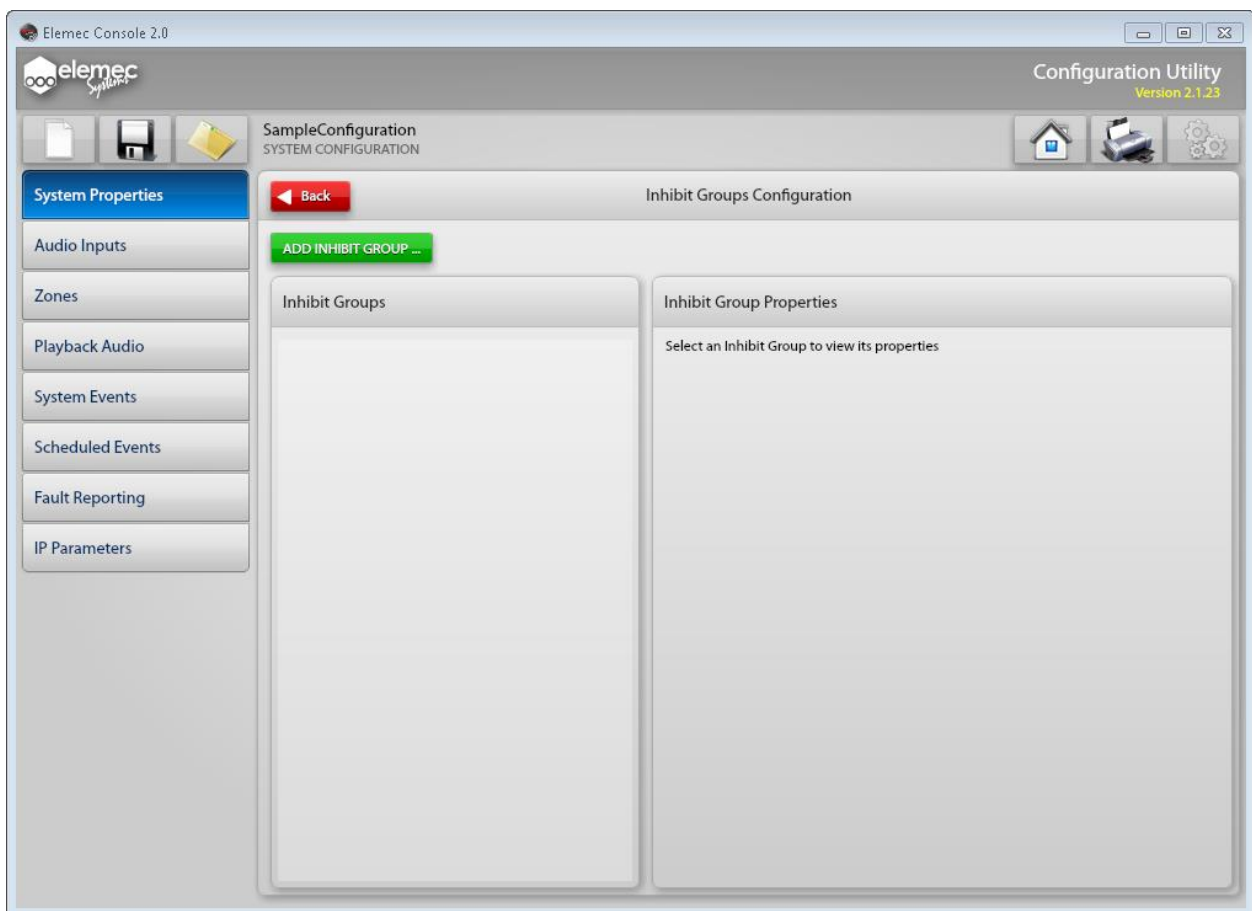


Figure 35. Inhibit Groups Configuration screen

Adding Inhibit Groups

Clicking the **ADD INHIBIT GROUP...** button will prompt the user to enter a description for the inhibit group, after which the INHIBIT GROUP BUILDER screen shown below opens. The INHIBIT GROUP BUILDER screen allows creation and configuration of inhibit groups in the Elemec3 system.

Inhibit Group Builder

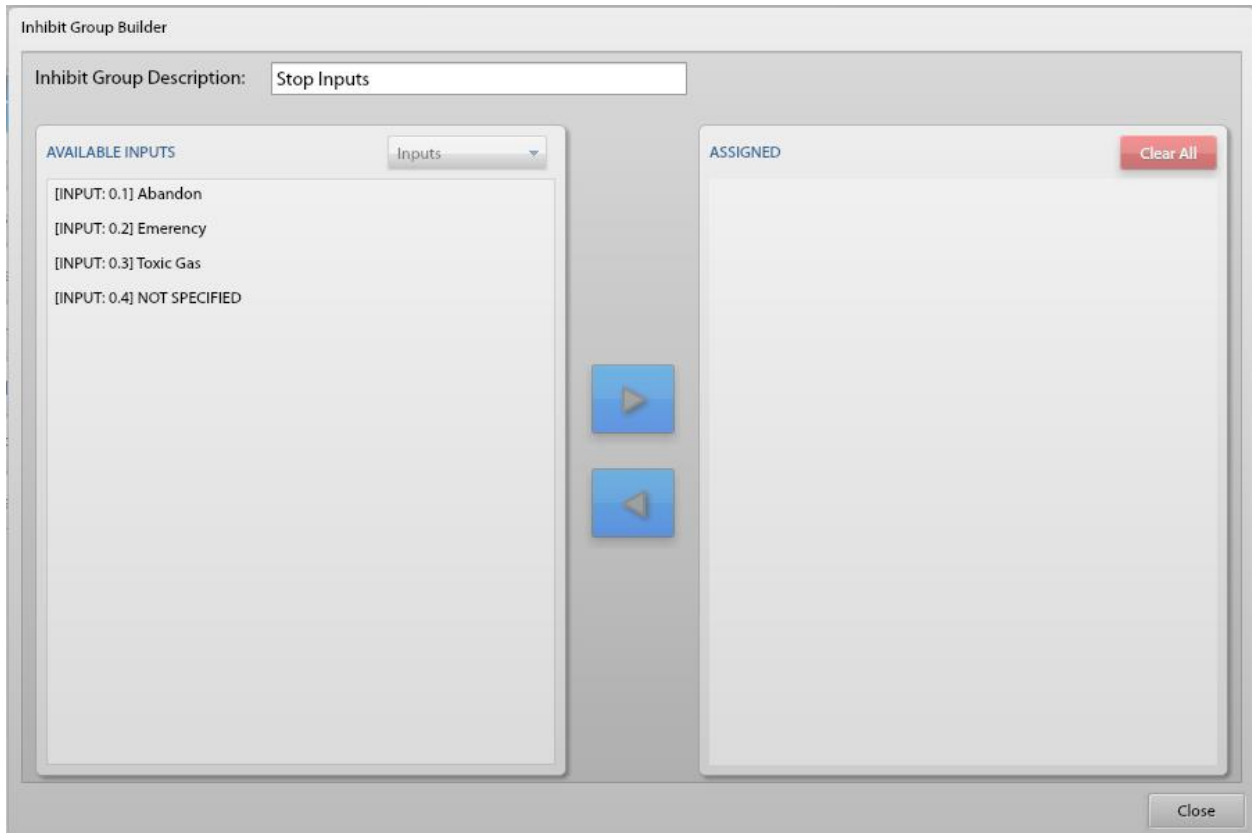


Figure 36. Inhibit Group Builder screen

Inhibit Group Description—This is the unique descriptive name of the inhibit group.

Available Inputs Panel

The enabled input contacts on the I/O controller cards are listed in the AVAILABLE INPUTS pane to be selected for addition to the ASSIGNED list. The AVAILABLE DESTINATIONS drop-down list is currently limited to the I/O controller cards' enabled contacts. Additional input types will be added in a future revision of the software.

Assigned Panel

To add inputs to this group, select the inputs from the AVAILABLE INPUTS list on the left and click the right-arrow button to move the input to the ASSIGNED list on the right. To remove entries, select them and click the left-arrow button to move them back to the AVAILABLE INPUTS list. To remove all of the list elements, click the **CLEAR ALL** button.

Output Behaviors

Output behaviors are configured using the Manage Output Behaviors screen access by clicking the Output Behaviors button in the lower right corner of the I/O Controllers Summary screen. They allow for the customization and creation of output timing properties. There are three default behaviors; *Normal*, *Interval*, and *Pulse*, which can be modified but not deleted from the system. New behaviors can be created using the **ADD BEHAVIOR** button.

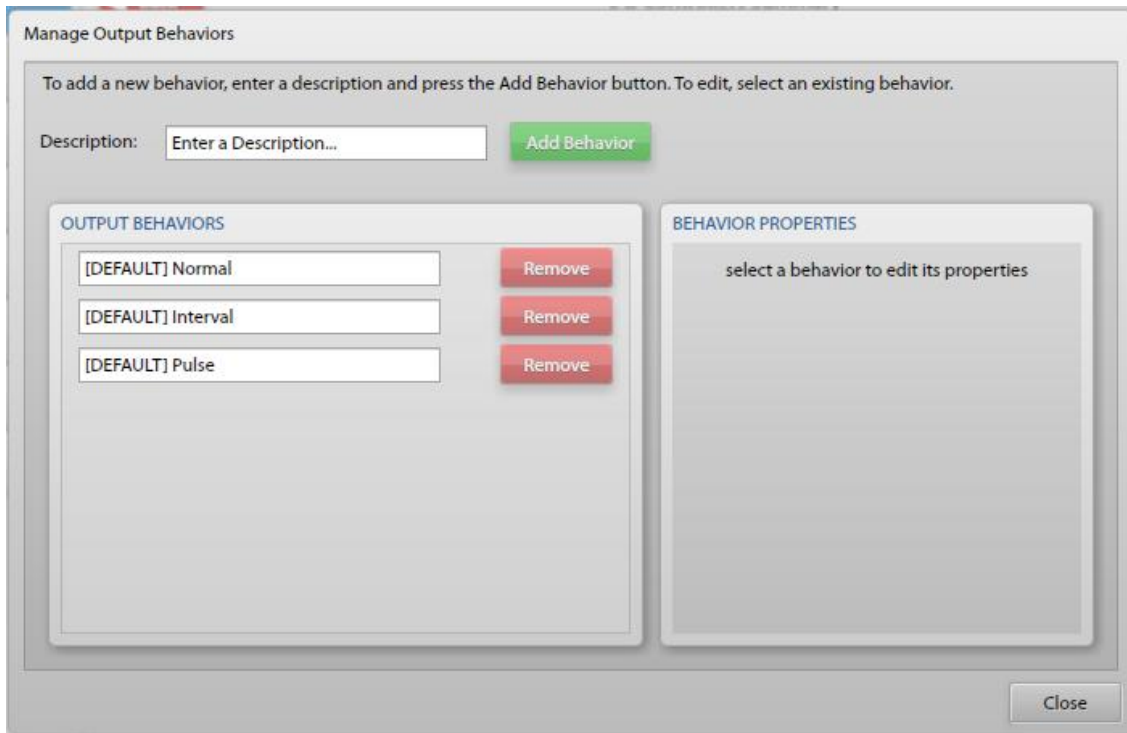


Figure 37. Manage Output Behaviors screen

Normal—The output is either ON or OFF. Transition to active is delayed by the *initial delay* setting; transition to idle is delayed by the *holdover delay* setting.

Interval—The output cycles between active and idle continuously. The initial transition to active is delayed by the *initial delay* setting. 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 cycles continuously between active and idle using the *on time* and *off time* configured values. When the output is deactivated, cycling will continue for the amount of time specified by the *holdover delay* parameter.

Pulse—The output provides one activation. Transition to active is delayed by the amount of time specified in the *initial delay* parameter. The output remains active until the configured *on time* setting expires and then transitions to idle.

Audio Input Configuration

The AUDIO INPUTS screen is used to enable/disable the available live audio sources and then prioritize and configure the enabled inputs for the E3 system. The AVAILABLE AUDIO INPUTS (BY PRIORITY) panel lists the enabled audio sources and is used to prioritize them in the system. Audio input priorities are configured so that higher priority sources will override lower priority sources when used by the same event. The AUDIO INPUT PROPERTIES panel is then employed to configure the parameters necessary for the audio input currently selected in the prioritized list.

Sources Enabled

The SOURCES ENABLED: check-boxes allow the selection of the live audio types discussed below. Select the check boxes for the audio input sources utilized in the E3 system. As each utilized input is selected, it will appear in the AVAILABLE AUDIO INPUTS (BY PRIORITY) panel. After all of the necessary inputs have been selected, use the up and down arrows at the bottom of the pane to configure the relative priorities of the audio 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 below, the “Insert 1” has been enabled on the SYSTEM PROPERTIES screen so AUX IN #2 is disabled here.

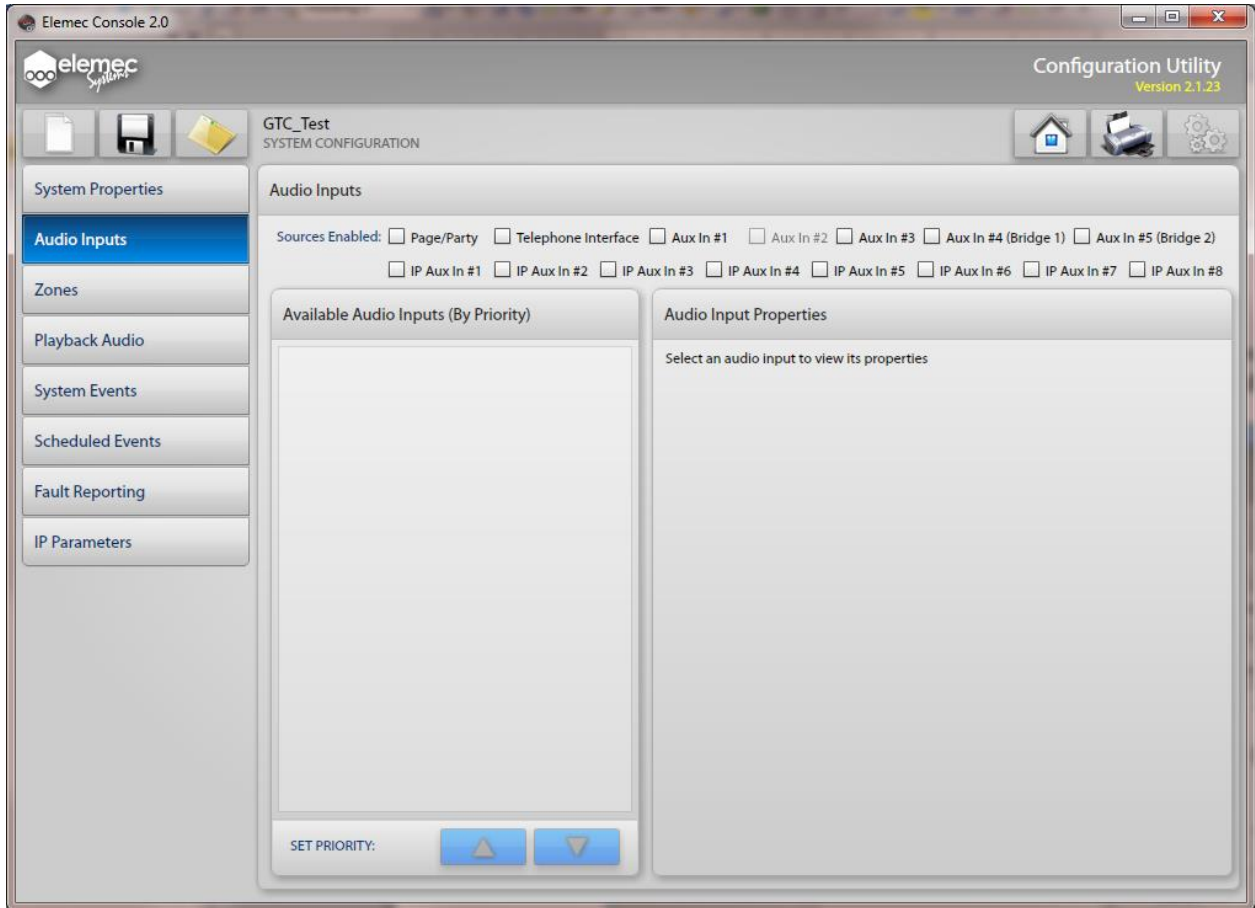


Figure 38. Audio Inputs Configuration screen

Page/Party Audio Input Properties

Selecting PAGE/PARTY from the AVAILABLE AUDIO INPUTS (BY PRIORITY) panel facilitates the configuration of the Page/Party® audio input properties.

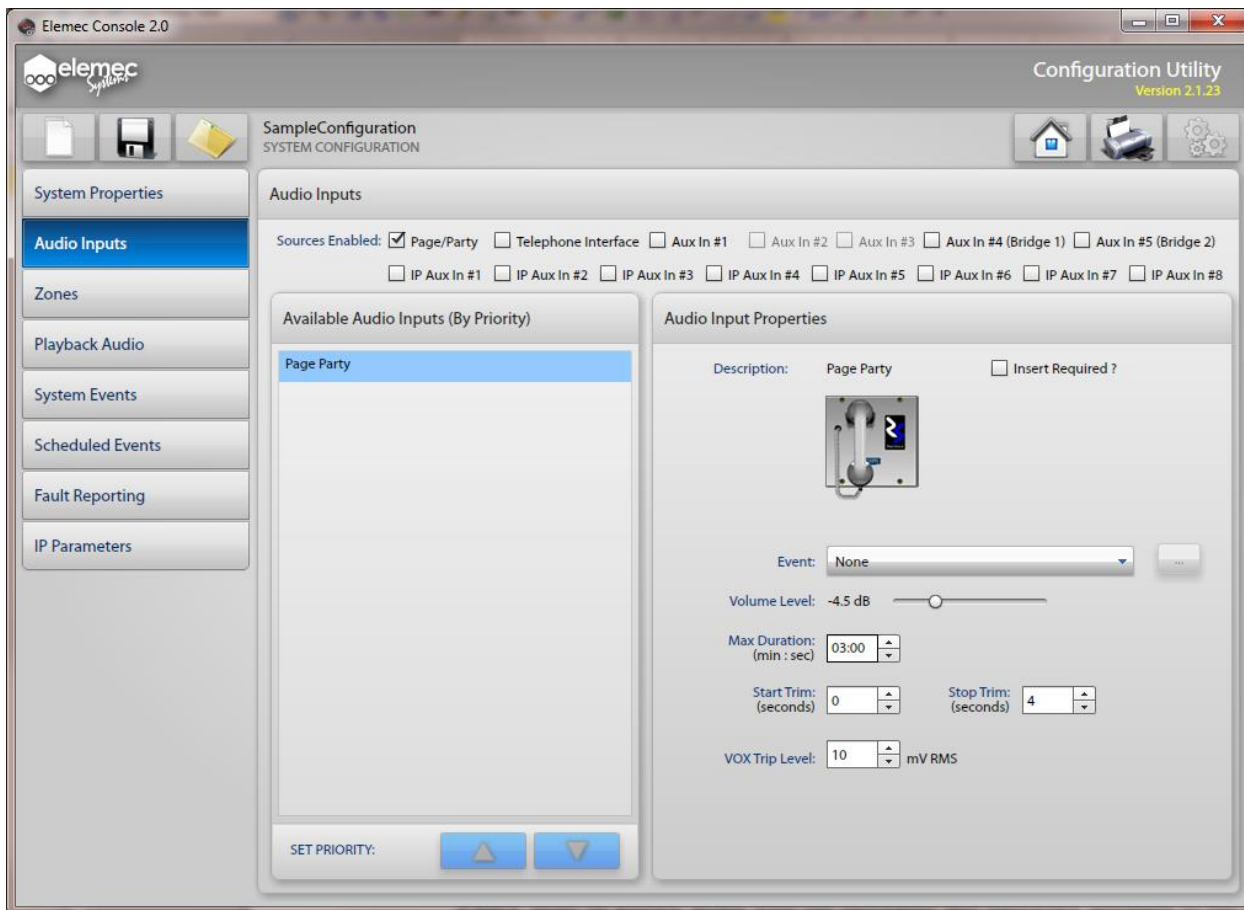


Figure 39. Page/Party® Audio Input Properties

Insert Required?—This checkbox specifies whether or not an insert is required for the Page/Party® input. Inserts must be enabled on the GLOBALS panel from the SYSTEM PROPERTIES screen if they will be used by any of the enabled live audio input sources. See the heading **Insert 1 Enabled? & Insert 2 Enabled?** on Page 15 for more information on inserts.

Event—The Event dropdown list is used to specify which event will initiate when audio is detected on the Page/Party® input.

Volume Level—Specifies the gain of the Page/Party® audio.

Max Duration—Specifies the maximum duration of a single Page/Party® broadcast.

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

Stop Trim—Specifies how much playback audio will be removed at the end of the playback. A minimum of 3.5 seconds of stop trim is recommended to compensate for the VOX hold time.

VOX Trip Level—Specifies the detection level of Page/Party® audio used to trigger the event. This setting will vary depending on the quality of the incoming Page/Party® audio.

Telephone Interface Audio Input Properties

Selecting the TELEPHONE INTERFACE checkbox from the SOURCES ENABLED options permits the configuration of the telephone interface audio input properties.

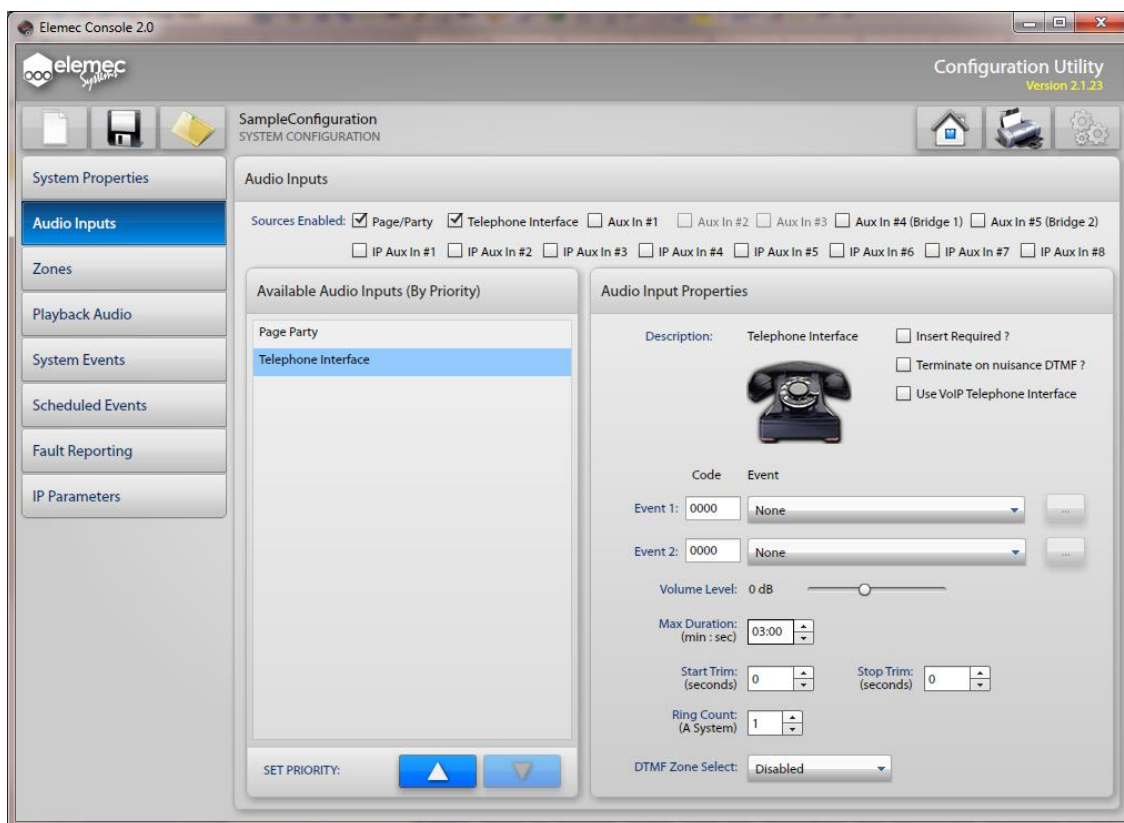


Figure 40. Telephone Interface Audio Input Properties

Insert Required?—Specifies whether or not an insert is required for the telephone interface. Inserts must be enabled on the GLOBALS panel from the SYSTEM PROPERTIES screen if they will be used by any of the enabled audio input sources. See the heading **Insert 1 Enabled? & Insert 2 Enabled?** on Page 15 for more information on inserts.

Terminate on Nuisance DTMF?—If checked, terminates a call when nuisance DTMF commands are received. Nuisance DTMF commands are defined as three consecutive DTMF digits while broadcasting or recording audio.

Use VoIP Telephone Interface?—When selected, the E3 controller uses the VoIP telephone interface instead of an analog PSTN connection for all telephony functions. This will remove the *Ring Count: (A System)* property and replace it with a VOIP TELEPHONE INTERFACE PROPERTIES button discussed below.

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

- If either event has a DTMF code specified, the caller is prompted for and will have up to three seconds to begin entering the desired DTMF Code. If both events have a DTMF code specified, the call will terminate after three seconds if neither code is entered by the caller.
- If event one has a DTMF Code of “0000”, and event two has a non-zero DTMF code, then if event two’s code is not entered within 3 seconds, event one will be selected automatically. If both events have a DTMF Code of “0000”, event one will be selected immediately on call answer.
- If event one has a non-zero DTMF code, event two must always have a non-zero DTMF code in order to be utilized. Event two will never be selected automatically.
- If DTMF ZONE SELECT is enabled for the telephone interface, after a valid zone is entered, the selected event will immediately broadcast. If zone selection is disabled or no valid zone is entered, the event will be broadcast to the event’s default zone.

- Ellipsis buttons provide a shortcut to the EVENT BUILDER screen to configure the event activated by the selected DTMF. The EVENT BUILDER is covered under the SYSTEM EVENTS CONFIGURATION section on Page 53.

Volume Level—Specifies the gain of the telephone interface audio.

Max Duration—Specifies the maximum duration of a single telephone interface broadcast.

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

Stop Trim—Specifies how much playback audio will be removed at the end of the playback. The STOP TRIM duration will be dependent on the operation of the PBX at call termination.

Ring Count: (A System)—Specifies the number of rings before the telephone interface answers. This setting is replaced by the VOIP TELEPHONE INTERFACE PROPERTIES button when the VoIP telephone interface option is selected.

DTMF Zone Selection—Specifies the number of DTMF digits required for zone selection. The DTMF zone selection codes are configured using the ZONE CONFIGURATION screen detailed on Page 46.

VoIP Telephone Interface Properties—When using the VoIP Telephone Interface, the IP PABX (registrar) must be configured 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. This information is entered on the VOIP TELEPHONE INTERFACE SETUP screen shown here:

The screenshot shows the 'VoIP Telephone Interface Setup' window. It has a title bar and a 'Close' button in the bottom right corner. The window is divided into two main sections: 'SIP Properties' and 'Audio and CODEC Parameters'.
The 'SIP Properties' section contains:
- AUDIO SETUP DELAY: 1 (x 200ms)
- MODE: SERIAL (dropdown menu)
- REGTIMEOUT: 3600 sec.
- KEEP-ALIVE INTERVAL: 1 sec.
The 'Audio and CODEC Parameters' section contains:
- CODEC: 1,2 (with a legend: 1 = G711A, 2 = G711u)
- SAMPLE: G711, 20 ms
- FRAMES: G711, 20 fpp
Below these sections is a green button labeled 'ADD REGISTRAR'.
At the bottom of the window, there are two panels:
- 'Registrars': A text input field with the placeholder '[Enter Description]' and two blue arrow buttons for 'SET PRIORITY'.
- 'Registrar Properties': A message that says 'Select a registrar to view its properties'.
A 'Close' button is located at the bottom right of the window.

Figure 41. VoIP Telephone Interface Setup

Audio Setup Delay—This setting provides compensation for varying call set-up times between different IP PABXs which may result in lost audio at the beginning of a voice page. The value entered will delay the "talk-now" confirmation tone heard by the caller. This effectively prevents the caller from talking to allow the IP PABX additional time to set up the call. The value entered is multiplied 200 milliseconds to determine the actual delay time.

Regtimeout—The E3 controller will request to re-register with the IP PABX using the time interval entered in this field (seconds). This is a negotiated parameter between the IP PABX and the E3 controller so the actual registration interval may be different than the value entered.

Keep-Alive Interval—The KEEP-ALIVE INTERVAL is used to ensure that the link to the IP PABX is still viable and that the IP PABX service is still functional. The value entered is in seconds.

Registrar Configuration—To configure the IP PABX registrar, click in the DESCRIPTION field to display the following screen:

The screenshot shows the 'VoIP Telephone Interface Setup' dialog box. It is divided into two main sections: 'SIP Properties' and 'Audio and CODEC Parameters'. Below these are two sub-dialogs: 'Registrars' and 'Registrar Properties'.

SIP Properties:

- AUDIO SETUP DELAY: 1 (x 200ms)
- MODE: SERIAL
- REGTIMEOUT: 3600 sec.
- KEEP-ALIVE INTERVAL: 1 sec.

Audio and CODEC Parameters:

- CODEC: 1,2 (Legend: 1 = G711A, 2 = G711u)
- SAMPLE: G711 20 ms
- FRAMES: G711 20 fpp

Registrars: A list box containing '[Enter Description]' with 'SET PRIORITY' and arrow buttons below it.

Registrar Properties:

- Description: [Enter Description]
- Username: 200 * Global
- Password: [Enter Password]
- IP Address: 0.0.0.0
- Port: 0
- Hang Up On Reg Failure
- Hang Up On RTP Failure

Buttons: 'ADD REGISTRAR' (green), 'REMOVE SELECTED REGISTRAR' (red), and 'Close' (grey).

Figure 42. Configuring Registrar Properties

Description—Enter a text description for the IP PABX (Registrar).

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

Password—Enter the password for the E3 controller (as configured in the IP PABX).

IP Address—Enter the IP Address of the IP PABX.

Port—Enter the port number used by 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. Port 5060 is commonly used for non-encrypted signaling traffic whereas port 5061 is typically used for traffic encrypted with Transport Layer Security (TLS).

Hang Up On Reg Failure—When selected, an active call will be ended if the re-registration fails. Re-registration with the IP PABX is independent of active calls.

Hang Up On RTP Failure—When selected, an active call will be ended if the data rate drops below 250 bytes per second. Excessive packet loss is present at this data rate.

Auxiliary Inputs #1-5 Audio Input Properties

Selecting any of the AUX IN checkbox from the SOURCES ENABLED options permits the configuration of that auxiliary input’s interface audio input properties. Aux In #2 will not be available if insert one is enabled and Aux In #3 will not be available if insert two is enabled. Aux #4 and Aux #5 are disabled in A+B and N+1 configurations.

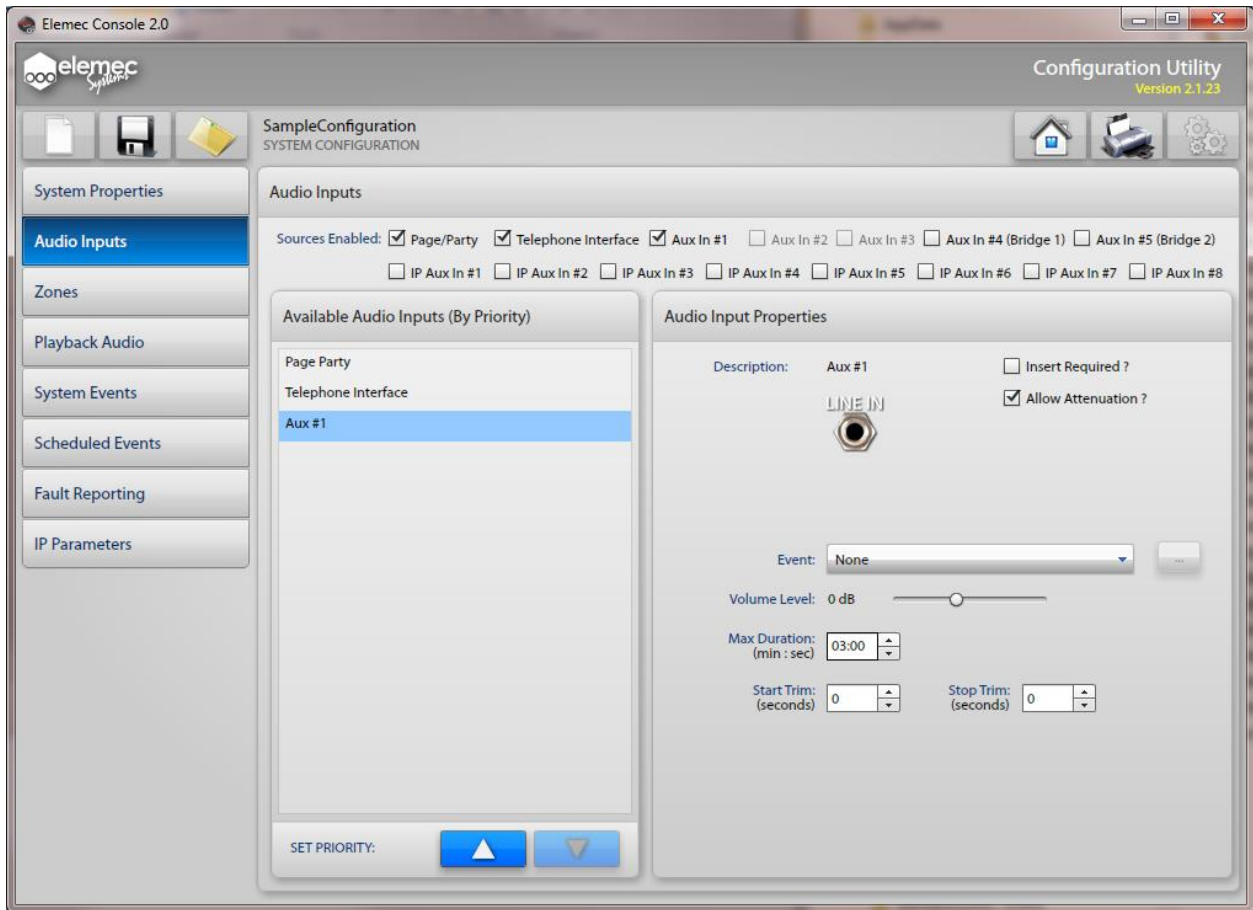


Figure 43. Auxiliary Interface Audio Input Properties

Insert Required?—Specifies whether or not an insert is required for the telephone interface. Inserts must be enabled on the GLOBALS panel from the SYSTEM PROPERTIES screen if they will be used by any of the enabled audio input sources. See the heading **Insert 1 Enabled? & Insert 2 Enabled?** on Page 15 for more information on inserts.

Allow Attenuation ?—If checked, attenuation can be applied to the input. The attenuation setting is configured on the GLOBALS panel on the SYSTEM PROPERTIES screen. See Page 14 for more information.

Event (Aux #1 only)—Specifies the event to be initiated by the Aux #1 PTT contact.

Volume Level—Specifies the gain of the selected Aux input.

Max Duration—Specifies the maximum duration of an auxiliary input broadcast.

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

Stop Trim—Specifies how much playback audio will be removed at the end of the playback.

IP Aux #1–8 Audio Input Properties

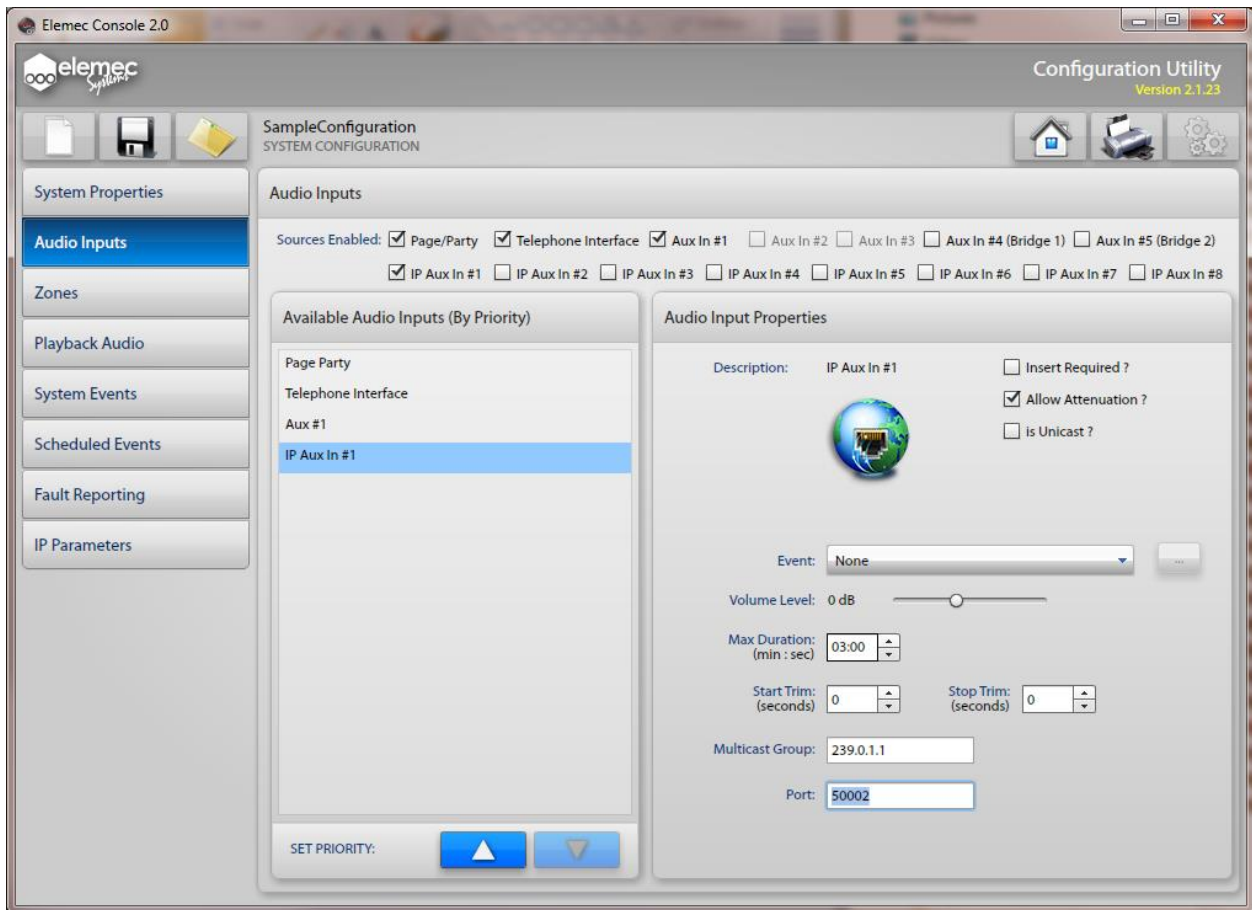


Figure 44. Configuring Audio Inputs

Insert Required?—Specifies whether or not an insert is required for the input. Inserts must be enabled on the GLOBALS panel from the SYSTEM PROPERTIES screen if they will be used by any of the enabled audio input sources. See the heading **Insert 1 Enabled? & Insert 2 Enabled?** on Page 15 for more information on inserts.

Allow Attenuation ?—If checked, attenuation can be applied to the input. The attenuation setting is configured on the Globals panel on the System Properties screen. See Page 14 for more information.

Is Unicast—Select this checkbox for an IP auxiliary input that is a source only endpoint.

Event—Specifies the event to be initiated by the input when audio is detected.

Volume Level—Specifies the gain of the selected input.

Max Duration—Specifies the maximum duration of the input broadcast.

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

Stop Trim—Specifies how much playback audio will be removed at the end of the playback.

Multicast Group—Specifies the IP address of the input.

Multicast Port—Specifies the port of the input.

Zone Configuration

The ZONES configuration screen is used to create and manage communication zones in an E3 system. A zone is a set of output destinations for events. The types of destinations that a zone can include are amplifier channels, configured zone(s), outputs, output groups, logic flags, and IP destinations.

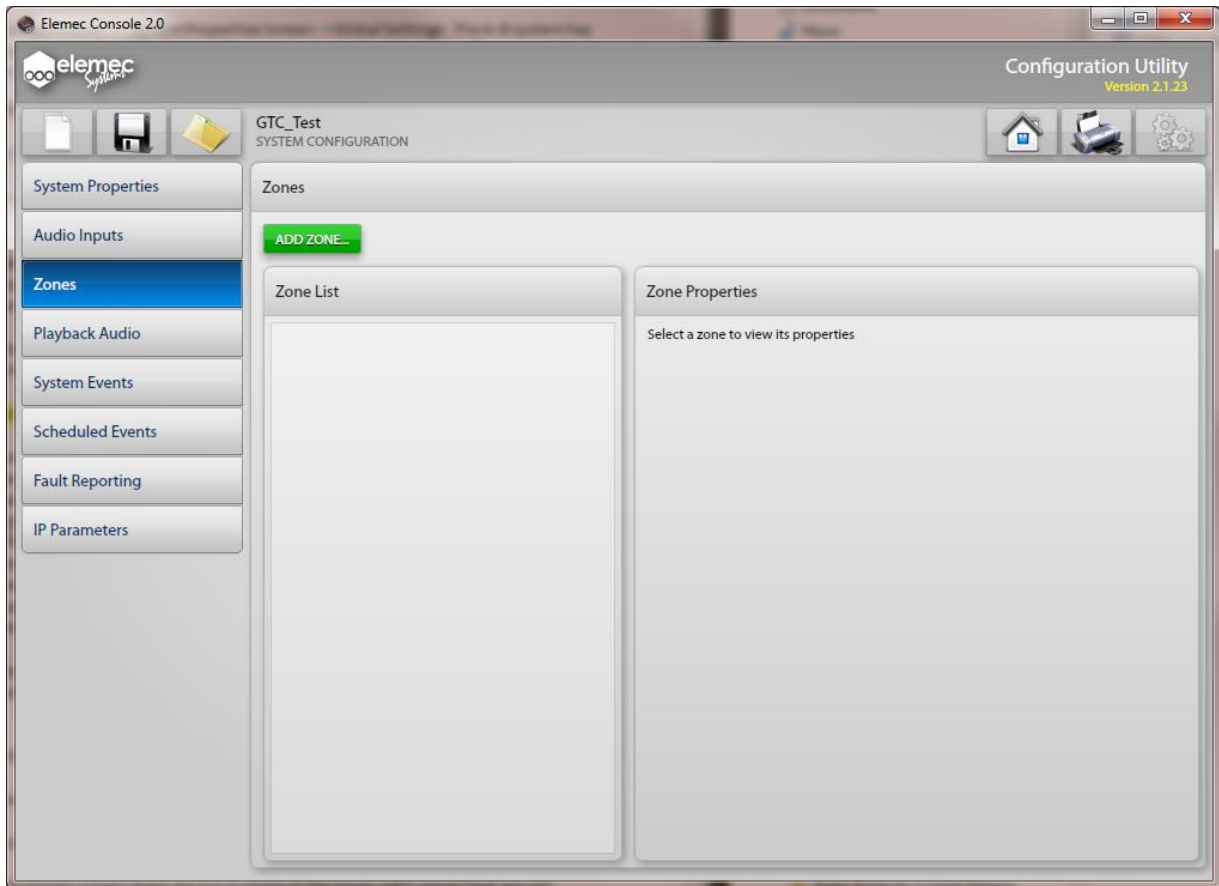


Figure 45. Zone Configuration screen

Adding Zones

Clicking the **ADD ZONE...** button opens the CREATE NEW ZONE dialog box where the zone description must be entered before the ZONE BUILDER screen is displayed. Enter the zone description and click the **CREATE NEW ZONE** button to continue to the ZONE BUILDER screen.

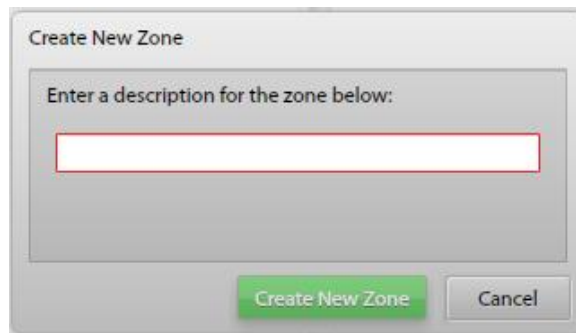


Figure 46. Create New Zone dialog box

Zone Builder

The ZONE BUILDER screen shown here facilitates the configuration of zones in an *Elemec3* system. It is accessed automatically when a new zone is created or when changes need to be made to an existing zone by highlighting that zone in the AVAILABLE DESTINATIONS panel and clicking the **EDIT ZONE** button.

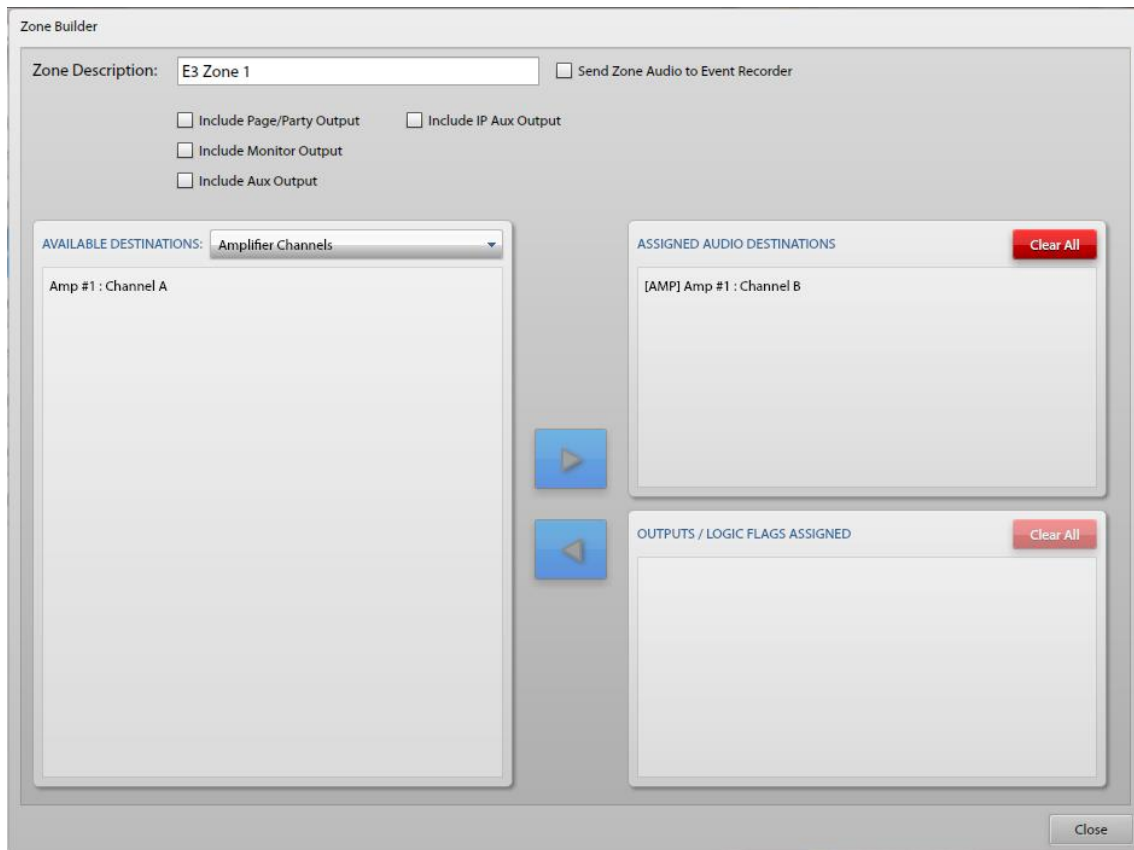


Figure 47. Zone Builder screen

Zone Description—Is the unique descriptive name of the zone.

Send Zone Audio to Event Recorder—If checked, all audio targeted to this zone is recorded by the event recorder. If the event recorder is not enabled on the SYSTEM PROPERTIES screen then it will be grayed out here.

Beneath the ZONE DESCRIPTION field are four audio outputs that can be selected. The selected options specify which (if any) of the following audio outputs are to be included in the zone. The available audio outputs are:

Include Page/Party® Output—If checked, includes Page/Party® output. This option will be grayed out if the Page/Party® audio source is not enabled under the SOURCES ENABLED section of the AUDIO INPUTS tab.

Include Monitor Output—If selected, the monitor output and the IP monitor out are included, if configured. The monitor output will be grayed out if insert two is enabled in the GLOBALS panel on the SYSTEM PROPERTIES screen

Include Aux Output—If selected, then all audio destined for this zone will also be sent to the auxiliary output. The INCLUDE AUXILIARY OUTPUT checkbox will be unavailable if insert one is enabled in the GLOBALS panel on the SYSTEM PROPERTIES screen

Include IP Aux Output—If selected, then audio destined to this zone will also be sent to the IP auxiliary output.

Available Destinations Panel

Available destinations, as defined below, can be selected from the AVAILABLE DESTINATIONS drop-down list. There are two types of available destinations; audio and output/logic flags.

Assigned Audio Destinations Panel

Amplifier Channels—To add amplifier channels to this zone, select the amplifier channels from the AVAILABLE DESTINATIONS drop down list on the left and click the right-arrow button to move the selected amplifier channels to the ASSIGNED AUDIO DESTINATIONS list on the right.

Zones Configured—To add previously defined zones to this zone, select the zones from the AVAILABLE DESTINATIONS list on the left and click the right-arrow button to move the zones to the ASSIGNED AUDIO DESTINATIONS list on the right.

IP Destinations—To 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 the IP destinations to the ASSIGNED AUDIO DESTINATIONS list on the right.

Output/Logic Flags Assigned Panel

To add outputs, output groups, or logic flags to this zone, select the desired 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 OUTPUT / LOGIC FLAGS ASSIGNED list. Any items included on the list will be asserted only when the event includes the item and this zone is targeted by the event.

Playback Audio Configuration

Playback audio is any prerecorded audio in MP3 format that is to be broadcast by the system (i.e., alarm audio, informational messages, tones, etc.). The PLAYBACK AUDIO CONFIGURATION screen is used to create and manage these prerecorded clips, configure system tones and background music, and to create messages from the audio clips. The screen is divided into three sections; PLAYBACK AUDIO CONFIGURATION functions, MESSAGES, and MESSAGE PROPERTIES.

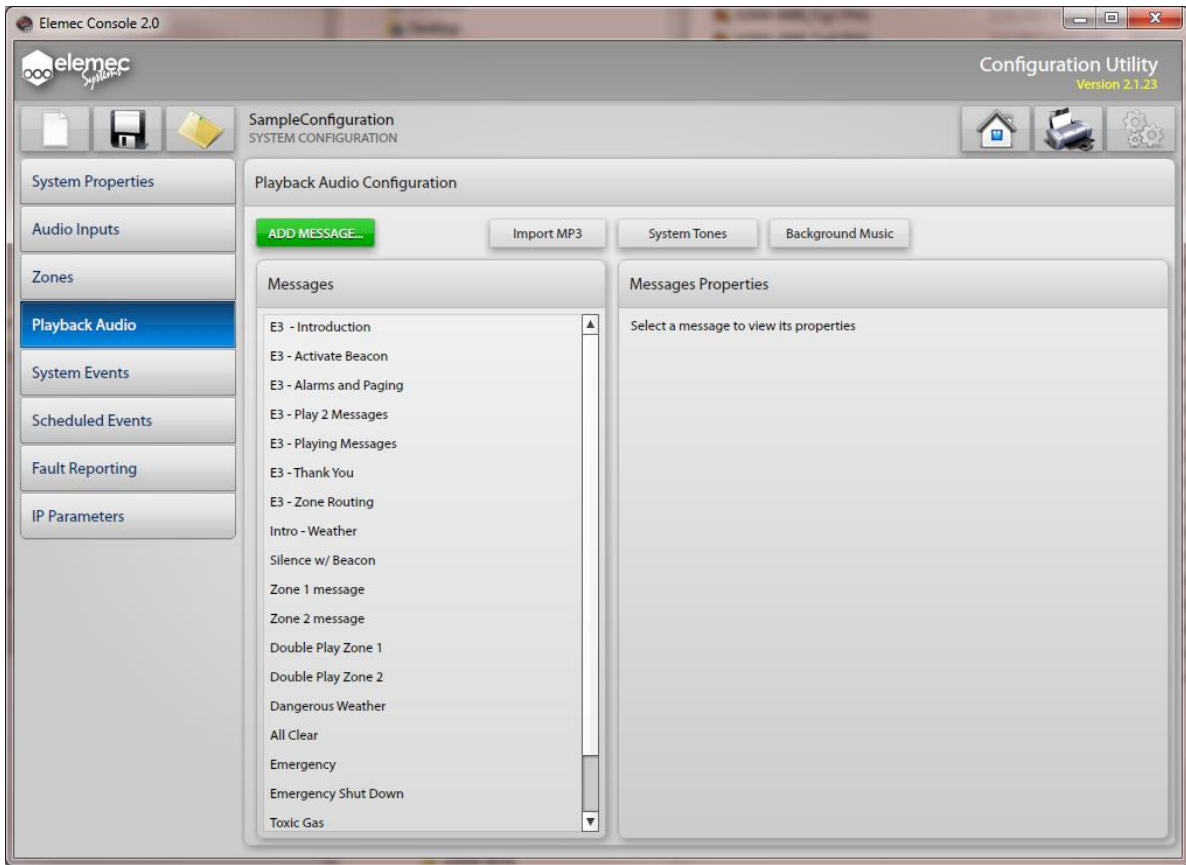


Figure 48. Playback Audio Configuration screen

Playback Audio Configuration Functions

Add Message

Clicking on the **ADD MESSAGE...** button on the PLAYBACK AUDIO CONFIGURATION screen brings up the CREATE NEW MESSAGE screen shown below.

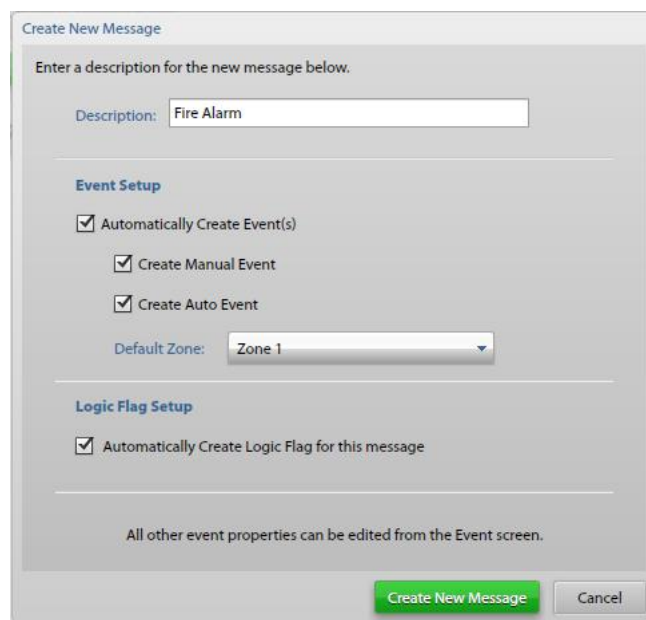


Figure 49. Create New Message screen

Description—is a user-defined unique description of the message. This name will be used to identify 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 will automatically create playback events for the message. (Suitable for manual or auto events.)

Create Manual Event—When checked, a playback event will be created for this message with the proper default settings for use with a manually actuated access panel button.

Create Auto Event—When checked, a playback event will be created for this message with the proper default settings for use with an input contact or scheduled event.

Default Zone—specifies the default zone for the event(s) created.

LOGIC FLAG SETUP—when AUTOMATICALLY CREATE LOGIC FLAG for this message is selected, a user logic flag with the same description as the message will be automatically added to the created event(s).

Create New Message—when complete, click the CREATE NEW MESSAGE button to finish creating the message.

Import MP3

Clicking the IMPORT MP3 button enables importing audio files via a file open dialog box.

System Tones

System tones are audio files that can be used as pre-announcement tones, post-announcement tones, or as a tick tone. Click on the SYSTEM TONES button to show the SYSTEM TONES SETUP screen shown below. Any audio file less than 10 seconds in duration is allowed for use as a system tone.

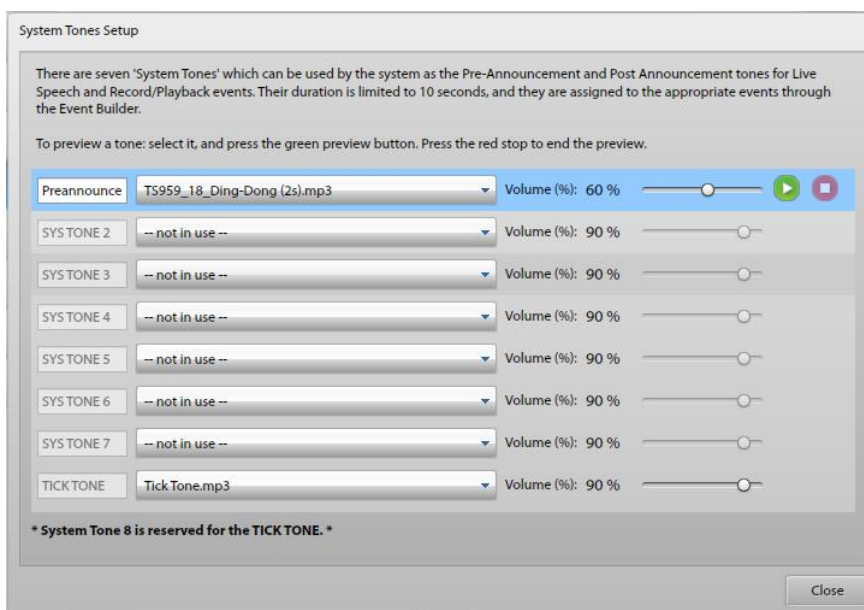


Figure 50. System Tones Setup screen

Selecting a tone from the drop down list will enable the description field, volume control, and audio preview controls. The last system tone (System Tone 8) is preset for the tick tone. These tones will be available in the LIVE SPEECH EVENT OPTIONS pane of the EVENT BUILDER screen for assignment **only** with live speech and record/playback events. Refer to the [LIVE SPEECH EVENT OPTIONS](#) or [RECORD/PLAYBACK EVENT OPTIONS](#) Sections starting on Page 58 for more information.

Description—The description of the tone will be used to identify the tone in live speech and record/playback events.

Volume (%)—Change the playback VOLUME (%) of the system tone by moving the slider to the required percent volume. The VOLUME (%) represents a percentage of the VOLUME LEVEL setting on the GLOBALS panel of the SYSTEM PROPERTIES screen. See Page 14.

Background Music

Click on the **BACKGROUND MUSIC** button to show the BACKGROUND MUSIC SETUP screen. Background music can be played in any zone of a system. The external background music source must be connected to one of the enabled auxiliary inputs.

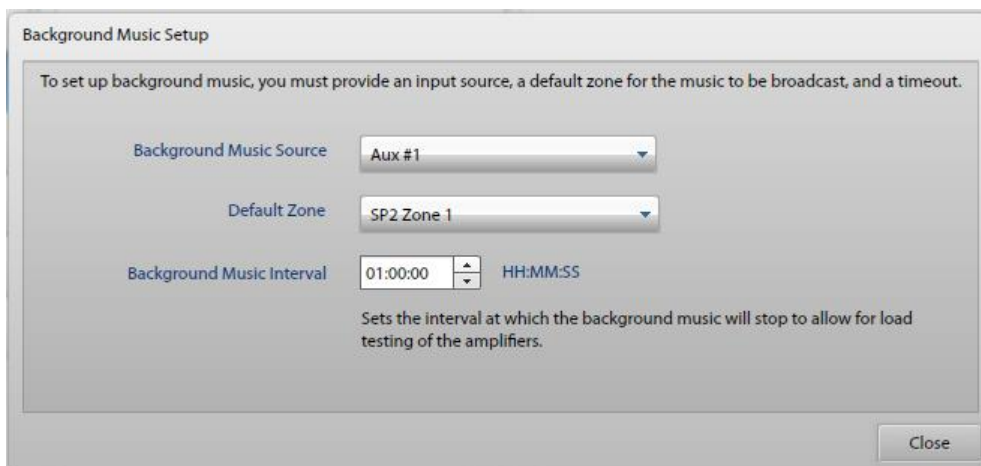


Figure 51. Background Music Setup screen

Background Music Source—is assigned by clicking on the drop down box and selecting one of the unused enabled auxiliary inputs. Connect the external background music source to the selected auxiliary input.

Default Zone—is specified by clicking on the drop down box and selecting one of the available zones. After a system reset, the background music will only be played to the default zone. Using an access panel, the default zone for broadcasting background music can be overridden.

Background Music Interval—is specified by setting the time interval in hours, minutes, and seconds at which the background music will stop to allow for amplifier audio path and load tests. When the tests are complete, the background music will resume.

Messages

The MESSAGES panel lists the messages created for use with the E3 system. Messages consist of one or more message fragments sequenced together. Messages are created using the [MESSAGE BUILDER](#) covered on Page 52.

Message Properties

Select a message from the MESSAGES panel to view its properties. The information provided includes the message description, duration, number of fragments in the message, and playback volume. The properties panel also contains buttons for **EDIT MESSAGE**, **DUPLICATE MESSAGE**, or **REMOVE MESSAGE**. Individual adjustment to the volume level of each fragment making up the message can be made in the MESSAGE SUMMARY subpanel by clicking and dragging the sliders. While selected, the volume percentage of the system volume is displayed in a tooltip. The MESSAGE PREVIEW subpanel provides for listening to the message through the PC's local speakers.

Message Builder

The MESSAGE BUILDER screen is used to assemble audio message fragments into message sequences. It is opened immediately when the **CREATE NEW MESSAGE** button is clicked from the CREATE NEW MESSAGE dialog box and also when the **EDIT MESSAGE** button is clicked from the MESSAGE PROPERTIES panel to modify the selected message's included message fragments or to reorder the fragments.

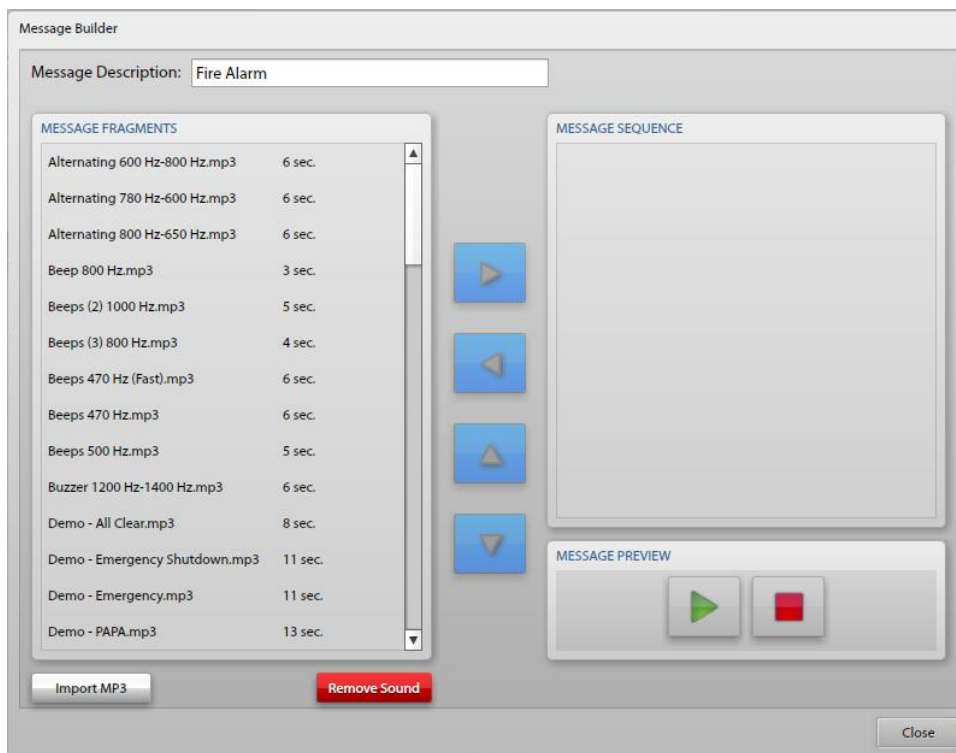


Figure 52. Message Builder screen

Message Description—is a user-defined unique description for the message. This name will be used to identify the message in all areas of the system. This name was previously defined when creating the message but can be modified here. If an existing message description is updated here then the related events should also be updated.

Message Fragments

To add a message fragment to a message sequence, select the fragment from the list on the left and click the right-arrow button to move the fragment to the MESSAGE SEQUENCE pane.

When a message fragment is highlighted in the MESSAGE SEQUENCE list, a green play button appears. Pressing the green play button will allow listening to the fragment.

Message Sequence

To change the playback sequence of the message, highlight a fragment in the MESSAGE SEQUENCE pane and use the up and down arrows to place the fragment in the desired playback position.

To remove a fragment from the MESSAGE SEQUENCE pane, highlight the fragment and click the left-arrow button to remove the fragment.

Message Preview

To preview the message, click the green play arrow. At any time during playback, the red stop button can be pressed to stop playback.

Import MP3—Opens a file open dialog box to allow importing audio files into the list of MESSAGE FRAGMENTS.

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

NOTE: Message fragments cannot be removed if they are in use in the configuration.

System Events Configuration

The *Elemec3* system utilizes 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. The priority of an item can be changed by highlighting the item and using the SET PRIORITY up and down arrows to change its position in the list. Event priority is critical to the desired operation of the *Elemec3* system.

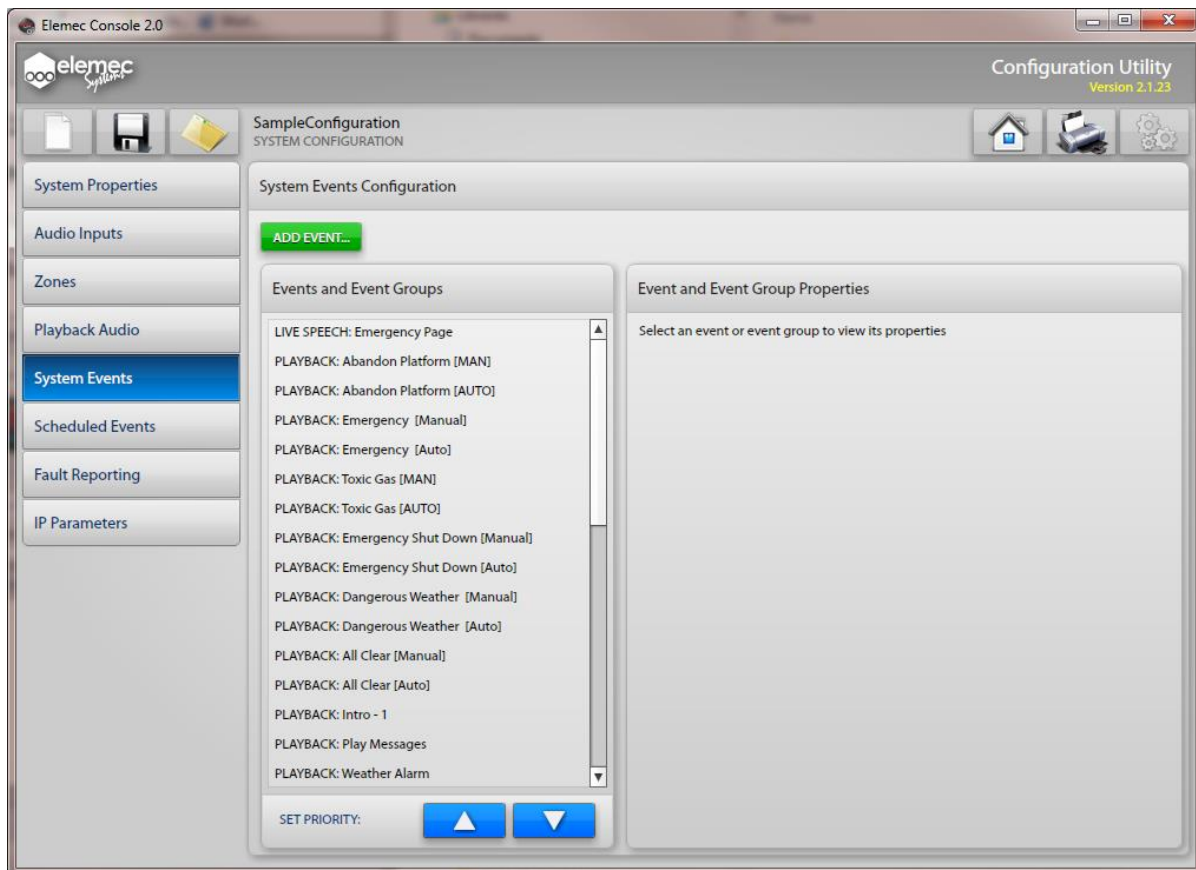


Figure 53. System Events Configuration screen

If any messages were created with the AUTOMATICALLY CREATE EVENT option, these events will already be listed in the EVENTS AND EVENT GROUPS pane.

Add Event

Clicking the **ADD EVENT...** button will display the CREATE NEW EVENT OBJECT screen shown in [Figure 54](#) below.

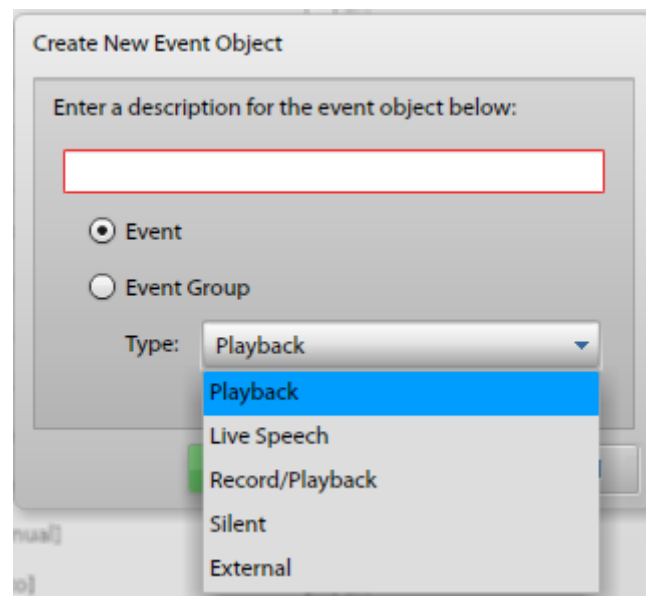


Figure 54. Create New Even Object screen

Enter a description for the event object below:—Enter a unique description for the event. This name will be used to identify the event in all areas of the system.

Event/Event Group—Select either EVENT or EVENT GROUP. Configuration of events is described next. Refer to the Event Groups section on [Page 62](#) for their configuration information.

Type:—When EVENT is selected, 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 or output groups, or triggers an event chain. No audio will be broadcast.
- **External**—Broadcasts externally generated audio.

After entering the description and selecting the event type from the drop down list, click the **CREATE NEW EVENT OBJECT** button to open the EVENT BUILDER screen.

Event Builder

The event builder screen is composed of the parent section containing an event's root properties and six additional panes for configuring 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 of these components into a single action that can be carried out by the system.

Figure 55. Event Builder screen

Event Description—Is the user-defined unique description of the event. This name will be used to identify the event in all areas of the system.

Event Type—Specifies the event type as described in the [Add Event](#) section above. The EVENT OPTIONS panel located in the upper right corner of the EVENT BUILDER screen is dependent upon the event type selected.

Behavior (Playback, External only)—Specifies the event behavior for playback and external events.

- **Normal**—Attempts to play the specified message immediately after it is initiated.
- **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—Specifies the delay period in 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 is activated using the STAGED OUTPUT ASSIGNMENTS and STAGED AUDIO DESTINATIONS panel that is accessible via the [CLICK HERE TO EDIT STAGED DESTINATIONS](#) button. This button and the delay field are added to the screen when this option is chosen.

Delay—Specifies the delay period in seconds that the system will wait before executing the staged execution of the event.

NOTE: When creating system events, both normal and staged output and audio destination assignment records will be created in the database regardless of which type of event is created. This covers the possible future action of changing an event from normal to staged.

Click Here to Edit Staged Destinations—Clicking the **CLICK HERE TO EDIT STAGED DESTINATIONS** button opens the dialog box below over the top of the existing event builder window for configuring the staged portion of the event’s assignments and destinations. 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. Note that the title bar of this dialog box is **CLICK HERE TO EDIT DEFAULT DESTINATIONS**. Clicking the title bar closes this dialog box so that the default destinations and remaining event configuration information can be configured back on the **EVENT BUILDER** screen.

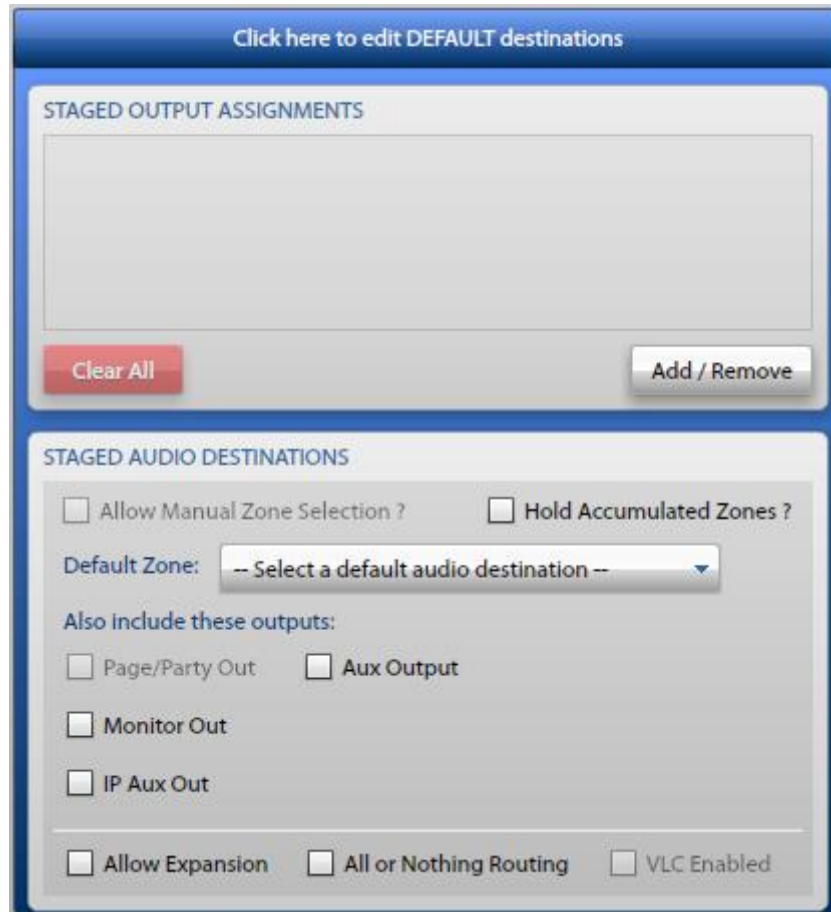


Figure 56. Staged Output Event Configuration

Send to Event Recorder?—If selected, event audio will be sent to the event recorder. The event recorder must be enabled on the **GLOBALS** panel on the **SYSTEM PROPERTIES** screen. See [Page 14](#) for more information on the event recorder.

Discardable?—Higher priority events will terminate the event permanently if this option is selected. When not selected, a higher priority event will suspend the event until it can resume.

Attenuate Audio—If checked, event audio is attenuated using the attenuation setting on the **GLOBALS** panel located under **SYSTEM PROPERTIES**. Attenuate audio is independently configurable for both portions of a staged event. Refer to [Page 14](#) for more information on **GLOBALS**.

Default/Staged Output Assignments

Output assignments are sets of contact outputs, flags, and output groups that are triggered by the action of an event. Creating groups of assignments simplifies the configuration of events where multiple flags and output contacts are to be triggered by an event. The OUTPUT GROUP BUILDER screen is used to specify the default and staged output assignments and flags asserted for an event. Both parts of a staged event have their own independent output assignment behaviors but are configured the same way on the OUTPUT GROUP BUILDER Screen shown below:

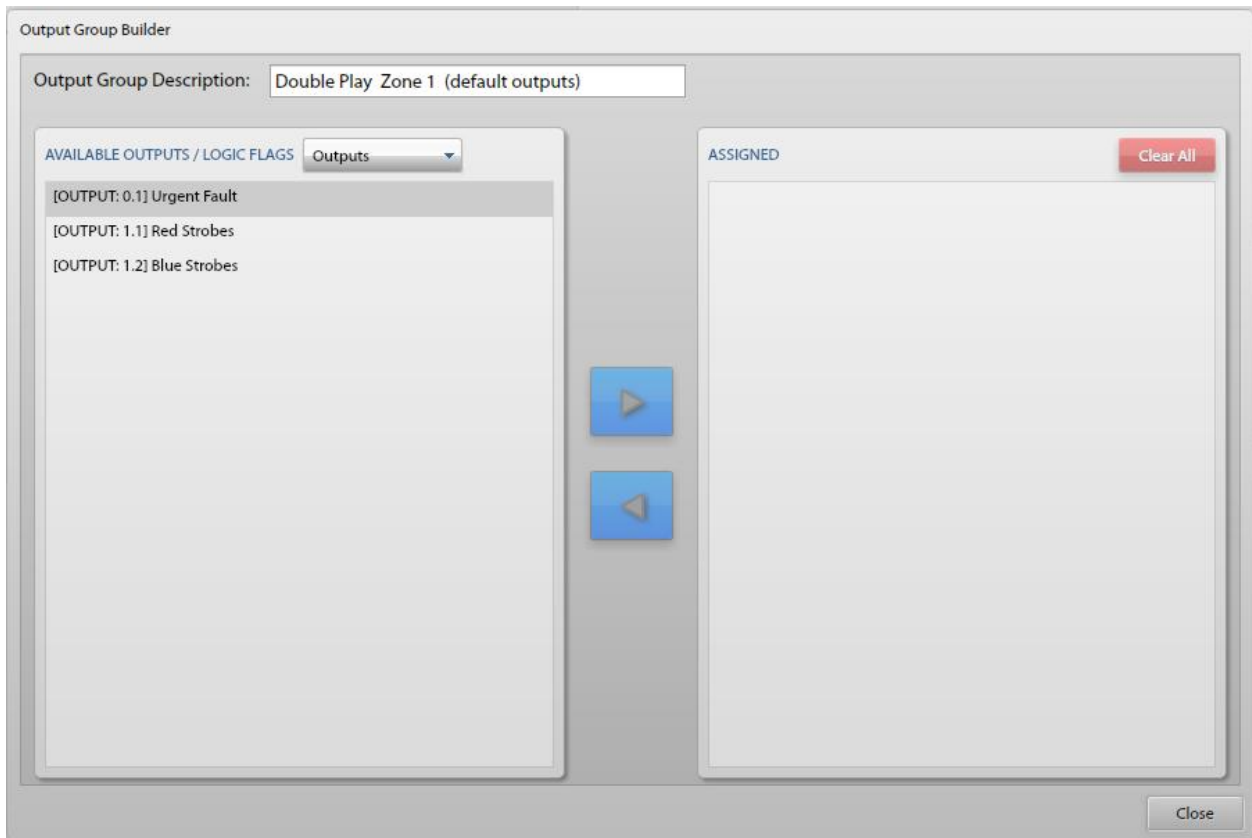


Figure 57. Configuring Event Outputs

The OUTPUT GROUP BUILDER screen is laid out with the group description field at the top and two panels that are used to assign the outputs, flags, and/or output groups.

Output Group Description—This is the description of the output group being configured for action by the event. The name of the output group will have either (default) or (staged) appended to the name to signify which behavior, normal (default) or staged is being modified and therefore also shows from which screen the event builder was accessed.

Available Outputs/Logic Flags

The title bar of this pane contains a drop down list that is used to select the type of assignments that need to be assigned 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 that need to be added and click the right pointing arrow button to add them to the ASSIGNED list. Only those outputs that have been enabled for each I/O card will show up in this list. If an I/O card contact is enabled and the assignments have not been defined in the I/O CONTROLLER PROPERTIES OUTPUTS tab then they will 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. Clicking the **CLEAR ALL** button will 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 a message is first created, a default zone can be selected at that time which will appear in the *default zone:* property drop-down list.

Allow Manual Zone Selection ?—If checked, zones can be selected dynamically from either access panels or input contacts.

Hold Accumulated Zones ?—When checked, zones activated via input contacts will remain active after the associated input contact is released. When unchecked, zones activated via input contacts will deactivate after the associated input contact is released.

Default Zone—Specifies the default zone used for the event when the event is triggered with no additional zone selections.

Also include these outputs—specifies whether to always include the following audio outputs as part of the audio destination:

- Page/Party Out
- Aux Output
- Monitor Out

Allow Expansion—if checked, allows the event to ‘expand’ into locations not targeted by the event if the current allocation of audio resources would otherwise prohibit its broadcast. When an event is expanded, its audio will broadcast over its required resources including any other that are in use.

All or Nothing Routing—if checked, the event will only broadcast if all of the destinations are available. When not checked, the event will play only in available destinations (i.e., play where possible).

VLC Enabled—if checked, the system will broadcast a VLC (Volume Level Control) tone to the Page/Party Out.

Event Options

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

Playback Event Options

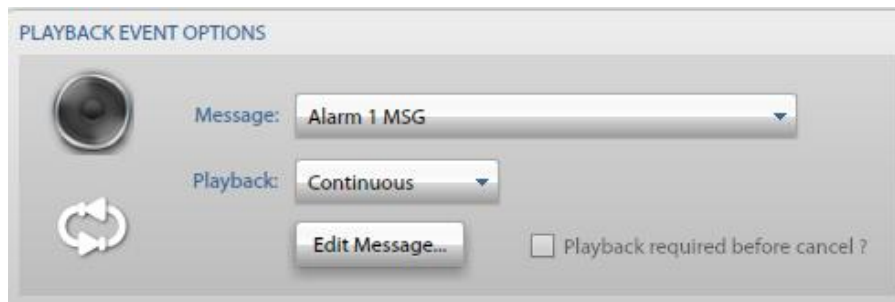


Figure 58. Playback Event Options screen

Message—specifies the previously defined message to be broadcast.

Playback—specifies 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 is cancelled.

Edit Message—Clicking the **EDIT MESSAGE** button opens the **MESSAGE BUILDER** screen to enable modifying the message fragments of the message. See the [MESSAGE BUILDER](#) section on Page [52](#)

Playback required before cancel ?—If selected, the event will not be cancelled until the message has been broadcast the specified number of times. When deselected, the event can be cancelled at any time.

Live Speech Event Options

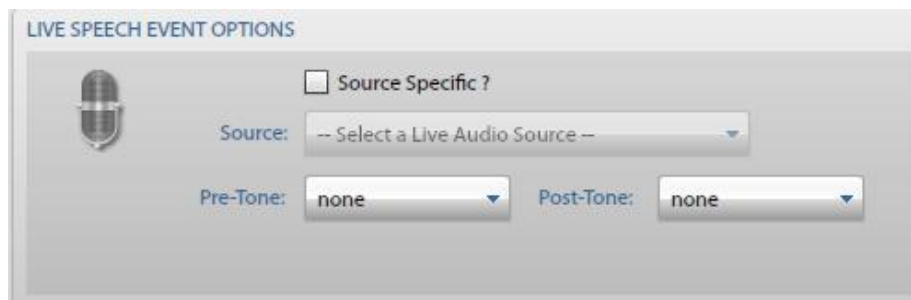


Figure 59. Live Speech Event Options screen

Source Specific ?—This setting is used to source audio for an event via an input contact on an I/O card. When checked, the selected source is used when this event is triggered from an input that does not provide its own audio.

Pre-Tone—specifies the pre-announcement tone for the live audio broadcast. These tones are made available through the **PLAYBACK AUDIO, SYSTEM TONES** screen. Refer to the [System Tones](#) section on Page [50](#) for system tone information.

Post-Tone—specifies the post-announcement tone for the live audio broadcast. These tones are made available through the **Playback Audio, System Tones** screen. Refer to the [System Tones](#) section on Page [50](#) for more information.

Record/Playback Event Options

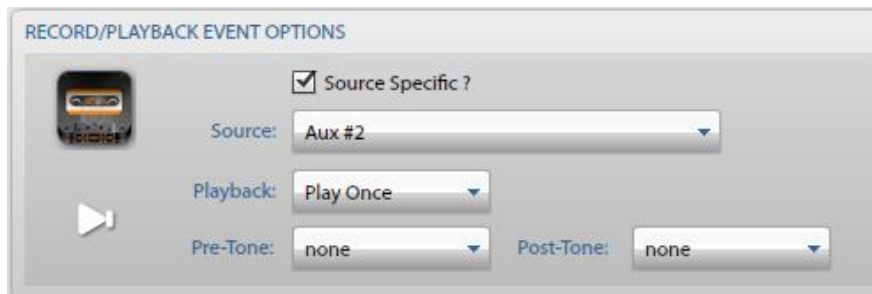


Figure 60. Record/Playback Event Options screen

Source Specific ?—This setting is used to source audio for an event via an input contact on an I/O card. It should be used whenever an input source doesn't have its own push to talk (PTT) capability. If checked, the selected source is used 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 is used to enable the AUX #2 audio source. Source specific should be selected for all external audio sources other than AUX #1.

Playback—specifies 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 is cancelled.

Pre-Tone—Specifies the pre-announcement tone for the live audio broadcast. These tones are made available through the Playback Audio, System Tones screen. Refer to the System Tones section on Page 50. for additional information.

Post-Tone—Specifies the post-announcement tone for the live audio broadcast. These tones are made available through the PLAYBACK AUDIO, SYSTEM TONES screen. Refer to the System Tones section on Page 50. for more details.

External Event Options

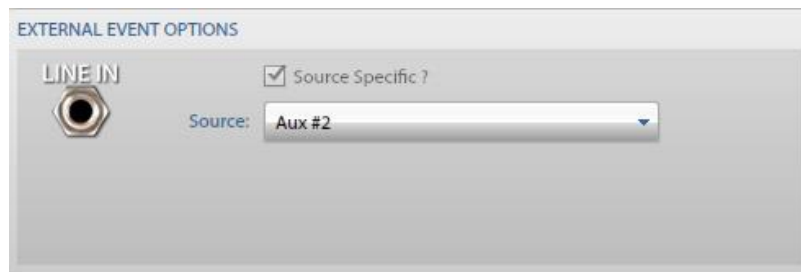


Figure 61. External Event Options screen

Source Specific ?—is 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 panel. See Page 39.

Event Cancel

Specifies how the event can be cancelled by system.

Require Cancel—If checked, the event must be cancelled from an access panel button before it can be cleared from the system.

CANCEL MODE:

- **Manual**—The event can only be cancelled from an access panel.
- **Auto**—The event can be manually cancelled or will cancel automatically after the *Auto-Cancel Delay* expires.

Auto-Cancel Delay—The delay, in seconds, for an event with the *Cancel Mode* set to *Auto*.

Event Acknowledge

Ack Required—When checked, an event cannot be cleared until it has been acknowledged at an access panel.

Mute on Ack—When checked, the event audio will be muted when the event is acknowledged for the *Max Mute Duration* as specified on the GLOBALS panel on the SYSTEM PROPERTIES screen.

ACK MODE:

- **Manual**—The event can only be acknowledged by an access panel.
- **Auto**—The event can be manually acknowledged or will be acknowledged automatically after the *Auto-Ack Delay* expires.

Auto-Ack Delay—The delay, in seconds, for an event with the Ack Mode set to Auto.

Event Chaining

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

Direct Chain—A direct chain will initiate the event specified in the *Do:* drop down list. The specified event will be initiated either immediately or when this event has completed. When *Manual Cancel* or *Manual Ack* is selected, cancelling or acknowledging this event will prevent initiation of the specified event.

Conditional Chain—A conditional chain will initiate one of two possible events specified 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 specified event will be initiated either immediately or when this event has completed. When *Manual Cancel* or *Manual Ack* is checked, cancelling or acknowledging this event prevents initiation of the specified event.

Event Groups

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

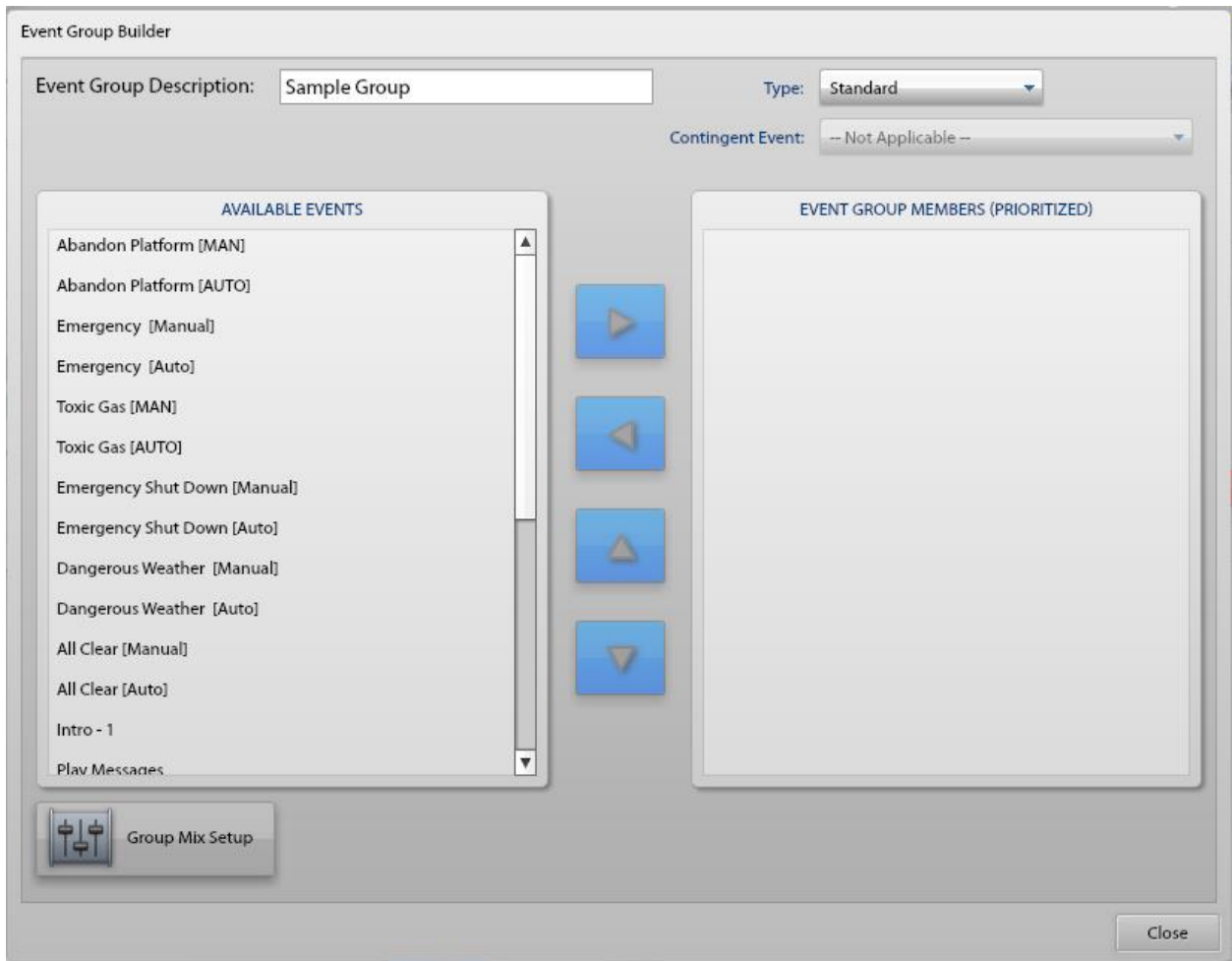


Figure 62. Event Group Builder screen

Event Group Description—is the user-defined unique description of the Event Group. This name will be used to identify the Event Group in all areas of the system.

Type: (of Event Group)

- **Standard**—allows each included event to have *mix/attenuation* properties that differ from the *Global Mix/Attenuation* properties. Standard event groups can be used for various scenarios where unique *Mix/Attenuation* properties are required.
- **Sequenced**—if more than one of the events in the group becomes active, the active events will play in sequence. Active events in the group will effectively take turns playing as long as they are active.
- **Contingent Override**—if more than one of the events in the group becomes active, the system will initiate an alternate event. This contingent event must have a higher priority than the group. For example, if multiple fire alarm events within the group are initiated, the contingent event will override the active events within the group.

Group Mix Setup Button—Please refer to the [GLOBAL AUDIO MIX SETUP](#) section on Page 21.

Fault Reporting Configuration

Elemec3 system faults are broken down into three categories and each fault is assigned one of three fault reporting levels: Ignore, Normal, or Urgent.

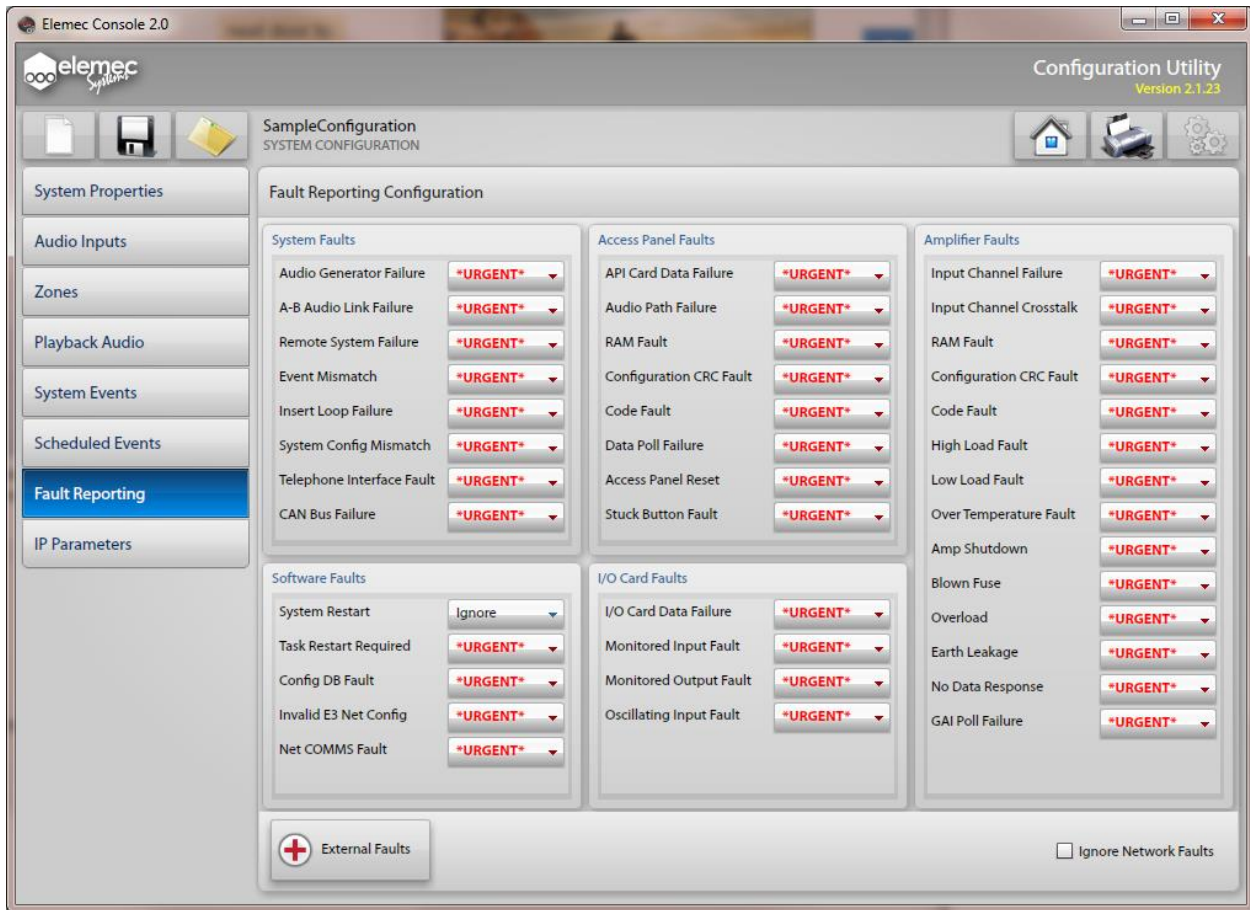


Figure 63. Fault Reporting Configuration screen

Fault Levels

Ignore—The fault will not be reported.

Normal—The fault will be reported as *Normal* on access panel status indicators. Normal faults are automatically acknowledged when the fault clears.

Urgent—The fault will be reported as *Urgent* on access panel status indicators. Urgent faults are considered critical system faults and must be acknowledged regardless of whether or not the fault has been cleared. Urgent faults must be acknowledged through the E3 Portal application. See the E3 Portal application manual, Pub. 42004-485 located at <https://www.gai-tronics.com/manuals/default.htm>

External Faults—External faults are user-defined faults triggered by input contacts. External faults can be assigned a *Normal* or *Urgent* fault level. Once an external fault is defined, it must be assigned to an input contact on an I/O module.

Ignore Network Faults—Network faults will not be included. Only check this if the system will NOT be connected to a network..

IP Parameters

IP parameters are broken down into two main categories, SYSTEM IP and IP DESTINATIONS. Each is described below.

SYSTEM IP

The SYSTEM IP screen shows all of the available IP AUX INPUTS and IP AUX OUTPUTS. These inputs and outputs cannot be removed from the system.

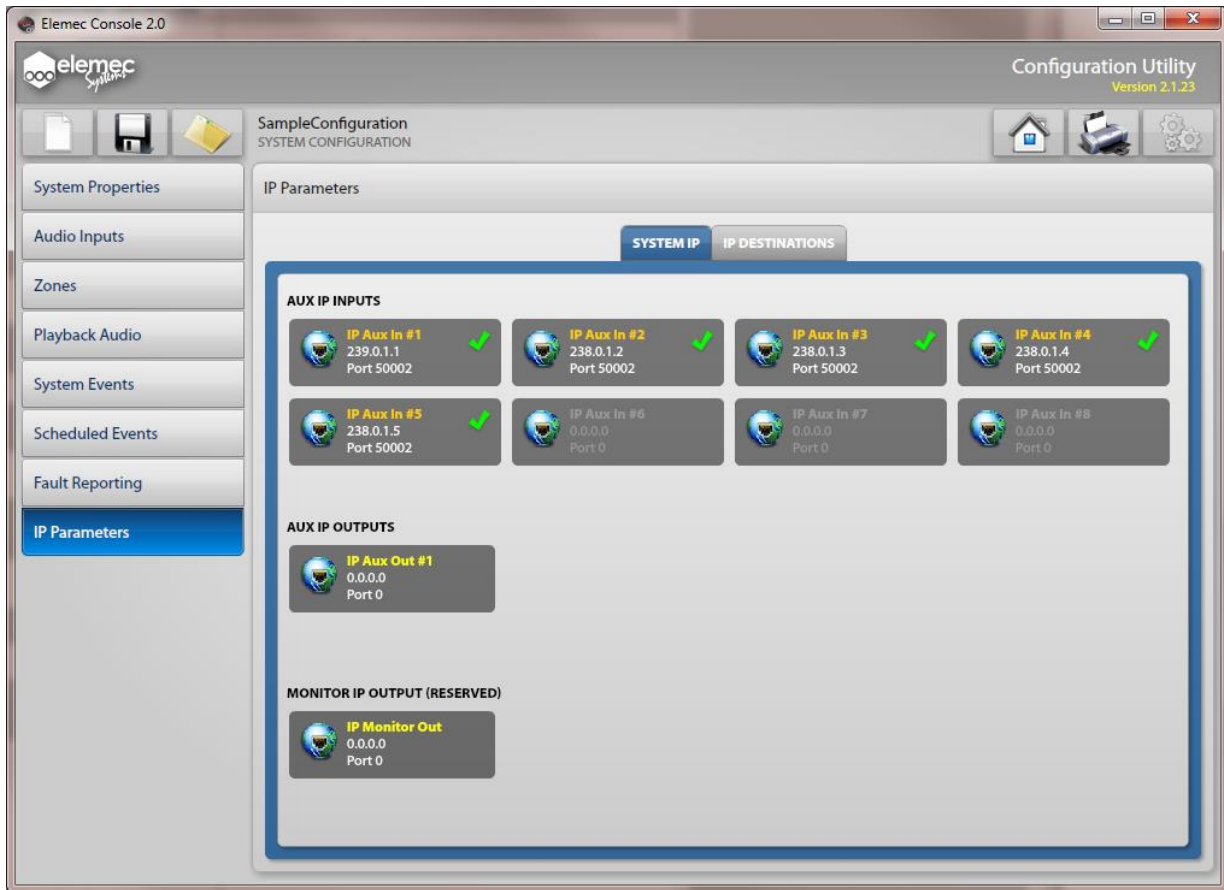


Figure 64. System IP screen

Aux IP Inputs

Auxiliary IP inputs must be enabled in the SOURCES ENABLED portion of the AUDIO INPUTS screen before they become active on this screen. When an enabled *IP AUX INPUT* is selected, the EDIT IP INPUT PROPERTIES dialog box will appear as shown below. These properties are explained in further detail in the [IP Aux #1–8 Audio Input Properties](#) section of this manual.



Figure 65. Edit IP Input screen

Aux IP Outputs/Monitor Out

When either the IP AUX OUTPUT or the IP MONITOR OUT is selected, the properties window will appear as shown below. The IP MONITOR OUT audio destination transmits all audio that the analog MONITOR OUT transmits from the system.

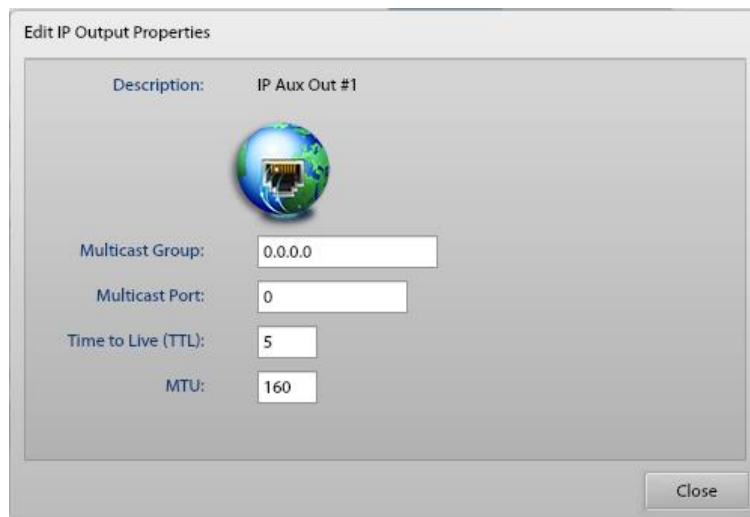


Figure 66. Edit IP Output Properties screen

Multicast Group—Specifies the IP Address for the IP Aux Output.

Multicast Port—Specifies the Port for the IP Aux Output.

Time to Live—Specifies the multicast time to live for the IP packets

MTU—Specifies the maximum transmit unit for the IP packet.

IP DESTINATIONS

The IP DESTINATIONS screen shows all the available USER defined IP destinations. IP Destinations can be added, edited, or removed. The parameters for IP Destinations are the same as the IP Aux Output.

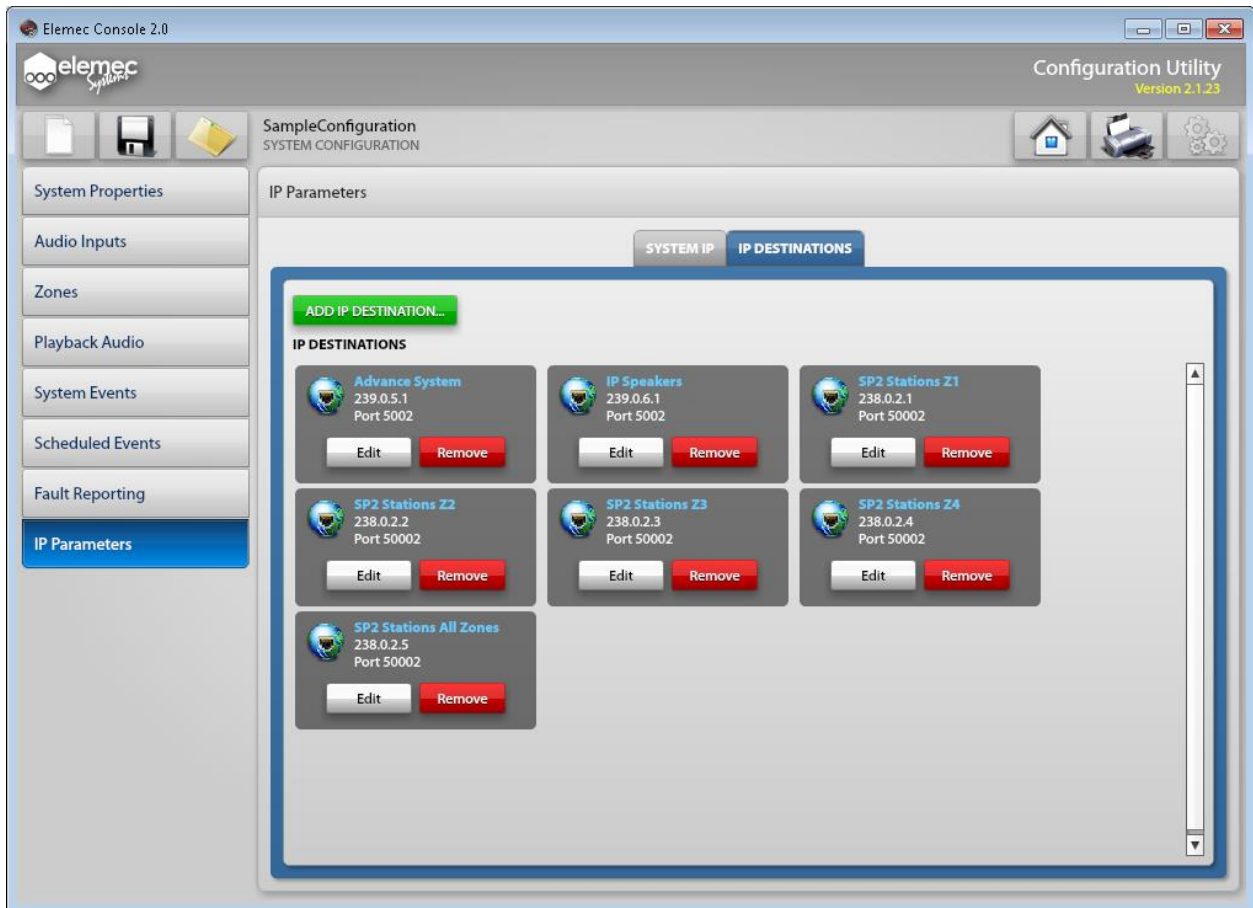


Figure 67. IP Destinations screen

ADD IP DESTINATION

Clicking the green **ADD IP DESTINATION...** button will display the CREATE NEW IP DESTINATION window shown below.



Figure 68. Create New IP Destination screen

After entering a description and clicking the **CREATE NEW IP DESTINATION** button, the EDIT IP DESTINATIONS window will appear.

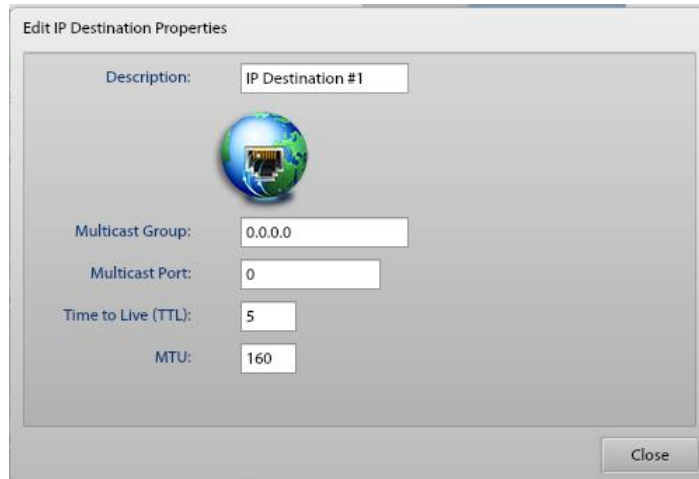


Figure 69. Edit IP Destination Properties screen

Description—specifies a unique and descriptive name of this destination.

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

Multicast Port—specifies the port for the IP destination.

To target an IP destination for broadcast, add it to a zone and target the zone. IP destinations can be added to any zone. See the Zone Configuration section of the manual for more details.

Saving the Configuration

To save the configuration, select the diskette icon from the toolbar shown below:



Figure 70. Example of Saving a Configuration

Clicking the **SAVE** toolbar icon (diskette) displays the **SAVE CONFIGURATION** dialog box shown in [Figure 71](#) on [Page 68](#). It includes options for **Save as Copy** and for **Export to Bridge**.

Save as Copy allows this current configuration to be saved with a different name. The **Export to Bridge for Upload** allows the configuration to also be copied to the Elemec Bridge location in order that it can be easily uploaded to a controller using the E3 Portal application.

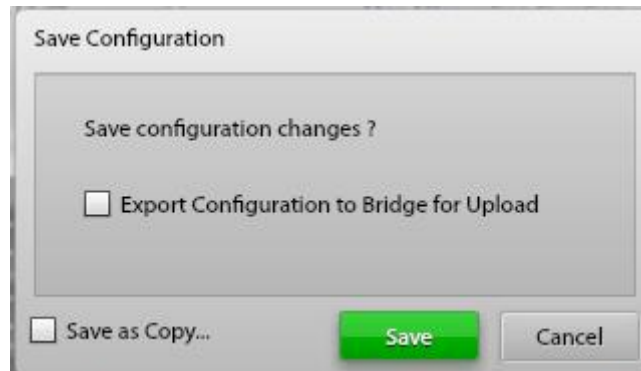


Figure 71. Save Configuration screen

Save Configuration Changes?—select the green **SAVE** button to save the current configuration.

Export Configuration to Bridge for Upload—when checked, the system will save the current configuration and export the configuration to the bridge used by the E3 Portal application to update the configuration on an *Elemec3* system.

Save as Copy—when checked, a **Save as Copy** window will appear. Enter the new name for the configuration file in the box below. Specify a name for the configuration copy. This will save the configuration to a new file without changing the originally opened configuration.

Glossary of Terms

A-B SYSTEM	The arrangement of two <i>Elemec3</i> systems whereby redundancy is achieved through coordinated duplicated operations. The B ‘Redundant’ system may have some amplifiers excluded.
ACCESS PANEL	End user interface device used to control of alarms and to 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.
ACCESS PANEL MUTING	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.
AMPLIFIER	Device containing one or two amplifier channels.
ATTENUATE	To reduce the broadcast volume by a specified amount. Audio can be attenuated either on-demand (from an access panel), or by a higher priority event (in accord with the Global Audio Mix setup).
AUX 1–AUX 5	Designations for the five auxiliary audio channels (inputs to the controller).

IPAUX 1–IPAUX 8	Designations for the eight IP auxiliary audio channels (inputs to the controller).
CONFIGURATION	A named collection of settings that describe system behavior. Elemec3 Console application is used to create, modify, and manage Configurations. The Configuration is contained in a directory and consists of a main file (config.db) plus several audio message (.mp3) files.
CONTROLLER	The central device of the PAGA system that coordinates audio routing and event activation requests in accord with the configuration.
CONTINGENT OVERRIDE	A type of event group that allows for automatic substitution of a general event that can be setup to occur if multiple specific events are initiated.
ELEMEC3 PORTAL	Software application that provides for viewing of an <i>Elemec3</i> system’s status, for initiating Tick Tone, and for managing Configuration updates.
EVENT	A defined set of actions performed by the controller. An event may generate audio, route audio, and activate outputs. Events are set up using the <i>Elemec3</i> 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.
EVENT CHAINING	<i>Elemec3</i> ’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 can be setup through chaining of Events.
EVENT GROUP	A collection of Playback Events.
FAULT	A trouble condition detected within the system. Through <i>Elemec3</i> Console, faults are categorized as either <i>Normal</i> or <i>Urgent (or Ignore)</i> depending on their severity level. Set a fault to “Ignore” if it is considered insignificant; this fault will never be displayed by <i>Elemec3</i> Portal application.
GLOBAL MUTE	Time-limited suppression of audio in accord with one of four preset settings.
GLOBAL SETTINGS	A group of configuration settings accessed through the “System Properties” section that governs overall operation of the controller.
INHIBIT GROUP	A group of inputs that can be inhibited by another input.
INSERT 1 AND 2	An audio processor such as an equalizer or feedback eliminator connected to the <i>Elemec3</i> system, inserted into one of the two mix channels.
I/O CONTROLLER	A class of <i>Elemec3</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).
IP DESTINATION	A multicast destination for IP audio.
LIVE SPEECH EVENT	An Event that provides for live speech broadcast.
LOCATIONS	Optional text description of device physical location within site.

MIX 1/MIX 2	The two audio channels in the controller that provide audio to the amplifiers.
MUTE	To discontinue broadcast audio. Refer to “Access Panel Muting” and to “Global Mute”.
N+1 SYSTEM	A duplicated (A-B) type system in which the ‘B’ system contains no amplifiers.
PAGA	Acronym for Public Address/ General Alarm.
PLAYBACK EVENT	An Event that provides for broadcast of a preset audio message.
RECORD/PLAYBACK EVENT	An Event that allows for live speech to be recorded and then broadcast. This is employed primarily to prevent acoustic feedback.
STAND-ALONE SYSTEM	An <i>Elemec3</i> system that consists of a single system E3 Controller. This type of system has no backup in the case of controller failure.
SYSTEM FLAG	One of several outputs (without relays) originating within the <i>Elemec3</i> system to provide real-time active/idle status of conditions relating to the system operation. When one of these conditions occurs, the logic flag status is shown as ACTIVE; otherwise they are shown as IDLE. These flags, as well as User Flags, can be checked by the system to affect Event Chaining or to provide access panel LED indication or I/O controller output.
TELEPHONE INTERFACE	A device within the controller that allows PABX subscribers to access the PAGA system.
TICK TONE	A low-priority fixed playback event (with selectable mp3 file) used to confirm zone setup and speaker loop wiring. It is implemented as System Tone 8 (chosen through Playback Audio). The Tick Tone event is controlled through the Portal and from access panels.
USER FLAG	The system programmer using the <i>Elemec3</i> Console application defines user flags. Similar to the system flags, these are system conditions to indicate operating parameters in the system. User flags are typically created for conditions that are not defined by a System Flag. When any of these conditions occur, the User Flag is ACTIVE; otherwise it is IDLE. Flags are used to trigger LED indicators on access panels or can be used as triggers for conditional event chaining.
VLC	Acronym for Volume Level Control.
ZONE	A zone is a collection of amplifier channels, digital/analog outputs, logic flags, output groups, as well as other zones that is used as a destination for an event.