



## SYSTEM MANAGEMENT CENTER

# USER MANUAL

VERSION 1.07



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# Section 1

## Getting Started

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## Introduction

The *System Management Center (SMC)* is a browser-based configuration and control application used to manage GLOBALCOM systems. The SMC is hosted on the hardware for the 1100ACS, 1200ACS, 1100MSG, 1200MSG, and 1100TEL. When used as part of a server-based vACS, it is hosted on the server that is also hosting the vACS application. Because it is browser-based, all functions and features available within the SMC can be accessed from any computer on the same network as long as it has a compatible browser application installed.

Since the application is hosted as a web page on the device, you simply need to know the IP address of that device in order to access it from your web browser. Enter the IP address in the address bar of the browser and you can launch the application. On many systems, a shortcut will be provided on the desktop. Figure 1-1 shows the SMC main window.

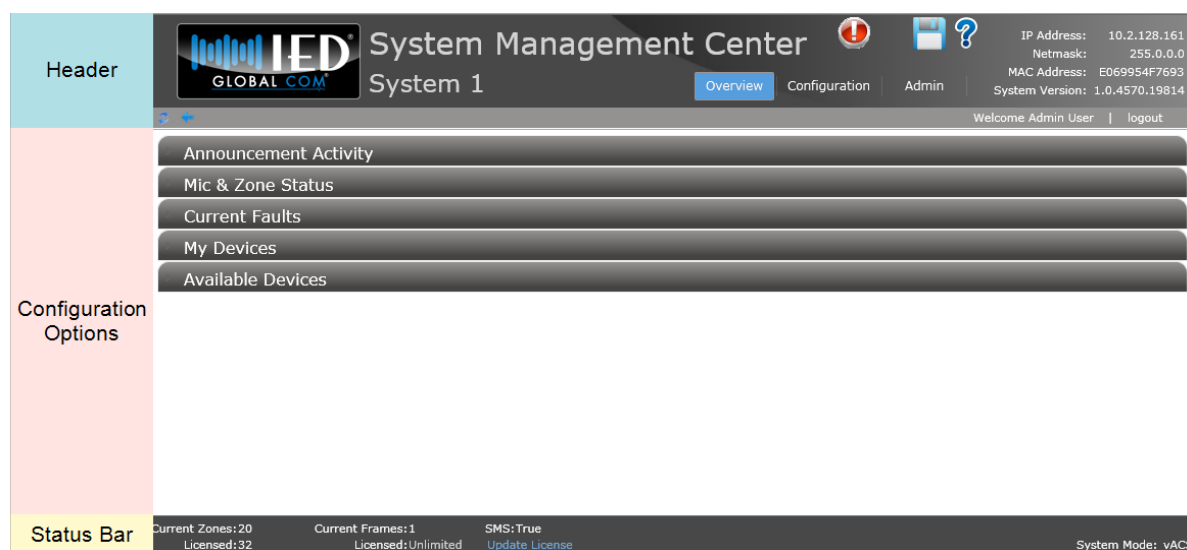


Figure 1-1: System Management Center

The SMC interface is divided into three different sections. The **Header** and **Status Bar** provide various status information and overall system interface options. The **Configuration Options** section of the interface will change as needed based on the system parameters that you are editing.

### Header

This section of the SMC interface contains various status information as well as general system commands accessible using icons or buttons as shown in Figure 1-2.

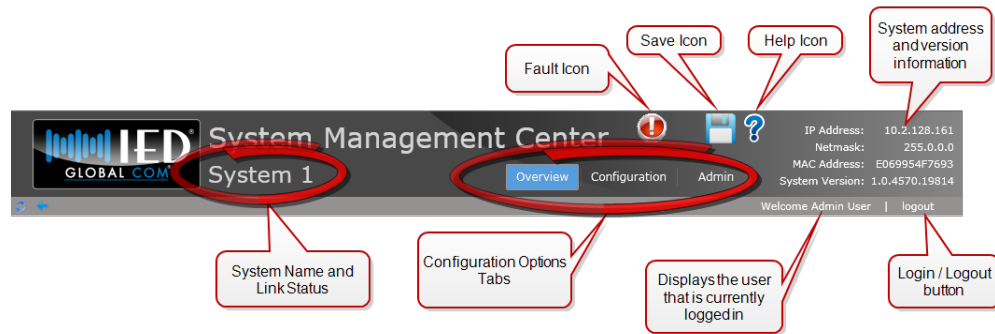


Figure 1-2: SMC Header

### Fault Icon

This icon will only appear when a fault has been detected by the System Supervision sub-system. Click on it and you will be taken to the **Current Faults** section located on the **Overview Tab** to view the current faults.

### Save Icon

This icon will only appear when changes have been made to the configuration and have not yet been saved. Click the icon to save the changes and send any new settings to devices.

### Help Icon

Click on this icon to open up the help system in a new browser window.

### System Address and Version Information

This part of the header displays the current Ethernet address settings of the system. The **IP Address** and **Netmask** settings reflect the address settings detected by the operating system. The **MAC Address** is based on the Ethernet interface hardware and cannot be changed. The **System Version** field displays the version of the SMC that is currently installed on your system.

#### Note:

If the first three fields are ever just blank, check your network connection. If the system is booted without network connectivity, then the operating system does not provide any addressing information because the network service is not operating. Once you have resolved the network issue, you will need to close and reopen the SMC to get the correct information.

### Login / Logout Button

The text on this button will change based on the current login status. If you are logged in, it will display **Logout** and you can click it to log out of the system. If no one is logged in, it will display **Login**. Click it and you will be prompted to enter a username and password to log into the system.

When a user is logged in, the name of that account will appear immediately to the left of the **Login / Logout** button. It will be blank if no user is currently logged in.

### Configuration Options Tabs

The SMC is divided into three basic sections that are referred to as "tabs" in this documentation. Access to each tab is based on permissions assigned to each individual user account and they are categorized based on system usage and increasing degree of complexity.

Click on the buttons to take you to the different tabs. The content available in the **Configuration Options** section of the application window will change to reflect the options available within that tab.

- Overview – See "**Overview Tab**" on page 11
- Configuration – See "**Configuration**" on page 33
- Admin – See "**Admin**" on page 261

### System Name and Link Status

This text will display the system name and other information that is used to determine the status of the system. The different possibilities are defined below.

- **[System name]** – The system name will typically be displayed here in gray text so you will know which system you are viewing. If this text appears in red, then the SMC is not getting a response from the vACS service application and you must investigate the cause of this problem as your system is most likely not running.
- **[System name] (Offline)** – This will appear with the system name and in a red color. This indicates that the SMC is communicating with the vACS application, but it is not running. This may not necessarily indicate a system failure as a vACS will be offline if a Lifeline has assumed its control functions.
- **Lifeline Monitoring** – This will appear on a system that is operating as a Lifeline system. It indicates that it is up and running, but monitoring all programmed systems and will take over their functions if a failure is detected.
- **Lifeline System [x]** – This will appear on a system that is operating as a Lifeline system. It indicates that it has taken over control for the system indicated (as the [x] variable) and is no longer monitoring other systems for failures.

### Configuration Options

The middle portion of the SMC screen will change to display the content associated with the **Configuration Options Tab** you have selected in the header. Figure 1-3 shows this section when the **Overview** tab is selected. This section consists of a series of accordion panels that will open or close when you click on the header bar.

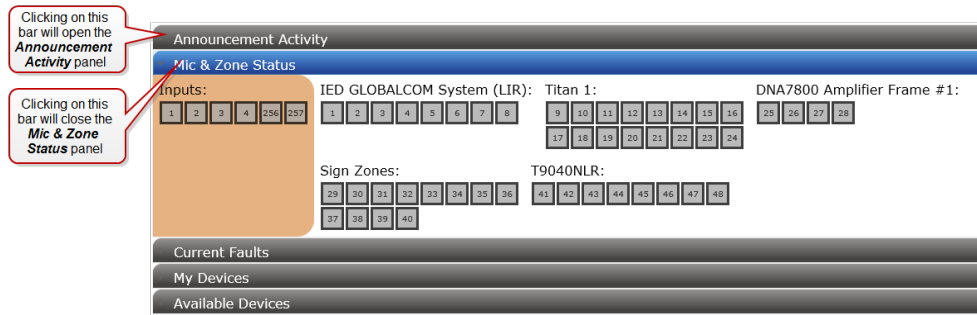


Figure 1-3: Configuration Options Panels

## Status Bar

The bottom portion of the SMC screen contains a status bar that displays the current license status and the current system operating mode. See "Licensing" on page 23 for more information regarding the details of the items shown on the status bar.



Figure 1-4: Status Bar

## System Modes

The available configuration options available within the SMC will vary based on the hardware that it is controlling and/or the way the system has been licensed. The four general categories of different operational modes are outlined below.

### Announcement Controller

In this mode, the vACS service is functioning as an announcement controller. It has the ability to "own" system devices, thus you have access to adding, deleting, and configuring devices from the SMC when operating in this mode. The majority of this documentation is dedicated to devices operating in this mode as they have the most configuration options available.

### 1100MSG / 1200MSG

This mode is used for the message server devices. In this case, the device will be "owned" by an Announcement Controller and the parent device will manage the configuration of the device. Since the parent device will do the configuration, the options available on a device operating in this mode are very limited. The **Configuration** tab is not available and you will find that most of the items on the **Overview** tab provide very little information as they are managed on the vACS device. The **Admin** tab is the only tab of use for this mode, but typically reserved for debugging only. You will need to log in with an account with admin privileges to access that tab.



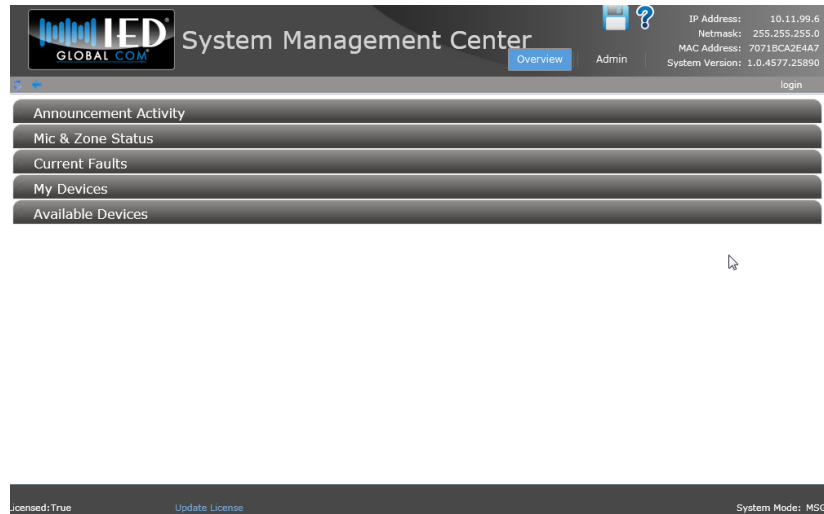


Figure 1-5: Message Server Options

## Lifeline

This mode is used for Lifeline devices that monitor other announcement controllers in the system and will assume their role if a failure is detected. Each announcement controller in the system will push their configuration file to the Lifeline so the **Configuration** tab is not available. You will find that most of the items on the **Overview** tab provide very little information as the Lifeline doesn't actually own any devices. The **Admin** tab is the only tab of use for this mode and has an additional Lifeline Control configuration. You will need to log in with an account with admin privileges to access that tab. See "Lifeline Control" on page 269 for details on configuring systems that are monitored by the Lifeline.

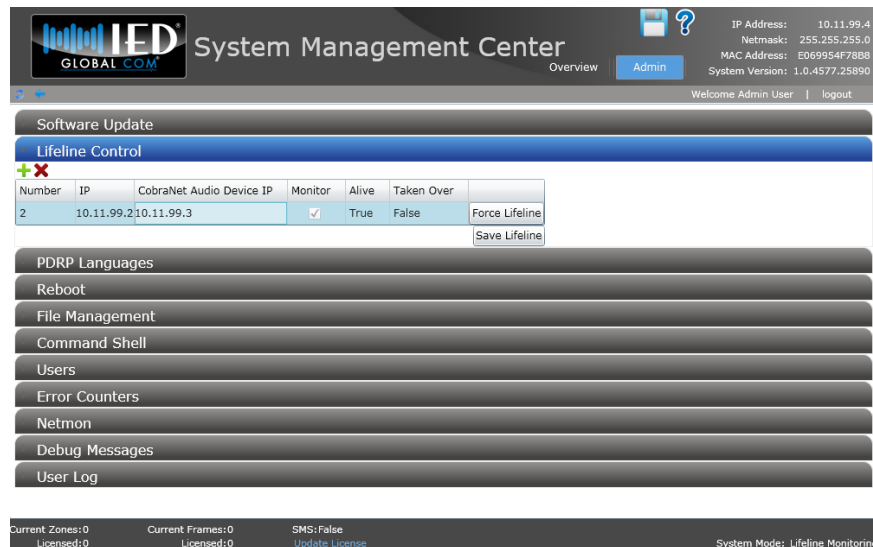


Figure 1-6: Lifeline Options

## 1100TEL

This mode is used for the VoIP telephone interface device. In this case, the device will be "owned" by an Announcement Controller and the parent device will manage the configuration of the device. Since the parent device will do the configuration, the options available on a device operating in this mode are very limited. The **Configuration** tab is not available and you will find that most of the items on the **Overview** tab provide very little information as they are managed on the vACS device. The **Admin** tab is the only tab of use for this mode, but typically reserved for debugging only. You will need to log in with an account with admin privileges to access that tab.

## System Definition Roadmap

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Defining a system is an iterative process that you can perform as required based on the needs of a particular installation. The exact order and steps are really up to you, but there are certain dependencies that must be taken into consideration. For example, you need to have **Announcement Classes** defined before you start defining **Actions** as you must pick an **Announcement Class** for many of the available action types. You can always go back and add them as needed, but it helps to plan ahead to minimize the time you must spend switching between screens.

This roadmap is here to give you a general starting point to guide you through configuring a new system while describing the various dependencies involved.

### 1: Define Users

You need to have at least three (3) users defined for your system with the different levels of available access. Systems typically ship with three user accounts (user, installer, and admin). You may use these three user accounts if desired, or you can change them. You can always add more later as needed.

### 2: Configure Local System

You need to configure the **My Controller** tab to define essential configuration options for the local controller. If you will have a Lifeline system monitoring this controller, you will need to come back here to add it once you have defined the Lifeline system in the **Remote Controllers** tab. You need to skip the 1200LIR and VoIP configuration at this time. You will come back and do this when you are ready to define Actions.

### 3: Configure Remote Systems

Here you must tell the controller about all the other controllers in your system. You will need these defined when it comes time to program Actions that go between controllers.

### 4: Define Announcement Classes

You must have some **Announcement Classes** defined in order to define Actions for input devices. The system will have some defaults already programmed, but you may want to add more or edit the existing ones as needed. Again, you can always come back and add more as you have a need.

## 5: Define User Groups

You will need to define some basic **User Groups** in order to complete the configuration of graphical paging stations and the **Mic Passwords** and **Mic Templates** sections. You can skip this step if you do not have any graphical paging stations such as the 528 series stations.

## 6: Define Output Devices

Output devices include 1502AO, T9160, T9116, DNA68xx, T9016RY, T9032RY, T9040NLR relays, T9032LVIO logic outputs, visual displays, and other devices that are used as system outputs. Output devices own zone outputs and you must have zones in the system in order to define **Zone Groups** and just about any of the **Action Types** will require zone groups or zones in order to be completely defined. It is best to add all of your output devices so all zones will be available when you go to program actions. You will need to return to the output devices after you have configured input sources in order to assign BGM, adjust levels, and configure and calibrate ambient analysis and system supervision.

## 7: Define Zone Groups

Since you just added the output devices, now is a good time to go in and define the **Zone Groups** that you think may be needed for your system. You can always come back here and add them as needed, but it will save time if you can define as many as you can at this point so they are available when you go to define actions.

## 8: Define Input Devices

Input devices include microphone stations, 1502AI, Titan inputs, T9032LVIO, 1200LIR, T9040NLR inputs, and ambient noise sensors, etc..) You may need to return to some input devices again to perform additional configuration based on items added later. One example will be that you need to return to an MS528 type microphone station to add a default template after you have defined templates.

## 9: Define Actions

This point is where you will define what happens with the inputs and outputs in the system. You will need to have any input devices defined prior to programming actions for them. You must have output devices and zone/zone maps defined in order to use them in an action.

## 10: Define Mic Templates

Mic templates determine the graphical button layout on the microphone stations that have a graphical display. The buttons defined in the template need to be tied to actions, which must be defined prior to creating the templates. You will need to go back to the microphone station configuration to assign a template to each station after you have created the templates in this step unless you are not using logins for the microphone station. If you are using logins, then the template is determined by the passwords defined in the next step.

## 11: Define Mic Passwords

If you are not going to lock your microphone stations, then you can skip this step. If you will require users to log into microphone stations, then you must define passwords for them. You will need to have **User Groups** and **Mic Templates** defined before defining **Mic Passwords**.

## 12: Define Scheduled Actions and Events

These do not link to any other defined actions, but do require any inputs and outputs that you need to use already be defined. These are usually not defined until very late in the system installation as you are working with the facility to determine what is needed.

## 13: Configure Output Levels and BGM Selections on Output Devices

Your specific situation may dictate that BGM settings and output levels are set as required while you are installing the system. What is critical is that you perform final level adjustments prior to calibrating the system supervision. Any changes made after that calibration will require a new set be performed to record the new levels correctly.

## 14: Calibrate System Supervision

Once all loudspeaker lines have been fully connected and all output levels set, you can calibrate the supervision sub-system and configure the periodic testing.

## 15: Calibrate Ambient Analysis

This is one of the last operations to be performed because it requires the system to be installed and in a normal operating mode prior to calibration. Most of the operations described above must be complete prior to attempting a calibration.

## Overview Tab

The Overview tab provides access to view system activity and system health. This information is provided even without logging into the application. A user that logs in will have the additional ability to control levels and BGM selection for individual audio zones as well as the ability to terminate active announcements if needed. Figure 2-1 shows the **Overview** tab selected. Each accordion tab can be opened or closed by clicking on its title bar to reveal the information contained within each tab.

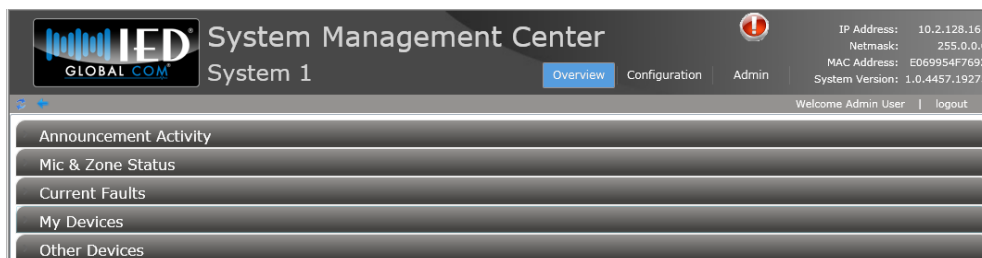


Figure 2-1: Overview Tab

## Announcement Activity

This is a list of any announcements that are either active or being held in queue on the local announcement controller. This list provides some history of past announcements only from the point where the *System Management Center* application was launched or from the last time the **Clear Announcements** button was selected.

Announcement Activity

Double-click entries to view details

	Initiated	Announcement ID	Status	Type	Zones	Source
	4/9/2012 2:52:26 PM	2	Gone	Prerecorded	9,11,12,13,14,15,16,17,20,21,;	9
	4/9/2012 2:53:07 PM	3	Gone	Prerecorded	9,11,12,13,14,15,16,17,20,21,;	8
	4/9/2012 2:53:16 PM	4	Gone	Prerecorded	9,11,12,13,14,15,16,17,20,21,;	255
	4/9/2012 2:54:47 PM	5	Gone	Prerecorded	9,11,12,13,14,15,16,17,20,21,;	255
	4/9/2012 2:55:43 PM	6	Gone	Prerecorded	9,11,12,13,14,15,16,17,20,21,;	1
	4/9/2012 2:55:46 PM	7	Gone	Prerecorded	9,11,12,13,14,15,16,17,20,21,;	1
Kill	4/9/2012 2:55:52 PM	8	Busy	Prerecorded	9,11,12,13,14,15,16,17,20,21,;	9
Kill	4/9/2012 2:55:54 PM	9	Active	Prerecorded	9,11,12,13,14,15,16,17,20,21,;	8

Clear Announcements

Figure 2-2: Announcement Activity

## Kill

This button is only available when a user is logged in with a permission set of **User** or higher and will only appear on announcements that are active. Click this button to kill the active announcement.

## Initiated

This is a date and time stamp of when the announcement was started.

## Announcement ID

This is a system-assigned number to identify the announcement. When you move the mouse pointer over a source as shown in Figure 2-3

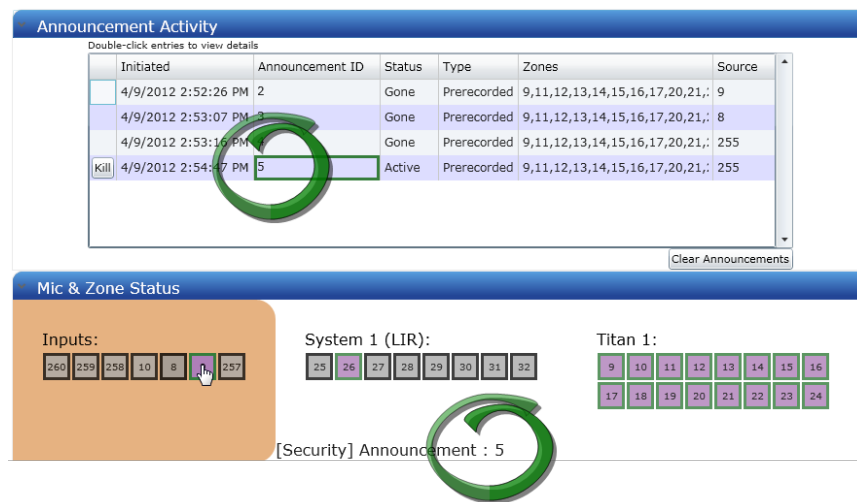


Figure 2-3: Announcement ID

## Status

This field indicates the current status of the announcement.

- **Gone** – Indicates that the announcement is finished and will not attempt any further action.
- **Active** – Indicates that the announcement is currently routing audio channels for either a live announcement or prerecorded message.
- **Busy** – Indicates that the announcement or message is being held in queue for future playback. This can be either because it is waiting for zones to be freed due to another active announcement or because it is waiting for additional playbacks if multiple playbacks are used.
- **Ready** – This status sometimes appears briefly indicating that all resources have been secured and the announcement is ready to play. This is immediately followed by a change to **Active** status.

## Type

This field displays the type of the announcement in the list.

- **Prerecorded** – This type of announcement indicates a playback of digitally recorded audio from the internal sound card. When a **Delayed** message is playing back, it becomes a **Prerecorded** type.
- **Delayed** – This type indicates that an announcement is in the process of being recorded for future playback. When it plays back, it becomes a **Prerecorded** announcement type.
- **Live** – This indicates that a live audio route is present between an input source and one or more output zones.

## Zones

This is a list of zones that are included in the announcement.

## Source

This number corresponds to the **Mic Number** of the device that started the announcement.

## Clear Announcements

Click this button to clear the announcement activity list. This only clears the list and will not impact any announcements that are still active.

## Mic & Zone Status

This tab provides a real-time graphical representation of announcement activity on the local announcement controller. Input sources are shown on the left with a number that corresponds to the **Mic Number** in the device setup. Each output zone is shown on the right with a number corresponding to the zone number.

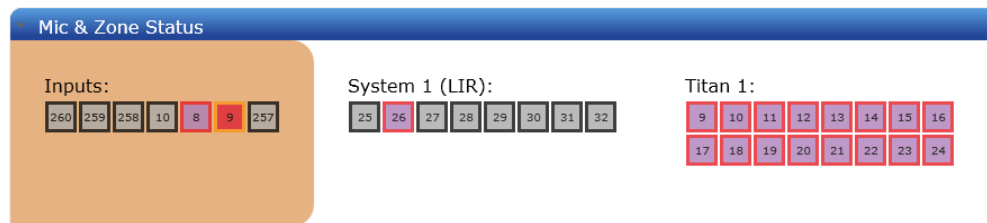


Figure 2-4: Mic & Zone Status

Active announcements are easily identified using colors. Output zones that are in use will appear in a color that matches that of the originating input. Inputs that have communication faults will be highlighted in red as can be seen in Figure 2-4 for mic number 9.

## Zone Monitor

Click on any audio zone output to bring up the *Zone Monitor* window as shown in Figure 2-5

Any adjustments made from this window will be immediately sent to the device.

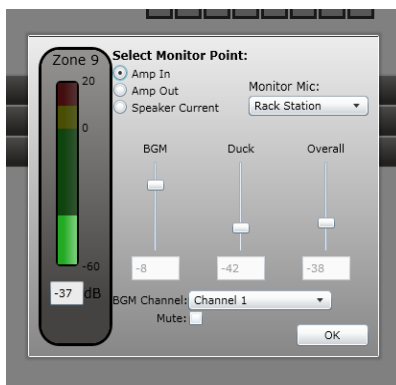


Figure 2-5: Zone Monitor

### Output Level

This meter indicates the signal level at the currently selected point. A more precise numerical indication of the level is located immediately below the meter.

### Select Monitor Point

You must select one of the three available monitor points for each output channel. The level meter will indicate the level of the signal at the point selected. This will also change the point monitored audibly through a local monitor speaker if one is configured.

### Monitor Mic

Some microphone station types have a built-in monitor loudspeaker. If you have one installed in your system, then you can select it from this drop-down list and it will monitor the selected point. You must have the **Monitor Enabled** checkbox checked in the microphone station setup to get a microphone station to appear in the drop-down list.

### Levels

Use these sliders to adjust the three available level parameters for each channel.

**BGM** – This adjusts the level of the background music channel for the output. This level is also dependant on the current setting of the **Overall** level.

**Duck** – This level sets the amount that the BGM channel will be lowered when an announcement is made. A level of  $-60$  effectively will mute the BGM when an announcement is made.

**Overall** – This adjusts the master level of the output. This will affect both BGM and announcements and should be used to set the main level of the output.

### BGM Channel

Select a BGM channel to use for this output from the drop-down list. Input devices that are configured as a BGM source will be available in this list.



## Mute

Click this checkbox to mute the output of the channel. This will mute all announcements and BGM, regardless of priority.

## OK

Click this button to close the window.

## Current Faults

This list displays any current faults in the system. For information on historical logging of faults, refer to the **Windows System Log** section of the documentation.

Current Faults							
ID	Device	Description	Fault Type	Fault Number	Optional	First	Last
14955	System 1	System 1 - Mic Station Control Line Failure	2	2		4/10/2012 10:37:42 AM	4/10/2012 10:39:22 AM
14954	System 1	System 1 - Mic Station Control Line Failure	2	3		4/10/2012 10:37:42 AM	4/10/2012 10:39:22 AM
14959	Titan 1	20kHz Test: Zone 9 - Speaker Circuit (Titan 1, Channel 1A)	128	8		4/10/2012 10:37:58 AM	4/10/2012 10:39:12 AM
14958	Titan 1	20kHz Test: Zone 9 - Amp Output (Titan 1, Channel 1A)	128	7		4/10/2012 10:37:58 AM	4/10/2012 10:39:12 AM
14960	Titan 1	20kHz Test: Zone 10 - Amp Output (Titan 1, Channel 1B)	128	17		4/10/2012 10:38:00 AM	4/10/2012 10:39:12 AM
14961	Titan 1	20kHz Test: Zone 10 - Speaker Circuit (Titan 1, Channel 1B)	128	18		4/10/2012 10:38:00 AM	4/10/2012 10:39:12 AM

Figure 2-6: Current Faults

## ID

This is an index number used to uniquely identify the fault.

## Device

This field displays the system device that has reported the fault.

## Description

This is a textual description of the fault. Devices report a **Fault Type** and **Fault Number** and the *System Management Center* uses those two numbers to apply a description as defined in the **System Supervision** section of the application.

## Fault Type

This is the type number reported by the *System Supervision* module. The *System Management Center* uses this, along with the **Fault Number**, to apply a description as defined in the **System Supervision** section of the application.

## Fault Number

This is the fault number reported by the *System Supervision* module. The *System Management Center* uses this, along with the **Fault Type**, to apply a description as defined in the **System Supervision** section of the application.

Optional

This field will display any additional information, if any, reported by the *System Supervision* module.

First

This field displays a date and time stamp of when the fault was originally reported.

Last

As long as a fault condition exists, the *System Supervision* module will continue to collect fault reports. This field displays the most recent fault report received.

My Devices

This tab displays a list of all devices that are configured in the controller. It also indicates an overview of device status. If the device is highlighted in red as shown in Figure 2-7, then the device is not responding on the network. If a device is communicating, but reporting internal faults, then you will see an exclamation point icon in the **Faults** column. You can hold the mouse pointer over the icon to reveal a detailed list of the reported faults as shown in Figure 2-9.









My Devices				
IP	Description	Faults	Location	Extra Info
 10.2.128.161	System 1 (VoIP Interface 1)			Mic 259, SIP Server: 1601,SIP Extension: 1601
 10.2.128.161	System 1 (VoIP Interface 2)			Mic 258, SIP Server: 1602,SIP Extension: 1602
 10.2.128.173	Main Office		Security	Mic 9, Template: Default Template
 10.2.128.174	Information		Information	Mic 10, Template: Default Template
 10.2.128.161	System 1 (LIR)			Mic 257
 10.2.128.171	Titan 1		Main Equipment Room Rack #2	Frame: 1 (16384), 16 Zones, Start Zone: 9, BGM SOURCE(1 channels)
 10.2.128.162	System 1 (Sound Card)			

Figure 2-7: My Devices

**Note:** If you are logged in, then you can double-click on a device in the list to open the device configuration for that device.

IP

This will display the IP address of the device. If the device is detected, but the IP address does not match the configuration, then the device will be highlighted with a gold background and you will see a **Resolve** button as shown in Figure 2-13.

When you click the **Resolve** button, you will see a window like the one shown in Figure 2-8. You can choose to set the IP address of the device to match that in the configuration, or choose to change the configuration to match the IP address of the device.

Click the **OK** button to update the settings in the device and/or configuration.

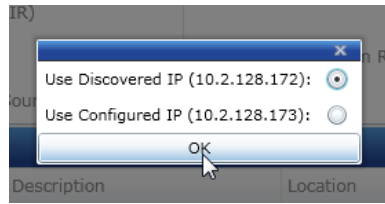




Figure 2-8: Resolve IP Address

## Description

This displays the text description of the device from the **Description** field in the device configuration.

## Faults

If an icon appears in this column, then the device is reporting faults. These faults will be listed in the **Current Faults** list, but you can also display a list by hovering the mouse pointer over the icon to reveal a pop-up window as shown in Figure 2-9

My Devices				
IP	Description	Faults	Location	Extra Info
10.2.128.161	System 1 (VoIP Interface 1)			Mic 259, SIP Server: 1601,SIP
10.2.128.161	System 1 (VoIP Interface 2)			Mic 258, SIP Server: 1602,SIP
10.2.128.173	Main Office		Security	Mic 9, Template: Default Temp
10.2.128.174	Information		Information	Mic 10, Template: Default Tem
10.2.128.161	System 1 (LIR)			Mic 257
10.2.128.171	Titan 1		Main Equipment Room Rack #2	Frame: 1 (16384), 16 Zones, 5
10.2.128.162	System 1 (Sound Card)			
Other Devices				

128:7 20kHz Test: Zone 9 - Amp Output (Titan 1, Channel 1A)  
First Occurrence: 4/20/2012 12:41:01 PM  
Last Occurrence: 4/20/2012 12:41:38 PM

128:8 20kHz Test: Zone 9 - Speaker Circuit (Titan 1, Channel 1A)  
First Occurrence: 4/20/2012 12:41:02 PM  
Last Occurrence: 4/20/2012 12:41:38 PM

128:17 20kHz Test: Zone 10 - Amp Output (Titan 1, Channel 1B)  
First Occurrence: 4/20/2012 12:41:03 PM  
Last Occurrence: 4/20/2012 12:41:38 PM

128:18 20kHz Test: Zone 10 - Speaker Circuit (Titan 1, Channel 1B)  
First Occurrence: 4/20/2012 12:41:04 PM  
Last Occurrence: 4/20/2012 12:41:38 PM

Figure 2-9: Device Fault Pop-up Window

## Location

This displays the text description of the device from the **Location** field in the device configuration.

## Extra Info

This column displays additional information contained within the configuration of each device. The information listed varies for each type of device, but it is easily readable as each property is listed with the appropriate title.

## Other Devices

This tab is used to display any devices detected on the network that do not match any of the configured devices. The system uses a background process, known as the *Discovery Service*, that will detect and report any unknown devices on the network. This greatly simplifies the process of adding and configuring new devices. You simply plug in the new device, wait for it to appear in the list, and then add it to the system. There are three different configuration scenarios.

### Completely New Device

In this scenario, the system knows nothing of the newly detected device. You simply add the new device and then configure it as needed.

### Replacement Of Existing Device

In this scenario, you are adding a new device to the system that is replacing one that has already been configured. You will choose which device in the configuration that the newly discovered device will replace.

### Adding a New Device Already Configured in Software

This scenario is similar to the previous, but in this case you have configured the device in software prior to physically installing the hardware. The process is essentially the same.

Figure 2-10 shows an MS528 microphone station detected in the **Other Devices** list. In this case, the station has been used before because it already has information in the **Description**, **Location**, and **Extra Info** fields. In this example, our goal is to replace the missing station named **Main Office** with this new one.








My Devices				
IP	Description	Location	Extra Info	
 10.2.128.161	System 1 (VoIP Interface 1)		Mic 259, SIP Server: 1601,SIP Extension: 1601	
 10.2.128.161	System 1 (VoIP Interface 2)		Mic 258, SIP Server: 1602,SIP Extension: 1602	
 10.2.128.173	Main Office	Security	Mic 9, Template: Default Template	
 10.2.128.161	System 1 (LIR)	Main Equipment Room Rack #2	Mic 257	
 10.2.128.171	Titan 1		Frame: 1 (16384), 16 Zones, Start Zone: 9, BGM SOURCE(1 channels)	
 10.2.128.162	System 1 (Sound Card)			
Other Devices				
IP	MAC	Description	Location	Extra Info
 10.2.128.172	0002C1011B06	Rack Station	Ticketing Counter Station	Rack Station

Figure 2-10: Replacement Device Detected

Double-click on the new device and you will be taken to the device configuration window as shown in Figure 2-11. This is almost identical to the usual device configuration window used when adding devices in the **Devices** tab. The difference is that you now have two new options at the top of the window.

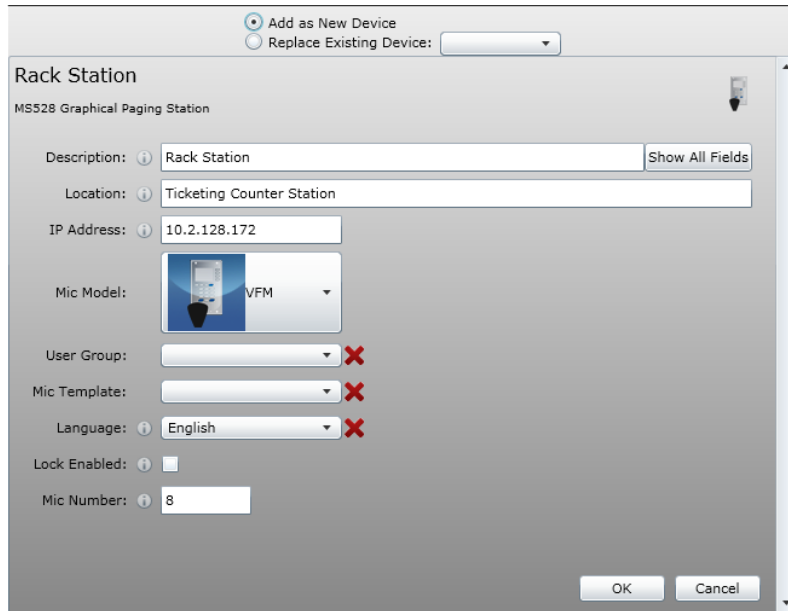


Figure 2-11: Device Configuration Window

### Add as New Device

Select this option to add the discovered device as a completely new device in the system configuration. It will use the discovered IP address of the device and automatically assign any additionally required parameters and add it to the devices list. Once added, you can configure it from the **Devices** tab.

### Replace Existing Device

Select this option to use the settings of a device that already appears in the devices list, but apply them to this newly discovered device. Select the existing device configuration that you want to use from the drop-down list as shown in Figure 2-12.

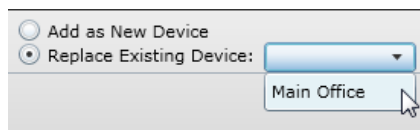


Figure 2-12: Select Existing Device

### Resolve

This button may appear in either the **My Devices** or **Other Devices** tabs when the discovered IP address is either not configured or does not match the IP address in the device configuration.

My Devices				
IP	Description	Location	Extra Info	
10.2.128.161	System 1 (VoIP Interface 1)		Mic 259, SIP Server: 1601, SIP Extension: 1601	
10.2.128.161	System 1 (VoIP Interface 2)		Mic 258, SIP Server: 1602, SIP Extension: 1602	
10.2.128.173 (10.2.128.172) <span>Resolve</span>	Rack Station	Ticketing Counter Station	Mic 8, Template: Default Template	
10.2.128.161	System 1 (LIR)		Mic 257	
10.2.128.171	Titan 1	Main Equipment Room Rack #2	Frame: 1 (16384), 16 Zones, Start Zone: 9, BG	
10.2.128.162	System 1 (Sound Card)			

Other Devices				
IP	MAC	Description	Location	Extra Info
0.0.0.0 (192.168.24.105) <span>Resolve</span>	0002C104004A			

Figure 2-13: Other Devices

When you click the **Resolve** button, you will see a window that matches one of the windows shown in Figure 2-14. The window on the left will appear if the device has not been set with an IP address. You can either enter one in the top box or select the bottom button to use the system-assigned IP address. If the device has an IP address, but it does not match the configuration, you will see the window on the right. You can choose to set the IP address of the device to match that in the configuration, or choose to change the configuration to match the IP address of the device.

Click the **OK** button to update the settings in the device and/or configuration.

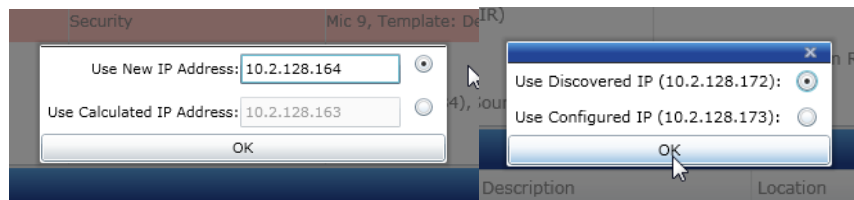
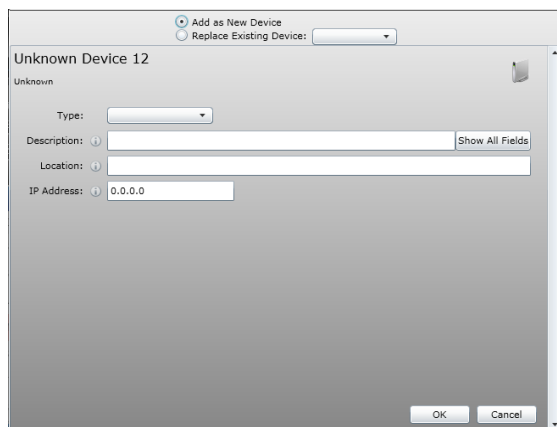


Figure 2-14: Resolve IP Address

## Unknown Device Type

If the *Discovery Service* detects the device, but is unable to determine the type of device, then you will see a window like that in Figure 2-15. If this occurs, you must manually set the device by selecting the appropriate type from the **Type** drop-down list as shown in Figure 2-16.

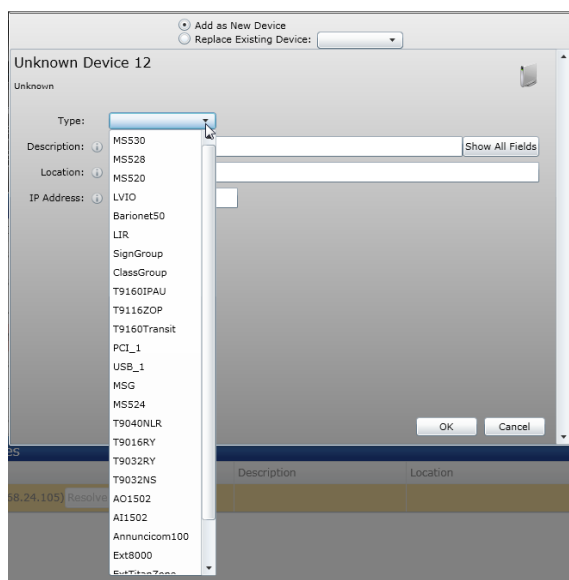


The dialog box is titled "Unknown Device 12". At the top, there are two radio buttons: "Add as New Device" (selected) and "Replace Existing Device:". Below this, the text "Unknown Device 12" is displayed, followed by "Unknown". The form contains the following fields:

- Type: A dropdown menu.
- Description: A text input field with a "Show All Fields" button to its right.
- Location: A text input field.
- IP Address: A text input field containing "0.0.0.0".

At the bottom right, there are "OK" and "Cancel" buttons.

Figure 2-15: Device Configuration



The dialog box is titled "Unknown Device 12". At the top, there are two radio buttons: "Add as New Device" (selected) and "Replace Existing Device:". Below this, the text "Unknown Device 12" is displayed, followed by "Unknown". The form contains the following fields:

- Type: A dropdown menu that is open, showing a list of device types. The list includes: MSS30, MSS28, MSS20, LVIO, Barionet50, LIR, SignGroup, ClassGroup, T9160IPAU, T9116ZOP, T9160Transit, PCI\_1, USB\_1, MSG, MS524, T9040NLR, T9016RY, T9032RY, T9032NS, AO1502, A11502, Annuncicom100, Ext8000, and Ext10000.
- Description: A text input field with a "Show All Fields" button to its right.
- Location: A text input field.
- IP Address: A text input field.

At the bottom right, there are "OK" and "Cancel" buttons.

Figure 2-16: Unknown Device Type Selection

This page has been intentionally left blank.



## Licensing

---

The vACS has many different features that are enabled based on the license purchased. Below are the various features that must be enabled through the license.

### Number of Audio Zones

This licensing parameter determines how many audio output zones are allowed on the system. The number of relay and sign zones do not count towards the total number of zones in the license. Licensing options are available in 32, 64, 128, or unlimited audio zone outputs.

### Number of Frames

This licensing parameter determines the total number of Titan output frames that are allowed in the system.

### SMS (Short Message Service)

SMS allows the system to send text messages to mobile devices based on a variety of triggers. This option requires a connection to the Internet and requires a subscription to the SMS service.

### VoIP

This determines if VoIP functionality is enabled on the controller. The 1100ACS-32, 1200ACS-32, 1100MSG, and 1200MSG devices support two (2) VoIP channels and will have them enabled by default. For additional VoIP channels, you must use the 1100TEL that supports up to eight (8) channels.

### Text-to-Speech

Text-to-speech (TTS) is another software option that must be licensed separately from the main system software. It is not part of the SMS/vACS license key, but I wanted to mention it here since it is a system option that must be licensed separately.

Figure 3-1 shows the main *System Management Center* (SMC) window. The bottom of the window displays a status bar that provides you with various licensing information as well as the current mode of the vACS application. The left portion of the bar indicates the capacities allowed with the current license. The right portion of the bar indicates the operational mode of the system.

## System Modes

### vACS

In this mode, the vACS service is functioning as an announcement controller.

### MSG

In this mode, the controller is functioning as a message server and is seen as a device by a vACS controller assigned as this device's owner.

### Lifeline Monitoring

In this mode, the vACS service is functioning in *Lifeline* mode. It will monitor other vACS controllers in the system and take over the functionality of any vACS controllers that fail.

### Lifeline Active

This mode indicates that the controller has detected a failure with one of the vACS controllers that it was monitoring. It has assumed control of the failed controller's devices to maintain system functionality.

### Transit

This mode indicates that the controller has been licensed for a transit application such as a subway, light rail, bus, etc.

### LANcom

This mode indicates that the controller is functioning as part of a LANcom SCS school communications system.

### Telephone Interface

This mode indicates that the controller is functioning as a VoIP telephone interface unit such as the 1100TEL.

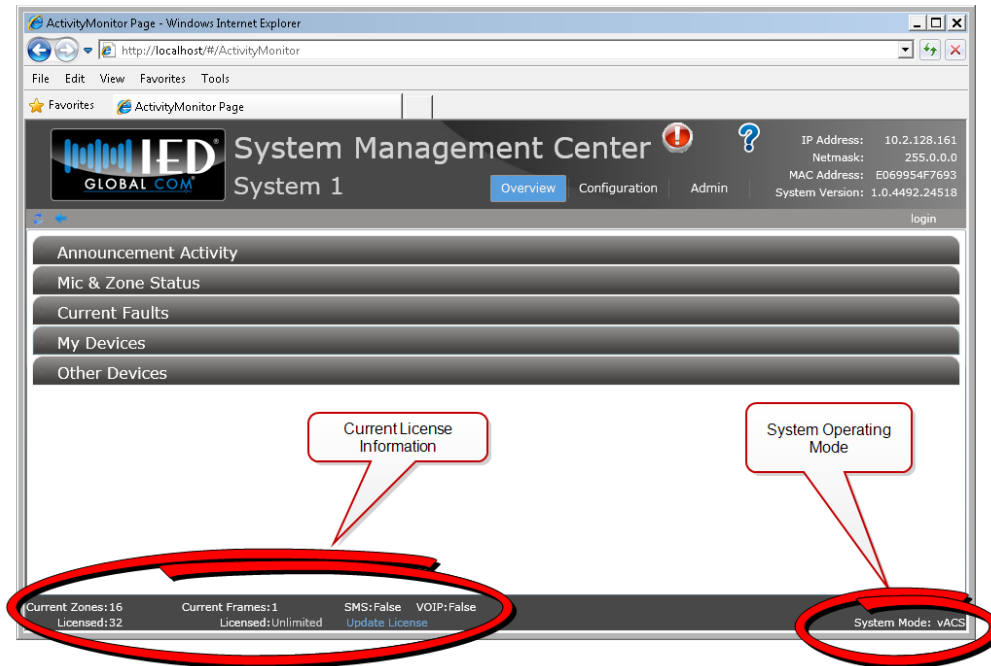


Figure 3-1: SMC Window

Figure 3-2 shows a detailed view of the system licensing information. This will show you what capacity and functionality is supported with your current license. This is also where you will launch the window that allows you to update your license for additional capacity.

Current Zones: 16 Licensed: 32	Current Frames: 1 Licensed: Unlimited	SMS: False VOIP: False <a href="#">Update License</a>
-----------------------------------	--	---

Figure 3-2: License Details

## Current Zones

This number reflects the actual number of audio zones that are configured in the system.

## Licensed

This number reflects the total number of audio zones that are allowed with your current license. The text will turn red if you attempt to configure more zones than the license allows. If this text is red, any configured audio zones in excess of the licensed number will not function.

## Current Frames

This number reflects the actual number of Titan audio frames (T9160, T9116, etc) that are configured in the system.

## Licensed

This number reflects the total number of Titan frames that are allowed with your current license. The text will turn red if you attempt to configure more frames than the license allows. If this text is red, any configured frames in excess of the licensed number will not function.

## SMS

This will read **True** if SMS (Short Message Service) is enabled on the controller. It will read **False** if it is not enabled. SMS is used to send text messages to mobile devices.

## VOIP

This will read **True** if VoIP service is enabled on the controller. It will read **False** if it is not enabled.

## Update License

This text is actually a button. When clicked, it will take you to the license page as shown in Figure 3-3. This page is used to update your current license. You must provide the system-specific **Challenge** key to IED support personnel. They will give you the appropriate **Response** key to use for your system. Once you have entered the **Response** key, click the **Submit License** button to update the license.

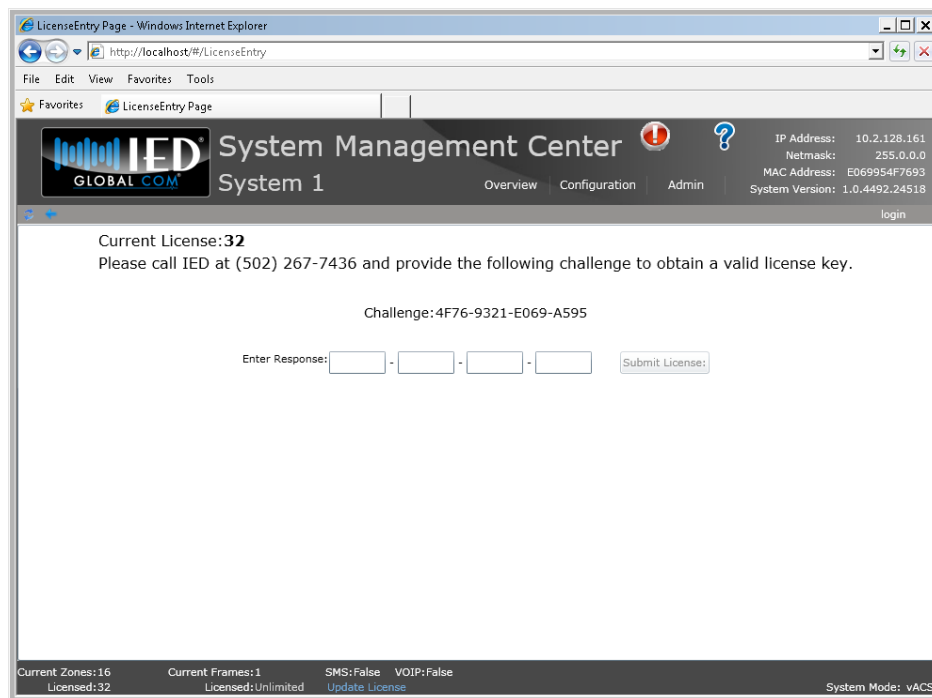


Figure 3-3: Update License

## First Run Setup Wizard

The *First Run Setup Wizard* will appear when the *System Management Console* is started on a system for the first time, or if the configuration file has been removed. The wizard will ask you to input some basic system information and then it will generate a configuration file based on your inputs. This greatly simplifies the process of configuring a new system and reduces the amount of data that you must manually configure. You have the option of creating a configuration based on a default template or you can load a configuration file that you created on another system.

### Load Default Configuration

Select this option and you can choose from a list of default configuration templates as shown in Figure 4-1. Simply select the type of system you wish to configure from the list and then click the **Load Default Configuration** button. This will then take you to the **Configure Devices** screen as shown in Figure 4-4. You can click the **Details** button to see a description of the item currently highlighted in the **Default Configuration Files** list.

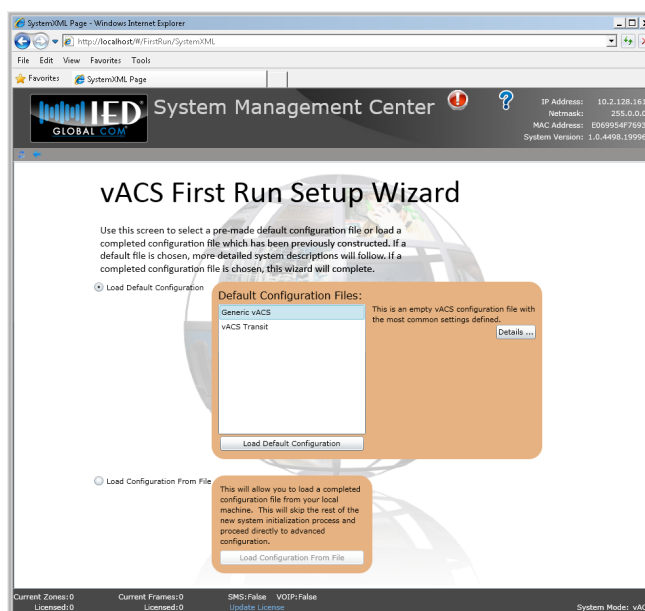


Figure 4-1: Load Default Configuration

### Load Configuration From File

Select this option if you want to load a system configuration from a file that has been created on another system. This method is useful when you have multiple instances of the vACS in a system and each one has a similar configuration. You can fully configure one system, and

then use that configuration as the starting point for the remaining systems. Once loaded, you can go in and make the necessary changes.

This is also useful if you are replacing a vACS in a system. If you have maintained a backup copy of the configuration, you can use it to configure the replacement unit.

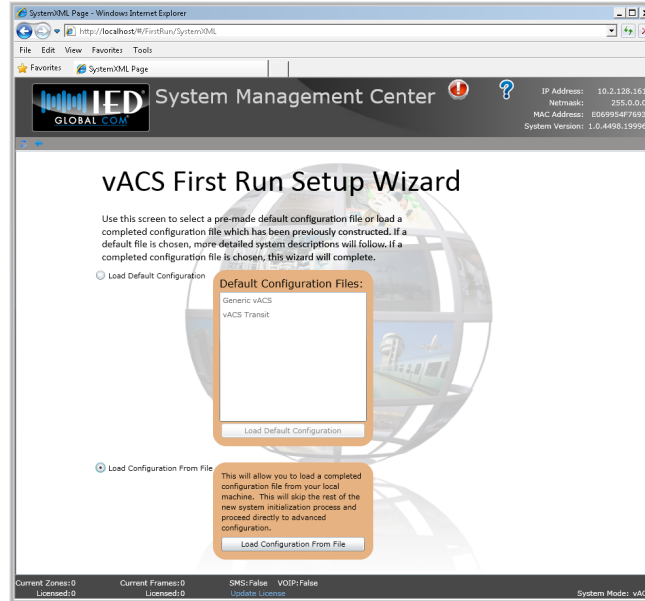


Figure 4-2: Load Configuration From File

Click the **Load Configuration From File** button to open a Windows file dialog as shown in Figure 4-3. From here, you simply navigate to the location of the appropriate file and click the **OPEN** button to load the configuration. Backup files use a **.VBK** file extension.

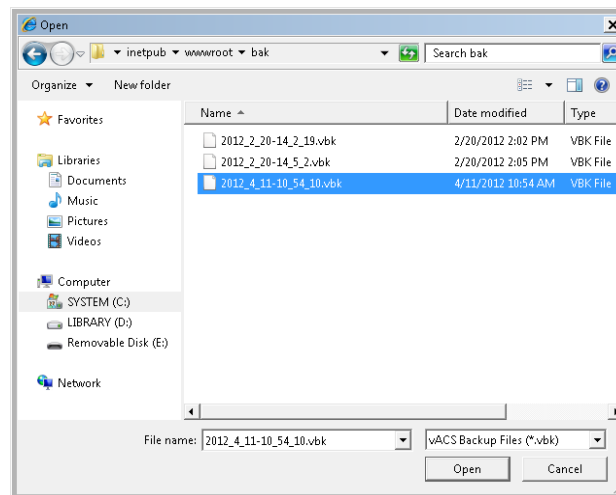
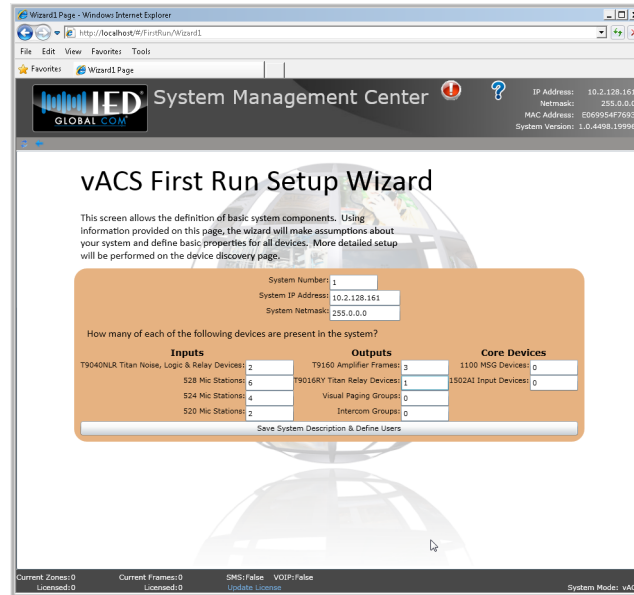


Figure 4-3: Open Configuration File

## Configure Devices

On this page, you must enter some basic information about the system that you are building. Figure 4-4 shows the device configuration page of the wizard.



**vACS First Run Setup Wizard**

This screen allows the definition of basic system components. Using information provided on this page, the wizard will make assumptions about your system and define basic properties for all devices. More detailed setup will be performed on the device discovery page.

System Number: 1  
System IP Address: 10.2.128.161  
System Netmask: 255.0.0.0

How many of each of the following devices are present in the system?

Inputs		Outputs		Core Devices	
T9040NR Titan Noise, Logic & Relay Devices	2	T9160 Amplifier Frames	3	1100 NSG Devices	0
S28 Mic Stations	6	T9016RY Titan Relay Devices	1	1502A1 Input Devices	0
S24 Mic Stations	4	Visual Paging Groups	0		
S20 Mic Stations	2	Intercom Groups	0		

Save System Description & Define Users

Current Zones: 0    Current Frames: 0    SMS: false    VOIP: false    System Mode: vACS

Figure 4-4: Configure Devices

### System Number

Each vACS controller in a system must have a unique number. You enter the number for this controller in this field. You must reference this number when configuring other controllers to communicate with this controller. The **System Number** is synonymous with the term **Group Number** that is used for microphone station setup. You must configure a microphone station with the **Group Number** of its parent controller.

### System IP Address

By default, this field is populated with the current IP address obtained from the operating system. If you change the address here, it will change the IP address of the controller.

### System Netmask

This setting also defaults to the subnet mask setting obtained from the operating system. Enter a subnet mask for the vACS that is appropriate for your network configuration if the default is not sufficient. If you change the address here, it will change the subnet mask of the controller.

**Note:** The **Internal CobraNet Audio Device** has its own network port that must be configured separately. The *System Management Center* cannot directly set this address. Refer to the **Internal CobraNet Audio Device** documentation for instructions on setting this address.

### Inputs / Outputs / Core Devices

From here, you can enter the number of each type of device that you will have in the system. These devices will be added to the system configuration and automatically be assigned an IP address consistent with the settings of the **System IP Address** and **System Netmask**.

Any devices that are not added here can be individually added to the system at any time from the **Devices** tab of the configuration.

### Save System Description & Define Users

Click this button to save the system information that you entered on this page and continue on to the next page of the wizard.

### Configure Users

This page allows you to define the default users for the system. There are three (3) security levels for users and you must define at least one user at each level in order to utilize the system. More users for each level can be added later as needed.

#### Admin

A user with this permission level will have access to all system configuration options on the **Admin** tab.

#### Installers

A user with this permission level will have edit access to everything on the **Overview** and **Configuration** tabs. Some features on the **Admin** tab will not be available to this category of user.

#### Users

A user with this permission level will have edit access to items on the **Overview** tab that are needed for basic system operation. All functions on the **Configuration** and **Admin** tabs are blocked for this category of user.





Wizard2 Page - Windows Internet Explorer  
http://localhost/FirstRun/Wizard2

System Management Center

IP Address: 10.2.128.161  
Netmask: 255.0.0.0  
NIC Address: E089954F783D  
System Version: 1.0.4468.15996

### vACS First Run Setup Wizard

Please define the three levels of users present in the system. Each class of user has different permissions, with Admin being the highest level, then Installers, then Users. Detailed system definition follows.

Admin		Installers		Users	
User Name:	admin	User Name:	Installer	User Name:	User
Password:	admin	Password:	Installer	Password:	User
First Name:	Admin	First Name:	Installer	First Name:	New
Last Name:	User	Last Name:	User	Last Name:	User

Save Users & Discover Devices

Current Zones: 0    Current Frames: 0    SMS: False    VOIP: False  
Licensed: 0    Licensed: 0    [Update License](#)    System Mode: vACS

Figure 4-5: Configure Users

### Save Users & Configure Devices

Click this button to save the user configuration and move to the **Device Discovery** page of the wizard.

### Device Discovery

When the wizard takes you to this page, it will attempt to find the devices that you previously told the wizard you will have in your system. For some device types, it will automatically configure the device IP address as well. If it finds devices that match the type of devices you have in the configuration, but has previously been configured with a different IP address, you will see them in the list and highlighted in gold as shown in Figure 4-6 below.

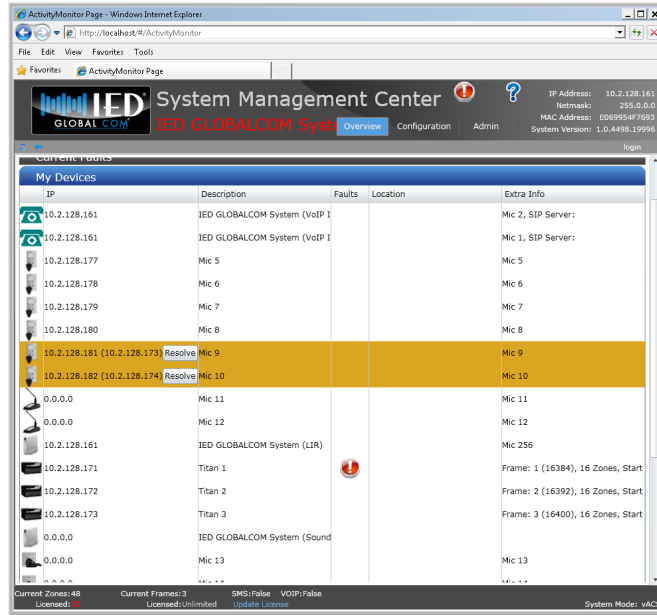


Figure 4-6: Device Discovery

If you click the Resolve button, you will be prompted with the dialog window shown in Figure 4-7. From here, you can elect to use the IP address that was discovered, or you can choose to change the device address to match the one stored in the configuration file.

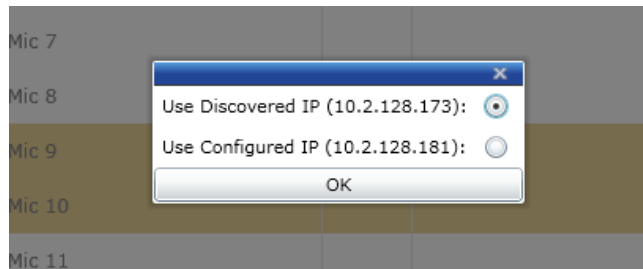


Figure 4-7: IP Address Resolution

# Section 2

## Configuration

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This page has been intentionally left blank.

## My System

This section is where you define certain parameters of the controller as well as define all other controllers in the system. In order for this controller to communicate with another controller, it must be defined in the **Remote Controllers** list.

ID	Description	Language	Gender	Rate	Volume
1		English	Female	0	90

ID	Audio Port	Audio IP

Type	Description	Location	Actions	Extra Info
Basic SIP VoIP	System 1 (VoIP Interface 1)		...	Mic 259, SIP Server:
Basic SIP VoIP	System 1 (VoIP Interface 2)		...	Mic 256, SIP Server:
1200 Logic Imp	System 1 (LIR)		Actions: 2	Mic 257
Internal Cobral	System 1 (Sound Card)		...	

Figure 5-1: My System Tab

There are three clickable text options located at the upper right corner of Figure 5-1. Clicking on one of the options will take you to a page in the **First Run Setup Wizard** to quickly configure the system. It is not recommended that you use these options if you have already configured devices in the system.

### Default Configuration

Clicking on this text will take you to the **vACS First Run Setup Wizard** page as shown in Figure 5-2. From here, you can select a default configuration from the list or load one from a file. Refer to the **vACS First Run Setup Wizard** documentation for additional information.

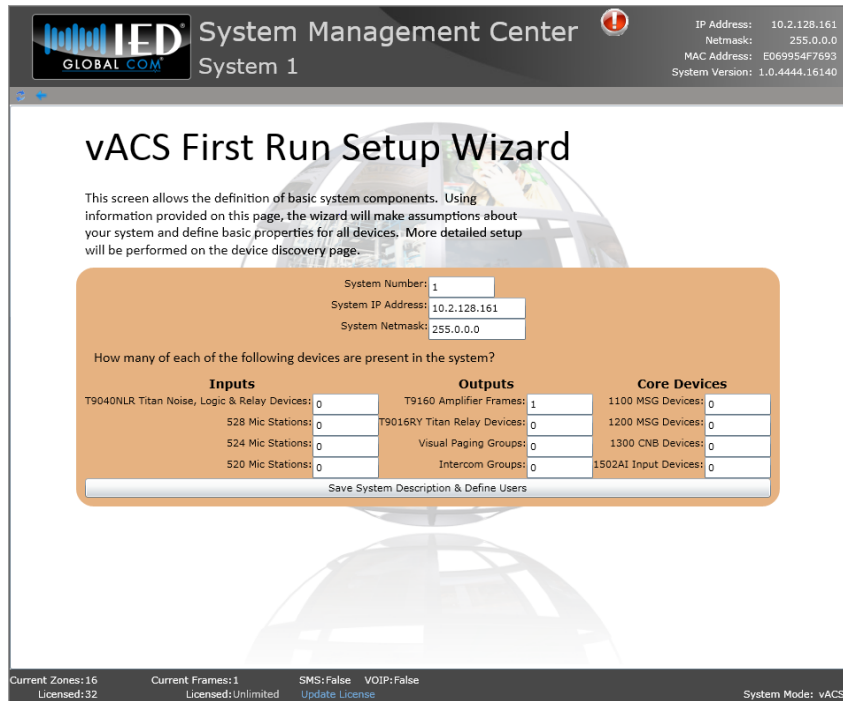


Figure 5-2: Default Configuration

## Device Definition

Clicking on this text will take you to the **vACS First Run Setup Wizard** page as shown in Figure 5-3. From here, you can specify system address information and the number of each device type in the system. Refer to the **vACS First Run Setup Wizard** documentation for additional information.

**Note:** The **Internal CobraNet Audio Device** has its own network port that must be configured separately. The *System Management Center* cannot directly set this address. Refer to the **Internal CobraNet Audio Device** documentation for instructions on setting this address.



**IED System Management Center**  
System 1

IP Address: 10.2.128.161  
Netmask: 255.0.0.0  
MAC Address: E069954F7693  
System Version: 1.0.4444.16140

## vACS First Run Setup Wizard

This screen allows the definition of basic system components. Using information provided on this page, the wizard will make assumptions about your system and define basic properties for all devices. More detailed setup will be performed on the device discovery page.

System Number: 1  
System IP Address: 10.2.128.161  
System Netmask: 255.0.0.0

How many of each of the following devices are present in the system?

Inputs		Outputs		Core Devices	
T9040NLR Titan Noise, Logic & Relay Devices:	0	T9160 Amplifier Frames:	1	1100 MSG Devices:	0
528 Mic Stations:	0	T9016RY Titan Relay Devices:	0	1200 MSG Devices:	0
524 Mic Stations:	0	Visual Paging Groups:	0	1300 CNB Devices:	0
520 Mic Stations:	0	Intercom Groups:	0	1502AI Input Devices:	0

Save System Description & Define Users

Current Zones: 16  
Licensed: 32

Current Frames: 1  
Licensed: Unlimited

SMS: False  
Update License

VOIP: False

System Mode: vACS

Figure 5-3: Device Definition

## User Definition

Clicking on this text will take you to the **vACS First Run Setup Wizard** page as shown in Figure 5-4. From here, you can define initial usernames and passwords for the three levels of access. More users can be added later from the **Admin** tab. Refer to the **vACS First Run Setup Wizard** documentation for additional information.



**System Management Center**  
System 1

IP Address: 10.2.128.151  
Netmask: 255.0.0.0  
MAC Address: ED69954F7693  
System Version: 1.0.4444.16140

## vACS First Run Setup Wizard

Please define the three levels of users present in the system. Each class of user has different permissions, with Admin being the highest level, then Installers, then Users. Detailed system definition follows.

Admin		Installers		Users	
User Name:	admin	User Name:	installer	User Name:	user
Password:	admin	Password:	installer	Password:	user
First Name:	Admin	First Name:	Installer	First Name:	New
Last Name:	User	Last Name:	User	Last Name:	User

Save Users & Discover Devices

Current Zones: 16  
Licensed: 32

Current Frames: 1  
Licensed: Unlimited

SMS: False  
Update License

VOIP: False

System Mode: vACS

Figure 5-4: User Definition

## My Controller

This represents the local controller to which you are currently connected. To edit the local controller options, select it under the My Controller list. The right section of the window will change to list the current configuration of the local controller. Any time you make changes to the local controller, you must click either the **OK** or **CANCEL** buttons before attempting to select anything else.



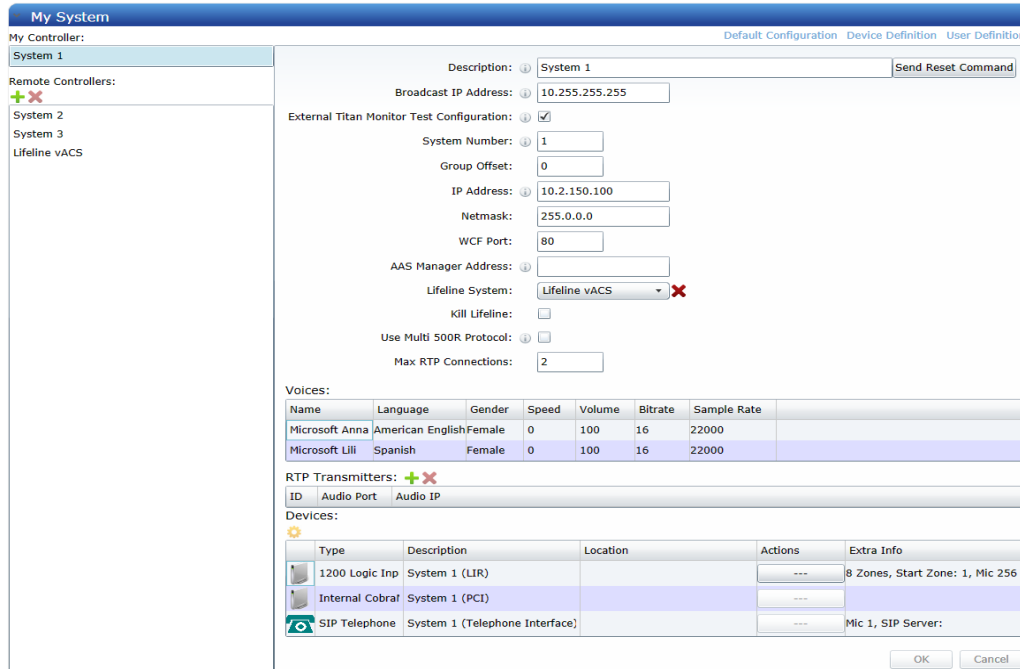


Figure 5-5: My Controller Configuration

## Description

Enter a descriptive text string for the system. This text will appear at the top of the SMC window to identify which controller page is currently accessed.

## Send Reset Command

Click this button to restart the vACS service. Note that this will take the announcement controller offline for a brief period of time.

## Broadcast IP Address

This is the network address to use when broadcasting status messages such as announcement reports.

## External Titan Monitor Test Configuration

This box should be checked when you are using enhanced Titan (T9160) testing functionality that requires the use of a separate configuration application. This is required when the End-of-Branch (EOB) testing devices are used in conjunction with a T9160 mainframe. When enabled, the test configuration features are disabled in the T9160 device setup screens of the SMC.

## System Number

Each controller must have a unique system number. Enter the appropriate number here. When you define this controller in another controllers **Remote Controllers** list, you will need to properly reference this system number. This is also the **Group Number** used to configure

microphone stations to communicate with their parent controller.

### Group Offset

This setting alters the method used for CobraNet bundle calculations. Leave this at the default of 0 unless directed to do otherwise by factory support personnel.

### System IP Address

By default, this field is populated with the current IP address obtained from the operating system. If you change the address here, it will change the IP address of the controller.

#### Caution!

*Changing the address here will require a system reboot if it is different from the current settings.*

### System Netmask

This setting also defaults to the subnet mask setting obtained from the operating system. If you change the address here, it will change the subnet mask of the controller.

#### Note:

The **Internal CobraNet Audio Device** has its own network port that must be configured separately. The *System Management Center* cannot directly set this address. Refer to the **Internal CobraNet Audio Device** documentation for instructions on setting this address.

### WCF Port

This sets the port that the application uses to communicate with other applications and services. The default is 80 and it should not be changed unless it is required for a custom installation.

### AAS Manager Address

AAS stands for Automated Announcement System. If you have an installation that utilizes an external announcement manager, such as the Flight Announcement System (FAS), then you must enter the IP address of that server here. This allows the local controller to receive announcement commands from that device.

### Lifeline System

Select the Lifeline ACS (if used) that will be used to back up this controller from the drop-down list. Click the **x** icon to the right of the drop-down list to remove the selection. In order for a system to appear in this list, you must have a system defined as a vACS *Lifeline* type in the **Remote Controllers** list.

### Kill Lifeline

This checkbox only applies when a vACS *Lifeline* is used to backup the local system. When checked, the local controller will instruct the Lifeline controller to reset and relinquish its control back to the local controller.

When not checked, you must go to the *System Management Center* page on the Lifeline controller and manually relinquish control. You may also send a reset command using the **Send Reset Command** button if you select the Lifeline controller in the **Remote Controllers** list.

### Use Multi 500R Protocol

Check this box if you are installing this controller in a system that has a 510/520ACS that uses two IEDA500R cards for a 16-bus system instead of the standard 8-bus system.

### Max RTP Connections

This property sets the maximum number of simultaneous incoming and outgoing RTP audio streams that will be allowed by the controller. The maximum number that a single controller is allowed to support is 8. Managing RTP connections utilizes a large amount of processor resources, so a lower limit may be required on controllers that are also managing VoIP telephone lines, text-to-speech, and multiple CobraNet channels for messaging. Note that this limit only applies to announcements made to and from other controllers using the routable RTP protocol. It does not impact announcements made using the CobraNet protocol. A maximum limit of 2 is acceptable in most applications.

### Voices

This section configures the Text-to-Speech voices that will be available for selection when defining a TTS action type. This list is automatically populated with the languages that are installed on your system.

**Note:** TTS engines must be purchased and installed separately and are not included with the base system software.

#### Description

This is a read-only description of the installed voice.

#### Language

Select the language for the voice. Only one voice can be defined for each language. Thus, you cannot have multiple voices for the same language.

#### Gender

Select either a male for female voice from the drop-down list.

#### Speed

This value is used to adjust the speed at which the voice plays. A valid range is from -10 (very slow) to +10 (very fast). The default value is 0 and you can adjust it to meet your needs. It is recommended that you adjust in increments of 1 until you are satisfied with the results.

### Volume

Select a numerical percentage (0 – 100) to set the volume of the voice. The system will have default values that are unique to each voice. If the voice defaults to a value of 0, then you must adjust it yourself. A value between 80 and 90 is a good starting point. This field can be adjusted for each voice to evenly balance the installed voices with live and prerecorded announcements.

### Bitrate

This field allows you to select between bit rates of 16 or 8. 16 is recommended as it will provide a higher quality speech rendering. Using a rate of 8 will result in smaller file sizes and slightly faster rendering times, but at reduced quality.

### Sample Rate

This field allows you to select between sample rates of 22000Hz and 16000Hz. 22000Hz is recommended as it will produce a higher quality speech rendering. Using a sample rate of 16000Hz will result in smaller file sizes and slightly faster rendering times, but at reduced quality.

## RTP Transmitters

RTP is used as the audio transport between vACS controllers that reside on different VLANs. Each controller can support up to eight (8) simultaneous RTP connections. An RTP Transmitter must be defined for each outgoing channel and have a unique multicast IP address and port combination.

When you configure this controller as a remote controller on another vACS, you must use the RTP Transmitter information from here to tell the other controller that this controller uses these RTP Transmitters.

Click the **+** icon to add a new transmitter to the list. Click the **x** icon to delete the currently selected item from the list.

### ID

Each transmitter will be assigned its own unique ID number. This is a system-assigned number and cannot be edited.

### Audio Port

This is the RTP port number that will be used along with the multicast group IP address to uniquely identify the audio channel. This number is automatically calculated by the system, but can be changed to meet the installation network requirements.

The default port number is calculated using the following formula:

$$4000 + (1000 \times \{\text{system number}\}) + \{\text{ID}\}$$

For example, transmitters 1 and 2 on system 1 would use ports 5001 and 5002. Transmitters 1 and 2 on system 2 would use ports 6001 and 6002.

## Audio IP

This is the multicast group IP address used by this controller. The default address is 239.192.0.x where x corresponds to the system number. When combined with the port number, this provides a unique transmitter address. The address and/or port configuration can be changed to meet the installation network requirements as needed.

## Devices

This section lists various devices that are contained within the local controller. Figure 5-6 shows the devices that are contained in the 1200ACS. Highlight the device and click the settings icon located at the top of the list or double click on the item to open the editor for the device. The **1200 Logic Input/Relay Output** device can be used to launch actions.

Refer to the **Devices** section of the documentation to learn how to configure each individual device.

**Note:** The **Internal CobraNet Audio Device** has its own network port that must be configured separately. The *System Management Center* cannot directly set this address. Refer to the **Internal CobraNet Audio Device** documentation for instructions on setting this address.

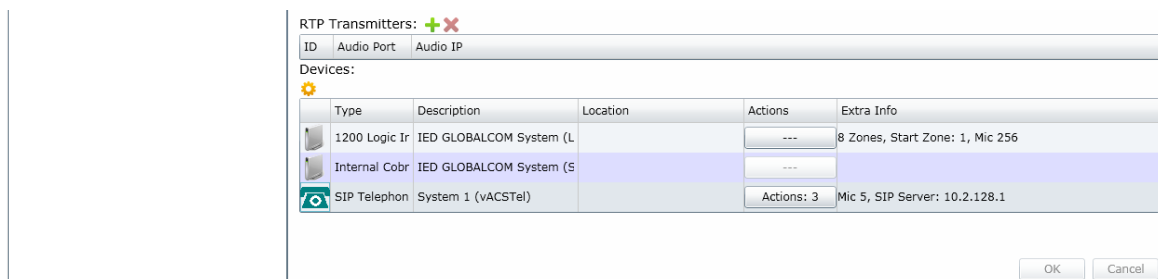
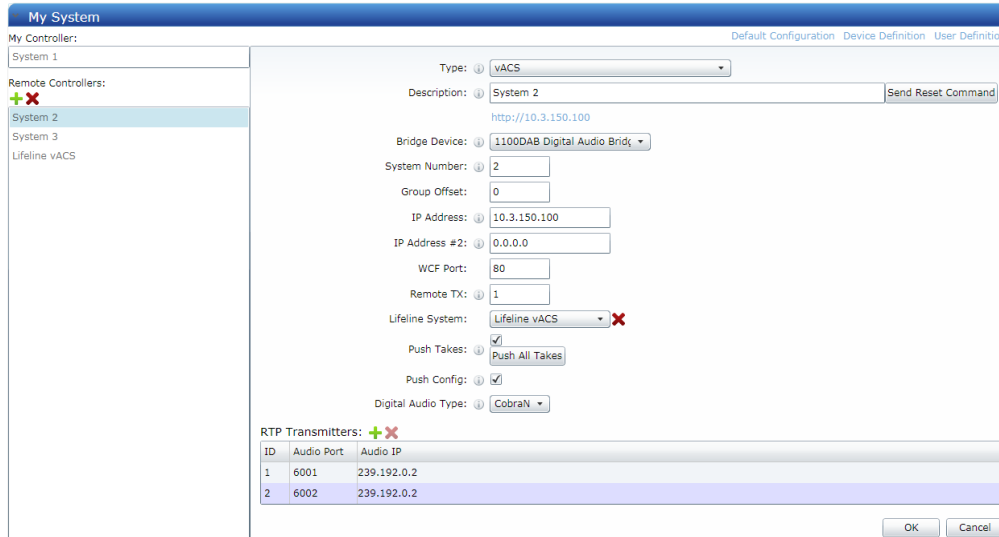


Figure 5-6: My Controller Device Configuration

## Remote Controllers



My System

My Controller: System 1

Remote Controllers: System 2, System 3, Lifeline vACS

Type: vACS

Description: System 2 <http://10.3.150.100> [Send Reset Command](#)

Bridge Device: 1100DAB Digital Audio Bridge

System Number: 2

Group Offset: 0

IP Address: 10.3.150.100

IP Address #2: 0.0.0.0

WCF Port: 80

Remote TX: 1

Lifeline System: Lifeline vACS

Push Takes: ☒ Push All Takes

Push Config: ☒

Digital Audio Type: CobraN

RTP Transmitters:

ID	Audio Port	Audio IP
1	6001	239.192.0.2
2	6002	239.192.0.2

OK Cancel

Figure 5-7: Remote Controller Configuration

### Type

Select the type of remote controller that this entry represents.

### Description

Enter a descriptive text string for the system. This text will appear in the **Remote Controllers** list to identify the system.

A hyperlink to the SMC for the remote system will appear below the description field. You can click this link to open the SMC window for the remote controller.

### Send Reset Command

Click this button to restart the vACS service on the remote controller. Note that this will take the announcement controller offline for a brief period of time.

You can also use this to reset a vACS Lifeline controller to relinquish its control after a controller has been restored when the Kill Lifeline checkbox is not checked.

### Bridge Device

Select the device that will be used as the network bridge device to access the remote system. Typically, this will be the 1100DAB assigned to the local controller.

### System Number

This is an ID number used by each announcement controller in the system. Each system must have a unique system number. The system number is also used as the **Group Number** for microphone station setup. The system number for a remote controller must match the system number defined in the remote controller's **My Controller** definition.

## Group Offset

This setting alters the method used for CobraNet bundle calculations. Leave this at the default of 0 unless directed to do otherwise by factory support personnel.

## IP Address

This is the IP address of the remote system.

## IP Address #2

This is used to identify the IP address of a second CPU when interfacing with a legacy ACS that has redundant processors.

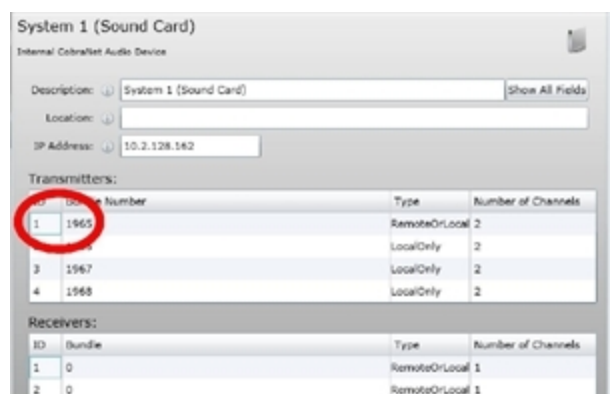
If the remote controller is a vACS Lifeline type, then you must enter the IP address of the CobraNet sound card (if installed) in the Lifeline controller. Typically this address is 1 number higher than the IP address of the controller.

## WCF Port

This sets the port that the application uses to communicate with other applications and services. The default is 80 and it should not be changed unless it is required for a custom installation.

## Remote TX

This number represents the ID number of the CobraNet bundle that the remote controller will use to send announcements to other controllers. This is used by the local controller, along with the System Number, to calculate the actual bundle number to receive audio signals from the remote controller. For most systems, this number will be 1 and can be found in the Internal CobraNet Audio Device setup on the remote system as shown in Figure 5-8.



System 1 (Sound Card)			
Internal CobraNet Audio Device			
Description:	System 1 (Sound Card) <span>Show All Fields</span>		
Location:			
IP Address:	10.2.128.162		
<b>Transmitters:</b>			
ID	Bundle Number	Type	Number of Channels
1	1965	RemoteOrLocal	2
3	1967	LocalOnly	2
4	1968	LocalOnly	2
<b>Receivers:</b>			
ID	Bundle	Type	Number of Channels
1	0	RemoteOrLocal	1
2	0	RemoteOrLocal	1

Figure 5-8: Internal CobraNet Audio Device Transmitter Channels

## Lifeline System

Select the Lifeline ACS (if used) that will be used to back up this controller from the drop-down list. Since one Lifeline ACS may backup multiple controllers, it is important for the local controller to know which Lifeline ACS will backup each controller to prevent any conflicts. Click the **x** icon to the right of the drop-down list to remove the selection. In order for a system to appear in this list, you must have a system defined as a vACS *Lifeline* type in the **Remote Controllers** list.

## Push Takes

If this box is checked, the local controller will transfer new audio and visual takes to the remote controller as they are added to the local controller. When used appropriately, this will ensure that all controllers will have the same take files.

You must have this option checked when the remote controller is a Lifeline ACS.

**Note:** When multiple playback devices are used, it may take up to one (1) minute for recorded takes to be transferred to all other playback devices in the system.

## Push All Takes

Click this button to immediately copy all audio and visual takes on the local controller to the remote controller.

**Caution!** *This option requires the system to transfer very large amounts of data over the network and will probably load the controller and network to a point where it may no longer be able to process announcements. Only use this option in a controlled situation where the system can be taken offline while the copy is in progress.*

## Push Config

When checked, the configuration file of the local controller will be copied to the remote controller each time the configuration is saved. When configuring a remote controller as a Lifeline, you must check this box to ensure that the Lifeline controller will always have current configuration data.

## RTP Transmitter

This determines the method that the local controller will use to transmit and receive audio to and from the remote controller. You must select either **RTP** or **CobraNet** from the drop-down list. When selecting RTP as the transport method, you must configure the RTP Transmitters here to match the RTP Transmitter settings in the **My Controller** definition of the other controller.

## RTP Transmitters

Click the **+** icon to add a new transmitter to the list. Click the **x** icon to delete the currently selected item from the list.



## ID

Each transmitter will be assigned its own unique ID number. This is a system-assigned number and cannot be edited.

## Audio Port

This is the RTP port number that will be used along with the multicast group IP address to uniquely identify the audio channel. This number is automatically calculated by the system, but can be changed to meet the installation network requirements.

The default port number is calculated using the following formula:

$$4000 + (1000 \times \{\text{system number}\}) + \{\text{ID}\}$$

For example, transmitters 1 and 2 on system 1 would use ports 5001 and 5002.

Transmitters 1 and 2 on system 2 would use ports 6001 and 6002.

## Audio IP

This is the multicast group IP address used by this controller. The default address is 239.192.0.x where x corresponds to the system number. When combined with the port number, this provides a unique transmitter address. The address and/or port configuration can be changed to meet the installation network requirements as needed.

This page has been intentionally left blank.

## Devices

Devices are the individual hardware components used in the system. Each must first be defined in the **Devices** section of the software in order to be used. Once defined, devices can be used as sources to launch actions, audio inputs available for routing, logic outputs to control other pieces of hardware, or used as a destination for an announcement or message.

Type	IP	Description	Location	Actions	Extra Info
<b>Mic Stations (2 items)</b>					
M5528 Graphical P	10.2.128.172	Ticketing Counter	Ticketing Counter Station	Actions: 2	Mic 8, Template: Default Template
M5528 Graphical P	10.2.128.173	Security	Security	Actions: 2	Mic 9, Template: Default Template
<b>Amplifiers (1 item)</b>					
T9160 Digital Ampl	10.2.128.171	Titan 1		---	Frame: 1 (16384), 16 Zones, Start Zone: 9, BGM SOURCE(1 channels)

Figure 6-1: Devices

The specific details on configuring a device vary significantly with each type of device. They are broken down and grouped into five (5) basic categories that share similar functions and properties.

- Aux I/O Devices
- Displays
- Controllers
- Mic Stations
- Amplifiers



Click this icon to add a new device to the system. A new window will appear as shown in Figure 6-2. Select the device and click the **OK** button to continue. Clicking the **Cancel** button will close the window without adding a new device.

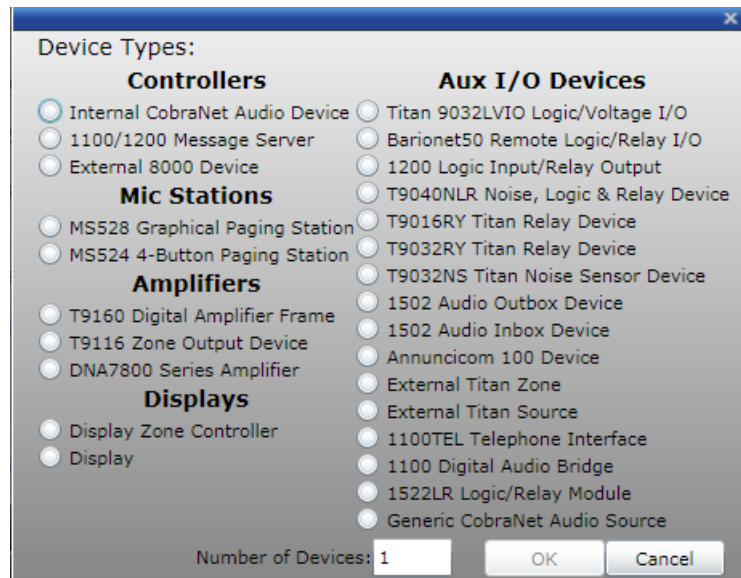


Figure 6-2: Add a New Device

After you click the **OK** button, the device will be added to the system and the properties window for the new device will appear. Figure 6-3 shows the window for a 4-button microphone station. Configure the properties and click **OK** to finish adding the new device to the system. If you click **Cancel**, the window will close and the device will not be added to the system.

To add multiple of the selected device type, enter the quantity in the **Number of Devices** field. When used, the configuration window that appears will be for the last device added. You will then need to go into each device and configure it appropriately.

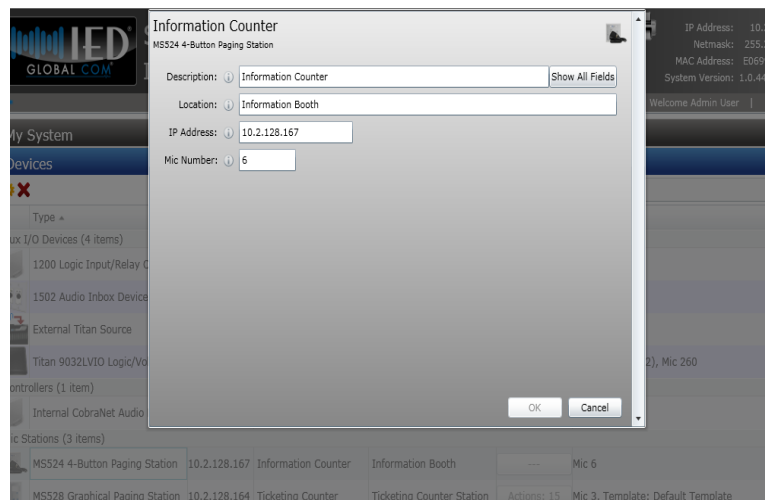


Figure 6-3: New MS524 Device

By default, only the most commonly used fields are shown when you edit a device's properties. Click the **Show All Fields** button to reveal all available properties. Once the button has been used, the caption will change to **Show Base Fields**. You can click it again to hide the less commonly used fields.

**Note:** For simplicity, this documentation covers device setup with all fields shown.



Click this icon to edit the device properties for the currently selected device.



Click this icon to delete the currently selected device.

## Actions

Certain device types have the ability to trigger actions. Microphone stations and logic input devices are most commonly used to launch actions. Devices that can use actions will have buttons that appear in the **Actions** column of the device list as shown in Figure 6-4. The button will appear dimmed for those that cannot use actions.

	---	
ation Booth	---	Mic 6
ng Counter Station	Actions: 15	Mic 3, Template: D
y	Actions: 15	Mic 4, Template: D
	---	Frame: 1 (16384), BGM SOURCE(1 ch

Figure 6-4: Device Actions Button

The details for properties and actions are specific to the type of device. Refer to the device-specific documentation in this section for details on each device type. For information on configuring actions, please refer to the **Action Types** chapter of the documentation.

## Apply Configuration Now

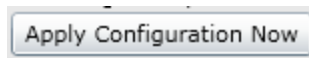
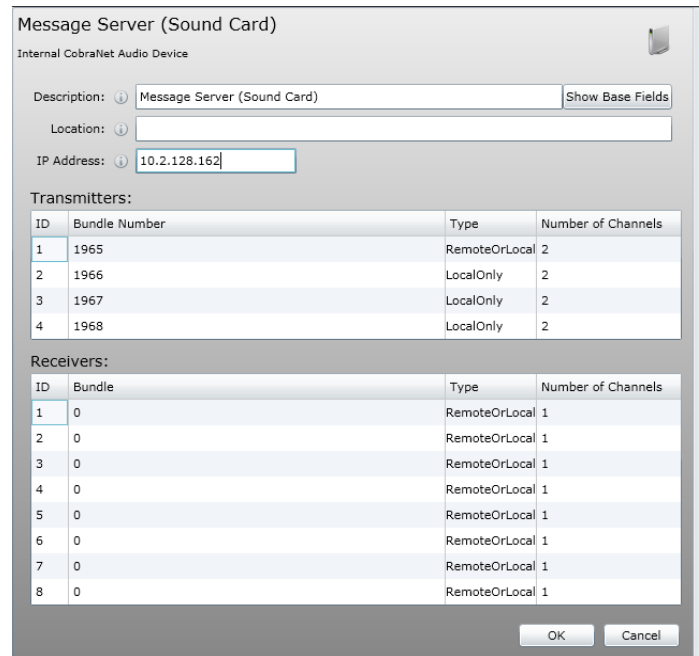


Figure 6-5: Apply Configuration Now Button

Some devices will have this button located at the upper left corner of the device properties window. Click this button to immediately send changes to the device without closing the window.

## Internal CobraNet Audio Device

This device is found in an 1100ACS, 1200ACS, 1100MSG, or 1200MSG unit. For the 1100ACS and 1200ACS, it is configured from the **My Controller** tab as shown in Figure 5-6 of the **My System** section. For the 1100MSG and 1200MSG devices, it is configured from the individual device configuration page as shown in the **1100/1200 Message Server**. This device is responsible for playing back all prerecorded messages, delayed announcements, and text-to-speech (TTS) messages over the network using CobraNet. It is also responsible for recording the audio used for delayed announcements.



Message Server (Sound Card)  
Internal CobraNet Audio Device

Description:  [Show Base Fields](#)

Location:

IP Address:

Transmitters:

ID	Bundle Number	Type	Number of Channels
1	1965	RemoteOrLocal	2
2	1966	LocalOnly	2
3	1967	LocalOnly	2
4	1968	LocalOnly	2

Receivers:

ID	Bundle	Type	Number of Channels
1	0	RemoteOrLocal	1
2	0	RemoteOrLocal	1
3	0	RemoteOrLocal	1
4	0	RemoteOrLocal	1
5	0	RemoteOrLocal	1
6	0	RemoteOrLocal	1
7	0	RemoteOrLocal	1
8	0	RemoteOrLocal	1

OK Cancel

Figure 6-6: Internal CobraNet Audio Device Properties

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### IP Address

Enter the IP address for the device. It will usually be 1 digit higher than the IP address of the unit that contains the device.

**Note:** This address field only informs the *System Management Center* and the vACS of the address of the device. You **MUST** configure the actual address of the card using a separate configuration utility described later in this section.

## CobraNet Transmitters and Receivers

The CobraNet transmitters and receivers are automatically set by the system and the defaults are sufficient for most applications. The ability to override the defaults is provided here if it is required.

## Configuring the ASI Card IP Address

The **Internal CobraNet Audio Device** is an internal plug-in card with its own IP address information with its own configuration utility. The *System Management Center* cannot directly configure the card's address information, so it is imperative that you configure the IP address of the card using the supplied configuration utility if you ever change the IP address of the controller.

## Locating the ASIControl Utility

The Internal CobraNet Audio Device is configured using the **ASIControl** utility. Unless it has been inadvertently deleted, there should be a shortcut located on the desktop that will give you access to the Tools folder. Locate and double-click on the icon shown in Figure 6-7.



Figure 6-7: Desktop Tools Icon

This will open the Tools folder as shown in Figure 6-8. Locate the ASIControl application and double-click it to launch the utility.

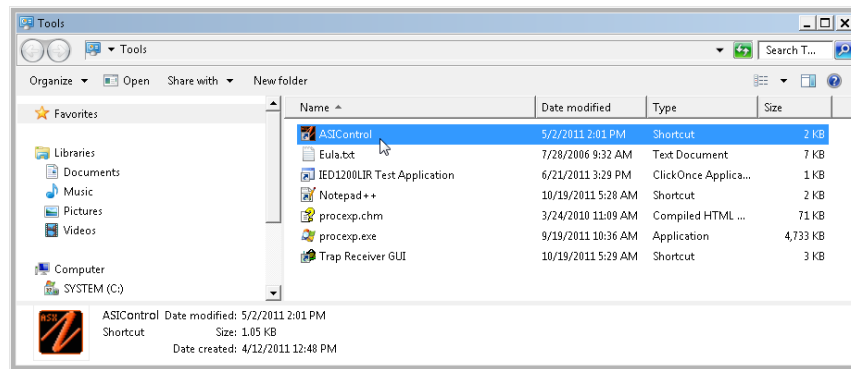


Figure 6-8: Tools Folder

If you do not have the Tools shortcut on the desktop, you can launch the **ASIControl** utility by going to the Windows Start menu as shown in Figure 6-9

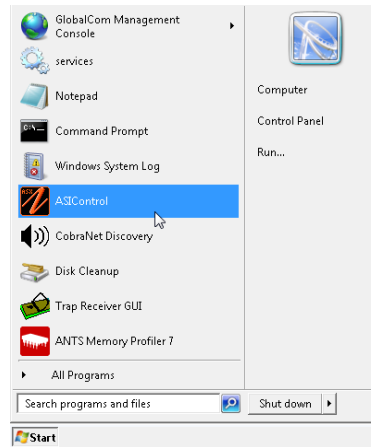


Figure 6-9: ASIControl in Start Menu

### Changing the ASI Card IP Address

Once the *ASIControl* utility has started, you should see the device listed in the top part of the window as shown in Figure 6-10. This list will display all CobraNet devices that are on your network, but you will see the card listed with **ASI5408** in the Name field.

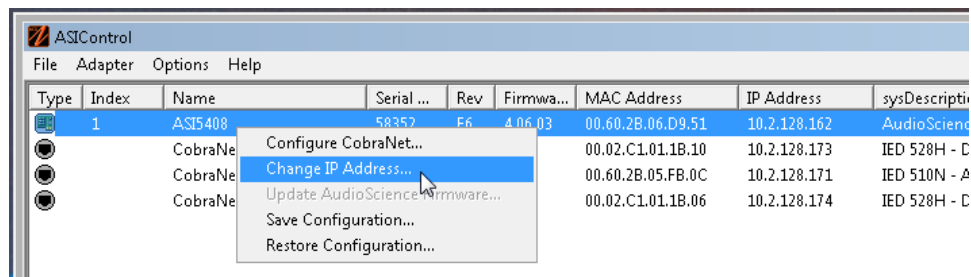


Figure 6-10: Change ASI IP Address

Right click on the **ASI5408** device in the list and you will see the pop-up window as shown in Figure 6-10. Select the **Change IP Address...** option to open the window shown in Figure 6-11.

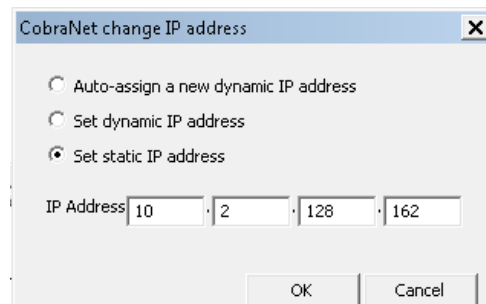


Figure 6-11: ASI IP Address Configuration Window



The card must be configured with a static IP address. Use of dynamic IP address is not supported in the system. Select the **Set static IP address** radio button as shown in the figure above and type in the IP address in the **IP Address** field. Once entered, click the **OK** button to set the card to the new IP address. You can click the **CANCEL** button to close the window without changing the address.

**Note:** The system standard is to set the IP address of the internal CobraNet card to 1 number higher than the address of the controller's Ethernet port. If the controller has an IP address of 10.2.128.10, then you would set the CobraNet card to 10.2.128.11.

There is one final critical step is required when configuring the **Internal CobraNet Audio Device**. You must check to ensure that the card is not configured to auto-assign CobraNet IP addresses. Go to the **Options** menu and select **Configure Network Interface and Auto-IP Assignment Range** as shown in Figure 6-12

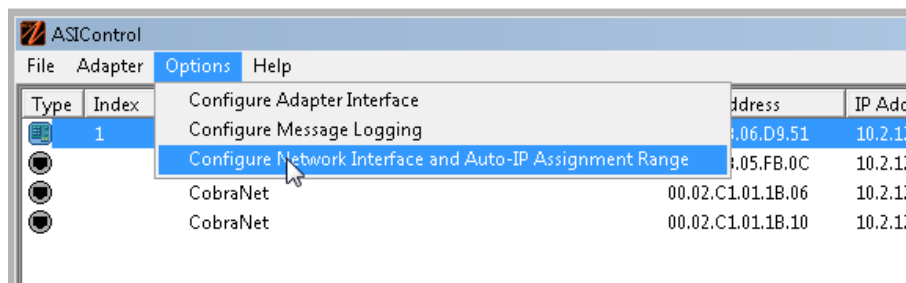


Figure 6-12: ASIControl Options Menu

This will open the window shown in Figure 6-13

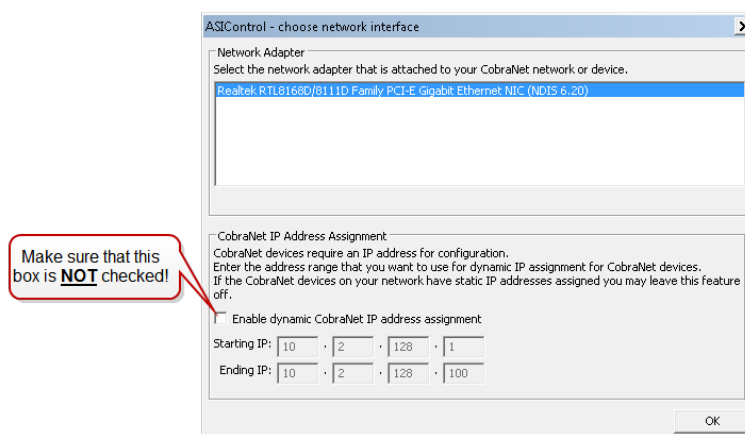
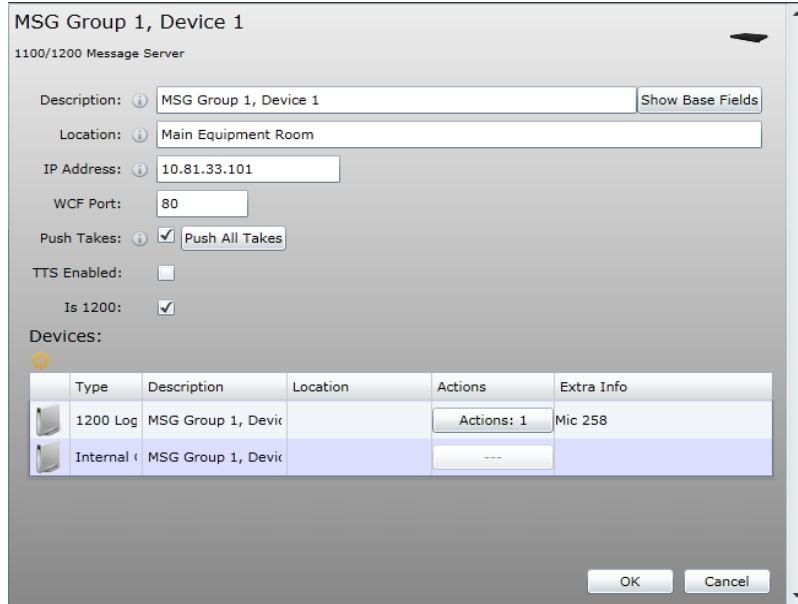


Figure 6-13: Disable Dynamic CobraNet IP Address Assignment

## 1100/1200 Message Server

This device type is used to provide record and playback capacity for prerecorded messages, TTS messages, and delayed announcements. The 1200MSG version adds eight (8) logic inputs and eight (8) relays that can be used to launch messages or interface with external systems.



MSG Group 1, Device 1

1100/1200 Message Server

Description: MSG Group 1, Device 1 Show Base Fields

Location: Main Equipment Room

IP Address: 10.81.33.101

WCF Port: 80

Push Takes: ☒ Push All Takes

TTS Enabled: ☐

Is 1200: ☒

Devices:

Type	Description	Location	Actions	Extra Info
1200 Log	MSG Group 1, Device 1		Actions: 1	Mic 258
Internal	MSG Group 1, Device 1		---	

OK Cancel

Figure 6-14: Message Server Device Properties

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### IP Address

Enter the IP address for the device.

**Note:** This IP address will automatically be assigned to the two VoIP interfaces and the 1200LIR device since they utilize the main network port on the unit. The *Internal CobraNet Audio Device* uses its own network port, thus will have a different IP address. Make sure this IP address is configured properly.

### Push Takes

If this box is checked, the local controller will transfer new audio and visual takes to the message server as they are added to the local controller. When used appropriately, this will ensure that all controllers will have the same take files.

**Note:** When multiple playback devices are used, it may take up to one (1) minute for recorded takes to be transferred to all other playback devices in the system.

### Push All Takes

Click this button to immediately copy all audio and visual takes on the local controller to the remote controller.

**Caution!**

*This option requires the system to transfer very large amounts of data over the network and will probably load the controller and network to a point where it may no longer be able to process announcements. Only use this option in a controlled situation where the system can be taken offline while the copy is in progress.*

### TTS Enabled

Check this box if the message server has the Text-to-Speech (TTS) option installed. When enabled, the message server will also create and play TTS messages.

### Is 1200

Check this box and the 1200 Logic Input/Relay Output device will be shown in the Devices list. This enables the logic inputs and relay outputs on the unit when it is a 1200MSG. If it is an 1100MSG, this option should not be checked.

**Note:**

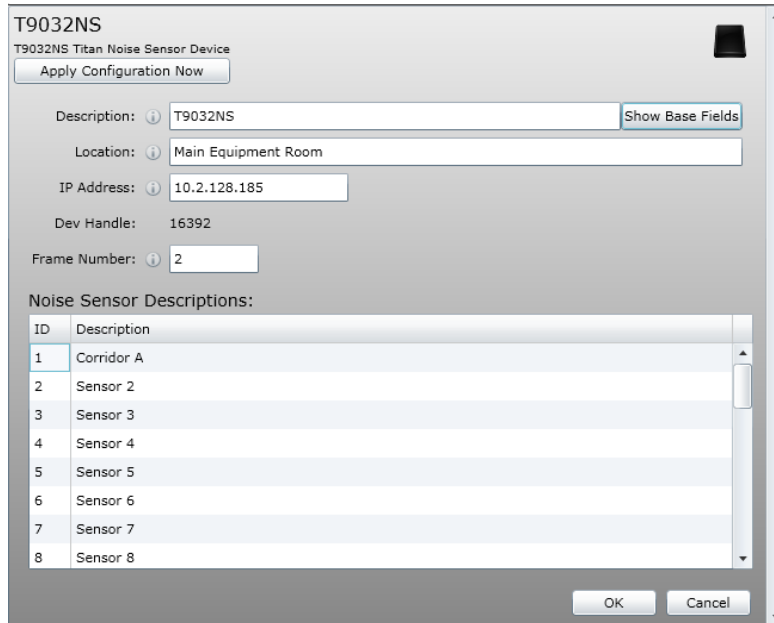
Actions for the 1200LIR inputs are configured by accessing the device actions from the **Devices** section below.

### Devices

This section lists various devices that are contained within the message server. Highlight the device and click the settings icon located at the top of the list or double click on the item to open the editor for the device.

Refer to the individual device type configuration in this section of the documentation to learn how to configure each device.

## T9032NS Titan Noise Sensor Device



**T9032NS**  
T9032NS Titan Noise Sensor Device

Apply Configuration Now

Description: T9032NS [Show Base Fields](#)

Location: Main Equipment Room

IP Address: 10.2.128.185

Dev Handle: 16392

Frame Number: 2

**Noise Sensor Descriptions:**

ID	Description
1	Corridor A
2	Sensor 2
3	Sensor 3
4	Sensor 4
5	Sensor 5
6	Sensor 6
7	Sensor 7
8	Sensor 8

OK Cancel

Figure 6-15: T9032NS Titan Noise Sensor Device Properties

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### IP Address

Enter the IP address for the device here.

### Dev Handle

This is a software address used by the system. It is assigned by the system and provided here for reference if needed.

### Frame Number

This is a unique ID number used to identify the Titan frames used in the system. When you

### Noise Sensor Descriptions

This list is used to assign your own descriptive names for each noise sensor. This is the name that will appear when you assign a sensor to a channel. It is recommended that you use a name that references the either the name or zone number where the sensor is located.

## ID

This is a read-only field that matches the physical sensor input number on the back of the T9040NLR device.

## Description

Double-click on this field to edit the text used to describe/name the sensor.

## External 8000 Device

This device type allows the vACS to operate in a system with an IED 8000 series system. In each 8000, you must configure a source using the **EXTERNAL** type in the 8000 configuration to allow it to receive announcement commands from the vACS. You must also configure a zone using the **EXTERNAL** type in the 8000 configuration to enable the 8000 to send commands to the vACS.

This device type enables only the data communications between the vACS and the 8000 system. You must also configure an audio input source that will be used to receive the audio signal from the 8000. An analog audio zone is used to send the audio signal from the vACS to the 8000.

**Fire Station 8000**  
External 8000 Device

Description:  [Show Base Fields](#)

Location:

Mic Number:

My Node ID:

CoController IP Addresses:

- 
- 

ID	Description	Node ID	Entry Code
33	8000 Frame 1 All Call	1	100
34	8000 Frame 1 Group 1	1	10
35	8000 Frame 2 All Call	2	100
36	8000 Frame 2 Group 1	2	10

Start Zone:

Total Zones:

Figure 6-16: External 8000 Device Setup

## Description

Enter text here to give the device a descriptive name.

## Mic Number

Each input on the device must have its own unique mic number. This is the number used to identify the input as a usable source within the announcement controller. When you add the device, each number is automatically defined. It can be changed if needed. Once it has been defined here, it will appear as an available source when defining actions.

## My Node ID

This is the number that is used to identify this controller to one or more 8000 systems. It must be defined in the 8000 configuration in the channel field of the zone setup as shown in Figure 6-17. In the example below, the Node ID is 4 and the **Zone Type** must be set to **EXTERNAL**. This is a screenshot of the *IED Navigator* software used to configure 8000 systems.


Table  Zones - The audio outputs from the frame and their parameters											
ID	Name	Description	Zone Type	Audio Card	Chan	Volt Card	Chan	Ctrl Card	Chan	Norm Gain	Emerg Gain
204	ZONE204	Signal Frame 4	External		4						

Figure 6-17: 8000 Configuration

## CoController IP Addresses

Each 8000 system that will be interacting with this controller must have their IP address entered in this list.



Click this icon to add another controller IP address to the list.



Click this icon to modify the currently selected IP address.



Click this icon to delete the currently selected IP address from the list.

## Zones

This list is used to define one or more zones in the local controller that will be used in local zone groups with actions to trigger remote actions on the 8000. This configures the control zones, so you must also include the appropriate audio zone in the zone group in order to get live audio to the 8000.



Click this icon to add another zone to the list.



Click this icon to delete the currently selected zone from the list.

### ID

This ID is used to uniquely identify the zone to the controller. This number is automatically assigned by the system based on the **Start Zone** number and the position of the item in the list.

### Description

Enter a textual description of the zone here.

### Node ID

This is the Node ID of the 8000 that corresponds to this zone.

### Entry Code

This is the entry code number that will be passed from the controller to the 8000 system that matches the specified Node ID. This number must be defined in the **Actions** section of the 8000 configuration. This number corresponds to the **Button Number** in the 8000 Action definition.

### Start Zone

This is the zone number that represents the first zone that the local controller will use to identify an 8000. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed.

### Total Zones

This number represents the total number of zones that will be allocated to communicate with external 8000 systems. Each zone is numbered sequentially based on the start zone entered in the **Start Zone** field. Each zone can be used to trigger one action on a single 8000 system.

### Actions

The 8000 will send a message to the vACS controller that contains a Node ID number and an Entry Code number. You must first define an action in the 8000 configuration that includes the zone defined for this controller. There is a **Miscellaneous Parameter** field in the 8000 Action definition. The number you enter there is the same number that will be passed to the vACS and used as the Entry Code to launch an action. You define an action here just as you would for any other device type. Refer to the **Action Types** section for instructions on defining individual actions.

For most announcements that originate from an 8000, you will use the **LiveFromAlternateSource** action type.

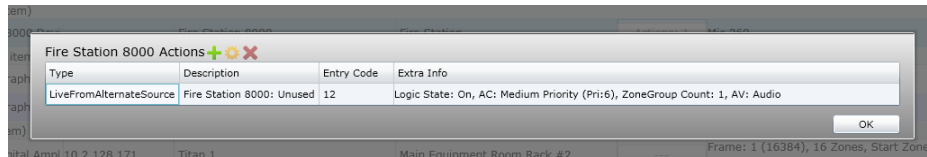
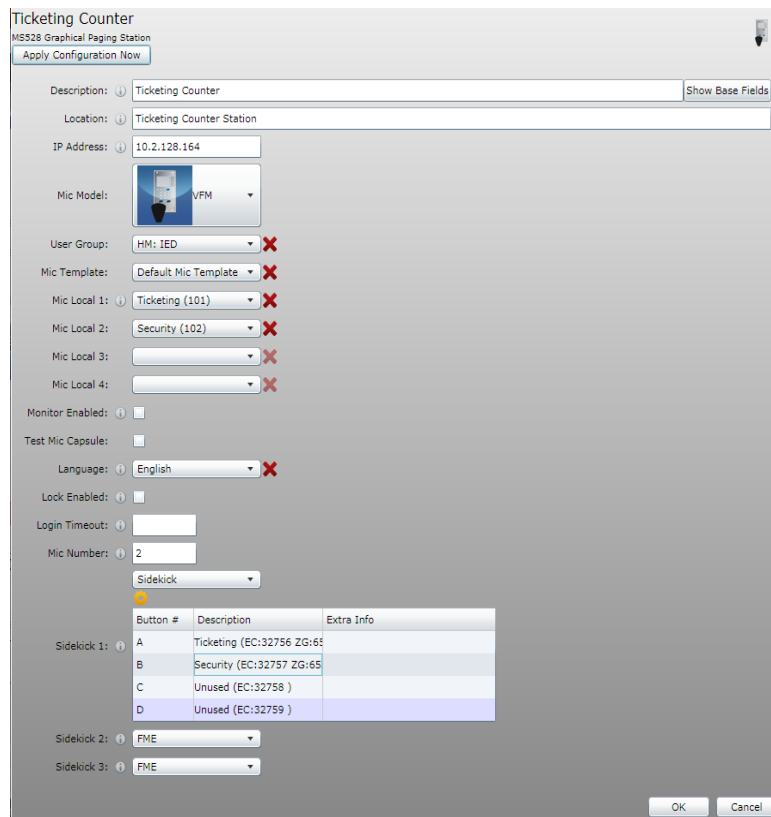




Figure 6-18: External 8000 Device Actions

## MS528 Graphical Paging Station



Description: Ticketing Counter Show Base Fields  
 Location: Ticketing Counter Station  
 IP Address: 10.2.128.164  
 Mic Model:  VFM  
 User Group: HM: IED ✗  
 Mic Template: Default Mic Template ✗  
 Mic Local 1: Ticketing (101) ✗  
 Mic Local 2: Security (102) ✗  
 Mic Local 3: ✗  
 Mic Local 4: ✗  
 Monitor Enabled: ☐  
 Test Mic Capsule: ☐  
 Language: English ✗  
 Lock Enabled: ☐  
 Login Timeout:   
 Mic Number: 2  
 Sidekick:   

Button #	Description	Extra Info
A	Ticketing (EC:32756 ZG:65)	
B	Security (EC:32757 ZG:65)	
C	Unused (EC:32758 )	
D	Unused (EC:32759 )	

 Sidekick 2: FME  
 Sidekick 3: FME

Figure 6-19: MS528 Graphical Paging Station Properties

### Description

Enter text here to give the station a descriptive name.

### Location

Enter text here to describe the physical location of the microphone station.

### IP Address

Enter the IP address for the microphone station here. You can find the IP address of the station by pressing the **4** and **6** buttons simultaneously. This will bring up the information window on the station display. You can then use the **ENTER** button to cycle through the information and find the IP address.



### Mic Model

Select the appropriate version of the 528 used. Available selections are horizontal, vertical, or horizontal with a gooseneck microphone.

### User Group

Select the user group associated with the microphone station from the drop-down list. The list of available groups is defined in the **User Groups** tab of the software. The name will be displayed across the top of the microphone station display when the **Lock Enabled** box is not checked. When checked, the name on the display is determined by the user as defined in the **Mic Passwords** tab. This field is optional unless you are using the microphone station in a system with the Flight Announcement System (FAS) software option.

You can clear the selection in this field by clicking on the **X** icon to the right of the field.

### Mic Template

Select the graphical button template to use for the microphone station. Templates are defined in the **Mic Templates** tab of the software. This template will be used only when the **Lock Enabled** box is not checked. When that box is checked, the template used is determined by the one assigned to the user in the **Mic Passwords** tab. If no template is selected here, the station will use the one specified in the **Default Template** field in the **My System** tab.

You can clear the selection in this field by clicking on the **X** icon to the right of the field.

### Mic Local

Each microphone station can have up to four (4) *Mic Local* zone groups assigned. *Mic Local* zone groups are a method of consistently assigning actions that have destinations that are relative to the location of the microphone station. Let's say you always want the push-to-talk (PTT) button on the microphone station to do a live page to the same zone where the microphone station is physically located. You would create a single action that has an entry code of 0 (0 is for the PTT or ANNC buttons) with a zone group destination of **Mic Local 1**. You would then assign the **Mic Local 1** field in the microphone station setup to correspond to a zone group programmed with the zone(s) local to that station. Each station can have a different zone group assigned to the **Mic Local 1** field. Since the action references that field as the destination, it will always go to the local zone group.

This logic can apply to all of the available *Mic Local* zone group assignments. **Mic Local 2** could be used for all immediately adjacent zones. **Mic Local 3** could apply to all zones within the local building. Using this feature allows you to create actions that function relative to the location of the microphone station that is used to launch the action.

You can clear the selection in this field by clicking on the **X** icon to the right of the field.

### Monitor Enabled

Check this box when using a microphone station with an attached monitor speaker such as the IEDA528SRM.

### Test Mic Capsule

Check this box if the microphone station uses the 510HH handheld microphone. This optional model of microphone has a built-in oscillator used to test the function of the microphone element. Do not check this box if the microphone station has the standard 501HH handheld microphone.

### Language

Select the default language for the microphone station from the drop-down list. This selects the language used to display the various built-in prompts.

Click the **X** icon to the right of the field to clear the entry.

### Lock Enabled

When checked, users are required to login using a password that has been configured in the **Mic Passwords** tab. When enabled, the graphical template specified in the **Mic Template** field is ignored and the template is determined by the user password.

### Login Timeout

When microphone stations require user login, it will also automatically logout after the interval specified in this field. This value is in seconds and defaults to 15 minutes (900 seconds) if left blank. The maximum value is 4200 seconds (70 minutes).

### Mic Number

This is the number used to identify the microphone station within the announcement controller. It must be a unique number within the local announcement controller.

### Sidekick

Up to three (3) expansion stations can be used with a 528 microphone station when equipped with an IEDA528E expansion board. Select the type of expansion station connected to each port using the appropriate drop-down list. Available selections are as follows:

- **None** – Expansion port is not used.
- **FME** – An IEDA520FME expansion station with PTT is used.
- **Sidekick** – An IEDA528SK Sidekick expansion station with 4-buttons and PTT is used.

The PTT on the expansion station will always launch the same action that is assigned to the PTT of the parent station.

### Sidekick Button Configuration

When you configure one of the types to **Sidekick**, you are presented with a new list like the one shown in Figure 6-20. This allows you to define actions for each of the 4 buttons available on the IEDA528SK expansion station. Select a button in the list and then click

on the icon referenced in the figure. This will open the *Action Definition* window for the highlighted button. From here, you define an action as described in the **Action Types** section of the documentation.

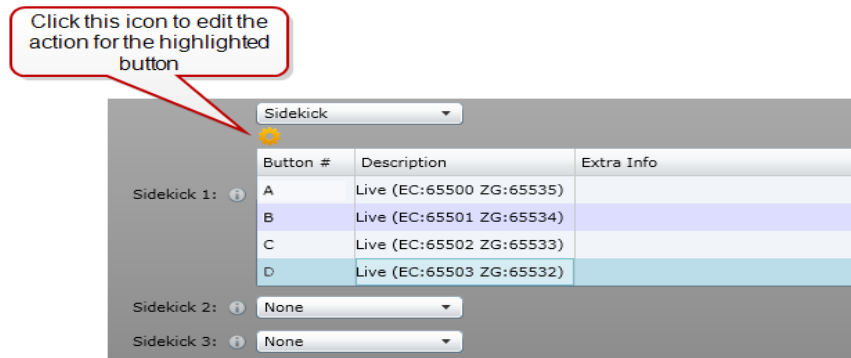
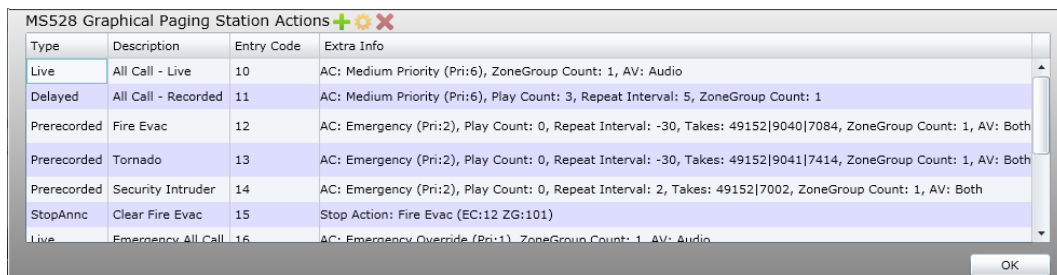


Figure 6-20: Sidekick Button Configuration

## Actions

All microphone stations that are the MS528 type share the same set of actions. You can limit access to individual actions by simply not including them in the various graphical templates you create for the system. Figure 6-21 shows a list of actions defined for MS528 microphone stations. Refer to the **Action Types** section for information on configuring individual actions.



Type	Description	Entry Code	Extra Info
Live	All Call - Live	10	AC: Medium Priority (Pri:6), ZoneGroup Count: 1, AV: Audio
Delayed	All Call - Recorded	11	AC: Medium Priority (Pri:6), Play Count: 3, Repeat Interval: 5, ZoneGroup Count: 1
Prerecorded	Fire Evac	12	AC: Emergency (Pri:2), Play Count: 0, Repeat Interval: -30, Takes: 49152 9040 7084, ZoneGroup Count: 1, AV: Both
Prerecorded	Tornado	13	AC: Emergency (Pri:2), Play Count: 0, Repeat Interval: -30, Takes: 49152 9041 7414, ZoneGroup Count: 1, AV: Both
Prerecorded	Security Intruder	14	AC: Emergency (Pri:2), Play Count: 0, Repeat Interval: 2, Takes: 49152 7002, ZoneGroup Count: 1, AV: Both
StopAnnc	Clear Fire Evac	15	Stop Action: Fire Evac (EC:12 ZG:101)
Live	Emergency All Call	16	AC: Emergency Override (Pri:1), ZoneGroup Count: 1, AV: Audio

Figure 6-21: MS528 Actions

## MS524 4-Button Paging Station

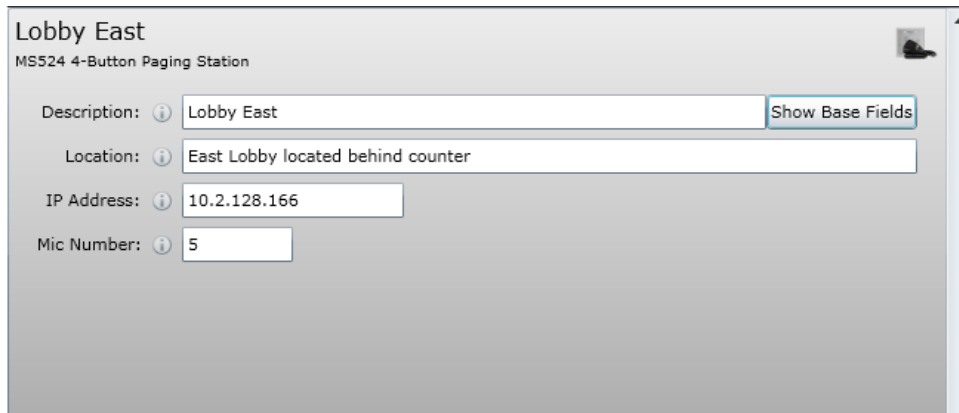


Figure 6-22: MS524 4-Button Paging Station Properties

### Description

Enter text here to give the station a descriptive name.

### Location

Enter text here to describe the physical location of the microphone station.

### IP Address

Enter the IP address for the microphone station here.

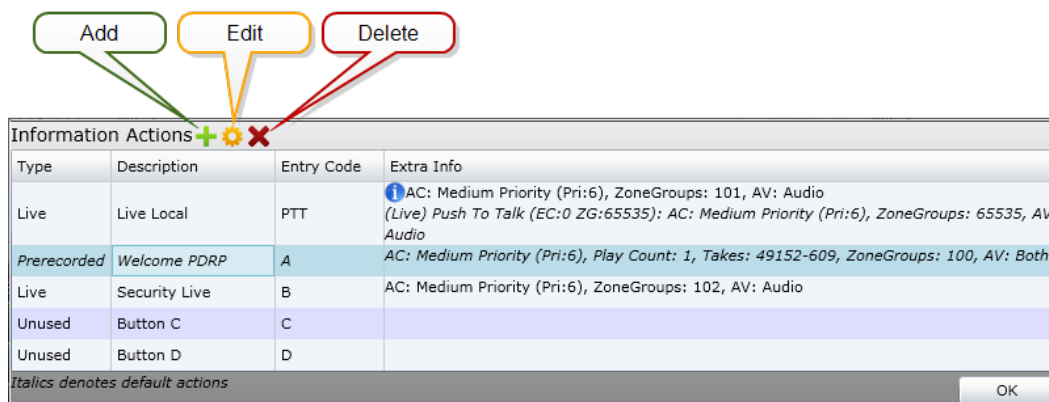
### Mic Number

This is the number used to identify the microphone station within the announcement controller. It must be a unique number within the local announcement controller.

**Note:** The 524 microphone station uses DIP switches to configure the Group Number and Mic Number on the hardware. They must be set to match the System Number and Mic Number in the software.

### Actions

Actions for 524 microphone stations are divided into *Global* and *Device Specific* actions. *Global* actions will apply to all 524 microphone stations in the controller. This allows you to quickly define actions that will be common to all 524 stations. *Device Specific* actions are those that are only associated with an individual 524 microphone station. Each button on the microphone station allows you to edit or define either the *Global* or *Device Specific* actions. If you have a *Device Specific* action, then it will override the *Global* action on that specific microphone station.



Type	Description	Entry Code	Extra Info
Live	Live Local	PTT	AC: Medium Priority (Pri:6), ZoneGroups: 101, AV: Audio (Live) Push To Talk (EC:0 ZG:65535): AC: Medium Priority (Pri:6), ZoneGroups: 65535, AV: Audio
Prerecorded	Welcome PDRP	A	AC: Medium Priority (Pri:6), Play Count: 1, Takes: 49152-609, ZoneGroups: 100, AV: Both
Live	Security Live	B	AC: Medium Priority (Pri:6), ZoneGroups: 102, AV: Audio
Unused	Button C	C	
Unused	Button D	D	

*Italics denotes default actions*

Figure 6-23: MS524 Actions

Figure 6-23 shows the action definition window for a 524 microphone station. The top of the window will display the name of the station, which in this case is "Information" to indicate that the station is located at the information desk. This window allows you to assign an action to each of the available buttons on the 524, or edit *Default Actions* that apply to all 524 microphone stations in the controller.

The **Extra Info** column on the right will tell you if several things.

- If neither a *Default* or *Device Specific* action have been defined, this field will be blank.
- If the button is using a *Default* action, it will appear in italics as shown for button A in Figure 6-23.
- If the button is using a *Device Specific* action and there is no *Default* action defined, then it will appear in regular text as shown for button B in Figure 6-23.
- If the button is using a *Device Specific* action and there is a *Default* action defined, then you will see both listed as shown for the PTT button in Figure 6-23. An icon is also displayed indicating that a *Device Specific* action is overriding the *Default* action. Since both are displayed, it will show you what the button will do if you choose to delete the *Device Specific* action, or if you need to edit the *Default* action.

Some abbreviations used in the **Extra Info** column are listed below:

- **AC** – Announcement Class
- **ZG** – Zone Group
- **AV** – This will say Audio, Visual, or Both to indicate the presence of audio and/or video takes.
- **EC** – Entry Code

You can edit a button by selecting (single click) it in the list and then clicking one of the appropriate icons located at the top of the window. You can also double-click on the button in the list to edit it.

**Note:** Any time you attempt to add, edit, or delete a button action, you will be prompted to select either the *Device Specific* or *Default* action with a dialog box similar to the one shown in Figure 6-24.

Figure 6-24 shows the prompt that will appear if you selected to Add or Edit a button that does not have either a *Device Specific* or *Default* action assigned. Note that you can select to **Add** either type of action to the button by clicking on the appropriate button. This will take you to the standard action definition window. Refer to the **Action Types** section of the documentation for information on defining individual actions. Click the **Cancel** button to close the prompt without making any changes.

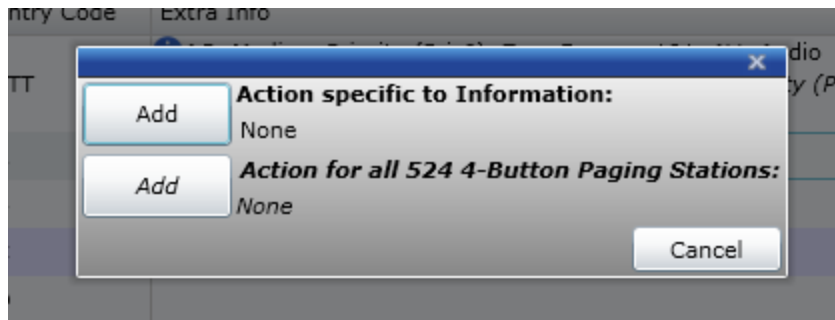


Figure 6-24: Add New Action

**Note:** If you add, edit or delete a *Default* action on any 524 microphone station, then those changes will apply to all 524 microphone stations.

Figure 6-25 shows the prompt that will appear if you selected to Add or Edit a button that already has a *Default* action defined but does not have a *Device Specific* action defined. Notice that since a *Default* action is already defined, you now have an **Edit** button that will allow you to edit the *Default* Action. Since a *Device Specific* action has not been defined for this button, the prompt gives you the option to add one using the **Add** button.

If you had selected a button that has both defined, then you would be presented with an **Edit** button for each type of action.

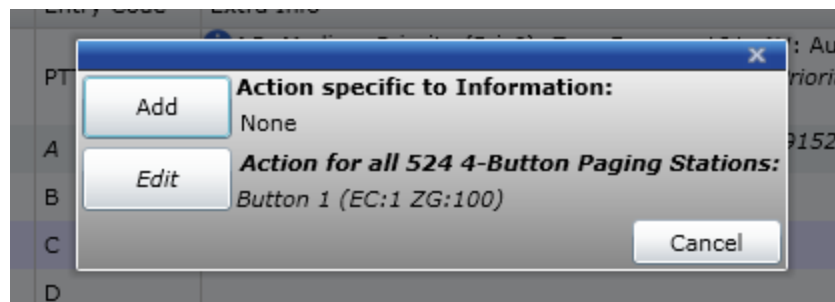


Figure 6-25: Add Specific or Edit Default Action

Figure 6-26 shows the prompt that will appear if you first select a button and then click the **Delete** icon. You will be prompted to delete either the *Device Specific* action for the button or the *Default* action. If only one type is defined, then the **Delete** button will be grayed out as you cannot delete something that has not been defined.

**Note:** If you have a *Device Specific* action defined for a button and you wish to revert to the *Default* action, simply delete the *Device Specific* action associated with that button.

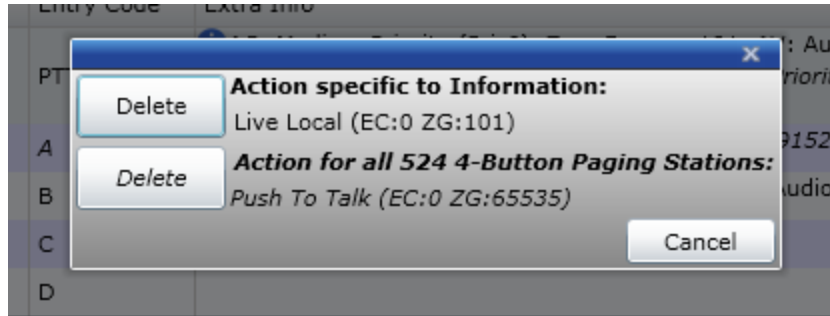


Figure 6-26: Delete Action

## Display Zone Controller

Use this device type to define a group of displays for visual paging. When you are using a text-to-speech (TTS) or prerecorded message, the display will show text that is synchronized to the audible message. Each display will appear as an available zone in the **Zone Group** setup and individual **Action** configuration.

This allows you to define a group of displays that will be addressed using a broadcast IP address. For situations where you must individually configure each display, you must add a **Display** device type for each individual display that is required. This would be the case if you must configure displays to show other content when idle or if they are used for wayfinding.

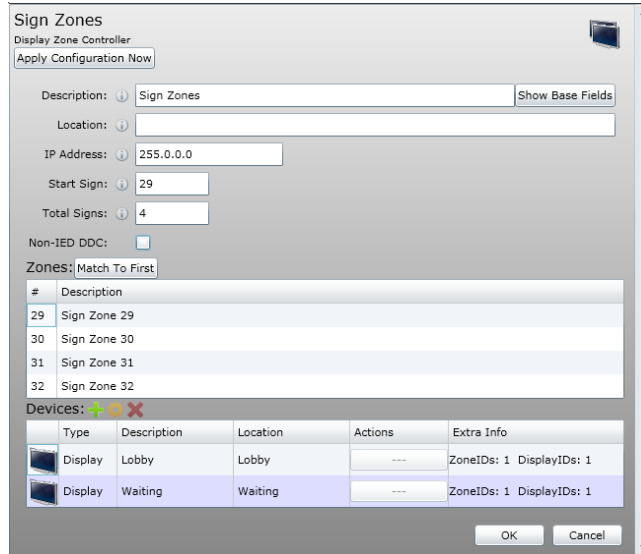


Figure 6-27: Display Zone Controller Setup

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device(s).

### IP Address

Enter an appropriate broadcast IP address that will include all the displays. For example, an address of 10.2.128.255 will include all displays with an IP address in the range from 10.2.128.1 through 10.2.128.253.

### Start Sign

This is the sign number that represents the first sign in the group. The sign number is treated like the zone number for audio zones and included in the same list. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed. For example, you have a system that already has 32 zones. When you add a new Display Zone Controller, the starting zone will be 33.

### Total Signs

This number represents the total number of signs that will be present in this group. Sign zones do not count towards the total number of zones allowed by the software license.



**Note:** The system allows you to use display zone numbers that match audio zone numbers. This is useful when you have displays that match up with audio zones and you always want to include the visual display in any actions that include the corresponding audio zone. For example, if you have an audio zone 10 and a display zone 10, you only need to select zone 10 in the zone group and both the display and audio zone will be used.

## Non-IED DDC

Check this box when this Display Zone Controller will be used to broadcast visual paging data to a non-IED system. This will cause the visual paging text to be sent without the formatting and queuing tags used by the IED VisDID Visual Display application.

## Zones

This list allows you to configure associate each sign in the group with a logical name.

### #

This is the number that will be used to identify this sign in the system. This number is calculated based on the values in the **Start Sign** and **Total Signs** fields. Each sign will appear as an individual zone.

### Description

Double-click on this field to edit a text descriptor for the display.

## Devices

This list is used to add individual displays to the Display Zone Controller. Refer to the **Display** device section of the help for information on configuring each device.



Click this icon to add a new Display device to the Display Zone Controller. A new window will appear as shown in Figure 6-28 in the **Display** section of this documentation.



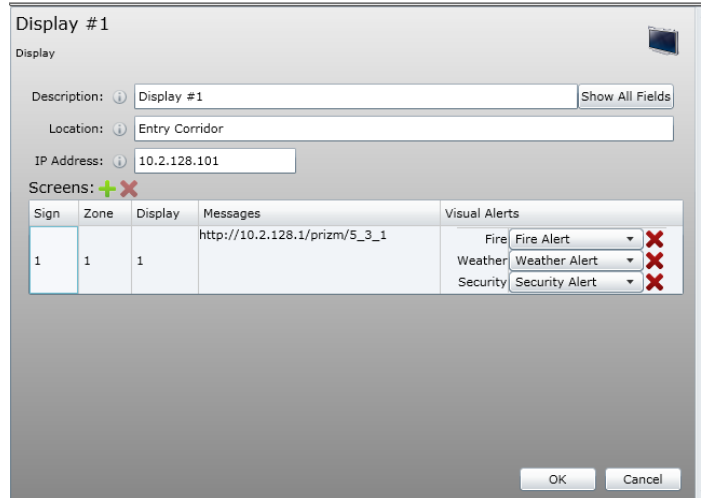
Click this icon to edit the properties for the currently selected display. Refer to the **Display** section for more information on how to configure an individual display.



Click this icon to delete the currently selected display.

## Display

This device type is used to configure individual displays. From here, you can configure the content that will be shown when the display is idle and you can specify which image to show for a visual alert or wayfinding event.





Display #1




Display

Description:  [Show All Fields](#)

Location:

IP Address:

Screens:  

Sign	Zone	Display	Messages	Visual Alerts
1	1	1	http://10.2.128.1/prizm/S_3_1	Fire: <input type="text" value="Fire Alert"/>  Weather: <input type="text" value="Weather Alert"/>  Security: <input type="text" value="Security Alert"/> 

OK Cancel

Figure 6-28: Display Setup

### Description

Enter text here to give the display a descriptive name.

### Location



Enter text here to describe the physical location of the display.

### IP Address

Enter the IP address for the display.

### Screens



Click the  icon to add a new screen to the list. Click the  icon to delete the currently highlighted screen from the list.

### Sign

This ID number is used to identify the control processor (internal or external) that is driving the sign. Some signs have built-in processors. This ID is used to identify the sign to the system server for content display.

## Zone

This number corresponds to the actual zone number that will be used by the announcement controller to send visual pages to the display.

## Display

This ID number is used to identify the video output that drives this display. For a single display, this ID will always be 1. For a processor that is driving multiple displays, this ID will correspond to the monitor output as defined in the Windows setup. This ID is used to identify the sign to the system server for content display.

## Messages

This is a list of content that will be shown on the display when a visual page is not in progress. A message in the list actually points to either a file or an HTML page that is either stored on the local machine, or on a server. The display will cycle through the list in the order based on the ID field.

one	Display	Messages	Visual Ale				
	1	<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div></div><table><tr><th>ID</th><th>URL</th></tr><tr><td>1</td><td>http://10.2.128.1/prizm/5_3_1</td></tr></table><div></div></div>	ID	URL	1	http://10.2.128.1/prizm/5_3_1	Fin Weathe Security
ID	URL						
1	http://10.2.128.1/prizm/5_3_1						

Use this scroll bar to access all of the message fields

Figure 6-29: Display Messages

To edit the messages, you will need to double-click on the **Messages** field in the table for the display. This will open a new table that you can edit as shown in Figure 6-29. Use the scroll bar at the bottom to access the individual message fields. The behavior of each message is configured using the following fields in the table.

- +

×

– Click the **+** icon to add a new message to the list. Click the **×** icon to delete the currently highlighted message from the list.
- URL** – This can be either a link pointing to an HTML page or a media file.
- Format** – Enter **HTML** to identify this message as an HTML page. Enter **FILE** if the link points to a media file. Valid media file types are .mpg, .mpeg, .wmv, .avi, .mov, .mp4, .jpg, .jpeg, .gif, .bmp, .png, and .swf.
- Count** – This is the number of times this message will play before moving on to the next message in the list.
- Priority** – This field is currently not implemented.

- **Hold Time** – This is the amount of time that this message will stay on the screen before moving on to the next message. This value is in 60<sup>ths</sup> of a second. A value of 300 will hold the image on the display for 5 seconds.
- **Refresh** – This is the interval, in seconds, between refreshes of the HTML page. This property has no function when the **Format** is set to **FILE**.

### Visual Alerts

**Visual Alerts** are defined as described in the **Visual Alerts and Wayfinding** section. There you will create individual alerts and upload the images that will be available for use in each alert. You will see a list of the available alerts in this field. Select an image for each alert from the drop-down list. Click the **x** icon to clear an image selection.

### Owner Device

A Display device must be associated with an owner Display Zone Controller device. You can either add a new display from the **Devices** list or from within the configuration window of an individual **Display Zone Controller**. If you add a new Display directly from the **Devices** list, then you will be prompted to add the new Display to an Owner Device when you exit the properties window as shown in Figure 6-30. Select the appropriate device from the drop-down list and then press the **OK** button. The Display will now be available for editing from within the configuration of the owner device.

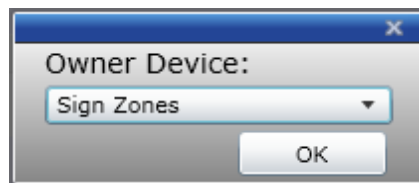


Figure 6-30: Owner Device Prompt

### Titan 9032LVIO Logic/Voltage I/O

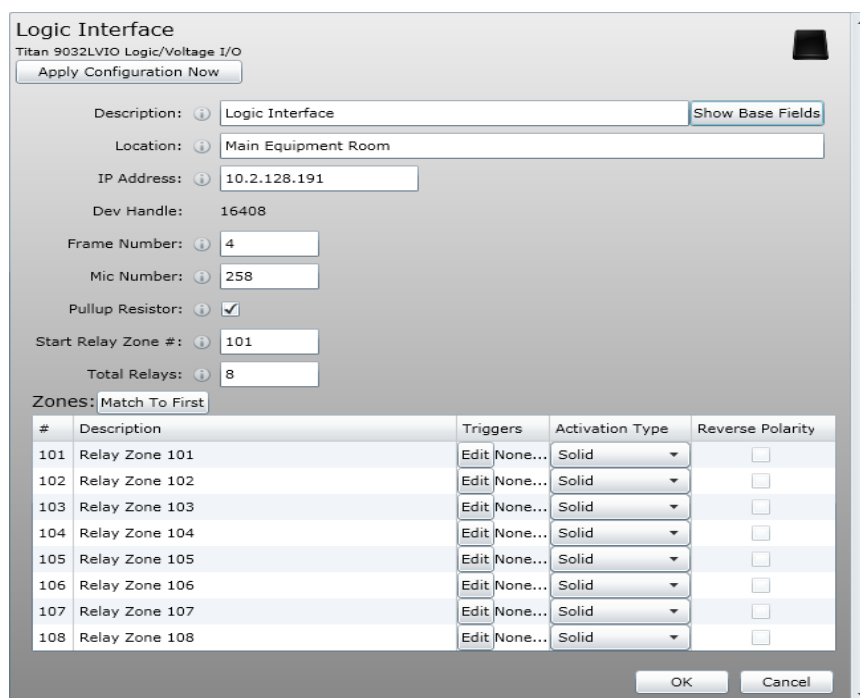
The IEDT9032LVIO is a logic input/output device with 32 channels that are configured as either inputs or outputs. The type of each channel, input or output, is determined in groups of eight (8) so the following combinations are possible.

- 32 OUT / 0 IN
- 24 OUT / 8 IN
- 16 OUT / 16 IN
- 8 OUT / 24 IN
- 0 OUT / 32 IN

The I/O configuration of the device is determined by the value entered in the **Total Relays** field. The channels are configured with outputs first and then inputs. If you decide to use eight (8) channels for logic outputs, then you would enter a value of 8 in the **Total Relays** field. This would configure the device with channels 1 through 8 as logic outputs and 9 through 32 would then be

available as logic inputs and available to launch actions. If you entered a value of 16 in the **Total Relays** field, then channels 1 through 16 would be logic outputs and 17 through 32 would be inputs.

To configure the device as all logic inputs, just leave the **Total Relays** field blank. Figure 6-31 shows the setup properties of a device with eight (8) channels configured as outputs.



Logic Interface  
Titan 9032LVIO Logic/Voltage I/O  
Apply Configuration Now

Description: Logic Interface [Show Base Fields](#)

Location: Main Equipment Room

IP Address: 10.2.128.191

Dev Handle: 16408

Frame Number: 4

Mic Number: 258

Pullup Resistor: ☒

Start Relay Zone #: 101

Total Relays: 8

Zones: Match To First

#	Description	Triggers	Activation Type	Reverse Polarity
101	Relay Zone 101	Edit None...	Solid	<input type="checkbox"/>
102	Relay Zone 102	Edit None...	Solid	<input type="checkbox"/>
103	Relay Zone 103	Edit None...	Solid	<input type="checkbox"/>
104	Relay Zone 104	Edit None...	Solid	<input type="checkbox"/>
105	Relay Zone 105	Edit None...	Solid	<input type="checkbox"/>
106	Relay Zone 106	Edit None...	Solid	<input type="checkbox"/>
107	Relay Zone 107	Edit None...	Solid	<input type="checkbox"/>
108	Relay Zone 108	Edit None...	Solid	<input type="checkbox"/>

OK Cancel

Figure 6-31: Titan 9032LVIO Logic/Voltage I/O Setup

**Note:** You can configure a device with a number of outputs that are not a multiple of 8. However, doing this will block the remaining channels of that group from use. For example, you only want to use channels 1 through 4 as outputs. This will block 5 through 8 from use and the first available action source will be input 9.

## Description

Enter text here to give the device a descriptive name.

## Location

Enter text here to describe the physical location of the device.

## IP Address

Enter the IP address for the device

## Dev Handle

This is a software address used by the system. It is assigned by the system and provided here for reference if needed.

## Frame Number

This is a unique ID number used to identify the Titan frames used in the system. When you add the device, the system will automatically assign the next available frame number.

## Mic Number

This is the number used to identify the device as an input device within the announcement controller. It must be a unique number within the local announcement controller. This number is automatically assigned when you add the device, but can be edited if necessary.

## Pullup Resistor

When checked, the input will detect dry contact closures between the input and the ground reference on the device. When not checked, the input will activate when it receives a voltage above a certain threshold.

## Start Relay Zone #

This is the zone number that represents the first output logic zone on the device. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed.

## Total Relays

This number represents the total number of output logic zones that will be present on this device. Each output is numbered sequentially based on the start zone entered in the **Start Relay Zone #** field.

**Note:** You may be wondering why the term “Relays” is used here when we are talking about logic outputs. The system treats relays and logic outputs in the same manner. The difference is in the physical hardware and the software really does not care about the physical hardware interface. For programming simplicity, the term has been re-used.

## Zones

### Match To First

This button has no function for this device.

### Zone Number

This is the zone number that will be associated with this logic output. This is calculated based on the values entered in the **Start Relay Zone #** and **Total Relays** fields.

## Description

This is a text field used to describe the output function or connection. To edit, double-click on the field.

## Triggers

If a logic output zone is used as part of a zone map in an announcement, then the output will energize for the duration of the announcement. It will function this way as long as no triggers are defined for the output. The **Trigger** field is used to associate the output with faults that are reported as part of the *System Supervision* module. Click the **Edit** button to assign a trigger to the output. This will open the assignment window as shown in Figure 6-32. From here, select a specific fault from the drop-down list and click the **+** icon. This will add the selected fault to the list. To remove a fault, select the fault with the mouse and then click the **x** icon. You can stack multiple faults on a single output. The output will activate as determined by the setting in the **Activation Type** field when any of the assigned faults are reported.

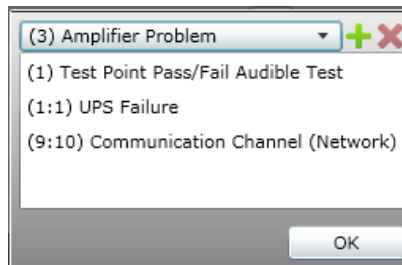


Figure 6-32: T9032LVIO Triggers

## Activation Type

The **Activation Type** applies only to outputs that function as fault indicators and have definitions in the **Triggers** field.

- **Solid** – The output will activate while the fault condition is present and deactivate once the fault condition has cleared.
- **Momentary** – The output will activate for approximately 1 second and then deactivate.
- **Pulsating** – The output will cycle between active and inactive states at a rate of approximately 1 second on and 1 second off.

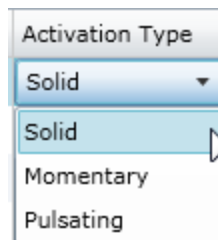


Figure 6-33: T9032LVIO Activation Types

## Reverse Polarity

Check this box to reverse the operating polarity of the relay. Normally, a relay is in its de-energized state until it is triggered. When this box is checked, it will normally energize and will de-energize when triggered. This is most useful when a relay is used to indicate a fault to an external system or indicator panel. That way a fault condition will be triggered if the unit loses power.

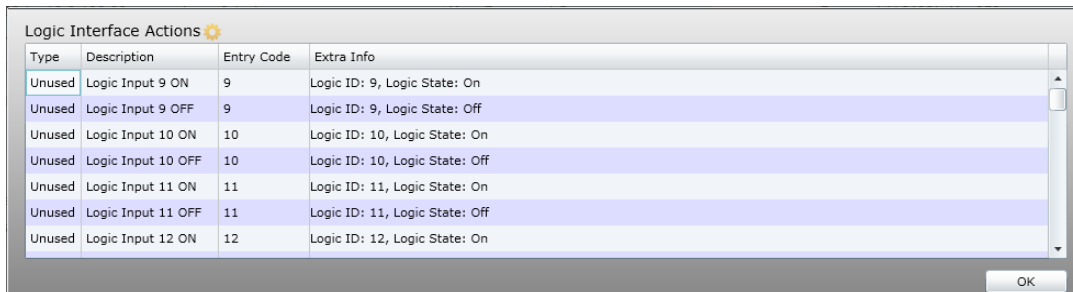
## Actions

When you open the *Actions* for a logic device, you will notice that there are two actions for each logic input. One is associated with the activation of the input and the other with the deactivation of the input. You can differentiate between the two by looking for **On** or **Off** in the **Logic State** field in the **Extra Info** column. This allows you to create an action that will remain active while a contact closure is held. To do this, you must define an action to start the announcement and then a separate action to stop it using the other logic state.

**Note:** The T9032LVIO operates slightly different from the 1200LIR in that it has a reference voltage available in addition to a ground. To control an action using a contact closure, you must wire the closure between the input and the ground reference on the terminal connector. When a closure is present between the input and ground, it will trigger the action programmed for the **On** logic state. When the closure is removed, it will trigger the action programmed for the **Off** logic state. If you wire between the input and the reference voltage, the logic is reversed. It is recommended that you only use the ground terminal and NOT use the voltage reference terminal.

The number in the Entry Code field corresponds to the physical input on the device. Note that the first available input is not 1 in Figure 6-34. This is because 1 through 8 were defined to be outputs. The starting input number is determined by the value placed in the **Total Relays** field of the device setup.

To edit an action, select the action and then click the edit icon located at the top of the window. It is the small round gear-shaped icon. You can also double-click on a row in the **Type** column to open the editor. Refer to the **Action Types** section for information on configuring actions.



Type	Description	Entry Code	Extra Info
Unused	Logic Input 9 ON	9	Logic ID: 9, Logic State: On
Unused	Logic Input 9 OFF	9	Logic ID: 9, Logic State: Off
Unused	Logic Input 10 ON	10	Logic ID: 10, Logic State: On
Unused	Logic Input 10 OFF	10	Logic ID: 10, Logic State: Off
Unused	Logic Input 11 ON	11	Logic ID: 11, Logic State: On
Unused	Logic Input 11 OFF	11	Logic ID: 11, Logic State: Off
Unused	Logic Input 12 ON	12	Logic ID: 12, Logic State: On

Figure 6-34: 9032LVIO Actions

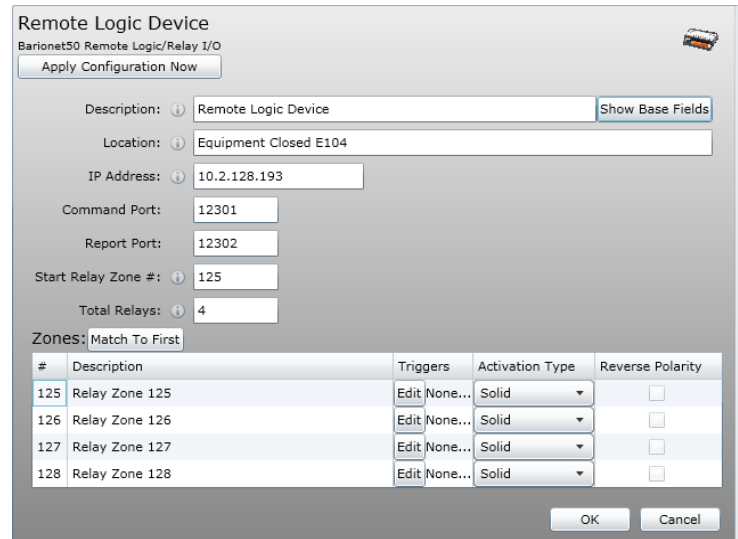


## Barionet50 Remote Logic/Relay I/O

The Barionet 50 is a hardware device manufactured by *Barix AG* and is natively supported by the vACS as a remote logic I/O device. The device is has four (4) logic inputs and four (4) relay outputs.

The Barionet 50 must be configured using its own built-in web server configuration pages. Consult the *Barionet Family Product Manual* available for download at [www.barix.com](http://www.barix.com).

**Note:** The RS-485 and RS-232 features of the Barionet 50 are not supported.



Remote Logic Device  
Barionet50 Remote Logic/Relay I/O

Apply Configuration Now

Description: Remote Logic Device Show Base Fields

Location: Equipment Closed E104

IP Address: 10.2.128.193

Command Port: 12301

Report Port: 12302

Start Relay Zone #: 125

Total Relays: 4

Zones: Match To First

#	Description	Triggers	Activation Type	Reverse Polarity
125	Relay Zone 125	Edit None...	Solid	<input type="checkbox"/>
126	Relay Zone 126	Edit None...	Solid	<input type="checkbox"/>
127	Relay Zone 127	Edit None...	Solid	<input type="checkbox"/>
128	Relay Zone 128	Edit None...	Solid	<input type="checkbox"/>

OK Cancel

Figure 6-35: Barionet50 Remote Logic/Relay I/O Setup

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### IP Address

Enter the IP address for the device

### Command Port

This is the port that the vACS will use to communicate with the Barionet 50. It must match the **UDP Command Port** number in the Barionet 50 setup.

## Report Port

This is the port that the Barionet 50 will use to send logic input state change messages to the vACS. It must match the **UDP Destination Port** in the Barionet 50 setup. You must also put the IP address of the vACS in the **UDP Send Info Address** field in the Barionet 50 setup.

## Start Relay Zone #

This is the zone number that represents the first output relay on the device. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed.

## Total Relays

This number represents the total number of relay zones that will be present on this device. Each output is numbered sequentially based on the start zone entered in the **Start Relay Zone #** field. The default is four (4), but you can define fewer if needed.

## Zones

### Match To First

This button has no function for this device.

### Zone Number

This is the zone number that will be associated with relay. This is calculated based on the values entered in the **Start Relay Zone #** and **Total Relays** fields.

### Description

This is a text field used to describe the output function or connection. To edit, double-click on the field.

### Triggers

If a relay is used as part of a zone map in an announcement, then it will energize for the duration of the announcement. It will function this way as long as no triggers are defined for the relay. The **Trigger** field is used to associate the relay with faults that are reported as part of the *System Supervision* module. Click the **Edit** button to assign a trigger to the output. This will open the assignment window as shown in Figure 6-36. From here, select a specific fault from the drop-down list and click the **+** icon. This will add the selected fault to the list. To remove a fault, select the fault with the mouse and then click the **x** icon. You can stack multiple faults on a single output. The output will activate as determined by the setting in the **Activation Type** field when any of the assigned faults are reported.

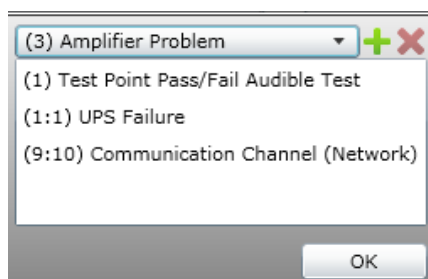


Figure 6-36: Barionet 50 Triggers

### Activation Type

The **Activation Type** applies only to relays that function as fault indicators and have definitions in the **Triggers** field.

- **Solid** – The relay will activate while the fault condition is present and deactivate once the fault condition has cleared.
- **Momentary** – The relay will activate for approximately 1 second and then deactivate.
- **Pulsating** – The relay will cycle between active and inactive states at a rate of approximately 1 second on and 1 second off.

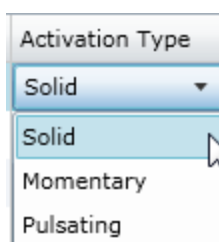


Figure 6-37: Barionet 50 Activation Types

### Reverse Polarity

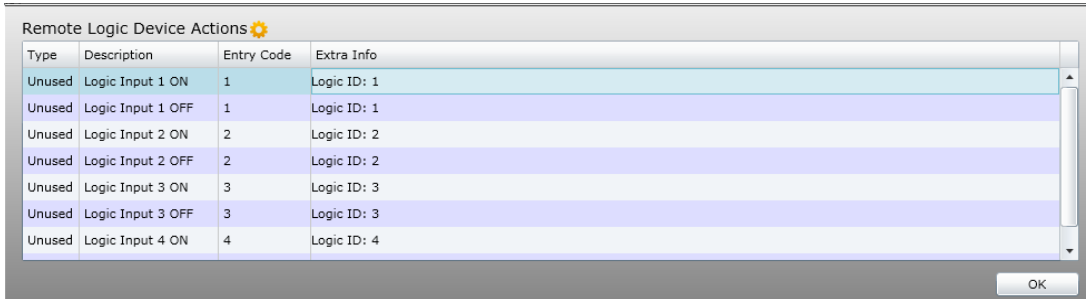
Check this box to reverse the operating polarity of the relay. Normally, a relay is in its de-energized state until it is triggered. When this box is checked, it will normally energize and will de-energize when triggered. This is most useful when a relay is used to indicate a fault to an external system or indicator panel. That way a fault condition will be triggered if the unit loses power.

### Actions

When you open the **Actions** for the Barionet 50 device, you will notice that there are two actions for each logic input. One is associated with the activation of the input and the other with the deactivation of the input. You can differentiate between the two by looking for **On** or **Off** in the **Logic State** field in the **Extra Info** column. This allows you to create an action that will remain active while a contact closure is held. To do this, you must define an action to start the announcement and then a separate action to stop it using the other logic state.

The number in the **Entry Code** field corresponds to the physical input on the device.

To edit an action, select the action and then click the edit icon located at the top of the window. It is the small round gear-shaped icon. You can also double-click on a row in the **Type** column to open the editor. Refer to the **Action Types** section for information on configuring actions.



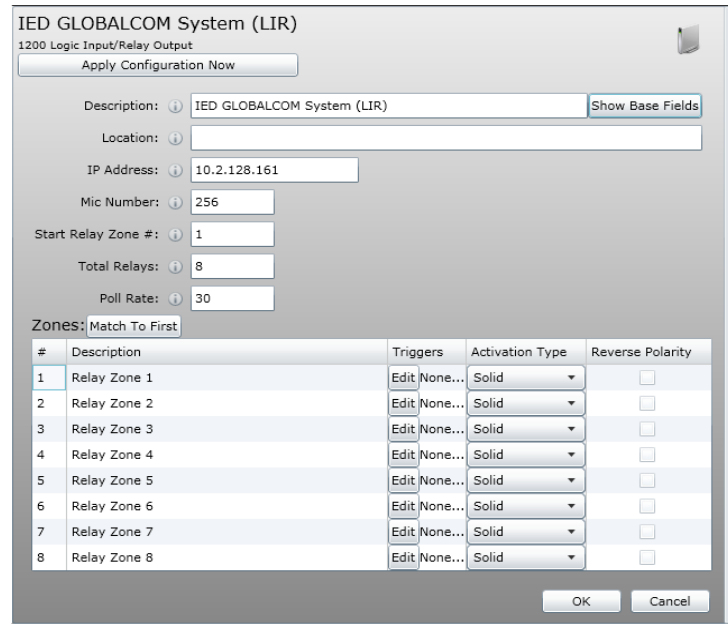
Type	Description	Entry Code	Extra Info
Unused	Logic Input 1 ON	1	Logic ID: 1
Unused	Logic Input 1 OFF	1	Logic ID: 1
Unused	Logic Input 2 ON	2	Logic ID: 2
Unused	Logic Input 2 OFF	2	Logic ID: 2
Unused	Logic Input 3 ON	3	Logic ID: 3
Unused	Logic Input 3 OFF	3	Logic ID: 3
Unused	Logic Input 4 ON	4	Logic ID: 4

Figure 6-38: Barionet50 Remote Logic/Relay I/O Actions

## 1200 Logic Input/Relay Output

This is the configuration for the 1200LIR card that is installed in the 1200ACS and 1200MSG controllers. This device has eight (8) logic inputs capable of sensing contact closures or logic voltages. It also has eight (8) form C relay outputs for interfacing with external devices. You can assign actions to each of the logic inputs. The relay outputs can either be used as output zones that close while announcements are in progress or they may be tied to the *System Supervision* module to indicate faults.

**Note:** Relay 8 on the 1200LIR board will ALWAYS momentary close when the unit powers up or is restarted. Care should be taken to not use this relay as an output to trigger emergency conditions to an external device such as a fire alarm system.



IED GLOBALCOM System (LIR)  
1200 Logic Input/Relay Output

Apply Configuration Now

Description: IED GLOBALCOM System (LIR) Show Base Fields

Location:

IP Address: 10.2.128.161

Mic Number: 256

Start Relay Zone #: 1

Total Relays: 8

Poll Rate: 30

Zones: Match To First

#	Description	Triggers	Activation Type	Reverse Polarity
1	Relay Zone 1	Edit None...	Solid	<input type="checkbox"/>
2	Relay Zone 2	Edit None...	Solid	<input type="checkbox"/>
3	Relay Zone 3	Edit None...	Solid	<input type="checkbox"/>
4	Relay Zone 4	Edit None...	Solid	<input type="checkbox"/>
5	Relay Zone 5	Edit None...	Solid	<input type="checkbox"/>
6	Relay Zone 6	Edit None...	Solid	<input type="checkbox"/>
7	Relay Zone 7	Edit None...	Solid	<input type="checkbox"/>
8	Relay Zone 8	Edit None...	Solid	<input type="checkbox"/>

OK Cancel

Figure 6-39: 1200 Logic Input/Relay Output Setup

## Description

Enter text here to give the device a descriptive name.

## Location

Enter text here to describe the physical location of the device.

## IP Address

Enter the IP address for the device that contains the 1200LIR card. If the device is installed in the local controller, then you will use the address of the local controller. That address can be found in the upper right corner of the *System Management Center* window. If the device is installed in an external 1200MSG Message Server, then you will need to use the IP address of that device.

## Mic Number

This is the number used to identify the device as an input device within the announcement controller. It must be a unique number within the local announcement controller. This number is automatically assigned when you add the device, but can be edited if necessary.

## Start Relay Zone #

This is the zone number that represents the first relay zone in the device. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed.

## Total Relays

This number represents the total number of relay zones that will be present on this device. The device has eight (8) relays that will function as zones and this is the default number when adding the device. Since relay zones do not count towards the total number of zones used in the software license, this should always be set to 8.

## Poll Rate

The device will automatically transmit any changes of input states to the system as they occur. The **Poll Rate** is a backup in the event that a change message is missed. The system will poll the device for the status of all inputs at the rate entered here. This time is in seconds and the default is 30 seconds.

## Zones

### Match To First

This button has no function for this device.

### Zone Number

This is the zone number that will be associated with this relay output. This is calculated based on the values entered in the **Start Relay Zone #** and **Total Relays** fields.

### Description

This is a text field used to describe the relay function or connection. To edit, double-click on the field.

### Triggers

If a relay zone is used as part of a zone map in an announcement, then the relay will energize for the duration of the announcement. It will function this way as long as no triggers are defined for the relay. The **Trigger** field is used to associate the relay with faults that are reported as part of the *System Supervision* module. Click the **Edit** button to assign a trigger to the relay. This will open the assignment window as shown in Figure 6-40. From here, select a specific fault from the drop-down list and click the **+** icon. This will add the selected fault to the list. To remove a fault, select the fault with the mouse and then click the **x** icon. You can stack multiple faults on a single relay. The relay will activate as determined by the setting in the **Activation Type** field when any of the assigned faults are reported.

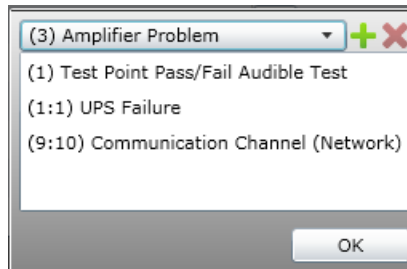


Figure 6-40: 1200LIR Triggers

### Activation Type

The **Activation Type** applies only to relays that function as fault relays and have definitions in the **Triggers** field.

- **Solid** – The relay will activate while the fault condition is present and deactivate once the fault condition has cleared.
- **Momentary** – The relay will activate for approximately 1 second and then deactivate.
- **Pulsating** – The relay will cycle between active and inactive states at a rate of approximately 1 second on and 1 second off.

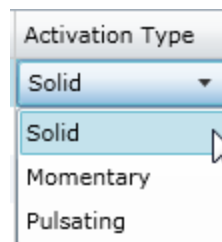


Figure 6-41: 1200LIR Activation Types

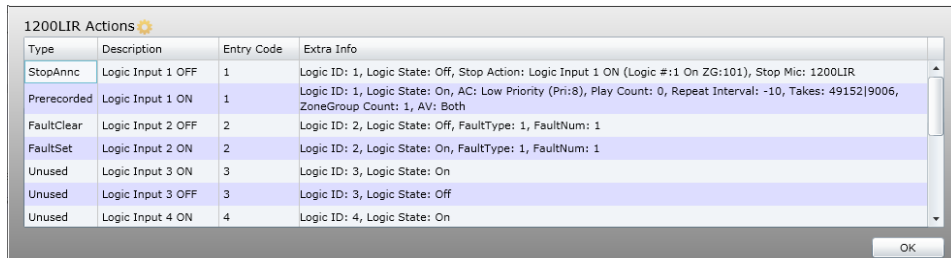
### Reverse Polarity

Check this box to reverse the operating polarity of the relay. Normally, a relay is in its de-energized state until it is triggered. When this box is checked, it will normally energize and will de-energize when triggered. This is most useful when a relay is used to indicate a fault to an external system or indicator panel. That way a fault condition will be triggered if the unit loses power.

### Actions

When you open the **Actions** for a logic device, you will notice that there are two actions for each logic input. One is associated with the activation of the input and the other with the deactivation of the input. You can differentiate between the two by looking for **On** or **Off** in the **Logic State** field in the **Extra Info** column. This allows you to create an action that will remain active while a contact closure is held. To do this, you must define an action to start the announcement and then a separate action to stop it using the other logic state.

The number in the **Entry Code** field corresponds to the physical input on the device. To edit an action, select the action and then click the edit icon located at the top of the window. It is the small round gear-shaped icon. You can also double-click on a row in the **Type** column to open the editor. Refer to the **Action Types** section for information on configuring actions.



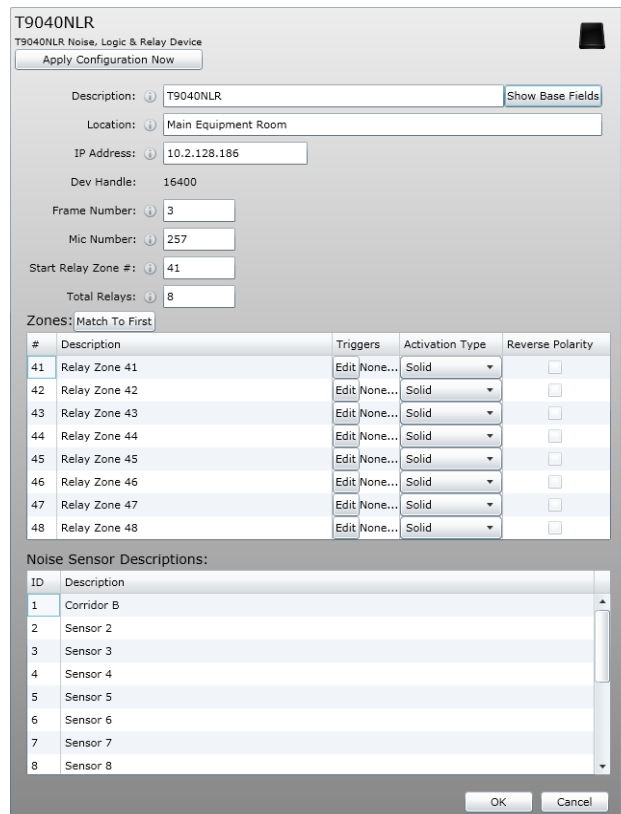
Type	Description	Entry Code	Extra Info
StopAnnc	Logic Input 1 OFF	1	Logic ID: 1, Logic State: Off, Stop Action: Logic Input 1 ON (Logic #:1 On ZG:101), Stop Mic: 1200LIR
Prerecorded	Logic Input 1 ON	1	Logic ID: 1, Logic State: On, AC: Low Priority (Pri:8), Play Count: 0, Repeat Interval: -10, Takes: 49152 9006, ZoneGroup Count: 1, AV: Both
FaultClear	Logic Input 2 OFF	2	Logic ID: 2, Logic State: Off, FaultType: 1, FaultNum: 1
FaultSet	Logic Input 2 ON	2	Logic ID: 2, Logic State: On, FaultType: 1, FaultNum: 1
Unused	Logic Input 3 ON	3	Logic ID: 3, Logic State: On
Unused	Logic Input 3 OFF	3	Logic ID: 3, Logic State: Off
Unused	Logic Input 4 ON	4	Logic ID: 4, Logic State: On

Figure 6-42: 1200LIR Actions

## T9040NLR Noise, Logic & Relay Device

The T9040NLR is a device that combines ambient noise sensor inputs, logic inputs, and relay outputs into a single device. It has the following capacities:

- 16 ambient noise sensor inputs
- 16 logic inputs
- 8 form C relay outputs



**T9040NLR**  
T9040NLR Noise, Logic & Relay Device  
Apply Configuration Now

Description: T9040NLR [Show Base Fields](#)

Location: Main Equipment Room

IP Address: 10.2.128.186

Dev Handle: 16400

Frame Number: 3

Mic Number: 257

Start Relay Zone #: 41

Total Relays: 8

Zones: Match To First

#	Description	Triggers	Activation Type	Reverse Polarity
41	Relay Zone 41	Edit None...	Solid	<input type="checkbox"/>
42	Relay Zone 42	Edit None...	Solid	<input type="checkbox"/>
43	Relay Zone 43	Edit None...	Solid	<input type="checkbox"/>
44	Relay Zone 44	Edit None...	Solid	<input type="checkbox"/>
45	Relay Zone 45	Edit None...	Solid	<input type="checkbox"/>
46	Relay Zone 46	Edit None...	Solid	<input type="checkbox"/>
47	Relay Zone 47	Edit None...	Solid	<input type="checkbox"/>
48	Relay Zone 48	Edit None...	Solid	<input type="checkbox"/>

Noise Sensor Descriptions:

ID	Description
1	Corridor B
2	Sensor 2
3	Sensor 3
4	Sensor 4
5	Sensor 5
6	Sensor 6
7	Sensor 7
8	Sensor 8

OK Cancel

Figure 6-43: T9040NLR Noise, Logic, &amp; Relay Device Setup



### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### IP Address

Enter the IP address for the device.

### Dev Handle

This is a software address used by the system. It is assigned by the system and provided here for reference if needed.

### Frame Number

This is a unique ID number used to identify the Titan frames used in the system. When you add the device, the system will automatically assign the next available frame number.

### Mic Number

This is the number used to identify the device as an input device within the announcement controller. It must be a unique number within the local announcement controller. This number is automatically assigned when you add the device, but can be edited if necessary.

### Start Relay Zone #

This is the zone number that represents the first relay zone on the device. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed.

### Total Relays

This number represents the total number of relay zones that will be present on this device. Each output is numbered sequentially based on the start zone entered in the **Start Relay Zone #** field. The T9040NLR can have a total of 8 relay zones defined. Fewer can be defined if necessary.

### Zones

#### Match To First

This button has no function for this device.

#### Zone Number

This is the zone number that will be associated with this relay output. This is calculated based on the values entered in the **Start Relay Zone #** and **Total Relays** fields.

## Description

This is a text field used to describe the output function or connection. To edit, double-click on the field.

## Triggers

If a relay zone is used as part of a zone map in an announcement, then the relay will energize for the duration of the announcement. It will function this way as long as no triggers are defined for the relay. The **Trigger** field is used to associate the relay with faults that are reported as part of the *System Supervision* module. Click the **Edit** button to assign a trigger to the relay. This will open the assignment window as shown in Figure 6-44. From here, select a specific fault from the drop-down list and click the **+** icon. This will add the selected fault to the list. To remove a fault, select the fault with the mouse and then click the **x** icon. You can stack multiple faults on a single relay. The relay will activate as determined by the setting in the **Activation Type** field when any of the assigned faults are reported.

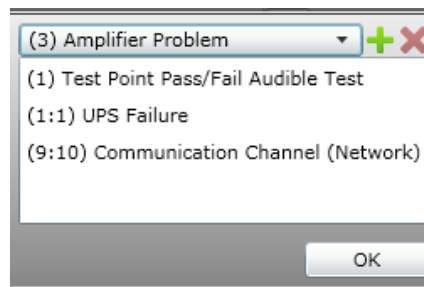


Figure 6-44: T9032LVIO Triggers

## Activation Type

The **Activation Type** applies only to outputs that function as fault indicators and have definitions in the **Triggers** field.

- **Solid** – The relay will activate while the fault condition is present and deactivate once the fault condition has cleared.
- **Momentary** – The relay will activate for approximately 1 second and then deactivate.
- **Pulsating** – The relay will cycle between active and inactive states at a rate of approximately 1 second on and 1 second off.

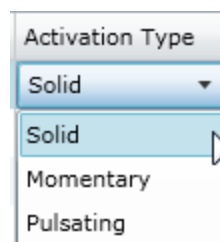


Figure 6-45: T9032LVIO Activation Types

### Reverse Polarity

Check this box to reverse the operating polarity of the relay. Normally, a relay is in its de-energized state until it is triggered. When this box is checked, it will normally energize and will de-energize when triggered. This is most useful when a relay is used to indicate a fault to an external system or indicator panel. That way a fault condition will be triggered if the unit loses power.

### Noise Sensor Descriptions

This list is used to assign your own descriptive names for each noise sensor. This is the name that will appear when you assign a sensor to a channel. It is recommended that you use a name that references the either the name or zone number where the sensor is located.

#### ID

This is a read-only field that matches the physical sensor input number on the back of the T9040NLR device.

#### Description

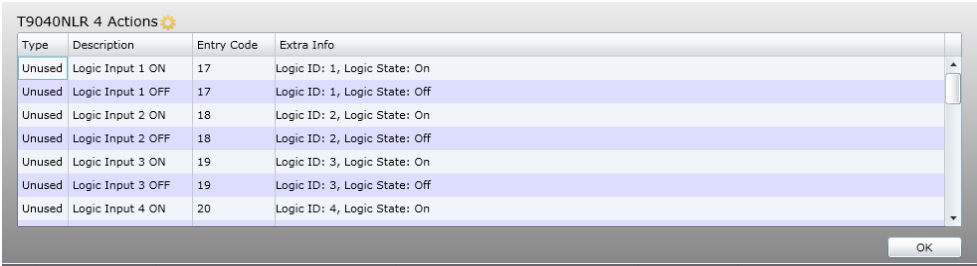
Double-click on this field to edit the text used to describe/name the sensor.

### Actions

Actions are available for the 16 logic inputs on the device. When you open the *Actions* for the device, you will notice that there are two actions for each logic input. One is associated with the activation of the input and the other with the deactivation of the input. You can differentiate between the two by looking for **On** or **Off** in the **Logic State** field in the **Extra Info** column. This allows you to create an action that will remain active while a contact closure is held. To do this, you must define an action to start the announcement and then a separate action to stop it using the other logic state.

**Note:** The T9040NLR operates slightly different from the 1200LIR in that it has a reference voltage available in addition to a ground. To control an action using a contact closure, you must wire the closure between the input and the ground reference on the terminal connector. When a closure is present between the input and ground, it will trigger the action programmed for the **On** logic state. When the closure is removed, it will trigger the action programmed for the **Off** logic state. Make sure you use the ground terminal and NOT the voltage reference terminal.

To edit an action, select the action and then click the edit icon located at the top of the window. It is the small round gear-shaped icon. You can also double-click on a row in the **Type** column to open the editor. Refer to the **Action Types** section for information on configuring actions.

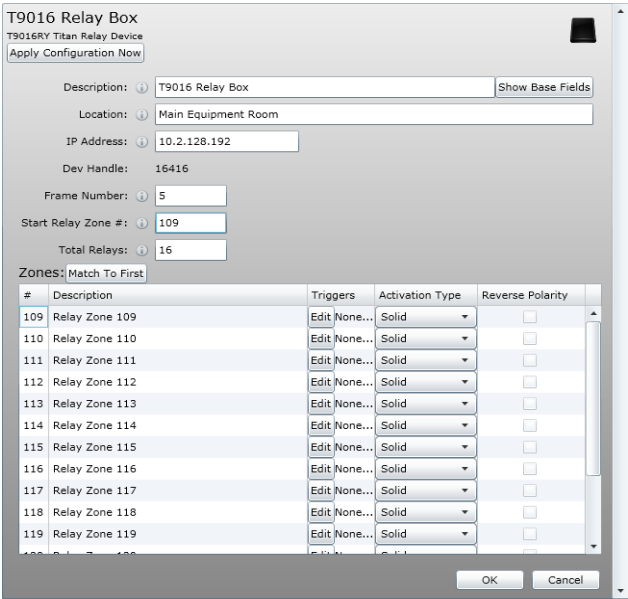


The screenshot shows a dialog box titled "T9040NLR 4 Actions" with a gear icon. It contains a table with four columns: Type, Description, Entry Code, and Extra Info. The table lists eight entries, all with "Unused" in the Type column. The Description column lists logic inputs 1 through 4, both ON and OFF states. The Entry Code column lists values 17, 18, 19, and 20. The Extra Info column lists logic IDs and their states. An "OK" button is at the bottom right.

Type	Description	Entry Code	Extra Info
Unused	Logic Input 1 ON	17	Logic ID: 1, Logic State: On
Unused	Logic Input 1 OFF	17	Logic ID: 1, Logic State: Off
Unused	Logic Input 2 ON	18	Logic ID: 2, Logic State: On
Unused	Logic Input 2 OFF	18	Logic ID: 2, Logic State: Off
Unused	Logic Input 3 ON	19	Logic ID: 3, Logic State: On
Unused	Logic Input 3 OFF	19	Logic ID: 3, Logic State: Off
Unused	Logic Input 4 ON	20	Logic ID: 4, Logic State: On
Unused	Logic Input 4 OFF	20	Logic ID: 4, Logic State: Off

Figure 6-46: T9040NLR Actions

## T9016RY / T9032RY Titan Relay Device



The screenshot shows the "T9016 Relay Box" configuration window. It has a title bar "T9016RY Titan Relay Device" and a button "Apply Configuration Now". Below are fields for Description, Location, IP Address, Dev Handle, Frame Number, Start Relay Zone #, and Total Relays. At the bottom is a table for relay zones with columns for #, Description, Triggers, Activation Type, and Reverse Polarity. The table lists zones 109 through 119. "OK" and "Cancel" buttons are at the bottom right.

Description: T9016 Relay Box Show Base Fields

Location: Main Equipment Room

IP Address: 10.2.128.192

Dev Handle: 16416

Frame Number: 5

Start Relay Zone #: 109

Total Relays: 16

Zones: Match To First

#	Description	Triggers	Activation Type	Reverse Polarity
109	Relay Zone 109	Edit None...	Solid	<input type="checkbox"/>
110	Relay Zone 110	Edit None...	Solid	<input type="checkbox"/>
111	Relay Zone 111	Edit None...	Solid	<input type="checkbox"/>
112	Relay Zone 112	Edit None...	Solid	<input type="checkbox"/>
113	Relay Zone 113	Edit None...	Solid	<input type="checkbox"/>
114	Relay Zone 114	Edit None...	Solid	<input type="checkbox"/>
115	Relay Zone 115	Edit None...	Solid	<input type="checkbox"/>
116	Relay Zone 116	Edit None...	Solid	<input type="checkbox"/>
117	Relay Zone 117	Edit None...	Solid	<input type="checkbox"/>
118	Relay Zone 118	Edit None...	Solid	<input type="checkbox"/>
119	Relay Zone 119	Edit None...	Solid	<input type="checkbox"/>

Figure 6-47: T90xxRY Titan Relay Device Setup

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### IP Address

Enter the IP address for the device.

### Dev Handle

This is a software address used by the system. It is assigned by the system and provided here for reference if needed.

### Frame Number

This is a unique ID number used to identify the Titan frames used in the system. When you add the device, the system will automatically assign the next available frame number.

### Start Relay Zone #

This is the zone number that represents the first relay zone on the device. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed.

### Total Relays

This number represents the total number of relay zones that will be present on this device. Each output is numbered sequentially based on the start zone entered in the **Start Relay Zone #** field. The T9016RY can have a total of 16 relay zones defined and the T9032RY can have a total of 32. Fewer can be defined if necessary.

### Zones

#### Match To First

This button has no function for this device.

#### Zone Number

This is the zone number that will be associated with this relay output. This is calculated based on the value entered in the **Start Relay Zone #** and the relay output number. The T9016RY has 16 relays and the T9032RY has 32 relays.

#### Description

This is a text field used to describe the output function or connection. To edit, double-click on the field.

#### Triggers

If a relay zone is used as part of a zone map in an announcement, then the relay will energize for the duration of the announcement. It will function this way as long as no triggers are defined for the relay. The **Trigger** field is used to associate the relay with faults that are reported as part of the *System Supervision* module. Click the **Edit** button to assign a trigger to the relay. This will open the assignment window as shown in Figure 6-48. From here, select a specific fault from the drop-down list and click the **+** icon. This will add the selected fault to the list. To remove a fault, select the fault with the mouse and then click the **x** icon. You can stack multiple faults on a single relay. The relay will activate as determined by the setting in the **Action Type** field when any of the assigned faults are reported.

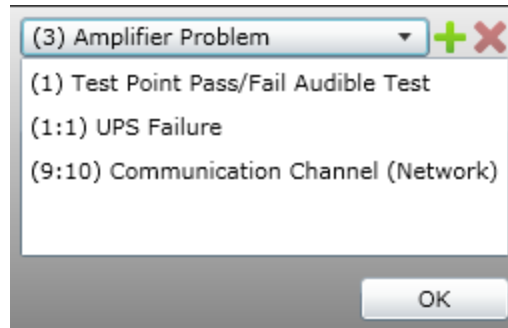


Figure 6-48: T90xxRY Triggers

### Activation Type

The **Activation Type** applies only to outputs that function as fault indicators and have definitions in the **Triggers** field.

- **Solid** – The relay will activate while the fault condition is present and deactivate once the fault condition has cleared.
- **Momentary** – The relay will activate for approximately 1 second and then deactivate.
- **Pulsating** – The relay will cycle between active and inactive states at a rate of approximately 1 second on and 1 second off.

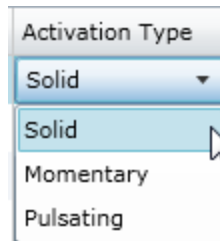
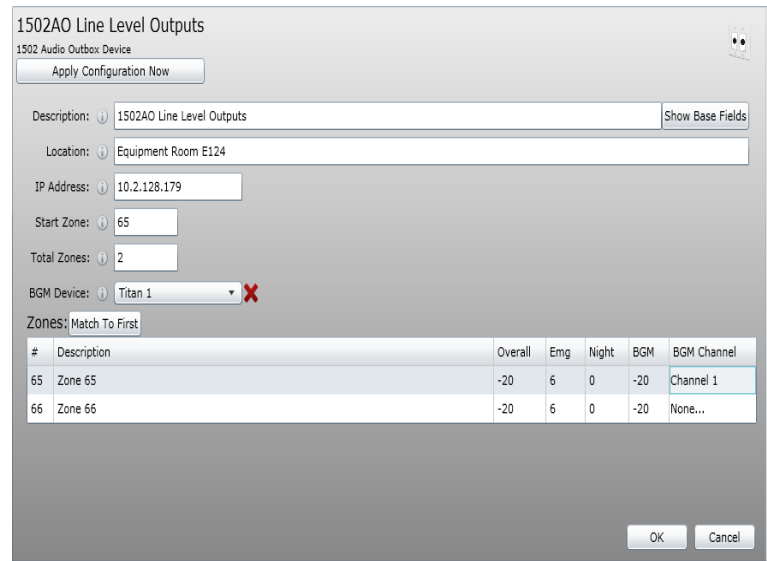


Figure 6-49: T90xxRY Activation Types

### Reverse Polarity

Check this box to reverse the operating polarity of the relay. Normally, a relay is in its de-energized state until it is triggered. When this box is checked, it will normally energize and will de-energize when triggered. This is most useful when a relay is used to indicate a fault to an external system or indicator panel. That way a fault condition will be triggered if the unit loses power.

## 1502 Audio Outbox Device



1502AO Line Level Outputs

1502 Audio Outbox Device

Apply Configuration Now

Description: 1502AO Line Level Outputs Show Base Fields

Location: Equipment Room E124

IP Address: 10.2.128.179

Start Zone: 65

Total Zones: 2

BGM Device: Titan 1 ✖

Zones: Match To First

#	Description	Overall	Emg	Night	BGM	BGM Channel
65	Zone 65	-20	6	0	-20	Channel 1
66	Zone 66	-20	6	0	-20	None...

OK Cancel

Figure 6-50: 1502 Audio Outbox Device Setup

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### IP Address

Enter the IP address for the device here.

### Start Zone

This is the zone number that represents the first zone in the device. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed. For example, you have a system that already has 32 zones. When you add a new 1502AO, the starting zone will be 33.

### Total Zones

This number represents the total number of zones that will be present on this device. A 1502AO supports a total of 2 zones, but you may want to set this to 1 if you are only using one output. This will prevent the unused output from contributing to the total number of zones allowed with your software license.

## BGM Device

Once you have defined one or more devices in the system as a BGM source, it is then available as an item in this drop-down list. You select the device from this list that will be used as the source device for the BGM. You can then select individual channels to be used for each zone output. You can click the **X** icon to the right of the drop-down list to clear the selection.

## Zones

This list allows you to configure each output zone in the device.

### Zone Number

This is the number that will be used to identify this output zone in the system. This number is calculated based on the values in the **Start Zone** and **Total Zones** fields. Each output channel is an individual zone.

### Description

Double-click on this field to edit a text descriptor for the zone.

### Levels

- **Overall** – This is the master output level control for the zone. Adjusting this level will change the levels of both announcements and BGM. This number represents the amount of attenuation relative to 0dBFS. So a value of –30 will attenuate the level by 30dB. To reduce the level by an additional 10dB, you would enter a value of –40.
- **Emg** – This field defines an offset to the **Overall** level to use when an announcement is made with an announce class that has the **Emergency** flag set. This allows you to increase the level of the output for emergency announcements. The default value is 6dB. If you use this setting with an **Overall** setting of –20dB, then an emergency announcement will be played using an output level that is 6dB louder than normal announcements.
- **Night** – This field defines an offset to the **Overall** level to use when the night schedule is invoked as programmed in the **Day / Night Schedule** section of the **Configuration** tab. This allows you to decrease the level of the output based on the time of day for each day of the week. The default value is 0dB and is set by entering a value to turn the output down. For example, if you enter a value of 6, then the channel level will be turned down by 6dB when the Night schedule is placed in effect.
- **BGM** – This field sets the BGM level for the zone. This number represents the amount of attenuation relative to 0dBFS. So a value of –30 will attenuate the level by 30dB. To reduce the level by an additional 10dB, you would enter a value of –40.

### Mute

When checked, the output of the device will be muted.



## BGM Channel

This drop-down list allows you to select an individual channel to use as the zone BGM. The channels available are for the device selected in the **BGM Device** field.

## Match to First

Click this button to take the three levels (Overall, Emg, and BGM) and the BGM Channel selection and copy them to the remaining zones in the device.

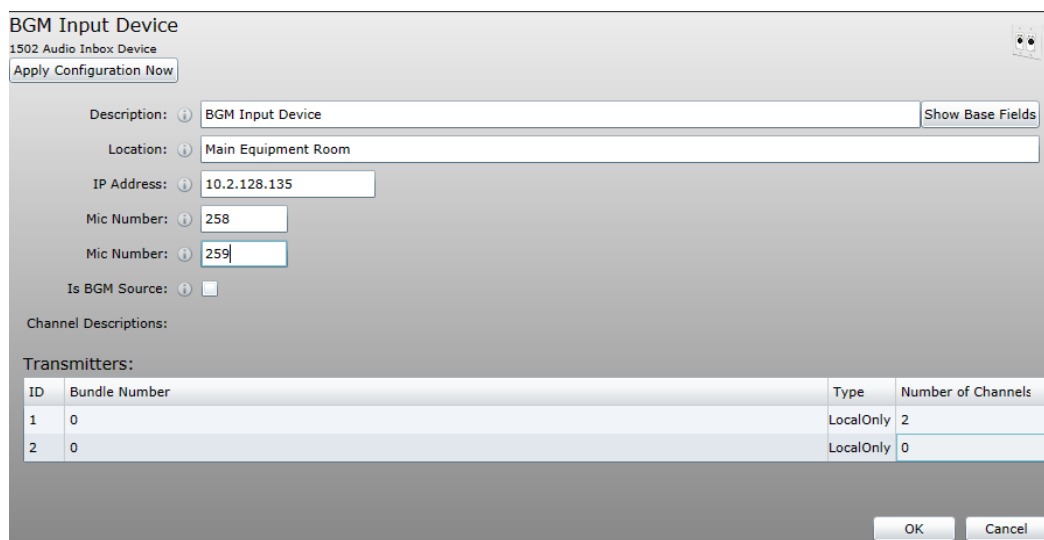
## EQ

Click this button to open the EQ editor for the output channel.

## 1502 Audio Inbox Device

The 1502 provides two balanced analog inputs that can be used as either announcement source inputs or BGM inputs. When used as an announcement source, you create actions using the **LiveFromAlternateSource** action type to route the input to a zone group. Using logic inputs to trigger actions, you can route a signal from an external system such as a fire alarm.

**Note:** You cannot use the input channels of the 1502AIO as different input source types. Both inputs are either used as BGM sources or microphone sources. You cannot use one input as a BGM input and the other as a microphone source.



**BGM Input Device**  
1502 Audio Inbox Device  
Apply Configuration Now

Description: BGM Input Device Show Base Fields

Location: Main Equipment Room

IP Address: 10.2.128.135

Mic Number: 258

Mic Number: 259

Is BGM Source: ☐

Channel Descriptions:

Transmitters:			
ID	Bundle Number	Type	Number of Channels
1	0	LocalOnly	2
2	0	LocalOnly	0

OK Cancel

Figure 6-51: 1502 Audio Inbox Device Setup

## Description

Enter text here to give the device a descriptive name.

## Location

Enter text here to describe the physical location of the device.

## IP Address

Enter the IP address for the device here.

## Mic Number

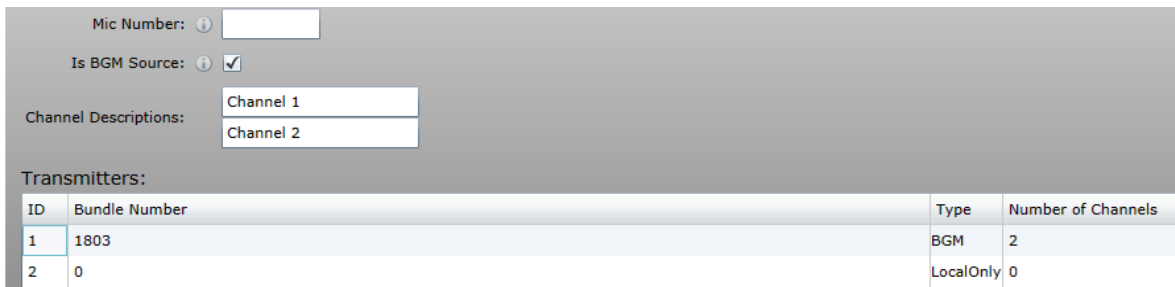
Each input on the device must have its own unique mic number. This is the number used to identify the input as a usable source within the announcement controller. When you add the device, each number is automatically defined. It can be changed if needed. Once it has been defined here, it will appear as an available source when defining actions.

## Is BGM Source

When checked, the system will treat each input on the device as a BGM source for the system. The **Mic Number** fields are both blanked out when this is checked as shown in Figure 6-52. When configured as a BGM source, the device will appear as an available BGM source for output devices such as the *T9160 Digital Amplifier Frame*.

## Channel Descriptions

This description is used to give a name to each channel. This name will appear in selection lists for devices when you are configuring outputs to receive BGM.



Mic Number:

Is BGM Source: ☒

Channel Descriptions:

Channel 1

Channel 2

Transmitters:

ID	Bundle Number	Type	Number of Channels
1	1803	BGM	2
2	0	LocalOnly	0

Figure 6-52: 1502 as BGM source

## CobraNet Transmitters

The CobraNet transmitters are automatically set by the system and the defaults are sufficient for most applications. The ability to override the defaults is provided here if it is required.

**Note:** If you need to use a single 1502AI to supply BGM to multiple GLOBALCOM controllers that are on the same vLAN, then you will need to manually override the bundle numbers. Start by adding the main 1502AI to its parent controller and make a note of the bundle number that is automatically assigned. Next, you add the 1502AI in the other controllers, but you will manually assign the bundle number in all of the secondary controllers to the one assigned by the primary controller.

## Annuncicom 100 Device

The Annuncicom 100 is a hardware device manufactured by Barix AG and is natively supported by the vACS as a remote device. The Annuncicom 100 must be configured using its own built-in web server configuration pages. Consult the *Annuncicom Product Manual* available for download at [www.barix.com](http://www.barix.com).

**Note:** The serial communications and logic I/O features of the Annuncicom 100 are not supported.

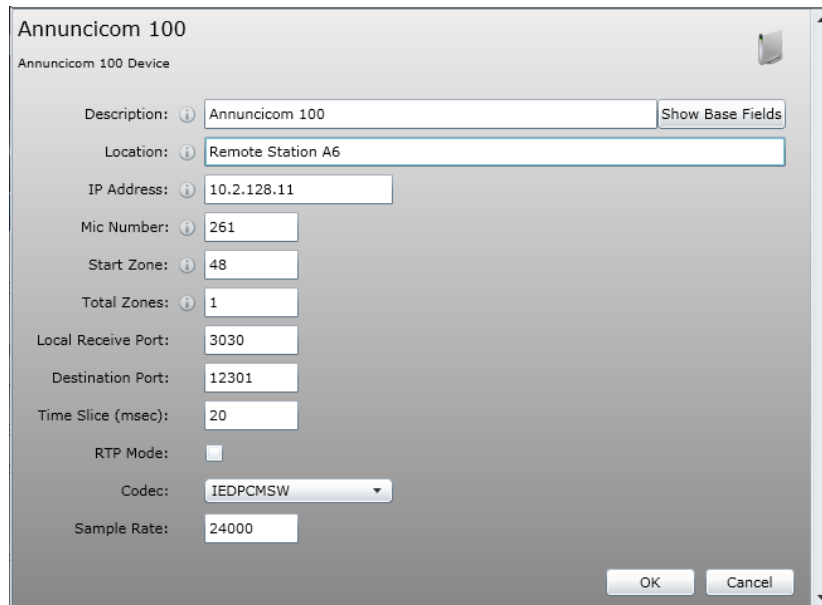


Figure 6-53: Annuncicom 100 Device Setup

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### IP Address

Enter the IP address for the device here.

### Mic Number

Each input on the device must have its own unique mic number. This is the number used to identify the input as a usable source within the announcement controller. When you add the device, each number is automatically defined. It can be changed if needed. Once it has been defined here, it will appear as an available source when defining actions.

## Start Zone

This is the zone number that represents the first zone in the device. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed. For example, you have a system that already has 32 zones. When you add a new Annunicom 100, the starting zone will be 33.

## Total Zones

This number represents the total number of zones that will be present on this device. An Annunicom 100 supports a total of 2 zones, but you may want to set this to 1 if you are only using one output. This will prevent the unused output from contributing to the total number of zones allowed with your software license.

## Local Receive Port

This is the port number that the vACS will use to receive audio from the Annunicom 100. It must match the destination port in the Annunicom 100 setup. The default port setting is 3030 and can be left at that for most applications.

## Destination Port

This is the port number that the vACS will use to transmit audio to the Annunicom 100. It must match the UDP Interface Port set in the Annunicom 100 setup. The default port setting is 12301 and can be left at that for most applications.

## Time Slice (msec)

This value determines the sampling window for the audio to be included in each network packet. Larger values increase latency while smaller values may lead to disruptions in the real-time audio. The default value of 20msec is acceptable in most applications.

## RTP Mode

When checked, the data packets will include RTP headers instead of raw data packets. This setting must match the settings in the Annunicom 100 setup.

## Codec

The codec selection determines the sample size (number of bits) and compression used for the audio data. This setting must match the setting in the Annunicom 100 setup.

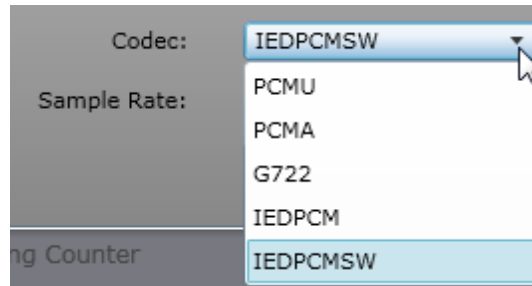


Figure 6-54: Annunicom 100 Codec Types

Available codecs are as follows...

- **PCMU** – PCM  $\mu$ -Law, 8 bit samples
- **PCMA** – PCM  $\alpha$ -Law, 8 bit samples
- **G722** – G.722, 16 bit samples
- **IEDPCM** – Raw PCM, 16 bit samples
- **IEDPCMSW** – Raw PCM, 16 bit samples, reversed byte order

### Sample Rate

This number defines the number of samples per second used to digitize the audio. This setting will affect packet size and the network bandwidth used by the audio data. Typical values for each codec type are listed below. This must match the setting in the Annunicom 100 setup.

- **PCMU or PCMA** – 8000
- **G722** – 16000
- **IEDPCM or IEDPCMSW** – 16000 or higher.

### External Titan Zone

This is a specialty device that is used when a Titan frame is used at a station in a transit application. This type of system utilizes a centralized command center that sends messages down to a series of stations using an audio network. Each station is capable of having a local source that gets overridden when an announcement is sent to the station from the command center. The audio is placed on a virtual audio bus on the network and then commands are sent to each station that is to route the audio bus to local zones.

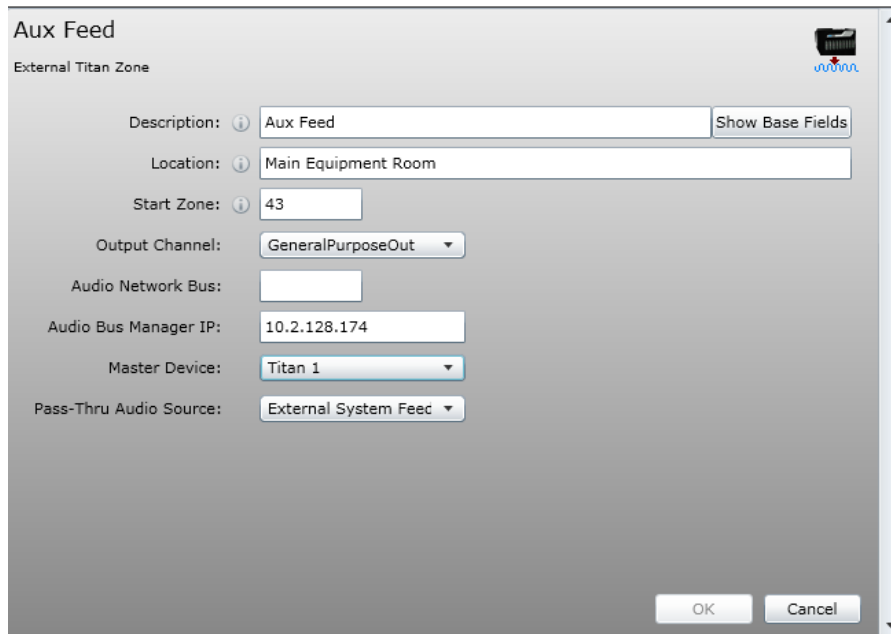


Figure 6-55: External Titan Zone Setup

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### Start Zone

This is the zone number that represents this device. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed. For example, you have a system that already has 32 zones. When you add a new External Titan Zone, the zone will be 33.

### Output Channel

Select the output channel that will be used for this zone from the drop-down list.

### Audio Network Bus

This field sets the audio bus number for installations that utilize networked audio busses that are typical of transit-type installations. This setting will be determined by the audio network configuration at the system head-end.

### Audio Bus Manager IP

Enter the IP address of the network device that will be responsible for managing the audio bus.

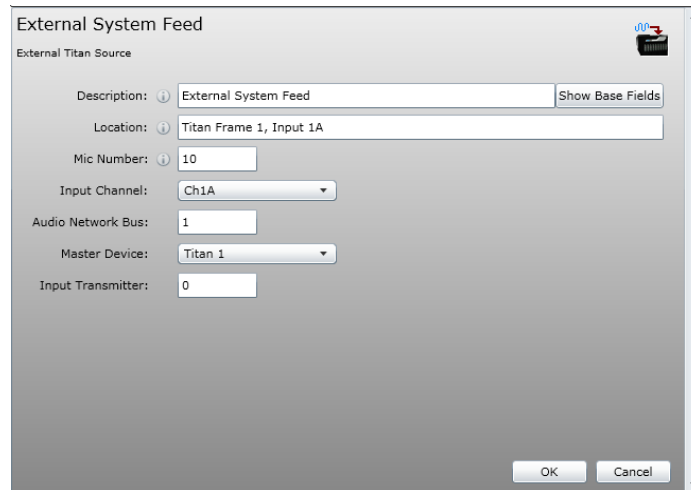
## Master Device

Select the Titan frame from the drop-down list that contains this audio output.

## Pass-Thru Audio Source

If you have any other inputs on the Titan frame selected in the **Master Device** drop-down list defined as **External Titan Source**, then they will be available in this list as a source. The source selected will be directly routed to this output when announcements or messages are not being transmitted by the Audio Bus Manager. This allows for a local source to be used and then overridden by announcements or messages coming from the system head-end.

## External Titan Source



The screenshot shows a dialog box titled "External System Feed" with a sub-header "External Titan Source". It contains several configuration fields:

- Description:** A text field containing "External System Feed" and a "Show Base Fields" button.
- Location:** A text field containing "Titan Frame 1, Input 1A".
- Mic Number:** A text field containing "10".
- Input Channel:** A dropdown menu showing "Ch1A".
- Audio Network Bus:** A text field containing "1".
- Master Device:** A dropdown menu showing "Titan 1".
- Input Transmitter:** A text field containing "0".

At the bottom right, there are "OK" and "Cancel" buttons.

Figure 6-56: External Titan Source Setup

## Description

Enter text here to give the device a descriptive name.

## Location

Enter text here to describe the physical location of the device.

## Mic Number

Each input on the device must have its own unique mic number. This is the number used to identify the input as a usable source within the announcement controller. When you add the device, each number is automatically defined. It can be changed if needed. Once it has been defined here, it will appear as an available source when defining actions.

## Input Channel

Select the input channel from the drop-down list for this input. This corresponds to the physical input connector on the Titan frame where this input is connected.

### Audio Network Bus

This field sets the internal audio bus number that allows this input to be available for use as an audio source within the Titan frame. This number corresponds to the internal Tie Line number of which there are eight (8) available in each frame. If you are using more than one (1) External Titan Source input on a frame, each should have its own unique bus assignment (1-8).

### Master Device

Select the Titan frame from the drop-down list that contains this audio input.

### Input Transmitter

This field sets the CobraNet transmitter that will be used for this input in order to route its audio to other devices over the network. Leave this field at the default value of 0 if the input will only be used locally within the frame. Setting it to 1 or 2 will place this input in one of the two available output transmitters.

## 1100TEL Telephone Interface

---

This device is an additional piece of hardware used to provide additional VoIP telephone interface lines. It is capable of providing up to eight (8) lines that will prompt the user to select the actions that they wish to perform by using pre-defined action templates. It can also support up to 32 direct action extensions that will immediately execute the pre-defined action when the line answers.



1100TEL Telephone Interface
1100TEL Telephone Interface
Apply Configuration Now

Description: 1100TEL Telephone Interface
Show Base Fields

Location: Main Equipment Room

IP Address: 10.2.128.179

SIP Server IP: 10.2.128.1

SIP Server Port: 5061

DTMF Payload Number: 105

DTMF Type: RFC2833

Prompting Extensions:

Ext	SIP User	SIP Password	SIP Port	RTP Port	Template	Locked
1601	1601	12345	5104	40084	Default Telephone Template	<input checked="" type="checkbox"/>
1602	1602	12345	5097	40070	Default Telephone Template	<input checked="" type="checkbox"/>
1603	1603	12345	5098	40072	Default Telephone Template	<input checked="" type="checkbox"/>
1604	1604	12345	5099	40074	Default Telephone Template	<input checked="" type="checkbox"/>
			5100	40076	Default Telephone Template	<input type="checkbox"/>
			5101	40078	Default Telephone Template	<input type="checkbox"/>
			5102	40080	Default Telephone Template	<input type="checkbox"/>
			5103	40082	Default Telephone Template	<input type="checkbox"/>

Direct Action Extensions:

Ext	SIP User	SIP Password	SIP Port	RTP Port	Action Performed	Locked
1605	AllCall	12345	5065	40006	Delayed All Call (EC:1 ZG:100)	<input type="checkbox"/>
1606	Public	12345	5066	40008	Delayed All Public Areas (EC:2 ZG:104)	<input type="checkbox"/>
1608	AllCallEm	12345	5067	40010	Emergency All Call (EC:3 ZG:100)	<input type="checkbox"/>
			5068	40012	Unused (EC:4 )	<input type="checkbox"/>
			5069	40014	Unused (EC:5 )	<input type="checkbox"/>
			5070	40016	Unused (EC:6 )	<input type="checkbox"/>
			5071	40018	Unused (EC:7 )	<input type="checkbox"/>
			5072	40020	Unused (EC:8 )	<input type="checkbox"/>

Figure 6-57: 1100TEL Telephone Interface Configuration

## Description

Enter text here to give the device a descriptive name.

## Location

Enter text here to describe the physical location of the device.

## IP Address

Enter the IP address for the device here.

## SIP Server IP

This is the IP address or host name of the PBX that will host this VoIP line.

## SIP Server Port

This is the primary SIP port used for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

### DTMF Payload Number

This determines the DTMF payload number used for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

### DTMF Type

This drop-down list selects the DTMF type used for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

### Prompting Extensions

A prompting extension will answer the line and prompt the user to select what action they wish to perform. The prompts will play back and tell the user what button to press for an action or to move to another menu tree level. The prompt tree is implemented by creating a telephone template and then applying that template to the extension.

#### Ext

This is the extension number that this line will use to connect to the PBX. You must obtain this information from the PBX provider.

#### SIP User

This is the user ID that this line will use to connect to the PBX. You must obtain this information from the PBX provider.

#### SIP Password

This is the password associated with the SIP User that this line will use to connect to the PBX. You must obtain this information from the PBX provider.

#### SIP Port

This determines the SIP port used by this line for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

#### RTP Port

This determines the RTP port used by this line for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

#### Template

Templates are used to define a series of voice prompts that the user will hear when the line is answered. Each item in the list is associated with an entry code in the template definition. Select the template to use for this line from the drop-down list.

#### Locked

When checked, security is enabled. Access is restricted based on the data entered in **Mic Passwords**. Caller ID can be used to automatically login a user calling from a particular extension. If this is not defined, then the user will be prompted to enter their 4-

digit password to gain access. If this box is not checked, there will be no security protection. Refer to the **Mic Passwords** section of the documentation for more information.

## Direct Action Extensions

When defined, each line will immediately execute the defined action when the line is answered.

### Ext

This is the extension number that this line will use to connect to the PBX. You must obtain this information from the PBX provider.

### SIP User

This is the user ID that this line will use to connect to the PBX. You must obtain this information from the PBX provider.

### SIP Password

This is the password associated with the SIP User that this line will use to connect to the PBX. You must obtain this information from the PBX provider.

### SIP Port

This determines the SIP port used by this line for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

### RTP Port

This determines the RTP port used by this line for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

## Action Performed

This is where you define the action that will be performed when the line answers. You define the action by clicking on the small yellow gear icon in the list or by double-clicking on the item in the list. This will open the standard action definition window. Refer to the **Action Types** section of the documentation for more information on defining an action.

### Locked

When checked, security is enabled. Access is restricted based on the data entered in **Mic Passwords**. Caller ID can be used to automatically login a user calling from a particular extension. If this is not defined, then the user will be prompted to enter their 4-digit password to gain access. If this box is not checked, there will be no security protection. Refer to the **Mic Passwords** section of the documentation for more information.

## Devices

The 1100TEL has an internal device used to bridge the VoIP telephone audio to the CobraNet audio network. This internal card also has an IP address that must be set to one number higher than the base network IP address of the device. You can configure this device by either double-clicking on it in the list or highlight it and select the yellow gear-shaped icon to open the properties window. Refer to the *Internal CobraNet Audio Device* documentation for information on how to configure this device.

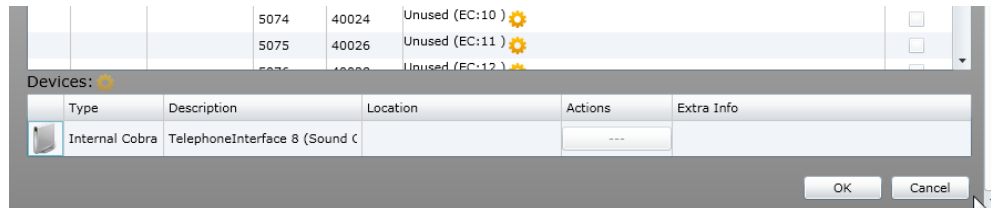


Figure 6-58: 1100TEL Devices List

## 1100 Digital Audio Bridge

This device is an additional piece of hardware used to span a GLOBALCOM system across different Local Area Networks (LAN) for larger systems. CobraNet is used to transmit and receive digital audio in a GLOBALCOM system and operates on Layer 2 of the OSI model. Therefore, the digital audio signal cannot be passed through a router and can only transmit and receive to other devices located on the same LAN. In order to send and receive digital audio to GLOBALCOM or 510/520ACS systems located on other networks, you must use one or more 1100 Digital Audio Bridge devices to span the networks. In large systems, you may have an 1100DAB unit for each announcement controller to bridge each controller to a separate inter-system audio network.

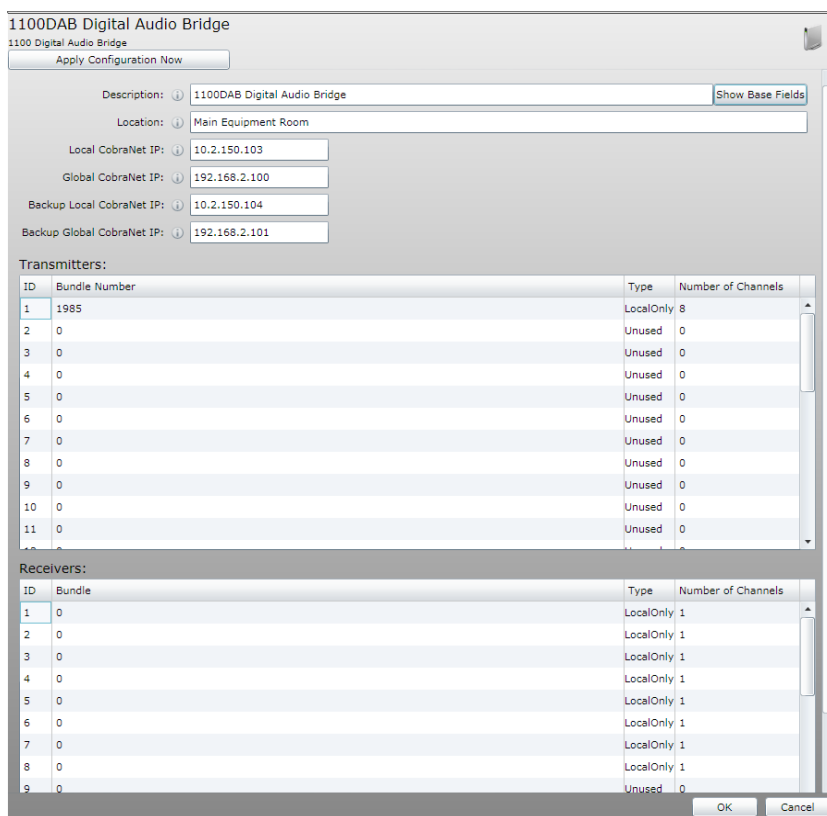


Figure 6-59: 1100DAB Digital Audio Bridge Configuration

## Description

Enter text here to give the device a descriptive name.

## Location

Enter text here to describe the physical location of the device.

## Local CobraNet IP Address

Enter the IP address here that will be used to identify the device on the backup local GLOBALCOM network.

## Global CobraNet IP Address

Enter the IP here that will be used to identify the device to the second audio network.

## Backup Local CobraNet IP Address

This is a backup port that can be used when redundant networks are in place. Do not connect this port to a switch on the same network as the primary port. Enter the IP address here that will be used to identify the device on the backup local GLOBALCOM network.

## Backup Global CobraNet IP Address

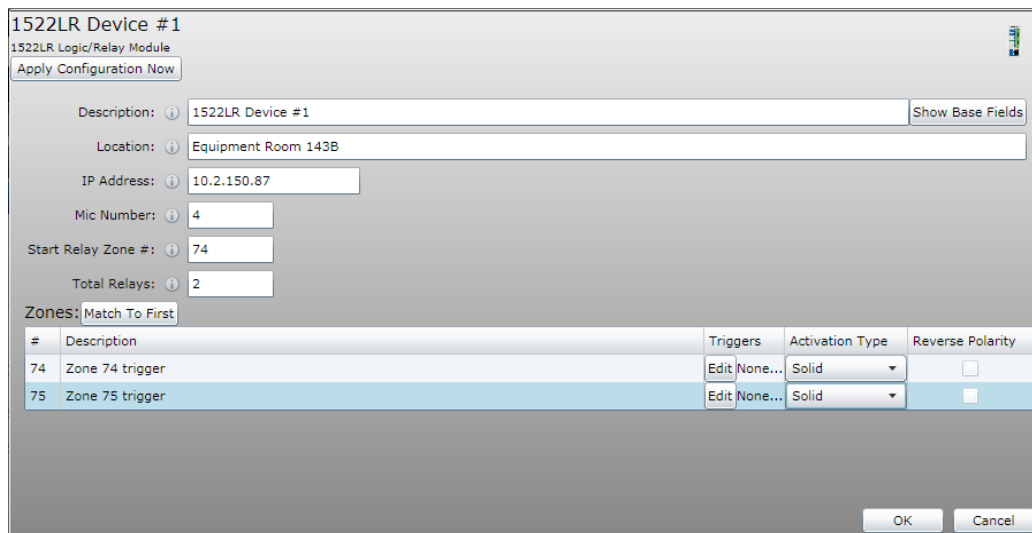
This is a backup port that can be used when redundant networks are in place. Do not connect this port to a switch on the same network as the primary port. Enter the IP here that will be used to identify the device to the backup secondary audio network.

## CobraNet Transmitters and Receivers

The CobraNet transmitters and receivers are automatically set by the system and the defaults are sufficient for most applications. The ability to override the defaults is provided here if it is required.

## 1522LR Logic/Relay Module

This device has two (2) logic inputs capable of sensing contact closures or logic voltages. It also has two (2) form C relay outputs for interfacing with external devices. You can assign actions to each of the logic inputs. The relay outputs can either be used as output zones that close while announcements are in progress or they may be tied to the *System Supervision* module to indicate faults.



1522LR Device #1  
1522LR Logic/Relay Module  
Apply Configuration Now

Description: 1522LR Device #1 Show Base Fields

Location: Equipment Room 143B

IP Address: 10.2.150.87

Mic Number: 4

Start Relay Zone #: 74

Total Relays: 2

Zones: Match To First

#	Description	Triggers	Activation Type	Reverse Polarity
74	Zone 74 trigger	Edit None...	Solid	<input type="checkbox"/>
75	Zone 75 trigger	Edit None...	Solid	<input type="checkbox"/>

OK Cancel

Figure 6-60: 1522LR Logic/Relay Module Device Setup

**Note:** The 1522LR is not automatically discovered by the system. You must manually create it by adding it as a new device in the **Devices** section.

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

## IP Address

Enter the IP address for the device.

## Mic Number

This is the number used to identify the device as an input device within the announcement controller. It must be a unique number within the local announcement controller. This number is automatically assigned when you add the device, but can be edited if necessary.

## Start Relay Zone #

This is the zone number that represents the first relay zone on the device. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed.

## Total Relays

This number represents the total number of relay zones that will be present on this device. Each output is numbered sequentially based on the start zone entered in the **Start Relay Zone #** field. The 1522LR can have a total of 2 relay zones defined. The total number of relay zones can be reduced to one if necessary.

## Zones

### Match To First

This button has no function for this device.

### Zone Number

This is the zone number that will be associated with this relay output. This is calculated based on the values entered in the **Start Relay Zone #** and **Total Relays** fields.

### Description

This is a text field used to describe the output function or connection. To edit, double-click on the field.

### Triggers

If a relay zone is used as part of a zone map in an announcement, then the relay will energize for the duration of the announcement. It will function this way as long as no triggers are defined for the relay. The **Trigger** field is used to associate the relay with faults that are reported as part of the *System Supervision* module. Click the **Edit** button to assign a trigger to the relay. This will open the assignment window as shown in . From here, select a specific fault from the drop-down list and click the **+** icon. This will add the selected fault to the list. To remove a fault, select the fault with the mouse and then click the **x** icon. You can stack multiple faults on a single relay. The relay will activate as determined by the setting in the **Activation Type** field when any of the assigned faults are reported.

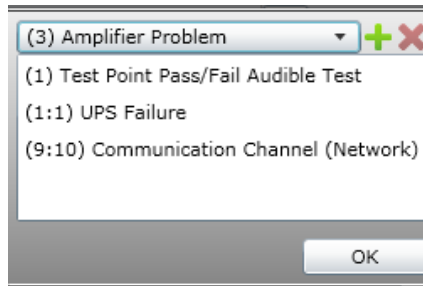


Figure 6-61: 1522LR Triggers

### Activation Type

The **Activation Type** applies only to outputs that function as fault indicators and have definitions in the **Triggers** field.

- **Solid** – The relay will activate while the fault condition is present and deactivate once the fault condition has cleared.
- **Momentary** – The relay will activate for approximately 1 second and then deactivate.
- **Pulsating** – The relay will cycle between active and inactive states at a rate of approximately 1 second on and 1 second off.

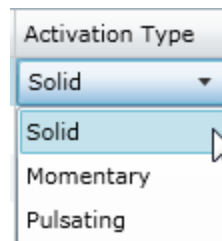


Figure 6-62: 1522LR Activation Types

### Reverse Polarity

Check this box to reverse the operating polarity of the relay. Normally, a relay is in its de-energized state until it is triggered. When this box is checked, it will normally energize and will de-energize when triggered. This is most useful when a relay is used to indicate a fault to an external system or indicator panel. That way a fault condition will be triggered if the unit loses power.

### Actions

Actions are available for the two logic inputs on the device. When you open the **Actions** for the device, you will notice that there are two actions for each logic input. One is associated with the activation of the input and the other with the deactivation of the input. You can differentiate between the two by looking for **On** or **Off** in the **Logic State** field in the **Extra Info** column. This allows you to create an action that will remain active while a contact closure is held. To do this, you must define an action to start the announcement and then a separate action to stop it using the other logic state.



To edit an action, select the action and then click the edit icon located at the top of the window. It is the small round gear-shaped icon. You can also double-click on a row in the **Type** column to open the editor. Refer to the **Action Types** section for information on configuring actions.





1522LR Device #1 Actions   			
Type	Description	Entry Code	Extra Info
Prerecorded	Logic Input 1 ON	1	(Prerecorded) Pri: 6, Logic ID: 1, Logic State: On, AC: Medium Priority (Pri:6), Play Count: 1, Takes: 49152-201, ZoneGroups: 100, AV: Audio
StopAnnc	Logic Input 1 OFF	1	(StopAnnc) Logic ID: 1, Logic State: Off, Stop Action: Logic Input 1 ON (Logic #:1 On ZG:100), Stop Mic: 1522LR Device #1
LiveFromAlternateSource	Logic Input 2 ON	2	(LiveFromAlternateSource) Pri: 2, Logic ID: 2, Logic State: On, AC: Emergency (Pri:2), ZoneGroups: 100, AV: Audio
StopAnnc	Logic Input 2 OFF	2	(StopAnnc) Logic ID: 2, Logic State: Off, Stop Action: Logic Input 2 ON (Logic #:2 On ZG:100), Stop Mic: 1522LR Device #1
<i>Italics denotes default actions</i>			
			OK

Figure 6-63: 1522LR Actions

## T9160 Digital Amplifier Frame

Titan 1  
T9160 Digital Amplifier Frame  
Apply Configuration Now

Description: Titan 1 Show Base Fields  
Location: Main Equipment Room  
IP Address: 10.2.128.171  
Dev Handle: 16384  
Frame Number: 1  
Start Zone: 9  
Is BGM Source: ☒  
# of Channels: 2  
First BGM Input: Frame Input 1A  
BGM Device: Titan 1   
Channel Descriptions:  
Channel 1  
Channel 2

Monitor Test

Amplifier Card Slots:  
Slot 1 Dual Channel ☒ Backup Enabled Match To First  
Slot 2 Dual Channel ☒ Backup Enabled  
Slot 3 Dual Channel ☒ Backup Enabled  
Slot 4 Dual Channel ☒ Backup Enabled  
Slot 5 Dual Channel ☒ Backup Enabled  
Slot 6 Dual Channel ☒ Backup Enabled  
Slot 7 Dual Channel ☒ Backup Enabled  
Slot 8 Dual Channel ☒ Backup Enabled

ZONES: Match To First  

#	Description	Overall	Emg	Night	BGM	Duck	Delay	BGM Channel	
9	Ticketing 1A	-40	6	0	0	-50	0	Channel 1	EQ Ambient
10	Ticketing 1B	-40	6	0	0	-50	0	Channel 1	EQ Ambient
11	Ticketing 2A	-40	6	0	0	-50	0	Channel 1	EQ Ambient
12	Ticketing 2B	-40	6	0	0	-50	0	Channel 1	EQ Ambient
13	Ticketing 3A	-40	6	0	0	-50	0	Channel 1	EQ Ambient

Figure 6-64: T9160 Digital Amplifier Frame Setup

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### IP Address

Enter the IP address for the device here.

### Dev Handle

This is a software address used by the system. It is assigned by the system and provided here for reference if needed.

### Frame Number

This is a unique ID number used to identify the Titan frames used in the system. When you add the device, the system will automatically assign the next available frame number.

### Start Zone

This is the zone number that represents the first zone in the device. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed. For example, you have a system that already has 32 zones. When you add a new T9160, the starting zone will be 33.

### Total Zones

This number represents the total number of zones that will be present on this device. A T9160 supports a total of 16 zones, but you may want to reduce the number if all 16 are not needed. You will want to manage this because the software license has a total number of audio zones allowed.

For example, if you have a system with a 32 zone license and you have three (3) T9160 frames, you will exceed the maximum of 32 zones allowed by your license. If you are only using eight (8) zones in each frame, then you can reduce the number of zones in each frame still have zones available for future expansion.

### Is BGM Source

When checked, the system will treat the device as a BGM source for the system. When configured as a BGM source, the device will appear as an available BGM source for output devices. The inputs defined using the **First BGM Input** and **# of Channels** fields will be routed over the audio network.

### # of Channels

This is the total number of channels that will be used as BGM inputs on the device. The input channels must be consecutive, so if you specify input 1 in the **First BGM Input** field and set a total number of channels at 4, then you will use inputs 1 through 4 as the BGM inputs.

## First BGM Input

This drop-down list allows you to select the first input channel on the device that will be used as a BGM input.

## BGM Device

Once you have defined one or more devices in the system as a BGM source, it is then available as an item in this drop-down list. You select the device from this list that will be used as the source device for the BGM. You can then select individual channels to be used for each zone output. You can click the **x** icon to the right of the drop-down list to clear the selection.

## Channel Descriptions

This description is used to give a name to each BGM channel that will be sourced from this device. This name will appear in selection lists for devices when you are configuring outputs to receive BGM.

## Monitor Test

**Note:** This button is not available when the *External Titan Monitor Test Configuration* checkbox is checked in the *My Controller* section.

Click this button to open the Monitor Test window for the T9160 as shown in Figure 6-65. From here, you can configure the supervision parameters of the device, view the latest test results, or manually execute a test or set. The T9160 generates a test tone that is routed to each channel and then the level is measured at three places on each channel. The unit tests the analog output of the DSP before it enters the amplifier, the voltage level at the amplifier output, and the current drawn as a result of the loudspeaker load.

Three different test signals are provided.

- 400Hz – Ideal for full range cone-type loudspeakers.
- 1kHz – Ideal for horn-type loudspeakers.
- 20kHz – Ideal for periodic supervision since this frequency will be inaudible in most systems.

**Note:** Clicking the OK button on this window will immediately send and save any changes to the device.

The window contains checkboxes that allow you to enable or disable the test frequencies either globally or on a per-channel basis. You can also set the test tone output level by entering a value (in dBFS) in the individual frequency level input boxes.

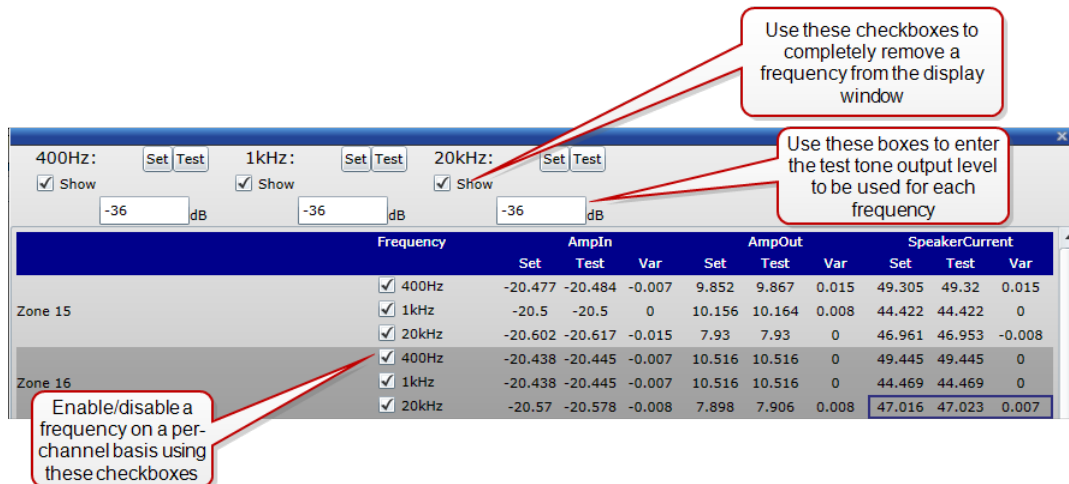


Figure 6-65: T9160 Monitor Test

**Caution!**

Clicking either the *Test* or *Set* buttons on the 400Hz or 1kHz will cause audible tones to be played through the system.

**Test**

Click one of the test buttons to start a test for that frequency. Once completed, the results will be shown in the results table as shown in Figure 6-66.

AmpIn			AmpOut			SpeakerCurrent		
Set	Test	Var	Set	Test	Var	Set	Test	Var
-20.477	-20.484	-0.007	9.852	9.867	0.015	49.305	49.32	0.015
-20.5	-20.5	0	10.148	10.164	0.016	44.422	44.422	0
-20.602	-20.602	0	7.93	-56.43	-64.36	46.961	-22	-68.961
-20.438	-20.445	-0.007	10.516	10.516	0	49.445	49.445	0
-20.438	-20.445	-0.007	10.516	10.516	0	44.469	44.469	0
-20.562	-20.555	0.007	7.891	-57.438	-65.329	47.016	-22.594	-69.61

Figure 6-66: Test Results Table

The actual measured values at each point are displayed in the **Test** column for each test point. The unit compares the test values measured with the values stored when a system set was performed. Any variances in the level are displayed in the **Var** column of the table. Variances that are outside of the acceptable tolerance are shown in red. Items in red will generate a fault report that is sent to the system supervisor software.

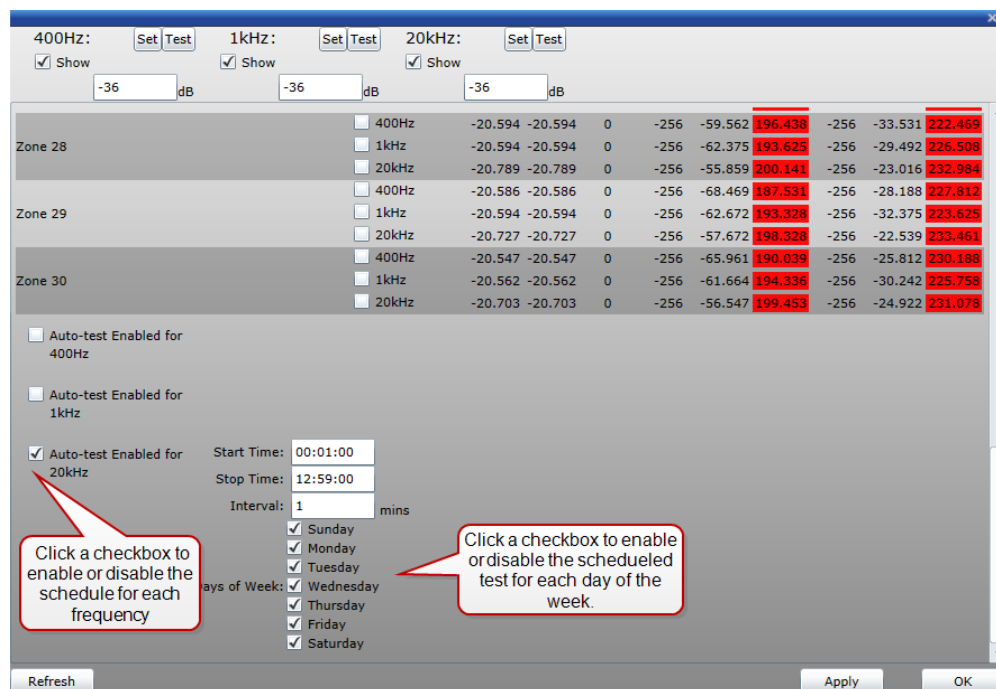
**Set**

Click this button to execute a test for the selected frequency, but store the measured values as a baseline comparison for a system test of the same frequency. You should run a system set when you know the system is operating correctly. The unit will then use

these values to determine if there is a fault.

## Schedule

Each frequency can be configured to run on a schedule. Scroll to the bottom of the results table to find the schedule configuration options as shown in Figure 6-67 For simplicity, only one schedule is shown as enabled. The start/stop times, day-of-week, and interval options for the other frequencies will appear if their boxes are checked.



Zone	Frequency	Start Time	Stop Time	Interval	Start Time	Stop Time	Interval	Start Time	Stop Time	Interval
Zone 28	400Hz	-20.594	-20.594	0	-256	-59.562	196.438	-256	-33.531	222.469
	1kHz	-20.594	-20.594	0	-256	-62.375	193.625	-256	-29.492	226.508
	20kHz	-20.789	-20.789	0	-256	-55.859	200.141	-256	-23.016	232.984
Zone 29	400Hz	-20.586	-20.586	0	-256	-68.469	187.531	-256	-28.188	227.812
	1kHz	-20.594	-20.594	0	-256	-62.672	193.328	-256	-32.375	223.625
	20kHz	-20.727	-20.727	0	-256	-57.672	198.328	-256	-22.539	233.461
Zone 30	400Hz	-20.547	-20.547	0	-256	-65.961	190.039	-256	-25.812	230.188
	1kHz	-20.562	-20.562	0	-256	-61.664	194.336	-256	-30.242	225.758
	20kHz	-20.703	-20.703	0	-256	-56.547	199.453	-256	-24.922	231.078

☐ Auto-test Enabled for 400Hz  
☐ Auto-test Enabled for 1kHz  
☒ Auto-test Enabled for 20kHz

Start Time: 00:01:00  
 Stop Time: 12:59:00  
 Interval: 1 mins

Days of Week: ☒ Sunday ☒ Monday ☒ Tuesday ☒ Wednesday ☒ Thursday ☒ Friday ☒ Saturday

Refresh Apply OK

Figure 6-67: Test Schedules

## Start / Stop Times

You can restrict the times that a test will run based on the times entered in these two fields. To run continuously, enter 12:00 AM as the start time and 11:59 PM as the stop time.

## Interval

Enter the time (in minutes) between each test.

### Note:

If you only want the test to play once per day, you must enter an interval greater than the difference between the start and stop times. For example, you only want the 400Hz test to play at 3:00 AM when the building is empty. You could enter a start time of 3:00 AM, a stop time of 3:05 AM, with an interval of 15 minutes. This would cause the test to only run once at 3:00 AM

## Amplifier Card Slots

Each T9160 mainframe has 9 slots for amplifier cards. Slots 1 through 8 contain the primary amplifier cards while slot 9 holds an optional backup amplifier card that will automatically take over for a failed card when configured to operate as such. Each slot has two output channels, thus consumes two zones that count towards the total number of zones in the software license, unless you disable them by choosing the correct amplifier card type.

### Amplifier Card Type

**None** – Select this type if the slot does not contain an amplifier card. This will disable both zones for that slot, thus removing them from the total zone count.

**Single Channel** – Select this type if the slot contains a single channel amplifier card such as the T6481, T6471, T6411, or T6441. This type will disable the zone for the second channel that is available in the slot, thus removing it from the total zone count.

**Dual Channel** – Select this type if the slot contains a dual channel amplifier card such as the T6482, T6472, T6412, or T6002.

### Backup Enabled

Check this box to enable the backup amplifier card switching for the channel. If the card fails, it will automatically switch to the backup amplifier card located in slot 9 of the unit.

### Match to First

Click this button to take the current settings for slot 1 and apply them to slots 2 through 8.

## Zones

This list allows you to configure each output zone in the device.

### Zone Number

This is the number that will be used to identify this output zone in the system. This number is calculated based on the values in the **Start Zone** and **Total Zones** fields. Each output channel in a T9160 is an individual zone.

### Description

Double-click on this field to edit a text descriptor for the zone.

### Levels

- **Overall** – This is the master output level control for the zone. Adjusting this level will change the levels of both announcements and BGM. This number represents the amount of attenuation relative to 0dBFS. So a value of –30 will attenuate the level by 30dB. To reduce the level by an additional 10dB, you would enter a value of –40.

- **Emg** – This field defines an offset to the **Overall** level to use when an announcement is made with an announce class that has the **Emergency** flag set. This allows you to increase the level of the output for emergency announcements. The default value is 6dB. If you use this setting with an **Overall** setting of -20dB, then an emergency announcement will be played using an output level that is 6dB louder than normal announcements.
- **Night** – This field defines an offset to the **Overall** level to use when the night schedule is invoked as programmed in the **Day / Night Schedule** section of the **Configuration** tab. This allows you to decrease the level of the output based on the time of day for each day of the week. The default value is 0dB and is set by entering a value to turn the output down. For example, if you enter a value of 6, then the channel level will be turned down by 6dB when the Night schedule is placed in effect.
- **BGM** – This field sets the BGM level for the zone. This number represents the amount of attenuation relative to 0dBFS. So a value of -30 will attenuate the level by 30dB. To reduce the level by an additional 10dB, you would enter a value of -40.
- **Duck** – This field controls how much the level of BGM will be reduced when an announcement is made to the zone. A value of -10 will reduce the BGM level by 10dB when an announcement is made. A value of -60 will effectively mute the BGM level when an announcement is made.

### Delay

Each output on the T9116 has signal delay that can be used for loudspeaker alignment. Enter a numerical value to represent the number of milliseconds (ms) to use for the delay.

### BGM Channel

This drop-down list allows you to select an individual channel to use as the zone BGM. The channels available are for the device selected in the **BGM Device** field and the local inputs on the back of the T9160 mainframe.

### Match to First

Click this button to take the three levels (Overall, BGM, and Duck) Delay and the BGM Channel selection of the first zone and copy them to the remaining zones in the device.

### EQ

Each channel has a nine-band parametric EQ available to adjust the signal as necessary to meet the needs of the loudspeakers and allow the system to be adjusted to maximize intelligibility in the acoustic space. Press the **EQ** button for a channel to open the EQ window as shown in Figure 6-68.

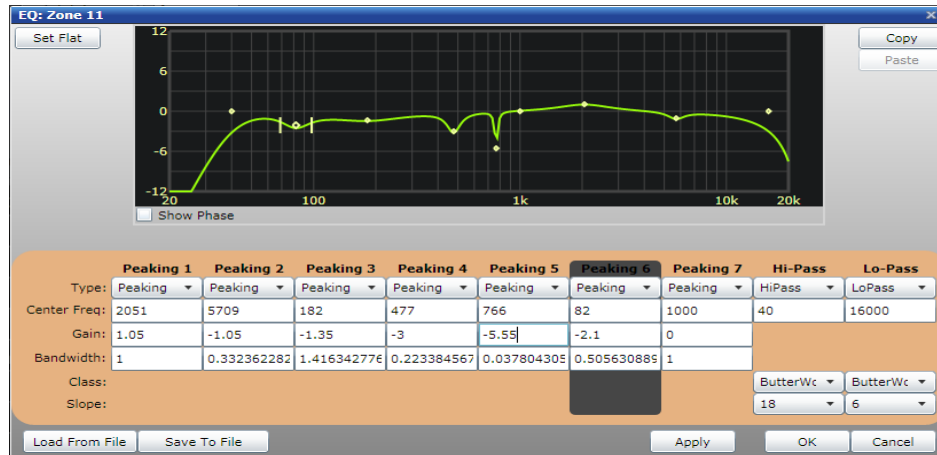


Figure 6-68: EQ Settings Window

Bands are selected by clicking on one of the nine band names immediately below the frequency response curve graph. A specific band can be selected and then adjusted using the edit boxes below the names. It is also possible to select a filter and edit its frequency, gain and bandwidth directly in the Frequency Response display window using the mouse to drag the filter position, cut/boost, or bandwidth.

### Type

Select a filter type in the drop-down list. The available options are:

- **Peaking** – A typical bandpass type filter
- **Notch** – Sharp bandpass cut-only filter
- **Hi Pass** – Filter for rolling off frequencies lower than the cutoff frequency
- **Lo Pass** – Filter for rolling off frequencies higher than the cutoff frequency
- **All Pass** – Filter used for phase adjustments near the center frequency
- **Disabled** – Turn this filter off

**Note:** The options for the filter parameters will change slightly depending on the filter type selected.

### Center Frequency (Hz)

The center frequency (or cutoff frequency) of the filter is set by entering a numeric value in the edit box. The frequency parameter can also be changed by dragging the diamond icon in the graph laterally left or right.

### Gain (dB)

*This is only available for Peaking and Notch filter types.*

The filter gain is set by entering a numeric value (using + or – values for relative dB) in the edit box. The gain can also be changed by clicking and dragging the diamond icon for the filter up or down in the frequency response graph.



### Bandwidth (Oct.)

*This is only available for Peaking and Notch filter types.*

The filter bandwidth is set by entering a numeric value in the edit box. The value used is measured in Octaves. For example, if a 1/3 octave filter is required then a value of 0.333 would be used. The bandwidth can also be altered using vertical line icons located on each side of the diamond filter icon in the frequency response graph. Click a line and move the mouse laterally to change the bandwidth.

### Class

*This is only available for Hi Pass and Lo Pass filter types.*

The mathematical function used to calculate the filter is selected by picking an available type from the drop-down list box. There are three available class types listed below.

- Butterworth
- Bessel
- Linkwitz-Riley

### Slope (dB/Oct.)

*This is only available for Hi Pass and Lo Pass filter types.*

This value determines the frequency roll-off rate for the filter in decibels per octave. Available values range from a shallow 6 dB/Octave to a very steep 48 dB/Octave.

### Bypass EQ

When checked, this removes the effects of all filter bands from the signal path without resetting the filters to a flat response curve. When the EQ is bypassed, the signal will pass through the object without any modifications to the frequency characteristics.

### Gain Slider/Edit Box

The EQ provides a small range of gain adjustment in order to compensate for the overall effect of the EQ curve and allow signal-to-noise ratio and dynamic range to be maximized. This gain is set by entering a value (in + or – relative dB) in the edit box. It should only be used within a range from 6dB of attenuation to 6dB of gain.

### Set Flat

This button resets all filters to a gain setting of 0dB (flat response) and disables all bands except for band 1.

### Show Phase

When checked, the phase response through the EQ will be shown as a red curve on the graph.

### Save Local Copy

Click this button to save the EQ curve as an XML file. This allows you to archive the file as well as save it as a preset and load it into other channels.

### Load From File

Click this button to open a standard Windows file dialog window. From here, you can locate an XML file that has been stored with an EQ curve and load it into the frame.

### Get From Frame

Click this button to force the window to reload the current EQ settings from the frame.

### Copy

Click this button to copy all of the current EQ settings to the clipboard. You can then move to another channel and use the **Paste** button to copy settings between channels.

### Paste

Click this button to paste the EQ settings stored on the clipboard to the current channel. This button will be dimmed if there are no available EQ settings to paste from the clipboard.

## Ambient

Titan series amplifier frames are equipped with ambient noise compensation (Ambient Analysis) capabilities when paired with a noise sensor collector, such as a T9032NS. Ambient Analysis adjusts the output attenuation of a channel in response to ambient noise level measured in the area served by the channel. Anywhere from one (1) to four (4) ambient noise sensors can be assigned to each channel. Channels can also be slaved to other channels. Click the **Ambient** button for the channel you wish to configure to open a window such as that shown in Figure 6-69.

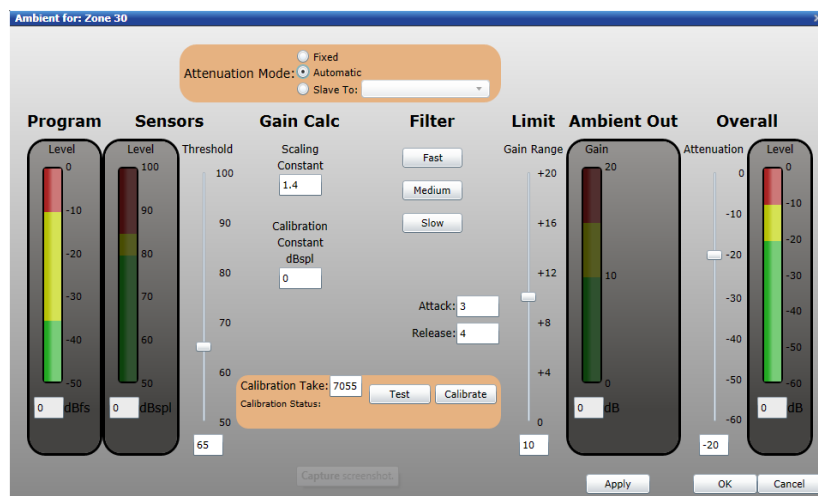


Figure 6-69: Ambient Analysis

### Attenuation Mode

Each channel can be set to one of three different possible attenuation modes as described below.

- **Fixed** – This mode deactivates the ambient noise compensation for this channel. The channel output level will remain at the level set by the **Overall** attenuator.
- **Automatic** – This mode will allow the level of the channel to automatically adjust based on the ambient noise level as detected by the ambient sensor input. The level will increase above the **Overall** attenuator setting as higher ambient noise levels are detected by the ambient noise sensor. The level will increase by an amount proportional to the detected level as determined by the **Scaling Constant**. The maximum level increase is determined by the **Limit** slider.
- **Slave** – This mode will cause the selected channel to follow the ambient noise compensation settings of another channel. Using this setting allows multiple outputs on the same T9160 frame to be adjusted by a single sensor or a gang of sensors. This setting is useful in very large spaces where multiple amplifier channels are required due to the power load requirements of the loudspeaker lines. Select the channel that this channel will be slaved to from the drop-down list.

**Note:** A channel can only be slaved to a channel that is located in the same T9160 mainframe.

### Program

This level meter displays the real-time audio signal level at the input of the Ambient Analysis object. This signal is post-EQ and post-delay but does not have the test signal.

### Sensors – Level

This level meter displays the real-time sound pressure level (SPL) from the ambient noise sensor.

**Note:** This level is the sum of both the ambient noise in the space and the program audio from the system. The Ambient Analysis algorithm filters out the audio system's contribution to the overall level and provides a real value of ambient noise level to the system for processing.

### Sensors – Threshold

The threshold determines the level at which the ambient noise compensation is suspended because the level at the sensor is too low. When the detected level from the ambient noise sensor rises above the threshold setting, then the system will actively operate. It will filter the system program audio component from the detected level to accurately adjust the output attenuation based on the calculated noise level. When the level is below the threshold, the system will stop actively adjusting the output attenuation and return to the maximum attenuation setting which is the base level setting as defined by the **Overall** attenuation control.

The threshold is set by adjusting the slider with the mouse or by manually typing a value in the edit box below the slider using a positive numerical value.

### Gain Calc – Scaling Constant

The **Scaling Constant** determines the amount of ambient noise level that will result in the output level to increase by 1 dB. A scaling constant of 1 will result in the output level increasing by 1 dB for each 1 dB increase in ambient sensor level. Figure 6-69 shows a scaling constant of 1.4. With this setting, a 1.4 dB increase in ambient sensor level will result in a 1 dB increase in output level up to the point where the **Limit** has been reached.

### Gain Calc – Calibration Constant

This value is calculated and automatically entered during the channel calibration process. It can be manually adjusted by typing in a new value in the edit box.

#### Caution!

*This value should only be manually adjusted after an automatic calibration has not been completely successful. Adjustments should be made in very small increments of 2 or 3 dB at a time.*

Use the following guidelines when adjusting the calibration constant if the system is not properly responding after an automatic calibration.

- If the system turns down as soon as an announcement is active, then the calibration constant is too high. It should be reduced in small increments until the system remains stable while an announcement is active.
- If the system gets louder as while an announcement is active, then the calibration constant is too low. It should be increased in small increments until the system remains stable while an announcement is active.

### Filter – Attack

This value determines the rate at which the output level will increase when an increase in the ambient sensor level has been received. The value is in the number of seconds and can be directly entered in the box using the keyboard.

### Filter – Release

This value determines the rate at which the output level will decrease when a decrease in the ambient sensor level has been received. The value is in the number of seconds and can be directly entered in the box using the keyboard.

### Filter – Presets

- **Fast** – Preset where the attack time is 1 second and the release time is 2 seconds.
- **Medium** – Preset where the attack time is 3 seconds and the release time is 4 seconds.
- **Slow** – Preset where the attack time is 7 seconds and the release time is 10 seconds.

### Limit

The limit sets the maximum amount of gain that can be applied through the ambient analysis compensation process. The amount of gain available is determined by the attenuator setting of the **Overall** attenuation slider. For example, if the channel out slider is set to  $-20\text{dB}$  as shown in Figure 6-69, then the maximum available setting for the Limit slider will be  $+20\text{dB}$ . Setting the Limit to  $+12\text{dB}$  will cause the output level to be increased by a maximum of  $12\text{dB}$  above the setting of the **Overall** attenuation slider. Thus, with very loud ambient noise levels the output level will be effectively set to  $-8\text{dB}$  and reduced to  $-20\text{dB}$  when the ambient noise level is very low or has dropped below the threshold. The ambient noise compensation will be continually adjusted within this range as long as the noise level remains above the threshold but below the amount required to drive the system to maximum level.

**Note:** The Ambient Analysis algorithm differentiates between program audio and ambient noise level detected by the ambient noise sensor. It is possible for the sensor level to be above the threshold with no ambient noise compensation applied when the level detected is program audio from the system.

The limit is set by adjusting the slider with the mouse or by manually typing a value in the edit box below the slider using a positive numerical value.

### Overall Level

This slider controls the main output attenuator for paging, BGM, and program signals. The meter indicates the current signal level that is feeding the analog input of the power amplifier.

### Assign Sensors

Clicking on the **Assign Sensors** button will launch the Ambient Sensor Assignment window as shown in Figure 6-70. This is where one or more ambient sensors are directly assigned to control the currently selected channel. Each channel can have one (1) to four (4) ambient noise sensors assigned. When multiple sensors are use, the system averages the signal levels from all assigned sensors to obtain an ambient noise level reading. There are three very critical rules related to using multiple ambient noise sensors in a single zone that are described below.

Rules for using multiple sensors for a single zone:

- All sensors must be connected to the same sensor collection unit.
- All sensors must be connected to the same input group on the collection unit.
- All sensors must be located in the same loudspeaker zone.

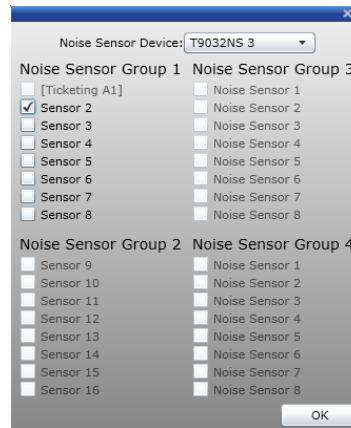


Figure 6-70: Ambient Sensor Assignment

To assign sensors, first select the appropriate collector device from the **Noise Sensor Device** drop-down list. Then select up to four (4) sensors to use for the channel.

**Note:** Sensor inputs on collector units are sub-divided into groups of eight (8). All sensors for a single channel must reside on the same collector unit group. If a sensor is currently selected for a channel, then all other groups will be grayed out and not available for selection. To change to a sensor that is not located in the currently selected group, first un-check all sensor assignments, then any sensor group will be available for selection.

### Calibration Take

Enter the take number that you wish to play during the calibration if you wish to use something other than the default of 7770.

### Calibrate

Press this button to start the calibration process. A calibration message will be played to the channel output.

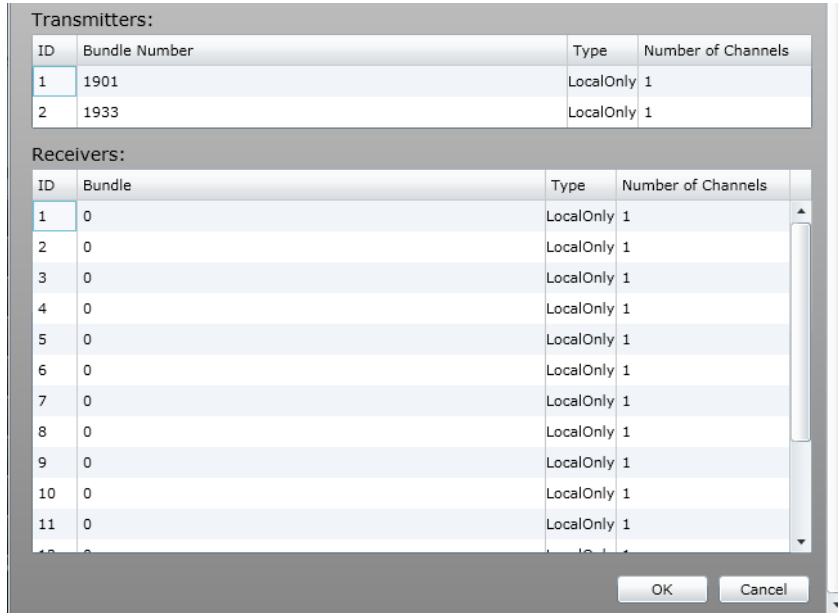
**Caution!** *The ambient noise level in the area being calibrated needs to be at least 15dB below the sensor threshold level setting during calibration in order to yield a valid calibration.*

### Test

The **Test** button will play the calibration take to the selected channel. This is used after the calibration process is complete to see if the system correctly differentiates between program and ambient noise. When the test take is playing and the calibration has been successful, the level should not change. If the system turns up or down during the test playback, then either the calibration constant should be adjusted or a re-calibration should be attempted.

## CobraNet Transmitters and Receivers

The CobraNet transmitters and receivers are automatically set by the system and the defaults are sufficient for most applications. The ability to override the defaults is provided here if it is required.



Transmitters:			
ID	Bundle Number	Type	Number of Channels
1	1901	LocalOnly	1
2	1933	LocalOnly	1

Receivers:			
ID	Bundle	Type	Number of Channels
1	0	LocalOnly	1
2	0	LocalOnly	1
3	0	LocalOnly	1
4	0	LocalOnly	1
5	0	LocalOnly	1
6	0	LocalOnly	1
7	0	LocalOnly	1
8	0	LocalOnly	1
9	0	LocalOnly	1
10	0	LocalOnly	1
11	0	LocalOnly	1

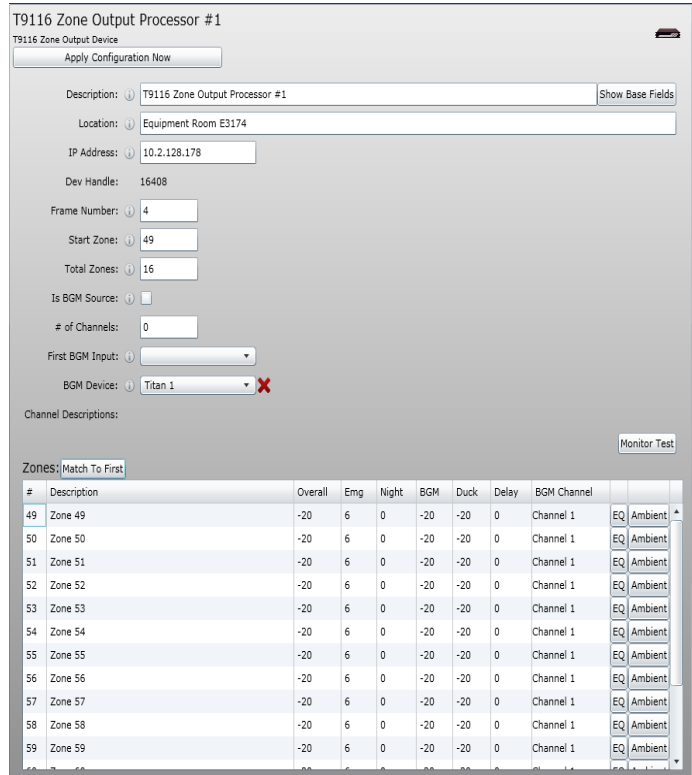
Figure 6-71: T9160 CobraNet Transmitters and Receivers

### OK / Cancel

Click the **OK** button to save any changes you made on this window. It will appear dimmed if there are no changes to save. Changes made to the EQ, Monitor/Test, or Ambient settings are saved when you close their respective windows. This **OK** button may appear grayed out even if you have made changes in those sub-systems.

Click the **CANCEL** button to discard any changes you have made to this screen. This will not undo any changes made to the EQ, Monitor/Test, or Ambient sub-systems.

## T9116 Zone Output Device



**T9116 Zone Output Processor #1**

T9116 Zone Output Device

Apply Configuration Now

Description: T9116 Zone Output Processor #1 Show Base Fields

Location: Equipment Room E3174

IP Address: 10.2.128.178

Dev Handle: 16408

Frame Numbers: 4

Start Zone: 49

Total Zones: 16

Is BGM Source: ☐

# of Channels: 0

First BGM Input:

BGM Device: Titan 1 X

Channel Descriptions:

Monitor Test

Zones: Match To First

#	Description	Overall	Emg	Night	BGM	Duck	Delay	BGM Channel	EQ
49	Zone 49	-20	6	0	-20	-20	0	Channel 1	Ambient
50	Zone 50	-20	6	0	-20	-20	0	Channel 1	Ambient
51	Zone 51	-20	6	0	-20	-20	0	Channel 1	Ambient
52	Zone 52	-20	6	0	-20	-20	0	Channel 1	Ambient
53	Zone 53	-20	6	0	-20	-20	0	Channel 1	Ambient
54	Zone 54	-20	6	0	-20	-20	0	Channel 1	Ambient
55	Zone 55	-20	6	0	-20	-20	0	Channel 1	Ambient
56	Zone 56	-20	6	0	-20	-20	0	Channel 1	Ambient
57	Zone 57	-20	6	0	-20	-20	0	Channel 1	Ambient
58	Zone 58	-20	6	0	-20	-20	0	Channel 1	Ambient
59	Zone 59	-20	6	0	-20	-20	0	Channel 1	Ambient

Figure 6-72: T9116 Zone Output Device

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### IP Address

Enter the IP address for the device here.

### Dev Handle

This is a software address used by the system. It is assigned by the system and provided here for reference if needed.

### Frame Number

This is a unique ID number used to identify the Titan frames used in the system. When you add the device, the system will automatically assign the next available frame number.



## Start Zone

This is the zone number that represents the first zone in the device. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed. For example, you have a system that already has 32 zones. When you add a new T9116, the starting zone will be 33.

## Total Zones

This number represents the total number of zones that will be present on this device. A T9116 supports a total of 16 zones, but you may want to reduce the number if all 16 are not needed. You will want to manage this because the software license has a total number of audio zones allowed.

For example, if you have a system with a 32 zone license and you have three (3) T9116 frames, you will exceed the maximum of 32 zones allowed by your license. If you are only using eight (8) zones in each frame, then you can reduce the number of zones in each frame still have zones available for future expansion.

## Is BGM Source

When checked, the system will treat the device as a BGM source for the system. When configured as a BGM source, the device will appear as an available BGM source for output devices. The inputs defined using the **First BGM Input** and **# of Channels** fields will be routed over the audio network.

## # of Channels

This is the total number of channels that will be used as BGM inputs on the device. The input channels must be consecutive, so if you specify input 1 in the **First BGM Input** field and set a total number of channels at 4, then you will use inputs 1 through 4 as the BGM inputs.

## First BGM Input

This drop-down list allows you to select the first input channel on the device that will be used as a BGM input.

## BGM Device

Once you have defined one or more devices in the system as a BGM source, it is then available as an item in this drop-down list. You select the device from this list that will be used as the source device for the BGM. You can then select individual channels to be used for each zone output. You can click the **x** icon to the right of the drop-down list to clear the selection.

## Channel Descriptions

This description is used to give a name to each BGM channel that will be sourced from this device. This name will appear in selection lists for devices when you are configuring outputs to receive BGM.

## Monitor Test

**Note:** This button is not available when the *External Titan Monitor Test Configuration* checkbox is checked in the *My Controller* section.

Click this button to open the Monitor Test window for the T9116 as shown in Figure 6-73. From here, you can configure the supervision parameters of the device, view the latest test results, or manually execute a test or set. The T9116 generates a test tone that is routed to each channel and then the level is measured at the analog output of each channel.

Three different test signals are provided.

- 400Hz – Ideal for full range cone-type loudspeakers.
- 1kHz – Ideal for horn-type loudspeakers.
- 20kHz – Ideal for periodic supervision since this frequency will be inaudible in most systems.

**Note:** Clicking the OK button on this window will immediately send and save any changes to the device.

The window contains checkboxes that allow you to enable or disable the test frequencies either globally or on a per-channel basis.

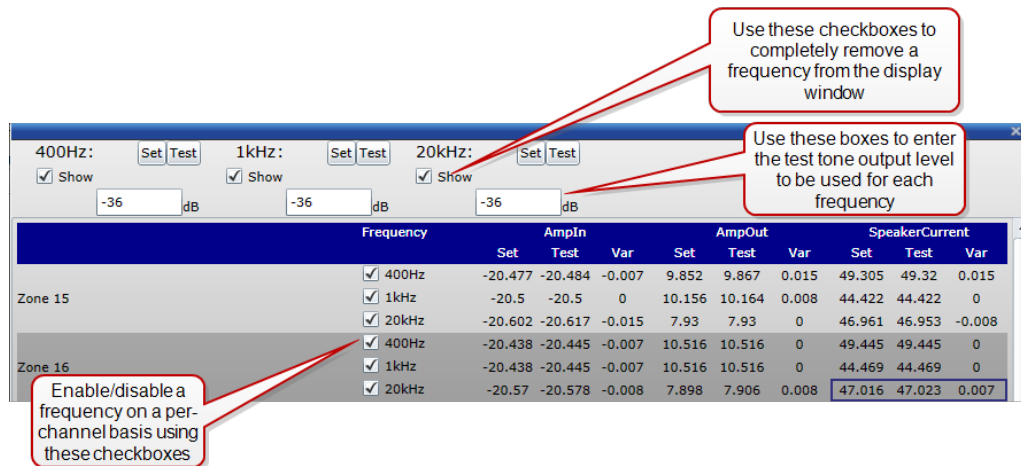


Figure 6-73: T9116 Monitor Test

**Caution!** Clicking either the *Test* or *Set* buttons on the 400Hz or 1kHz will cause audible tones to be played through the system.

## Test

Click one of the test buttons to start a test for that frequency. Once completed, the results will be shown in the results table as shown in Figure 6-74.

AmpIn			AmpOut			SpeakerCurrent		
Set	Test	Var	Set	Test	Var	Set	Test	Var
-20.477	-20.484	-0.007	9.852	9.867	0.015	49.305	49.32	0.015
-20.5	-20.5	0	10.148	10.164	0.016	44.422	44.422	0
-20.602	-20.602	0	7.93	-56.43	-64.36	46.961	-22	-68.961
-20.438	-20.445	-0.007	10.516	10.516	0	49.445	49.445	0
-20.438	-20.445	-0.007	10.516	10.516	0	44.469	44.469	0
-20.562	-20.555	0.007	7.891	-57.438	-65.329	47.016	-22.594	-69.61

Figure 6-74: Test Results Table

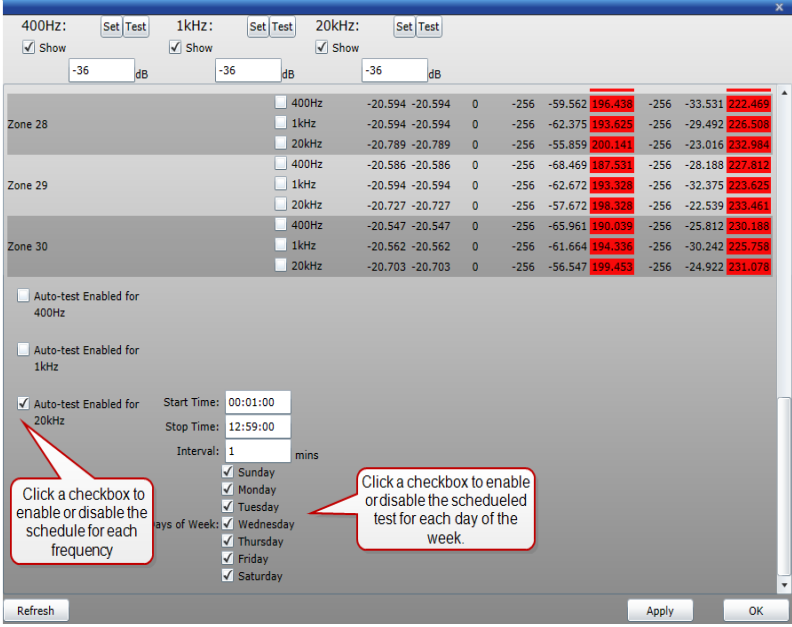
The actual measured values at each point are displayed in the **Test** column for each test point. The unit compares the test values measured with the values stored when a system set was performed. Any variances in the level are displayed in the **Var** column of the table. Variances that are outside of the acceptable tolerance are shown in red. Items in red will generate a fault report that is sent to the system supervisor software.

### Set

Click this button to execute a test for the selected frequency, but store the measured values as a baseline comparison for a system test of the same frequency. You should run a system set when you know the system is operating correctly. The unit will then use these values to determine if there is a fault.

### Schedule

Each frequency can be configured to run on a schedule. Scroll to the bottom of the results table to find the schedule configuration options as shown in Figure 6-75 For simplicity, only one schedule is shown as enabled. The start/stop times, day-of-week, and interval options for the other frequencies will appear if their boxes are checked.



400Hz: ☐ Set ☐ Test 1kHz: ☐ Set ☐ Test 20kHz: ☐ Set ☐ Test

☒ Show ☒ Show ☒ Show

-36 dB -36 dB -36 dB

Zone	Frequency	Start Zone	Stop Zone	Start Time	Stop Time	Interval	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6	Test 7	Test 8	Test 9	Test 10
Zone 28	400Hz	-20.594	-20.594	0	-256	-59.562	196.438	-256	-33.531	222.469						
	1kHz	-20.594	-20.594	0	-256	-62.375	193.625	-256	-29.492	226.508						
	20kHz	-20.789	-20.789	0	-256	-55.859	200.141	-256	-23.016	232.984						
Zone 29	400Hz	-20.586	-20.586	0	-256	-68.469	187.531	-256	-28.188	227.812						
	1kHz	-20.594	-20.594	0	-256	-62.672	193.328	-256	-32.375	223.625						
	20kHz	-20.727	-20.727	0	-256	-57.672	198.328	-256	-22.539	233.461						
Zone 30	400Hz	-20.547	-20.547	0	-256	-65.961	190.039	-256	-25.812	230.188						
	1kHz	-20.562	-20.562	0	-256	-61.664	194.336	-256	-30.242	225.758						
	20kHz	-20.703	-20.703	0	-256	-56.547	199.453	-256	-24.922	231.078						

☐ Auto-test Enabled for 400Hz  
☐ Auto-test Enabled for 1kHz  
☒ Auto-test Enabled for 20kHz

Start Time: 00:01:00  
Stop Time: 12:59:00  
Interval: 1 mins

Days of Week: ☒ Sunday ☒ Monday ☒ Tuesday ☒ Wednesday ☒ Thursday ☒ Friday ☒ Saturday

Refresh Apply OK

Figure 6-75: Test Schedules

### Start / Stop Times

You can restrict the times that a test will run based on the times entered in these two fields. To run continuously, enter 12:00 AM as the start time and 11:59 PM as the stop time.

### Interval

Enter the time (in minutes) between each test.

**Note:** If you only want the test to play once per day, you must enter an interval greater than the difference between the start and stop times. For example, you only want the 400Hz test to play at 3:00 AM when the building is empty. You could enter a start time of 3:00 AM, a stop time of 3:05 AM, with an interval of 15 minutes. This would cause the test to only run once at 3:00 AM

### Zones

This list allows you to configure each output zone in the device.

#### Zone Number

This is the number that will be used to identify this output zone in the system. This number is calculated based on the values in the **Start Zone** and **Total Zones** fields. Each output channel in a T9116 is an individual zone.

#### Description

Double-click on this field to edit a text descriptor for the zone.

### Levels

- **Overall** – This is the master output level control for the zone. Adjusting this level will change the levels of both announcements and BGM. This number represents the amount of attenuation relative to 0dBFS. So a value of –30 will attenuate the level by 30dB. To reduce the level by an additional 10dB, you would enter a value of –40.
- **Emg** – This field defines an offset to the **Overall** level to use when an announcement is made with an announce class that has the **Emergency** flag set. This allows you to increase the level of the output for emergency announcements. The default value is 6dB. If you use this setting with an **Overall** setting of –20dB, then an emergency announcement will be played using an output level that is 6dB louder than normal announcements.
- **Night** – This field defines an offset to the **Overall** level to use when the night schedule is invoked as programmed in the **Day / Night Schedule** section of the **Configuration** tab. This allows you to decrease the level of the output based on the time of day for each day of the week. The default value is 0dB and is set by entering a value to turn the output down. For example, if you enter a value of 6, then the channel level will be turned down by 6dB when the Night schedule is placed in effect.
- **BGM** – This field sets the BGM level for the zone. This number represents the amount of attenuation relative to 0dBFS. So a value of –30 will attenuate the level by 30dB. To reduce the level by an additional 10dB, you would enter a value of –40.
- **Duck** – This field controls how much the level of BGM will be reduced when an announcement is made to the zone. A value of –10 will reduce the BGM level by 10dB when an announcement is made. A value of –60 will effectively mute the BGM level when an announcement is made.

### Delay

Each output on the T9116 has signal delay that can be used for loudspeaker alignment. Enter a numerical value to represent the number of milliseconds (ms) to use for the delay.

### BGM Channel

This drop-down list allows you to select an individual channel to use as the zone BGM. The channels available are for the device selected in the **BGM Device** field.

### Match to First

Click this button to take the three levels (Overall, Emg, BGM, and Duck), Delay and the BGM Channel selection of the first zone and copy them to the remaining zones in the device.

### EQ

Each channel has a nine-band parametric EQ available to adjust the signal as necessary to meet the needs of the loudspeakers and allow the system to be adjusted to maximize intelligibility in the acoustic space. Press the **EQ** button for a channel to open the EQ

window as shown in Figure 6-76.

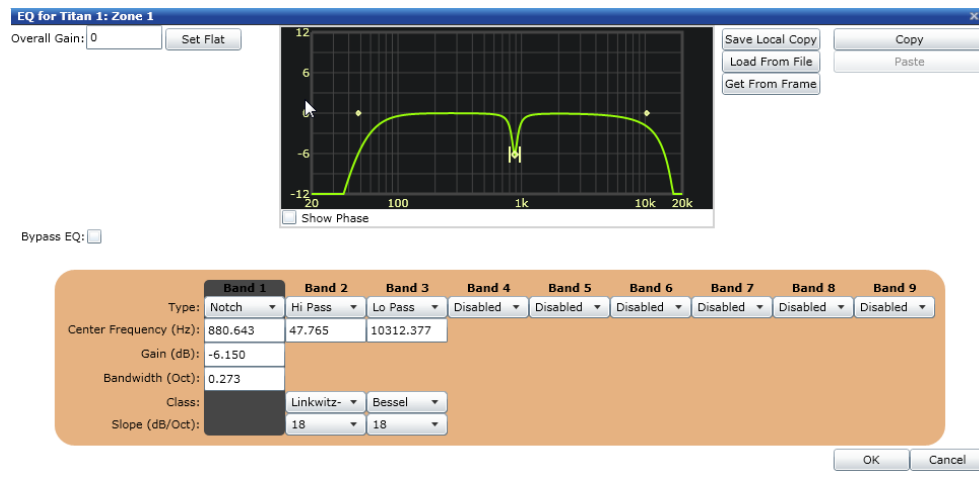


Figure 6-76: EQ Settings Window

Bands are selected by clicking on one of the nine band names immediately below the frequency response curve graph. A specific band can be selected and then adjusted using the edit boxes below the names. It is also possible to select a filter and edit its frequency, gain and bandwidth directly in the Frequency Response display window using the mouse to drag the filter position, cut/boost, or bandwidth.

### Type

Select a filter type in the drop-down list. The available options are:

- **Peaking** – A typical bandpass type filter
- **Notch** – Sharp bandpass cut-only filter
- **Hi Pass** – Filter for rolling off frequencies lower than the cutoff frequency
- **Lo Pass** – Filter for rolling off frequencies higher than the cutoff frequency
- **All Pass** – Filter used for phase adjustments near the center frequency
- **Disabled** – Turn this filter off

**Note:** The options for the filter parameters will change slightly depending on the filter type selected.

### Center Frequency (Hz)

The center frequency (or cutoff frequency) of the filter is set by entering a numeric value in the edit box. The frequency parameter can also be changed by dragging the diamond icon in the graph laterally left or right.

### Gain (dB)

*This is only available for Peaking and Notch filter types.*

The filter gain is set by entering a numeric value (using + or - values for relative dB) in the edit box. The gain can also be changed by clicking and dragging the diamond icon for the filter up or down in the frequency response graph.

### Bandwidth (Oct.)

*This is only available for Peaking and Notch filter types.*

The filter bandwidth is set by entering a numeric value in the edit box. The value used is measured in Octaves. For example, if a 1/3 octave filter is required then a value of 0.333 would be used. The bandwidth can also be altered using vertical line icons located on each side of the diamond filter icon in the frequency response graph. Click a line and move the mouse laterally to change the bandwidth.

### Class

*This is only available for Hi Pass and Lo Pass filter types.*

The mathematical function used to calculate the filter is selected by picking an available type from the drop-down list box. There are three available class types listed below.

- Butterworth
- Bessel
- Linkwitz-Riley

### Slope (dB/Oct.)

*This is only available for Hi Pass and Lo Pass filter types.*

This value determines the frequency roll-off rate for the filter in decibels per octave. Available values range from a shallow 6 dB/Octave to a very steep 48 dB/Octave.

### Bypass EQ

When checked, this removes the effects of all filter bands from the signal path without resetting the filters to a flat response curve. When the EQ is bypassed, the signal will pass through the object without any modifications to the frequency characteristics.

### Gain Slider/Edit Box

The EQ provides a small range of gain adjustment in order to compensate for the overall effect of the EQ curve and allow signal-to-noise ratio and dynamic range to be maximized. This gain is set by entering a value (in + or - relative dB) in the edit box. It should only be used within a range from 6dB of attenuation to 6dB of gain.

### Set Flat

This button resets all filters to a gain setting of 0dB (flat response) and disables all bands except for band 1.

### Show Phase

When checked, the phase response through the EQ will be shown as a red curve on the graph.

### Save Local Copy

Click this button to save the EQ curve as an XML file. This allows you to archive the file as well as save it as a preset and load it into other channels.

### Load From File

Click this button to open a standard Windows file dialog window. From here, you can locate an XML file that has been stored with an EQ curve and load it into the frame.

### Get From Frame

Click this button to force the window to reload the current EQ settings from the frame.

### Copy

Click this button to copy all of the current EQ settings to the clipboard. You can then move to another channel and use the **Paste** button to copy settings between channels.

### Paste

Click this button to paste the EQ settings stored on the clipboard to the current channel. This button will be dimmed if there are no available EQ settings to paste from the clipboard.

## Ambient

Titan series T9116 frames are equipped with ambient noise compensation (Ambient Analysis) capabilities when paired with a noise sensor collector, such as a T9032NS. Ambient Analysis adjusts the output attenuation of a channel in response to ambient noise level measured in the area served by the channel. Anywhere from one (1) to four (4) ambient noise sensors can be assigned to each channel. Channels can also be slaved to other channels. Click the **Ambient** button for the channel you wish to configure to open a window such as that shown in Figure 6-77.

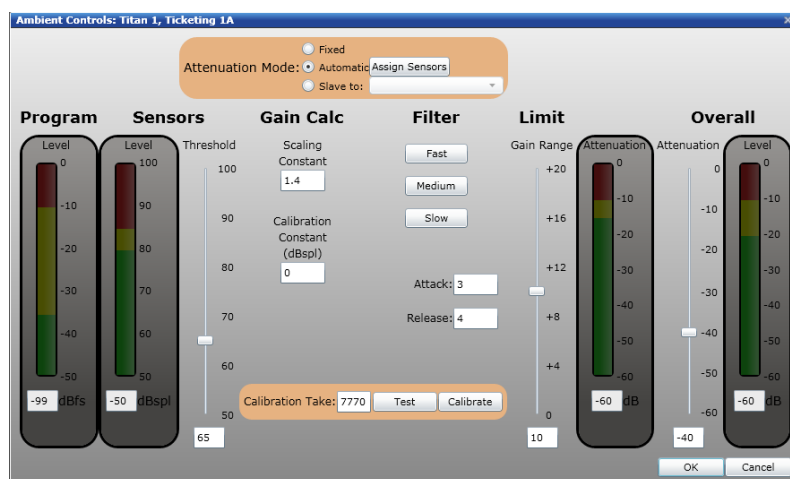


Figure 6-77: Ambient Analysis



### Attenuation Mode

Each channel can be set to one of three different possible attenuation modes as described below.

- **Fixed** – This mode deactivates the ambient noise compensation for this channel. The channel output level will remain at the level set by the **Overall** attenuator.
- **Automatic** – This mode will allow the level of the channel to automatically adjust based on the ambient noise level as detected by the ambient sensor input. The level will increase above the **Overall** attenuator setting as higher ambient noise levels are detected by the ambient noise sensor. The level will increase by an amount proportional to the detected level as determined by the **Scaling Constant**. The maximum level increase is determined by the **Limit** slider.
- **Slave** – This mode will cause the selected channel to follow the ambient noise compensation settings of another channel. Using this setting allows multiple outputs on the same T9116 frame to be adjusted by a single sensor or a gang of sensors. This setting is useful in very large spaces where multiple amplifier channels are required due to the power load requirements of the loudspeaker lines. Select the channel that this channel will be slaved to from the drop-down list.

**Note:** A channel can only be slaved to a channel that is located in the same T9116 mainframe.

### Program

This level meter displays the real-time audio signal level at the input of the Ambient Analysis object. This signal is post-EQ and post-delay but does not have the test signal.

### Sensors - Level

This level meter displays the real-time sound pressure level (SPL) from the ambient noise sensor.

**Note:** This level is the sum of both the ambient noise in the space and the program audio from the system. The Ambient Analysis algorithm filters out the audio system's contribution to the overall level and provides a real value of ambient noise level to the system for processing.

### Sensors - Threshold

The threshold determines the level at which the ambient noise compensation is suspended because the level at the sensor is too low. When the detected level from the ambient noise sensor rises above the threshold setting, then the system will actively operate. It will filter the system program audio component from the detected level to accurately adjust the output attenuation based on the calculated noise level. When the level is below the threshold, the system will stop actively adjusting the output attenuation and return to the maximum attenuation setting which is the base level setting as defined by the **Overall** attenuation control.

The threshold is set by adjusting the slider with the mouse or by manually typing a value in the edit box below the slider using a positive numerical value.

### Gain Calc - Scaling Constant

The **Scaling Constant** determines the amount of ambient noise level that will result in the output level to increase by 1 dB. A scaling constant of 1 will result in the output level increasing by 1 dB for each 1 dB increase in ambient sensor level. Figure 6-77 shows a scaling constant of 1.4. With this setting, a 1.4 dB increase in ambient sensor level will result in a 1 dB increase in output level up to the point where the **Limit** has been reached.

### Gain Calc - Calibration Constant

This value is calculated and automatically entered during the channel calibration process. It can be manually adjusted by typing in a new value in the edit box.

#### Caution!

*This value should only be manually adjusted after an automatic calibration has not been completely successful. Adjustments should be made in very small increments of 2 or 3 dB at a time.*

Use the following guidelines when adjusting the calibration constant if the system is not properly responding after an automatic calibration.

- If the system turns down as soon as an announcement is active, then the calibration constant is too high. It should be reduced in small increments until the system remains stable while an announcement is active.
- If the system gets louder as while an announcement is active, then the calibration constant is too low. It should be increased in small increments until the system remains stable while an announcement is active.

### Filter - Attack

This value determines the rate at which the output level will increase when an increase in the ambient sensor level has been received. The value is in the number of seconds and can be directly entered in the box using the keyboard.

### Filter - Release

This value determines the rate at which the output level will decrease when a decrease in the ambient sensor level has been received. The value is in the number of seconds and can be directly entered in the box using the keyboard.

### Filter - Presets

- **Fast** – Preset where the attack time is 1 second and the release time is 2 seconds.
- **Medium** – Preset where the attack time is 3 seconds and the release time is 4 seconds.
- **Slow** – Preset where the attack time is 7 seconds and the release time is 10 seconds.

### Limit

The limit sets the maximum amount of gain that can be applied through the ambient analysis compensation process. The amount of gain available is determined by the attenuator setting of the **Overall** attenuation slider. For example, if the channel out slider is set to  $-20\text{dB}$  as shown in *Ambient Analysis*, then the maximum available setting for the Limit slider will be  $+20\text{dB}$ . Setting the Limit to  $+12\text{dB}$  will cause the output level to be increased by a maximum of  $12\text{dB}$  above the setting of the **Overall** attenuation slider. Thus, with very loud ambient noise levels the output level will be effectively set to  $-8\text{dB}$  and reduced to  $-20\text{dB}$  when the ambient noise level is very low or has dropped below the threshold. The ambient noise compensation will be continually adjusted within this range as long as the noise level remains above the threshold but below the amount required to drive the system to maximum level.

**Note:** The Ambient Analysis algorithm differentiates between program audio and ambient noise level detected by the ambient noise sensor. It is possible for the sensor level to be above the threshold with no ambient noise compensation applied when the level detected is program audio from the system.

The limit is set by adjusting the slider with the mouse or by manually typing a value in the edit box below the slider using a positive numerical value.

### Overall Level

This slider controls the main output attenuator for paging, BGM, and program signals. The meter indicates the current signal level that is feeding the analog input of the power amplifier.

### Assign Sensors

Clicking on the **Assign Sensors** button will launch the Ambient Sensor Assignment window as shown in Figure 6-78. This is where one or more ambient sensors are directly assigned to control the currently selected channel. Each channel can have one (1) to four (4) ambient noise sensors assigned. When multiple sensors are use, the system averages the signal levels from all assigned sensors to obtain an ambient noise level reading. There are three very critical rules related to using multiple ambient noise sensors in a single zone that are described below.

Rules for using multiple sensors for a single zone:

- All sensors must be connected to the same sensor collection unit.
- All sensors must be connected to the same input group on the collection unit.
- All sensors must be located in the same loudspeaker zone.

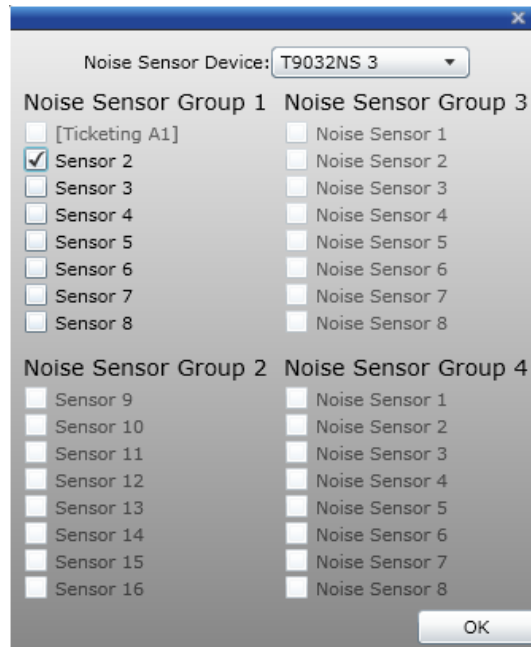


Figure 6-78: Ambient Sensor Assignment

To assign sensors, first select the appropriate collector device from the **Noise Sensor Device** drop-down list. Then select up to four (4) sensors to use for the channel.

**Note:**

Sensor inputs on collector units are sub-divided into groups of eight (8). All sensors for a single channel must reside on the same collector unit group. If a sensor is currently selected for a channel, then all other groups will be grayed out and not available for selection. To change to a sensor that is not located in the currently selected group, first un-check all sensor assignments, then any sensor group will be available for selection.

**Calibration Take**

Enter the take number that you wish to play during the calibration if you wish to use something other than the default of 7770.

**Calibrate**

Press this button to start the calibration process. A calibration message will be played to the channel output.

**Caution!**

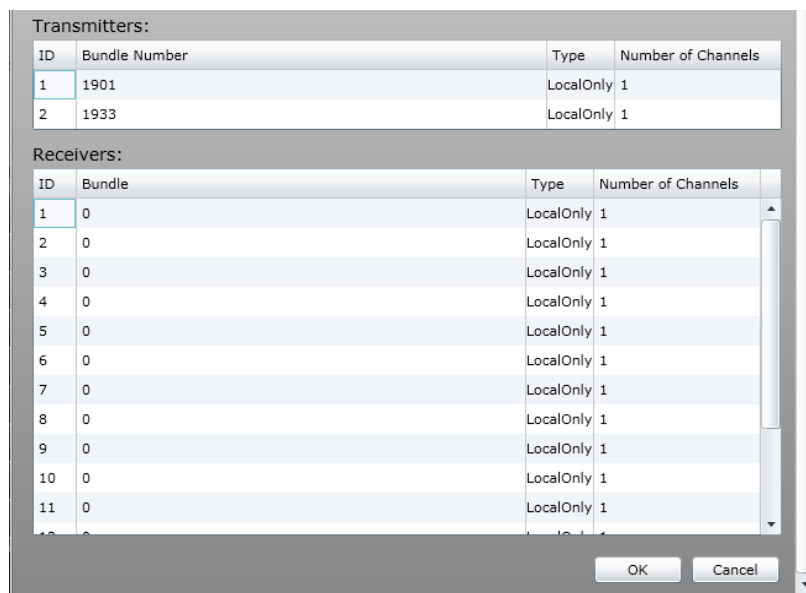
*The ambient noise level in the area being calibrated needs to be at least 15dB below the sensor threshold level setting during calibration in order to yield a valid calibration.*

## Test

The **Test** button will play the calibration take to the selected channel. This is used after the calibration process is complete to see if the system correctly differentiates between program and ambient noise. When the test take is playing and the calibration has been successful, the level should not change. If the system turns up or down during the test playback, then either the calibration constant should be adjusted or a re-calibration should be attempted.

## CobraNet Transmitters and Receivers

The CobraNet transmitters and receivers are automatically set by the system and the defaults are sufficient for most applications. The ability to override the defaults is provided here if it is required.



Transmitters:			
ID	Bundle Number	Type	Number of Channels
1	1901	LocalOnly	1
2	1933	LocalOnly	1

Receivers:			
ID	Bundle	Type	Number of Channels
1	0	LocalOnly	1
2	0	LocalOnly	1
3	0	LocalOnly	1
4	0	LocalOnly	1
5	0	LocalOnly	1
6	0	LocalOnly	1
7	0	LocalOnly	1
8	0	LocalOnly	1
9	0	LocalOnly	1
10	0	LocalOnly	1
11	0	LocalOnly	1

OK Cancel

Figure 6-79: T9116 CobraNet Transmitters and Receivers

## DNA7800 Series Amplifier

**DNA7800 Amplifier Frame #1**  
DNA7800 Series Amplifier

[Apply Configuration Now](#)


Description:  [Show Base Fields](#)

Location:

IP Address:

Start Zone:

Total Zones:

BGM Device:  

Monitor Test: [Monitor Test](#)

Zones: [Match To First](#)

#	Description	Overall	Emg	Night	BGM	Duck	Delay	BGM Channel		
11	Building 12 - 1A	-20	6	-6	-15	-20	0	Channel 1	EQ	Ambient
12	Building 12 - 1B	-20	6	-6	-15	-20	0	Channel 2	EQ	Ambient
13	Building 11 - 2A	-20	6	-6	-15	-20	0	Channel 2	EQ	Ambient
14	Building 11 - 2B	-20	6	-6	-15	-20	0	Channel 1	EQ	Ambient

[OK](#) [Cancel](#)

Figure 6-80: DNA7800 Series Amplifier Setup

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### IP Address

Enter the IP address for the device here.

### Start Zone

This is the zone number that represents the first zone in the device. The system will automatically use the next available zone number as the starting zone number when you add a new device. It can be edited here if needed. For example, you have a system that already has 32 zones. When you add a new DNA7800, the starting zone will be 33.

### Total Zones

This number represents the total number of zones that will be present on this device. A DNA7800 supports a total of 4 zones, but you may want to set this to a lower number if you are not using all outputs. This will prevent the unused output from contributing to the total number of zones allowed with your software license.

## BGM Device

Once you have defined one or more devices in the system as a BGM source, it is then available as an item in this drop-down list. You select the device from this list that will be used as the source device for the BGM. You can then select individual channels to be used for each zone output. You can click the **X** icon to the right of the drop-down list to clear the selection.

## Zones

This list allows you to configure each output zone in the device.

### Zone Number

This is the number that will be used to identify this output zone in the system. This number is calculated based on the values in the **Start Zone** and **Total Zones** fields. Each output channel is an individual zone.

### Description

Double-click on this field to edit a text descriptor for the zone.

### Levels

- **Overall** – This is the master output level control for the zone. Adjusting this level will change the levels of both announcements and BGM. This number represents the amount of attenuation relative to 0dBFS. So a value of –30 will attenuate the level by 30dB. To reduce the level by an additional 10dB, you would enter a value of –40.
- **Emg** – This field defines an offset to the **Overall** level to use when an announcement is made with an announce class that has the **Emergency** flag set. This allows you to increase the level of the output for emergency announcements. The default value is 6dB. If you use this setting with an **Overall** setting of –20dB, then an emergency announcement will be played using an output level that is 6dB louder than normal announcements.
- **Night** – This field defines an offset to the **Overall** level to use when the night schedule is invoked as programmed in the **Day / Night Schedule** section of the **Configuration** tab. This allows you to decrease the level of the output based on the time of day for each day of the week. The default value is 0dB and is set by entering a value to turn the output down. For example, if you enter a value of 6, then the channel level will be turned down by 6dB when the Night schedule is placed in effect.
- **BGM** – This field sets the BGM level for the zone. This number represents the amount of attenuation relative to 0dBFS. So a value of –30 will attenuate the level by 30dB. To reduce the level by an additional 10dB, you would enter a value of –40.
- **Duck** – This field controls how much the level of BGM will be reduced when an announcement is made to the zone. A value of –10 will reduce the BGM level by 10dB when an announcement is made. A value of –60 will effectively mute the BGM level when an announcement is made.

## Delay

Each channel can be delayed by the amount entered in this field. The value is in milliseconds with a valid range of 0ms to 25ms in whole millisecond intervals. Setting this value to 0 removes any signal delay.

## BGM Channel

This drop-down list allows you to select an individual channel to use as the zone BGM. The channels available are for the device selected in the **BGM Device** field.

## Match to First

Click this button to take the three levels (Overall, Emg, Night, and BGM) and the BGM Channel selection and copy them to the remaining zones in the device.

## EQ

Each channel has a EQ module available to adjust the signal as necessary to meet the needs of the loudspeakers and allow the system to be adjusted to maximize intelligibility in the acoustic space. Press the **EQ** button for a channel to open the EQ window as shown in Figure 6-81.

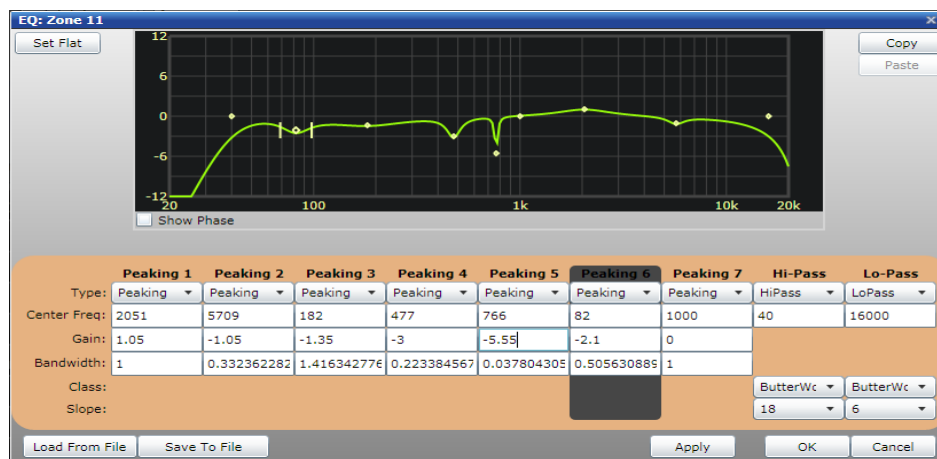


Figure 6-81: EQ Settings Window

Bands are selected by clicking on one of the nine band names immediately below the frequency response curve graph. A specific band can be selected and then adjusted using the edit boxes below the names. It is also possible to select a filter and edit its frequency, gain and bandwidth directly in the Frequency Response display window using the mouse to drag the filter position, cut/boost, or bandwidth.

## Type

Select a filter type in the drop-down list. The available options for filters 1 through 7 are:

- **Peaking** – A typical bandpass type filter
- **Disabled** – Turn this filter off

The available options for the Hi-Pass and Lo-Pass filters are:



- **Hi Pass** – Filter for rolling off frequencies lower than the cutoff frequency
- **Lo Pass** – Filter for rolling off frequencies higher than the cutoff frequency
- **Disabled** – Turn this filter off

**Note:** The options for the filter parameters will change slightly depending on the filter type selected.

### Center Frequency (Hz)

The center frequency (or cutoff frequency) of the filter is set by entering a numeric value in the edit box. The frequency parameter can also be changed by dragging the diamond icon in the graph laterally left or right.

### Gain (dB)

*This is only available for Peaking filter type.*

The filter gain is set by entering a numeric value (using + or – values for relative dB) in the edit box. The gain can also be changed by clicking and dragging the diamond icon for the filter up or down in the frequency response graph.

### Bandwidth (Oct.)

*This is only available for Peaking filter type.*

The filter bandwidth is set by entering a numeric value in the edit box. The value used is measured in Octaves. For example, if a 1/3 octave filter is required then a value of 0.333 would be used. The bandwidth can also be altered using vertical line icons located on each side of the diamond filter icon in the frequency response graph. Click a line and move the mouse laterally to change the bandwidth.

### Class

*This is only available for Hi Pass and Lo Pass filter types.*

The mathematical function used to calculate the filter is selected by picking an available type from the drop-down list box. Currently, the only type of filter class available is the Butterworth type filter.

### Slope (dB/Oct.)

*This is only available for Hi Pass and Lo Pass filter types.*

This value determines the frequency roll-off rate for the filter in decibels per octave. Available values range from 6 dB/Octave to 18 dB/Octave.

### Set Flat

This button resets all filters to a gain setting of 0dB (flat response) and disables all bands except for band 1.

### Show Phase

When checked, the phase response through the EQ will be shown as a red curve on the graph.

### Save To File

Click this button to save the EQ curve as an XML file. This allows you to archive the file as well as save it as a preset and load it into other channels.

### Load From File

Click this button to open a standard Windows file dialog window. From here, you can locate an XML file that has been stored with an EQ curve and load it into the frame.

### Apply

Click this button to send the current EQ settings to the frame.

### Copy

Click this button to copy all of the current EQ settings to the clipboard. You can then move to another channel and use the **Paste** button to copy settings between channels.

### Paste

Click this button to paste the EQ settings stored on the clipboard to the current channel. This button will be dimmed if there are no available EQ settings to paste from the clipboard.

### Ambient

DNA series amplifier frames are equipped with ambient noise compensation (Ambient Analysis) capabilities utilizing the eight (8) built-in ambient sensor inputs. Ambient Analysis adjusts the output attenuation of a channel in response to ambient noise level measured in the area served by the channel. One (1) or two (2) ambient noise sensors can be used for each channel. Channels can also be slaved to other zones. Click the **Ambient** button for the channel you wish to configure to open a window such as that shown in Figure 6-82.

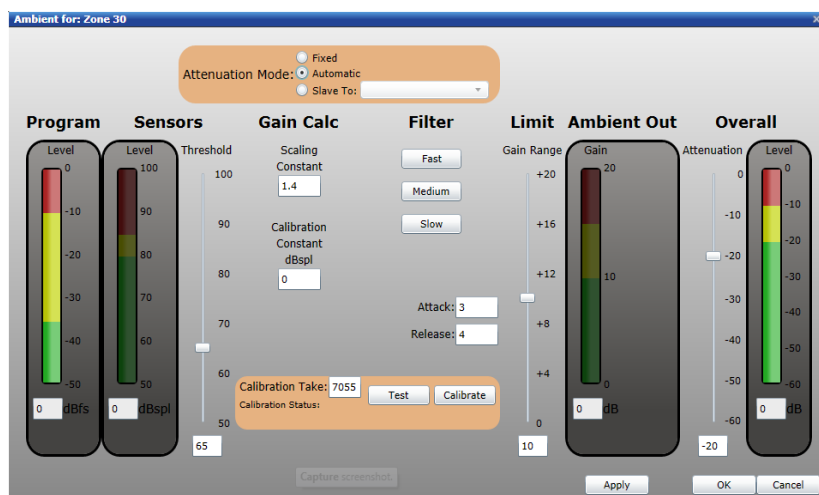


Figure 6-82: Ambient Analysis

### Attenuation Mode

Each channel can be set to one of three different possible attenuation modes as described below.

- **Fixed** – This mode deactivates the ambient noise compensation for this channel. The channel output level will remain at the level set by the **Overall** attenuator.
- **Automatic** – This mode will allow the level of the channel to automatically adjust based on the ambient noise level as detected by the ambient sensor input. The level will increase above the **Overall** attenuator setting as higher ambient noise levels are detected by the ambient noise sensor. The level will increase by an amount proportional to the detected level as determined by the **Scaling Constant**. The maximum level increase is determined by the **Limit** slider.
- **Slave** – This mode will cause the selected channel to follow the ambient noise compensation settings of another channel. Using this setting allows multiple outputs on the same DNA amplifier frame to be adjusted by a single sensor or a pair of sensors. This setting is useful in very large spaces where multiple amplifier channels are required due to the power load requirements of the loudspeaker lines. Select the channel that this channel will be slaved to from the drop-down list.

**Note:** A channel can only be slaved to a channel that is located in the same DNA amplifier mainframe.

### Program

This level meter displays the real-time audio signal level at the input of the Ambient Analysis object. This signal is post-EQ and post-delay but does not have the test signal.

### Sensors – Level

This level meter displays the real-time sound pressure level (SPL) from the ambient noise sensor.

**Note:** This level is the sum of both the ambient noise in the space and the program audio from the system. The Ambient Analysis algorithm filters out the audio system's contribution to the overall level and provides a real value of ambient noise level to the system for processing.

### Sensors – Threshold

The threshold determines the level at which the ambient noise compensation is suspended because the level at the sensor is too low. When the detected level from the ambient noise sensor rises above the threshold setting, then the system will actively operate. It will filter the system program audio component from the detected level to accurately adjust the output attenuation based on the calculated noise level. When the level is below the threshold, the system will stop actively adjusting the output attenuation and return to the maximum attenuation setting which is the base level setting as defined by the **Overall** attenuation control.

The threshold is set by adjusting the slider with the mouse or by manually typing a value in the edit box below the slider using a positive numerical value.

### Gain Calc – Scaling Constant

The **Scaling Constant** determines the amount of ambient noise level that will result in the output level to increase by 1 dB. A scaling constant of 1 will result in the output level increasing by 1 dB for each 1 dB increase in ambient sensor level. Figure 6-82 shows a scaling constant of 1.4. With this setting, a 1.4 dB increase in ambient sensor level will result in a 1 dB increase in output level up to the point where the **Limit** has been reached.

### Gain Calc – Calibration Constant

This value is calculated and automatically entered during the channel calibration process. It can be manually adjusted by typing in a new value in the edit box.

**Caution!** *This value should only be manually adjusted after an automatic calibration has not been completely successful. Adjustments should be made in very small increments of 2 or 3 dB at a time.*

Use the following guidelines when adjusting the calibration constant if the system is not properly responding after an automatic calibration.

- If the system turns down as soon as an announcement is active, then the calibration constant is too high. It should be reduced in small increments until the system remains stable while an announcement is active.
- If the system gets louder as while an announcement is active, then the calibration constant is too low. It should be increased in small increments until the system remains stable while an announcement is active.

### Filter – Attack

This value determines the rate at which the output level will increase when an increase in the ambient sensor level has been received. The value is in the number of seconds and can be directly entered in the box using the keyboard.

### Filter – Release

This value determines the rate at which the output level will decrease when a decrease in the ambient sensor level has been received. The value is in the number of seconds and can be directly entered in the box using the keyboard.

### Filter – Presets

- **Fast** – Preset where the attack time is 1 second and the release time is 2 seconds.
- **Medium** – Preset where the attack time is 3 seconds and the release time is 4 seconds.
- **Slow** – Preset where the attack time is 7 seconds and the release time is 10 seconds.

### Limit

The limit sets the maximum amount of gain that can be applied through the ambient analysis compensation process. The amount of gain available is determined by the attenuator setting of the **Overall** attenuation slider. For example, if the channel out slider is set to  $-20\text{dB}$  as shown in Figure 6-82, then the maximum available setting for the Limit slider will be  $+20\text{dB}$ . Setting the Limit to  $+12\text{dB}$  will cause the output level to be increased by a maximum of  $12\text{dB}$  above the setting of the **Overall** attenuation slider. Thus, with very loud ambient noise levels the output level will be effectively set to  $-8\text{dB}$  and reduced to  $-20\text{dB}$  when the ambient noise level is very low or has dropped below the threshold. The ambient noise compensation will be continually adjusted within this range as long as the noise level remains above the threshold but below the amount required to drive the system to maximum level.

**Note:** The Ambient Analysis algorithm differentiates between program audio and ambient noise level detected by the ambient noise sensor. It is possible for the sensor level to be above the threshold with no ambient noise compensation applied when the level detected is program audio from the system.

The limit is set by adjusting the slider with the mouse or by manually typing a value in the edit box below the slider using a positive numerical value.

### Overall Level

This slider controls the main output attenuator for paging, BGM, and program signals. The meter indicates the current signal level that is feeding the analog input of the power amplifier.

## Sensor Assignments

Sensor assignments in the DNA amplifier are fixed as listed below. One or two sensors can be connected and will be averaged to control a channel. The amplifier will automatically configure itself to use two sensors if a second sensor is attached so there is no need to enable or disable a sensor.

Sensor inputs are assigned as follows:

- Sensor Inputs 1 and 2 are assigned to Channel 1A
- Sensor Inputs 3 and 4 are assigned to Channel 1B
- Sensor Inputs 5 and 6 are assigned to Channel 2A
- Sensor Inputs 7 and 8 are assigned to Channel 2B

## Calibration Take

Enter the take number that you wish to play during the calibration if you wish to use something other than the default of 7055.

## Calibrate

Press this button to start the calibration process. A calibration message will be played to the channel output.

### Caution!

*The ambient noise level in the area being calibrated needs to be at least 15dB below the sensor threshold level setting during calibration in order to yield a valid calibration.*

## Test

The **Test** button will play the calibration take to the selected channel. This is used after the calibration process is complete to see if the system correctly differentiates between program and ambient noise. When the test take is playing and the calibration has been successful, the level should not change. If the system turns up or down during the test playback, then either the calibration constant should be adjusted or a re-calibration should be attempted.

## Monitor Test

Click this button to open the automated test window for the DNA amplifier as shown in the following image. From here, you can view test results, initiate a test, calibrate the test points, and configure the automated testing functions.

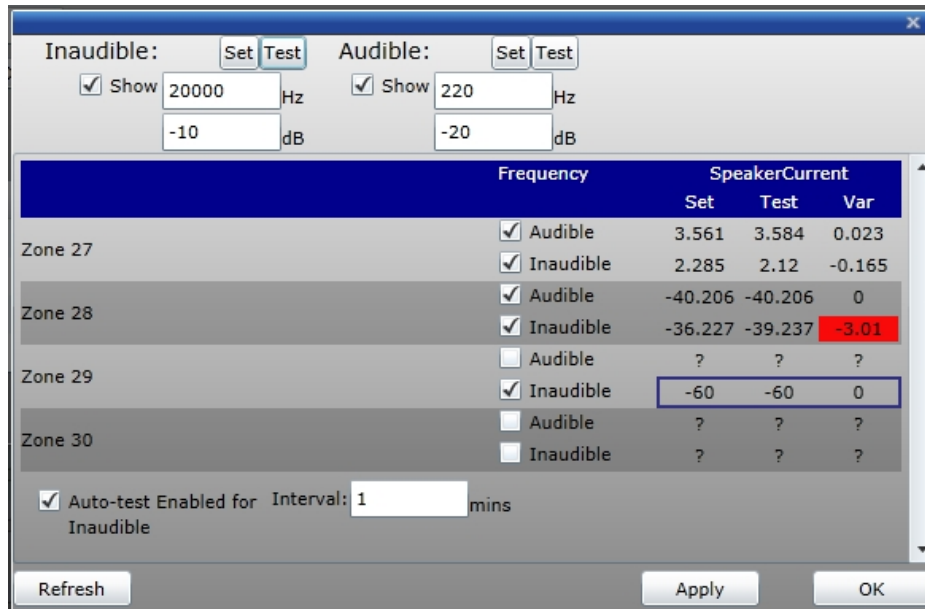


Figure 6-83: DNA Monitor Test Window

### Show

The two checkboxes across the top of the window allow you to decide if you want to show or not show either the inaudible or audible test information for each channel. When the box is checked, the test will be visible for each channel. When it is not checked, the test will be hidden for each channel. This is useful if you are not using one of the available tests. You can suppress displaying information for a test that is not in use.

### Set / Test Buttons

There are two sets of **Test / Set** buttons at the top of the window. One set is for the inaudible test and the other for the audible test. Set is used to record the baseline values for each channel. You must perform a set once you have the system operational and all loudspeakers attached. The amplifier will store these channel values and compare them with the results obtained when performing a test. When test values do not match the set values, then a channel will be faulted.

### Caution!

Clicking on the **Test** or **Set** buttons for the audible test will result in tones played to all outputs of the amplifier.

### Inaudible and Audible Test Frequency and Level

Inaudible:		Set	Test	Audible:		Set	Test
<input checked="" type="checkbox"/> Show	20000	Hz		<input checked="" type="checkbox"/> Show	400	Hz	
	-20	dB			-20	dB	

Figure 6-84: Test Frequency and Level

You can specify the frequency to be used for the inaudible and audible tests by typing it into the appropriate edit box. The output level of the test tone for each test is also adjustable. You change the output level by typing in the output level in the edit box. The valid range for the test tone is -100 to +3 where +3 will product a tone just shy of driving the amplifier into clipping.

### Frequency

You have the option to individually enable or disable the audible and inaudible tests for each channel. When the checkbox for a test is checked, it will be performed for that channel when you click the Test or Set button for the test. If it is not checked, then it will not read a value for that channel. If the audible test is disabled for a channel, then the test tone will not be played to that channel.

### Speaker Current

These two columns display the actual results of the test. The **Set** column displays the reading that was recorded when you calibrated the test using the **Set** button. The **Var** column displays the difference between the recorded set level and the level measured during the most recent test. This level is the dB above (+) or below (–) the set value for the channel. When the measured value is beyond a +/– 3dB window, then the point is considered faulted and it will be displayed with a red background.

**Note:** If a "?" is shown, it indicates that data was not available for that channel. This could be the case if the test has been disabled for a channel or if no set has been performed.

### Auto-test Enabled for Inaudible

When this box is checked, the inaudible test will execute automatically at the interval specified in the **Interval** edit box. This allows for periodic testing of channels without any disruption in functionality.

### Interval

This entry box only appears when the **Auto-test Enabled for Inaudible** box is checked. Enter the time (in minutes) for the interval between periodic inaudible tests.

### Refresh

Click this button to reload the **Test / Set** values from the amplifier.



### Apply

Click this button to send the current settings to the amplifier frame without closing the window.

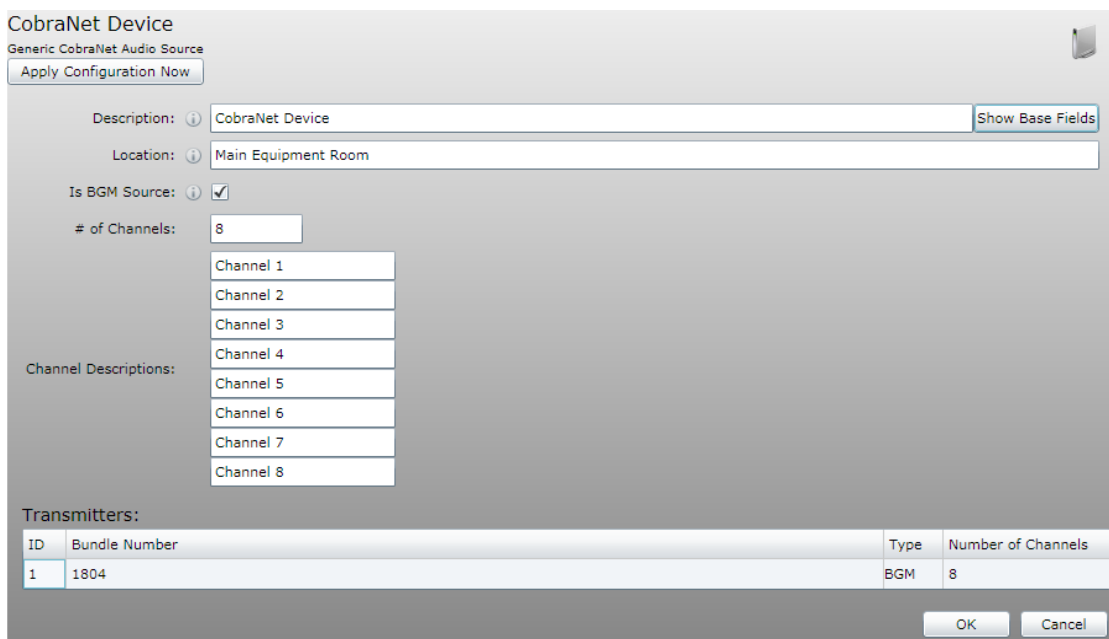
### OK

Click this button to send the current settings to the amplifier frame and close the window.

## Generic CobraNet Device

This device type is used to configure the system to accept a non-IED CobraNet device as a BGM source.

**Note:** The 1522LR is not automatically discovered by the system. You must manually create it by adding it as a new device in the **Devices** section. The physical device must be manually configured with the appropriate settings using other utilities such as *CobraNet Discovery*.



**CobraNet Device**  
Generic CobraNet Audio Source

Apply Configuration Now

Description: CobraNet Device Show Base Fields

Location: Main Equipment Room

Is BGM Source: ☒

# of Channels: 8

Channel Descriptions:

- Channel 1
- Channel 2
- Channel 3
- Channel 4
- Channel 5
- Channel 6
- Channel 7
- Channel 8

Transmitters:

ID	Bundle Number	Type	Number of Channels
1	1804	BGM	8

OK Cancel

Figure 6-85: Generic CobraNet Device

### Description

Enter text here to give the device a descriptive name.

### Location

Enter text here to describe the physical location of the device.

### Is BGM Source

This box is checked by default, and must be so to allow the system to treat the device as a BGM source for the system. The device will appear as an available BGM source for output devices.

### # of Channels

This is the total number of channels that will be used as BGM inputs on the device.  
(Maximum of 8 channels)

**Note:** If you are using a device that has more than one (1) transmitter for more than eight (8) channels, then you must configure two or more of the *Generic CobraNet Device*.

### Channel Descriptions

This description is used to give a name to each BGM channel that will be sourced from this device. This name will appear in selection lists for devices when you are configuring outputs to receive BGM.

### Transmitters

This section is where you specify the CobraNet information for the transmitter used by the device. The settings here must match the settings on the device.

#### ID

This is an index number used to identify the transmitter in the list. It will be fixed at 1 for this device and cannot be changed.

#### Bundle Number

Click to edit the bundle number for the device. You must use the bundle number that matches the one used by the device.

#### Type

This should always be set to BGM.

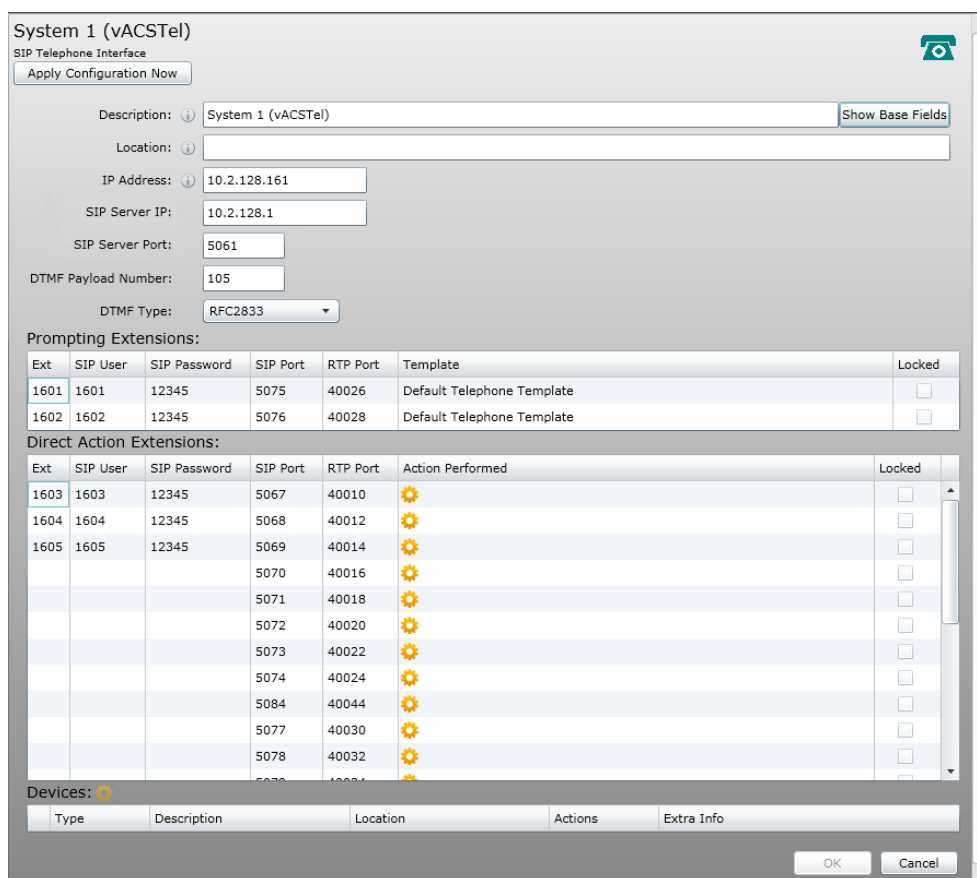
#### Number of Channels

Enter the number of channels that will be received from the transmitting device here. If you are not using all eight (8) channels defined in the **# of Channels** field, you should change this number to match the number of channels actually being used.

### SIP Telephone Interface

This internal software device is used to provide VoIP telephone interface lines for the 1100ACS-32, 1200ACS-32, 1100MSG, and 1200MSG devices. It is capable of providing up to two (2)

lines that will prompt the user to select the actions that they wish to perform by using pre-defined action templates. It can also support up to 8 direct action extensions that will immediately execute the pre-defined action when the line answers.



System 1 (vACSTel)

SIP Telephone Interface

Apply Configuration Now

Description: System 1 (vACSTel) Show Base Fields

Location:

IP Address: 10.2.128.161

SIP Server IP: 10.2.128.1

SIP Server Port: 5061

DTMF Payload Number: 105

DTMF Type: RFC2833

Prompting Extensions:

Ext	SIP User	SIP Password	SIP Port	RTP Port	Template	Locked
1601	1601	12345	5075	40026	Default Telephone Template	<input type="checkbox"/>
1602	1602	12345	5076	40028	Default Telephone Template	<input type="checkbox"/>

Direct Action Extensions:

Ext	SIP User	SIP Password	SIP Port	RTP Port	Action Performed	Locked
1603	1603	12345	5067	40010		<input type="checkbox"/>
1604	1604	12345	5068	40012		<input type="checkbox"/>
1605	1605	12345	5069	40014		<input type="checkbox"/>
			5070	40016		<input type="checkbox"/>
			5071	40018		<input type="checkbox"/>
			5072	40020		<input type="checkbox"/>
			5073	40022		<input type="checkbox"/>
			5074	40024		<input type="checkbox"/>
			5084	40044		<input type="checkbox"/>
			5077	40030		<input type="checkbox"/>
			5078	40032		<input type="checkbox"/>

Devices:

Type	Description	Location	Actions	Extra Info
------	-------------	----------	---------	------------

OK Cancel

Figure 6-86: SIP Telephone Interface Configuration

## Description

Enter text here to give the device a descriptive name.

## Location

Enter text here to describe the physical location of the device.

## IP Address

Enter the IP address for the device here.

## SIP Server IP

This is the IP address or host name of the PBX that will host this VoIP line.

## SIP Server Port

This is the primary SIP port used for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

## DTMF Payload Number

This determines the DTMF payload number used for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

## DTMF Type

This drop-down list selects the DTMF type used for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

## Prompting Extensions

A prompting extension will answer the line and prompt the user to select what action they wish to perform. The prompts will play back and tell the user what button to press for an action or to move to another menu tree level. The prompt tree is implemented by creating a telephone template and then applying that template to the extension.

### Ext

This is the extension number that this line will use to connect to the PBX. You must obtain this information from the PBX provider.

### SIP User

This is the user ID that this line will use to connect to the PBX. You must obtain this information from the PBX provider.

### SIP Password

This is the password associated with the SIP User that this line will use to connect to the PBX. You must obtain this information from the PBX provider.

### SIP Port

This determines the SIP port used by this line for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

### RTP Port

This determines the RTP port used by this line for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

### Template

Templates are used to define a series of voice prompts that the user will hear when the line is answered. Each item in the list is associated with an entry code in the template definition. Select the template to use for this line from the drop-down list.

### Locked

When checked, security is enabled. Access is restricted based on the data entered in **Mic Passwords**. Caller ID can be used to automatically login a user calling from a particular extension. If this is not defined, then the user will be prompted to enter their 4-digit password to gain access. If this box is not checked, there will be no security protection. Refer to the **Mic Passwords** section of the documentation for more information.

## Direct Action Extensions

When defined, each line will immediately execute the defined action when the line is answered.

### Ext

This is the extension number that this line will use to connect to the PBX. You must obtain this information from the PBX provider.

### SIP User

This is the user ID that this line will use to connect to the PBX. You must obtain this information from the PBX provider.

### SIP Password

This is the password associated with the SIP User that this line will use to connect to the PBX. You must obtain this information from the PBX provider.

### SIP Port

This determines the SIP port used by this line for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

### RTP Port

This determines the RTP port used by this line for the VoIP service. This is automatically set and should not be edited unless required by the PBX vendor.

## Action Performed

This is where you define the action that will be performed when the line answers. You define the action by clicking on the small yellow gear icon in the list or by double-clicking on the item in the list. This will open the standard action definition window. Refer to the **Action Types** section of the documentation for more information on defining an action.

### Locked

When checked, security is enabled. Access is restricted based on the data entered in **Mic Passwords**. Caller ID can be used to automatically login a user calling from a particular extension. If this is not defined, then the user will be prompted to enter their 4-

digit password to gain access. If this box is not checked, there will be no security protection. Refer to the ***Mic Passwords*** section of the documentation for more information.

## Devices

The SIP Telephone Interface is not capable of owning any devices, so this list will always remain empty.

## Action Types

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An action is a system response that is performed as a result of a stimulus. The response of the action is determined by the action type. Examples of actions are live pages, pre-recorded messages, SMS notifications, text-to-speech messages, etc. The system supports a wide variety of stimuli capable of triggering actions. The most common stimulus is a button or entry code from a microphone station. Contact closures, time-of-day, and network messages from other systems are all examples of stimuli available to trigger actions.

Each action requires different parameters to be defined before the action can be used. These parameters differ for each action type, but there are some common items related to the Action Definition window as defined below.

### Type

This drop-down list contains all of the available action types available for use. Select the desired action type and the remaining fields on the form will change appropriately.

### Copy Action

This button is used to copy all parameters for the currently selected action to the clipboard. It is used to quickly configure new actions based on one that has already been defined.

### Paste Action

This button only appears when there is information stored on the clipboard by using the **Copy Action** button. Pressing this button will take the action parameters from the clipboard and apply them to the currently open action, overwriting any previous settings. Once pasted, the action can be modified to be different than the original source action.

### Description

This is a free text field used to give a logical description to the action.

### Show All fields

When an action is selected, only the most commonly used data fields relevant to that action type are displayed. Press this button to display all available parameters for the selected action type. This provides access to the other fields for more advanced configuration situations and will not be needed for most applications.

## Show Base Fields

The **Show All Fields** button changes to the **Show Base Fields** button once it has been selected to reveal all parameter fields. Press the **Show Base Fields** button to hide the parameters that are not required for most applications.

## Entry Code

The number entered in this box will correspond to the entry code used at the microphone station or input number of a logic input device. For logic input devices, it corresponds to the input on the device. The entry code is fixed to the button number for fixed-button microphone stations (i.e. IEDA524, IEDA520). It is automatically assigned the next available valid entry code number for MS528 type microphone stations, but can be manually edited if needed. Stations can be locked to prevent direct code entry and only allow pre-programmed button access using graphical button templates.

Use the **->** button to the right of the field to automatically select the next available valid entry code number.

The following ranges are reserved for the optional *Flight Announcement System (FAS)* and other specialized functions. Entry codes within these ranges cannot be used for programming actions.

- 1-9
- 1000-1700
- 9800-9999
- 11000-11099

The range from 1701 through 1800 is a special range that will always prompt the user for a zone group number. This range is used for actions that have the **Use Prompt** box checked.

## Logic ID (logic input devices only)

For actions on logic input devices (IEDT9032LVIO, IEDT9040NLR, 1200LIR), this corresponds to the logic input on the device used to trigger the action.

## Logic State (logic input devices only)

For actions on logic input devices (IEDT9032LVIO, IEDT9040NLR, 1200LIR), this corresponds to the logic state on logic input that will trigger the action. When set to **ON**, the action will trigger when the logic input is activated. When set to **OFF**, it will trigger when the input is deactivated.

## OK

Select **OK** to store the changes and close the window. Note that this does not save or apply the changes to the system. That must be done using the **Save All Changes** icon before moving to another tab.

## Cancel

Select **Cancel** to discard the edits and close the window.



## Unused

The unused action type is the default action type that appears when a new action is created. While it has no functional use, it is the starting place for creating a new action by either selecting a new action type or using the **Past Action** command. This type also allows a *place-holder* action to be defined and reserve an **Entry Code** for future use.

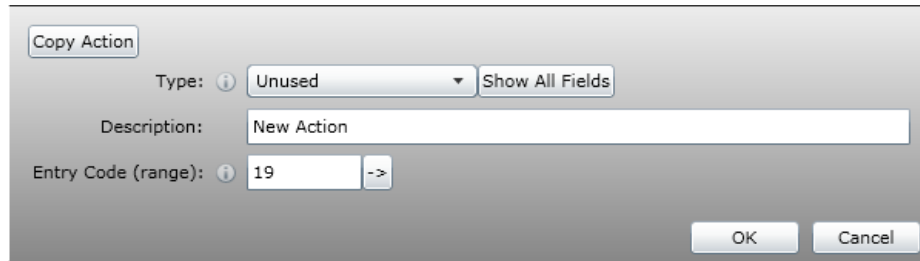


Figure 7-1: Unused Action Type

## ActivateEntryCode

This action type is exclusively used to assign specific Flight Announcement System (FAS) actions to 524 series 4-button paging stations, 528SK 4-button expansion paging stations, or logic closures. In many airport applications using the FAS, the initial flight sequence is loaded using the 528 station located at the ticket counter, or automatically through the FAS database. The 528 series station provides you with a graphic display along with selection buttons that allow you to easily select messages to play while managing a flight at the gate. However, 4-button stations are often installed near the jetway door as they typically do not require the full feature set available in a 528 series station. This action type allows you to continue interacting with the FAS system while boarding a flight without moving back to the 528 series station installed at the counter.

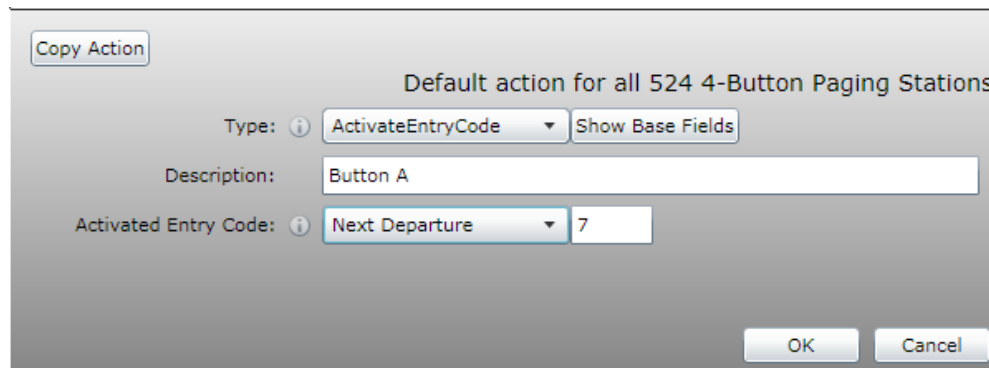


Figure 7-2: Activate Entry Code

## Activated Entry Code

This drop-down list allows you to select the FAS action to be triggered with the action. If you are using a non-standard FAS code, you can manually type it into the edit box immediately to the right of the drop-down list.

**Caution!** Only use manually entered codes when directed by IED support personnel.

**Note:** This action will not work with any FAS messages that require prompting for information or multiple sequence operations. A full-featured 528 series microphone station is required for these operations.

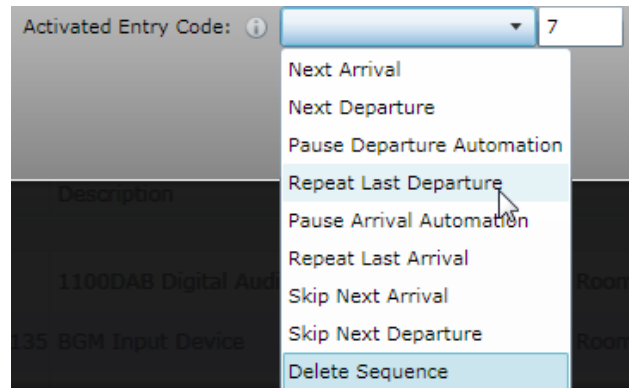


Figure 7-3: Activated Entry Code

### Next Arrival

Immediately play the next arrival message in the sequence.

### Next Departure

Immediately play the next departure message in the sequence.

### Pause Departure Automation

If any timers are used in the sequence to automatically play the sequence of departure messages, this will pause the playback of the sequence. It is resumed when the **Next Departure** entry code is activated.

### Repeat Last Departure

This will immediately replay the most recently played departure message.

### Pause Arrival Automation

If any timers are used in the sequence to automatically play the sequence of arrival messages, this will pause the playback of the sequence. It is resumed when the **Next Arrival** entry code is activated.

### Repeat Last Arrival

This will immediately replay the most recently played arrival message.

### Skip Next Arrival

This will immediately skip over the next arrival message in the sequence and play the subsequent message.

### Skip Next Departure

This will immediately skip over the next departure message in the sequence and play the subsequent message.

### Delete Sequence

This will remove the active sequence from the queue and it will no longer be available at the microphone station.

## CombinedLive

This action type is only available for the MS520 type of microphone station. The action destination is determined at the time of launch based on the condition of certain buttons on the station. When you configure the station, you have the option of designating buttons as combine buttons. A zone group is assigned to each button and then the action destination will be an accumulation of all selected zone groups.

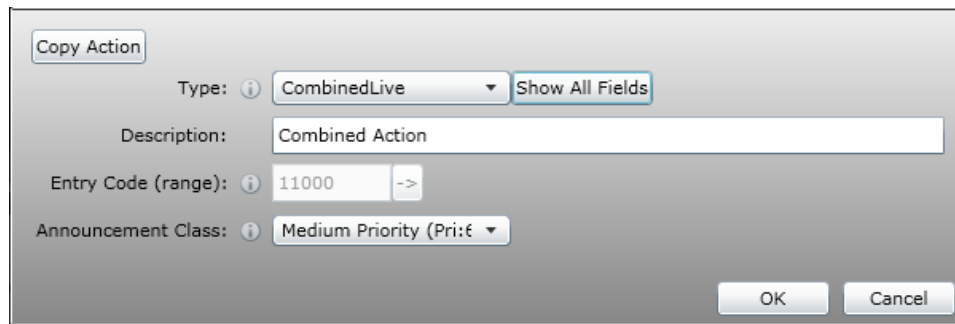


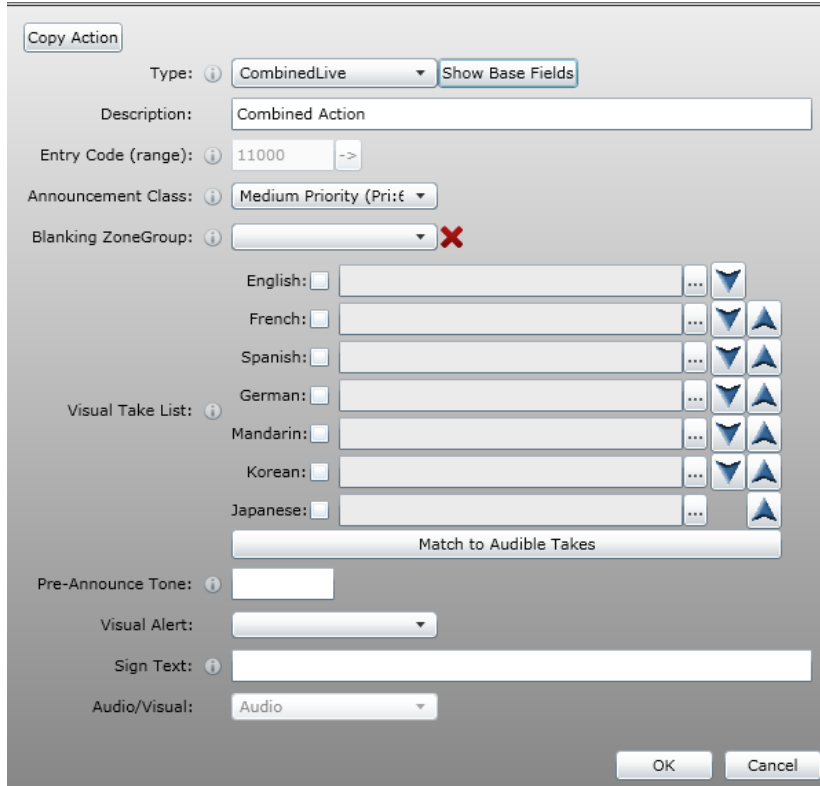
Figure 7-4: CombinedLive Action Type

### Announcement Class

Select the appropriate announcement class for the action. The announcement class determines the announcement priority relative to other announcements as well as various other behaviors as defined for each announcement class.

## CombinedLive (Advanced)

This action type is only available for the MS520 type of microphone station. The following properties will only be visible after selecting the **Show All Fields** button.



Copy Action

Type: CombinedLive Show Base Fields

Description: Combined Action

Entry Code (range): 11000 ->

Announcement Class: Medium Priority (Pri:6)

Blanking ZoneGroup:  X

Visual Take List:

English: ☐  ... ▼

French: ☐  ... ▼ ▲

Spanish: ☐  ... ▼ ▲

German: ☐  ... ▼ ▲

Mandarin: ☐  ... ▼ ▲

Korean: ☐  ... ▼ ▲

Japanese: ☐  ... ▲

Match to Audible Takes

Pre-Announce Tone:

Visual Alert:

Sign Text:

Audio/Visual: Audio

OK Cancel

Figure 7-5: CombinedLive Action Type - Show All Fields

### Blanking Zone Group

Select the zone group to use as a blanking zone group from the drop-down list box. The zone group selected will effectively be muted when this action is executed. Blanking zone groups are typically used to mute areas that are adjacent to where the announcement will be made to prevent other announcements, messages, or background music from interfering with the delivery of the announcement. Click the **X** icon to clear the selection from the list.

### Pre-Announce Tone

Enter the take number to be played at the start of the action to alert individuals to the message or announcement being made. Leave this field blank if you do not want to play a pre-announce tone.

### Visual Take List

This section is used to select a visual take to display on any visual displays included in the assigned zone group. This allows a visual take from the take library to be displayed while a live announcement is in progress.

Refer to the **Take Browser** section for instructions on using the Take Browser to add takes to the list.

### Match to Audible Takes

This button has no function for this action type as there are no audible takes for a live announcement.

### Visual Alert

Select one of the pre-defined visual alerts to display on any visual displays included in the assigned zone group. Visual alerts are displayed after the completion of the visual message, if defined, and remain on the displays until cleared. Visual alerts can also be used without any visual takes or sign text.

Use the **\*\*Clear Alert\*\*** item if this action is used to end the alert.

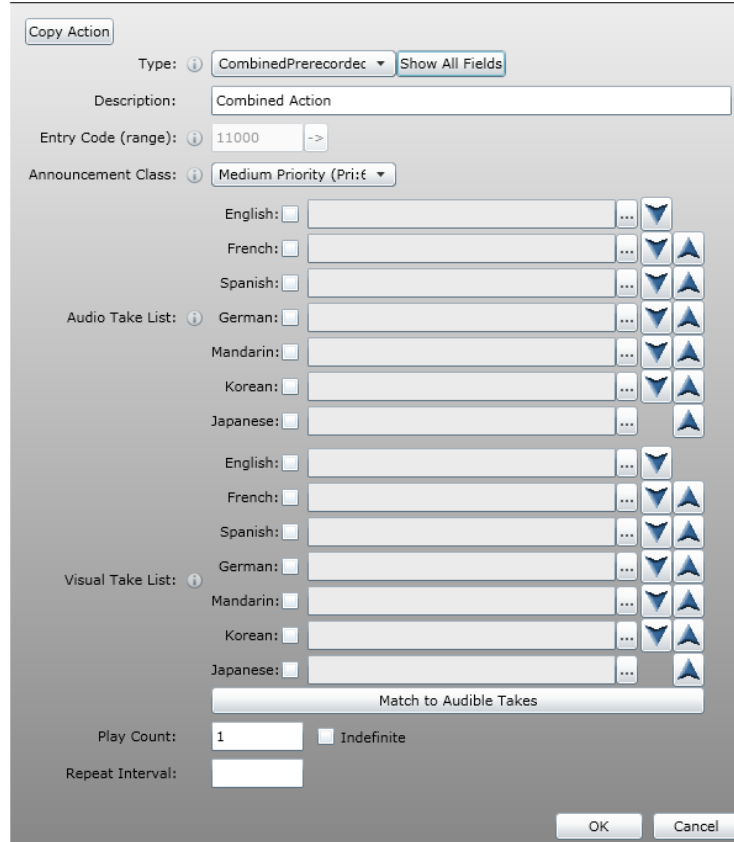
### Sign Text

Type in the text to be shown on any visual displays included in the assigned zone group. Sign text can be used as an alternative to visual takes to define a visual message to accompany a live message.

### CombinedPrerecorded

---

This action type is only available for the MS520 type of microphone station and is identical to the **Prerecorded** action type except that the destination is determined at the time of launch based on the condition of certain buttons on the station. When you configure the station, you have the option of designating buttons as combine buttons. A zone group is assigned to each button and then the action destination will be an accumulation of all selected zone groups.



The screenshot shows the 'CombinedPrerecorded' action type configuration window. It includes fields for 'Type' (set to 'CombinedPrerecorded'), 'Description' (set to 'Combined Action'), 'Entry Code (range)' (set to '11000'), and 'Announcement Class' (set to 'Medium Priority (Pri:6)'). Below these are sections for 'Audio Take List' and 'Visual Take List', each with checkboxes for English, French, Spanish, German, Mandarin, Korean, and Japanese, and up/down arrows for reordering. A 'Match to Audible Takes' button is located between the two lists. At the bottom, there are fields for 'Play Count' (set to '1') and 'Repeat Interval', with an 'Indefinite' checkbox. 'OK' and 'Cancel' buttons are at the bottom right.

Figure 7-6: CombinedPrerecorded Action Type

### Announcement Class

Select the appropriate announcement class for the action. The announcement class determines the announcement priority relative to other announcements as well as various other behaviors as defined for each announcement class.

### Audio Take List

This section is where the individual audio takes are selected and organized in the proper playback order. Use the check boxes to turn on or off individual languages. The up / down arrows to the right are used to change the order of language playback. Refer to the **Take Browser** section of the **Prerecorded** action type for details on adding takes to the message.

Prerecorded messages allow for repeats to be defined as part of the message by using the following three fields.

### Play Count

A message can be played multiple times. Enter the total number of times to play the message once it has been launched. All messages must play at least once, thus requiring at least a 1 to be in this field.

## Indefinite

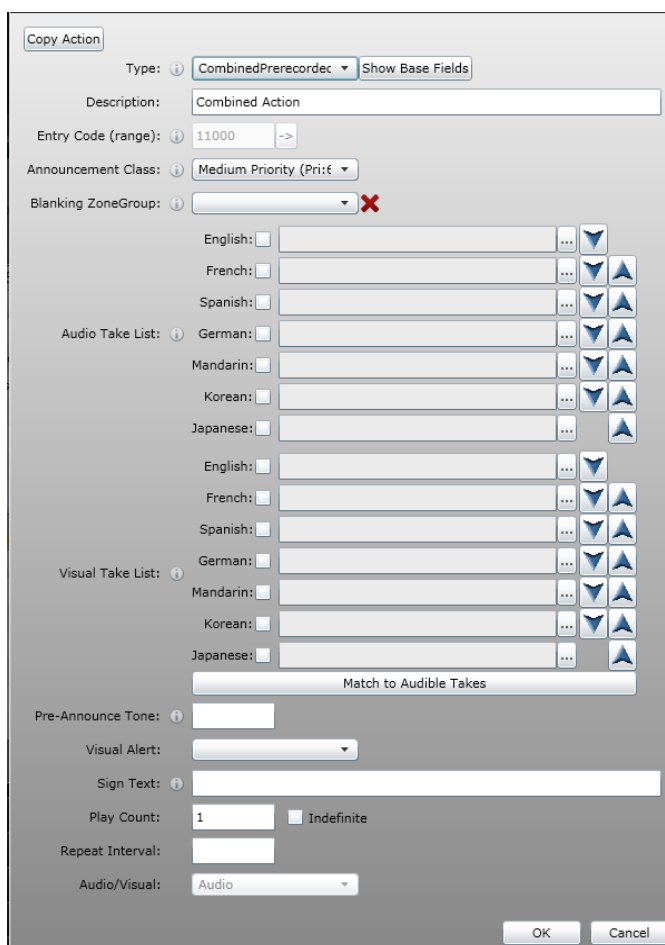
When checked, the **Play Count** edit box disappears. This will allow the message to play continuously at the specified **Repeat Interval** until it is stopped using a **StopAnnc** action type programmed to stop this action.

## Repeat Interval

This is the time between successive message playbacks. Positive numbers are used to designate an interval in minutes while negative numbers are used to designate an interval in seconds (5 would be 5 minutes, -30 would be 30 seconds). This time is from the start of the first playback to the start of the next one. If the interval is set to 30 seconds and the message is 10 seconds in duration, then there will be approximately 20 seconds between playbacks.

## CombinedPrerecorded (Advanced)

This action type is only available for the MS520 type of microphone station. The following properties will only be visible after selecting the **Show All Fields** button.



The screenshot shows the configuration window for the 'CombinedPrerecorded' action type. The 'Type' dropdown is set to 'CombinedPrerecorded' and the 'Show Base Fields' button is visible. The 'Description' field contains 'Combined Action'. The 'Entry Code (range)' is set to '11000'. The 'Announcement Class' is set to 'Medium Priority (Pri:6)'. The 'Blanking ZoneGroup' is set to an empty dropdown with a red 'X' icon. Below this, there are two sections: 'Audio Take List' and 'Visual Take List'. Each section has a list of languages (English, French, Spanish, German, Mandarin, Korean, Japanese) with checkboxes and a 'Match to Audible Takes' button. The 'Pre-Announce Tone' is set to an empty dropdown. The 'Visual Alert' is set to an empty dropdown. The 'Sign Text' is set to an empty text box. The 'Play Count' is set to '1' and the 'Indefinite' checkbox is unchecked. The 'Repeat Interval' is set to an empty text box. The 'Audio/Visual' dropdown is set to 'Audio'. The 'OK' and 'Cancel' buttons are at the bottom right.

Figure 7-7: CombinedPrerecorded Action Type - Show All Fields

## Blanking Zone Group

Select the zone group to use as a blanking zone group from the drop-down list box. The zone group selected will effectively be muted when this action is executed. Blanking zone groups are typically used to mute areas that are adjacent to where the announcement will be made to prevent other announcements, messages, or background music from interfering with the delivery of an announcement. Click the **X** icon to clear the selection from the list.

## Visual Take List

This section is used to select the visual takes to display on any visual displays included in the assigned zone group. By default, these takes will be set to match any audible takes configured in the **Audio Take List** section. For this type of action, you will typically want the visual takes to match the audio takes.

Refer to the **Prerecorded** section for instructions on using the Take Browser to add takes to the list.

## Match to Audible Takes

This button will copy the current audio take list to the visual take list so the visual displays will show text that will match the audible message.

## Pre-Announce Tone

Enter the take number to be played at the start of the action to alert individuals to the message or announcement being made. Leave this field blank if you do not want to play a pre-announce tone.

## Visual Alert

Select one of the pre-defined visual alerts to display on any visual displays included in the assigned zone group. Visual alerts are displayed after the completion of the visual message, if defined, and remain on the displays until cleared. Visual alerts can also be used without any visual takes or sign text.

Use the **\*\*Clear Alert\*\*** item if this action is used to end the alert.

## Sign Text

Type in the text to be shown on any visual displays included in the assigned zone group. Sign text can be used as an alternative to visual takes to define a visual message to accompany a prerecorded message.

## Delayed

A delayed message is one that is recorded into the system from a microphone station and is immediately played back once the push-to-talk (PTT) switch is released. If the zones are busy, then the message will be held in queue until the zones are available for playback of the message.



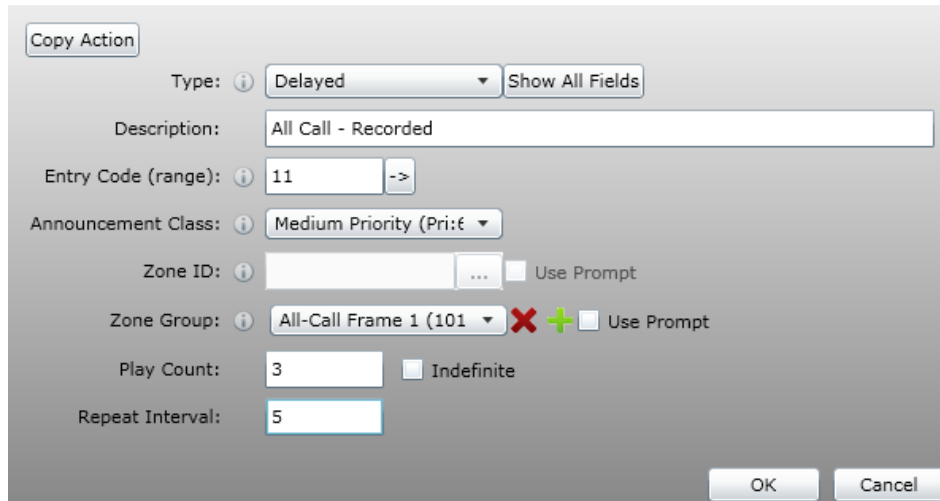


Figure 7-8: Delayed Action Type

## Announcement Class

Select the appropriate announcement class for the action. The announcement class determines the announcement priority relative to other announcements as well as various other behaviors as defined for each announcement class.

The destination for the announcement is determined by the **Zone ID** or **Zone Group** fields. These parameters are mutually exclusive, thus only one zone destination method may be used.

## Zone ID

The **Zone ID** field specifies one (1) or more system zones as the destination for the announcement. Zones are entered either by directly typing them into the entry box (i.e 1,2,3, 7,18) or by opening the Zone Selector by clicking the button immediately to the right of the entry box. Click on an individual zone to add or remove it from the action. To add a range of zones in the same device, select the first zone and then the last zone in the range while holding down the **SHIFT** key.

## Zone Group

A zone group is assigned to the action by selecting one of the previously defined zone groups from the drop-down list. Multiple zone groups can be assigned to an action by clicking the **+** button to add more fields, each with its own drop-down selection list. Click the **X** icon to remove a zone group field. Once defined, the announcement will play cumulatively to all zones included in the selected zone groups.

## Use Prompt

This feature requires a graphical paging station such as the IEDA528 series microphone station. When checked, this action will prompt the station user for either the zone code or zone group code for the action. This gives the operator flexibility to choose the announcement or message destination at the time of launch. This requires the microphone station operator to know a valid **Zone ID** or **Zone Group** that is available for use.

## Play Count

A delayed message can be played multiple times. Enter the total number of times to play the message once it has been recorded. All messages must play at least once, thus requiring at least a 1 to be in this field.

## Indefinite

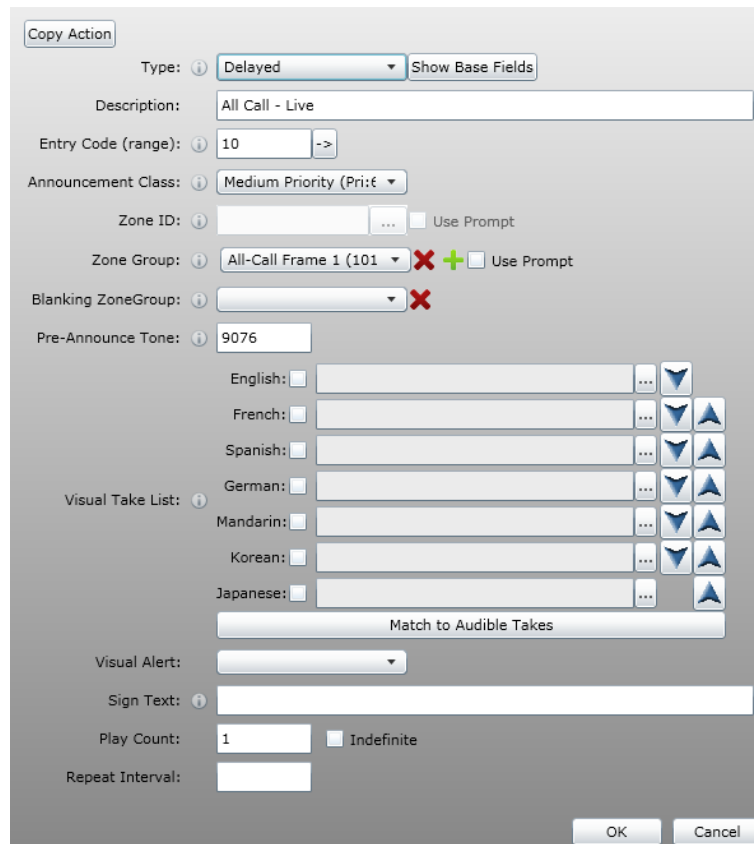
When checked, the **Play Count** edit box disappears. This will allow the message to play continuously at the specified **Repeat Interval** until it is stopped using a **StopAnnc** action type programmed to stop this announcement.

## Repeat Interval

This is the time between successive message playbacks. Positive numbers are used to designate an interval in minutes while negative numbers are used to designate an interval in seconds (5 would be 5 minutes, -30 would be 30 seconds). This time is from the start of the first playback to the start of the next one. If the interval is set to 30 seconds and the message is 10 seconds in duration, then there will be approximately 20 seconds between playbacks.

## Delayed - Advanced Properties

The following properties will only be visible after selecting the **Show All Fields** button.



Copy Action

Type:  Show Base Fields

Description:

Entry Code (range):  ~>

Announcement Class:

Zone ID:  ... ☐ Use Prompt

Zone Group:  ☐ ☐ Use Prompt

Blanking ZoneGroup:  ☐

Pre-Announce Tone:

Visual Take List:

English:	<input type="text"/>	<input type="button" value="..."/>	<input type="button" value="v"/>
French:	<input type="text"/>	<input type="button" value="..."/>	<input type="button" value="v"/>
Spanish:	<input type="text"/>	<input type="button" value="..."/>	<input type="button" value="v"/>
German:	<input type="text"/>	<input type="button" value="..."/>	<input type="button" value="v"/>
Mandarin:	<input type="text"/>	<input type="button" value="..."/>	<input type="button" value="v"/>
Korean:	<input type="text"/>	<input type="button" value="..."/>	<input type="button" value="v"/>
Japanese:	<input type="text"/>	<input type="button" value="..."/>	<input type="button" value="v"/>

Match to Audible Takes

Visual Alert:

Sign Text:

Play Count:  ☐ Indefinite

Repeat Interval:

OK Cancel

Figure 7-9: Delayed Action Type - Show All Fields

## Blanking Zone Group

Select the zone group to use as a blanking zone group from the drop-down list box. The zone group selected will effectively be muted when this action is executed. Blanking zone groups are typically used to mute areas that are adjacent to where the announcement will be made to prevent other announcements, messages, or background music from interfering with the delivery of an announcement. Click the **X** icon to clear the selection from the list.

## Pre-Announce Tone

Enter the take number to be played at the start of the action to alert individuals to the message or announcement being made. Leave this field blank if you do not want to play a pre-announce tone.

## Visual Take List

This section is used to select a visual take to display on any visual displays included in the assigned zone group. This allows a visual take from the take library to be displayed while the announcement is in progress.

Refer to the **Prerecorded** section for instructions on using the Take Browser to add takes to the list.

## Match to Audible Takes

This button has no function for this action type as there are no audible takes for a this type of action.

## Visual Alert

Select one of the pre-defined visual alerts to display on any visual displays included in the assigned zone group. Visual alerts are displayed after the completion of the visual message, if defined, and remain on the displays until cleared. Visual alerts can also be used without any visual takes or sign text.

Use the **\*\*Clear Alert\*\*** item if this action is used to end the alert.

## Sign Text

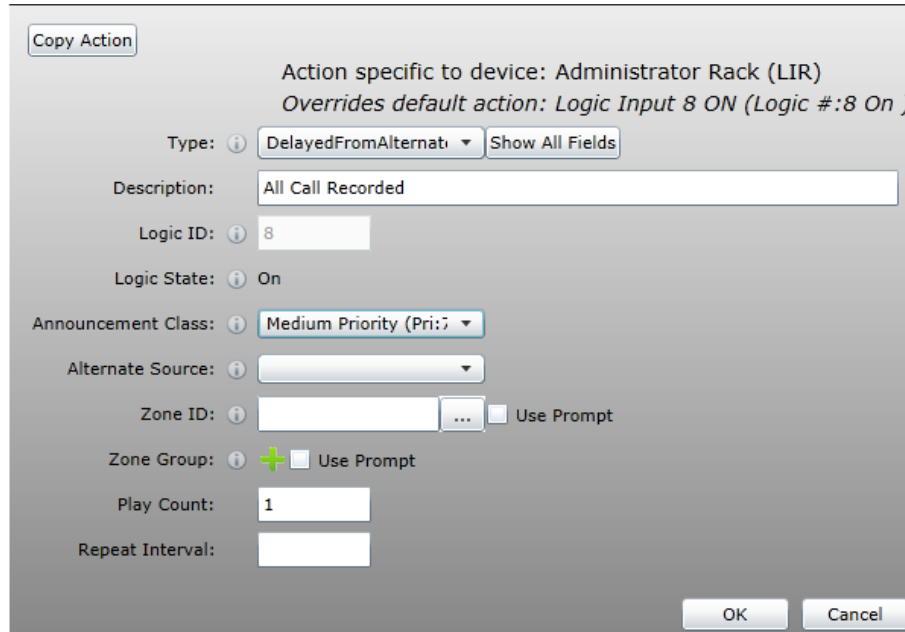
Type in the text to be shown on any visual displays included in the assigned zone group. Sign text can be used as an alternative to visual takes to define a visual message to accompany a delayed announcement.

---

## DelayedFromAlternateSource

When an action is triggered from a microphone station, the audio input source for the announcement is the microphone station. The *DelayedFromAlternateSource* action type is used to activate an announcement using an audio source different from the activating device. For example, you may have a paging output on a telephone system that provides a line level output and contact closure. When the system senses the closure, it will record the audio until the

closure is released. After which it is played back once the zones are available. Closures are detected using devices that are not directly associated with an audio input, therefore they must be defined using a *DelayedFromAlternateSource* action type if they are to route any audio signals. In such cases, the source will be the logic device and the **Alternate Source** will be the audio input.



The screenshot shows a configuration window for the 'DelayedFromAlternateSource' action type. At the top, it states 'Action specific to device: Administrator Rack (LIR)' and 'Overrides default action: Logic Input 8 ON (Logic #:8 On)'. The 'Type' is set to 'DelayedFromAlternateSource' with a 'Show All Fields' button. The 'Description' is 'All Call Recorded'. The 'Logic ID' is '8' and the 'Logic State' is 'On'. The 'Announcement Class' is 'Medium Priority (Pri:7)'. The 'Alternate Source' is a dropdown menu. The 'Zone ID' is empty with a 'Use Prompt' checkbox. The 'Zone Group' is empty with a 'Use Prompt' checkbox. The 'Play Count' is '1' and the 'Repeat Interval' is empty. 'OK' and 'Cancel' buttons are at the bottom right.

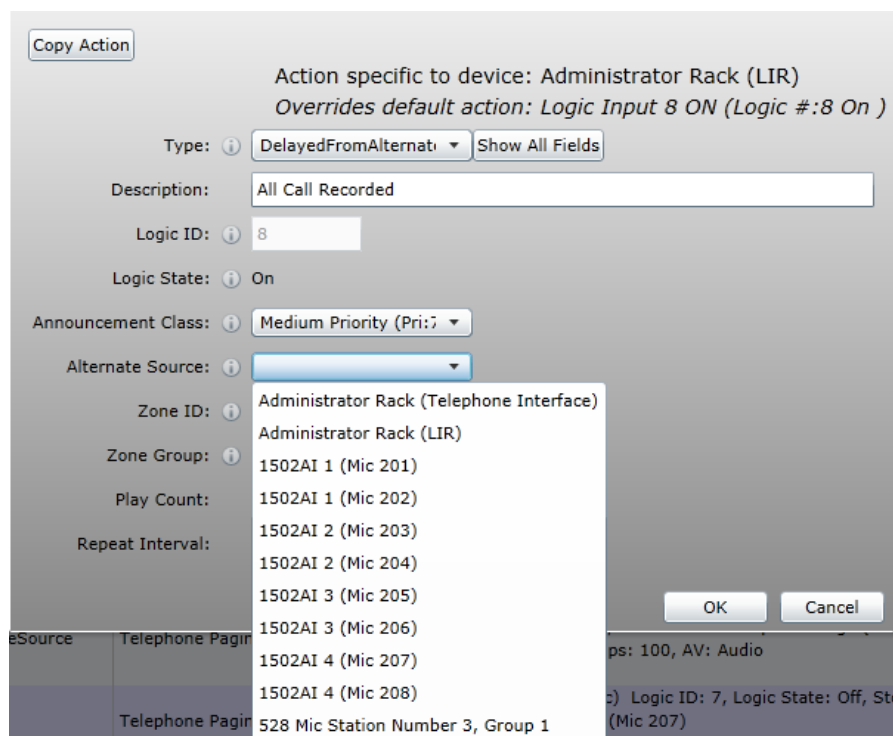
Figure 7-10: DelayedFromAlternateSource Action Type

### Announcement Class

Select the appropriate announcement class for the action. The announcement class determines the announcement priority relative to other announcements as well as various other behaviors as defined for each announcement class.

### Alternate Source

This drop-down list box displays all the available sources in the system. Select the appropriate input source that will be routed as a result of this action.



Copy Action

Action specific to device: Administrator Rack (LIR)  
Overrides default action: Logic Input 8 ON (Logic #:8 On )

Type: DelayedFromAlternat Show All Fields

Description: All Call Recorded

Logic ID: 8

Logic State: On

Announcement Class: Medium Priority (Pri:7)

Alternate Source: Administrator Rack (Telephone Interface)

Zone ID: Administrator Rack (LIR)

Zone Group: 1502AI 1 (Mic 201)

Play Count: 1502AI 1 (Mic 202)

Repeat Interval: 1502AI 2 (Mic 203)

1502AI 2 (Mic 204)

1502AI 3 (Mic 205)

1502AI 3 (Mic 206)

1502AI 4 (Mic 207)

1502AI 4 (Mic 208)

528 Mic Station Number 3, Group 1

OK Cancel

ps: 100, AV: Audio

Logic ID: 7, Logic State: Off, St (Mic 207)

Figure 7-11: Alternate Source Selection

The destination for the announcement is determined by the **Zone ID** or **Zone Group** fields. These parameters are mutually exclusive, thus only one zone destination method may be used.

## Zone Group

A zone group is assigned to the action by selecting one of the previously defined zone groups from the drop-down list. Multiple zone groups can be assigned to an action by clicking the **+** icon to add more fields, each with its own drop-down selection list. Click the **x** icon to remove a zone group field. Once defined, the announcement will play cumulatively to all zones included in the selected zone groups.

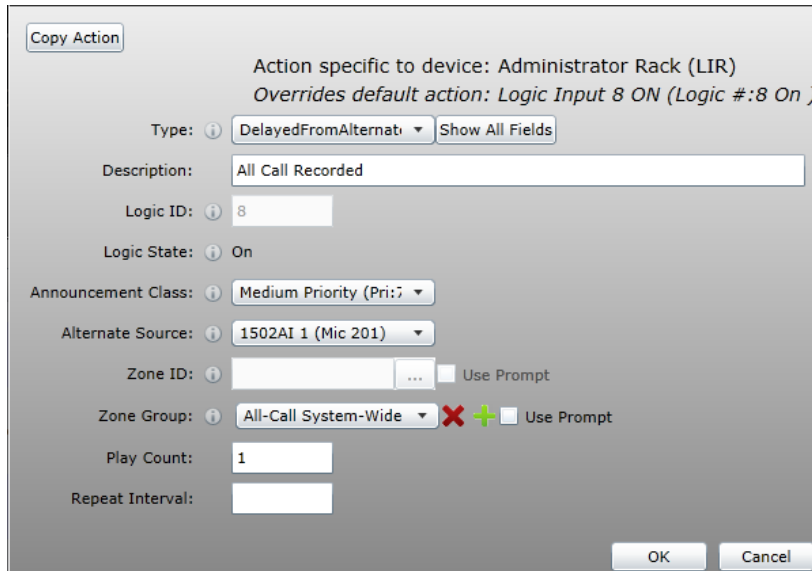


Figure 7-12: DelayedFromAlternateSource Zone Group Selection

## Zone ID

The **Zone ID** field specifies one (1) or more system zones as the destination for the announcement. Zones are entered either by directly typing them into the entry box (i.e 1,2,3, 7,18) or by opening the Zone Selector by clicking the button immediately to the right of the entry box. Click on an individual zone to add or remove it from the action. To add a range of zones in the same device, select the first zone and then the last zone in the range while holding down the **SHIFT** key.

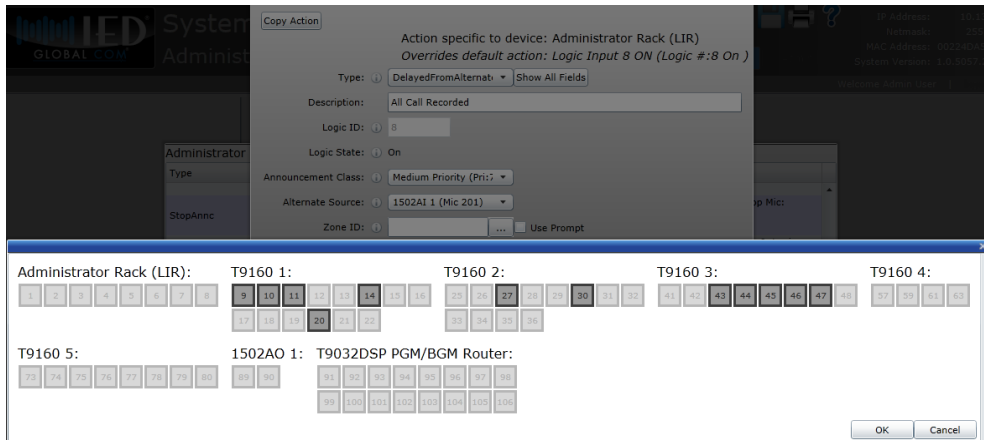


Figure 7-13: DelayedFromAlternateSource Zone Selection

## Use Prompt

This feature requires a graphical paging station such as the IEDA528 series microphone station. When checked, this action will prompt the station user for either the zone code or

zone group code for the action. This gives the operator flexibility to choose the announcement or message destination at the time of launch. This requires the microphone station operator to know a valid **Zone ID** or **Zone Group** that is available for use.

## Play Count

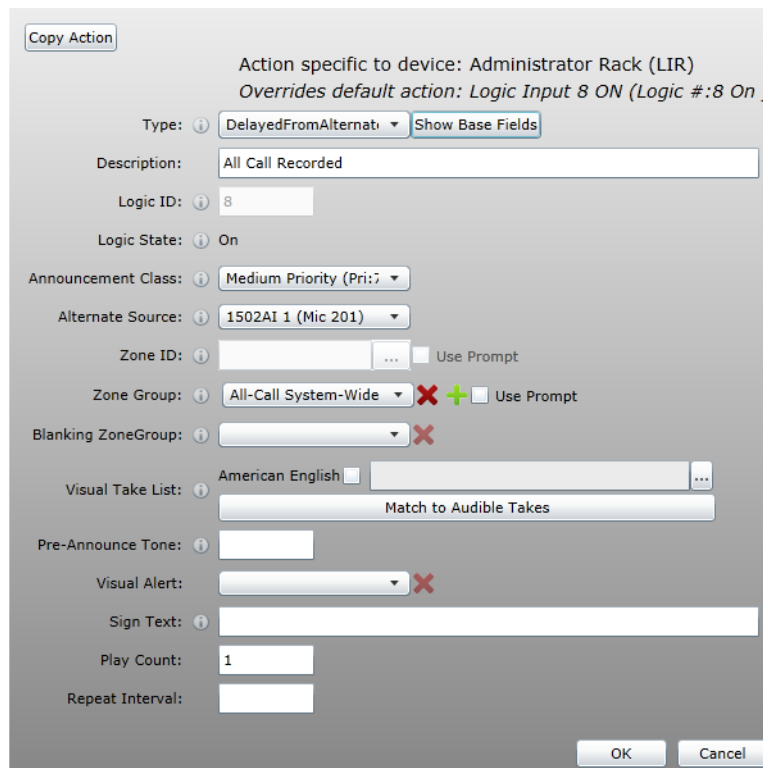
A delayed message can be played multiple times. Enter the total number of times to play the message once it has been recorded. All messages must play at least once, thus requiring at least a 1 to be in this field.

## Repeat Interval

This is the time between successive message playbacks. Positive numbers are used to designate an interval in minutes while negative numbers are used to designate an interval in seconds (5 would be 5 minutes, -30 would be 30 seconds). This time is from the start of the first playback to the start of the next one. If the interval is set to 30 seconds and the message is 10 seconds in duration, then there will be approximately 20 seconds between playbacks.

## DelayedFromAlternateSource - Advanced Properties

The following properties will only be visible after selecting the **Show All Fields** button.



The screenshot shows the configuration window for the 'DelayedFromAlternateSource' action type. At the top, it indicates the action is specific to the 'Administrator Rack (LIR)' and overrides the default action 'Logic Input 8 ON (Logic #:8 On)'. The 'Type' is set to 'DelayedFromAlternateSource' with a 'Show Base Fields' button. The 'Description' is 'All Call Recorded'. The 'Logic ID' is '8' and the 'Logic State' is 'On'. The 'Announcement Class' is 'Medium Priority (Pri:7)'. The 'Alternate Source' is '1502AI 1 (Mic 201)'. The 'Zone ID' is empty with a 'Use Prompt' checkbox. The 'Zone Group' is 'All-Call System-Wide' with a 'Use Prompt' checkbox. The 'Blanking ZoneGroup' is empty with a red 'X' icon. The 'Visual Take List' is 'American English' with a 'Match to Audible Takes' button. The 'Pre-Announce Tone' is empty. The 'Visual Alert' is empty with a red 'X' icon. The 'Sign Text' is empty. The 'Play Count' is '1' and the 'Repeat Interval' is empty. At the bottom are 'OK' and 'Cancel' buttons.

Figure 7-14: DelayedFromAlternateSource Action Type - Show All Fields

## Blanking Zone Group

Select the zone group to use as a blanking zone group from the drop-down list box. The zone group selected will effectively be muted when this action is executed. Blanking zone groups are typically used to mute areas that are adjacent to where the announcement will be made to prevent other announcements, messages, or background music from interfering with the delivery of an announcement. Click the **X** icon to clear the selection from the list.

## Pre-Announce Tone

Enter the take number to be played at the start of the action to alert individuals to the message or announcement being made. Leave this field blank if you do not want to play a pre-announce tone.

## Visual Take List

This section is used to select a visual take to display on any visual displays included in the assigned zone group. This allows a visual take from the take library to be displayed while a live announcement is in progress.

Refer to the **Prerecorded** section for instructions on using the Take Browser to add takes to the list.

## Match to Audible Takes

This button has no function for this action type as there are no audible takes for a live announcement.

## Visual Alert

Select one of the pre-defined visual alerts to display on any visual displays included in the assigned zone group. Visual alerts are displayed after the completion of the visual message, if defined, and remain on the displays until cleared. Visual alerts can also be used without any visual takes or sign text.

Use the **\*\*Clear Alert\*\*** item if this action is used to end the alert.

## Sign Text

Type in the text to be shown on any visual displays included in the assigned zone group. Sign text can be used as an alternative to visual takes to define a visual message to accompany a live message.

## Event

Events are used when multiple actions must be performed at the same time as a result of a common stimulus. See the **Events** section to learn more about creating events. Once an event has been created, it is launched by programming it as an action.



Copy Action

Type: Event Show All Fields

Description:

Entry Code (range): 19 ->

Event: Evac Building 12 X

OK Cancel

Figure 7-15: Event Action Type

## Event

Select the event to be triggered by this action from the drop-down list. Selecting the **X** icon will clear the selected event from the field.

## FaultSet

This action type will activate the specified system fault. Once activated, the fault can be viewed in the status viewer. This action type is typically used with system logic inputs to monitor external events, such as UPS failures, rack door switches, environmental system failures, etc. **FaultSet** events are reported and logged with all other system faults or events and stored in the **Windows System Log**. Refer to the **System Supervision** section for more information on fault reporting and logging.

Copy Action

Type: FaultSet Show All Fields

Description:

Entry Code (range): 3 ->

Logic ID: 3

Logic State: On

Fault Number:

Fault Type:

OK Cancel

Figure 7-16: FaultSet Event

**Note:** In order to use this feature, a fault must first be defined in the **Device Specific Fault Descriptions** section of the System Supervision configuration.

## Fault Number

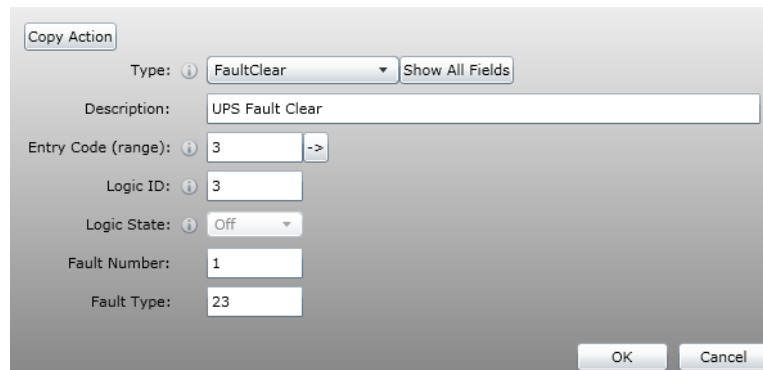
Enter the fault number that matches the fault to be set.

## Fault Type

Enter the fault type that matches the fault to be set.

## FaultClear

This action type is used to clear a fault that was triggered by using the **FaultSet** action.



The screenshot shows the 'Copy Action' dialog box for the 'FaultClear' action type. The fields are as follows:

Field	Value
Type	FaultClear
Description	UPS Fault Clear
Entry Code (range)	3
Logic ID	3
Logic State	Off
Fault Number	1
Fault Type	23

Buttons: OK, Cancel

Figure 7-17: FaultClear Event

### Fault Number

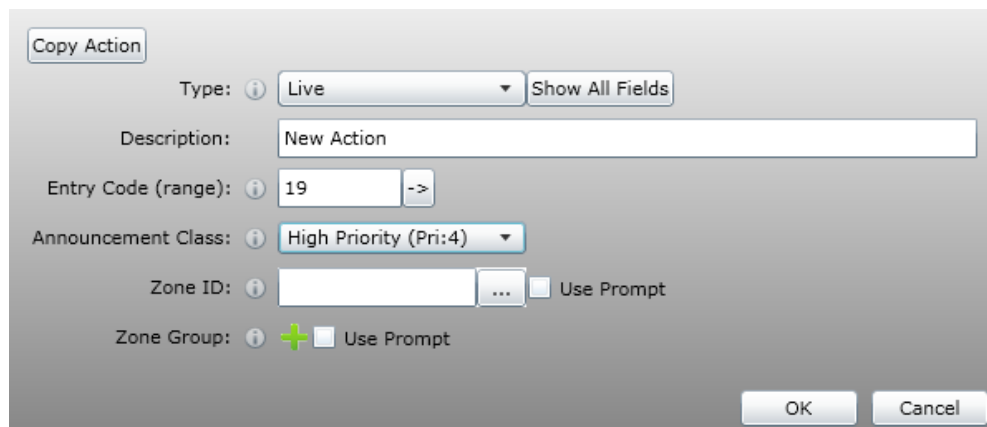
Enter the fault number that matches the fault to be cleared.

### Fault Type

Enter the fault type that matches the fault to be cleared.

## Live

A live message is one that is immediately routed from the microphone station to the zones included in the programmed zone map. If the announcement cannot be made due to zone availability, then the microphone station will indicate **BUSY**. The microphone station will indicate **READY** when the zones are available.



The screenshot shows the 'Copy Action' dialog box for the 'Live' action type. The fields are as follows:

Field	Value
Type	Live
Description	New Action
Entry Code (range)	19
Announcement Class	High Priority (Pri:4)
Zone ID	[Empty] ... Use Prompt
Zone Group	[Green Plus Icon] ... Use Prompt

Buttons: OK, Cancel

Figure 7-18: Live Action Type

## Announcement Class

Select the appropriate announcement class for the action. The announcement class determines the announcement priority relative to other announcements as well as various other behaviors as defined for each announcement class.

The destination for the announcement is determined by the **Zone ID** or **Zone Group** fields. These parameters are mutually exclusive, thus only one zone destination method may be used.

## Zone ID

The **Zone ID** field specifies one (1) or more system zones as the destination for the announcement. Zones are entered either by directly typing them into the entry box (i.e 1,2,3, 7,18) or by opening the Zone Selector by clicking the button immediately to the right of the entry box. Click on an individual zone to add or remove it from the action. To add a range of zones in the same device, select the first zone and then the last zone in the range while holding down the **SHIFT** key.

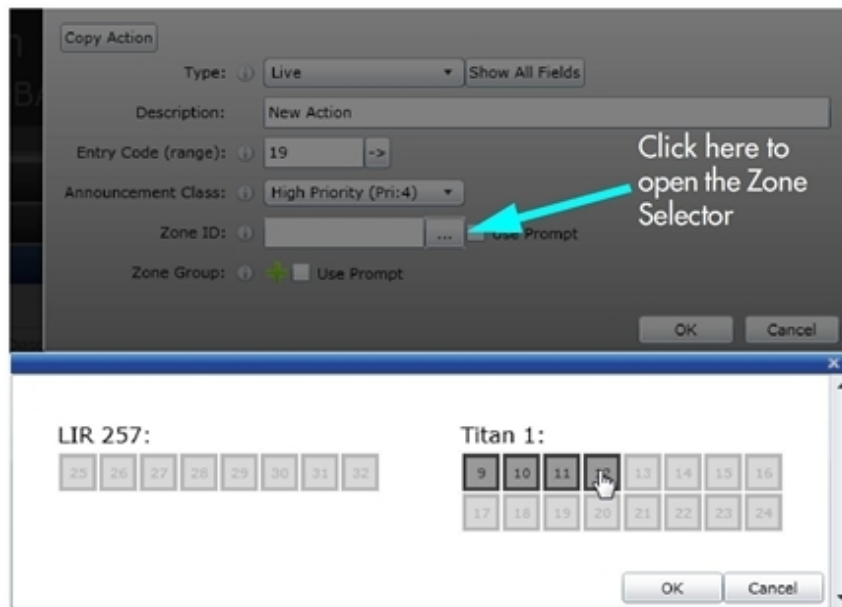


Figure 7-19: Live Individual Zone Selection

## Zone Group

A zone group is assigned to the action by selecting one of the previously defined zone groups from the drop-down list as shown in Figure 7-20. Multiple zone groups can be assigned to an action by clicking the **+** icon to add more fields, each with its own drop-down selection list. Click the **x** icon to remove a zone group field. Once defined, the announcement will play cumulatively to all zones included in the selected zone groups. Figure 7-21 shows an announcement with two zone groups assigned.

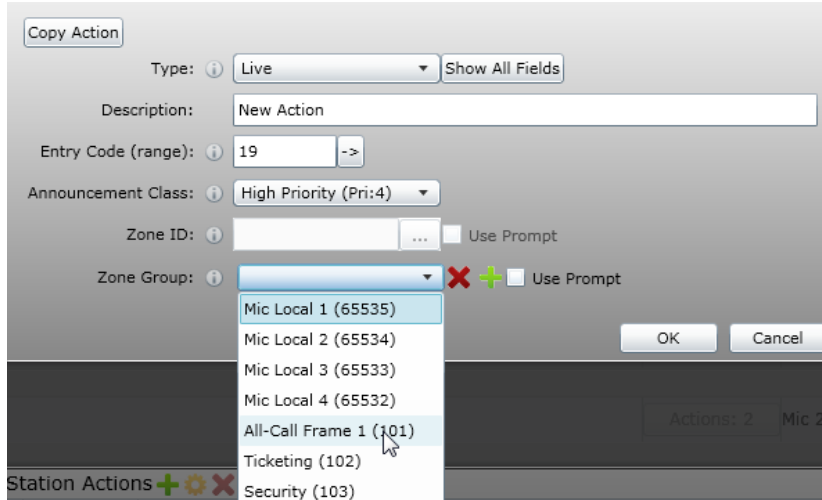


Figure 7-20: Live Zone Group Selection

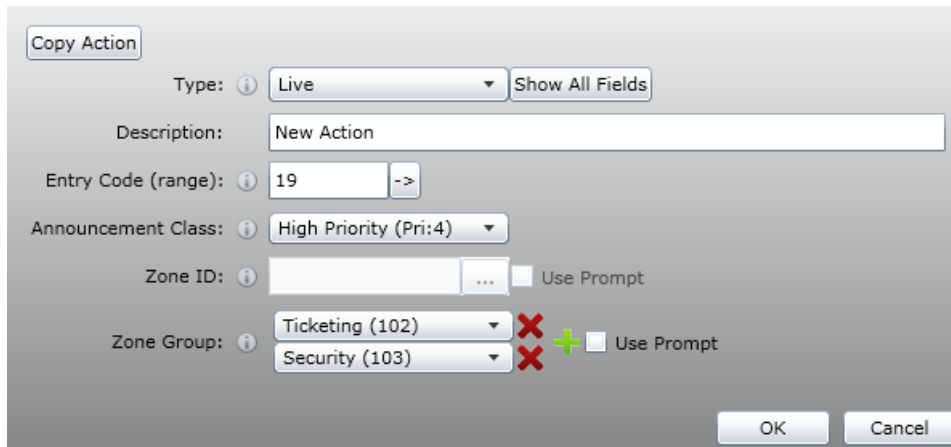


Figure 7-21: Live Multiple Zone Groups

### Use Prompt

This feature requires a graphical paging station such as the IEDA528 series microphone station. When checked, this action will prompt the station user for either the zone code or zone group code for the action. This gives the operator flexibility to choose the announcement or message destination at the time of launch. This requires the microphone station operator to know a valid **Zone ID** or **Zone Group** that is available for use.

### Live - Advanced Properties

The following properties will only be visible after selecting the **Show All Fields** button.

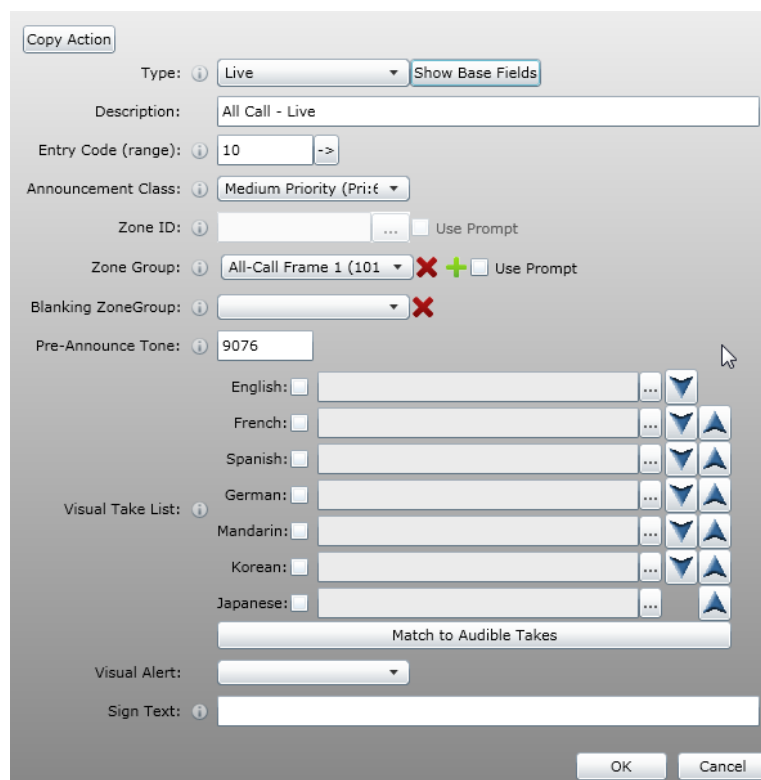


Figure 7-22: Live Action Type - Show All Fields

## Blanking Zone Group

Select the zone group to use as a blanking zone group from the drop-down list box. The zone group selected will effectively be muted when this action is executed. Blanking zone groups are typically used to mute areas that are adjacent to where the announcement will be made to prevent other announcements, messages, or background music from interfering with the delivery of the announcement. Click the **X** icon to clear the selection from the list.

## Pre-Announce Tone

Enter the take number to be played at the start of the action to alert individuals to the message or announcement being made. Leave this field blank if you do not want to play a pre-announce tone.

## Visual Take List

This section is used to select a visual take to display on any visual displays included in the assigned zone group. This allows a visual take from the take library to be displayed while a live announcement is in progress.

Refer to the **Prerecorded** section for instructions on using the Take Browser to add takes to the list.

## Match to Audible Takes

This button has no function for this action type as there are no audible takes for a live announcement.

## Visual Alert

Select one of the pre-defined visual alerts to display on any visual displays included in the assigned zone group. Visual alerts are displayed after the completion of the visual message, if defined, and remain on the displays until cleared. Visual alerts can also be used without any visual takes or sign text.

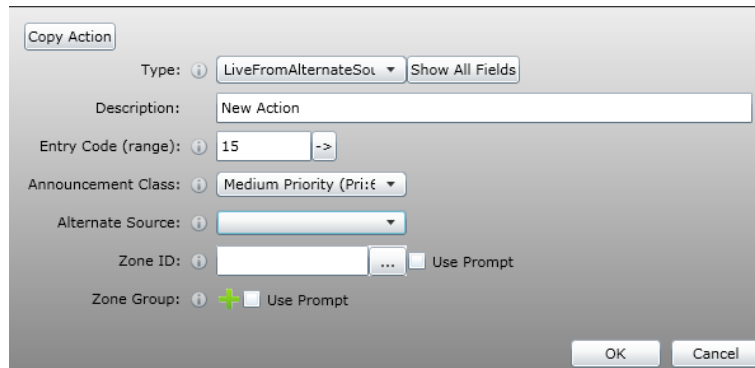
Use the **\*\*Clear Alert\*\*** item if this action is used to end the alert.

## Sign Text

Type in the text to be shown on any visual displays included in the assigned zone group. Sign text can be used as an alternative to visual takes to define a visual message to accompany a live message.

## LiveFromAlternateSource

When a live action is triggered from a microphone station, the audio input source for the announcement is the microphone station. The *LiveFromAlternateSource* action type is used to activate an announcement using an audio source different from the activating device. For example, you may have a fire alarm system where the audio must be routed to a zone group when a dry contact closure is tripped. When the system senses the closure, it must route the audio input associated with the fire alarm system. Closures are detected using devices that are not directly associated with an audio input, therefore they must be defined using a *LiveFromAlternateSource* action type if they are to route any audio signals. In such cases, the source will be the logic device and the **Alternate Source** will be the audio input.



The screenshot shows a configuration window for the 'LiveFromAlternateSource' action type. It includes fields for 'Type' (set to 'LiveFromAlternateSou'), 'Description' (set to 'New Action'), 'Entry Code (range)' (set to '15'), 'Announcement Class' (set to 'Medium Priority (Pri:t)'), 'Alternate Source' (a dropdown menu), 'Zone ID' (a text field with a 'Use Prompt' checkbox), and 'Zone Group' (a dropdown menu with a 'Use Prompt' checkbox). There are 'Copy Action', 'Show All Fields', 'OK', and 'Cancel' buttons.

Figure 7-23: LiveFromAlternateSource Action Type

## Announcement Class

Select the appropriate announcement class for the action. The announcement class determines the announcement priority relative to other announcements as well as various other behaviors as defined for each announcement class.

## Alternate Source

This drop-down list box displays all the available sources in the system. Select the appropriate input source that will be routed as a result of this action.

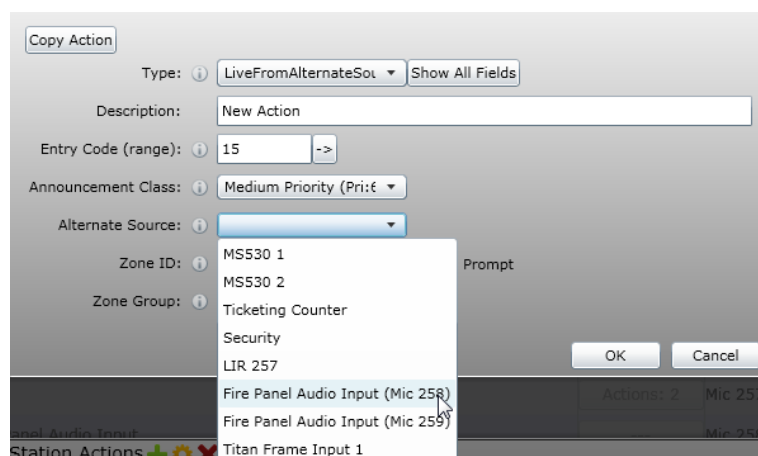


Figure 7-24: Alternate Source Selection

The destination for the announcement is determined by the **Zone ID** or **Zone Group** fields. These parameters are mutually exclusive, thus only one zone destination method may be used.

## Zone Group

A zone group is assigned to the action by selecting one of the previously defined zone groups from the drop-down list. Multiple zone groups can be assigned to an action by clicking the **+** icon to add more fields, each with its own drop-down selection list. Click the **x** icon to remove a zone group field. Once defined, the announcement will play cumulatively to all zones included in the selected zone groups.

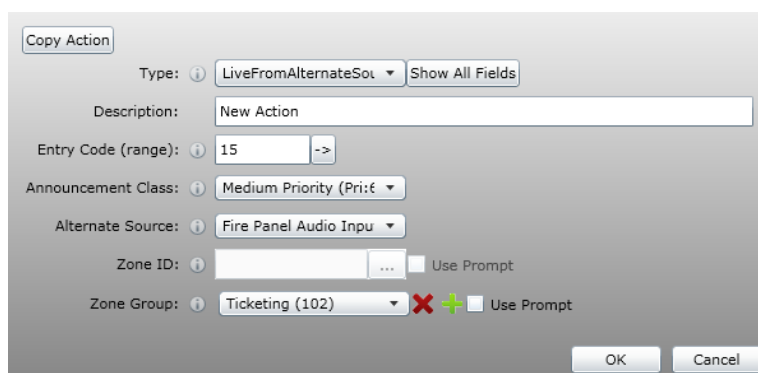


Figure 7-25: LiveFromAlternateSource Zone Group Selection

## Zone ID

The **Zone ID** field specifies one (1) or more system zones as the destination for the announcement. Zones are entered either by directly typing them into the entry box (i.e 1,2,3, 7,18) or by opening the Zone Selector by clicking the button immediately to the right of the

entry box. Click on an individual zone to add or remove it from the action. To add a range of zones in the same device, select the first zone and then the last zone in the range while holding down the **SHIFT** key.

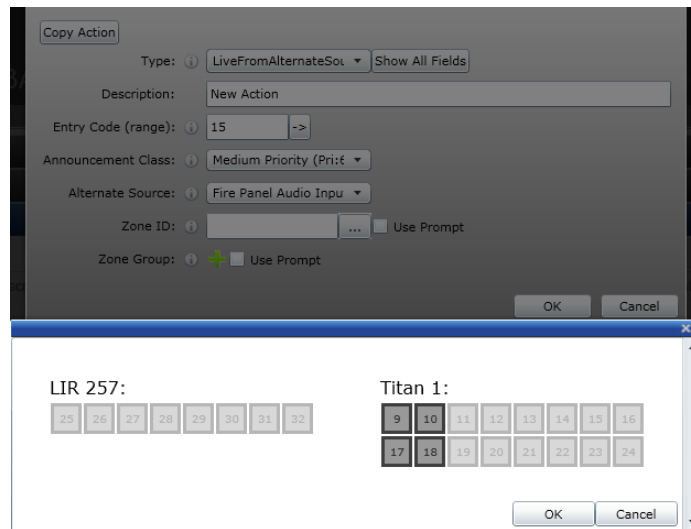


Figure 7-26: LiveFromAlternateSource Zone Selection

### Use Prompt

This feature requires a graphical paging station such as the IEDA528 series microphone station. When checked, this action will prompt the station user for either the zone code or zone group code for the action. This gives the operator flexibility to choose the announcement or message destination at the time of launch. This requires the microphone station operator to know a valid **Zone ID** or **Zone Group** that is available for use.

### LiveFromAlternateSource - Advanced Properties

The following properties will only be visible after selecting the **Show All Fields** button.



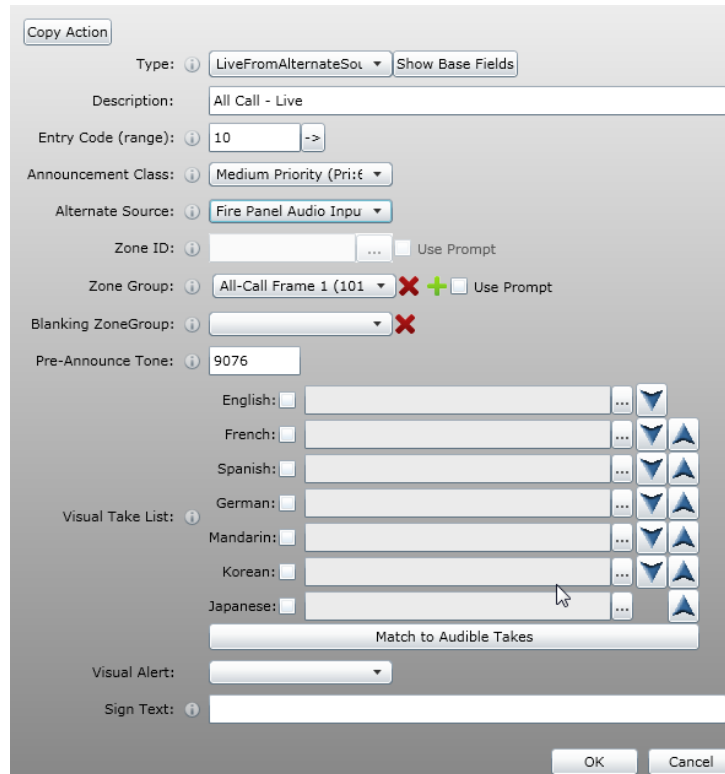


Figure 7-27: LiveFromAlternateSource Action Type - Show All Fields

## Blanking Zone Group

Select the zone group to use as a blanking zone group from the drop-down list box. The zone group selected will effectively be muted when this action is executed. Blanking zone groups are typically used to mute areas that are adjacent to where the announcement will be made to prevent other announcements, messages, or background music from interfering with the delivery of an announcement. Click the **X** icon to clear the selection from the list.

## Pre-Announce Tone

Enter the take number to be played at the start of the action to alert individuals to the message or announcement being made. Leave this field blank if you do not want to play a pre-announce tone.

## Visual Take List

This section is used to select a visual take to display on any visual displays included in the assigned zone group. This allows a visual take from the take library to be displayed while a live announcement is in progress.

Refer to the **Prerecorded** section for instructions on using the Take Browser to add takes to the list.

## Match to Audible Takes

This button has no function for this action type as there are no audible takes for a live announcement.

## Visual Alert

Select one of the pre-defined visual alerts to display on any visual displays included in the assigned zone group. Visual alerts are displayed after the completion of the visual message, if defined, and remain on the displays until cleared. Visual alerts can also be used without any visual takes or sign text.

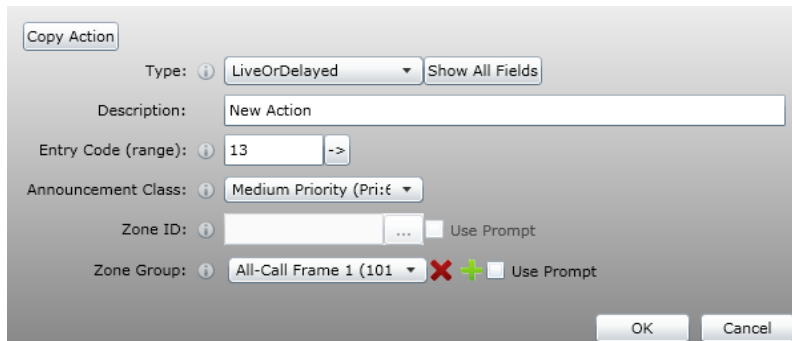
Use the **\*\*Clear Alert\*\*** item if this action is used to end the alert.

## Sign Text

Type in the text to be shown on any visual displays included in the assigned zone group. Sign text can be used as an alternative to visual takes to define a visual message to accompany a live message.

## LiveOrDelayed

This type of action will initiate a live announcement if the defined zones are available for the announcement. If they are not available, then a delayed announcement will be used. The available setup parameters for this action type are identical to those of a **Live** action type.



The screenshot shows a configuration window for a 'LiveOrDelayed' action type. It includes fields for 'Type' (set to 'LiveOrDelayed'), 'Description' (set to 'New Action'), 'Entry Code (range)' (set to '13'), 'Announcement Class' (set to 'Medium Priority (Pri:6)'), 'Zone ID' (empty), and 'Zone Group' (set to 'All-Call Frame 1 (101)'). There are also checkboxes for 'Use Prompt' and buttons for 'OK' and 'Cancel'.

Figure 7-28: LiveOrDelayed Action Type

## Announcement Class

Select the appropriate announcement class for the action. The announcement class determines the announcement priority relative to other announcement as well as various other behaviors as defined for each announcement class.

The destination for the announcement is determined by the **Zone ID** or **Zone Group** fields. These parameters are mutually exclusive, thus only one zone destination method may be used.

## Zone ID

The **Zone ID** field specifies one (1) or more system zones as the destination for the announcement. Zones are entered either by directly typing them into the entry box (i.e 1,2,3, 7,18) or by opening the Zone Selector by clicking the button immediately to the right of the entry box. Click on an individual zone to add or remove it from the action. To add a range of zones in the same device, select the first zone and then the last zone in the range while holding down the **SHIFT** key.

## Zone Group

A zone group is assigned to the action by selecting one of the previously defined zone groups from the drop-down list. Multiple zone groups can be assigned to an action by clicking the **+** icon to add more fields, each with its own drop-down selection list. Click the **x** icon to remove a zone group field. Once defined, the announcement will play cumulatively to all zones included in the selected zone groups.

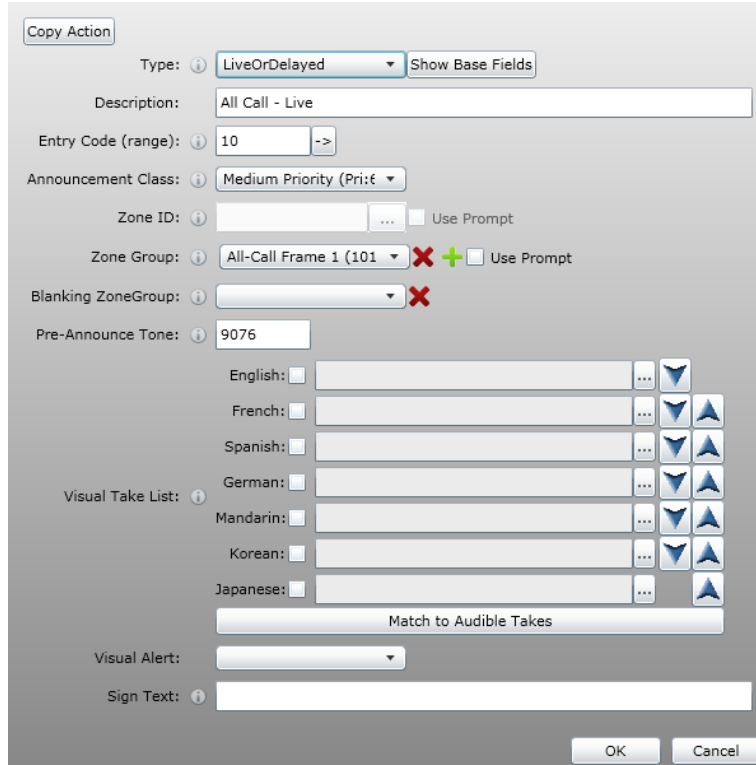
## Use Prompt

This feature requires a graphical paging station such as the IEDA528 series microphone station. When checked, this action will prompt the station user for either the zone code or zone group code for the action. This gives the operator flexibility to choose the announcement or message destination at the time of launch. This requires the microphone station operator to know a valid **Zone ID** or **Zone Group** that is available for use.

## LiveOrDelayed - Advanced Properties

---

The following properties will only be visible after selecting the **Show All Fields** button.



Copy Action

Type: LiveOrDelayed Show Base Fields

Description:

Entry Code (range):  ->

Announcement Class: Medium Priority (Pri:t

Zone ID:  ... ☐ Use Prompt

Zone Group: All-Call Frame 1 (101 ✖ + ☐ Use Prompt

Blanking ZoneGroup:  ✖

Pre-Announce Tone:

Visual Take List:

English:	<input type="text"/>	<span>...</span>	<span>▼</span>
French:	<input type="text"/>	<span>...</span>	<span>▼</span>
Spanish:	<input type="text"/>	<span>...</span>	<span>▼</span>
German:	<input type="text"/>	<span>...</span>	<span>▼</span>
Mandarin:	<input type="text"/>	<span>...</span>	<span>▼</span>
Korean:	<input type="text"/>	<span>...</span>	<span>▼</span>
Japanese:	<input type="text"/>	<span>...</span>	<span>▼</span>

Match to Audible Takes

Visual Alert:

Sign Text:

OK Cancel

Figure 7-29: LiveOrDelayed Action Type - Show All Fields

### Blanking Zone Group

Select the zone group to use as a blanking zone group from the drop-down list box. The zone group selected will effectively be muted when this action is executed. Blanking zone groups are typically used to mute areas that are adjacent to where the announcement will be made to prevent other announcements, messages, or background music from interfering with the delivery of an announcement. Click the **✖** icon to clear the selection from the list.

### Pre-Announce Tone

Enter the take number to be played at the start of the action to alert individuals to the message or announcement being made. Leave this field blank if you do not want to play a pre-announce tone.

### Visual Take List

This section is used to select a visual take to display on any visual displays included in the assigned zone group. This allows a visual take from the take library to be displayed while the announcement is in progress.

Refer to the **Prerecorded** section for instructions on using the Take Browser to add takes to the list.

## Match to Audible Takes

This button has no function for this action type as there are no audible takes for a this type of action.

## Visual Alert

Select one of the pre-defined visual alerts to display on any visual displays included in the assigned zone group. Visual alerts are displayed after the completion of the visual message, if defined, and remain on the displays until cleared. Visual alerts can also be used without any visual takes or sign text.

Use the **\*\*Clear Alert\*\*** item if this action is used to end the alert.

## Sign Text

Type in the text to be shown on any visual displays included in the assigned zone group. Sign text can be used as an alternative to visual takes to define a visual message to accompany an announcement.

## Monitor

The monitor action type is reserved only for hardware devices that support 2-way communications. You must have a room module or sound reinforcement module located in the zone to be monitored. The microphone station that initiates the action must also support 2-way communications. This action will route the microphone signal from the room to the speaker or earpiece located at the monitoring device. It can also be configured to play a pre-announce tone when the monitor action is started as well as providing a periodic tone to indicate that the room is being monitored.

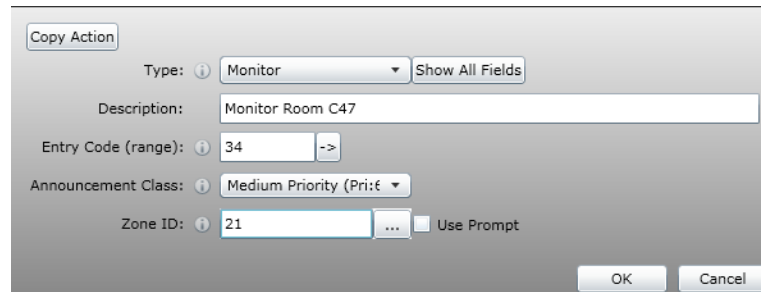


Figure 7-30: Monitor Action Type

## Announcement Class

Select the appropriate announcement class for the action. The announcement class determines the announcement priority relative to other announcements as well as various other behaviors as defined for each announcement class.

## Zone ID

The Zone ID field specifies the system zone to be monitored. Only one (1) zone can be selected at a time and is entered either by directly typing it into the entry box or by opening the Zone Selector by clicking the button immediately to the right of the entry box. Click on a zone to add or remove it from the action.

## Use Prompt

This feature requires a graphical paging station such as the IEDA528 series microphone station. When checked, this action will prompt the station user for the zone to be monitored. This gives the operator flexibility to choose the monitor source at the time of launch. This requires the microphone station operator to know a valid **Zone ID** for the room.

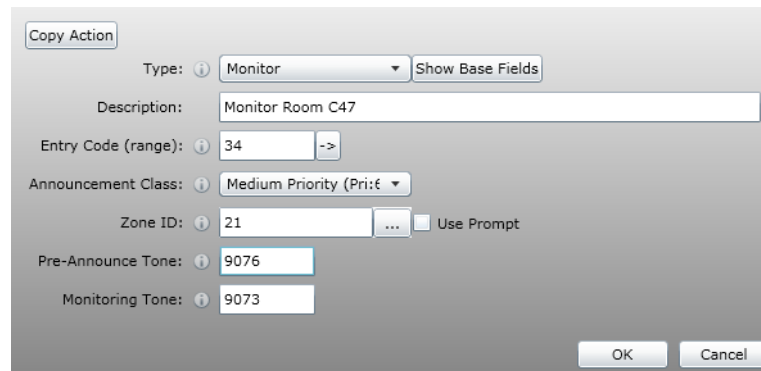


Figure 7-31: Monitor Action Type

## Monitor - Advanced Properties

The following properties will only be visible after selecting the **Show All Fields** button.

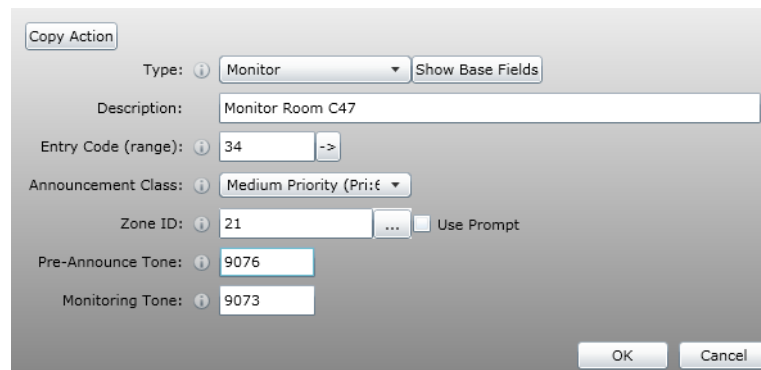


Figure 7-32: Monitor Action Type - Show All Fields

## Pre-Announce Tone

Enter the take number to be played at the start of the action to alert individuals that the system has begun monitoring the room. Leave this field blank if you do not want to play a pre-announce tone.

## Monitoring Tone

Enter the take number to be played approximately every 30 seconds to alert occupants that the room is being monitored. Leave this field blank if you do not want to play a periodic monitoring tone.

## Mute

The mute action type is used to mute selected zone groups or individual zones. It does this by activating an announcement that does not have an input source, thus effectively blanking out other announcements in the specified areas. Because the system treats a mute as an announcement, it is also assigned a priority. This allows a mute action to be overridden by higher priority announcements if needed.

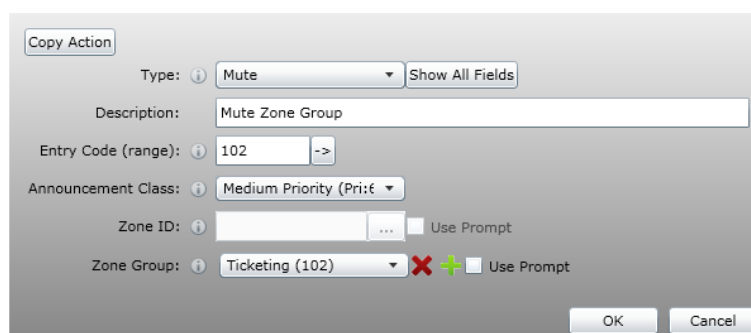


Figure 7-33: Mute Zone Groups

## Announcement Class

Select the appropriate announcement class for the action. The announcement class determines the mute priority relative to other announcement as well as various other behaviors as defined for each announcement class.

The outputs that are muted are determined by the **Zone ID** or **Zone Group** fields. These parameters are mutually exclusive, thus only one zone destination method may be used.

## Zone ID

The **Zone ID** field specifies one (1) or more system zones to mute. Zones are entered either by directly typing them into the entry box (i.e 1,2,3,7,18) or by opening the Zone Selector by clicking the button immediately to the right of the entry box. Click on an individual zone to add or remove it from the action. To add a range of zones in the same device, select the first zone and then the last zone in the range while holding down the **SHIFT** key.

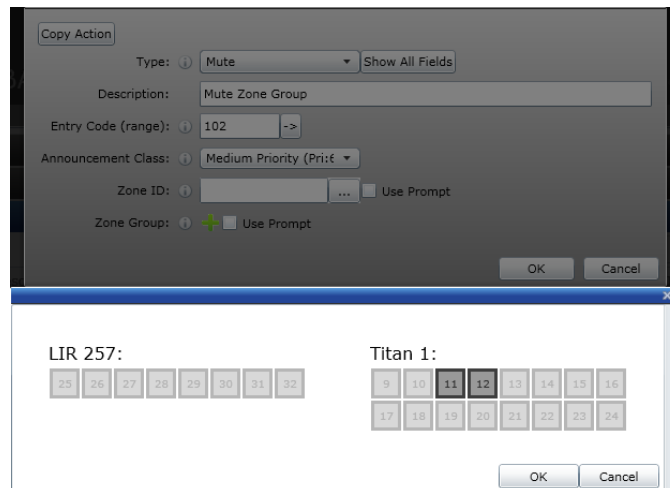


Figure 7-34: Mute Zone Selection

### Zone Group

A zone group is assigned to the action by selecting one of the previously defined zone groups from the drop-down list. Multiple zone groups can be assigned to an action by clicking the **+** icon to add more fields, each with its own drop-down selection list. Click the **x** icon to remove a zone group field. Once defined, the mute will be cumulative for all zones included in the selected zone groups.

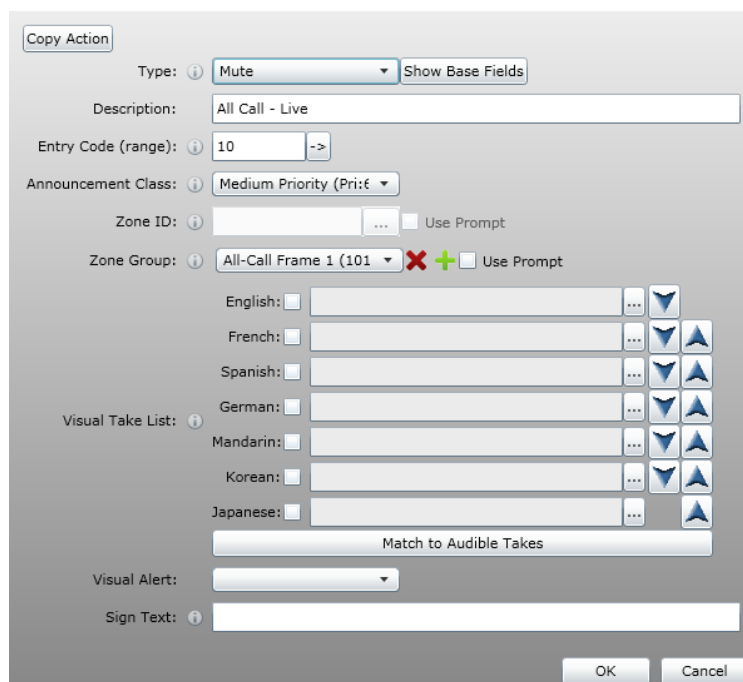
### Use Prompt

This feature requires a graphical paging station such as the IEDA528 series microphone station. When checked, this action will prompt the station user for either the zone code or zone group code for the action. This gives the operator flexibility to choose the mute destination at the time of launch. This requires the microphone station operator to know a valid **Zone ID** or **Zone Group** that is available for use.

### Mute - Advanced Properties

The following properties will only be visible after selecting the **Show All Fields** button.





The screenshot shows the 'Copy Action' window for the 'Mute' action type. The 'Type' is set to 'Mute' and 'Show Base Fields' is checked. The 'Description' is 'All Call - Live'. The 'Entry Code (range)' is '10'. The 'Announcement Class' is 'Medium Priority (Pri:f)'. The 'Zone ID' is empty, and 'Use Prompt' is checked. The 'Zone Group' is 'All-Call Frame 1 (101)'. The 'Visual Take List' is empty. The 'Match to Audible Takes' button is visible. The 'Visual Alert' is empty. The 'Sign Text' is empty. The 'OK' and 'Cancel' buttons are at the bottom right.

Figure 7-35: Mute Action Type - Show All Fields

## Visual Take List

This section is used to select a visual take to display on any visual displays included in the assigned zone group. This allows a visual take from the take library to be displayed while a the system is muted in an area.

Refer to the **Prerecorded** section for instructions on using the Take Browser to add takes to the list.

## Match to Audible Takes

This button has no function for this action type as there are no audible takes for a mute action.

## Visual Alert

Select one of the pre-defined visual alerts to display on any visual displays included in the assigned zone group. Visual alerts are displayed after the completion of the visual message, if defined, and remain on the displays until cleared. Visual alerts can also be used without any visual takes or sign text.

Use the **\*\*Clear Alert\*\*** item if this action is used to end the alert.

## Sign Text

Type in the text to be shown on any visual displays included in the assigned zone group. Sign text can be used as an alternative to visual takes to define a visual message to accompany a live message.

## MuteAll

This action type is used to mute the entire system. The action is given an Announcement Class that determines what, if any, other actions can override the mute. For example, if a mute action is given a medium priority (priority 6) announcement class, then any actions with high (priority 4) or emergency (priority 2) announcement class will override the mute and be allowed to go active. This example outlines a case where perhaps background music and general low priority announcements are blocked due to a special event. High priority and emergency announcements will still be allowed.

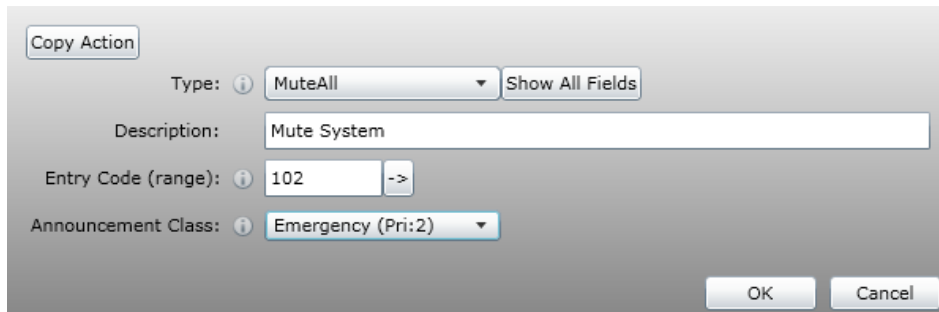
The image shows a configuration window for the 'MuteAll' action type. At the top left is a 'Copy Action' button. Below it, the 'Type' is set to 'MuteAll' in a dropdown menu, with a 'Show All Fields' button to its right. The 'Description' field contains the text 'Mute System'. The 'Entry Code (range)' is set to '102' with a range selector button '->'. The 'Announcement Class' is set to 'Emergency (Pri:2)' in a dropdown menu. At the bottom right are 'OK' and 'Cancel' buttons.

Figure 7-36: Action Types - MuteAll

Figure 7-36 shows the most common use of the MuteAll action type. By using an Emergency (priority 2) announcement class, all other announcement functions will be blocked. This example is common when the system must be muted entirely while the fire alarm system takes over the distribution of emergency messages and/or alert tones.

## MuteAll - Advanced Properties

The following properties will only be visible after selecting the **Show All Fields** button.

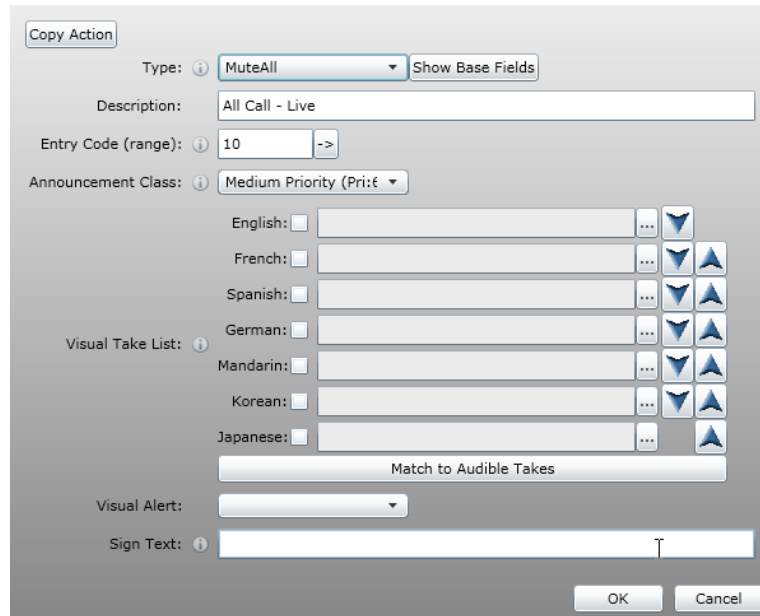


Figure 7-37: MuteAll Action Type - Show All Fields

## Visual Take List

This section is used to select a visual take to display on any visual displays included in the assigned zone group. This allows a visual take from the take library to be displayed while a the system is muted in an area.

Refer to the **Prerecorded** section for instructions on using the Take Browser to add takes to the list.

## Match to Audible Takes

This button has no function for this action type as there are no audible takes for a mute action.

## Visual Alert

Select one of the pre-defined visual alerts to display on any visual displays included in the assigned zone group. Visual alerts are displayed after the completion of the visual message, if defined, and remain on the displays until cleared. Visual alerts can also be used without any visual takes or sign text.

Use the **\*\*Clear Alert\*\*** item if this action is used to end the alert.

## Sign Text

Type in the text to be shown on any visual displays included in the assigned zone group. Sign text can be used as an alternative to visual takes to define a visual message while a mute is in progress.

## Prerecorded

Prerecorded messages offer a wide range of possibilities in providing automated message playback in a facility. Prerecorded messages are sometimes referred to as *assembled messages* because they are created by cascading a series of message segments, known as *takes*, together to create the final message. A single take can be the full message, or only a part of a message. For example, the message text below is an example of a situation where a single take would encompass the entire message.

"Passengers are reminded that they may carry-on two pieces of luggage. If you have more than two pieces of luggage, which are oversized, the agent will be happy to check your luggage for you."

The system stores this take as a single file and it is indexed with a unique take number. In this example, the take number is 8210 and it can be played completely using only that take. The next example uses multiple takes to form a complete message.

"Welcome to Abilene Municipal Airport. For the health and comfort of the traveling public, all terminals are smoke free. Smoking is permitted at designated curbside areas only. Thank you."

This example consists of three individual takes that have been assembled together in the **Take Browser** to play as a single message. Here are the individual takes.

"Welcome to Abilene Municipal Airport."

"For the health and comfort of the traveling public, all terminals are smoke free. Smoking is permitted at designated curbside areas only."

"Thank you."

To prevent takes from running together, the system also has takes that are nothing but silence. These takes are inserted in between individual takes to produce natural pauses in the message. In addition to silence, the system also contains takes of chimes or alert tones used to draw attention to the announcement. To produce the final "Welcome..." message, the following takes will be assembled using the **Take Browser**.

Take Number	Description/Text
9991	1 Second of silence *
629	Welcome to Abilene Municipal Airport.
7250	For the health and comfort of the traveling public, all terminals are smoke free. Smoking is permitted at designated curbside areas only.
7325	Thank you.

\* 1 Second of silence is recommended at the beginning of all PDRP messages.

Once a message has been assembled, it can be played through a variety of methods. Messages can be programmed to play on a schedule so they will play every few minutes to specific areas of the facility. Schedules offer flexibility by allowing messages to play only during a certain date range, certain times of the day, or only on specific days of the week.

A good application example for this feature would be a major event occurring in a city over a specific weekend. The airport wants to play a special welcome message to people arriving to the city for the event. The message can be programmed on a schedule that only plays it on the days where they anticipate many arriving passengers that will be attending the event. They can even change the message on departure day to play a different message thanking them for their patronage.

Access to certain messages from a microphone station is restricted based on a user's level of access when logins are enabled on the mic station. Therefore, emergency messages can be blocked for general system users but made available only to security personnel. Using additional interface hardware, messages can be played from external control devices, such as a fire alarm or security panel.

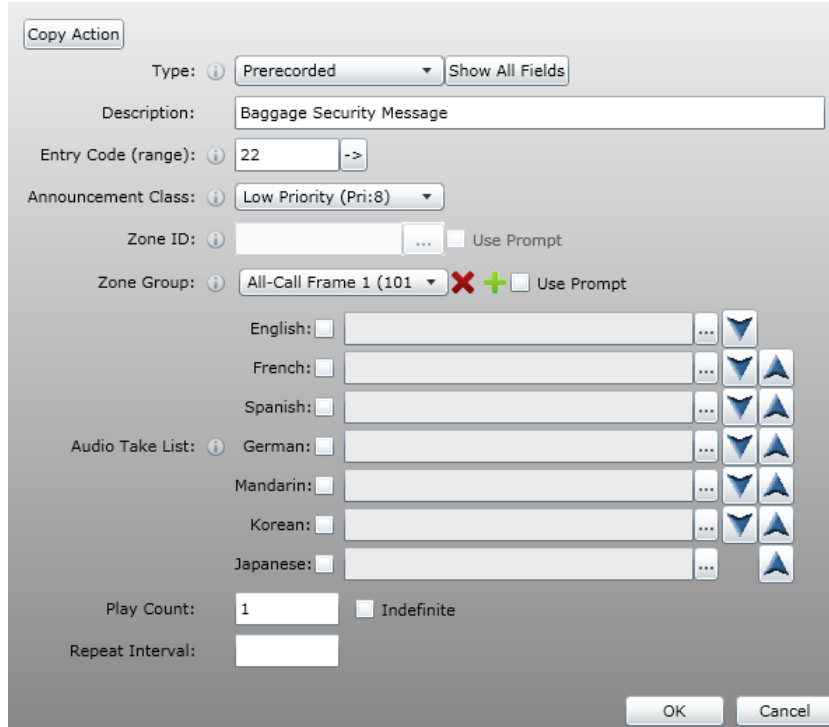


Figure 7-38: Prerecorded Action Type

## Announcement Class

Select the appropriate announcement class for the action. The announcement class determines the announcement priority relative to other announcements as well as various other behaviors as defined for each announcement class.

The destination for the announcement is determined by the **Zone ID** or **Zone Group** fields. These parameters are mutually exclusive, thus only one zone destination method may be used.

## Zone ID

The **Zone ID** field specifies one (1) or more system zones as the destination for the announcement. Zones are entered either by directly typing them into the entry box (i.e 1,2,3, 7,18) or by opening the Zone Selector by clicking the button immediately to the right of the entry box. Click on an individual zone to add or remove it from the action. To add a range of zones in the same device, select the first zone and then the last zone in the range while holding down the **SHIFT** key.

## Zone Group

A zone group is assigned to the action by selecting one of the previously defined zone groups from the drop-down list. Multiple zone groups can be assigned to an action by clicking the **+** icon to add more fields, each with its own drop-down selection list. Click the **x** icon to remove a zone group field. Once defined, the announcement will play cumulatively to all zones included in the selected zone groups.

## Use Prompt

This feature requires a graphical paging station such as the IEDA528 series microphone station. When checked, this action will prompt the station user for either the zone code or zone group code for the action. This gives the operator flexibility to choose the announcement or message destination at the time of launch. This requires the microphone station operator to know a valid **Zone ID** or **Zone Group** that is available for use.

Prerecorded messages allow for repeats to be defined as part of the message by using the following three fields.

## Play Count

A message can be played multiple times. Enter the total number of times to play the message once it has been launched. All messages must play at least once, thus requiring at least a 1 to be in this field.

## Indefinite

When checked, the **Play Count** edit box disappears. This will allow the message to play continuously at the specified **Repeat Interval** until it is stopped using a **StopAnnc** action type programmed to stop this action.


## Repeat Interval

This is the time between successive message playbacks. Positive numbers are used to designate an interval in minutes while negative numbers are used to designate an interval in seconds (5 would be 5 minutes, -30 would be 30 seconds). This time is from the start of the first playback to the start of the next one. If the interval is set to 30 seconds and the message is 10 seconds in duration, then there will be approximately 20 seconds between playbacks.

## Audio Take List

This section is where the individual audio takes are selected and organized in the proper playback order. Use the check boxes to turn on or off individual languages. The up / down arrows to the right are used to change the order of language playback.

## Take Browser

Click the take browse button located immediately to the right of each audio take list entry box  to open the Take Browser window as shown in Figure 7-39. From here, individual takes are located in the **Available Takes** list and added to the **Current Takes** list by using the **Append Take** and **Insert Take** buttons.

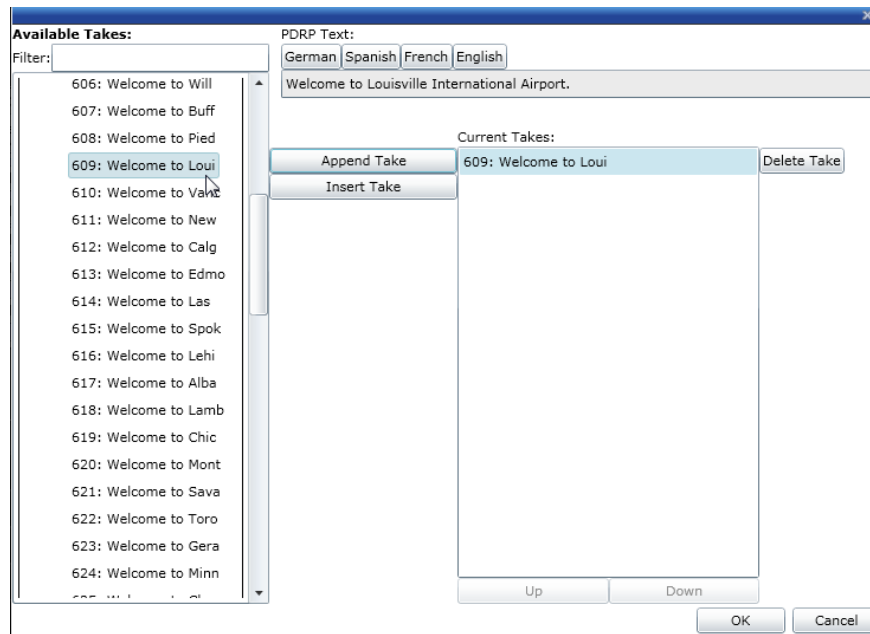


Figure 7-39: Take Browser

### Append Take

This button will add the highlighted take in the **Available Takes** list to the end of the **Current Takes** list.

### Insert Take

This button will add the highlighted take in the **Available Takes** list to the **Current Takes** list. It is added above the currently highlighted item in the **Current Takes** list.

### Delete Take

This button will remove the highlighted item from the **Current Takes** list.

### Up / Down

Use the **Up** and **Down** buttons to move the highlighted item to a different location in the **Current Takes** list. The order in the list is the order in which the takes will be played.

### PDRP Text

This field will display the text of all takes included in the **Current Takes** list, thus showing the complete text of the message. Use any of the language buttons to display the text in one of the other available languages.

### Filter

The **Filter** entry box allows the takes shown in the **Available Takes** list to be filtered by a keyword typed into the **Filter** box.

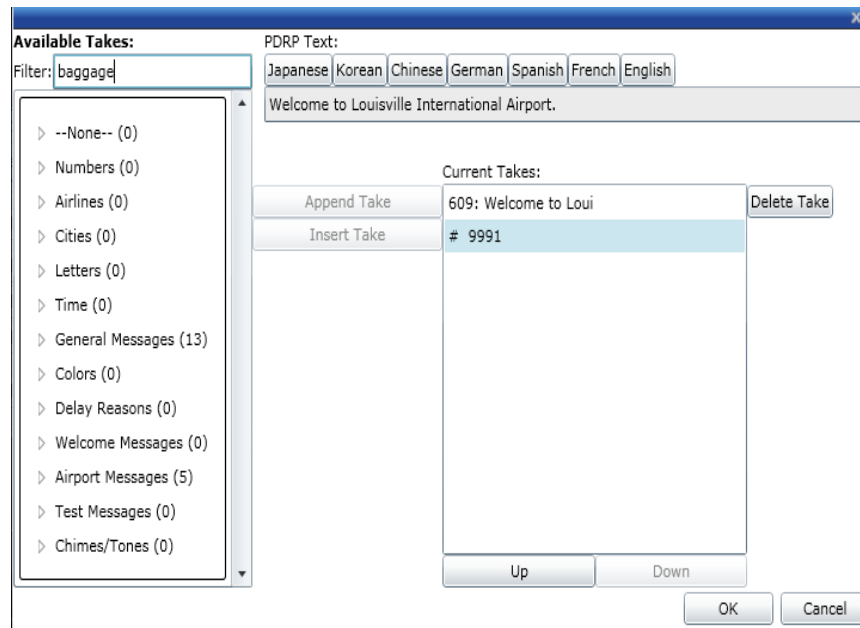


Figure 7-40: Take Browser

Figure 7-40 shows the list with the word *baggage* used as a filter keyword. Notice how the number of displayed messages in each category has been significantly reduced. Only takes with the word *baggage* (not case sensitive) in the text are shown.

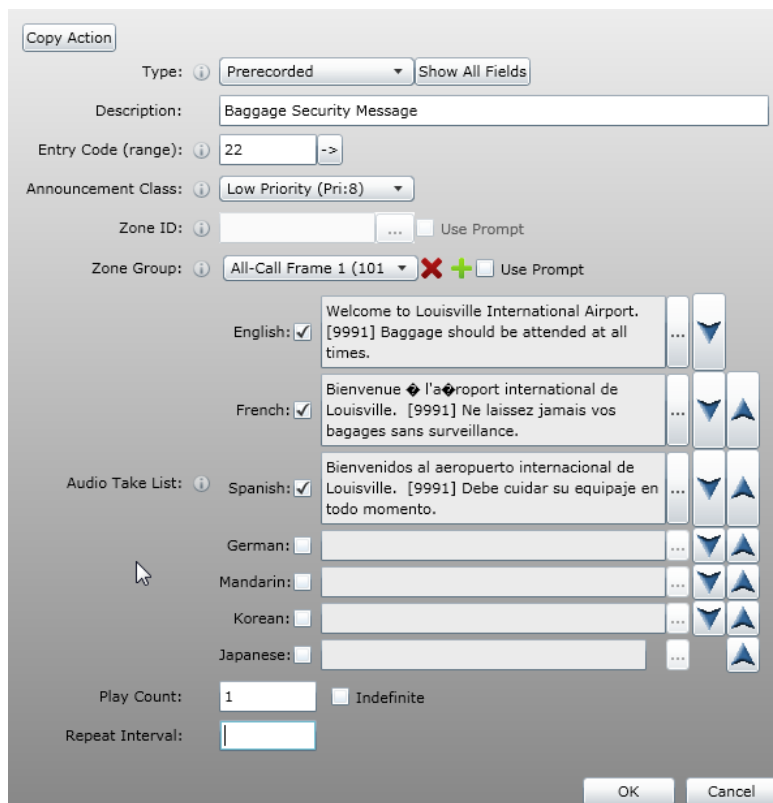
If you already know the take number, you can type it into the **Filter** box to quickly locate the take.

**Note:** Flyover help is available for each take. Hovering the mouse pointer over a take in the **Available Takes** list will display the complete text of the take in a pop-up window.

## Languages

Each available language that is installed in the system requires its own unique list of take files. The take library has been structured so that the same take numbers for each language correspond to the same message phrase translated to the appropriate language. Therefore, once takes have been assembled to create a complete message in one language, it is easy to play the message in additional languages. Figure 7-41 shows a message using multiple languages.





Copy Action

Type:  Prerecorded

Description:

Entry Code (range):  22

Announcement Class:  Low Priority (Pri:8)

Zone ID:   ... ☐ Use Prompt

Zone Group:  All-Call Frame 1 (101)   ☐ Use Prompt

English: ☒ Welcome to Louisville International Airport. [9991] Baggage should be attended at all times. ...

French: ☒ Bienvenue à l'aéroport international de Louisville. [9991] Ne laissez jamais vos bagages sans surveillance. ...

Audio Take List:  Spanish: ☒ Bienvenidos al aeropuerto internacional de Louisville. [9991] Debe cuidar su equipaje en todo momento. ...

German: ☐ ...

Mandarin: ☐ ...

Korean: ☐ ...

Japanese: ☐ ...

Play Count:  ☐ Indefinite

Repeat Interval:

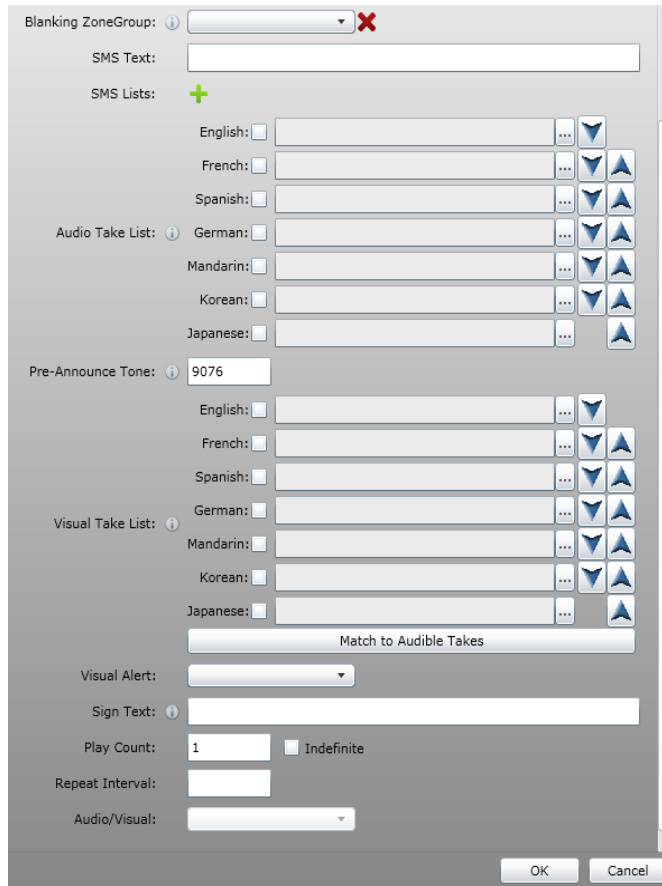
Figure 7-41: Using Multiple Languages

Because of this feature, it is easiest for the user to create a message in their native language and then add more languages by clicking the appropriate check box next to the language.

Each language row has a pair of buttons used to change the order in which each language will play when the message is triggered. The language at the top of the list will play first, followed by each language activated. Use the up / down arrow buttons to move a language to a new location in the list.

## Prerecorded - Advanced Properties

The following properties will only be visible after selecting the **Show All Fields** button.



The screenshot shows a configuration window for a Prerecorded Action Type. It includes the following fields and controls:

- Blanking ZoneGroup:** A dropdown menu with a red 'X' icon to clear the selection.
- SMS Text:** A text input field.
- SMS Lists:** A section with a green '+' icon to add lists. It contains a table with columns for language checkboxes and text input fields:
 

English:	<input type="checkbox"/>		...	▼
French:	<input type="checkbox"/>		...	▼ ▲
Spanish:	<input type="checkbox"/>		...	▼ ▲
- Audio Take List:** A section with a blue 'i' icon. It contains a table with columns for language checkboxes and text input fields:
 

German:	<input type="checkbox"/>		...	▼ ▲
Mandarin:	<input type="checkbox"/>		...	▼ ▲
Korean:	<input type="checkbox"/>		...	▼ ▲
Japanese:	<input type="checkbox"/>		...	▼ ▲
- Pre-Announce Tone:** A dropdown menu showing '9076'. Below it is a table with columns for language checkboxes and text input fields:
 

English:	<input type="checkbox"/>		...	▼
French:	<input type="checkbox"/>		...	▼ ▲
Spanish:	<input type="checkbox"/>		...	▼ ▲
- Visual Take List:** A section with a blue 'i' icon. It contains a table with columns for language checkboxes and text input fields:
 

German:	<input type="checkbox"/>		...	▼ ▲
Mandarin:	<input type="checkbox"/>		...	▼ ▲
Korean:	<input type="checkbox"/>		...	▼ ▲
Japanese:	<input type="checkbox"/>		...	▼ ▲
- Match to Audible Takes:** A button.
- Visual Alert:** A dropdown menu.
- Sign Text:** A text input field.
- Play Count:** A text input field with '1' and an 'Indefinite' checkbox.
- Repeat Interval:** A text input field.
- Audio/Visual:** A dropdown menu.
- Buttons:** 'OK' and 'Cancel' at the bottom right.

Figure 7-42: Prerecorded Action Type - Show All Fields

## Blanking Zone Group

Select the zone group to use as a blanking zone group from the drop-down list box. The zone group selected will effectively be muted when this action is executed. Blanking zone groups are typically used to mute areas that are adjacent to where the announcement will be made to prevent other announcements, messages, or background music from interfering with the delivery of an announcement. Click the **X** icon to clear the selection from the list.

## SMS Text

Enter the text that will be sent as the message body of the text message. This field is limited to a maximum of 160 characters.

## SMS List

Select an SMS List from the drop-down selection list to receive the message. Multiple SMS Lists can be added by clicking the **+** button to add more fields, each with its own drop-down selection list. Click the **X** icon to remove an SMS List from the action. Once defined, the message will be sent to all device numbers in the selected SMS Lists.

**Note:** SMS Messaging requires an Internet connection. This is a feature that must be purchased as an option as part of the software license.

### Pre-Announce Tone

Enter the take number to be played at the start of the action to alert individuals to the message or announcement being made. Leave this field blank if you do not want to play a pre-announce tone.

### Visual Take List

This section is used to select the visual takes to display on any visual displays included in the assigned zone group. By default, these takes will be set to match any audible takes configured in the **Audio Take List** section. For this type of action, you will typically want the visual takes to match the audio takes.

Refer to the **Prerecorded** section for instructions on using the Take Browser to add takes to the list.

### Match to Audible Takes

This button will copy the current audio take list to the visual take list so the visual displays will show text that will match the audible message.

### Visual Alert

Select one of the pre-defined visual alerts to display on any visual displays included in the assigned zone group. Visual alerts are displayed after the completion of the visual message, if defined, and remain on the displays until cleared. Visual alerts can also be used without any visual takes or sign text.

Use the **\*\*Clear Alert\*\*** item if this action is used to end the alert.

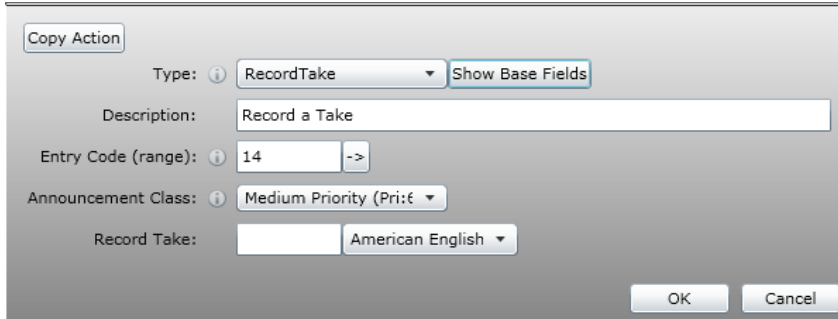
### Sign Text

Type in the text to be shown on any visual displays included in the assigned zone group. Sign text can be used as an alternative to visual takes to define a visual message to accompany a prerecorded message.

### RecordTake

---

This action type allows a message take to be recorded and stored on the system using the specified take number. It can then be used in a pre-recorded action type for playback.



Copy Action

Type: RecordTake Show Base Fields

Description: Record a Take

Entry Code (range): 14 ->

Announcement Class: Medium Priority (Pri:6)

Record Take:  American English

OK Cancel

Figure 7-43: RecordTake Action Type

**Note:** When multiple playback devices are used, it may take up to one (1) minute for recorded takes to be transferred to all other playback devices in the system.

## Announcement Class

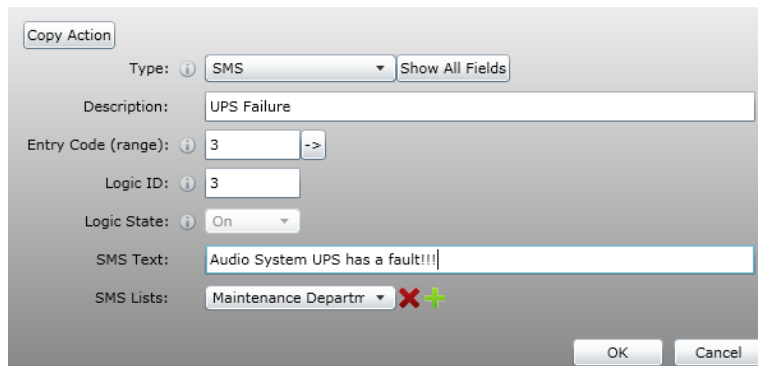
Select the appropriate announcement class for the action. The announcement class determines the announcement priority relative to other announcements as well as various other behaviors as defined for each announcement class.

## Record Take

Enter the take number that will be used to record the take in this field. Use the drop-down list immediately to the right of the field to select the language that will be used for this take. This ensures that the take is stored in the correct directory and allows you to record the take in multiple languages while using the same take number.

## SMS

Short Message Service (SMS) allows the system to send text messages to one or more mobile devices. Once an SMS list has been defined in the system, the SMS action type can be used to alert individuals of system events or issues. Refer to the **SMS Lists** section for information on adding SMS Lists.



Copy Action

Type: SMS Show All Fields

Description: UPS Failure

Entry Code (range): 3 ->

Logic ID: 3

Logic State: On

SMS Text: Audio System UPS has a fault!!!

SMS Lists: Maintenance Departm ✖ +

OK Cancel

Figure 7-44: SMS Action Type

## SMS Text

Enter the text that will be sent as the message body of the text message. This field is limited to a maximum of 160 characters.

## SMS List

Select an SMS List from the drop-down selection list to receive the message. Multiple SMS Lists can be added by clicking the **+** button to add more fields, each with its own drop-down selection list. Click the **x** icon to remove an SMS List from the action. Once defined, the message will be sent to all device numbers in the selected SMS Lists.

**Note:** SMS Messaging requires an Internet connection. This is a feature that must be purchased as an option as part of the software license.

## StopAnnc

The **StopAnnc** action type is used to stop active announcements or messages from any further activity. For example, a message is created with the **Indefinite** checkbox checked so the message will play continuously at the defined **Play Interval**. A separate action is then created to stop that specific message. A stop announcement action is defined as shown in Figure 7-45.

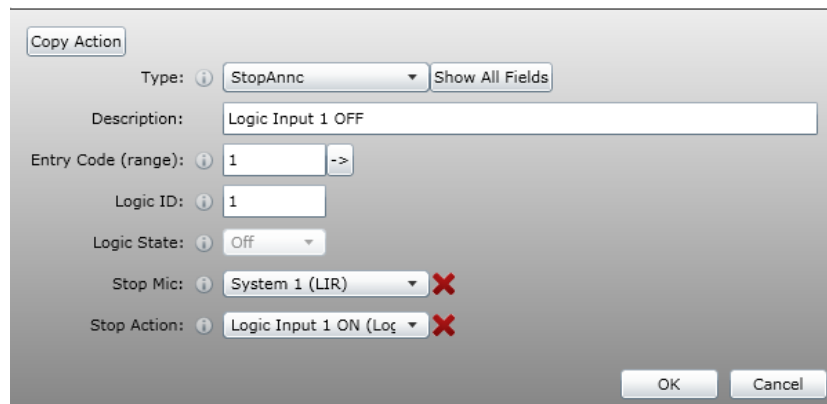


Figure 7-45: StopAnnc Action Type

## Stop Mic

This drop-down list box lists all available microphone stations currently programmed in the system. Selecting a station from this list will allow the action to stop any and all active announcements that were initiated from that station.

Click the **x** icon to clear the selection.

## Stop Action

This drop-down list box lists all available actions currently programmed in the system. Selecting an action from this list will allow the action to stop the selected action, regardless of the source that triggered the announcement.

Click the **X** icon to clear the selection.

**Note:** Specify either a **Stop Mic** or a **Stop Action** for most applications. Selecting both a **Stop Mic** and **Stop Action** will limit the action where it will only stop an action that was started from a specific microphone station. Specifying both is typically used to stop actions that were started from logic input devices

## TTS (Text-to-Speech)

Text-to-speech (TTS) messages allow the user to type in the text of the desired message and the optional TTS engine will generate the human-like speech for the message. The system supports multiple voices and multiple languages, but only one (1) voice per language can be used.

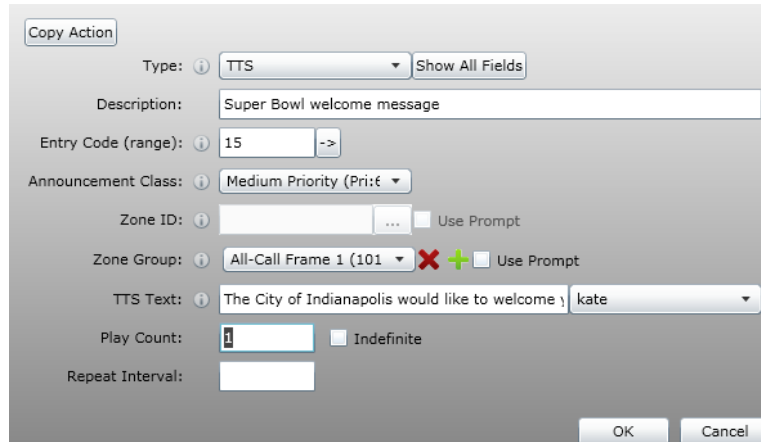


Figure 7-46: TTS (Text-to-Speech) Action Type

## Announcement Class

Select the appropriate announcement class for the action. The announcement class determines the announcement priority relative to other announcements as well as various other behaviors as defined for each announcement class.

The destination for the announcement is determined by the **Zone ID** or **Zone Group** fields. These parameters are mutually exclusive, thus only one zone destination method may be used.

## Zone ID

The **Zone ID** field specifies one (1) or more system zones as the destination for the announcement. Zones are entered either by directly typing them into the entry box (i.e 1,2,3, 7,18) or by opening the Zone Selector by clicking the button immediately to the right of the entry box. Click on an individual zone to add or remove it from the action. To add a range of zones in the same device, select the first zone and then the last zone in the range while holding down the **SHIFT** key.

## Zone Group

A zone group is assigned to the action by selecting one of the previously defined zone groups from the drop-down list. Multiple zone groups can be assigned to an action by clicking the **+** icon to add more fields, each with its own drop-down selection list. Click the **x** icon to remove a zone group field. Once defined, the message will play cumulatively for all zones included in the selected zone groups.

## Use Prompt

This feature requires a graphical paging station such as the IEDA528 series microphone station. When checked, this action will prompt the station user for either the zone code or zone group code for the action. This gives the operator flexibility to choose the mute destination at the time of launch. This requires the microphone station operator to know a valid **Zone ID** or **Zone Group** that is available for use.

## TTS Text

Type in the text that will be used to generate the message.

## Voice Selection

Select the appropriate voice from this drop-down list box that will be used to generate the message. The names and number of voices available on the system will vary based on the options that are installed.

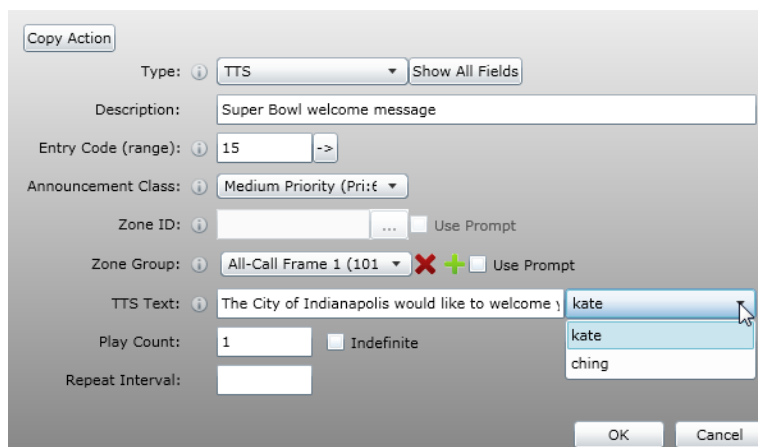


Figure 7-47: TTS (Text-to-Speech) Voice Selection

## Play Count

A message can be played multiple times. Enter the total number of times to play the message once it has been recorded. All messages must play at least once, thus requiring at least a 1 to be in this field.

## Indefinite

When checked, the **Play Count** edit box disappears. This will allow the message to play continuously at the specified **Repeat Interval** until it is stopped using a **StopAnnc** action type programmed to stop this action.

## Repeat Interval

This is the time between successive message playbacks. Positive numbers are used to designate an interval in minutes while negative numbers are used to designate an interval in seconds (5 would be 5 minutes, -30 would be 30 seconds). This time is from the start of the first playback to the start of the next one. If the interval is set to 30 seconds and the message is 10 seconds in duration, then there will be approximately 20 seconds between playbacks.

## TTS - Advanced Properties

The following properties will only be visible after selecting the **Show All Fields** button.

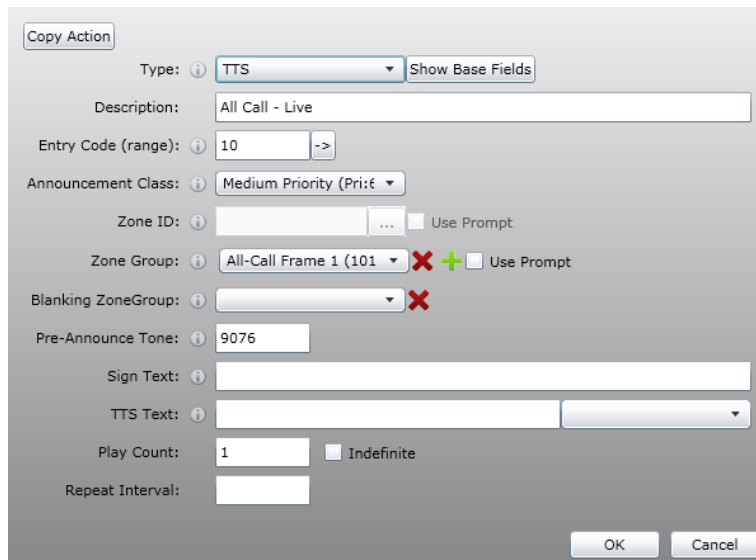


Figure 7-48: TTS (Text-to-Speech Action Type) - Show All Fields

## Blanking Zone Group

Select the zone group to use as a blanking zone group from the drop-down list box. The zone group selected will effectively be muted when this action is executed. Blanking zone groups are typically used to mute areas that are adjacent to where the announcement will be made to prevent other announcements, messages, or background music from interfering with the delivery of an announcement. Click the **X** icon to clear the selection from the list.



## Pre-Announce Tone

Enter the take number to be played at the start of the action to alert individuals to the message or announcement being made. Leave this field blank if you do not want to play a pre-announce tone.

## Sign Text

Type in the text to be shown on any visual displays included in the assigned zone group. For most TTS uses, the sign text will be identical to the TTS text. Two fields are provided for cases where special phonetic spellings are necessary to get the TTS engine to correctly pronounce a word.

## VisualAlert

This action type is used for cases where you want to start or stop a visual alert when not including it with any other type of action. A common use is to start a visual alert at the end of a prerecorded message and then clear it when you play a different prerecorded message. This action type is provided for situations where you want the visual alert to operate independently of any other actions.

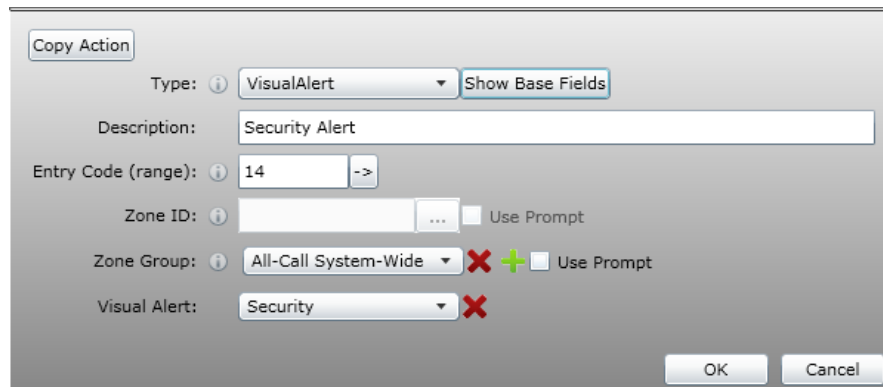


Figure 7-49: VisualAlert Action Type

The destination for the action is determined by the **Zone ID** or **Zone Group** fields. These parameters are mutually exclusive, thus only one zone destination method may be used.

## Zone ID

The **Zone ID** field specifies one (1) or more system zones as the destination for the action. Zones are entered either by directly typing them into the entry box (i.e 1,2,3,7,18) or by opening the Zone Selector by clicking the button immediately to the right of the entry box. Click on an individual zone to add or remove it from the action. To add a range of zones in the same device, select the first zone and then the last zone in the range while holding down the **SHIFT** key.

## Zone Group

A zone group is assigned to the action by selecting one of the previously defined zone groups from the drop-down list. Multiple zone groups can be assigned to an action by clicking the **+** icon to add more fields, each with its own drop-down selection list. Click the **x** icon to remove a zone group field. Once defined, the action will play cumulatively to all zones included in the selected zone groups.

## Use Prompt

This feature requires a graphical paging station such as the IEDA528 series microphone station. When checked, this action will prompt the station user for either the zone code or zone group code for the action. This gives the operator flexibility to choose the announcement or message destination at the time of launch. This requires the microphone station operator to know a valid **Zone ID** or **Zone Group** that is available for use.

## Visual Alert

Select one of the pre-defined visual alerts to display on any visual displays included in the assigned zone group. Visual alerts remain on the displays until cleared.

Use the **\*\*Clear Alert\*\*** item if this action is used to end the alert.

## Announcement Classes

Announcement classes are used to define specific behaviors for the actions in the system. Most, but not all, actions require the assignment of an announcement class. This determines how the action will interact with other actions in the system as they start and stop.

Announcement Classes											
ID	Description	Priority ▲	Ready Time	Warn Time	Max Time	Partial Activation	Partial Continuous	Preempt All	Preempt Kill	Recover Zones	Emergency
1	Emergency	2	5	0	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	High Priority	4	5	5	120	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Medium Priority	6	5	5	60	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Low Priority	8	5	5	60	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Figure 8-1: Announcement Classes



Click this button to add a new announcement class to the list.



Click this button to delete the highlighted announcement class from the list.

### ID

This is a positive whole number used to identify the announcement class. Each announcement class defined must have a unique ID number.

### Description

This is a text description for the announcement class. Double-click on the field to edit the text.

### Priority

Each announcement class must have a priority level. Lower numbers designate a higher priority over larger numbers. Announcement classes with a higher priority (lower number) will override announcements of a lower priority (higher number) in most cases. The exceptions are any announcement classes with the Pre-empt All selected.

## Ready Time

When an announcement is initiated from a microphone station with a push-to-talk switch or button, a green **READY** light will flash along with a chime. This indicates to the user that the system is ready for the and they should key the microphone and make the announcement. The **Ready Time** specifies how long the system will wait (in seconds) for the user before killing the announcement request. A typical value for this setting is five (5) seconds.

## Warn Time

The system will warn the user that the maximum time limit for the announcement has almost been reached. It does so by flashing the **READY** light on the microphone station. Enter the time (in seconds) to issue the warning before the end of the announcement.

## Max Time

This is the maximum time (in seconds) that an announcement can be made from the time the user keys the microphone. After this time has elapsed, the announcement will be automatically killed by the system. Typical values for most applications range from 60 (1 minute) to 120 (2 minutes). For no time restrictions, enter a value of 0.

## Partial Activation

This parameter determines what the announcement will do if some of the zones required are busy with announcements of equal or higher priority. When enabled, the announcement will proceed and activate only those zones that are available or are busy with lower priority announcements. When disabled, the announcement will indicate that the system is busy and the user must wait to make the announcement. In the case of delayed or pre-recorded messages, the system will wait until all zones are available and then play the message.

Lower priority announcements and general informational messages typically allow for partial activation. This allows scheduled messages to continue at their designated playback interval while allowing higher priority announcements and messages to continue as needed.

## Partial Continuous

This parameter determines what happens when an announcement of higher priority, or one with **Pre-empt All** enabled, takes over some of the zones of an active announcement. When enabled, the announcement will proceed with only the zones that are available. When disabled, the entire announcement will be terminated and the user will need to restart the announcement. In the case of delayed and pre-recorded messages, the message will be killed and placed into a busy state. It will play back from the beginning once the zones are available.

## Preempt All

When enabled, the announcement will always take priority over any other active announcements, acquiring all needed resources such as zones and playback channels. After the announcement has started, its priority level is then used to determine what other announcements may have priority over it.

## Preempt Kill

When an announcement is overridden by one of a higher priority, this parameter will determine what happens to that announcement. If it is enabled, the announcement will be killed and not attempt to re-start. If disabled, the announcement will return to a busy state and attempt to re-start once the needed zones and other resources are available.

## Recover Zones

When either ***Partial Activation*** or ***Partial Continuation*** are enabled, then an announcement may start or continue with some of its needed zones unavailable. This parameter determines what happens to those zones that are either not available at the time the announcement is started or are taken away by one of a higher priority while it is active. When enabled, the zones that were taken over by another announcement will be immediately added back to the active announcement. When disabled, those zones will remain excluded for the duration of the announcement.

## Emergency

Devices with audio outputs have a configurable emergency gain offset used to increase the output level by the defined amount when an emergency announcement is made. When this box is checked, any announcements or messages that use this announcement class will be played using the higher gain amount.

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## Zone Groups

The term **zone** is a rather broad term that generically refers to the outputs of several different types of devices. An output channel on a Titan T9160 amplifier channel is a zone. A relay output on a T9016RY or internal 1200LIR is a zone. Visual displays are also treated as an output zone.

Zone groups are collections of individual zones that share a common purpose or logical area. Individual zones can be included in multiple zone groups as needed. Most systems will include an *All Call* zone group that is made up of all output zones in the system. You can program individual zone groups in a way that best suits your facility. For example, all zones in a building could be a zone group for building-wide pages. Zones for each floor of a building could be grouped together to allow quick access to one or more floors of a building. This flexibility makes programming actions much easier as you only need to specify one or more zone groups in an action and you will get all of the system output zones that are associated with that area, providing that the zone groups have been configured correctly.

Zone Groups			
+ X			
ID	Description	Zone Count	Remote ZoneGroups
101	All-Call Frame 1	24	0
102	Ticketing	2	0
103	Security	2	0
104	Building 12 All Call	2	Building 12:101
105	Building 11 All Call	2	0

Figure 9-1: Zone Groups

Figure 9-1 shows a very simple system with only five (5) zone groups. Zone groups are added to the list by using the **+** icon. Once a new one has been added, you must configure an ID, description, and select the zones to be included in the group. Optionally, you can configure zone groups in other announcement controllers when part of a multi-controller system.

When a zone group is selected with the mouse, it will appear highlighted in the list and the zone editor window for that group will be displayed below the list as shown in Figure 9-2. Use the check box for each zone to determine if it will be included in the zone group. Available zones are grouped according to the device that contains the zones. Each group contains a **Select All** and **Clear All** button to quickly select or clear all available zones within that device.

Clicking on the **X** icon will delete the currently selected zone group.

**Zone Groups**

+ X

ID	Description	Zone Count	Remote ZoneGroups
100	All-Call Frame 1	25	0
101	Ticketing	5	0
102	Security	2	0
103	Building 12 All Call	2	0
104	Building 11 All Call	2	0

IED GLOBALCOM System (LIR)      Titan 1      T9040NLR      DNA7800 Amplifier Frame #1

Select All   Clear All      Select All   Clear All      Select All   Clear All      Select All   Clear All

☐ Relay Zone 1  
☐ Relay Zone 2  
☐ Relay Zone 3  
☐ Relay Zone 4  
☐ Relay Zone 5  
☐ Relay Zone 6  
☐ Relay Zone 7  
☐ Relay Zone 8

☒ Ticketing 1A   ☐ Curbside 5A  
☒ Ticketing 1B   ☐ Concourse 5B  
☒ Ticketing 2A   ☐ Concourse 6A  
☒ Ticketing 2B   ☐ Concourse 6B  
☒ Ticketing 3A   ☐ Concourse 7A  
☐ Security 3B   ☐ Corridors 7B  
☐ Security 4A   ☐ Corridors 8A  
☐ Curbside 4B   ☐ Spare

☐ Relay Zone 41  
☐ Relay Zone 42  
☐ Relay Zone 43  
☐ Relay Zone 44  
☐ Relay Zone 45  
☐ Relay Zone 46  
☐ Relay Zone 47  
☐ Relay Zone 48

☐ Building 12 - 1A  
☐ Building 12 - 1B  
☐ Building 11 - 2A  
☐ Building 11 - 2B

Figure 9-2: Editing Zone Groups



Select this icon to add a new zone group to the list. You may then edit the **ID**, **Description**, or **Remote Zone Groups** as needed.



Select this icon to delete the currently selected zone group from the list.

### ID

This is a zone group ID number that is used by actions in the local system or from remote systems to reference the zone group used. This number must be unique within the system, but may be reused in other remote systems. For example, an ID of 101 may be used in multiple announcement controllers to define an *All Call* zone group in each frame.

Double-click on this field in order to edit the ID number.

### Description

This is a text field used to logically describe the zone group. Double-click on the field in order to edit. This description should provide a user with sufficient information to be able to understand the general areas within the facility that are included in the zone group.

### Zone Count

This field provides a quick reference of the total number of zones included in the zone group. This field is calculated by the system and cannot be edited. This number only counts zones that are part of the local system. It does not include any remote zone groups.



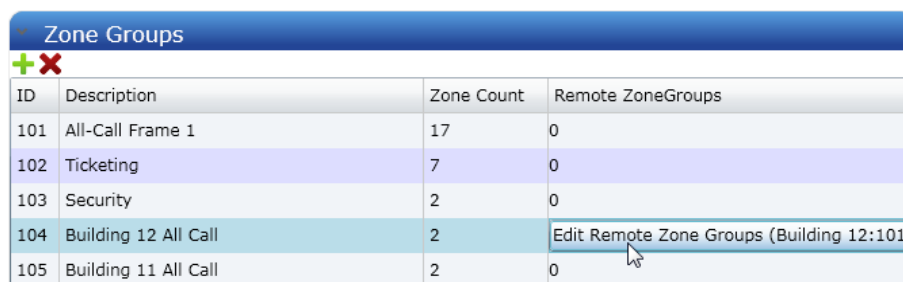
## Remote ZoneGroups

A zone group can include one or more zone groups that are located in other announcement controllers within a multi-controller system. You make announcements or launch messages to zones that are owned by other controllers by including them in the **Remote ZoneGroups** field of a local zone group.

When an action includes a zone group with a remote zone group defined, it will send an announcement request to the other systems using the same priority as the one specified in the action definition in the source controller. The behavior of the action is controlled by the source controller and the zones in the remote controllers are treated as live zones off of the source controller. Thus, when a delayed message is recorded on System A, it will open a live path to the zones included on System B when it plays back. Prerecorded messages are also played on the source controller while routed live to the remote controller's zones that are available.

The source controller will check zone availability on any remote controllers and respond with a **BUSY** response if the announcement cannot play in any of the remote controllers. If partial activation is allowed, the announcement will proceed with those zones that are available.

To add a new remote zone group, double-click in the **Remote ZoneGroups** field of the zone group that you wish to edit. This changes the field to display a button as shown in Figure 9-3. Once it is visible, click the button to open the editor as shown in Figure 9-4.



Zone Groups			
ID	Description	Zone Count	Remote ZoneGroups
101	All-Call Frame 1	17	0
102	Ticketing	7	0
103	Security	2	0
104	Building 12 All Call	2	Edit Remote Zone Groups (Building 12:101)
105	Building 11 All Call	2	0

Figure 9-3: Remote Zone Groups

From here, you can add one or more references to zone groups located in other systems. Click the **+** icon to add a new item to the list. Then, select the appropriate system from the drop-down list in the **System** column. Remote systems must first be configured as a **Remote Controller** in the **My Systems** tab of the software. Once you have selected a controller, enter the desired zone group ID in the **Remote ZoneGroup ID** field. This field is edited by double-clicking on the field and then typing in the appropriate number. The selected item in the list can be deleted by clicking on the **x** icon.

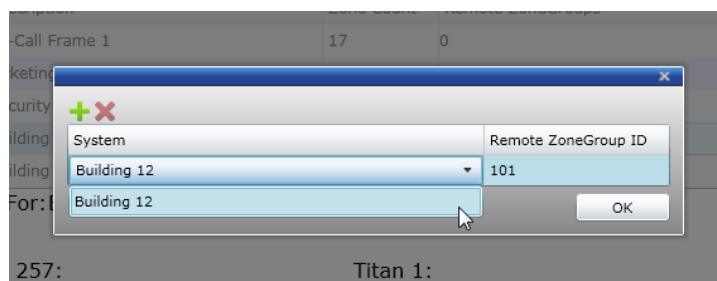


Figure 9-4: Adding Remote Zone Groups

## User Groups

User Groups are used to assign individual microphone station users and/or microphones to a group such as a company or service entity. For many systems, this provides identification text to go along with the graphical paging station displays.

User Groups		
+ ✖		
ID	Abbreviation	Name
2	AA	American Airline
12	AS	Alaska Airlines
5	BA	British Airways
9	CO	Continental
3	DL	Delta Air Lines
10	DL	Delta Connection
14	F9	Frontier
6	FD	Fire Dept
8	HM	IED
13	KE	Korean Air
7	PD	Police
1	UA	United Airlines
4	US	US Airways
11	WN	Southwest

Figure 10-1: User Groups

When a microphone station is assigned to a specific user group, then the text from the **Name** field will appear at the top of the station display. Figure 10-2 shows the setup screen for a 528 *Graphical Paging Station* type device. The drop-down list for the **Company** field is populated from the **User Groups** list. In this example, IED will appear at the top of the microphone station display.

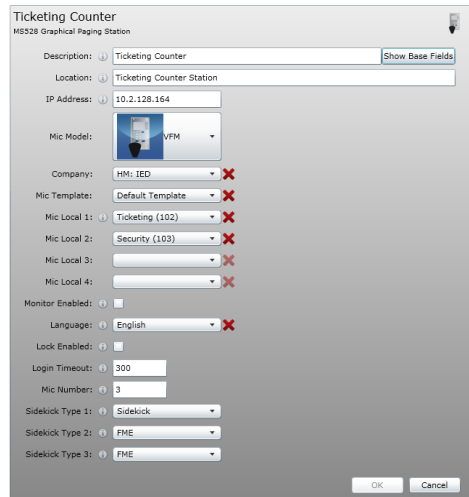


Figure 10-2: MS528 Graphical Paging Station Setup

If a station is locked and requires user logins, then a user group can be associated with the user from the **Company** field in the **Mic Passwords** tab as shown in Figure 10-3. In this case, the user name as entered in the **Name** field will display at the top of the graphical display, indicating who is currently logged into the station.







Mic Passwords						
ID	Name	Company	Template	Phone Numbers	Accept Phone Login	Password
1	Test	HM: IED	Default Template	  	<input type="checkbox"/>	1234
2	Fire Department	FD: Fire Dept	Security	  	<input type="checkbox"/>	9111

Figure 10-3: Mic Passwords

User Groups become more critical in systems that utilize the optional *Flight Announcement System* (FAS) or other automated systems. In the case of the FAS, members of one group cannot launch flight messages that belong to a different user group.



Click this icon to add a new user group to the list. It will add a new row to the list as shown in Figure 10-4. You can then type in an abbreviation and a name in the appropriate fields.

1	UA	United Airlines
4	US	US Airways
11	WN	Southwest
15	SEC	Security
 <b>1 Error</b> Must provide a Name		

Figure 10-4: Add a new user group



Click this icon to delete the highlighted item from the list.

#### ID

This is a system assigned index number for the user group. This field cannot be edited.

#### Abbreviation

This field is used to display an abbreviation of the user group or company name. Double-click on this field to edit the text.

#### Name

This is a text field for the name of the group or company. Double-click on this field to edit the text.

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## Mic Templates

Templates are used to create buttons on graphical paging stations such as the 528 series of microphone stations. You begin by defining a template based on the functional needs, such as information center, security, fire department, ticket agent, etc. Once a template has been created, you then have two methods for deploying its use.

For microphone stations that do not require user login, you specify the template in the microphone station properties accessed from the **Devices** tab as shown in Figure 11-1. Note that the **Lock Enabled** box is not checked, therefore the station will be accessible without a login.

Security  
MS528 Graphical Paging Station

Description: Security Show All Fields

Location: Security

IP Address: 10.2.128.165

Mic Model: VPM

Company: [Red X]

Mic Template: Security [Red X]

Language: English [Red X]

Lock Enabled: ☐ [Red X]

Mic Number: 4

OK Cancel

Select the appropriate mic template from this drop-down list.

Logins are not required at the mic station when this box is not checked.

Figure 11-1: Mic template selection when logins are disabled

For microphone stations that require user login, you associate a template with a user in the **Mic Passwords** tab. This is done by selecting the appropriate template from the drop-down list in the **Template** column as shown in Figure 11-2.

Mic Passwords						
ID	Name	Company	Template	Phone Numbers	Accept Phone Login	Password
1	IED	HM: IED	Default Template	[Red X]	<input type="checkbox"/>	1234
2	Fire Department	FD: Fire Dept	Security	[Red X]	<input type="checkbox"/>	9111
Scheduled Actions			Default Template			
			Security			

Figure 11-2: Mic template selection when logins are enabled

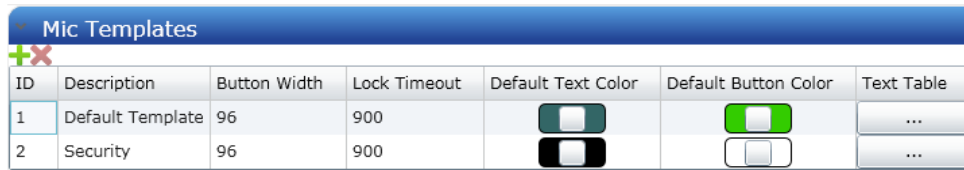
The flexibility of using templates assigned to different users allows you to program a system that is very easy to operate and secure from unauthorized users. A user will have the same access as they move between different microphone stations. This allows you to grant general users access to page pre-determined areas and launch specific messages while blocking them from emergency messages, such as a building evacuation. You could grant such emergency messages to security and facility management personnel and even give login information to emergency personnel such as the fire and police departments.

Using templates without logins allows you to define what announcements and messages will be available at each station. You could program a microphone station in the security office with access to launch specific security-related messages and make general and emergency announcements. You program other microphone stations where they can only make announcements and launch messages to local areas while blocking facility-wide pages.

Using various combinations of templates with microphone station logins provides you with nearly limitless combinations. You can configure the system where some microphone stations are locked and others are not. This allows you to tailor the system to meet the needs of the facility by locations or by individual users.

## Mic Template Editor

When you first open the Mic Templates tab, you will see a list of templates currently programmed for use as shown in Figure 11-3







ID	Description	Button Width	Lock Timeout	Default Text Color	Default Button Color	Text Table
1	Default Template	96	900			...
2	Security	96	900			...

Figure 11-3: Mic Template Editor



These icons are used to add or delete templates from the list. Click the **+** icon to add a new template. Clicking the **X** icon will delete the currently-selected template.

### ID

This is a unique number used to identify the template. It is system-assigned and cannot be edited by the user.

### Description

This is a text field used to name and describe the template. You can edit it by double-clicking on the field and then typing in a new description. The template named Default Template is automatically included in a new system. For simple systems, you can simply modify this template if all microphone stations will have the same template. Use a description that will allow you to easily identify the template such as, Security, Fire Department, Information, Gate Agent, etc.



## Button Width

You can adjust the width of all buttons in the template by adjusting this number. The default button width is 96 pixels. You can increase the width of the buttons if your button labels do not fit using the default setting. The maximum width is 255 pixels.

## Lock Timeout

The value in this field is ignored by the system.

## Default Text Color / Default Button Color

When you add new buttons to the template, they are created using these default colors. You can always edit the individual button colors afterwards, but this speeds up the process and allows you to define your color scheme before creating the buttons. When you click on the color button, the color selection window appears as shown in Figure 11-4. Simply click on the color that you want to use.

The color picker window provides a row of the most recently used colors along the bottom of the window. This allows you to pick consistent colors when designing templates.

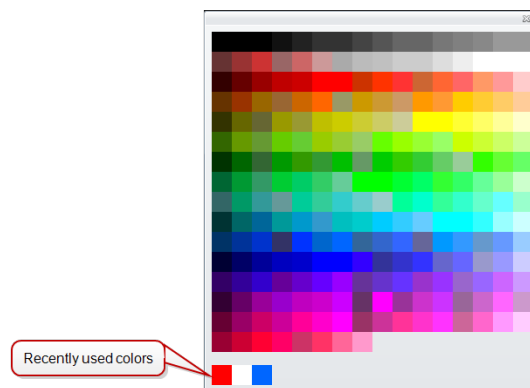
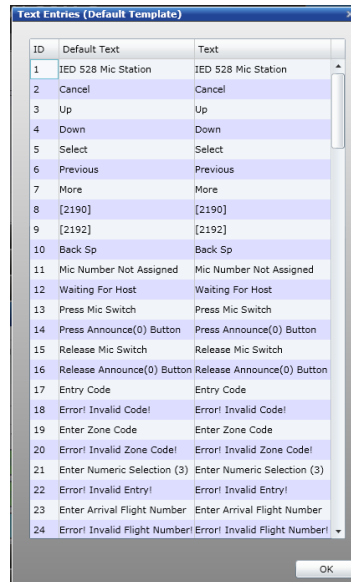


Figure 11-4: Button Color Selection

## Text Table

This table contains the text for the prompts that are used by the microphone station. You can edit the text in the **Text** column for each prompt if needed.

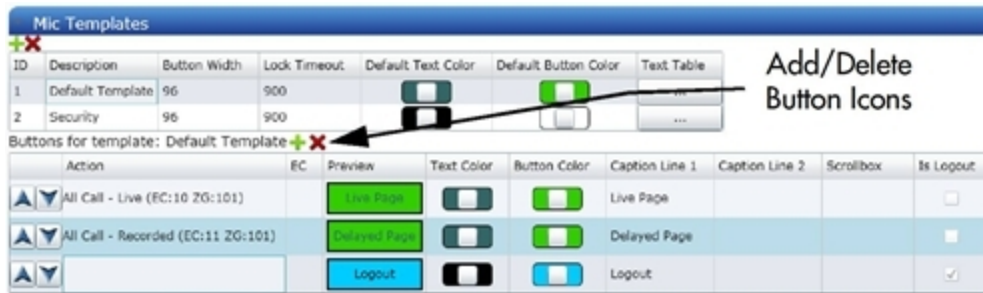


ID	Default Text	Text
1	IED 528 Mic Station	IED 528 Mic Station
2	Cancel	Cancel
3	Up	Up
4	Down	Down
5	Select	Select
6	Previous	Previous
7	More	More
8	[2190]	[2190]
9	[2192]	[2192]
10	Back Sp	Back Sp
11	Mic Number Not Assigned	Mic Number Not Assigned
12	Waiting For Host	Waiting For Host
13	Press Mic Switch	Press Mic Switch
14	Press Announce(0) Button	Press Announce(0) Button
15	Release Mic Switch	Release Mic Switch
16	Release Announce(0) Button	Release Announce(0) Button
17	Entry Code	Entry Code
18	Error! Invalid Code!	Error! Invalid Code!
19	Enter Zone Code	Enter Zone Code
20	Error! Invalid Zone Code!	Error! Invalid Zone Code!
21	Enter Numeric Selection (3)	Enter Numeric Selection (3)
22	Error! Invalid Entry!	Error! Invalid Entry!
23	Enter Arrival Flight Number	Enter Arrival Flight Number
24	Error! Invalid Flight Number!	Error! Invalid Flight Number!

Figure 11-5: Text Table

## Mic Template Button Editor

When you select a template from the list, it will open a sub-list of the buttons contained within that template. Figure 11-6 shows a simple template with three buttons. You use the **+** and **x** icons shown in the figure to add and delete buttons. The up/down arrows located on the left side of each row are used to change the position of the button in the list. The order in the list is the order in which they will appear down the right side of the microphone station display.



ID	Description	Button Width	Lock Timeout	Default Text Color	Default Button Color	Text Table
1	Default Template	96	900			...
2	Security	96	900			...

Buttons for template: Default Template **+** **x**

Action	EC	Preview	Text Color	Button Color	Caption Line 1	Caption Line 2	Scrollbar	Is Logout
All Call - Live (EC:10 ZG:101)					Live Page			<input type="checkbox"/>
All Call - Recorded (EC:11 ZG:101)					Delayed Page			<input type="checkbox"/>
					Logout			<input checked="" type="checkbox"/>

Figure 11-6: Mic Template Buttons

## Action

Buttons are used to trigger actions that have already been defined for the MS528 type microphone stations. When you double-click on the **Actions** field for a button, a drop-down list appears as shown in Figure 11-7. Select the action that this button will launch. You can click on the small round (shaped like a gear) icon immediately to the right of the list to open the editor window for the selected action. You can delete the action assignment from the button by clicking the **x** icon.

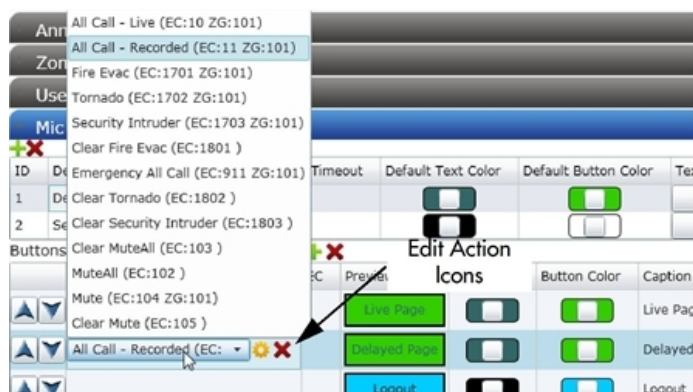


Figure 11-7: Assign an action to a button

## EC (Entry Code)

You can directly type in the numeric entry code in this field. Typically, you will select the action from the drop-down list, but you must use this field when the microphone station is launching actions that are not part of the local system. This is the case when you are using the optional Flight Announcement System (FAS) that utilizes the *IED Enterprise* software suite with an external SQL database.

## Preview

This field displays a simple preview of the button using the selected color scheme and captions.

## Text Color / Button Color

New buttons are created using the colors selected in the **Default Text Color / Default Button Color** in the template editor list. You can use the fields here to change the individual button colors.

## Caption Line 1 / Caption Line 2

Each button supports a maximum of two (2) lines of text for the button caption. If the text entered in the **Caption Line 1** field is too wide for the button, it will automatically scroll to the next line. However, it will probably not separate the way you want, so two fields are provided so you can specify exactly what you want to appear on each line.

Preview	Text Color	Button Color	Caption Line 1	Caption Line 2
			Live Page	All Zones
			Delayed Page	
			Logout	

Figure 11-8: Single and 2-line Button Captions

## Scroll Box





This field displays a list of the items contained within the scroll box if the button is defined as a scroll box button. Double-click this field and you will see an **Open Editor** button appear. Click this button to open the scroll box editor. Refer to the **Scroll Boxes** section that follows for more information on creating scroll boxes.

## Is Logout

When checked, the button will only be used to log the user out of the microphone station. It will only appear if the microphone station is configured to use logins. If the button is defined, but the lock feature is disabled in the microphone station setup, then the button will not be visible.

## Scroll Boxes

Scroll boxes allow you to create a list of items from which you scroll through and select. Each item in the list is then associated with an action or entry code. When a button has a scroll box defined for it, pressing the button will result in opening the scroll box. You then simply scroll up and down on the microphone station to select the item you wish to use.

Mic Templates									
ID	Description	Button Width	Lock Timeout	Default Text Color	Default Button Color	Text Table			
1	Default Template	96	900			...			
2	Security	110	900			...			













Buttons for template: Security									
Action	EC	Preview	Text Color	Button Color	Caption Line 1	Caption Line 2	Scrollbar	Is Logout	
Emergency All Call (EC:911 ZG:101)					Emergency	All Call		<input type="checkbox"/>	
					Emergency	Messages	Mute Fire Evac Tornado Intruder	<input type="checkbox"/>	
					Clear	Messages	Clear Mute Clear Fire Evac Clear Tornado Clear Intruder	<input type="checkbox"/>	
					Logout			<input checked="" type="checkbox"/>	

Figure 11-9: Buttons with Scroll Boxes

Figure 11-9 shows a template that has two buttons with scroll boxes. You can see a list of the items in the **Scrollbar** column. To create a scroll box for a button or edit an existing one, simply double-click on the field to gain access to the **Open Editor** button as shown in Figure 11-10.

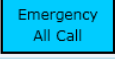


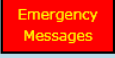



Preview	Text Color	Button Color	Caption Line 1	Caption Line 2	Scrollbar	Is Logout
			Emergency	All Call		<input type="checkbox"/>
			Emergency	Messages		<input type="checkbox"/>

Figure 11-10: Scroll Box Editor Button

Figure 11-11 shows the scroll box editor. From here, you can edit the appearance of the scroll box and add or remove items from the list. You will see a preview of the scroll box at the bottom of the window. This is used to help you set the colors for the scroll box. The preview is limited to show only the first three items in the list and the width setting will not affect the width of the preview. Click the **OK** button to save changes and close the window.

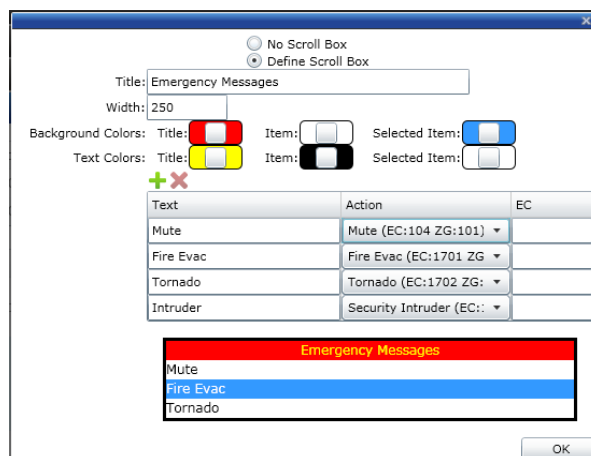


Figure 11-11: Scroll Box Editor

## No Scroll Box / Define Scroll Box

When you open the editor window, the **Define Scroll Box** radio button is selected by default. If you want to remove the scroll box from the button definition, select the **No Scroll Box** radio button and then select the **OK** button.

## Title

This is the text that will appear at the top of the scroll box when it is open.

## Width

This is the width (in pixels) of the scroll box as it will appear on the microphone station. A value of 250 is a good width for most applications with a maximum width of 320.

## Background Colors / Text Colors

This group of buttons allows you to select the background and text colors of the three different types of items in a scroll box. Figure 11-12 points out where each type of item will appear in the scroll box. The selected item will move as you scroll through the list.

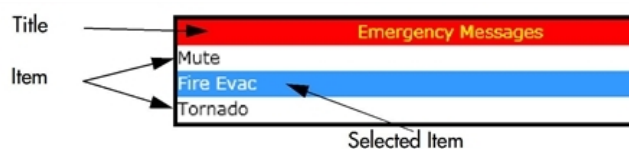


Figure 11-12: Scroll Box Item Colors



These icons are used to add or delete items in the list. Click the **+** icon to add a new item. Clicking the **X** icon will delete the currently-selected item.

## Text

This is the text that will appear in the scroll box item list. Double-click this field and type in a name for the item.

## Action

To assign an action to a scroll box item, click in the **Action** column to open a drop-down list of available actions. Select the appropriate action from the list as shown in Figure 11-13.

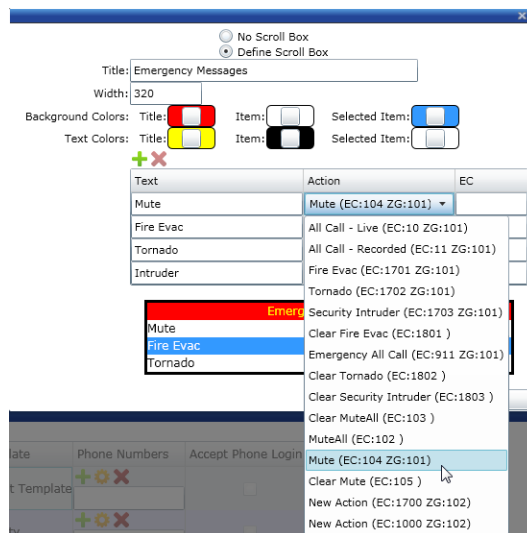


Figure 11-13: Scroll Box Item Action Selection

## EC (Entry Code)

You can directly type in the numeric entry code in this field. Typically, you will select the action from the drop-down list, but you must use this field when the microphone station is launching actions that are not part of the local system. This is the case when you are using the optional Flight Announcement System (FAS) that utilizes the *IED Enterprise* software suite with an external SQL database.

## Mic Passwords

This section is used to configure user access to microphone stations that have the **Lock Enabled** box checked in the microphone station setup.

Mic Passwords						
+ X						
ID	Name	Company	Template	Phone Numbers	Accept Phone Login	Password
1	Test	HM: IED	Default Template	+ X	<input type="checkbox"/>	1234
2	Fire Department	FD: Fire Dept	Security	+ X	<input type="checkbox"/>	9111

Figure 12-1: Mic Passwords



Click this icon to add a new user to the list.



Click this icon to delete the highlighted item from the list.

### ID

This is an index number used to identify the user. It is system assigned and cannot be edited.

### Name

This is a text field used to describe the user. It could be an individual name, department, or other entity. Double-click this field to edit the text.

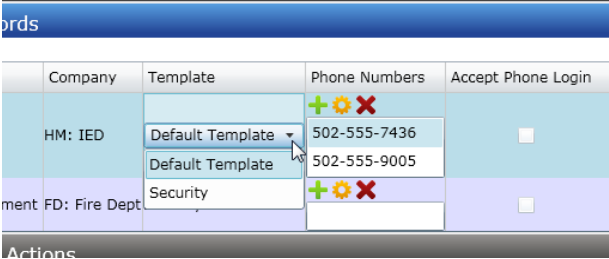
### Company

This will associate the user with a specific company. Double-click this field to open a drop-down list that is populated with the information in the **User Groups** tab.

### Template

Use this field to assign a graphical template to a user. This is how you will control what announcements a user can access from a graphical paging station such as an MS528 type station. When logins are enabled, a user must enter their password to gain access to the

microphone station. The graphical template that appears when they access the station is determined by the selection specified in this field. Double-click the field to open the drop-down list.



Company	Template	Phone Numbers	Accept Phone Login
HM: IED	Default Template	502-555-7436	<input type="checkbox"/>
	Default Template	502-555-9005	<input type="checkbox"/>
ment FD: Fire Dept	Security		<input type="checkbox"/>

Figure 12-2: Template Selection

## Phone Numbers

When a number is in this list, the system will automatically login when the number is matched using caller ID. Use the + icon to add a new number to the currently-selected user. You can then type in the number in the windows as shown in Figure 12-3. This same window appears when you select the edit icon. Select the X icon to delete the highlighted number from the list.

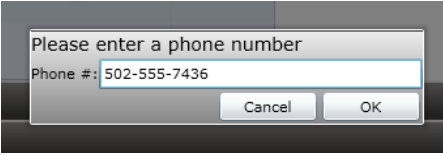


Figure 12-3: Add a Phone Number

## Accept Phone Login

When checked, this user will have the ability to access the system from using the VoIP telephone interface. Leaving this unchecked will block a user from accessing the system via the telephone while still allowing them access using a microphone station.

## Password

This is a numeric password to be used for login. This password can be used from either a microphone station or telephone interface if enabled.



## Scheduled Actions

Actions created here are played on a schedule rather than triggered from a device. Actions can be scheduled to play at periodic intervals throughout the day or only on specific days and during a programmed time window. The most common type of action used on a schedule is a prerecorded message. By using scheduled actions for prerecorded messages, the system can play various informational messages in a facility as determined by the management staff.

The screenshot shows a software window titled "Scheduled Actions". On the left is a list box containing two items: "Entry Foyer Welcome Message" (highlighted) and "Parking Garage Safety". Above the list box are green "+" and red "X" icons. To the right of the list box is a "Schedule:" section with an orange background. It contains the following fields:

- Action:** Entry Foyer Welcome Message (ZG:101) (with a gear icon)
- Description:** Entry Foyer Welcome Message
- Enabled:** ☒
- Mode:** Daily (dropdown menu)
- Start Date:** 1/3
- Start Time:** 12:00 AM (with a clock icon)
- Stop Date:** 12/31
- Stop Time:** 11:59 PM (with a clock icon)
- Interval (mins):** 1

At the bottom right of the window are "OK" and "Cancel" buttons.

Figure 13-1: Scheduled Actions



Click this button to add a new action to the list. New actions will automatically open the action definition window to configure the action as shown in Figure 13-2. This process of creating the action is identical to creating actions for devices. Refer to the section on **Action Types** for details on configuring specific actions.

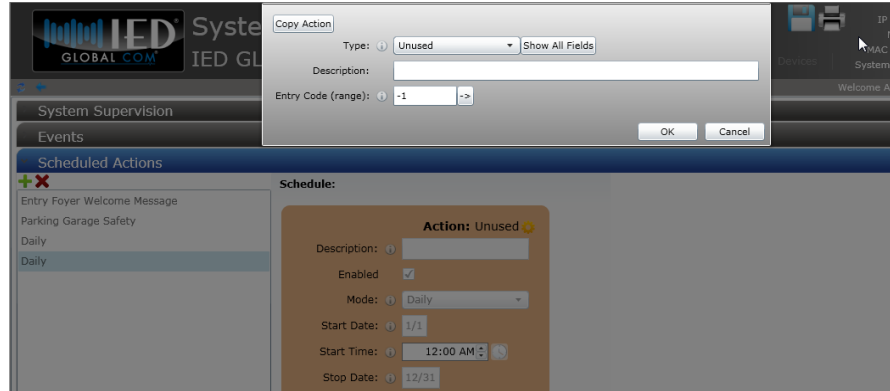


Figure 13-2: Action Definition Window



Click this button to delete the highlighted scheduled action from the list. Scheduled actions are highlighted by clicking on the name in the list.

## Schedule

When a scheduled action is selected in the list, it displays the Schedule window to the right of the list. This window provides access to the schedule and action configuration options.

## OK

After an edit to the scheduled action has been made, click the **OK** button to save the changes and move to a different action. This will not apply the changes to the system. That must be done using the **Save All Changes** icon before moving to another tab.

## Cancel

Select **Cancel** to discard the edits.

## Action

This field displays the description of the action as entered in the description field of the action definition window. Click the small yellow icon on the right (Figure 13-3) to open the action definition window to edit the action parameters. Refer to the section on **Action Types** for details on configuring specific actions.

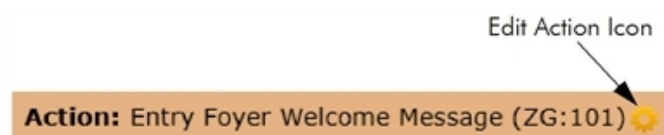


Figure 13-3: Edit Action Icon

**Note:** When actions are used as part of a scheduled action, the Entry Code field will be set to -1 by default. This is correct for embedded actions and you must not edit this field.

## Description

Use this text field to enter a basic description of the scheduled action. This is the text that will be used to identify the action in the scheduled actions list.

## Enabled

When this box is checked, the action will play based on the programmed schedule. When not checked, the action will not play. This allows actions to be turned on or off without deleting them from the system.

## Mode

There are five (5) schedule modes available from the **Mode** drop-down list. The default mode type is **Daily**, which will allow the action to play every day based on the date and time window defined. Each mode type is explained below.

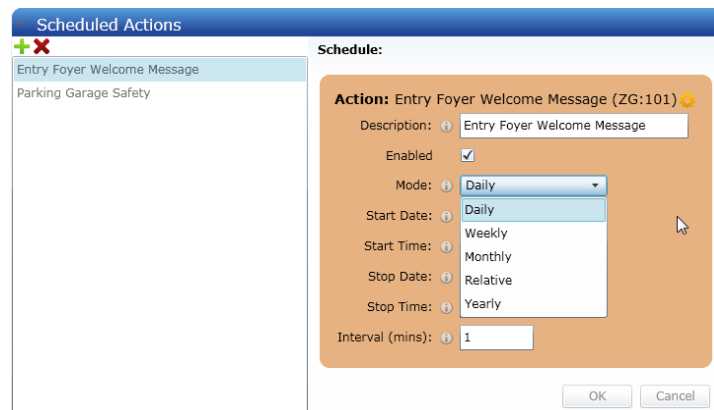
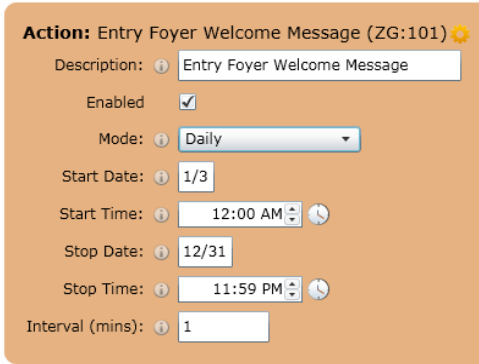




Figure 13-4: Scheduled Actions Mode

## Daily


This schedule type will play the action at the specified interval every day of the week within the programmed start and stop dates. It will only play during the time window defined with the start and stop times.






**Action:** Entry Foyer Welcome Message (ZG:101) 


Description:  Entry Foyer Welcome Message



Enabled: ☒

Mode:  Daily

Start Date:  1/3

Start Time:  12:00 AM 

Stop Date:  12/31

Stop Time:  11:59 PM 


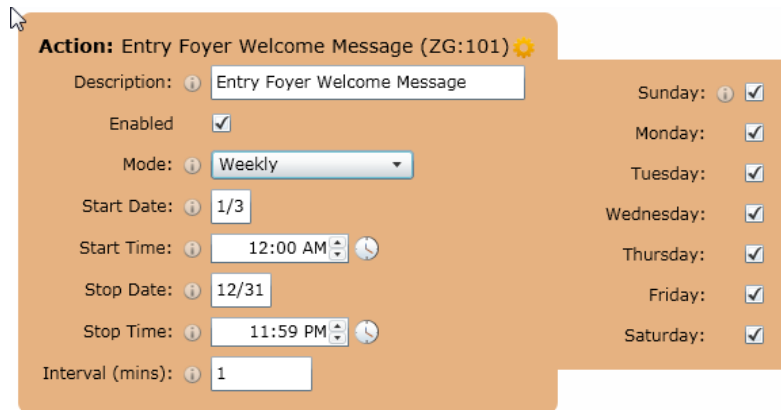

Interval (mins):  1


Figure 13-5: Daily Schedule Mode

### Weekly


This mode also allows you to define a date window and a daily time window for the action to play just like the daily schedule mode. It adds the ability to choose which day(s) of the week to play the action. A day-of-week selection list appears as shown in Figure 13-6. The action will only play on those days that are checked.






**Action:** Entry Foyer Welcome Message (ZG:101) 


Description:  Entry Foyer Welcome Message



Enabled: ☒


Mode:  Weekly


Start Date:  1/3


Start Time:  12:00 AM 


Stop Date:  12/31


Stop Time:  11:59 PM 


Interval (mins):  1


Sunday:  ☒

Monday:  ☒

Tuesday:  ☒

Wednesday:  ☒

Thursday:  ☒

Friday:  ☒


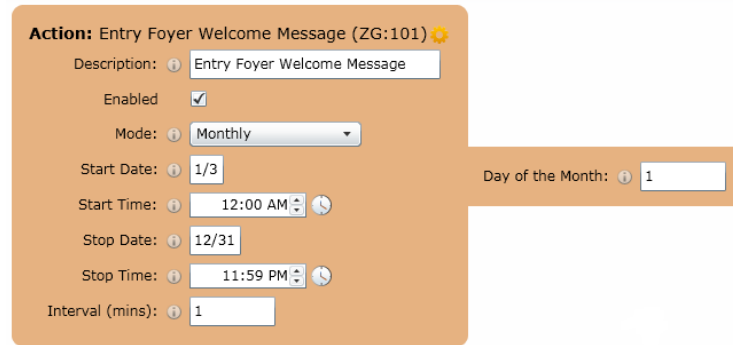

Saturday:  ☒

Figure 13-6: Weekly Schedule Mode

### Monthly

This mode will only play the action on a specific day of the month. The day is entered in the **Day of the Month** field. The action will play on the specified day of the month within the programmed date range. It will play at the programmed interval during that day in the programmed time window.




**Action:** Entry Foyer Welcome Message (ZG:101) 

Description:


Enabled: ☒

Mode:

Start Date:

Start Time:  

Stop Date:

Stop Time:  

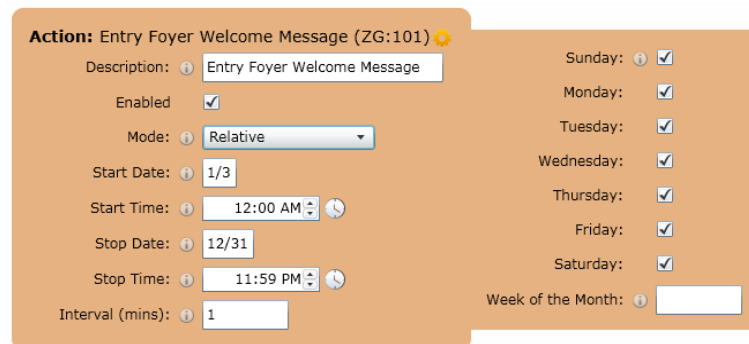
Interval (mins):


Day of the Month:

Figure 13-7: Monthly Schedule Mode

## Relative

This mode allows you to play the action on a schedule that is relative to the first day of the month. This allows for scheduled actions such as the first Tuesday of every month. You enter the relative week number in the **Week of the Month** field and then check the box for each day within that week that the action is to play.




**Action:** Entry Foyer Welcome Message (ZG:101) 

Description:


Enabled: ☒

Mode:

Start Date:

Start Time:  

Stop Date:

Stop Time:  

Interval (mins):

Sunday: ☒

Monday: ☒

Tuesday: ☒

Wednesday: ☒

Thursday: ☒

Friday: ☒

Saturday: ☒

Week of the Month:

Figure 13-8: Relative Schedule Mode

As with the previous modes, the action must have a date window and a time window configured as well.

## Yearly

With this mode, the action will only play on the date entered in the **Start Date** field. It can play once at the specified start time, or it can play at the programmed repeat interval within the programmed time window.



**Action:** Entry Foyer Welcome Message (ZG:101)

Description: Entry Foyer Welcome Message

Enabled: ☒

Mode: Yearly

Start Date: 1/3

Start Time: 12:00 AM

Stop Time: 11:59 PM

Interval (mins): 5

Figure 13-9: Yearly Schedule Mode

### Start Date / Stop Date

These two fields specify the date range during which the action will play. These dates are month and day relative to the current year, thus no year should be included when manually typing in a date. For example, to play a message for the entire month of May, you would enter 5/1 for a start date and 5/31 for the stop date. The action will then play at the programmed interval during the programmed time window.

When you click on the date entry field, a calendar picker window will open as shown in Figure 13-10. You can either manually type in the date or click on a day in the calendar picker to set the date. Use the left and right arrows at the top of the calendar to navigate to different months.

Only the start date will be available when the mode is set to **Yearly**.



1/3

January, 2012

Su	Mo	Tu	We	Th	Fr	Sa
25	26	27	28	29	30	31
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

Figure 13-10: Date Picker Window

### Start Time / Stop Time

The start and stop times are used to define a time window in which the action will play during the date range as determined by the start and stop dates. Click on the time field to edit the time. You can manually type in the time or use the up/down arrows to increase or decrease the value at the current cursor position.

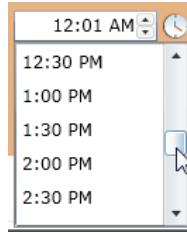


Figure 13-11: Time Picker Window

Click the small clock icon to the right of the time field to open a time picker drop-down list. This list allows you to easily select times that are on the hour or half-hour.

### Interval (mins)

The interval determines how often the action will play during the specified time window. A positive whole number will set the playback interval in minutes while negative numbers indicate an interval in seconds. For example, an entry of 5 would create an interval of five (5) minutes. An entry of -30 would create an interval of 30 seconds. Intervals are start-to-start times. Therefore, if you entered a playback interval of 30 seconds and the message was 10 seconds long, there would be 20 seconds between the end of the message and the beginning of the next cycle.

This page has been intentionally left blank.



## Events

Events allow you to trigger multiple actions from a common stimulus. Each event is made up of multiple actions that are defined specifically for each event. In addition to the basic action definition properties, each action within the event has an additional property that allows the action to be launched at a predefined time interval after the initial launch of the action. Events are launched by programming actions for microphone stations, logic inputs, or other external devices.

Events are ideal for handling complex emergency situations where you need to deliver different instructions to different areas of the facility, or even different buildings. An event allows you to play an evacuation message to one area while issuing a warning message to the rest of the facility instructing occupants to stay in place until the situation has been resolved. This can be combined with visual alerts to direct occupants to the nearest exit.



Figure 14-1: Events

Programmed events will appear in the events list as shown in Figure 14-1. When an event is highlighted by selecting it with the mouse, the view is expanded to show the details of the event as shown in Figure 14-2. This expanded view shows the individual actions assigned to the event and a play schedule that shows when each action will be triggered within the event.

Events							
Description: Evac Building 11							
Actions: + -							
Evac Building 11	ID	Type	Description	Announcement Class	Start Delay	Play Count	Play Interval
Evac Building 12	62	Prerecorded	Fire Evac Building 11	Emergency (Pri:2)	0	10	-15
	63	Prerecorded	In Place Alarm Building 12	Emergency (Pri:2)	60	5	1
Extra Info							
AC: Emergency (Pri:2), Play Count: 10, Repeat Interval: -15, Takes: 4915217084, ZoneGroup Count: 1, AV: Both							
AC: Emergency (Pri:2), Play Count: 5, Repeat Interval: 1, Takes: 4915217046, ZoneGroup Count: 1, AV: Both							
Event Schedule:							
(00:00:00) : Fire Evac Building 11 (ZG:105)							
(00:00:15) : Fire Evac Building 11 (ZG:105)							
(00:00:30) : Fire Evac Building 11 (ZG:105)							
(00:00:45) : Fire Evac Building 11 (ZG:105)							
(00:01:00) : Fire Evac Building 11 (ZG:105)							
(00:01:00) : In Place Alarm Building 12 (ZG:104)							
(00:01:15) : Fire Evac Building 11 (ZG:105)							
(00:01:30) : Fire Evac Building 11 (ZG:105)							
(00:01:45) : Fire Evac Building 11 (ZG:105)							
(00:02:00) : Fire Evac Building 11 (ZG:105)							
(00:02:00) : In Place Alarm Building 12 (ZG:104)							
(00:02:15) : Fire Evac Building 11 (ZG:105)							
(00:03:00) : In Place Alarm Building 12 (ZG:104)							
(00:04:00) : In Place Alarm Building 12 (ZG:104)							
(00:05:00) : In Place Alarm Building 12 (ZG:104)							

Figure 14-2: Event Details



Click this icon to add a new event to the list.



Click this icon to delete the currently selected event from the list.

### Description

Enter a text descriptor for the event. This text is displayed in the event list to name the event.

### Actions

Actions are added, removed, or modified from the actions list using the icons shown in Figure 14-4.



Figure 14-3: Action Icons



Click this icon to add a new action to the event. This will automatically open the action definition window. Once an action has been added, it is configured identically to actions that are used by devices. *See "Action Types" on page 157* for details on configuring each action.






This icon is used to edit the highlighted action. This will open the action definition window for the highlighted action.



Click this icon to delete the highlighted action, thus removing it from the event.

The actions list displays the actions that are currently programmed for the event. Figure 14-4 shows an event with two emergency prerecorded messages to be played to two different areas (zone groups).

**Note:** When actions are used as part of a event, the **Entry Code** field will be set to -1 by default. This is correct for embedded actions and you must not edit this field.

Actions:   

ID	Type	Description	Announcement Class	Start Delay	Play Count	Play Interval	Extra Info
62	Prerecorded	Fire Evac Building 11	Emergency (Pri:2)	0	10	-15	AC: Emergency (Pri:2), Play Count: 10, Repeat Interval: -15, Takes: 49152 7084, ZoneGroup Count: 1, AV: Both
63	Prerecorded	In Place Alarm Building 12	Emergency (Pri:2)	60	5	1	AC: Emergency (Pri:2), Play Count: 5, Repeat Interval: 1, Takes: 49152 7046, ZoneGroup Count: 1, AV: Both

Figure 14-4: Actions List

## ID

This is a unique action identification number used by the system to store the action. This is assigned by the system and cannot be edited. Clicking on the column header will sort the column using the ID number. Clicking will toggle between high-to-low and low-to-high sorts.

## Type

This displays the action type that has been selected for the action. You must open the action definition window to edit this property.

## Description

This displays the description for the action. You must open the action definition window to edit this property.

## Announcement Class

This displays the announcement class assigned to the action. It shows both the name given to the class and the priority number. You must open the action definition window to edit this property.

## Start Delay

This is the time (in seconds) that the system will wait to launch the action after the event has started. For example, a value of 60 will cause the system to wait one (1) minute after the event is started to begin playback of the action. This field is edited directly from the list by double-clicking on the field and typing in the value.

## Play Count

This is the number of times to launch the action within the event. It is edited either from the action definition window or by double-clicking on the field and typing in a new value. A value of 0 indicates that the action will repeat continuously until it is stopped by an appropriate action. This also checks the **Indefinite** check box in the action definition window.

## Play Interval

This is the time between successive playbacks of the action. Positive numbers are used to designate an interval in minutes while negative numbers are used to designate an interval in seconds (5 would be 5 minutes, -30 would be 30 seconds). This time is from the start of the first playback to the start of the next one. If the interval is set to 30 seconds and the message is 10 seconds in duration, then there will be one 20 seconds between playbacks. It is edited either from the action definition window or by double-clicking on the field and typing in a new value.

## Extra Info

This column contains a text string that summarizes the main configuration properties of the action. In the case of prerecorded actions, it displays the take numbers included in the message along with a flag indicating audible, visual, or both delivery types.

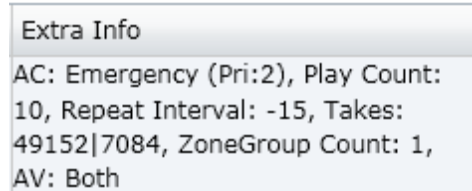


Figure 14-5: Extra Info

## Event Schedule

The event schedule shows a time line for the event. It will show you at what point each action will be launched after the event has been launched. Figure 14-6 shows the event schedule for the actions that are shown in Figure 14-4. You can see that the *Fire Evac Building 11* action will play every 15 seconds for a total of 10 plays. It also shows the zone group for the action. The *In Place Alarm Building 12* action will start one (1) minute after the initial action launch and repeat at one (1) minute intervals.

Event Schedule:

```
(00:00:00) : Fire Evac Building 11 (ZG:105)
(00:00:15) : Fire Evac Building 11 (ZG:105)
(00:00:30) : Fire Evac Building 11 (ZG:105)
(00:00:45) : Fire Evac Building 11 (ZG:105)
(00:01:00) : Fire Evac Building 11 (ZG:105)
(00:01:00) : In Place Alarm Building 12 (ZG:104)
(00:01:15) : Fire Evac Building 11 (ZG:105)
(00:01:30) : Fire Evac Building 11 (ZG:105)
(00:01:45) : Fire Evac Building 11 (ZG:105)
(00:02:00) : Fire Evac Building 11 (ZG:105)
(00:02:00) : In Place Alarm Building 12 (ZG:104)
(00:02:15) : Fire Evac Building 11 (ZG:105)
(00:03:00) : In Place Alarm Building 12 (ZG:104)
(00:04:00) : In Place Alarm Building 12 (ZG:104)
(00:05:00) : In Place Alarm Building 12 (ZG:104)
```

Figure 14-6: Event Schedule

## Visual Alerts and Wayfinding

Visual Alerts allow you to display graphical images on visual displays to provide situational information to occupants in the facility. Visual Alerts are activated within certain action types and will remain on the displays until cleared. You can create simple scenarios that display a single static image on the displays to inform occupants of a certain condition such as a fire or a weather alert. The system supports more complex scenarios such as displaying directional arrows to guide people to the nearest emergency exit or to sheltered areas of the facility. In this case, each display is configured to display a situation-appropriate graphical image.

An action can trigger a single Visual Alert. Within each alert, you can have one or more images to be shown on displays while the alert is active. In the configuration of each display, you select the specific image to use for each visual alert.

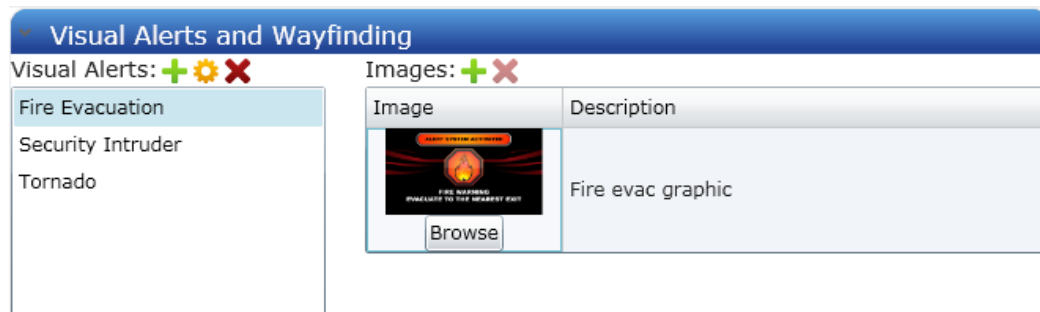


Figure 15-1: Visual Alerts and Wayfinding

The set of icons next to the **Visual Alerts** list is used to add, edit, or remove individual alert scenarios from the system. The icons next to the Images list are used to add or remove individual images from the highlighted alert.

For the **Visual Alerts** list...



Click this icon to add a new alert scenario to the list. You will be prompted with a new window to enter the name.



Click this icon to edit the name of the currently selected alert.



Click this icon to delete the currently selected alert.

For the **Images** list...



Click this icon to add a new image to the selected Visual Alert scenario.



Click this icon to delete the currently selected image.

## Image

This is a small thumbnail preview of the image file selected.

## Browse

Click this button to choose the image file to use. This will open a standard Windows open file dialog window as shown in Figure 15-2. From here, you should locate and open the file that you wish to use. Once complete, a preview of the file will appear in the **Preview** field of the image list.

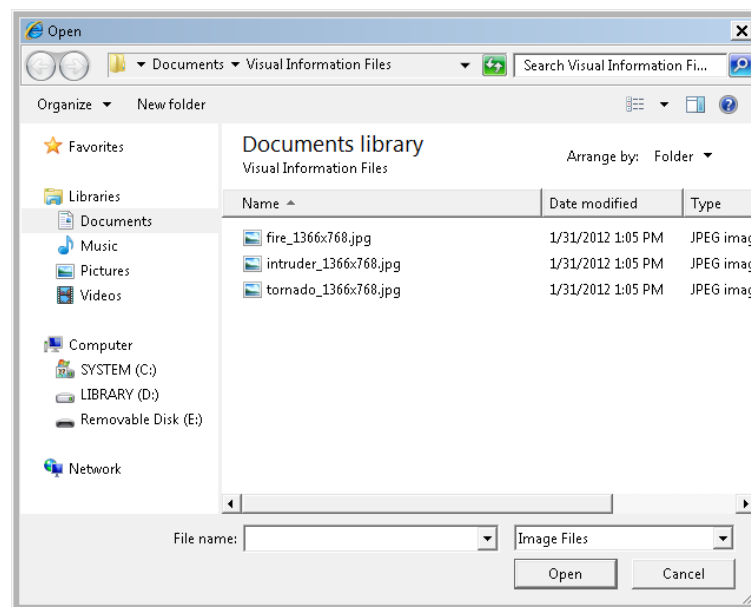


Figure 15-2: Load Image File

## Description

Use this field to enter a text description of the image. Double-click the field to enter/edit the text.

## Visual Alert Usage

Figure 15-3 shows the **Visual Alert** field as it appears when defining an action. You can see that the three visual alert scenarios that have been defined in the example in **Visual Alerts and Wayfinding** are available for selection. An additional item, **\*\*Clear Alert\*\***, is used for an action that will clear an active alert. Refer to the **Action Types** section for more details on configuring system actions.

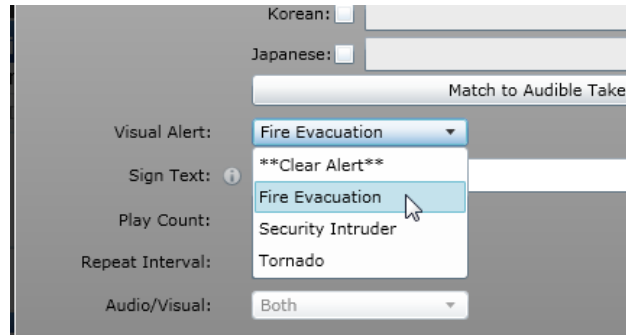
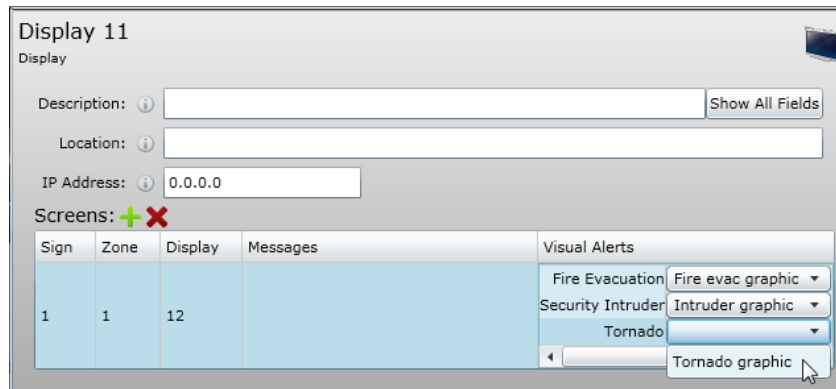


Figure 15-3: Visual Alert Usage

Figure 15-4 shows the configuration screen for a display device. Here, you see that there is a drop-down selection list for each alert scenario that is defined in the **Visual Alerts and Wayfinding** list. Refer to the **Devices** section for more information on configuring displays in the system. From this list, you select which image this display will use when each alert is activated.



Sign	Zone	Display	Messages	Visual Alerts
1	1	12		Fire Evacuation: Fire evac graphic Security Intruder: Intruder graphic Tornado: Tornado graphic

Figure 15-4: Visual Display Configuration

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## Day / Night Schedule

This feature allows you to change the output levels of the system by a pre-defined amount based on the time-of-day for each day of the week. You have a **Day** level and a **Night** level. The Day level is the **Overall** level that you have set for each output of the device. You can then define the **Night** level by entering an offset amount in the **Night** column as shown in Figure 16-2. The value in the **Night** column will be subtracted from the **Overall** level to turn the system down during the **Night** schedule.

Day/Night Schedule			
Match All To Sunday			
Day	Enabled	Day Start	Night Start
Sunday	<input checked="" type="checkbox"/>	08:00:00	19:00:00
Monday	<input checked="" type="checkbox"/>	08:00:00	19:00:00
Tuesday	<input checked="" type="checkbox"/>	08:00:00	19:00:00
Wednesday	<input checked="" type="checkbox"/>	08:00:00	19:00:00
Thursday	<input checked="" type="checkbox"/>	08:00:00	19:00:00
Friday	<input checked="" type="checkbox"/>	08:00:00	21:00:00
Saturday	<input checked="" type="checkbox"/>	08:00:00	21:00:00

Figure 16-1: Day / Night Schedule

### Match All To Sunday

Click this button to take the schedule settings for Sunday and copy them to Monday through Saturday.

### Day

This read-only field indicates the day of the week for each schedule.

### Enabled

Click this checkbox to enable the Day/Night schedule for each day at the programmed **Day Start** and **Night Start** times. When not checked, the **Day Start** and **Night Start** fields will not display any time values and the level change will not be applied for that day.

### Day Start

Enter the time-of-day here where the system will go from the night level to the day level. Enter the time in 24-hour time format. For example, you would enter "8:00" for 8AM and "20:00" for 8PM.

## Night Start

Enter the time-of-day here where the system will go from the day level to the night level. Enter the time in 24-hour time format. For example, you would enter "8:00" for 8AM and "20:00" for 8PM.

## Night Gain Offset

Each output device that is capable of **Day / Night Schedule** level adjustments will have a Night field for its zone configuration similar to what is shown in Figure 16-2. You must configure this level for each zone that you wish to change as part of the schedule. Leaving the default value of 0 will effectively remove the zone from the schedule.



Zones: Match To First						
#	Description	Overall	Emg	Night	BGM	BGM Channel
25	Building 12 - 1A	-20	6	0	20	Channel 1
26	Building 12 - 1B	-20	6	0	20	Channel 1
27	Building 11 - 2A	-20	6	0	20	Channel 1
28	Building 11 - 2B	-20	6	0	20	Channel 1

Figure 16-2: DNA7800 Zones Configuration

## SMS Lists

Short Message Service (SMS) allows the system to send text messages to one or more mobile devices. **SMS Lists** are used to create a group of telephone numbers that are then used with action definitions to determine who will receive a message. This method simplifies management of phone numbers by providing you with the ability to create a list and then use that list in multiple actions. If you later need to change the telephone numbers, you simply edit the appropriate list and do not need to edit any individual actions.

**Note:** SMS Messaging requires an Internet connection. This is a feature that must be purchased as an option as part of the software license.

SMS Lists			
ID	Description	Fault Notify	Phone Numbers
1	Maintenance Department	<input checked="" type="checkbox"/>	<div> <div></div> <div></div> <div></div> </div> 502-555-6896 502-555-1967
2	IT Department	<input checked="" type="checkbox"/>	<div> <div></div> <div></div> <div></div> </div> 502-555-6648 502-555-6363
3	Security	<input type="checkbox"/>	<div> <div></div> <div></div> <div></div> </div> 502-555-3697 502-555-3365 502-555-9397

Figure 17-1: SMS Lists



Click this icon to add a new list. Once added, you can edit the **Description** field by double-clicking on the field.



Click this icon to delete the currently selected list.

### ID

This is an index number used to reference the list. It is generated by the system and cannot be edited.

### Description

Use this field to enter a descriptive name for the list. This is the name that will be used in the drop-down lists in other areas of the application where you select individual lists.

## Fault Notify

When checked, members of the list will receive SMS notifications when there is a system fault.

## Phone Numbers

You can enter multiple phone numbers in each list by placing them in the **Phone Numbers** column using the icons shown in Figure 17-2.







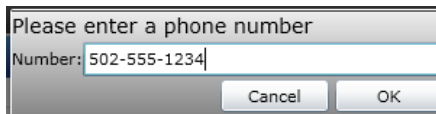
Fault Notify	Phone Numbers
<input checked="" type="checkbox"/>	   502-555-6896 502-555-1967
	  

Figure 17-2: Phone Numbers



Click this button to add a new phone number to the list. You will be prompted with an entry box as shown in Figure 17-3.



Please enter a phone number

Number: 502-555-1234

Cancel OK

Figure 17-3: Edit a Phone Number



Click this button to edit the highlighted phone number in the list. You will be prompted with an edit box as shown in Figure 17-3.



Click this button to delete the highlighted phone number in the list.

## System Supervision

The system constantly polls all of the programmed devices for their current status and will report a fault if a device fails to respond. Titan series amplifier frames also monitor the analog audio outputs and loudspeaker lines and will report a fault if the tested audio level is out of tolerance. Each controller is responsible for monitoring its own devices and will report any faults on the **Current Faults** section located in the **Overview** tab of the *System Management Center* application as shown in Figure 18-1. In this example, we have a Titan frame with an amplifier card that has failed.

Fault history is recorded in the *IED Fault Log* located within the *Windows System Log*. Refer to the **Windows System Log** later in this section for details on viewing the *IED Fault Log*. For larger systems where you need the ability to view the faults from all controllers from a central location, you can create an SNMP Endpoint to receive fault messages from all controllers.

Current Faults							
ID	Device	Description	Fault Type	Fault Number	Optional	First	Last
54	Titan 1	20kHz Test: Zone 9 - Amp Output (Titan 1, Channel 1A)	128	7		3/29/2012 4:46:02 PM	3/29/2012 4:46:02 PM
55	Titan 1	20kHz Test: Zone 9 - Speaker Circuit (Titan 1, Channel 1A)	128	8		3/29/2012 4:46:03 PM	3/29/2012 4:46:03 PM
56	Titan 1	20kHz Test: Zone 10 - Amp Output (Titan 1, Channel 1B)	128	17		3/29/2012 4:46:04 PM	3/29/2012 4:46:04 PM
57	Titan 1	20kHz Test: Zone 10 - Speaker Circuit (Titan 1, Channel 1B)	128	18		3/29/2012 4:46:05 PM	3/29/2012 4:46:05 PM

Figure 18-1: Current Faults

System Supervision

SNMP Endpoints: + X

IP	Port	Community	
127.0.0.1	162	public	
10.2.128.161	163	IED	

Generic Fault Descriptions: + X

Description	Fault Type
Test Point Pass/Fail Audible Test	1
Mic Station Control Line Failure	2
Amplifier Problem	3
Subsystem Card/Component Failure	4
Subsystem Environmental	5
Visual Display Failure	7
Visual Display Degraded	8
Subsystem Failure	9
564 Fault	10

Specific Fault Descriptions: + X

Description	Fault Type	Fault Number
Communication Channel (Network)	9	10
P/DRP Channel 1 Down	9	11
P/DRP Channel 2 Down	9	12
Backup CPU Failure	9	14
Hard Disk Drive 0 (primary) Down	9	20
Hard Disk(Drive 1 Down	9	21
Relay Device Down	9	48
Device Off-line	9	100
Ring Failure	9	110

Device Type Specific Fault Descriptions: + X



Description	Fault Type	Fault Number	Device Type
-------------	------------	--------------	-------------

Figure 18-2: System Supervision

As you can see from Figure 18-2, there are several individual lists in the **System Supervision** section. With the exception of the **SNMP Endpoints** list, they are used to associate a textual description to a fault message reported from a device. The three lists **Generic Fault Descriptions**, **Specific Fault Descriptions**, and **Device Type Specific Fault Descriptions**, are configured with the necessary information for nearly all applications. However, you do have the ability to edit the descriptions if the installation requires it. The last list, **Device Specific Fault Descriptions**, will give you a method to define your own faults based on the usage of specific devices installed in your system.

## SNMP Endpoints

The system will send out SNMP messages when faults are detected and when they clear. This allows you to use a third party SNMP monitoring application to monitor the audio system along with other network devices within the facility. This also allows a system composed of multiple vACS units to be monitored using a centralized software monitoring application, often referred to as an SNMP Trap.

SNMP Endpoints:  

IP	Port	Community	
127.0.0.1	162	public	
10.2.128.161	163	IED	

Figure 18-3: SNMP Endpoints



Click this icon to add a new SNMP Endpoint to the list.



Click this icon to delete the currently selected SNMP Endpoint from the list.

### IP

Enter the destination IP address for the SNMP Endpoint.

### Port

Enter the port number that will be used to send SNMP messages from this controller to the SNMP Endpoint.

### Community

Enter the community name that will be used to send SNMP messages from this controller to the SNMP Endpoint.

## Fault Descriptions

### Generic Fault Descriptions

This list is used to describe system faults with an associated device. You will notice that this list does not contain a **Fault Number** field. That number is somewhat dependant on the type of fault, but often associated with the number associated with the device. For example, if microphone station 8 failed, you would see a fault reported with a **Fault Type** of 2 and a **Fault Number** of 8.

### Specific Fault Descriptions



This list provides more detailed descriptions of specific types of faults.

### Device Type Specific Fault Descriptions

This list is used for breaking out faults that occur within an individual device. Currently, this is used to provide descriptions of the various faults that are detected within a T9160 amplifier mainframe.

### Device Specific Fault Descriptions

This section is where you define faults that will be set and cleared by programming **Action Types** on a device. While it is possible to program a fault from any device using the **FaultSet** and **FaultClear** action types, the most common application is using logic inputs on a 1200LIR, T9032LVIO, or T9040NLR to monitor external equipment. You can use the logic inputs to monitor a fault relay on a UPS so any failure gets reported. You could monitor a door switch so there is a record of any time that the equipment room (or rack) door was accessed. In Figure 18-4, we have defined a fault to indicate a failure in the system UPS. In this example, we have not yet assigned it to a device.

Device Specific Fault Descriptions:  

Description	Fault Type	Fault Number	Device
UPS Failure	1	1	None...

Figure 18-4: Device Specific Fault Descriptions



Click this icon to add a new item to the list.



Click this icon to delete the currently selected item from the list.

#### Description

Enter a textual description for the fault.

### Fault Type

Assign a number to categorize the type of this fault. This is useful if you are monitoring different types of devices with logic inputs. For example, you could assign all UPS failures to be a type 1 while having door sensors assigned to type 12. This is one of the parameters that you will need to enter when defining an action to set or clear the fault.

### Fault Number

This, combined with the Fault Type, will provide you with a unique ID number for the fault. This is one of the parameters that you will need to enter when defining an action to set or clear the fault.

### Device

Select the device that will be reporting this fault as shown in Figure 18-5. In this example, we are using a logic input on a 1200LIR to detect and report the fault.

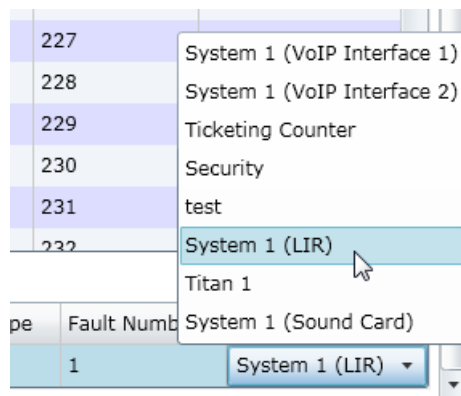


Figure 18-5: Device Selection

### Windows System Log

The controller writes the system faults to the *IED Fault Log* which is stored created using the built-in system logging tools available in Windows. To get to the log, you must first open the *Windows Event Viewer*, which may be available as a shortcut icon on the desktop as shown in Figure 18-6.

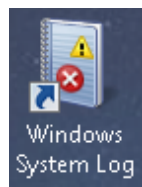


Figure 18-6: Windows System Log Icon

If you do not have this icon on your desktop, go to the Windows **START** menu and open the *Control Panel*. In the *Control Panel* window, locate the *Administrative Tools* as shown in Figure 18-7



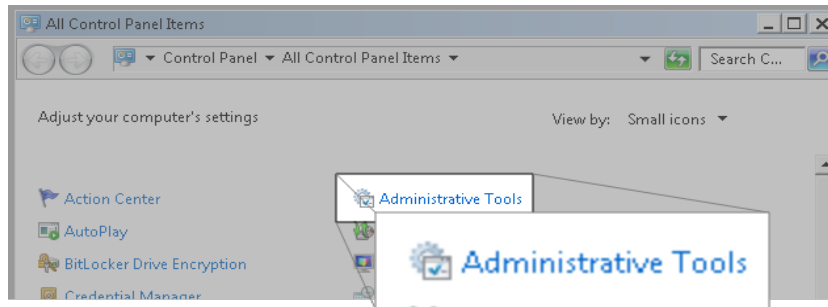


Figure 18-7: Control Panel

Next, locate the *Event Viewer* icon in the *Administrative Tools* window as shown in Figure 18-8.

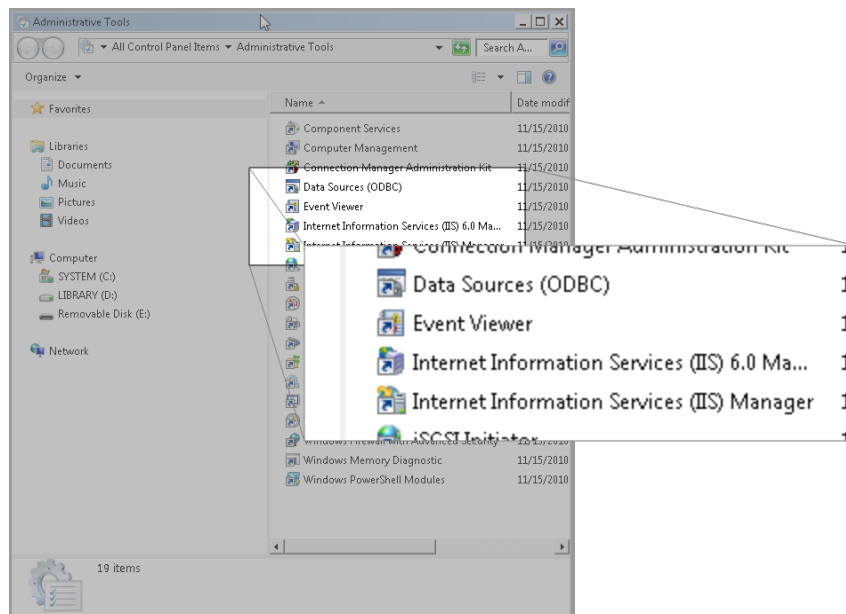


Figure 18-8: Administrative Tools

Double-click on the *Event Viewer* icon and the *Event Viewer* will appear as shown in Figure 18-9. Locate the *IED Fault Log* as shown by either of the arrows in the figure and double-click to open the log.

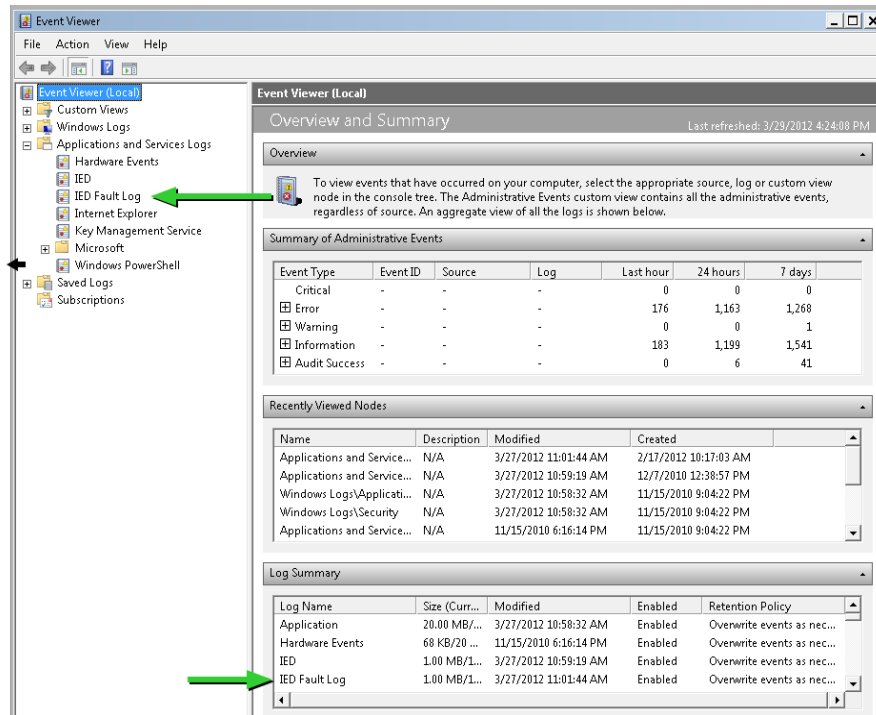


Figure 18-9: Event Viewer

The log will appear in the right portion of the window as shown in Figure 18-10. The top section of the pane is the list of faults along with a date and time stamp as to when the event was logged. When you click on an item, the details will be shown in the lower section of the pane as shown in the figure. New faults will appear as an **Error** as shown in the figure.

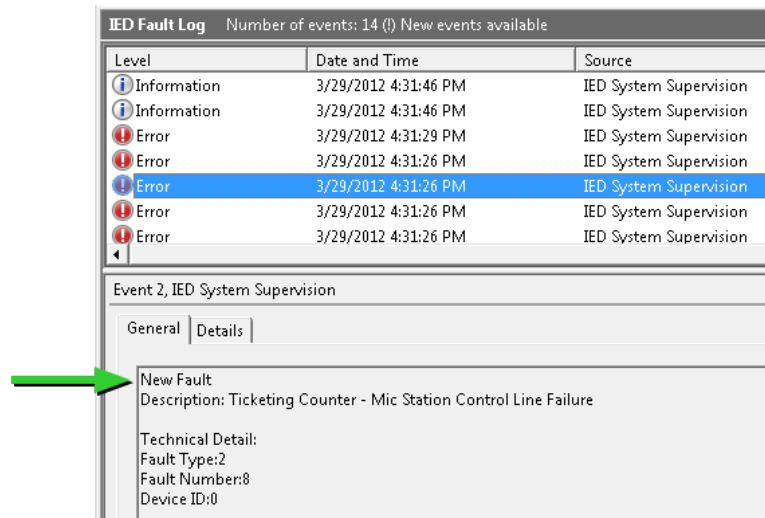


Figure 18-10: IED Fault Log New Fault

When a fault is cleared, it will appear in the list as **Information**. Figure 18-11 shows an example of an entry for a fault that has cleared.

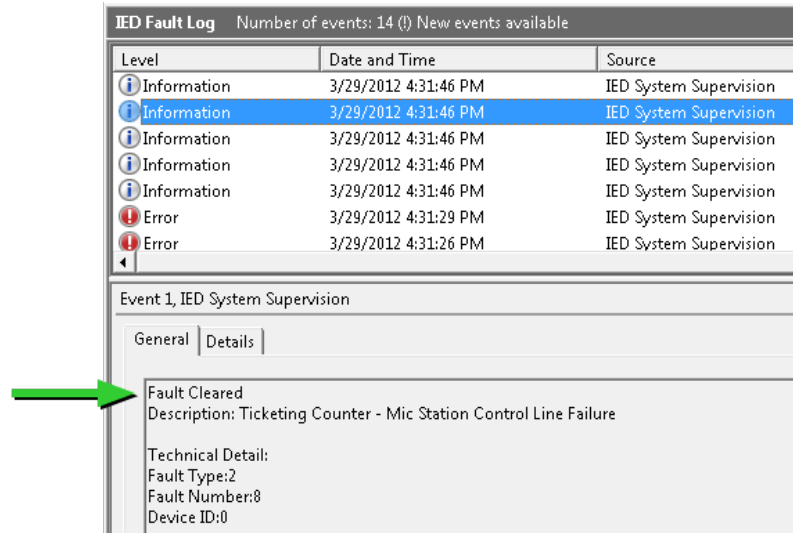


Figure 18-11: IED Fault Log Cleared Fault

The log will continue to accrue entries over time, so you may wish to clear the log at some point. To do this, select **Clear Log...** from the **Action** menu as shown in Figure 18-12. This will be followed by a prompt that allows you to save the log prior to clearing it. You can also save the log by selecting the **Save All Events As...** item from the menu.

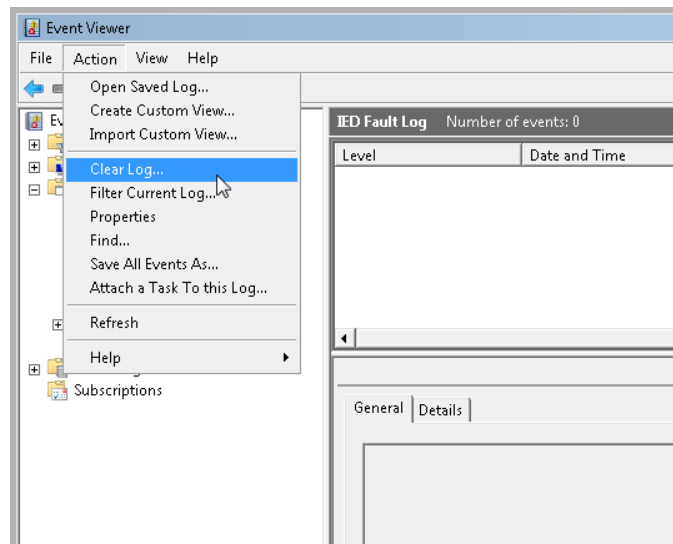


Figure 18-12: Clear Log

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## Print Configuration

The system will generate a report that contains a list of all system settings necessary to document a configuration. You can use this report to store a paper copy for system documentation or as a backup should you ever need to re-build the system from scratch. The report is generated as a .HTML file that can be printed or saved as a file. The print icon appears at the top of the *System Management Center* window as shown in Figure 19-1.

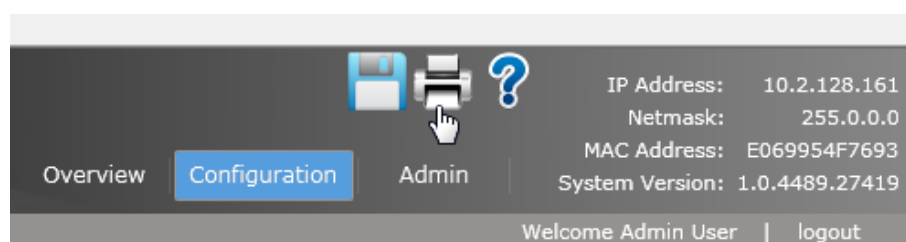


Figure 19-1: Print Configuration Icon

Figure 19-2 shows an example of the first part of the generated configuration report.

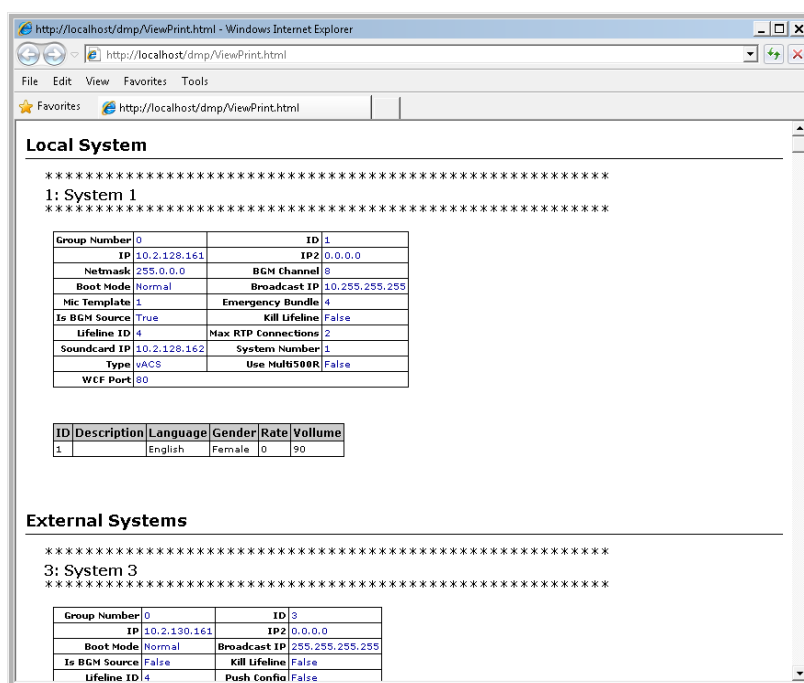


Figure 19-2: Configuration Output File

To print the report, choose the **Print** option from the **File** menu of the browser. If you wish to save the file, choose the **Save As...** option. Saving this file only saves the printable report. It does not save the data to be used as a backup file. To store a file backup that can be restored, you must use the **Backup/Restore** feature located in the **Admin** section of the software.

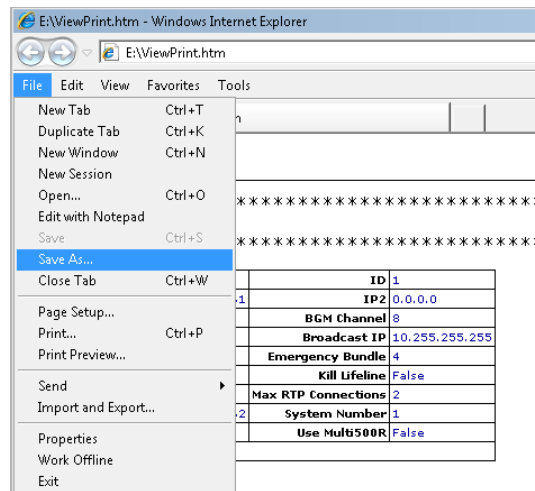


Figure 19-3: Windows Explorer File Menu

# Section 3

## Admin

<i>Software Update</i> .....	263
<i>Backup / Restore</i> .....	265
<i>Lifeline Control</i> .....	269
<i>Users</i> .....	271
<i>PDRP Languages</i> .....	275
<i>User Log</i> .....	277
<i>Debug Utilities</i> .....	279

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## Software Update

You must be logged in as a user with **Advanced** permissions in order to update the system software. You access the **Software Update** screen shown in Figure 20-1 from the **Admin** tab of the *System Management Center* application.

You do not necessarily need to be running the *System Management Center* application on the local controller in order to perform the update. You can update the system from any computer that is able to connect to the controller through the network.

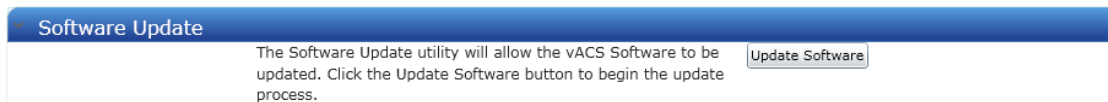


Figure 20-1: Software Update

Click the **Update Software** button to open the file selection dialog window as shown in Figure 20-2

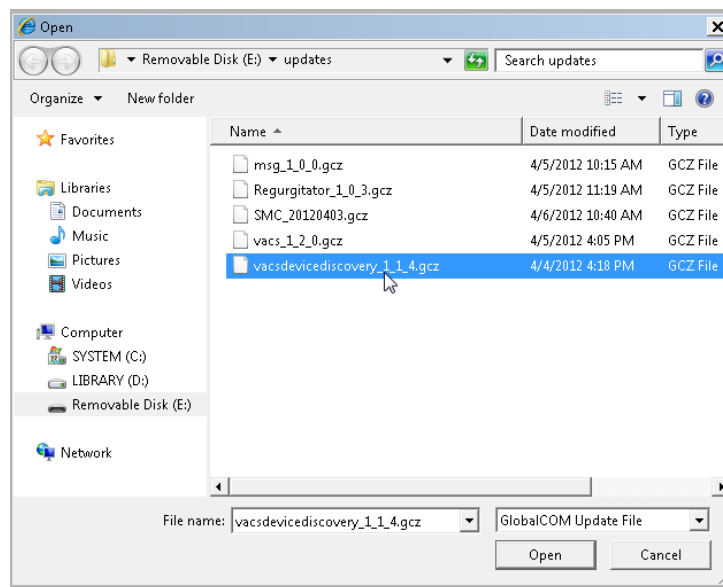


Figure 20-2: Open Update Package

Navigate to the appropriate directory and highlight an update package. Click the **OK** button to begin the update process. The system will stop the necessary services, install the new files, and then start the new services. This may take a few minutes for larger updates and you will see a progress window like the one shown in Figure 20-3

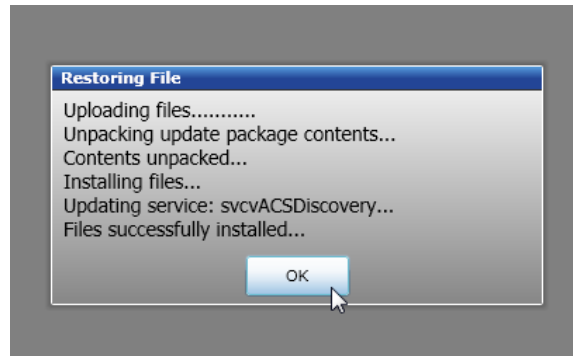


Figure 20-3: Update Successful

Once you see that the files were successfully installed, click the **OK** button to close the window. You can now proceed to update the next package.

**Caution!**

*System operation may be interrupted while an update is in progress!*

## Backup / Restore

This section allows you to create a backup of the current system configuration. The configuration is automatically saved as a .VBK file type on the local system. It also gives you the option of saving it to a different location or to your local machine if you are accessing the *System Management Center* from a remote location. Locally-stored backups are easily restored by clicking the appropriate **Restore** button or you can load a backup file from a disk or other removable storage device.



Figure 21-1: Backup / Restore

### Backup Config

Click this button to create a new backup configuration file. A local backup will automatically be saved and a new browser window will appear with the contents of the backup configuration file as shown in Figure 21-2.

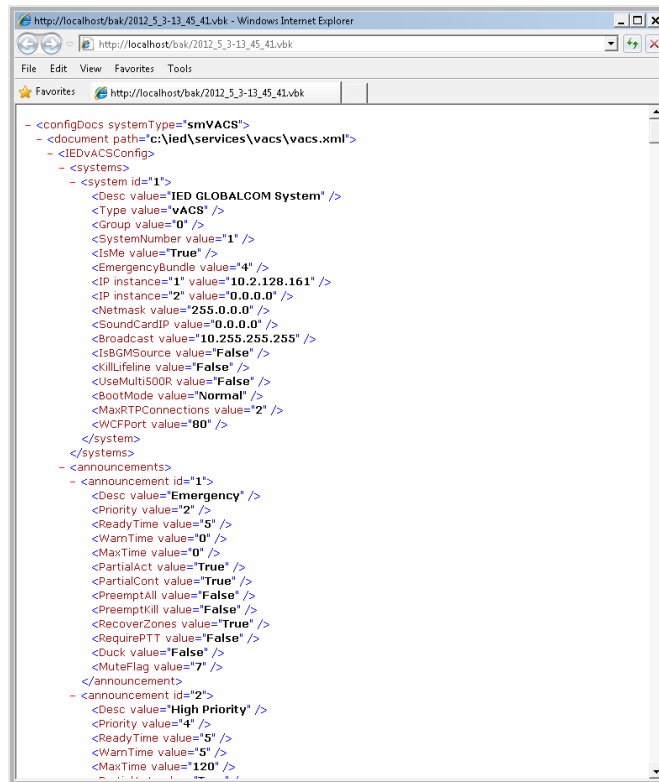


Figure 21-2: Internet Explorer Backup File View

At this point, you can close the backup file window if you are only creating a local backup copy. If you wish to save the backup file to another location, you can do so by saving the file from the browser window menu bar. Figure 21-3 shows the **File** menu in Internet Explorer where you would select the **Save As...** option to save the file.

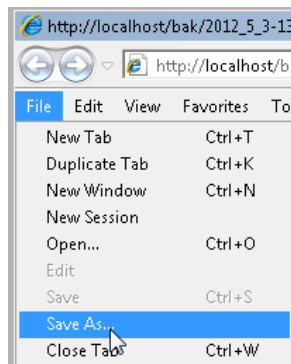


Figure 21-3: Internet Explorer File Menu

This will prompt you to select a file location with a dialog window as shown in Figure 21-4. If you are accessing the *System Management Center* from another computer, you may want to store the backup file on your local machine or save it to an external storage device. If you choose not to do this, the backup file will still be stored on the local controller.

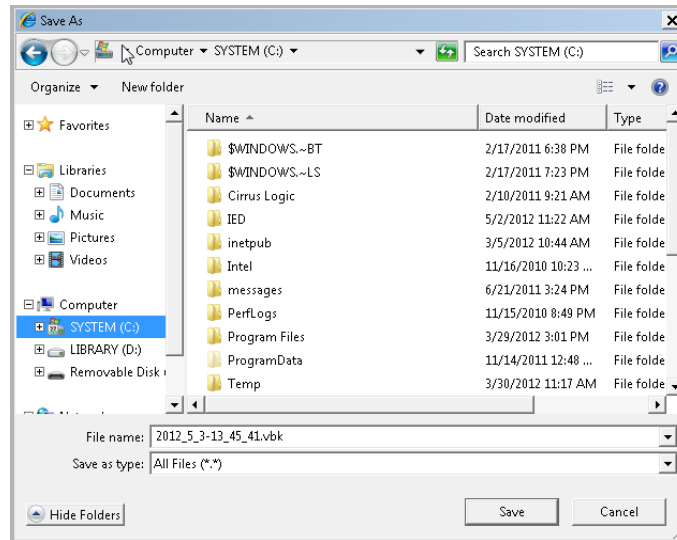


Figure 21-4: Internet Explorer Save As Window

## Backup Takes

Click this button to create a backup of all the audio takes on the controller. The individual take files are stored in a compressed archive file and can be restored if needed.

**Caution!** *This operation may result in degraded system performance while in progress due to the large amount of information being processed.*

## Restore Config From Disk

Click this button when you want to restore the system configuration from a backup file stored on a disk or other remote storage device. You will be warned and prompted as shown in Figure 21-5. If you click Yes, then you will be shown a standard Open dialog window as shown in Figure 21-6

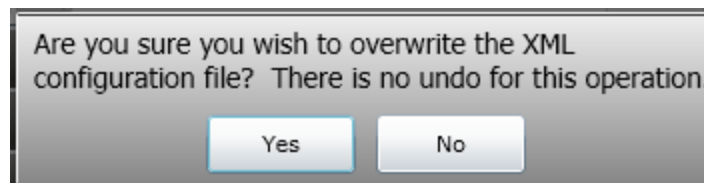


Figure 21-5: Restore Confirmation

Once you begin the restoration process, the system will shut down all appropriate services and restart with the new configuration file. This operation will take the controller off-line for a short period of time.

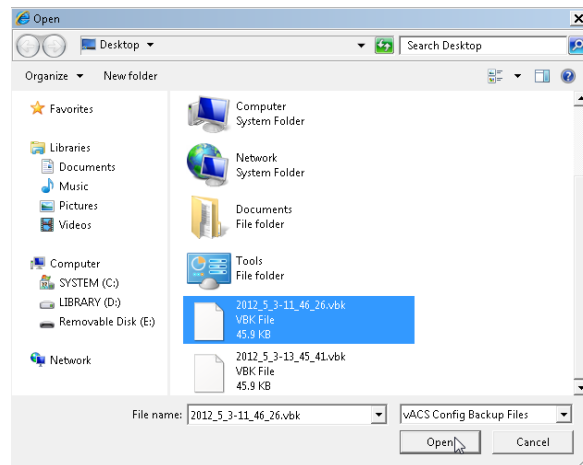


Figure 21-6: Open File Window

## Backup on vACS

This is a list of all backups that are stored on the local controller. The filename is actually a date/time stamp for the backup. It contains the year, month, day, hour, minute, and second when the backup was created.

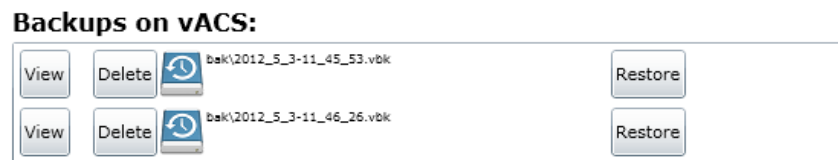


Figure 21-7: Backup / Restore

### View

Click this button to display the contents of the backup file in your browser. This will appear as shown in Figure 21-2.

### Delete

Click this button to delete the backup file from the controller. This will not impact the current operation of the controller. The number of backups that can be kept is only limited by the amount of available drive space on the controller. It is a good idea to remove older backups to keep the list manageable.

### Restore

Click this button to restore the backup configuration to the system. You will be warned and prompted to continue since this will delete the current system configuration and stop the controller from operating for a brief period of time.

## Lifeline Control

This section is only available on the **Admin** tab for systems that have been licensed as a Lifeline system. This feature allows an announcement controller to monitor other announcement controllers in the system for failures. If the Lifeline system detects a failure in one of the announcement controllers that it has been assigned to monitor, it will take over for the failed controller.

There are three critical steps that must be performed to ensure that the Lifeline feature will work correctly.

1. Ensure that the Lifeline controller is on the same network or vLAN as all of the primary controllers that it will monitor.
2. Add the Lifeline controller to each monitored primary announcement controller in each respective **Remote Controllers** definition section.
3. Add each monitored primary announcement controller to the Lifeline controller's monitoring list as shown in Figure 22-1.

Lifeline Control						
+ X						
Number	IP	CobraNet Audio Device IP	Monitor	Alive	Taken Over	
2	10.11.99.2	10.11.99.3	<input checked="" type="checkbox"/>	True	False	Force Lifeline Save Lifeline

Figure 22-1: Lifeline Monitoring List



Click this icon to add a new system to the monitoring list.



Click this icon to delete the currently selected system from the monitoring list.

### Number

This is the system number for the monitored controller.

### IP

Enter the IP address for the monitored controller. This will be the IP address of the network card in the controller.

## CobraNet Audio Device IP

Enter the IP address for the CobraNet interface card in the monitored controller. This address will typically be one number higher than the IP address of the device.

## Monitor

When checked, the Lifeline system will monitor the primary announcement controller and take over if it fails. When not checked, it will no longer monitor the primary controller for failures. This allows you to temporarily exclude a controller from automatic backup while you are working on that system.

## Alive

This field will display **True** when it detects that the primary announcement controller is online. It will switch to **False** if it can no longer communicate with the primary controller.

## Taken Over

This field will display **True** if the Lifeline has taken over control for this primary announcement controller. It will display **False** when it has not taken control and is monitoring if the **Monitoring** checkbox is checked for that system.

## Force Lifeline

Each primary announcement controller in the monitoring list will have this button. Click this button to immediately force the Lifeline controller to take over the duties of the primary announcement controller. It takes approximately 45 to 55 seconds for this process to take place.

## Save Lifeline

Click this button to manually switch control from the Lifeline controller back to the primary controller if the automatic fail-back has been disabled or if the system was manually forced into Lifeline mode using the **Force Lifeline** button.



## Users

---

When a system is initially configured, it has four (4) default users as shown in . If you ran the **First Run Setup Wizard** and used different names, then your list will appear different. There are basically three (3) different categories of users that have a permission set based on their role as a system user. These roles are defined below and you configure them on a per-user basis as shown in Figure 23-3.

### Advanced

This level is for a user that needs to have administrative access to the system. A user with this permission level will have access to all system configuration options on the **Admin** tab.

### Installer

A user with this permission level will have edit access to everything on the **Overview** and **Configuration** tabs. Some features on the **Admin** tab will not be available to this category of user.

### User

A user with this permission level will have edit access to items on the **Overview** tab that are needed for basic system operation. All functions on the **Configuration** and **Admin** tabs are blocked for this category of user.

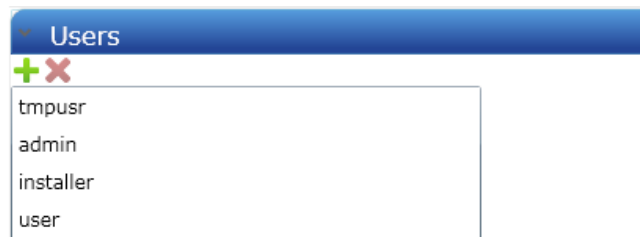


Figure 23-1: Users

### tmpuser

This is a special user that exists in all systems. Should you forget the password to gain access to the system, then you can utilize the tmpuser account to log into the system. The password for this account is a special date-sensitive password that you must obtain by contacting IED support personnel. They will give you the *Password-of-the-Day* for your system to use with the tmpuser account.



Click this icon to add a new user. You will be prompted to enter a new user as shown in Figure 23-2. Type in a new username and click the **OK** button to add the new user. Selecting the **CANCEL** button will close the window without adding the new user.

**Note:** Usernames cannot contain any spaces.

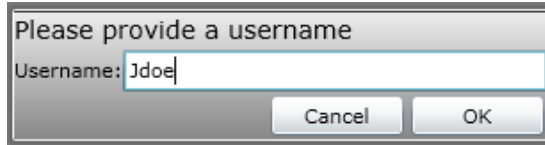
A small dialog box titled "Please provide a username". It contains a text input field labeled "Username:" with the text "Jdoe" entered. Below the input field are two buttons: "Cancel" and "OK".

Figure 23-2: Add New User



Click this icon to delete the user that is currently highlighted in the list.

## User Configuration

When you select a user in the list, the configuration options for that user become available for editing.

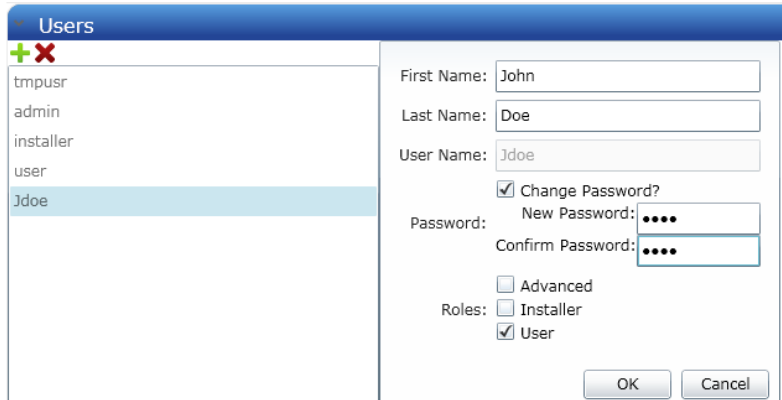
A window titled "Users" with a list of users on the left and configuration options on the right. The list includes "tmpusr", "admin", "installer", "user", and "Jdoe", with "Jdoe" selected. The configuration options on the right include: "First Name:" (John), "Last Name:" (Doe), "User Name:" (Jdoe), a checked "Change Password?" checkbox with "New Password:" and "Confirm Password:" fields (both masked with dots), an unchecked "Advanced" checkbox, and "Roles:" with "Installer" unchecked and "User" checked. "OK" and "Cancel" buttons are at the bottom right.

Figure 23-3: User Configuration

### First Name

Enter the first name of the user that is associated with this username. This name will appear at the top of the screen when the user is logged in.

### Last Name

Enter the last name of the user that is associated with this username. This name will appear at the top of the screen when the user is logged in.

### User Name

This is the name that you entered when creating the user. This field cannot be edited. You must delete the user and add a new one in order to change the username.

### Password

When you check the **Change Password** box, the **New Password** and **Confirm Password** fields become active to allow you to change this user's password. Enter the new password in the two fields and then new password will take effect when you click the **OK** button.

### Roles

Select the role that best suits this user. Permissions are assigned cumulatively so you must check all three boxes to give a user full access to the system. The permissions associated with each role are defined at the top of this topic.

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## PDRP Languages

The system is capable of supporting multiple languages for PDRP messages. The languages available on your system will vary based on the language libraries purchased. This tab allows you to configure which languages will appear as available selections when defining actions that utilize PDRP message takes. Refer to the **Action Types** section of this documentation for information on configuring actions that utilize the PDRP Languages.



Description	Enabled
American English	<input checked="" type="checkbox"/>
French	<input checked="" type="checkbox"/>
Spanish	<input checked="" type="checkbox"/>
German	<input type="checkbox"/>
Korean	<input type="checkbox"/>
Japanese	<input type="checkbox"/>
Chinese (PRC)	<input type="checkbox"/>
Russian	<input type="checkbox"/>
Dutch	<input type="checkbox"/>
British English	<input type="checkbox"/>
Cantonese	<input type="checkbox"/>

Figure 24-1: PDRP Languages Configuration

Figure 24-1 shows a list for a system with 11 different languages. You should check the **Enabled** check boxes for the languages that you have installed on your system. If you add a new language to the system, you must return to this section to enable it before it will appear as an available selection when defining messages.

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## User Log

The User Log is used to keep a record of any changes made by system users. The system utilizes the *Windows System Log* for logging user actions. Refer to the **Windows System Log** for details on accessing the log directly or for clearing the log when necessary. You will find the information in a new log titled **IED\_User**.

The log will record each change event with a date and time stamp that appears on the left side of the display as shown in Figure 25-1. The right section will display the parameters that were changed with the username appearing at the top of each property list.

User Log		
2012-07-10T15:01:45-07:00	Information	User: admin made the following changes: ===== <action id="219" EC="17" InputType="MS528"> <AnncID value="2" /> <Description value="All Call" /> <Type value="Live" /> <StartDelay value="0" /> <AVflag value="1" /> <ZoneGroupID value="100" /> </action>
2012-07-10T15:02:33-07:00	Information	User: admin made the following changes: ===== <zonegroup id="100"> <Desc value="All-Call Frame 1" /> <zoneID value="1,25,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23" /> </zonegroup>

Figure 25-1: User Log

As the log grows in size, it will expand to multiple pages. The current page and total number of pages available are displayed at the lower right corner of the User Log tab. From here, you can use the navigation arrows to navigate to the first, previous, next, or last pages. You can also type in a page number in the box to go directly to that page.

This page has been intentionally left blank.



## Debug Utilities

There are several other options available on the **Admin** tab that are tools used for debugging system issues. They are all lumped together here because there is not much detail to cover and they will be infrequently used.

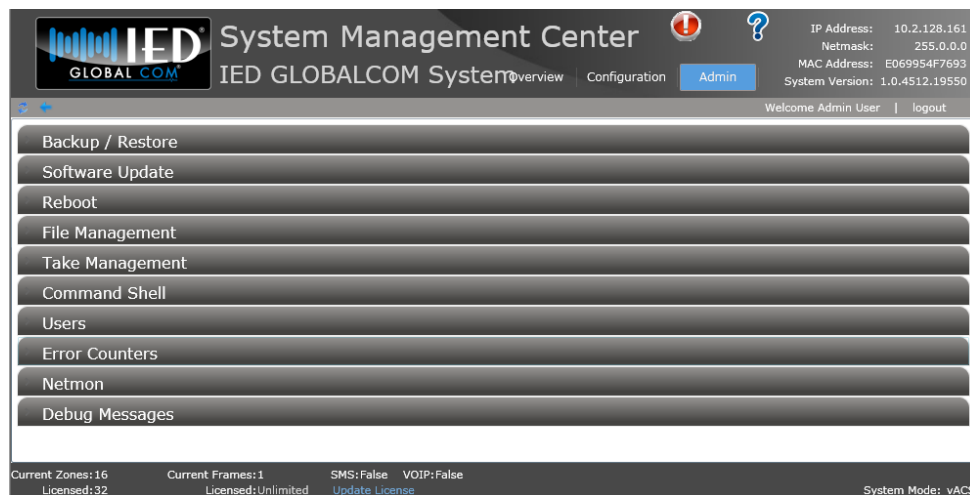


Figure 26-1: Admin Tab

## Reboot

This tab provides you with two restart options for the controller. Using this may not be necessary if you are running the *System Management Center* (SMC) on the local controller. If you are working with your monitor and keyboard connected directly to the controller, you may choose to use the Windows restart command through the START menu. However, this gives you the ability to restart the controller while connected to the SMC through the web page from another computer.

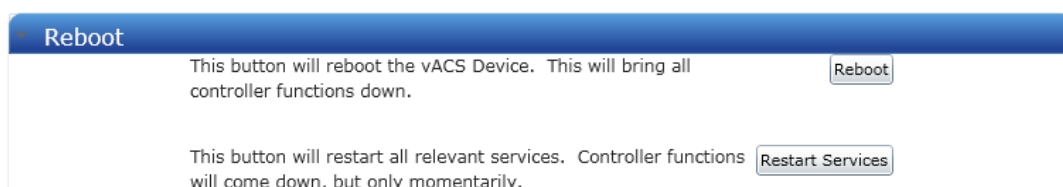


Figure 26-2: Reboot

## Reboot

Click this button to reset the unit. It will shut down the operating system and restart the device. This will take the controller offline until it has completely restarted and all the supporting services are fully operational.

## Restart Services

The announcement controller functions are managed by what are known as *Services* in the Windows operating system. These run in the background and most are started when the operating system starts while others are started and stopped on an as-needed basis. This eliminates the possibility of a user inadvertently shutting down a system-critical application.

There are cases where simply restarting all of the services that are operating in the background is all that is necessary instead of completely restarting the entire controller. The controller will still be offline while the services are in the process of shutting down and restarting, but the time is much less than a complete reboot.

## File Management

This tab allows you to remotely transfer individual files from a client or server to a vACS located on the network. Figure 26-3 shows the File Management tab and its major components. The **Path Entry Box** is used to specify a directory or complete file path on the vACS. When uploading a file, this will be the path to place the selected file. When downloading, this is the complete path and filename that you will download to the local machine.

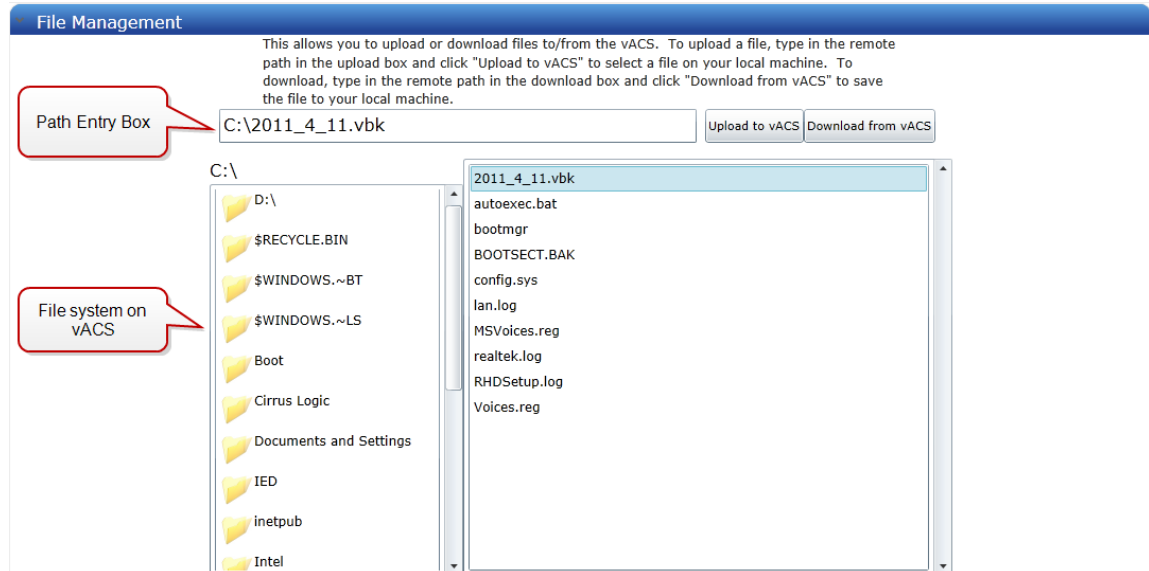


Figure 26-3: File Management

## Download from vACS

Click this button to initiate a transfer of the selected file from the vACS to your local machine. You must first select the file to transfer by either navigating the file system windows and selecting the appropriate file, or you can manually type in the complete file path in the **Path**

### Entry Box.

Due to system constraints, files downloaded using this method must be transferred as a zip file. The remote file will be compressed into a file named temp.zip and sent to your local machine. Upon clicking the button to download the file, Windows will prompt you to specify what you want to do with the file as shown in Figure 26-4. You can choose to open temp.zip or save it. It is recommended that you simply choose the **Open** option which will open the zip file and display the contents which is the file you want to save as shown in Figure 26-5. From here, simply use the standard Windows commands to copy the file to the desired location on the local machine.

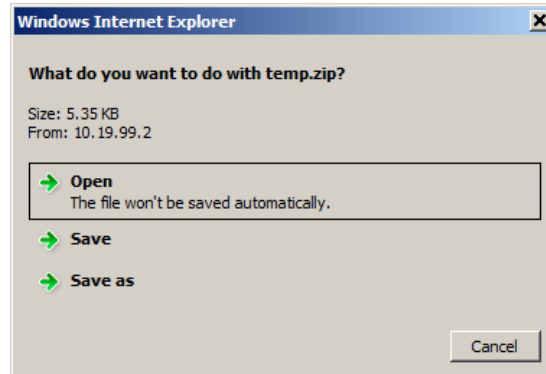


Figure 26-4: Temp.zip

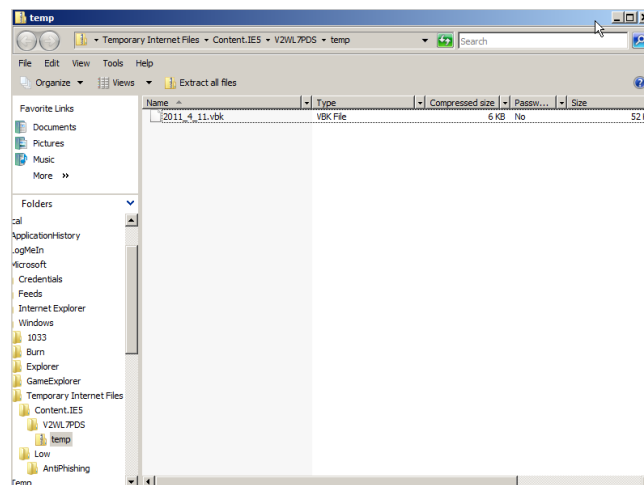


Figure 26-5: Contents of Temp.zip File

## Upload to vACS

This command will allow you transfer a file from your local computer to the vACS. You must first enter the path on the remote vACS where the file is to be placed. You must type this path directly into the **Path Entry Box** shown in Figure 26-3. For example, if you want to place the file in the root directory of the C drive, then you would type "C:\\" in the **Path Entry Box**.

You then click the **Upload to vACS** button and you will be prompted with a windows Open dialog as shown in Figure 26-6. From here, navigate to the file that you wish to transfer and click the **Open** button to begin the transfer.

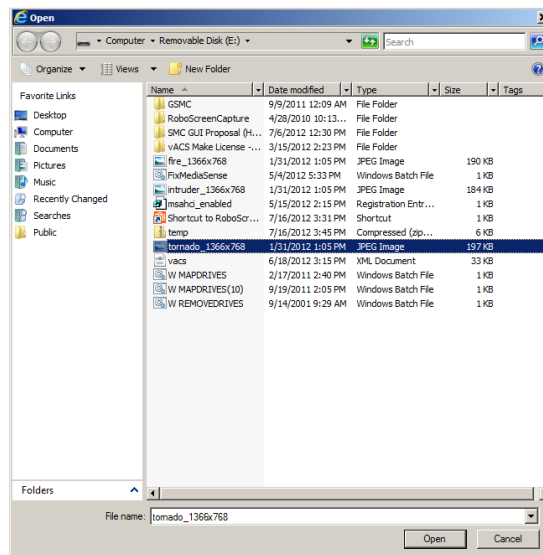


Figure 26-6: Windows Open Dialog

Once the file is complete, you will receive a pop-up window like the one shown in Figure 26-7. This will tell if the transfer was successful or unsuccessful.

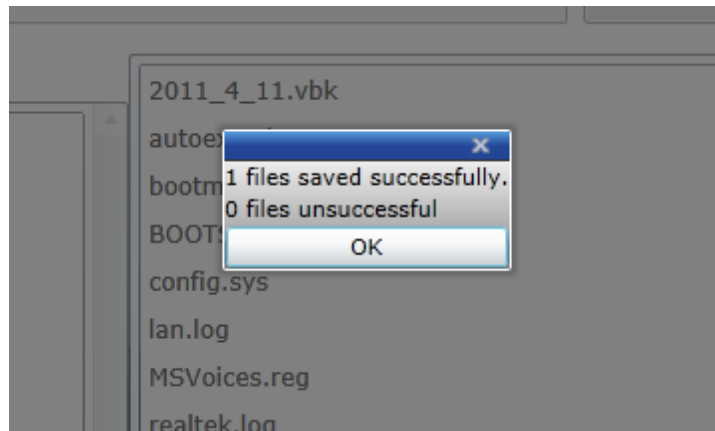


Figure 26-7: Transfer Confirmation

## Take Management

Prerecorded action types use a pre-loaded take library to create professional quality messages. Typically, the take library will be loaded and configured properly based on the languages that you ordered with your system. This editor is used to edit some of the information associated with each take if needed. You cannot edit the audio take file here. You are only able to edit the visual text that corresponds with the audio take file, a few pieces of timing information, and the category for the take to make it easier to find in the Take Library.

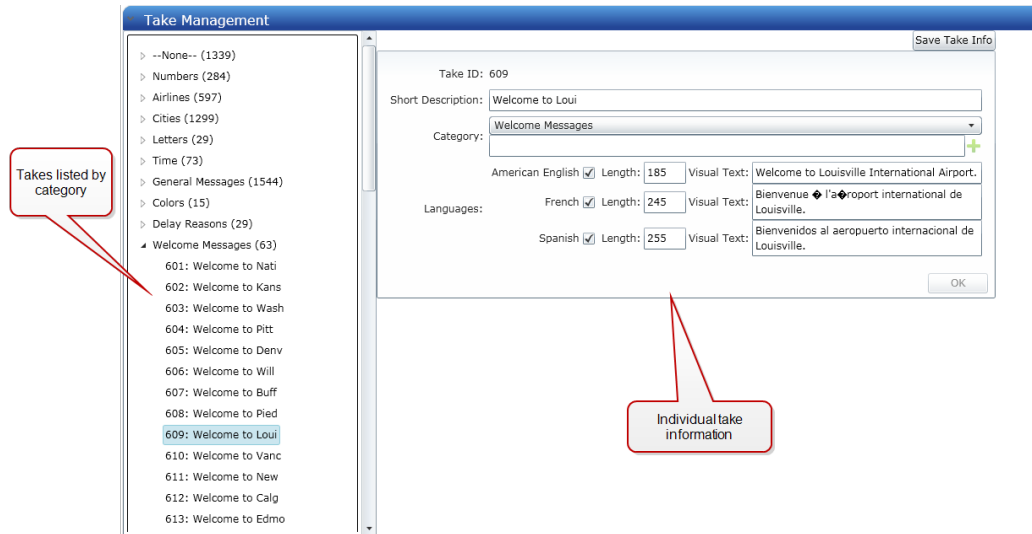


Figure 26-8: Take Management

## Save Take Info

Click this button to save the changes you have made to the take file.

## Take ID

This is a read-only index number for the take file. This number corresponds to the number included in the filename of the take.

## Short Description

Enter a short description of the take in this field. This is the description that will be applied to the take in the take list.

## Category

Select a category for the take from the drop-down list. This will place the take in that category to ease searching when using the Take Editor to select takes for messages. If the category does not exist, you can create a new one by entering a new category name in the box immediately below the drop-down list. Then click the **+** icon to add the new category.

## Languages

Click this checkbox for each language that has this take. Note that you must physically have the correct take file placed in the correct language library with for it to work properly.

## Length

This is the length of each language take in 1/60th second intervals. For example, a take 2 seconds long would use a value of 120. This information is used along with the entry in the **Visual Text** field to synchronize the visual take playback with the audible take.

## Visual Text

Enter the visual text for each language in this field.

## OK

After you have made changes, click this button to save them.

## Cancel

This button will appear after you have made changes to the take. Click it to discard the changes.

## Command Shell

This tab provides you with direct access to the command-line shell of the operating system. You will not need this if you are accessing the controller from a monitor and keyboard connected directly to the controller. If you are accessing the *System Management Center* web page from another computer, then this will give you access to key in direct commands if needed.

To utilize this feature, you first type in (or use the past command) the appropriate command in the top window. Then you must click the appropriate button to send the command in the correct format.

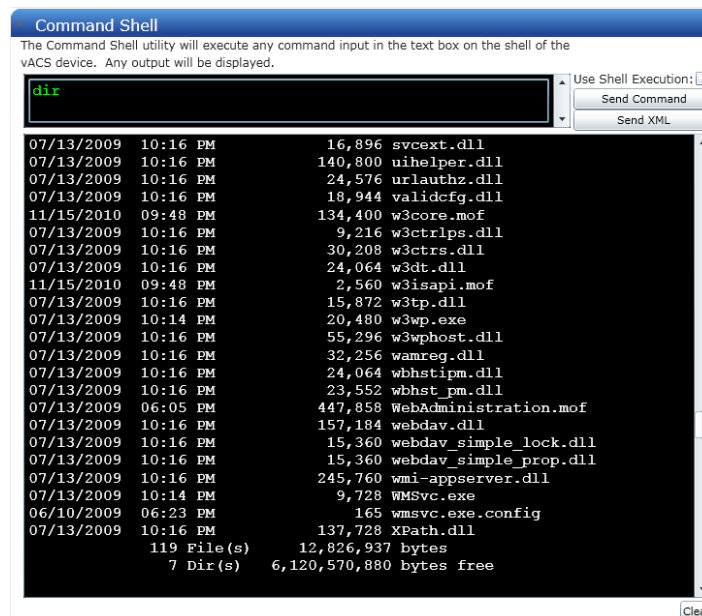


Figure 26-9: Command Shell

## Use Shell Execution

When checked, the command entered will be executed at the Windows shell level and you will not see a response. This option is only for major system debugging and should only be used when instructed by IED support personnel.

## Send Command

This will send the command directly to the command-line shell. This is the equivalent of typing in the command and pressing the **ENTER** key if you are directly accessing the Windows *Command Prompt* window.

## Send XML

When this button is clicked, the command will be sent as an XML-formatted message directly to the vACS. This is only for sending various debug commands to the vACS service and should only be used when instructed by IED support personnel.

## Error Counters

The vACS maintains several counters that increment each time a certain type of error occurs. This tab displays the current value for each of those counters. These are a useful aid in tracking down certain system problems. For example, if you see the **Activate Titan** counter incrementing each time an announcement is made, then it may indicate that there is a problem communicating with a Titan frame.

Error Counters			
Clear Errors			
Announcement	Mic Station	Audio	System
No Action:	0	Parse Prompt:	0
Net Receive:	0	File Open:	0
SRM:	0	Associate Announcement:	0
LVIO:	0	SNMP:	0
Multi vACS:	0	Send Annc Request:	0
Schedule:	0	Language Path:	0
Visual Text:	0	Bad Channel:	0
Sign Manager:	0	Take List:	0
Activate Titan:	0	Sound Card Subchannel:	0
Titan Remove Zone:	0	PCI Interface:	0
Receive Request:	0	Audio Path:	0
No Zone:	0		

Figure 26-10: Error Counters

## Clear Errors

Click this button to reset all error counters to 0.

## NetMon

NetMon is a built-in network monitoring tool used to monitor Ethernet messages sent between IED devices. This tool is almost exclusively reserved for use by IED personnel, but it is shown here because you may be asked to use it while communicating with support personnel. Using the tool is quite simple, but the data displayed by the tool is very complex and beyond the scope of this document.

**Netmon**

Double-click entries to view details

Object Filter:

Message ID Filter:

IP Filter:

[Clear List](#)

Incoming	Time Occurred	IP Address	Object ID	Message ID	Message Number	Data
Sent	7/16/2012 2:07:54 PM	10.255.255.255	FF 00	0C 67	3065	00-03-00-00-FF-FF-00-00-00-00-FF-
Received	7/16/2012 2:07:54 PM	10.2.128.161	FF 00	0C 67	3065	00-03-00-00-FF-FF-00-00-00-00-FF-
Sent	7/16/2012 2:07:54 PM	10.2.128.161	FF 00	0C 01	814	00-00-00-00-FF-21-00-00-00-00-01-
Received	7/16/2012 2:07:54 PM	10.2.128.161	FF 00	0C 01	814	00-00-00-00-FF-21-00-00-00-00-01-
Sent	7/16/2012 2:07:54 PM	10.2.128.161	FF 00	0C 01	3848	00-00-00-00-FF-21-00-00-00-00-02-
Received	7/16/2012 2:07:54 PM	10.2.128.161	FF 00	0C 01	3848	00-00-00-00-FF-21-00-00-00-00-02-
Received	7/16/2012 2:07:55 PM	10.2.128.172	FF 00	0C 01	20978	00-00-00-00-FF-21-00-00-00-00-03-
Received	7/16/2012 2:07:55 PM	10.2.128.173	FF 00	0C 01	20981	00-00-00-00-FF-21-00-00-00-00-04-
Sent	7/16/2012 2:07:57 PM	10.2.128.186	FF 00	10 6C	3066	00-03-00-00-11-40-00-00-00-00-FF-
Sent	7/16/2012 2:07:57 PM	10.2.128.161	10 00	00 27	3067	
Received	7/16/2012 2:07:57 PM	10.2.128.161	10 00	00 27	3067	
Sent	7/16/2012 2:07:57 PM	10.2.128.161	10 00	80 27	3067	00-00
Received	7/16/2012 2:07:57 PM	10.2.128.161	10 00	80 27	3067	00-00

Figure 26-11: NetMon

### Object Filter

Enter a valid object ID here to filter the message list and display messages that only contain that object ID.

### Message ID Filter

Enter a valid message ID here to filter the message list and display messages that only contain that message ID.

### IP Filter

You can enter a specific IP address in this field to view only message associated with a specific device at a known address. Figure 26-12 illustrates this where an address of 10.2.128.171 has been entered as a filter address. Only messages to or from this IP address will be displayed in the Message Window.

**Netmon**

Double-click entries to view details

Object Filter:

Message ID Filter:

IP Filter:

[Clear List](#)

Incoming	Time Occurred	IP Address	Object ID	Message ID	Message Number	Data
Received	5/18/2012 4:02:29 PM	10.2.128.171	FF 00	08 0A	51998	00-00-00-00-FF-FF-00-00-00-00-40-E2-FF-0
Sent	5/18/2012 4:02:31 PM	10.2.128.171	30 00	00 02	1291	
Received	5/18/2012 4:02:31 PM	10.2.128.171	30 00	80 02	1291	00-00-00

Figure 26-12: NetMon IP Filter

### Clear List

Click this button to clear the contents of the message window.

### Message Window

This list displays the message data in a tabular format.



## Incoming

This field indicates if the message was sent by the host device or if it was received by the host from another device. **Sent** indicates that the message was transmitted by the host while **Received** indicates it was received by another device.

## Time Occurred

This is the system date and time when the message was sent or received.

## IP Address

For a **Sent** message type, this is the destination address for the message. This could also be a broadcast IP address for certain messages. For a **Received** message type, this is the address of the device that originated the message.

## Object ID

This field displays the object ID contained within the network message.

## Message ID

This field displays the message ID contained within the network message.

## Message Number

This field displays the message number contained within the network message.

## Data

This is the raw message data in hex format that is contained in the message.

## Message Details

You can view more detailed information for an individual message by double-clicking on it in the Message Window. This will open another window with additional information as shown in Figure 26-13. If the message uses the IED24 message protocol and the **Interpret** checkbox is checked, this display will decode the raw hex data and display the IED24 message data values. If it cannot be interpreted as an IED24 message, then only the raw hex data will be displayed.

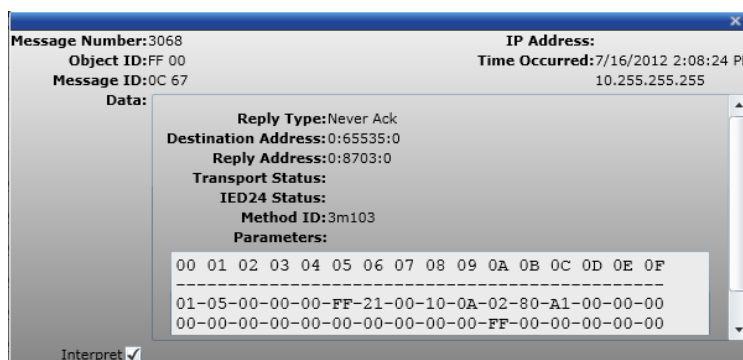


Figure 26-13: Message Details

## Debug Messages

This tab is used to display various system messages that can be used for debugging purposes. The top portion of the tab contains a list of checkboxes that allow you to enable or disable a specific type of message from appearing in the message window. Using this will cut down significantly on the amount of data displayed in the window and make it easier for you to track a series of messages. When a box is checked, then its corresponding message type will be displayed in the message window. If it is not checked, it will be excluded from the display.

Most of these debug messages are useful to factory personnel only, but there are some instances where you may need to use them. For example, you could only select the LIR message type if you are troubleshooting a problem related to a contact closure connected to the built-in 1200LIR board in a 1200ACS unit. This will allow you to verify if the contact closure is being detected by the unit or not. If it is being detected but not launching an action correctly, then the problem may be in the way the action is configured. If the closure is not showing up in the debug window, then it is not being properly detected by the 1200LIR board and could be a connectivity problem.

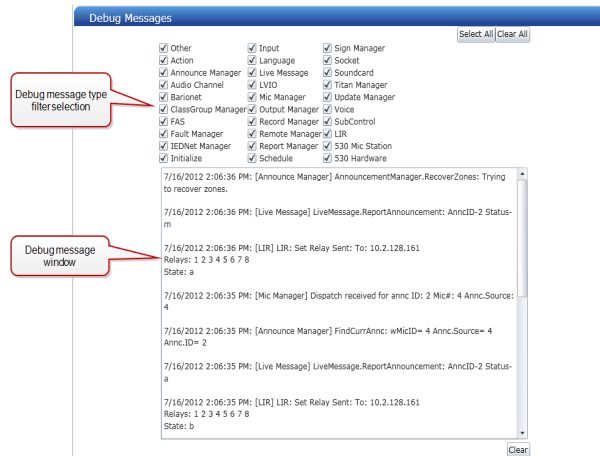


Figure 26-14: Debug Messages

### Select All

Click this button to check all message type boxes.

### Clear All

Click this button to uncheck all message type boxes.

### Clear

Click this button to clear the contents of the debug message window.

# Section 4

## Appendices

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## FAS Entry Codes

For systems that utilize the optional Flight Announcement System (FAS), you must define certain reserved entry codes using the graphical microphone templates. These entry codes are specific to the FAS and you do not need to define any actions for these announcements. The first table below gives you the buttons and entry codes to define for most FAS applications. They are presented in an order that is most logical for FAS usage. The template can be modified to best meet the needs of the facility.

**Table A-1 : FAS Microphone Station Buttons**

Button Order	Button Text	Entry Code
1	Enter Claim Number	1000
2	Enter Gate Number	1500
3	Next Departure	7
4	Arrival Message	6
5	Pause Sequence	8
6	Repeat Last Departure	9
7	Select Sequence Step	9797
8	Add FAS Language	9799
9	Change Sequence	9798
10	Flight Delayed	see scroll box 1
11	Flight Canceled	see scroll box 2
12	Gate Changed	1007
13	Flight Message	see scroll box 3
14	Security Breach	see scroll box 4
15	Logout	Is Logout checked

The following four (4) tables define the individual scroll boxes for buttons 10, 11, 13, and 14.

**Table A-2: Scroll Box 1 Title: Select Delay Message**

Item Order	Button Text	Entry Code
1	Departure Delay with Time	1137
2	Departure Delay Unknown Time	1141
3	Arrival Delay with Time	1137
4	Arrival Delay Unknown Time	1142

Table A-3: Scroll Box 2 Title: Select Cancel Message

Item Order	Button Text	Entry Code
1	Arrival Canceled	1078
2	Departure Canceled	1190

Table A-4: Scroll Box 3 Title: Select Flight Message

Item Order	Button Text	Entry Code
1	Overbooked Flight	1110
2	Overweight Flight	1111
3	Inoperative Lavatory	1288
4	Screening of Aircraft	1289
5	Standby Passengers	1048
6	Limited Carry-On Space	1189
7	Carry-On Items	1034
8	All Standby Passengers Cleared	1070
9	International Regulations	1179

Table A-5: Scroll Box 4 Title: Security Breach Message

Item Order	Button Text	Entry Code
1	Security Checkpoint Closed	1797
2	Evacuating Airside	1798
3	Cancel Security Checkpoint	1897
4	Re-open Security Checkpoint	1799
5	While Checkpoint Closed	1800

## Basic Troubleshooting Guidelines

---

The following information is provided to allow some basic troubleshooting of the equipment in a digital Paging System, such as the 510/520ACS or 1x00ACS based systems. This includes components such as digital microphone stations, Titan digital power amplifiers and other Titan peripheral components. These basic actions could/should be performed before calling the support contractor or equipment vendor technical support. In the event of one-time or very infrequent problems, this may be all that is required.

However, for repeat problems the technician may want to escalate the problem to the available technical support resources for further investigation. If possible, this escalation should be done without taking corrective actions first (e.g., don't reboot problem equipment, but leave it in a failed/faulted state).

### Basic Principles

---

When an off-normal condition occurs, the most basic externally observable issues to investigate are:

1. Does the unit have power?
2. Does the unit appear to be operating (internal firmware running)?
3. Is the unit able to communicate over the network?

Some of the steps described below amount to the various ways to determine the above observations for the different types of equipment encountered. Other actions to further diagnose or remedy the problem are also presented.

The starting point for a problem investigation could either be a report from a user (e.g., microphone station doesn't work or audio not heard in an area) or a fault reported by the system supervision portion of the paging system. In the information below, the text of fault reports that might be observed and the internal type numbers are noted.

**Note:** All of these investigations assume the equipment had been working and then went to a non-working or problem state. If instead, somebody recently reconfigured a device, then the root cause of the problem could be due to a configuration error, such as a bad IP address or subnet mask, or the wrong microphone ID or group ID in a microphone station. Investigating configuration errors are not covered in this document.

## Mic Station Control Line Failure (fault type 2)

This is an indication from the Announcement Control System (ACS) that it cannot communicate with the indicated microphone station. The checks that can be done and possible remedial actions to further diagnose this condition are listed in Table B-1 below.

**Table B-1: Mic Station Communication Checks/Actions**

Check	Check Procedure	Remedy Actions
Microphone Station is Powered Up	IED528: Display is lit. Press any key to take microphone station out of power saver mode, first. IED524: Green power indicator in upper left corner is lit.	If PoE powered: Check network connection to the unit If non-PoE powered: Check that electrical adapter is connected and plugged into hot power source.
Unit is Operating	IED528: Press and hold both the 1 and 3 keys on the keypad. Microphone station should display a yellow background status window. Press the [Enter] key to go back to the normal screen. IED524: Press any key. Busy/Ready LEDs should light.	If no response, reboot the microphone station, preferably by removing power (e.g., network cable if PoE), waiting a few seconds and re-applying power. Wait for the microphone station to boot up and then re-test.* (see note below)
Unit is Communicating w/ the ACS	IED528: Unit is not displaying a status box with "Waiting For Host". Or, when action is initiated status box "Contacting Host" does not remain up for several seconds (a brief flash of this box is OK). IED524: Pressing PTT switch causes microphone station to go to active or busy state.	Verify network connectivity. Possible actions: 1. PING this microphone station from the same equipment room as the ACS 2. Relocate this microphone station to the same network switch as the ACS and re-test connectivity. 3. Seek help from local network administrator (e.g., network port enabled, properly configured, on the right VLAN, etc.)

\* **Note:** Some network switches can take 30-60 seconds to turn on PoE power after a connection is made. One may have to be patient at this point waiting for the switch to re-apply power to the network port.

## Titan Amplifier Card Fault (fault type 4)

This condition indicates that an amplifier card in a Titan amplifier frame (T9160) is not working. If the Titan amplifier frame has a backup amp card, this failed card could be automatically backed up (if first/only amplifier in fault). If it is not being backed up, one may see an additional fault in the system supervision list that says "Faulted Amplifier Not Backed-Up". One can make the following checks at the Titan frame:

1. The power LED on the front of the **amplifier card** is not lit indicating it is not powered up.
2. The power switch on the front of the amp card is in the ON position. One may try switching it to the OFF position and back to ON just in case the switch wasn't fully in the ON position previously.
3. The amplifier card is fully seated into the frame and the two retaining screws are fully screwed down. Remove and re-seat if uncertain.



**Note:** Note: If the amplifier card is removed from the Titan frame, this fault will clear and the automatic backup will stop. If one desires to continue to have audio in the zones affected by the failed amp card, one should replace the failed amp with a spare amp, or move the backup amp from slot 9 to the now empty slot

## Titan Amp Frame Internal Card Fault (fault type 4)

This condition appears with fault descriptions such as:

- *Communication Fault AIO Unit 1 or 2 (Titan IPAU)*
- *Communication Fault MTC Unit 1 or 2 (Titan IPAU)*
- *Communication Fault LVIO Unit 1 or 2 (Titan IPAU)*

This indicates that one of the several circuit boards in the top portion of a Titan amplifier frame (T9160) is not communicating properly with the main circuit board in the frame. (AIO, MTC and LVIO are the card types. There are two of each type card in a T9160 frame, indicated by *unit 1* or *unit 2* in the fault description.) There is little that can be diagnosed externally about this condition. One can try clearing the fault condition by powering down the Titan amplifier frame, waiting at least 10 seconds and then re-powering the frame. If the condition continues or re-appears often, then the manufacturer should be contacted for further investigation or repair of the frame.

The urgency or criticality of getting a Titan frame with this fault repaired or replaced may depend on which card is faulted and the tolerance the facility has for partial loss of functionality. For example, if the error indicates loss of functionality on the upper 8 channels (5A through 8B), and there are no amps installed in those slots, then perhaps the fault doesn't hurt anything in the system, and getting it resolved quickly is not a priority. Below in Table B-2 is a list of what functions are tied to which internal cards.

**Table B-2: T9160 Internal Card Functions**

Internal Card	Functions Impacted
AIO Unit 1	Channels 1A through 4B inputs on the back of the frame Amplifier outputs to channels 1A through 4B <b>Note:</b> <i>It is possible that an AIO card <u>will</u> continue to pass audio even when the card is experiencing communication faults. The digital audio to/from the card is passed via a separate connection. One may wish to evaluate whether audio is still flowing to determine whether this fault condition is critical or not.</i>
AIO Unit 2	Channels 5A through 8B inputs on the back of the frame Amplifier outputs to channels 5A through 8B
MTC Unit 1	Supervision of amplifier voltage outputs and speaker line current sensors for channels 1A through 4B.
MTC Unit 2	Supervision of amplifier voltage outputs and speaker line current sensors for channels 5A through 8B.
LVIO Unit 1	Supervision of Ground Faults for channels 1A through 4B

	Supervision of amplifier good status lines and amplifier temperature sensors for channels 1A through 4B Supervision of all Fan statuses (1 – 4) <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">           Supervision of amplifier good status and amplifier temperature on the backup amplifier (slot 9)            Control of power on the backup amplifier (slot 9)            Control of all backup amplifier switching relays.  <b><i>In summary: Loss of backup amplifier switching functionality.</i></b> </div>
LVIO Unit 2	Supervision of Ground Faults for channels 5A through 8B Supervision of amplifier good status lines and amplifier temperature sensors for channels 5A through 8B

### Titan Amplifier Frame Environmental Fault (fault type 5)

This condition covers over-temperature on amplifier heat sinks, cooling fan failures and ground faults on speaker lines. These appear in the system supervision listing with descriptions such as the following examples:

- *Amplifier Card 1 Over Temperature (Titan IPAU)*
- *Fan 2 Fault (Titan IPAU)*
- *Channel 3A Ground Fault (Titan IPAU)*

For the temperature and fan faults (which may be inter-related), one can do the following checks at the indicated Titan amplifier frame (T9160):

1. Are fans all running?
2. Any obstructions in the fan vanes?
3. Any foreign objects/sheets covering the air openings (front and back of the frame)?
4. Unusually warm/hot ambient air in the equipment rack of the affected Titan frame?

If desired, the ground fault condition can be verified by removing the speaker line connection from the back of the amplifier frame and checking the impedance between each speaker line and earth ground using a multi-meter.

### Communication Channel Fault (fault type 9)

This condition indicates that the system supervision software has failed to communicate over the network to the indicated device. This fault occurs for non-microphone station devices and can be due to either the unit not being powered up, the unit not operating or a problem in the network connection to the unit. Table B-3 below lists the checks and possible remedial actions that can be done to further diagnose this fault condition. In the table, the description "1RU Titan" indicates all other non-amplifier products like the T9040NLR, T9032LVIO, T9032NS and similar.

Table B-3: Unit Communication Fault Checks/Actions

Check	Check Procedure	Remedial Actions
Unit is Powered Up	T9160: Green power indicator on top/front is lit.	T9160: Check that both power cords are firmly pushed in, the power switch is on and the cords are plugged into a hot source.
	1RU Titan: Green power indicator on the back below the network connector is lit.	1RU Titan: If the unit is powered using an external power supply module, check that the power adapter is plugged into the unit and into a hot source. Perhaps try substituting a new power adapter. If the unit is powered using PoE from a powered Ethernet switch, verify that it is connected to a port with PoE enabled and operating.
Unit is Operating	T9160: System LED indicator on top/front is blinking.	If not blinking, try rebooting unit by turning off the power switch, waiting a few seconds and re-powering.
	1RU Titan: System LED indicator on the back below the network connector is blinking	If not blinking, try rebooting unit by removing power, waiting a few seconds and re-powering.* <i>(see below)</i>
Unit is Communicating over the Network	<ol style="list-style-type: none"> <li>1. Verify network cable is plugged in.</li> <li>2. Verify that network connection light is on and the network traffic light blinks.</li> <li>3. Verify the unit can be PINGed from the equipment room where the ACS is located.</li> </ol>	<ol style="list-style-type: none"> <li>1. Correct any local switch connection issue (switch powered?)</li> <li>2. Relocate this unit to the same network switch as the ACS and/or system supervision server and see if unit can communicate then.</li> <li>3. Consult local network administrator to investigate further. <i>(e.g., port enabled, configured, on VLAN)</i></li> </ol>

\* **Note:** Some network switches can take 30-60 seconds to turn on PoE power after a connection is made. One may have to be patient at this point waiting for the switch to re-apply power to the network port.

## Monitor/Test Point Failure

This condition indicates that the reading for a test point taken during the last automated or manual test (or last two consecutive tests in the case of a 20K test failure) differs from the "Set value" by more than the established deviation (e.g., 3 dB). The fault report in system supervision listing will be of the form:

<Test>: <Zone Description> - <Point Type> (<Device/channel>)

So for example, it might say something like:

20kHz Test: Concourse A North – Amp Output (Titan 1, Channel 1A)

The descriptions will depend on what was entered in Enterprise for the zone descriptions. The most useful portion of the description in terms of possible follow-up diagnoses is the Point Type portion. The possible values for this field, what it means and what further investigations might be done are listed below in Table B-4.

**Note:** A possible cause of any Monitor/Test fault are configuration changes to the frame or speakers attached to a frame without re-running the test calibration to get new Set values. The table below assumes this possible configuration error has already been addressed.

**Table B-4: Monitor/Test Point Types and Actions**

Point Type	Meaning	Possible Further Investigation
Internal Ambient Out Selector Out	An internal digital domain (DSP) point.	May indicate a problem in the one of the DSPs of the unit and will have to involve the manufacturer for resolution.
Amp Input	The analog audio being fed to the power amp is out of tolerance.	May indicate an internal problem such as an AIO board problem. Resolution will have to involve the manufacturer.
Amp Output	The voltage out of the power amp is out of tolerance.	<ol style="list-style-type: none"> <li>1. Is the power amplifier turned off or failed?</li> <li>2. If Amplifier Input fault also occurring for this channel, then that is the root cause – investigate first.</li> <li>3. If it is not apparent that amp is failed, one could try putting a spare/different amp (of the same model) into the slot and seeing if the fault clears.</li> </ol>
Speaker Circuit	The speaker line current draw is out of tolerance.	<ol style="list-style-type: none"> <li>1. If Amp Input or Amp Output fault also occurring for this channel, then that is the root cause – investigate first.</li> <li>2. If Ground Fault also occurring for this channel, then that may be the root cause (ground faults can cause higher current draws) – investigate first.</li> <li>3. Speaker line detached from Titan frame or a break in the line?</li> <li>4. Some speakers on the line failed? (see below)</li> </ol>

If initial investigation determines that the problem may be in a speaker line driven from the Titan frame or in the speakers attached to that line, one can investigate further using the Circuit Test feature in the Enterprise software. With this feature, one can turn on a test tone for a selected amplifier channel and then go out into the zone space and “walk the speaker line” listening for tone coming out of each speaker.

**Note:** This test tone feature has an automatic time out of a few minutes so it doesn’t get left on accidentally forever. One may need an assistant at the computer console to re-start the test tone periodically.

From the evidence gathered, one may be able to infer whether there are individual speaker problems or there is a break in the speaker line somewhere. If, it is not desirable to put a tone out to the space due to the presence of the public in the area at that time, then a substitute may be to assign background music to that zone (and possibly remove the music from neighboring zones) and then listen to the individual speakers.

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## VoIP User Interface

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This appendix will describe how a user will operate the VoIP telephone interface when dialing into the system on a prompting extension from a VoIP telephone system.

If the extension is configured to be locked, then you will be prompted with the message of "Enter password" when the line is answered. You then enter your four (4) digit password as configured in **Mic Passwords**. You will then hear the following welcome message and the three available options.

*"IED GLOBALCOM Telephone Interface."*

*"For zone page, press 1."*

*"For zone group page, press 2."*

*"To initiate an event, press 3."*

**Note:** If the extension is not configured as locked, you will not be prompted to enter your password and will be directly prompted for the available options when the line is answered.

### Option 1

This option is used for to initiate a delayed page to an individual zone.

1. Press 1 and you will hear "Enter zone."
2. Enter the zone number. If you wait two seconds before the next entry, it will assume you are finished with the entry and attempt to use the number you have entered. You can also use the # button to indicate you are finished.
3. If you entered an invalid number, then you will hear the prompt "Invalid entry" and will need to attempt to enter the correct one again.
4. If the code is accepted, you will hear a chime and the announcement will go live. Make the announcement and then hang up when complete.
5. If there is an error or the zone is not available, you will hear "Cannot start announcement, goodbye." and the line will hang up.

### Option 2

This option is used to initiate a delayed page to a zone group.

1. Press 2 and you will hear "Enter zone group."

2. Enter the zone group number. If you wait two seconds before the next entry, it will assume you are finished with the entry and attempt to use the number you have entered. You can also use the # button to indicate you are finished.
3. If you entered an invalid number, then you will hear the prompt *"Invalid entry"* and will need to attempt to enter the correct one again.
4. If the code is accepted, you will hear a chime and you can begin recording the announcement. Make the announcement and then hang up when complete and it will play.
5. If there is an error and the announcement cannot play back, you will hear *"Cannot start announcement, goodbye."* and the line will hang up.

### Option 3

This option is used to start the event based on the code you enter.

1. Press 2 and you will hear the prompt *"Enter event code."*
2. Enter the zone group number. If you wait two seconds before the next entry, it will assume you are finished with the entry and attempt to use the number you have entered. You can also use the # button to indicate you are finished.
3. If you entered an invalid number, then you will hear the prompt *"Invalid entry"* and will need to attempt to enter the correct one again.
4. If the code is accepted, you will hear *"Event Initiated, goodbye."* and the event will start.
5. If there is an error and the event cannot start, you will hear *"Error Occurred, goodbye"* and the line will disconnect.

**Note:** There is a chance that the system may hang up on you in the middle of a call or announcement. This will only occur if all VoIP channels are in use and another call is received that will trigger a higher priority announcement than you are currently making.



## Scheduled BGM Level Change

GLOBALCOM provides you with a method of changing the output level of the system at a scheduled time through the use of the **Day / Night Schedule** Devices that utilize this feature have a **Night** gain offset in the zone configuration. This offset is applied to the output when the **Night** schedule is active. Thus, you can turn the system down at times when the facility does not require full output.

This setting affects the entire output level of the zone. Therefore, the background music (BGM), program (PGM) and paging signals will all be turned down when the night schedule is active. What if you have a situation where you only want the BGM level to turn down while leaving the paging and PGM levels unaffected?

You accomplish this by processing the BGM signal through a T9160 (or T9116) BEFORE you insert it into the system. You will need a T6002 card for the T9160 which provides two line outputs instead of the usual power amplifier card. (The card is not necessary when using a T9116 because it is already line-level only.) The signal flow is shown in the figure below.

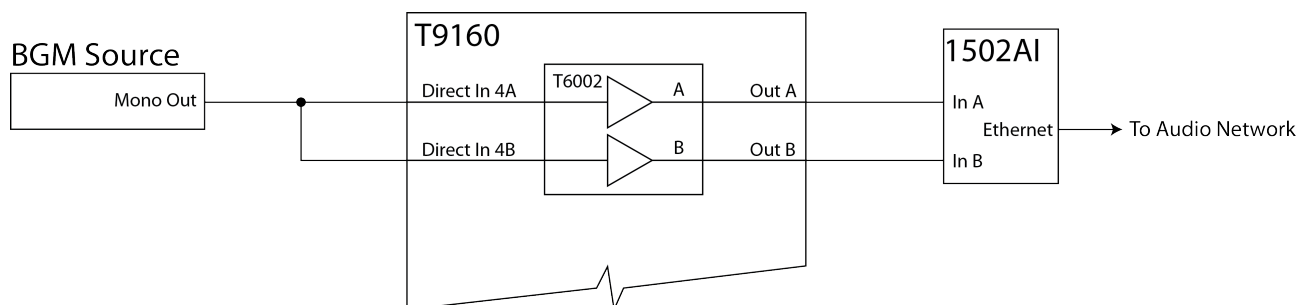


Figure D-1: BGM Wiring for Scheduled Level Control

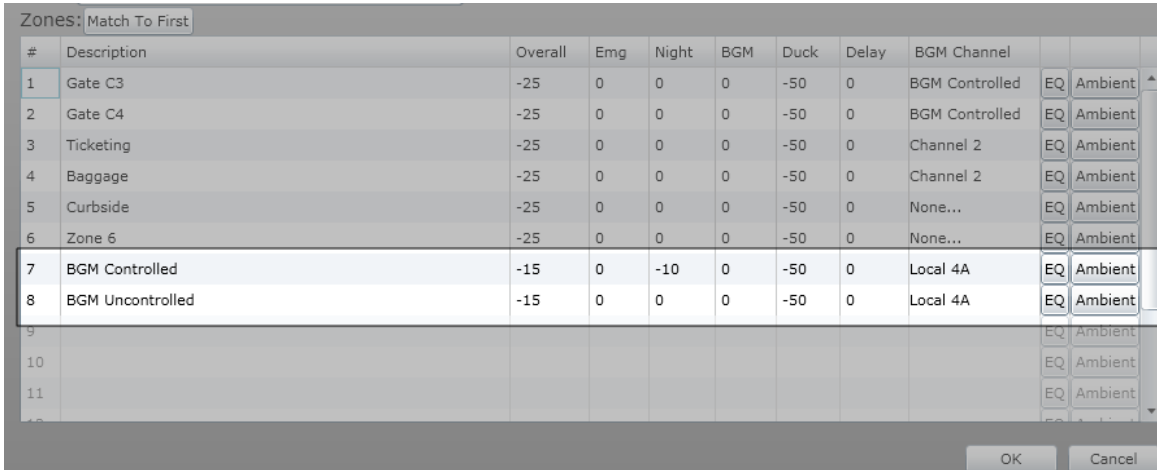
By doing this, you are running the BGM source through the Titan frame and using two zone outputs that will function as inputs to the 1502AI Audio Input module. The 1502AI will digitize the BGM signal and distribute it on the audio network to be used by any of the output devices that are present on the same network. The system considers these two outputs as Zones which allows you to control them using the **Day / Night Schedule**.

**Caution!**

*DO NOT use these zones in a zone group or as a destination for an action. Also, DO NOT select a BGM channel to either of these two zones as doing so runs the risk of creating a feedback loop.*

## Step 1: Configure Zones

In this example, we are going to use two zones in a T9160 frame using a T6002L card loaded in slot 4 of the mainframe. We have created two zones labeled **BGM Controlled** and **BGM Uncontrolled**. Both are receiving the same mono BGM signal as shown in the previous diagram. The intent here is to provide two (2) BGM sources that have the same signal. One will be configured to adjust based on the **Day / Night Schedule** while the other will not be adjusted.



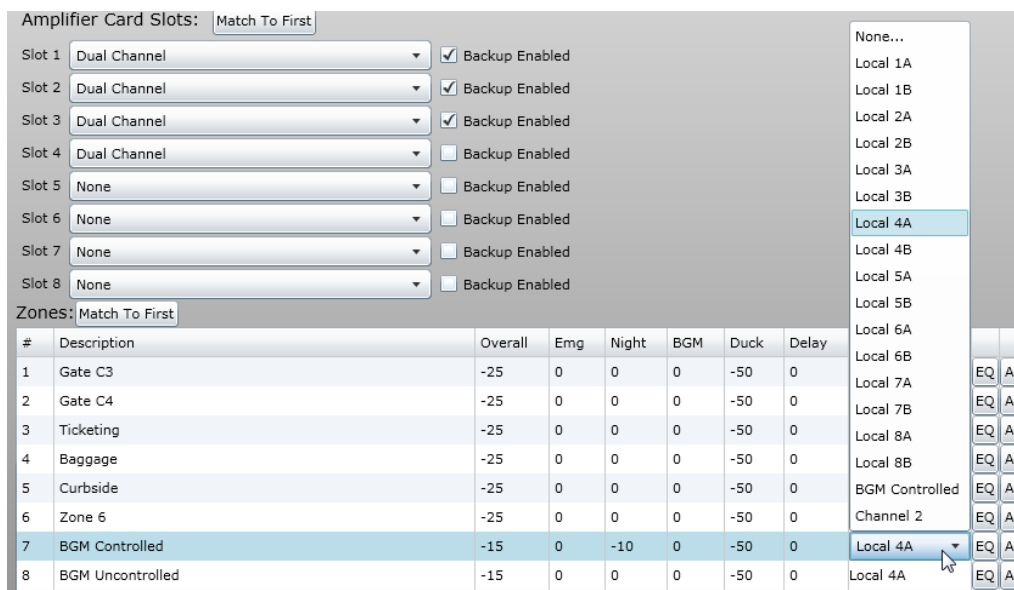
#	Description	Overall	Emg	Night	BGM	Duck	Delay	BGM Channel		
1	Gate C3	-25	0	0	0	-50	0	BGM Controlled	EQ	Ambient
2	Gate C4	-25	0	0	0	-50	0	BGM Controlled	EQ	Ambient
3	Ticketing	-25	0	0	0	-50	0	Channel 2	EQ	Ambient
4	Baggage	-25	0	0	0	-50	0	Channel 2	EQ	Ambient
5	Curbside	-25	0	0	0	-50	0	None...	EQ	Ambient
6	Zone 6	-25	0	0	0	-50	0	None...	EQ	Ambient
7	BGM Controlled	-15	0	-10	0	-50	0	Local 4A	EQ	Ambient
8	BGM Uncontrolled	-15	0	0	0	-50	0	Local 4A	EQ	Ambient
9									EQ	Ambient
10									EQ	Ambient
11									EQ	Ambient
12									EQ	Ambient

Figure D-2: T9160 Zone Configuration

In the image above, you will see both zones configured. The **BGM Controlled** output has a level of -10 in the **Night** column. This means that this channel will be turned down by 10dB when the **Night** schedule is active. It will return to 0dB of attenuation when the Night schedule is inactive. The level of the **BGM Uncontrolled** channel will not change when the **Night** schedule is active because its **Night** level is set to 0.

## Step 2: Configure Input Channel

You must select the "Local" input for each BGM channel. Basically, you are telling the T9160 frame to use the local analog input on the back and route it directly through to the output of the channel on the T6002L card. In our example, the mono analog output of the BGM source has been wired to inputs 4A and 4B on the back of the frame. You can select either of these channels to be the BGM source for our BGM output zones.



Amplifier Card Slots: Match To First

Slot 1: Dual Channel ☒ Backup Enabled

Slot 2: Dual Channel ☒ Backup Enabled

Slot 3: Dual Channel ☒ Backup Enabled

Slot 4: Dual Channel ☐ Backup Enabled

Slot 5: None ☐ Backup Enabled

Slot 6: None ☐ Backup Enabled

Slot 7: None ☐ Backup Enabled

Slot 8: None ☐ Backup Enabled

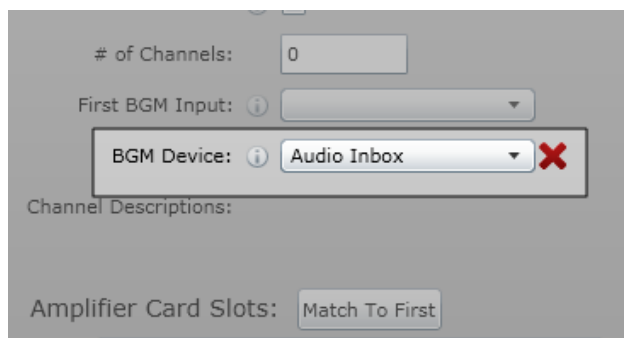
Zones: Match To First

#	Description	Overall	Emg	Night	BGM	Duck	Delay	
1	Gate C3	-25	0	0	0	-50	0	Local 4A
2	Gate C4	-25	0	0	0	-50	0	Local 4A
3	Ticketing	-25	0	0	0	-50	0	Local 4A
4	Baggage	-25	0	0	0	-50	0	Local 4A
5	Curbside	-25	0	0	0	-50	0	Local 4A
6	Zone 6	-25	0	0	0	-50	0	Local 4A
7	BGM Controlled	-15	0	-10	0	-50	0	Local 4A
8	BGM Uncontrolled	-15	0	0	0	-50	0	Local 4A

Figure D-3: Local Source Selection

### Step 3: Use BGM Source

Now that the T9160 zones are configured to adjust the levels of the BGM signal, you must configure the 1502AI as a BGM input device. See **"1502 as BGM source" on page 96** for details on configuring this device. Once complete, you will be able to select the 1502 as a BGM Device on the Titan amplifier frames, DNA amplifier frames, or 1502AO output modules. The next images shows a 1502AI named "Audio Inbox" selected as a BGM device in the Titan frame. You can then select either channel for each output zone on the device.



# of Channels: 0

First BGM Input:

BGM Device:  ☒

Channel Descriptions:

Amplifier Card Slots: Match To First

Figure D-4: BGM Device Selection

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