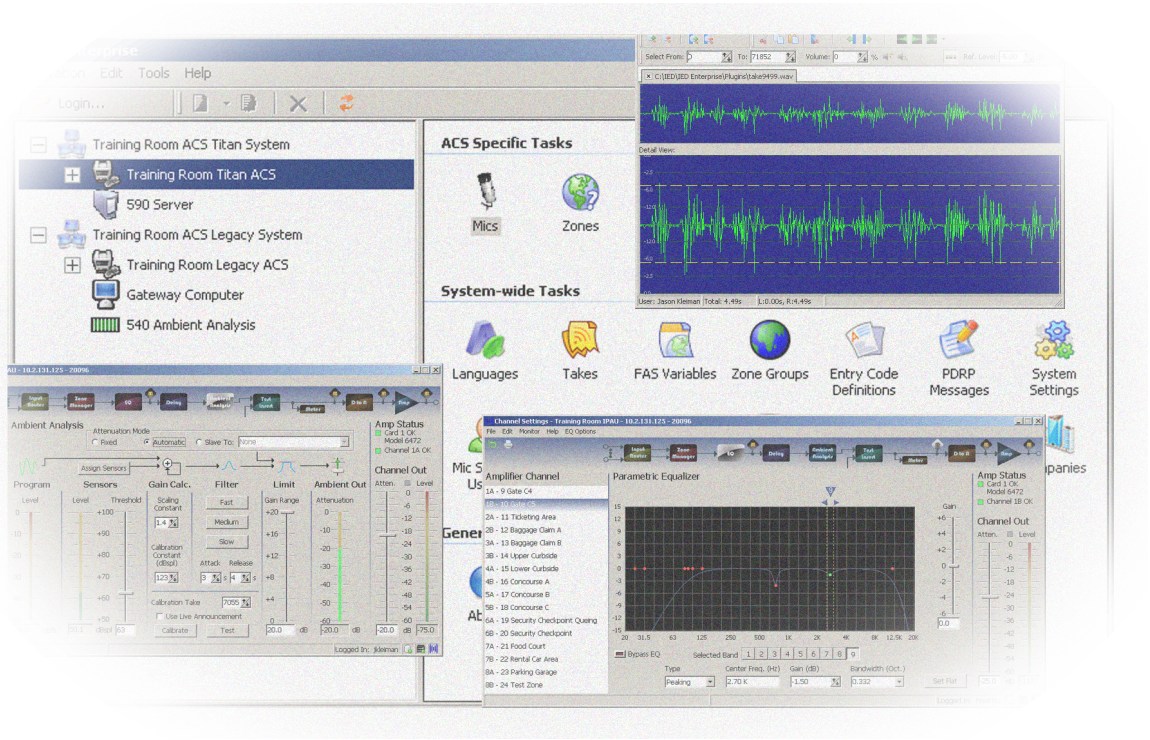
ENTERPRISE SOFTWARE SUITE



USER MANUAL

VERSION 1.03

IED®
Innovative Electronic Designs

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1.02	January 31, 2013	Added VisDID config chapter
1.03	December 9, 2013	Updated document number

Table of Contents

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1

Overview

The following sections provide an introduction to the Enterprise Software Suite and the application user interface. More details on specific system operation can be found in other sections of this manual.

Launching Enterprise

The icon used for launching Enterprise is located in the Application Toolbar. The Application Toolbar is a background application that is used to provide quick access to IED applications running on the system. The Application Manager is another background application that manages the IED applications that need to be running to allow the system to operate properly. The Application Manager is running when the icon located in the Windows system tray appears green as shown in . This icon will be red when the Application Manager is not running.

Figure 1-1: Application Manager System Tray Icon

The Application Toolbar is located at the top left of the desktop (Figure 1-2). The toolbar may be hidden and only appear as a small thin horizontal tab at the top left of the screen. It can be made visible by moving the mouse pointer over the tab.

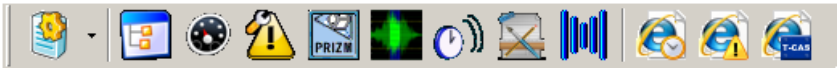

Figure 1-2: Application Bar

Enterprise is launched by clicking on the icon shown in Figure 1-2.

Enterprise Navigator Window

The Enterprise Navigator Window is the main application window. It allows the user to navigate to the various control forms that allow configuration of the hardware and software components of the complete system.

The Enterprise Navigator Windows has five (5) different sections as shown below.

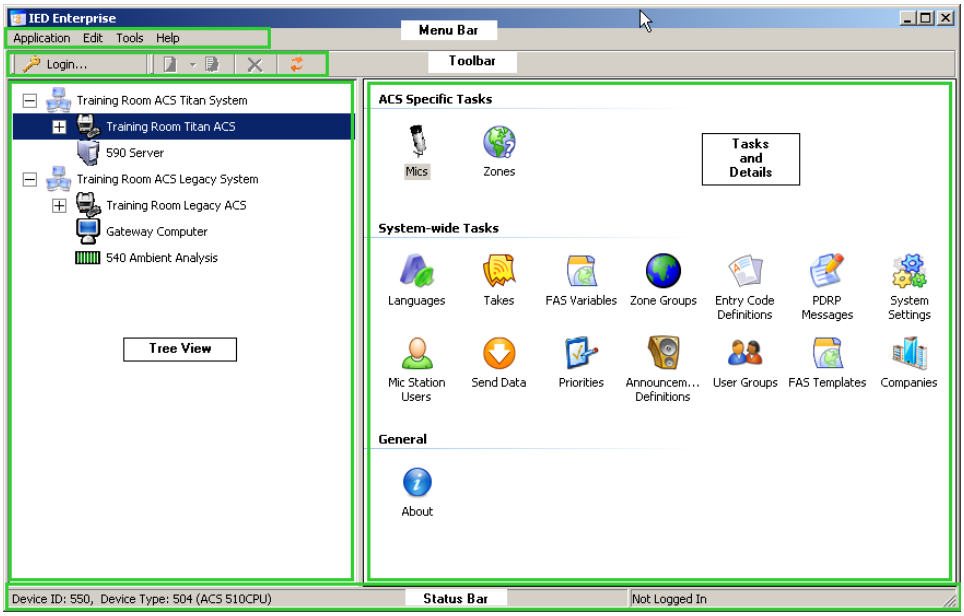

Figure 1-3: Enterprise Navigator Window

Menu Bar

Provides access to various system functions and shortcuts to other related application modules.

Toolbar

Provides quick access to commonly-used system functions.

Tree View

Provides a hierarchal view of the system and all of its components.

Tasks and Details

Provides information for the currently selected item in the tree view and/or access to launch additional setup windows for the item.

Status Bar

Provides information on the selected item in the tree view and login status.

Login/Logout

The software is password protected and users are required to log into the application in order to make any changes to the system. Adding new users, deleting users, or managing permissions are performed using the Password Manager Config utility that can be accessed from the Tools menu.

A shortcut key for this feature is available by using the *F2* key. Pressing this key will immediately logout the current user. If no one is logged in, pressing the key will open the Login window.

Login

A user can login by selecting **Login** from the **Application** menu, by clicking the **Login** button located on the toolbar, or by pressing the **F2** key.

Figure 1-4: Login Button

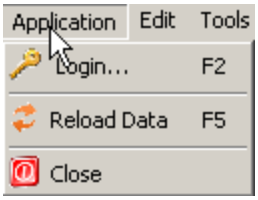

Figure 1-5: Login Menu Selection

Any of these actions will result in the display of the Login window.

Figure 1-6: Login Window

The user then enters their assigned login identification and password in the User Name and Password fields. Clicking on the OK button or pressing the **[ENTER]** key will process the login.

If the login was successful, the **Login** window will disappear and the user's name will be displayed in the Status Bar.

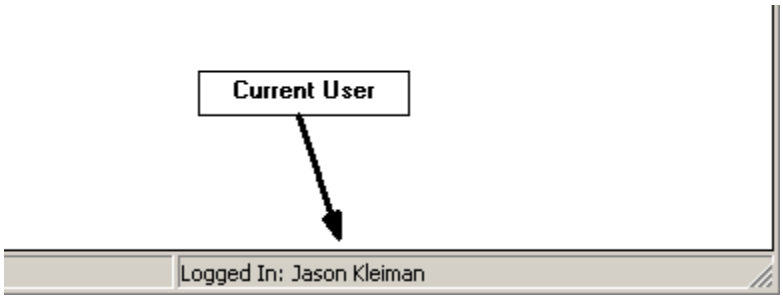

Figure 1-7: Status Bar User Information

If the login information entered was incorrect, the user will be shown the following window.

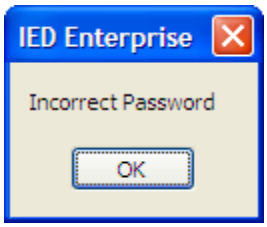

Figure 1-8: Incorrect Password

Click the **OK** button to remove this window.

Logout

To log out of the application, the user can select **Logout** from the **Application** menu, click the **Logout** button on the toolbar, or press the **F2** key.

Figure 1-9: Logout Button

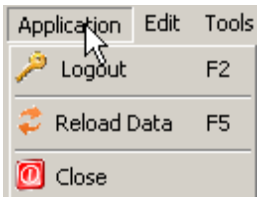

Figure 1-10: Logout Menu

Menu Bar

Application Menu

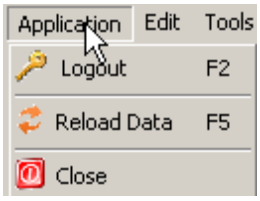

Figure 1-11: Application Menu

Login/Logout

The text on this button will change to reflect the available command. If the user is currently logged into the system, this button will become a Logout button. If currently logged out, it will change to a Login button. Selecting this button is the same as selecting Login/Logout from the Application menu. Selecting Login will prompt the user to enter their user name and password.

Reload Data

This option will instruct the application to reload the data from the database. It is useful if other users may be logged into the system at other client workstations. Selecting this will ensure that the data displayed is current.

A shortcut key for this feature is available by using the **[F5]** key.

Close

This option will exit the Enterprise software application.

Edit

Add New

This menu allows new system components to be added to the software application so they can be configured for proper integration in the system.

Figure 1-12: Edit Menu

Group

Components can be organized into *Groups* to provide a more user-friendly presentation of the overall system architecture. All systems should have at least one (1) group. This will make it easier to expand the system in the future. Additional groups can be added within a main group to further sub-divide the system.

Typically, a group is created for each announcement controller in an installation and corresponds with the physical location or areas served by that system. For example, if a facility consists of two buildings, each with its own dedicated announcement controller, then a group will be created for each building.

Device

Devices are added to groups or to other devices. New devices are added as *children* to the currently selected device or group in the tree view and that device then becomes the *parent* to that new device. To add a new device to a group, the group must first be highlighted in the tree view using the left mouse button.

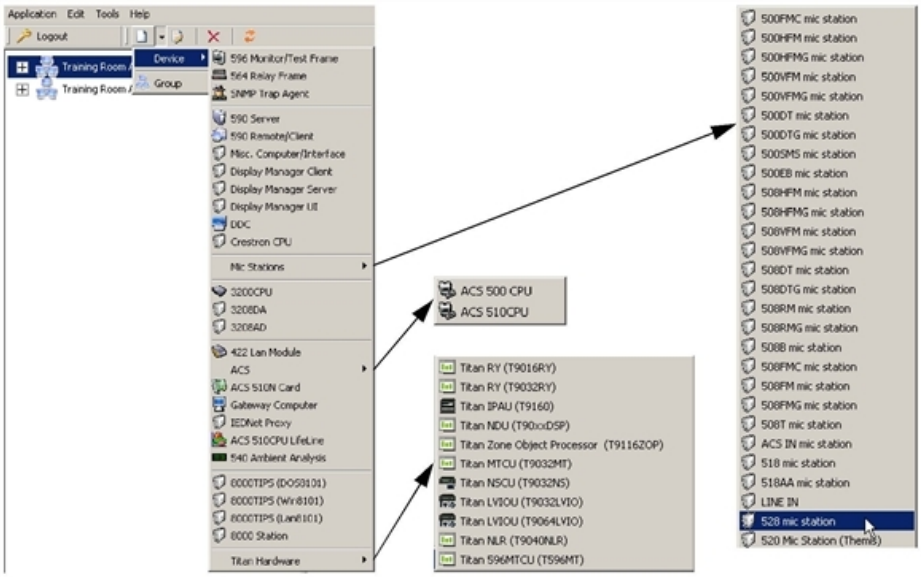

Figure 1-13: Add New Menu

The figure above (Figure 1-13) illustrates a new device being added to the parent device named *Training Room Titan ACS*. It is important to note that when devices are added to specific types of parents, they inherit various properties that associate them with their parent. For example, a microphone station can be added to a parent announcement controller and it will only be allowed a mic station number that falls within the range assigned to its parent device.

Edit Selected

Selecting this option will open the specific properties editor for the selected device.

Delete Selected

Selecting this option will delete the selected object and all child objects associated with this object. The system will prompt for confirmation to delete the item to avoid accidental deletion.

Caution! *This action is permanent and will delete all configuration settings for all devices within the selected tree branch and cannot be undone.*

Tools

This menu provides quick access shortcuts to other application modules used to control and configure the system.

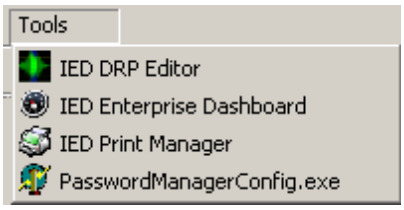

Figure 1-14: Tools Menu

While the specific tools available may vary based on the specific installation, the four (4) most common tools provided are listed below: The usage of each is described in their respective sections of this manual.

IED DRP Editor

This application is used for editing audio takes used as messages in the system. It is used to record new audio takes or edit existing takes. It is capable of importing and exporting system formatted takes to other file formats. It provides basic audio editing functions and is used to match audio levels of takes so messages sound consistent.

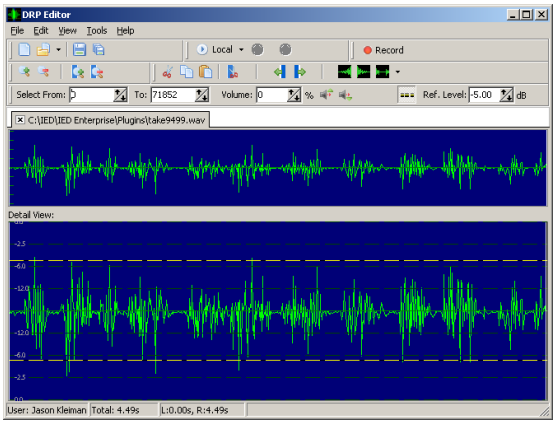

Figure 1-15: DRP Editor

IED Enterprise Dashboard

The Enterprise Dashboard is a real-time system activity monitor. It will show current status of microphone stations and zones and is used to monitor the current announcement activity in the system.

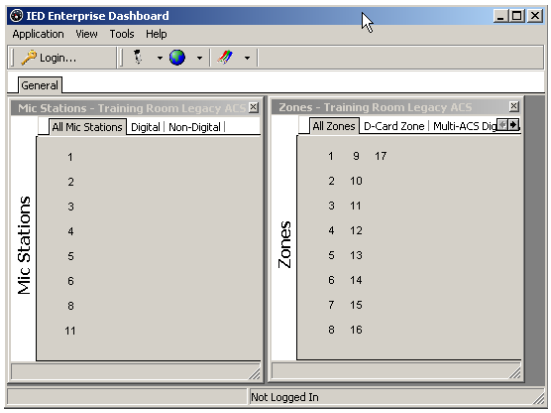

Figure 1-16: Enterprise Dashboard

IED Print Manager

This application is used to print from a selection of 22 pre-defined reports. These are useful for archiving system settings. They also provide an aid in system configuration by allowing certain parameters to be printed out and used as a reference while configuring other system options.

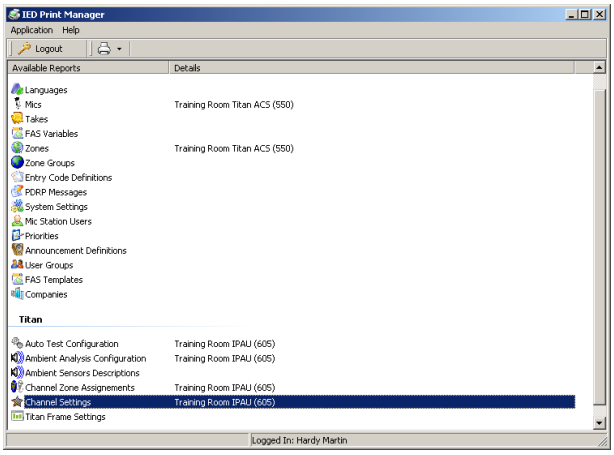

Figure 1-17: Print Manager

PasswordManagerConfig.exe

This application is used to add and remove users in the system. The system provides very detailed control of user permissions. Individual user accounts can be granted access to areas of the application that directly pertain to their specific system usage needs. A log is kept that includes who logged in, when, and specifically what they changed.

Figure 1-18: Password Manager Config

Help

Currently, the only option available from the ***Help*** menu is the About information window as shown in Figure 1-20. This window provides the version number and release date of the Enterprise software application.

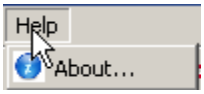

Figure 1-19: Help Menu

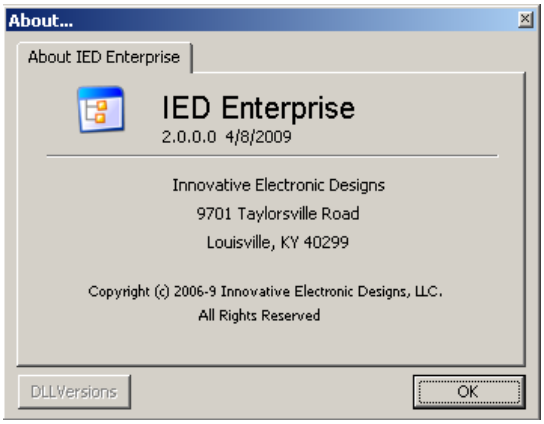

Figure 1-20: About Window

Note: It is important to remember that the Enterprise suite of software represents a collection of many different small applications that are accessed from the overall IED Enterprise shell application. This version information displays the major installation release and it is possible that other files on the system have been updated and the core IED Enterprise shell application will remain at the same revision level.

Toolbar

The toolbar provides quick access to several menu commands that are commonly accessed.

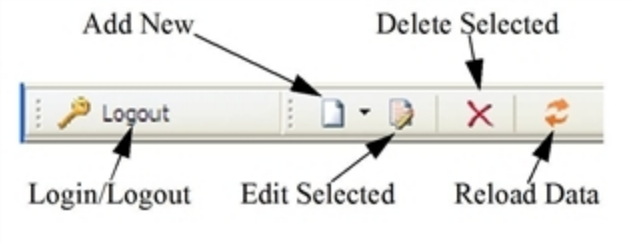

Figure 1-21: Enterprise Navigator Window Toolbar

Login/Logout

The text on this button will change to reflect the available command. If the user is currently logged into the system, this button will become a Logout button. If currently logged out, it will change to a Login button. Selecting this button is the same as selecting Login/Logout from the Application menu. Selecting Login will prompt the user to enter their user name and password.

Note: The actions associated with the next three buttons will be applied to the currently selected item in the Tree View.

Add New

This button allows the user to add a new group or a new item under the currently selected tree branch.

Edit Selected

This button will open the specific properties editor for the selected device.

Delete Selected

This button will delete the selected object and all child objects associated with this object. The system will prompt for confirmation to delete the item to avoid accidental deletion.

Caution! *This action is permanent and will delete all configuration settings for all devices within the selected tree branch and cannot be undone.*

Reload Data

This button will instruct the application to reload the data from the database. It is useful if other users may be logged into the system at other client workstations. Selecting this will ensure that the data displayed is current.

Tree View

The Tree View provides a hierarchal view of the components that make up the overall system controlled by the application. The Tree View is very similar to a file folder structure as seen in Microsoft Windows Explorer and is navigated in a similar fashion.

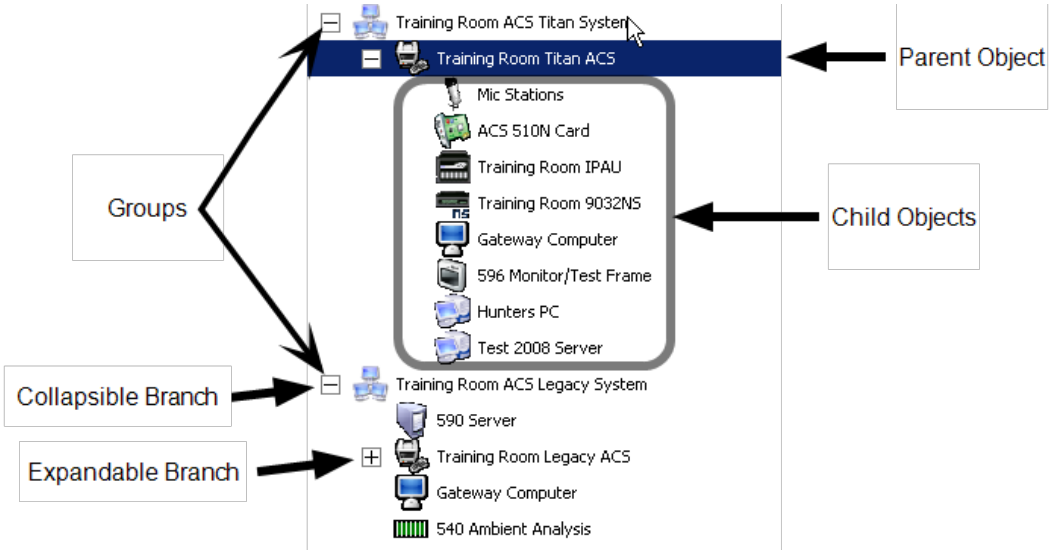

Figure 1-22: Tree View

Figure 1-22 illustrates a typical system configuration and the different elements of the Tree View. The hierarchal structure allows individual system components to be grouped together based on how they relate to one another in the overall system architecture. Some objects function as *child objects* that are grouped under a higher-level *parent object*. Parent objects are typically higher-level objects such as an ACS CPU card that has direct control of other devices. Microphone stations and T9160 Amplifier Mainframes are examples of devices that are *child objects* because they must be associated to a parent announcement controller device.

Individual branches can be expanded or collapsed by clicking on the + or - icons to the left of the object. Groups and parent objects represent branches that can be expanded to reveal their associated child objects.

Tasks and Details

The Tasks and Details section of the Navigator window is used to display information and configuration options for the item currently selected in the Tree View. The view will change based on the item selected. Three examples are shown and described below.

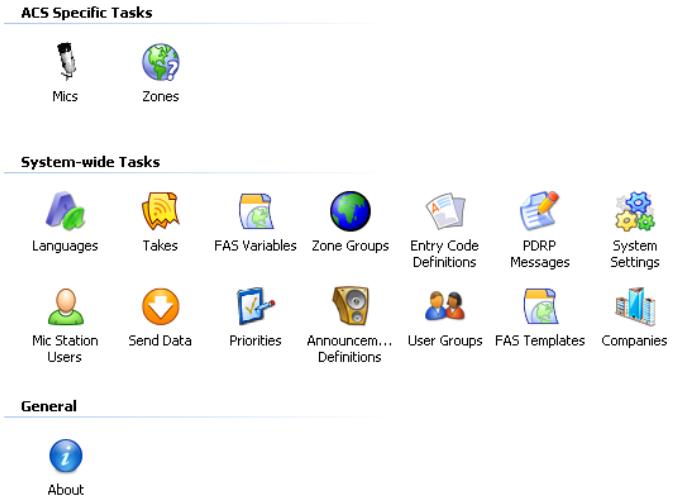

Figure 1-23: Tasks and Details for 510CPU

Figure 1-23 shows the window when a 510CPU object is selected in the Tree View. For this item, there are icons that represent specific tasks that can be performed for this component of the system. Each icon will open the respective editor window associated with that task. For example, double-clicking on the *Mics* icon will open the mic station editor window to allow individual microphone stations associated with this system to be configured.

Mic Number	Location	Mic Station Type	Device ID
9	Training Room Equipment Rack	528 mic station	565
10	Gate C4 Jetway	528 mic station	554
11	Gate C4 Ticket Counter	528 mic station	556
12	Gate C5 Ticket Counter	528 mic station	580
13	Gate C5 Jetway	528 mic station	581
14	Sim	528 mic station	566
16	520 Desktop Handheld	520 Mic Station (Themis)	631
20	Microphone Station Sim	528 mic station	567

Figure 1-24: Tasks and Details for Mic Stations

Figure 1-24 shows the Tasks and Details window that will appear when the *Mic Stations* icon is selected in the Tree View. This is a different type of display than the previous example in that it does not contain icons that access different configuration windows. In this case, it is a table of the microphone stations that are currently programmed in the system. Double-clicking on any of the items in the list will open the mic station editor window for the selected mic station.

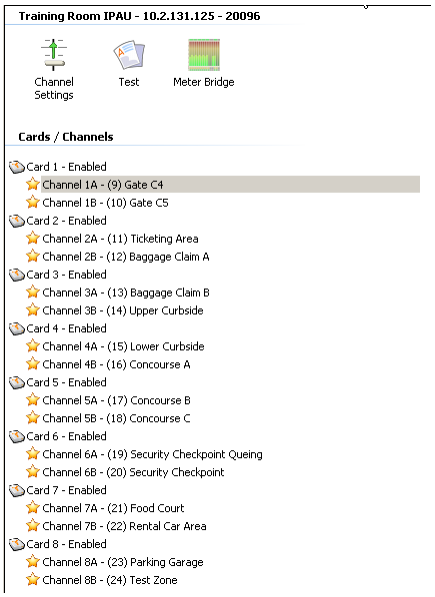

Figure 1-25: Tasks and Details for Titan Frame

Figure 1-25 is a hybrid of the first two examples in that it contains both icons and a table. The three icons can be selected to open up specific editors for the currently selected frame. The table provides a list of the output channels associated with this frame. Double-clicking on the specific channel will open the editor for that channel.

Status Bar

The Status Bar is located along the bottom border of the Navigator window and is divided into two sections. The left section of the status bar displays specific information about the currently selected device in the tree view. Specifically, for items that have them, it will display the Device ID and Device Type of the device. The right section displays the user that is currently logged into the system. If no user is logged in, it will display "Not Logged In" in place of the username.

Figure 1-26: Status Bar

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2

Titan Channel Configuration

The following sections provide detail on the configuration of each different object available in the signal path of each channel.

Titan Channel Settings

Titan outputs are configured by accessing the Titan *Channel Settings* window. This can be accessed in one of two ways. First, the Titan frame must be selected in the Tree View. Then, double-clicking on the Channel Settings icon will open the window without an individual channel selected. Double-clicking on a specific channel will result in the window being opened with that channel already selected.

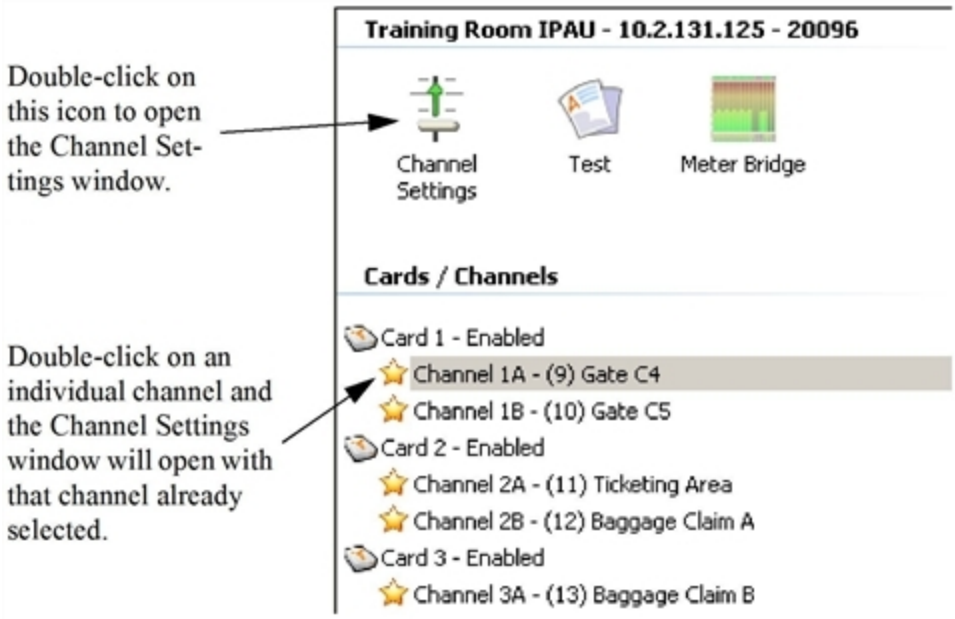

Figure 2-1: Accessing Titan Channel Settings

Settings Mismatch

There are times when the window shown in will appear. This indicates that the settings in the frame are different than those in the database. Three options are available in this case.

- Copy database to frame - This option will send all settings from the database to the frame. This is useful when a frame has been replaced or has received a firmware update.
- Copy frame to database - This option will retrieve the settings from the frame and upload them to the database.
- Cancel - This option will cancel the action and close the Channel Settings window.

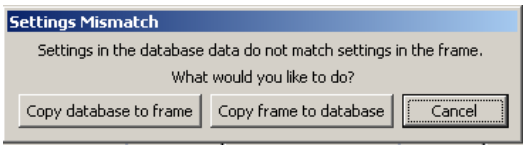

Figure 2-2: Settings Mismatch Dialog Window

The Channel Settings window is shown in Figure 2-3.

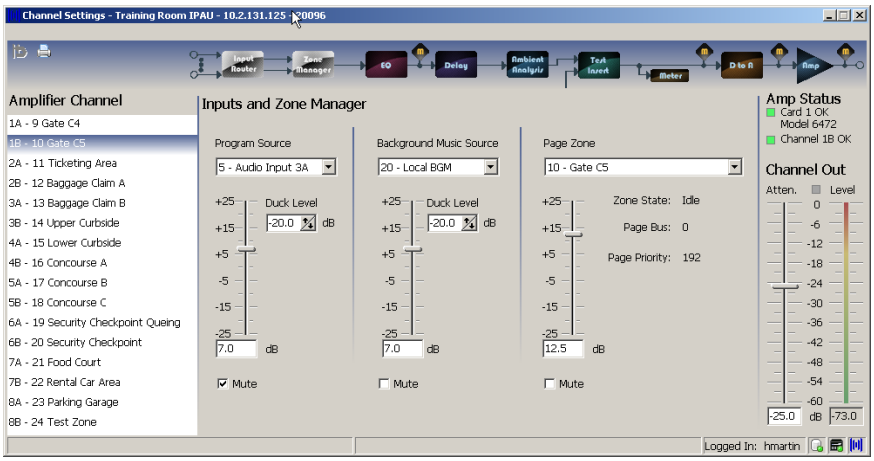

Figure 2-3: Titan Channel Settings Window

The available channels and zone assignments are listed in the list box on the left side of the window. Channels are selected by clicking on the channel name in the list. Once a channel is selected, it can be edited by selecting the appropriate object in the signal flow along the top or from the menus. Objects that are not available for the selected channel will appear in a gray color. The center section of the window will change to display the controls available for the object selected.

The top status bar has the name of the currently selected Titan frame and its IP address. The bottom status bar shows the current user name, database connection status, frame connection status, and the activity status of the channel.

Amp Status

The Amp Status section contains two indicators to display information related to the health of that channel.

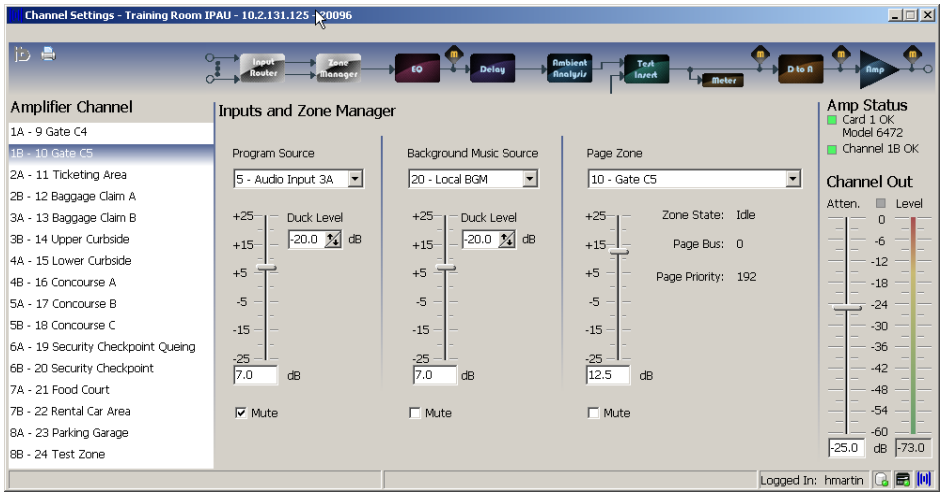

Figure 2-4: Titan Channel Settings - Amplifier Status

Card Status

The top indicator is the status of the amplifier card for the currently selected channel. The model number of the card is displayed immediately below the status when the status is OK. The status indicator indicates the following three (3) conditions:

- Green - The amplifier card is functioning properly.
- Yellow - The amplifier card has failed, but is currently backed up by the backup amplifier card, if installed. A fault condition exists, but the channel is still functioning due to the redundant amplifier.
- Red - The amplifier card has failed and is not backed up.

Channel Status

The second indicator indicates the status of the ground fault detector for the currently selected channel. The status indicator indicates two (2) conditions:

- Green - No ground fault has been detected on the loudspeaker line.
- Red - A ground fault has been detected on the loudspeaker line.

Caution! *T6400 Series amplifier cards are balanced amplifiers. It is possible for a ground fault to be present and the amplifier will continue to drive the loudspeaker line and the system will appear to be functioning properly. A ground fault can present a hazard to both people and equipment and should be corrected as soon as possible when detected.*

Channel Out

The Channel Out controls are used to adjust the overall output level of the channel. A signal level meter is located on the far right to display. This meter displays the real-time level of the digital audio signal immediately before the digital-to-analog conversion.

The output attenuation of the channel can be adjusted by either dragging the slider to the appropriate setting or directly entering an attenuation value in the box using the keyboard.

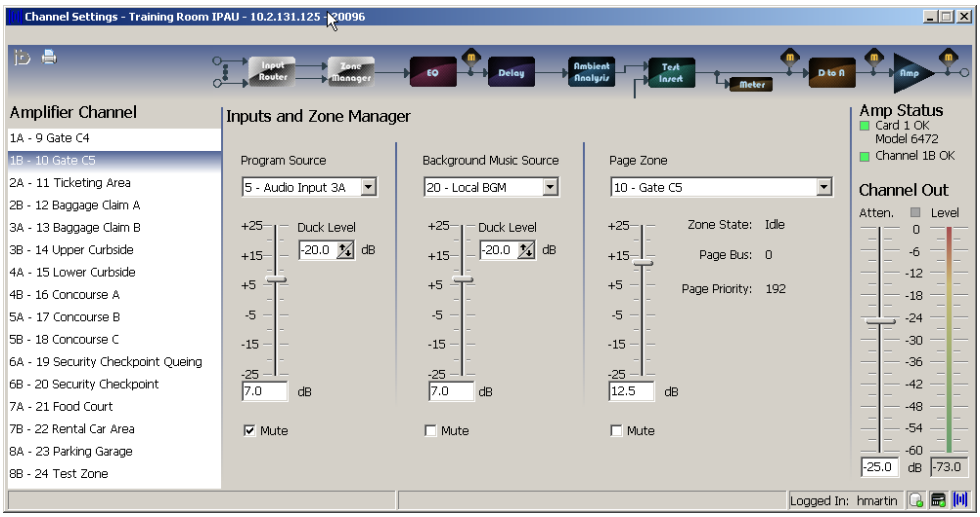

Figure 2-5: Titan Channel Settings - Channel Out

Status Bar

The Status Bar on the Channel Settings window has six sections, three text sections and three graphic sections. These sections are described in the following list:

- The left most text section displays information on background processes which prevent editing, such as make permanent.
- The center text section displays the following list of calibration status messages:
  - Starting Calibration - The system has begun the automatic calibration process.
  - Stopped - Valid Calibration - The calibration was completed successfully.
  - Stopped by User - The Stop button was clicked before calibration was completed.
- The right text section displays the currently logged in user, or the words 'Not Logged In' if no user is logged in.
- The left graphic section indicates if the Channel Settings window is correctly communicating with the database. Green indicates good communications and red indicates a problem with database communications.
- The center graphic section indicates if the Channel Settings window is communicating with the amplifier frame. Green indicates good communications and red indicates that the window is not communicating with the frame.

The right most graphic section becomes animated to show when the software becomes 'busy' with background processing.

Inputs and Zone Manager

The Inputs and Zone Manager (Figure 2-6) window has three sections, Program Source, Background Music Source and Page Zone.

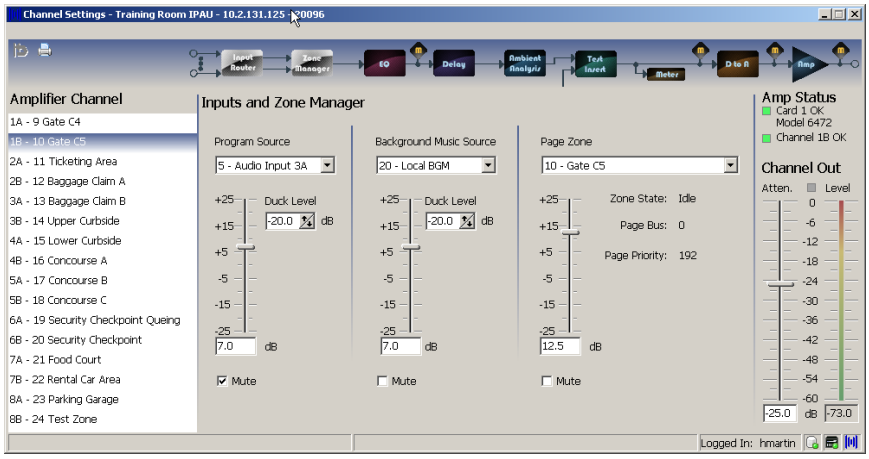

Figure 2-6: Titan Channel Settings Window - Inputs and Zone Manager

The three sections of the Input and Zone Manager are described below.

Program Source

- Program Source - Drop list used to select the program source for the channel

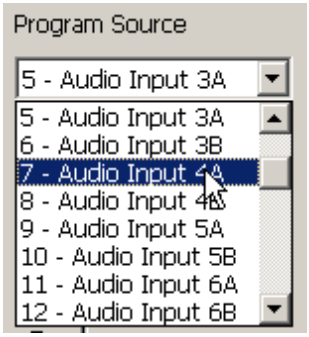

Figure 2-7: Program Source Selection

- Volume Level - Volume for the selected program source for the channel
- Duck Level - Amount (in negative dB) that this channel will be reduced when a page is made to the channel
- Mute - Checkbox used to mute the input

Background Music Source

- Background Music Source - Drop list used to select the background music source for the channel

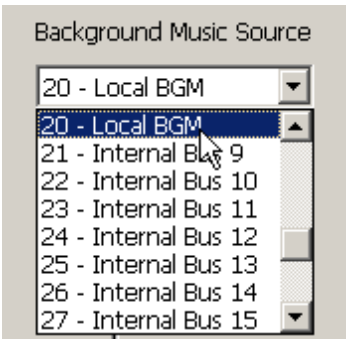

Figure 2-8: Background Music Source Selection

- Volume Level - Volume for the selected background music source for the channel
- Duck level - Amount (in negative dB) that this channel will be reduced when a page is made to the channel
- Mute - Checkbox used to mute the input

Page Zone

- Page Zone - Drop list used to select the page zone assigned to the channel (*All page zones assigned to this frame will be available in this list*)

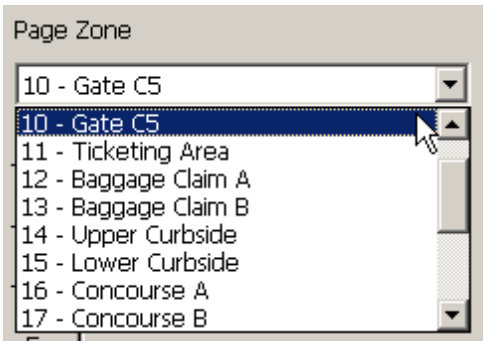

Figure 2-9: Page Zone Selection

- Volume Level - Volume for the page source for the channel

Note: For most applications, this level setting should be set at +12.5dB.

- Zone Status - Information regarding the current state of the zone
  - Zone State - Idle or Active
  - Page Bus - Bus number used for the current announcement or message
  - Page Priority - Priority of the current announcement or message (1 to 254)
- Mute - Checkbox used to mute the input

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.

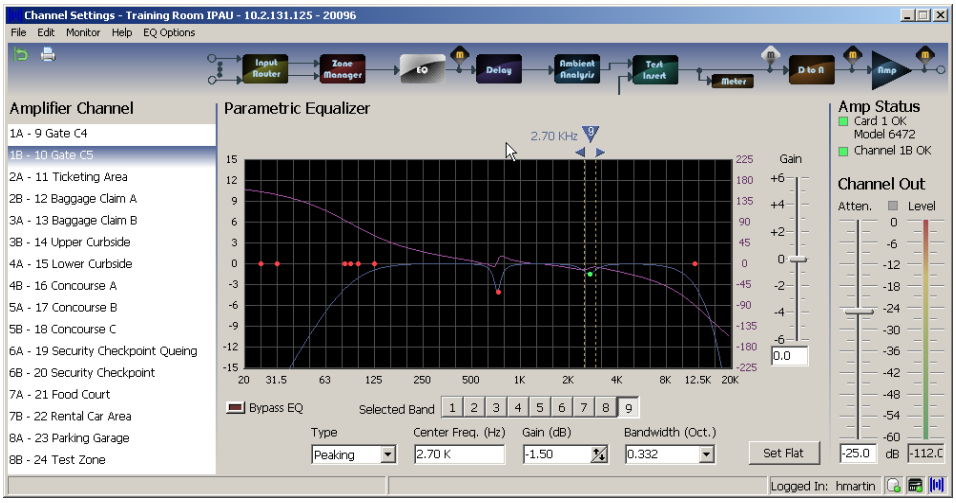

Figure 2-10: EQ Settings Window

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

Select a filter by clicking one of the nine filter buttons in the ***Selected Bands*** section. Adjacent bands can be selected by using the **[ALT]+[RIGHT ARROW]** and **[ALT]+[LEFT ARROW]** key combinations. A band can also be selected by clicking on one of the red dots in the frequency response graph. The dot representing the selected band will turn green, and from one to three triangles will appear at the top of the display with the center triangle containing the filter number.

The special key combinations for changing bands and controlling parameters are listed in the table below.

Hi Pass or Lo Pass Filter Types

Shortcut Keys	Function
[ALT] + [RIGHT ARROW]	Move to the next higher filter band
[ALT] + [LEFT ARROW]	Move to the next lower filter band
[ALT] + [UP ARROW]	Raise the gain of the filter band (boost)
[ALT] + [DOWN ARROW]	Lower to gain of the filter band (cut)
[SHIFT] + [LEFT ARROW]	Decrease the filter's center/knee frequency
[SHIFT] + [RIGHT ARROW]	Increase the filter's center/knee frequency
[CTRL] + [LEFT ARROW]	Decrease the filter's bandwidth
[CTRL] + [RIGHT ARROW]	Increase the filter's bandwidth

Type Droplist box

Select a filter type in the ***Type*** droplist box. The available options are:

- Peaking – bandpass type filter
- Notch – Sharp bandpass cut type 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
- Disabled – Turn this filter off

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

Center Freq (Hz) Edit Box

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 with the **[SHIFT]+[LEFT ARROW]** and **[SHIFT]+[RIGHT ARROW]** key combinations, or dragging the center triangle above the graph laterally left or right.

Gain (dB) Edit Box

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 with the **[ALT]+[UP ARROW]** and **[ALT]+[DOWN ARROW]** key combinations. A quick, but less precise method of editing, is performed by clicking and dragging the green dot for the filter up or down in the frequency response graph.

Bandwidth (Oct.) Edit/Droplist Box

This is only available for Peaking and Notch filter types.

The filter bandwidth is set by entering a numeric value in the edit box or selecting a pre-defined value from the list. 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. Several common bandwidths are available for selection in the list that can be accessed by slicking on the down arrow on the droplist box. The bandwidth can also be altered using **[CTRL]+[LEFT ARROW]** and **[CTRL]+[RIGHT ARROW]** key combinations. The two exterior triangles located at the top of the frequency response graph also change the bandwidth by clicking and dragging either one laterally.

Class Droplist Box

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 droplist box. There are three available class types listed below.

- Butterworth

- Bessel
- Linkwitz-Riley

Slope (dB/Oct.) Droplist Box

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 Button

When activated, button 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 ration and dynamic range to be maximized. This gain is set by adjusting the slider or entering a value (in + or - relative dB) in the edit box. The control can be adjusted to provide a range from 6dB of attenuation to 6dB of gain.

Set Flat button

This button resets all filters to a gain setting of 0dB (flat response) and sorts the filters numerically from left to right on the Frequency Response Display.

Ambient Analysis

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. This functionality is configured from the Ambient Analysis view on the Channel Settings window as shown in Figure 2-11.

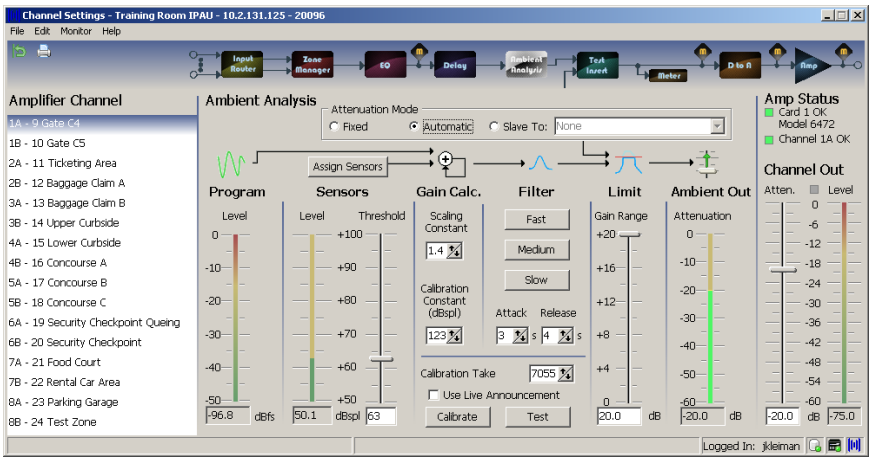

Figure 2-11: Ambient Analysis

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 *Channel Out* attenuator.

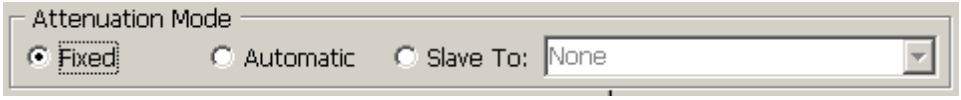

Figure 2-12: Fixed Attenuation Mode

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 *Channel Out* 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 *Gain Range* slider.

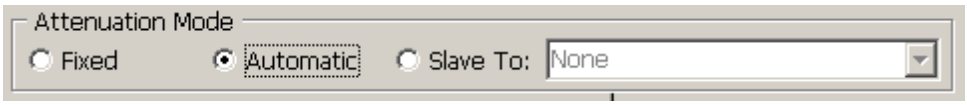

Figure 2-13: Automatic Attenuation Mode

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.

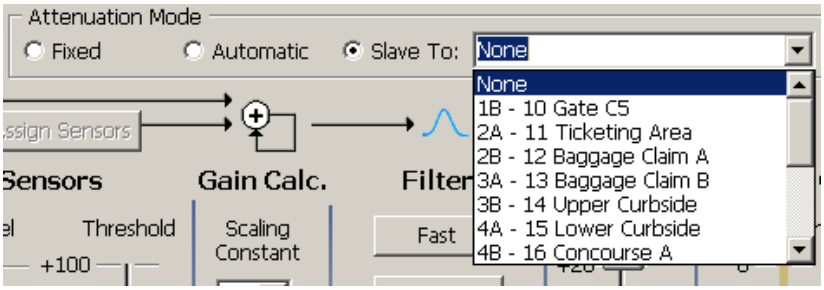

Figure 2-14: Slave Attenuation Mode

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 as shown on the digital signal flow. 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.

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 *Channel Out* level 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 1dB. A scaling constant of 1 will result in the output level increasing by 1dB for each 1dB increase in ambient sensor level. Figure 2-11 shows a scaling constant of 1.4. With this setting, a 1.4dB increase in ambient sensor level will result in a 1dB increase in output level up to the point where the *Limit* has been reached.

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 or by clicking the up/down arrow buttons on the right of the 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 or adjusted using the arrow

buttons on the right of the box.

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 or adjusted using the arrow buttons on the right of the box.

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 *Channel Out* slider. For example, if the channel out slider is set to -20dB as shown in Figure 2-11, then the maximum available setting for the Limit slider will be +20dB. Setting the Limit to +12dB will cause the output level to be increased by a maximum of 12dB above the setting of the Channel Out slider. Thus, with very loud ambient noise levels the output level will be effectively set to -8dB and reduced to -20dB 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.

Ambient Out

This level displays the current setting of the Channel Out attenuator as it is being controlled.

Assign Sensors

Clicking on the *Assign Sensors* button will launch the Ambient Sensor Assignment window as shown in Figure 2-15. 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.

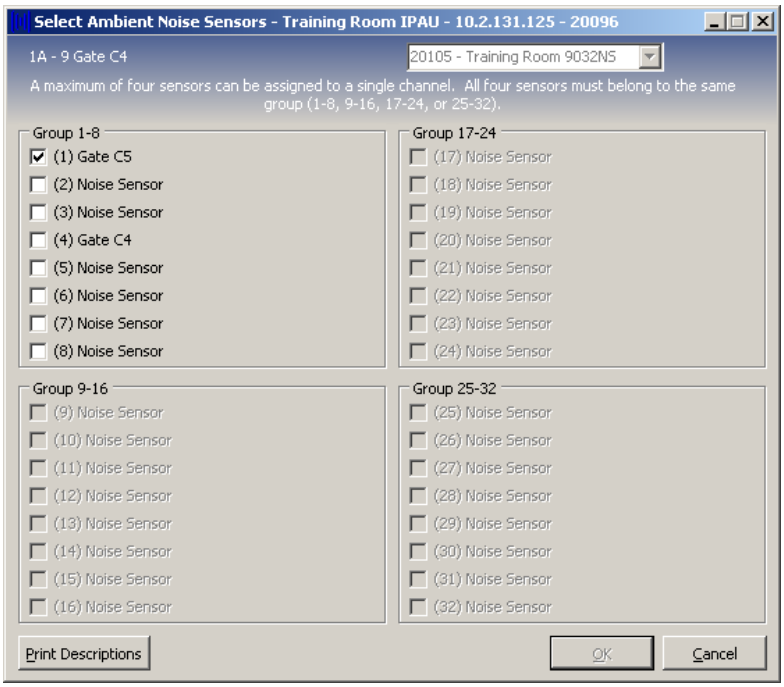

Figure 2-15: Ambient Sensor Assignment

Ambient Sensor Assignment

1. Click on the *Assign Sensors* button from the Ambient Analysis Window. The Ambient *Sensor Assignment* window will be displayed as shown in Figure 2-15.
2. Select the appropriate ambient sensor collection unit from the droplist box located at the top right portion of the window.
3. Select the checkbox for the sensor(s) that will control this 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.

4. Click the *OK* button to apply the changes. Clicking the *Cancel* button will close the window without applying any changes.

Ambient Sensor Description

Each ambient sensor channel can have a logical description assigned to it that allows it to be easily associated with its physical location in the facility. The description can be edited simply by right-clicking on the sensor name in the *Ambient Sensor Assignment* and typing in a new name in the description box as shown in Figure 2-16.

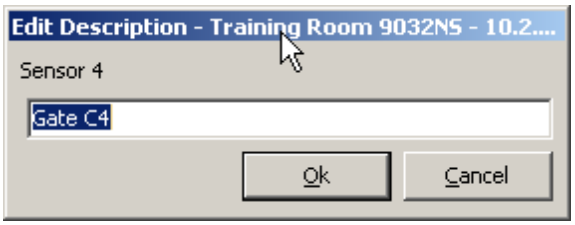

Figure 2-16: Ambient Sensor Description

Click the *OK* button to apply the description change, or select *Cancel* to close the window and discard any edits.

Note: Sensor descriptions can also be assigned by left-clicking on any collector unit (T9032NS) in the tree view and selecting *Sensor Meters* to bring up the sensor meter display. The description can then be edited by right-clicking on a meter to bring up the edit window as shown in Figure 2-16. This allows the sensor to be identified prior to entering a description.

Calibration

In order for the ambient analysis function to operate properly, it must be calibrated. A detailed tutorial is provided later in this manual describing the calibration process.

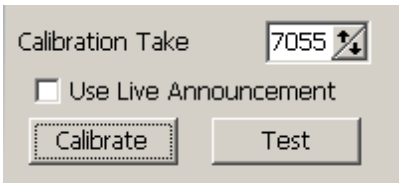

Figure 2-17: Calibration

Calibration Take

This is the take (message) number that will be played to the zone during the calibration process. The take number can be manually typed in the box or adjusted using the up/down arrow buttons on the right side of the entry box.

Use Live Announcement

Check this box if a live announcement from a microphone station will be used for calibration instead of a numbered take.

Calibrate

Press this button to start the calibration process. The Calibration Take will be played to the channel output unless the Use Live Announcement box is checked. If the Use Live Announcement is checked, the designated microphone station will beep/flash ready to indicate that a live page must be made to proceed with the calibration.

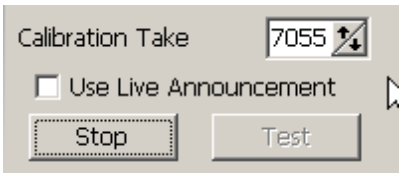

Figure 2-18: Stop Calibration

While the calibration is in process, the ***Calibrate*** button will change to a ***Stop*** button as shown in Figure 2-18. The calibration process can be interrupted at any time by pressing the ***Stop*** button.

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.*

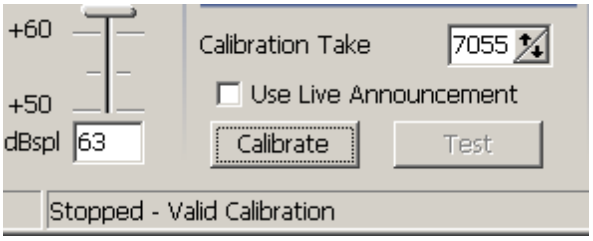

Figure 2-19: Valid Calibration

Once a calibration has been completed, the status bar will display as shown in Figure 2-19 if the calibration process produced valid results.

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 either the calibration constant should be adjusted or a re-calibration should be attempted.

Delay

The delay object provides the ability to delay the signal up to 2 seconds in 1 millisecond (ms) intervals. This area consists of a slider, and edit box and a bypass button. This object is used to delay the signal for individual channels in designs where loudspeakers are positioned at varying distances from the listener. Using proper delay settings, the system designer can adjust the timing of the signal so that the sound will arrive at the listener at the same time from different loudspeakers, thus preventing destructive interference that degrades intelligibility.

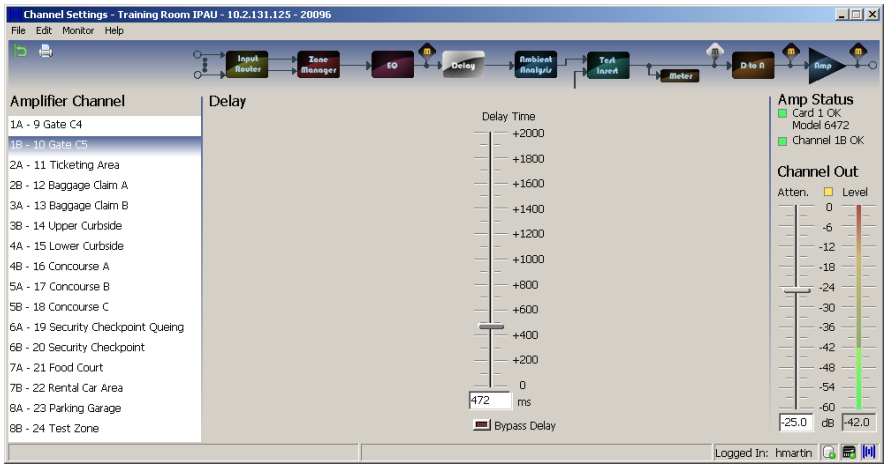

Figure 2-20: Delay Setting on a Titan Channel

Delay Time Slider/Edit Box

Precise delay times are set by entering a value in the edit box. Valid entries can range from 0ms to 2000ms. The delay time can also be adjusted by dragging the slider up and down to the desired value.

Bypass Delay

This button effectively removes any delay applied to the signal by taking the delay object out of the digital signal path. The delay time is effectively set to 0ms without losing the delay time setting previously entered using the edit box or slider.

Channel Settings Storage

Channel settings may be saved and recalled to and from a file. This feature saves time when several zones share similar acoustical characteristics and/or use the same speaker types. Also, it is recommended that all settings be saved to files and copied to other media (e.g., a USB drive) as a backup safeguard.

Save Channel Settings

1. Click on the ***File*** menu and select ***Save as.***
2. The *Save - Channel Settings* dialog will appear as shown in Figure 2-21.
3. Enter a file name in the *File name* droplist box.
4. Select the XML as the *Save as type* droplist box.
5. Select a file path in the *Save in* dialog box.
6. Click the ***Save*** button.

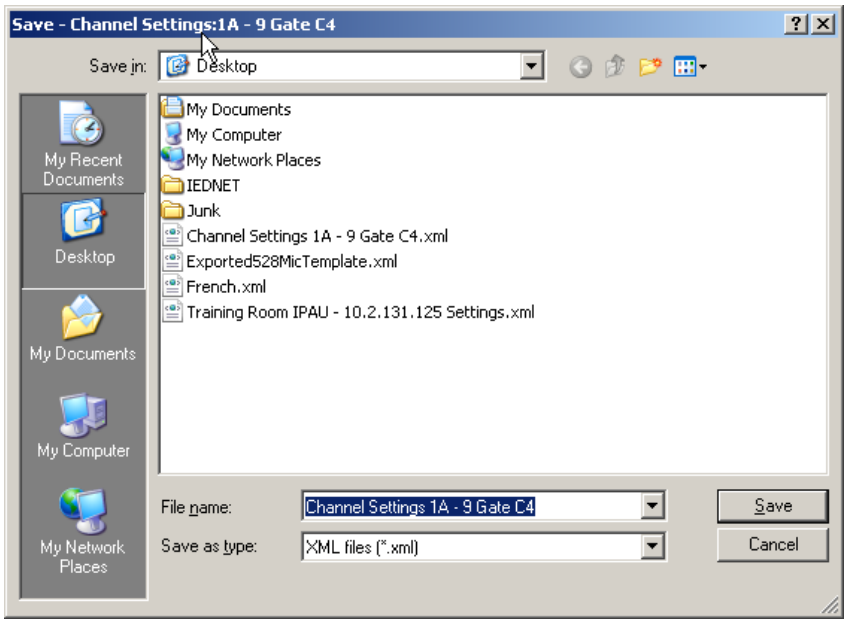

Figure 2-21: Save Channel Settings

Load Channel Settings

1. Click on the ***File*** menu and select ***Load***.
2. Click the ***Yes*** button to acknowledge that loading the curve will overwrite the current settings.
3. The *Load - Channel Settings* dialog box will appear.
4. Navigate to the desired file location in the *Look In* droplist box.
5. Click on the file containing the curve settings.
6. Click the ***Open*** button to load the settings.

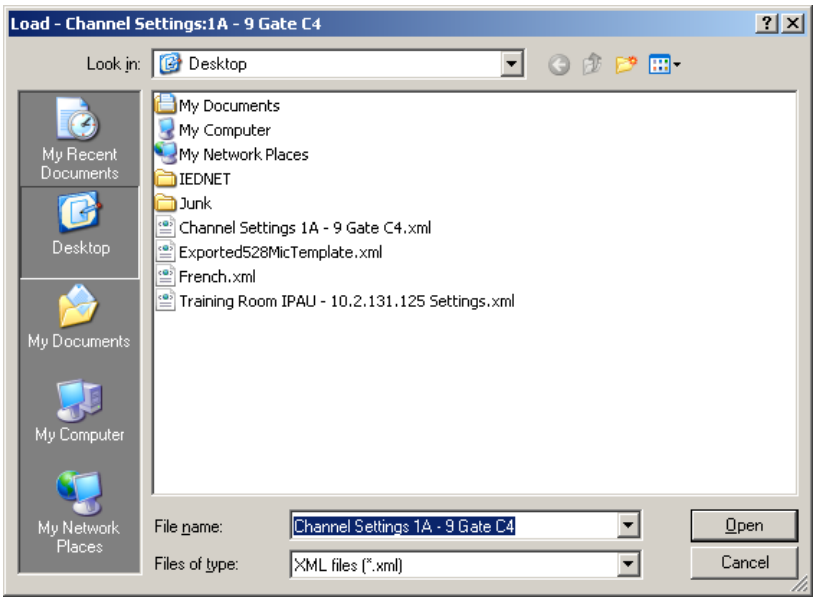

Figure 2-22: Load Channel Settings

Channel Settings Menu Reference

This section provides descriptions of the functions available in the menus on the *Channel Settings* window.

File Menu

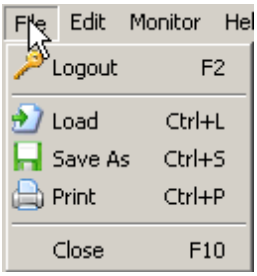

Figure 2-23: File Menu

Login/Logout

This option is context sensitive and will change from Login to Logout based on which option is actually available. If currently logged into the system, then Logout will be the available option. If not currently logged into the system, then Login will be available.

Load

This option is used to load channel settings from a file. Selecting this option will cause the *Load - Channel Settings* dialog window to appear as shown in Figure 2-22.

Save As

This option is used to save all channel settings to a file. That file can be used as a backup to restore settings in the event of a hardware replacement or to easily re-use settings from one channel to another. Selecting this option will cause the Save - Channel Settings dialog window to appear as shown in Figure 2-21.

Print

This option will launch the *IED Print Manager* application (Figure 2-24) to allow the printing of various system reports. Refer to the *IED Print Manager* section of this manual for details on using this application.

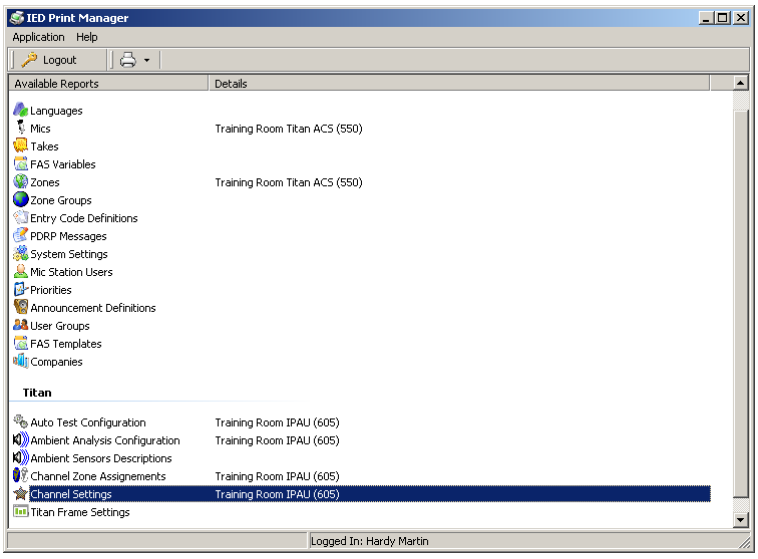

Figure 2-24: Print Manager

Close

Selecting this option will close the ***Channel Settings*** window.

Edit Menu

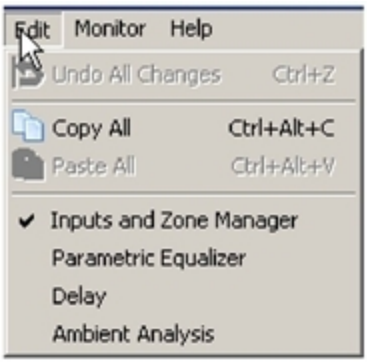

Figure 2-25: Edit Menu

Undo All Changes

This option will undo all changes that have been made since the current channel was selected after opening the ***Channel Settings*** window. This option will be grayed out when unavailable. It is important to remember that this command is only available to undo changes made for the current channel. Switching to another channel while the window is open will reset this option.

Copy All

This command will copy all the current channel settings to the clipboard. It allows channel settings to be easily copied to one or more other channels.

Paste All

This command is only available if channel setting data has been placed on the clipboard using the *Copy All* command. This will cause the channel settings stored in the clipboard to be applied to the currently selected channel.

Inputs and Zone Manager

This command will change the window to display the Inputs and Zone Manager configuration options.

Parametric Equalizer

This command will change the window to display the Parametric Equalizer (EQ) controls.

Delay

This command will change the window to display the Delay settings.

Ambient Analysis

This command will change the window to display the Ambient Analysis configuration options.

Monitor Menu

Figure 2-26 shows a close-up view of the signal flow map located at the top of the *Channel Settings* window. The full signal flow can be seen in Figure 2-3 as the input router and zone manager are not shown in this image. The *M* icon represents a virtual monitor point that is available in the digital signal flow. Each point can be monitored by left-clicking on the icon or by selecting the point in the *Monitor Menu*. When selected, the audio can be both monitored visually and aurally through a local powered speaker properly connected to the appropriate hardware.

Figure 2-26: Titan Frame Signal Flow

The *Monitor Menu* provides the same access to the various virtual monitor points as clicking on the icon in the signal flow.

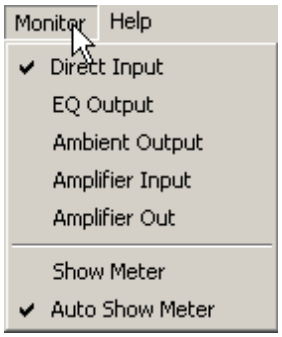

Figure 2-27: Monitor Menu

Direct Input

This switches to the monitor point to allow monitoring of the direct input of the selected channel. This is the analog audio input located on the back of the T9160 mainframe.

EQ Output

This selects the monitor point located immediately after the EQ object in the digital signal flow. This signal will include the audio mix with any filters that have been applied using EQ. This signal will not include any ambient noise analysis level compensation or the test tone used for system supervision.

Ambient Output

This selects the last monitor point in the digital signal flow and includes the audio mix with filters applied using EQ, delay, level adjustments made using ambient analysis compensation, and the test tone used for system supervision.

Amplifier Input

This selects the monitor point after the digital-to-analog conversion immediately before the analog audio signal is sent to the input of the amplifier. This is the true analog signal that is sent to the amplifier that has been converted back to digital audio to allow remote monitoring.

Amplifier Output

This selects the monitor point that directly monitors the analog audio signal at the output of the amplifier card at the integrated load sensor. Each amplifier output channel on a T9160 mainframe includes a speaker line load supervision module that directly monitors the current in the loudspeaker circuit. This monitor point is the analog audio from this current-to-voltage supervision device and provides the best representation of the audio signal that is sent to the loudspeakers.

Note: The actual level of the signal at this point will vary proportionally with the loudspeaker load since it directly represents the current in the speaker line. A higher power amplifier load will result in more current drawn from the power amplifier, thus increasing the level of the converted signal.

Show Meter

When this option is checked, the Signal Meter (Figure 2-28) will be displayed. When enabled, the Signal Meter will always be displayed on top of other application windows that are currently open.

Figure 2-28: Signal Meter

Auto Show Meter

When this option is checked, the Signal Meter will automatically be displayed when a monitor point is selected from either the menu or by clicking on the monitor point icon in the signal flow. When not checked, the Signal Meter must be opened manually by checking the *Show Meter* menu option.

Help Menu

Currently, the only option available under the *Help* menu is to display the *About Box*.

Figure 2-29: Help Menu

About Box

This window displays information specific to the T9160.DLL file. This is the application file that specifically governs communications between the Enterprise Software Suite and the Titan Series T9160 or T9116 hardware devices. This window provides the file version, date modified, size, and location on the host computer.

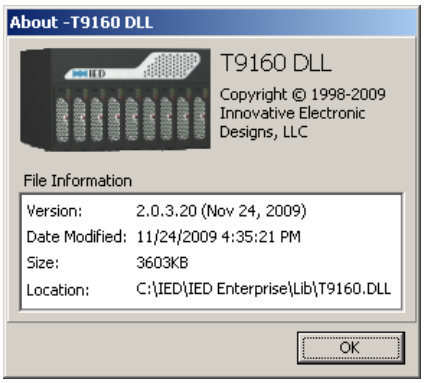

Figure 2-30: About Box

EQ Options

The *EQ Options* menu is only available when the EQ form is active. It contains five (5) different controls that alter the display of the information in the EQ window. There are ten (10) vertical divisions on the frequency response graph and the range of the graph can be altered to best meet the needs of the application by configuring the *Legend Scale* and *0 dB Location* settings. The *Frequency Scale* setting controls the horizontal axis.

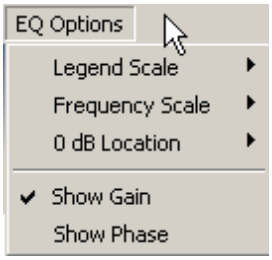

Figure 2-31: EQ Options Menu

Legend Scale

This setting alters the vertical range of the graph by determining the number of decibels (dB) represented by each division of the graph. The available settings are 3dB, 6dB, 9dB, and 12dB.

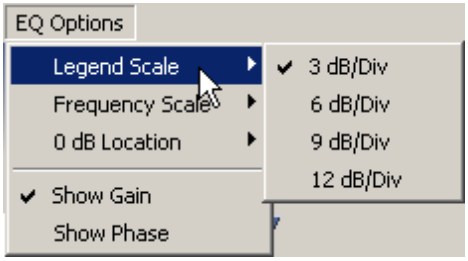

Figure 2-32: EQ Display Legend Scale

Frequency Scale

This menu controls the horizontal divisions of the frequency response graph.

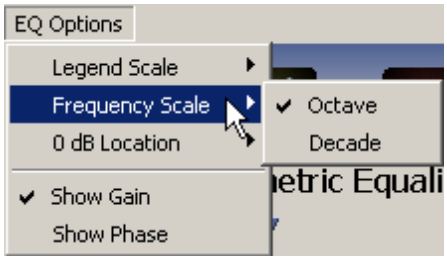

Figure 2-33: EQ Display Frequency Scale

Octave

This option displays the horizontal axis with divisions of equal width using a linear scale.

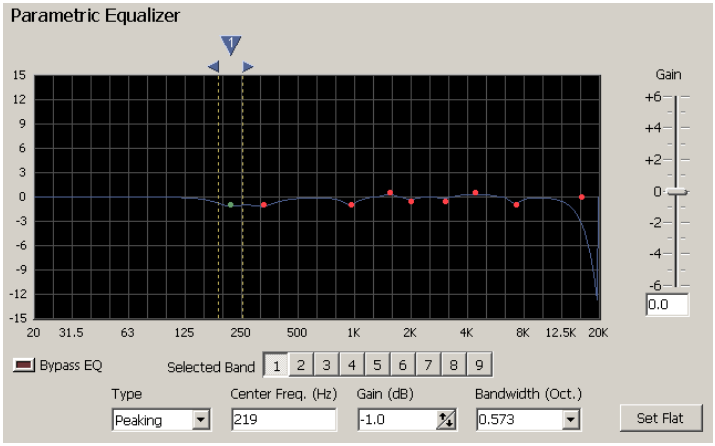

Figure 2-34: Octave Scale

Decade

This option displays the horizontal axis with divisions of varying width using a logarithmic scale.

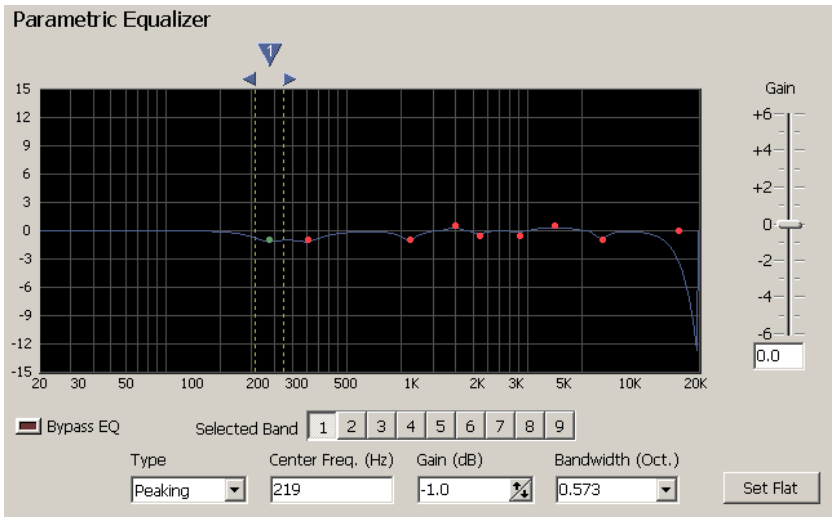

Figure 2-35: Decade Scale

0 dB Location

This menu controls the position of the 0dB reference point on the frequency response curve display. When used in conjunction with the ***Legend Scale***, the vertical range of the graph can be tailored to give the necessary resolution necessary to meet the needs of the application. The current reference point location is shown with a check mark next to the option.

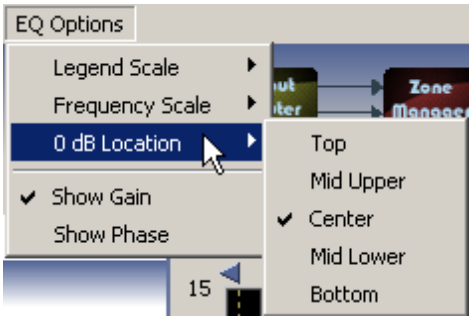

Figure 2-36: EQ Display 0 dB Location

- Top - Display a range from nine (9) divisions below the 0dB point to one (1) division above.
- Mid Upper - Display a range from seven (7) divisions below the 0dB point to three (3) divisions above.
- Center - Display a range from five (5) divisions below the 0dB point to five (5) divisions above.
- Mid Lower - Display a range from three (3) divisions below the 0dB point to seven (7) divisions above.
- Bottom - Display a range from one (1) division below the 0dB point to nine (9) divisions above.

Show Gain

When checked, a response curve will be shown that shows the combined gain settings (filter response curve) for all filters in the EQ object. This curve is displayed as a blue line with the values shown on the left vertical axis.

Show Phase

When checked, a phase response curve will also be shown on the frequency response graph to visualize the phase effects that the filters have on the signal. This curve is displayed in a light magenta color. The vertical axis on the right side of the graph displays the phase values.

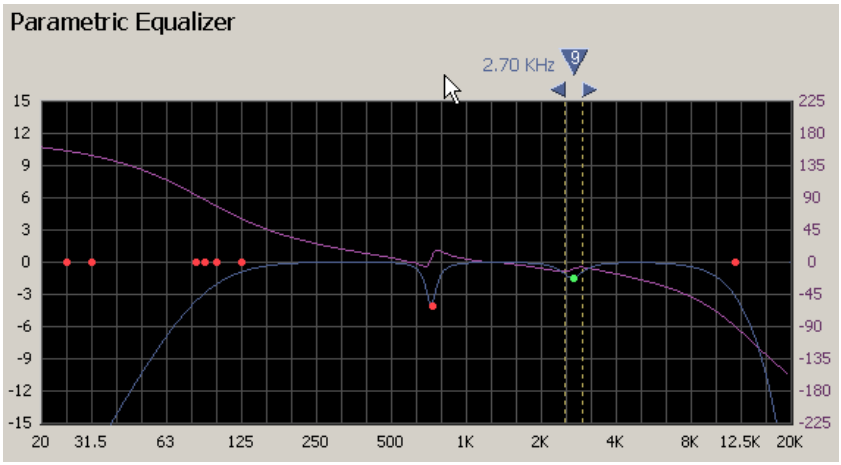

Figure 2-37: EQ Display with Phase Curve

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3

Titan IPAU Config Tool

The Titan T9160, T9116, and T90xxDSP devices are complex units with built in processors that provide a variety of control and audio Digital Signal Processing. Each resides on the network and is able to send and receive digital audio over the network. Each device must be configured properly before it will function as a component of the system and communicate with the Enterprise software and any announcement controllers. The *Titan IPAU Config Tool* is the software application used to configure the device and is covered in the following sections.

The *Titan IPAU Config Tool* provides low-level setup of an individual component of a system. This utility provides direct access to many parameters of the IPAU. Some of these parameters must be configured from the *IPAU Config Tool* while others must be modified from Enterprise to ensure proper system operation. Several parameters in this section are tagged with one of the three icons below to identify their place in the setup process.

REQUIRED Parameters with this tag must be configured from the *IPAU Config Tool* before the unit can be used in a system.

ENTERPRISE Parameters with this tag should not be modified in the *IPAU Config Tool* and should be adjusted only from the appropriate *Enterprise* screen.

OPTIONAL Parameters with this tag can be adjusted from the *IPAU Config Tool* if needed, but the setting may be overridden by Enterprise during the course of normal operation.

IPAU Config Tool Interface

Each Titan frame used in a system, must be configured at a basic level outside of IED Enterprise before it can be used in a system. This configuration is accomplished using the IPAUConfigTool.exe located in C:\IED\Tools\Titan folder on the system server computer.

The interface consists of a menu bar, buttons, and other controls located at the top of the window. There are five (5) tabs that can be selected to configure different groups of parameters within the frame. Each tab has a small LED-style indicator to indicate the status of the information on the tab. Examples of all three can be seen in Figure 3-1.

- Yellow - The data on the tab has been modified, but the changes have not been sent to the frame.
- Bright Green - The data displayed on the tab has been retrieved from the frame and matches the current frame settings.
- Dark Green - The data has not been loaded from the frame to the tab.

Once the application has been started, an IP address must be entered first to point the application to a frame. The application will open with the IP address last used. The default address from the factory is 10.2.150.173 or 10.2.133.14. If the utility prompts to reload data, click on the *Yes* button.

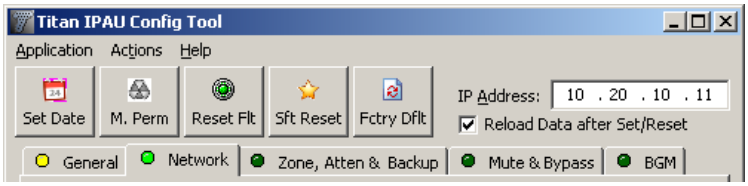

Figure 3-1: IPAU Config Tool Detail

Menus

Application

This menu has the following options:

Set General Tab

Select this option to send all data on the General Tab to the frame at the address in the IP Address entry box. This is equivalent to the *Send Data* button located on the General tab. The **[F4]** key can be used as a shortcut to perform this function.

Get General Tab

Select this option to retrieve the information on the General Tab from the frame at the address in the IP Address entry box. This is equivalent to the *Get Data* button on General tab. The **[F5]** key can be used as a shortcut to perform this function.

Close

Select this option to exit the IPAU Config Tool application.

Actions

This menu provides access to the same functions available from the toolbar buttons. Each function is described in the next section.

Help

Select *About* to bring up a dialog box with the application version number. The **[F1]** key can be used as a shortcut to perform this function.

Toolbar Buttons and Controls

Figure 3-2: Toolbar Buttons and Controls

REQUIRED Set Date

Click this button to set the date and time in the Titan frame to match the computer's clock.

OPTIONAL M. Perm (Make Permanent)

Click this button to save the settings in the frame. Changes are not permanently stored in the frame until this button is pressed. Once stored permanently, these will be the new default settings for the frame when it is powered up or reset. The **[F6]** key can be used as a shortcut to perform this function.

REQUIRED Reset Flt (Reset Fault)

Click this button to reset the fault/warning flag in the frame. This will turn off the fault indicator light on the front of the frame until a new fault has been detected. The **[F7]** key can be used as a shortcut to perform this function.

REQUIRED Sft Reset (Soft Reset)

Click this button to send a reset command to the frame over the network. The **[F8]** key can be used as a shortcut to perform this function.

REQUIRED Fctry Dflt (Factory Default)

Click this button to return the frame to factory default settings.

REQUIRED IP Address

This is the IP address of the frame to be configured by the Titan IPAU Config Tool. If the IP address is changed on the Network Tab, it will need to be changed in this edit box in order to communicate with it again.

Reload Data after Set/Reset

When checked, the tab shown will be reloaded from the frame after a change has been made and data is sent. When not checked, data will be sent to the frame without validation. It is recommended that this option remain checked to provide verification that the changes were sent and accepted by the frame. It will result in slightly longer communication times.

General Tab

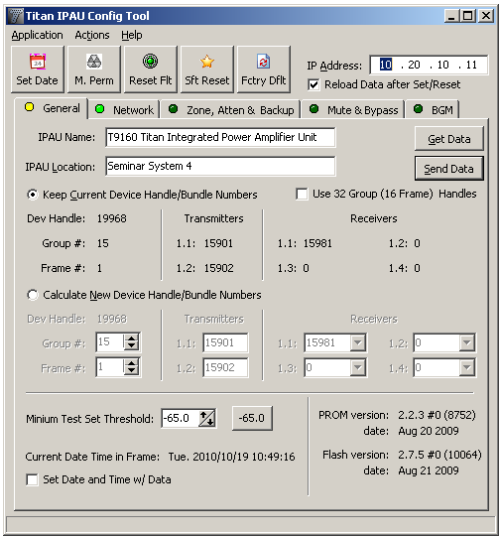

Figure 3-3: General Tab

The controls on this tab are as follows:

ENTERPRISE IPAU Name

This is the name of the device and is usually the model number of the unit. It can be changed if necessary, but it is recommended that the IPAU Location field be used to describe the unit.

ENTERPRISE IPAU Location

This field is used to store additional information about the frame. It can be used to indicate the frame number in a system with multiple frames, or it can be used to describe the physical location where it is installed.

REQUIRED Get Data

Click this button to retrieve the data from the frame necessary to populate all fields on this tab. The **[F5]** key is also used to execute this command.

REQUIRED Send Data

Click this button to send the data on the tab to the frame. The **[F4]** key is also used to execute this command.

REQUIRED Keep Current Device Handle/Bundle Numbers

Select this option to keep the current CobraNet device handle, transmitter, and receiver information when sending data to the frame.

REQUIRED Use 32 Group (16 Frame) Handles

Check this box when 16 or more Titan IPAU frames are used in a system. This will ensure that the correct device handles are used.

REQUIRED Calculate New Device Handle/Bundle Numbers

Select this option to use new CobraNet device handle, transmitter, and receiver information to the frame the next time data is sent. This information is calculated and based off of the information entered in the *Group#* and *Frame#* fields. These should be set to match the data in the Enterprise treeview when setting up new frame.

REQUIRED Minimum Test Set Threshold

This is used for the automatic audio testing of the IPAU frame. When a system set is performed to calibrate the supervision system, the values read during the calibration process must be above this threshold to be used as valid set data.

REQUIRED Current Date Time in Frame

This field displays the date and time as it is currently set in the frame. It is used to see if there is a discrepancy between the actual date/time and the date/time set in the frame.

REQUIRED Set Date and Time w/ Data

When checked, a date and time update will be performed when data is sent to the frame using the *Send Data* button.

Caution! *It is critical that the date and time be set correctly in the frame. The date and time in the frame is used to run scheduled tests and as a stamp when reporting system faults.*

PROM and FLASH versions

These fields display the version and date information PROM and Flash firmware that resides in the frame.

Network Tab

This tab is used to configure the network address properties for all three network ports on the IPAU frame. Generally, only the Primary Audio Network Port is used for both audio and control.

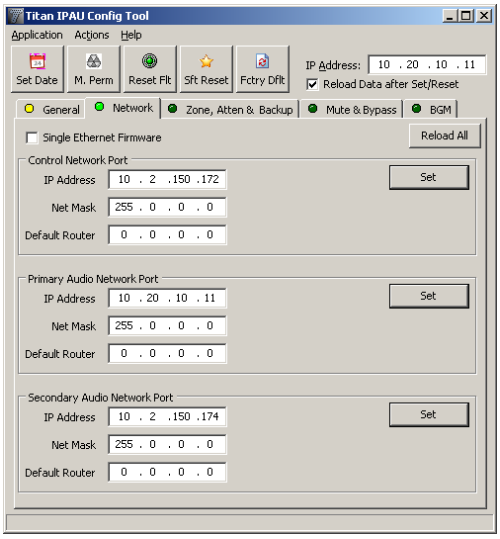

Figure 3-4: Network Tab

The controls on this tab are as follows:

REQUIRED Single Ethernet Firmware checkbox

This box should remain uncheck for all Titan T9160 and T9032DSP frames.

REQUIRED Reload All

Click this button to load the data from the frame necessary to update the fields on this tab.

REQUIRED Control Network Port

When used, this port only provides control data to and from the frame. All audio is transmitted and received over the Primary and/or Secondary network ports.

- IP Address - This is the IP address information for the Control Network Port.
- Net Mask - This is the Subnet Mask information for the Control Network Port.
- Default Router - This is the default router information used for the Control Network Port. This setting is usually set to 0.0.0.0 as the frame is not connected via a router.
- Set - Click this button to send the data for the Control Network Port to the frame.

REQUIRED Primary Network Port

This is the main CobraNet port used by the frame to transmit and receive both control and audio over the network.

- IP Address - This is the IP address information for the Primary Network Port.
- Net Mask - This is the Subnet Mask information for the Primary Network Port.

- Default Router - This is the default router information used for the Primary Network Port. This setting is usually set to 0.0.0.0 as the frame is not connected via a router.
- Set - Click this button to send the data for the Primary Network Port to the frame.

REQUIRED Secondary Network Port

This is used to control the optional second CobraNet interface module in the frame. This should not be confused with what is often referred to as the backup CobraNet port available on the module. This redundant port is not brought to the backplane of the unit. The settings for the Secondary Network Port should only be configured when the second interface module is installed.

- IP Address - This is the IP address information for the Secondary Network Port.
- Net Mask - This is the Subnet Mask information for the Secondary Network Port.
- Default Router - This is the default router information used for the Secondary Network Port. This setting is usually set to 0.0.0.0 as the frame is not connected via a router.
- Set - Click this button to send the data for the Secondary Network Port to the frame.

Zone, Attn & Backup Tab

This tab is used to configure three sets of parameters. A T9160 amplifier frame has a dedicated slot for a backup amplifier card. This tab configures the backup amplifier switching functions. This is also where the zone numbers are assigned to each output channel. These are critical and must match the zone settings in the Channel Settings of Enterprise. This tab also provides quick access to the output attenuator for each channel and provides a quick method for setting all channels to the same level.

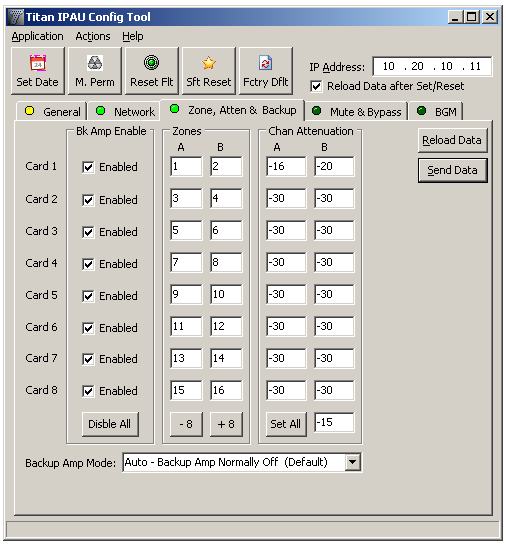

Figure 3-5: Zone, Atten & Backup Tab

The controls on this tab are as follows:

REQUIRED Reload Data

Click this button to retrieve the data from the frame necessary to populate all fields on this tab.

REQUIRED Send Data

Click this button to send the data on the tab to the frame.

REQUIRED Bk Amp Enable (Backup Amplifier Enable)

This setting is made for each amplifier card in the system. When checked, the system will switch this amplifier card to the backup amplifier in the event that the card fails. When left unchecked, that card will be excluded from the backup amplifier switching process.

OPTIONAL Chan Attenuation

This is the setting of the output attenuator in the DSP that controls the signal level at the input of the amplifier channel. The value entered must be in negative dB values that represent the

amount of attenuation required (e.g. -15 to apply 15dB of attenuation to the output signal). The maximum value is 0dB which represents unity gain from the output of the DSP to the input of the amplifier.

REQUIRED Disable All / Enable All

The function of this button toggles with each press. When it displays ***Disable All***, clicking it will uncheck all checkboxes in the Backup Amp Enable section. When it displays ***Enable All***, clicking it will check all checkboxes in this section.

ENTERPRISE Zones

This assigns the paging zone number to each channel.

ENTERPRISE +8

Click this button to increase the zone number assigned to each zone by 8.

ENTERPRISE -8

Click this button to decrease the zone number assigned to each zone by 8.

Set All

Click this button to set the channel attenuation value for all channels to the value typed into the entry box immediately to the right of the button.

REQUIRED Backup Amp Mode

This setting controls the behavior of the backup amplifier.

- Off (No Backup) - This setting indicates that a backup amplifier card is not present in the frame.
- Auto - Backup Amp Normally Off (Default) - This mode will turn the power on to the backup amplifier card only when it is used. The front panel power switch must remain in the on position at all times and the frame will control power to the card.
- Auto - Backup Normally On - This mode will allow the backup amplifier card to always remain on when the front panel power switch is on.
- Manual - When this mode is set, the backup amplifier will only be switched in when a command is sent from control software external to the frame.

Mute & Bypass Tab

This tab provides the ability to mute the direct inputs or BGM channel for each individual amplifier channel. This also provides the ability to bypass the EQ and Delay objects in the DSP signal flow if they are not required for the installation.

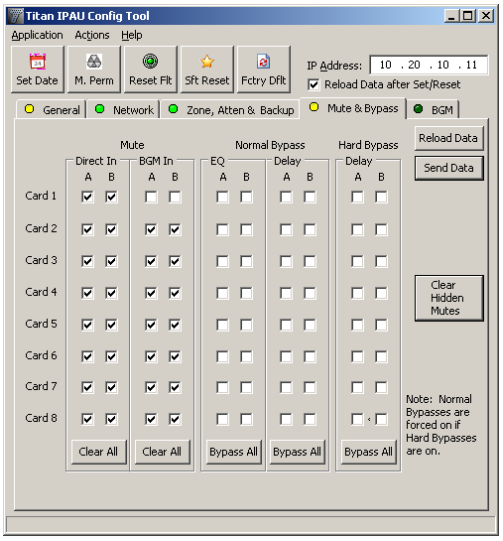

Figure 3-6: Mute & Bypass Tab

The controls on this tab are as follows:

Reload Data

Click this button to retrieve the data from the frame necessary to populate all fields on this tab.

Send Data

Click this button to send the data on the tab to the frame.

REQUIRED Clear Hidden Mutes

Click this button to clear any mutes that are not visible from IPAU tool.

ENTERPRISE Mute

- Direct In - Check this box for each channel to mute the direct in located on the back of the frame. It is recommended that all direct inputs be muted when not in use to reduce residual noise.
- BGM In - Check this box for each channel to mute the BGM signal.
- Clear All / Mute All - The function of these buttons toggles with each press. When it displays *Clear All*, clicking it will uncheck all checkboxes for all channels above the button. When it displays *Mute All*, clicking it will check all checkboxes above the button.

ENTERPRISE Normal Bypass

- EQ - Check this box to bypass the EQ object in the DSP for each channel.
- Delay - Check this box to bypass the Delay object in the DSP for each channel.
- Clear All / Bypass All - The function of these buttons toggles with each press. When it displays *Clear All*, clicking it will uncheck all checkboxes for all channels above the button. When it displays *Bypass All*, clicking it will check all checkboxes above the button.

REQUIRED Hard Bypass

This function applies to legacy systems and is not applicable to newer Titan frames. When checked, this will completely remove the Delay object in the DSP from the signal path instead of placing the object in bypass using the Normal Bypass function. This was used for frames that did not have internal memory installed to use the delay function. New frames ship with the memory pre-installed and have eliminated the need to adjust this setting.

- Clear All / Bypass All - The function of these buttons toggles with each press. When it displays *Clear All*, clicking it will uncheck all checkboxes for all channels above the button. When it displays *Bypass All*, clicking it will check all checkboxes above the button.

BGM Tab

This tab is used to configure the background music (BGM) routing for the Titan frame.

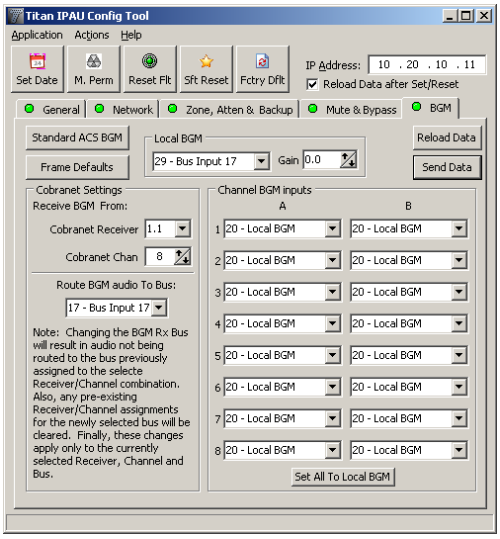

Figure 3-7: BGM Tab

The controls on this tab are as follows:

Reload Data

Click this button to retrieve the data from the frame necessary to populate all fields on this tab.

Send Data

Click this button to send the data on the tab to the frame.

REQUIRED Standard ACS BGM

Click this button to quickly set the routing to receive the BGM channel from the default standard ACS BGM network channel.

REQUIRED Frame Defaults

Click this button to set the BGM routing to the defaults stored in the firmware.

REQUIRED Cobranet Settings

For non-standard BGM routing schemes, the CobraNet Receiver should be set to the receiver whose bundle number matches the bundle number of the CobraNet transmitter used to transmit the BGM channel over the network. The CobraNet Channel should be set to match the settings of the device used to transmit the BGM channel over the network. In most cases, this will be the 510N card in the ACS and is configured in the BGM.INI file on the 510CPU or 520CPU.

REQUIRED

Route BGM audio To Bus:

This selects the internal audio bus that will receive the BGM audio signal from CobraNet. The bus selected here can then be selected for each channel as the BGM source or as the source for the Local BGM bus.

REQUIRED

Local BGM

Select the input channel or internal audio bus to use for the Local BGM source in the frame. This is what will be used for all channels set to *20-Local BGM* as the BGM source.

The *Gain* parameter is used to adjust the overall level of the Local BGM. This property has a range from -60dB of attenuation to 27.5dB of gain. It is normally set to 0dB.

REQUIRED

Channel BGM inputs

Select the BGM channel to use for each individual channel.

REQUIRED

Set All To Local BGM

Click this button to set all channels to *20-Local BGM* as the BGM source.

4

Microphone Station Setup

The following sections provide information on configuring microphone stations. Additional information related to the configuration of mic stations can be found in *Tutorial C - Adding and Configuring Mic Stations* and the section on *Mic Station Security* located in this manual

Mic Stations

Mic stations are defined for each announcement controller and are added to the announcement controller in Enterprise. Figure 4-1 shows the Navigator window with a 510CPU selected in the Tree View. The *Mics* icon is located in the Tasks and Detail section of the main Navigator window.

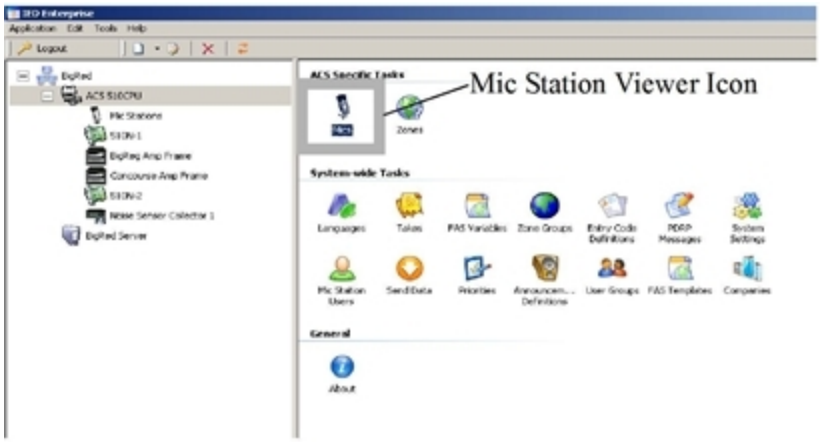

Figure 4-1: Navigator Window

If the *Mic Stations* icon in the Tree View is selected, then the Tasks and Details section changes to a list of mic stations as shown in Figure 4-2. Double-click on any mic station to bring up the Mic Station Editor window for that station.

Mic Number	Location	Mic Station Type	Device ID
9	Training Room Equipment Rack	528 mic station	565
10	Gate C4 Jetway	528 mic station	554
11	Gate C4 Ticket Counter	528 mic station	556
12	Gate C5 Ticket Counter	528 mic station	580
13	Gate C5 Jetway	528 mic station	581
14	Sim	528 mic station	566
16	520 Desktop Handheld	520 Mic Station (Themis)	631
20	Microphone Station Sim	528 mic station	567

Figure 4-2: Tasks and Details for Mic Stations

For detailed step-by-step instructions on adding microphone stations, refer to *Tutorial B - Adding and Configuring Mic Stations*.

Mic Station Viewer

Double-click the Mics icon to bring up the Viewer as shown in Figure 4-3. This window provides a list of all mic stations currently programmed in the selected announcement controller. This window provides access to edit or delete existing mic stations as well as add new ones.

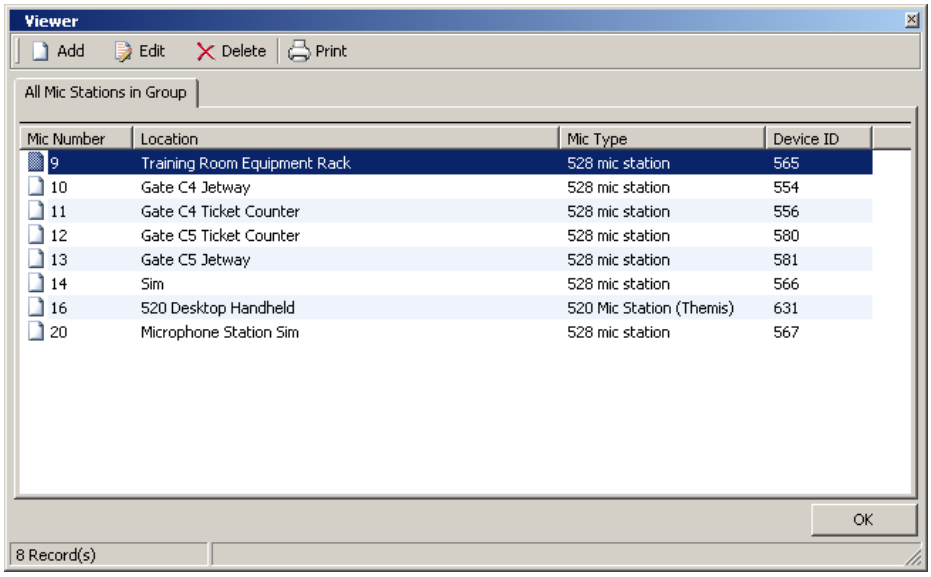

Figure 4-3: Mic Station Viewer

Double-click any mic station in the viewer to open the Mic Station Editor window for that station.

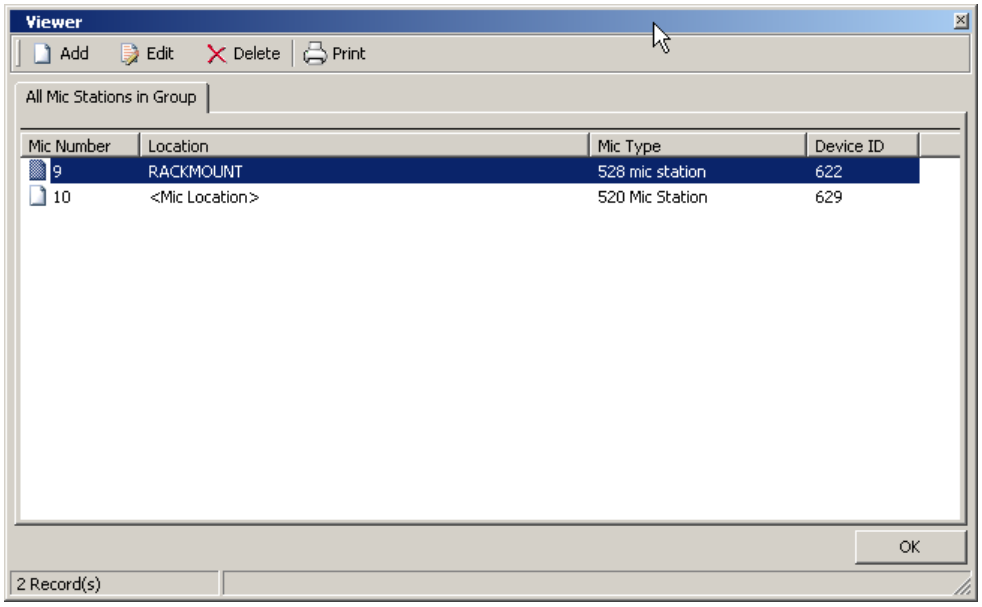

Figure 4-4: Mic Station Viewer Toolbar

The toolbar located at the top of the Mic Station Viewer window and provides quick access to the commands needed to add, edit, or delete mic stations.

Add

Click this button to add a new mic station to the system. This will open the Mic Station Editor window to configure the new mic station.

Edit

Click this button to open the Mic Station Editor for the highlighted mic station.

Delete

Click this button to delete the selected mic station. Multiple mic stations can be selected at the same time using [**CTRL]+CLICK** and **[SHIFT]+CLICK** functions.

Print

Click this button to open the print preview window with a list of mic stations and their settings.

OK

Click this button to exit the Viewer window.

Mic Station Editor

Figure 4-5 shows the Mic Station Editor window. This window contains multiple tabs visible along the top of the window. Each tab contains different setup options as they relate to the description of the tab. There are more tabs than can be visible at the same time due to the width limitations of the window. The left/right arrows located to the far right are used to scroll through all the available tabs.

When the editor is used to edit an existing mic station, Previous and Next buttons will be visible in the lower left corner of the window. These are used to go to the previous or next mic station in the list without existing the editor. The user will be prompted to save the changes before moving to the previous/next mic station if any changes have been made.

OK

Click this button to save all changes and exit the window.

Cancel

Click this button to exit the window and discard any changes that were made.

General Tab

The general tab (see Figure 4-5) has the basic information for the mic station and is used to initially define the mic station. Options available on this and other tabs are determined by the type of mic station defined on this tab.

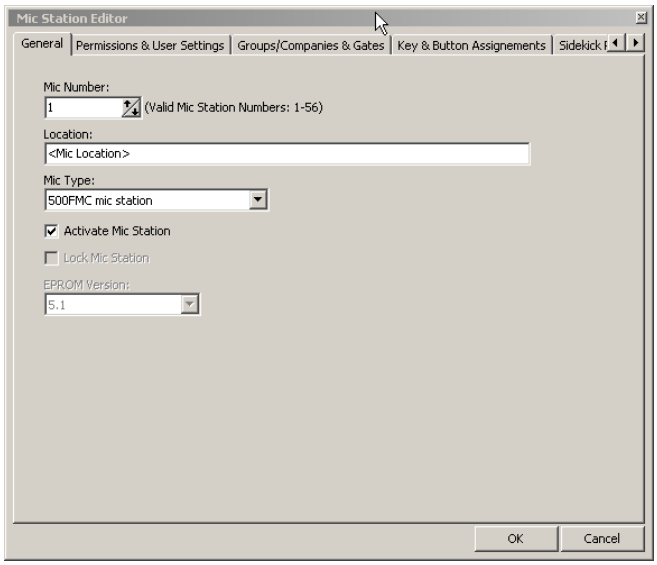

Figure 4-5: General Tab

The controls on the General Tab are as follows:

Mic Number

This is the microphone station ID number used to associate a mic station in the software with the physical piece of hardware. For 528 Series mic stations, each must be configured locally by accessing the setup features of the mic station. Each station is associated to an announcement controller by a *Group* number and by the Mic Number. Both must be set correctly in order for a mic station to function properly.

For analog mic stations (500 and 508 Series), the mic number is determined by where the station is terminated on the 500C interface card.

Note: This mic station number must be unique for a specific announcement controller *Group* and must fall within the ranges defined in the system properties for the announcement controller.

Location

This is descriptive text to describe the location and/or function of the mic station (i.e., Gate 1A or AA Ticket Counter).

Mic Type

This is the specific type (model) of the mic station. The correct type must match the model number of mic station used for this station.

Activate Mic Station

This indicates that this mic station is active when the box is checked. This option allows a microphone station to be completely disabled without being deleted from the system. When the box is not checked, the physical mic station will not function. This is useful to temporarily disable a microphone without losing any of its setup information. It is also useful to reserve a slot for future mic stations that will be installed at a later point.

Lock Mic Station

This option enables or disables the lock feature of the mic station. When the box is checked, users are required to log into the mic station and will have access based on the mic station user permissions. When the box is not checked, the mic station is available for use by anyone.

Note: This feature is only available for specific types of mic stations and will be disabled when a *Mic Type* is selected that does not support this feature.

EPROM Version

This feature is enabled only for certain 508 mic station types. It is important that this EPROM version number matches the EPROM version number installed in the mic station to ensure proper operation.

Permission & User Settings Tab

Enterprise provides a great deal of control over the functions available at each mic station. When a mic station is configured with the *Lock Mic Station* box unchecked, users are not required to log into the station in order to use it. When a station not password protected, its permissions are determined by the *Permissions & User Settings* tab. When station is locked, then the permissions are determined by the configuration of the user in the *Mic Station Users* setup section. When functioning in an unlocked state, a mic station is assigned to belong to one or more User Groups. This setting determines the announcement functions available at this mic station.

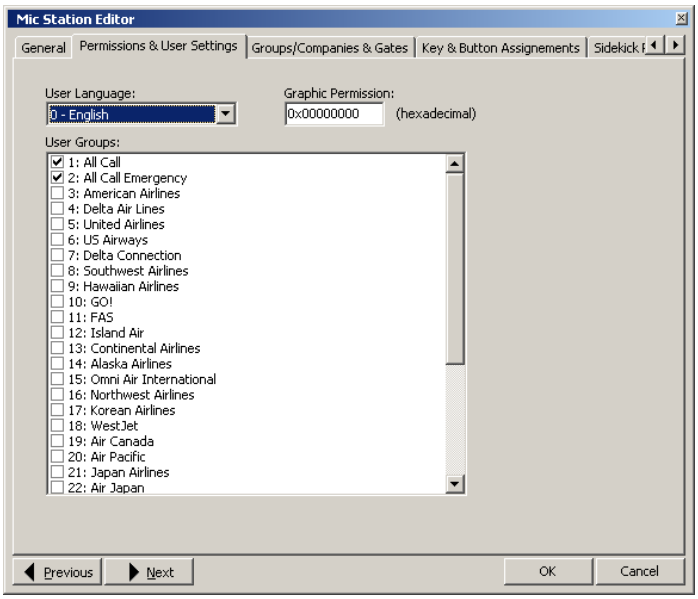

Figure 4-6: Permission & User Settings Tab

User Language

This setting determines the language used for the mic station user interface. This setting is overridden when the lock feature is turned on. However, the language used for the Login screen will still be set based on this setting.

Graphic Permission

This is a hexadecimal code that determines the button permissions of the mic station. The value in this field is managed by the 528 Interface Designer when creating custom buttons and scroll boxes that differ from the standard configuration. When the mic station is locked, permissions are based on user login and this field is grayed out and cannot be edited.

Caution! *This setting should not be modified manually unless directed to do so by an IED Technical Support representative.*

User Groups

This setting allows user groups to be assigned to the mic station when it is not locked. User groups are assigned to the station by checking the box next to the user group name. Zone groups and PDRP messages are also assigned to user groups. When a mic station is associated with one or more User Groups, then it will have access to any announcements that are also assigned to that user group.

Groups/Companies & Gates Tab

This tab assigns ownership of a mic station to a specific company and also assigns it to one or more gates. When active, only the annoucements available to the designated company will be available at the station.

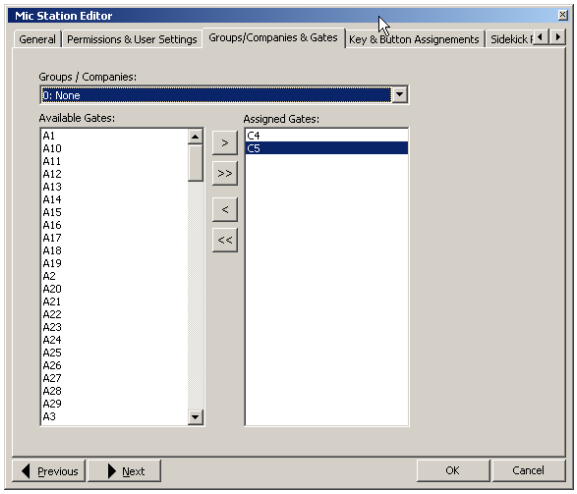

Figure 4-7: Groups/Companies & Gates Tab

Groups/Companies Droplist Box

This assigns a group or company to the mic station when the lock features is not used. When the lock feature is enabled, then the user's login account determines this property.

Note: For systems with the Flight Announcement System (FAS) installed, the group is normally an airline. The mic station will only have access to that airline's arrival or departure announcements when the station is not locked. When it is locked, the group/company associated with the mic station user determines announcement availability.

Available Gates and Assigned Gates

These lists are used to associate the mic station with a specific gate or gates. The [>] and [<] buttons are used to move selected gates between the available and assigned lists. The [>>] and [<<] buttons move all items from one list to the other in the appropriate direction.

Note: For systems with the Flight Announcement System (FAS) installed, a mic station can only play FAS announcements to gates that are in the *Assigned Gates* list. For 528 series mic stations only flights that are assigned to gates in the *Assigned Gates* list will appear for selection on the mic station display. When prompted for a gate number on the 528 mic station, pressing the **[ENTER]** button will use a default of the first gate listed in the *Assigned Gates* list.

Key & Button Assignments Tab

This tab is used to assign zone groups to individual buttons 500 and 520 series mic stations. It also assigns zone groups to the *Combined Zone Groups* feature of the system.

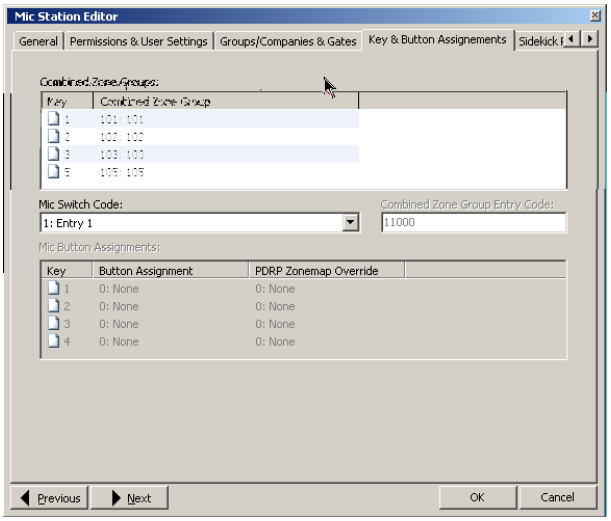

Figure 4-8: Key & Button Assignments Tab

Combined Zone Groups

Combined zone groups is a unique feature allows the mic station entry codes 1 - 5 to combine zone groups on the fly. The typical application for this feature is to provide a consistent paging scheme for large facilities with many mic stations. When programmed properly, entry 1 will always page the local zone. Entry 2 will page the local zone plus the adjacent zone. This provides a user-friendly system by allowing the same buttons to make announcements to the same physical space relative to the mic station instead of requiring the user to remember the individual zone number for each area. Figure 4-9 illustrates the relationship of the different combined zone group buttons.

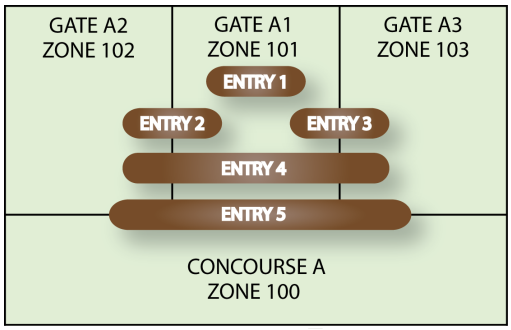

Figure 4-9: Combined Zone Groups

Figure 4-10 shows the assignment of a zone group entry code to a combined zone group number. Click in the *Combined Zone Group* column of the table to open a droplist box with the available zone group codes. Select the appropriate zone group to correspond with the selected key. This *Key* number corresponds to the number entered on the mic station.

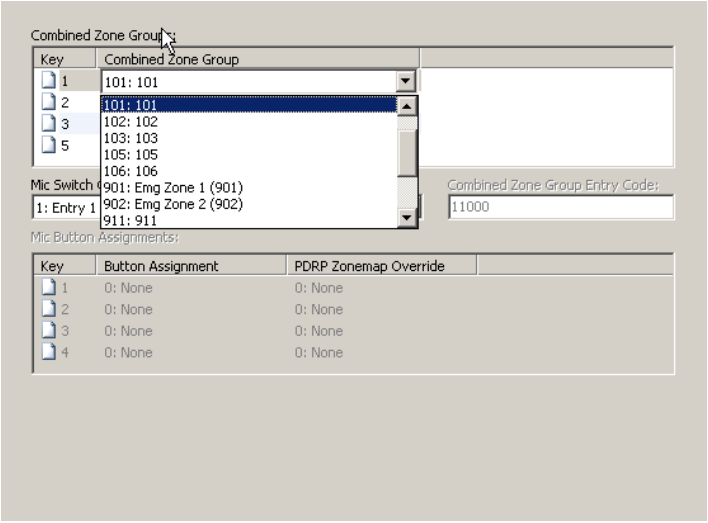

Figure 4-10: Combined Zone Group Droplist Box

Mic Switch Code

This assigns the zone group or combined zone group entry code to the push-to-talk (PTT) switch on the mic station or the **[0/ANNC]** button on mic stations with a gooseneck microphone.

Mic Button Assignments

This feature is available for 500 and 520 series mic stations that have fixed button assignments instead of a keypad. The 500 series mic stations have four (4) buttons and the 520 series stations have eight (8) buttons in addition to the mic switch or **[ANNC]** button. Zone group entry codes are assigned to each button in the *Mic Button Assignments* table as shown in Figure 4-11.

- Key - This represents the button number on the mic station. This field cannot be edited.
- Button Assignment - This is the zone group entry code, PDRP entry code or combined zone group entry code that will be activated when the button is pressed. Double-click to open a droplist box and select the appropriate entry code.
- PDRP Zonemap Override - This is the zone group to use for the PDRP message when triggered from the mic station. If the value is set to **0 : NONE**, then it will use the default zones defined for that PDRP message.

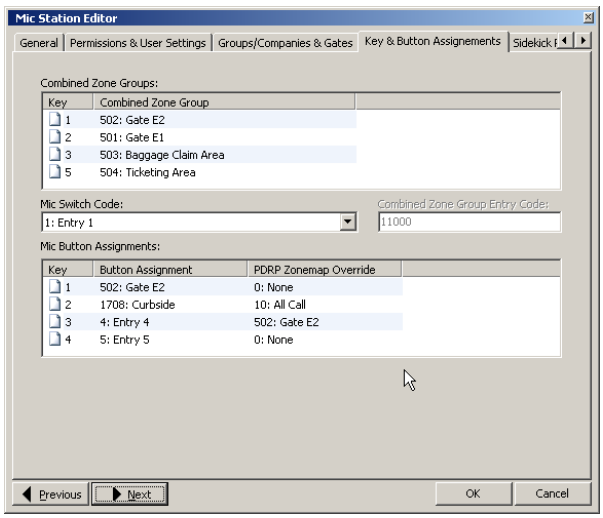

Figure 4-11: Mic Button Assignments Tab

Combine

520 series mic stations only

The 520 series mic stations have eight (8) assignable buttons in addition to the mic switch and have added functionality that allows buttons to be combined. Figure 4-12 shows the button assignments for a 520 mic station. In this example, buttons 1-5 are designated as *Combined*. Those buttons now function differently and will not initiate an announcement when pressed. Instead, the station will wait until the mic switch or announce button is pressed and a page will be made to a combination of all zones in the zone groups selected.

When buttons are configured in this mode, they will toggle when pressed. In the example, if button 1 was pressed and then button 2 was pressed, both would be selected as indicated by a green LED indicator. When the mic switch or announce button is pressed, the announcement will be made to all zones in both zone groups 101 and 102.

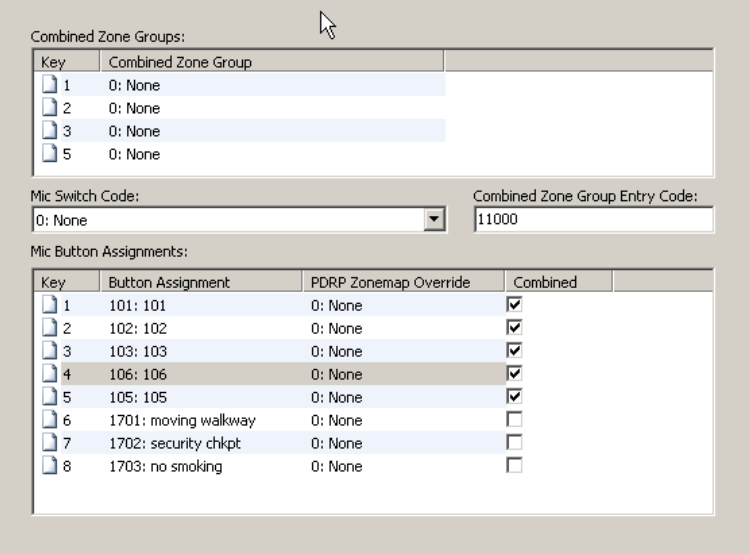

Figure 4-12: 520 Series Button Combination

Combined Zone Group Entry Code

520 series mic stations only

This is the entry code sent to the announcement controller when the mic switch or announce button is pressed while combined buttons are active.

Sidekick Properties Tab

Sidekicks are available as an expansion option for the 528 mic stations. Each 528 mic station supports up to three expansion stations that are available in two types.

- 528SK - This is a 4-button expansion station that can be programmed to page different areas.
- 520FME - This is a simple expansion station that only has the mic switch (PTT) button.

Note: This feature requires the optional 528E expansion board to be installed on the 528 mic station.

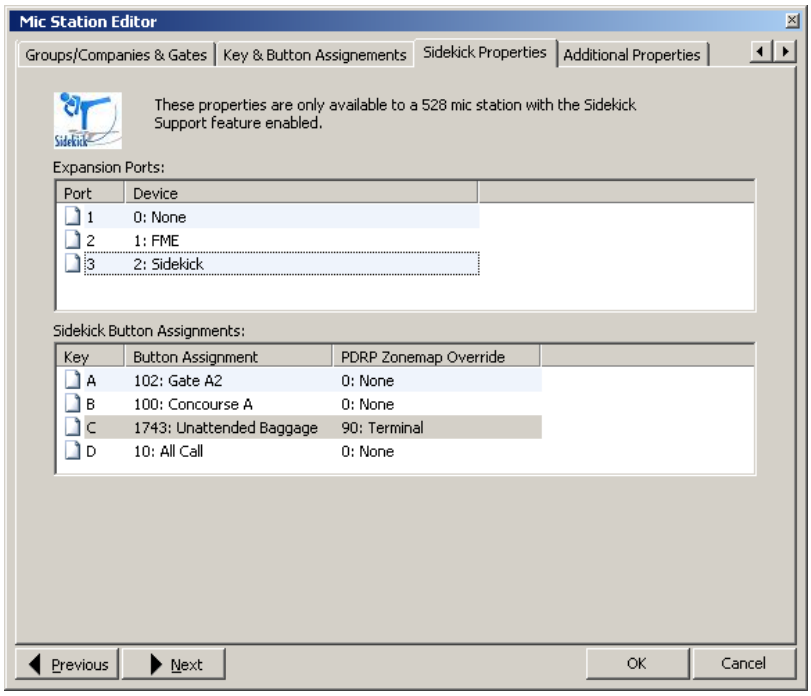

Figure 4-13: Sidekick Properties Tab

Expansion Ports

This specifies the type of expansion station (0: none, 1: FME, or 2: Sidekick) for each port. Click the text in the ***Device*** column to open a droplist box and select the appropriate type. Double-clicking the device field allows the device number to be typed in.

Sidekick Button Assignments

This table assigns the entry codes to the buttons and functions identically to the *Mic Buttons Assignments* table on the *Key & Button Assignments* tab. The mic switch (PTT) on the expansion stations will always use the same zone group assignment as that assigned to the owner 528 series station.

Note: The same button assignments are applied to all Sidekicks attached to the 528 mic station.

Additional Properties Tab

This tab is used for custom mis station configuration and is rarely used. This tab should not be edited unless directed to do so by IED Technical Support. When using the 528 Interface Designer, the IP Address and Mic Template ID will appear in the window once the mic station has been discovered.

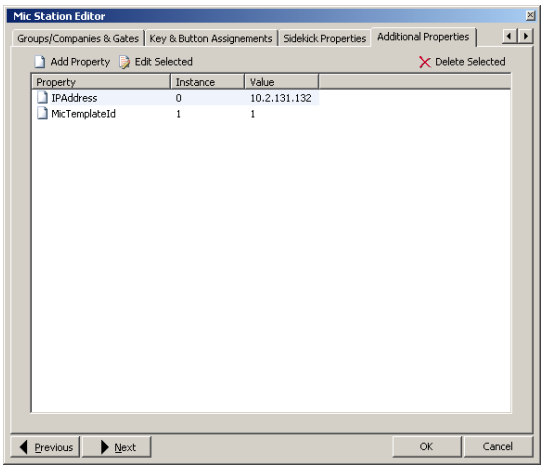

Figure 4-14: Additional Properties Tab

5

Mic Station Security

Enterprise has various mechanisms for restricting user access to microphone stations and features of the announcement controller. Access to features is managed via *User Groups*, which are then assigned to microphone stations, users and to specific system features, such as specific pre-recorded messages and zone groups. A microphone station can only access those features that it is allowed. Permissions can be fixed for the mic station or vary based on the user that is currently logged into the station. *Groups* are always Airlines and used for the Flight Announcement System (FAS). *Companies* are other users, such as a contractor, consultant, fire department, security, etc. This section covers three areas related to mic station security.

User Groups

User Groups add a level of security to various aspects of the IED System by limiting access to zone groups, PDRPs and many other features. Configuring zone groups, mic station users, etc. requires selecting one or more User Groups from the user group list boxes in their respective editor forms. For example, a mic station user setup with only the American Airlines user group will not be able to page to a zone group that was not configured with the American Airlines user group. This ensures that the end users have paging access to designated areas only. Similarly, if a user is not a member of an emergency message user group, then they cannot initiate emergency messages associated with that user group.

User Groups are accessed by double-clicking on the User Groups icon (as shown in Figure 5-1) in the Enterprise software (after highlighting/selecting an announcement controller on the TreeView). This brings up the User Groups Viewer (Figure 5-2) that lists all user groups that are setup in the system.

Figure 5-1: User Groups Icon

A system is typically shipped with a few default user groups (e.g. All Call, All Call Emergency, etc.). Steps to modify existing user groups or to add new ones are described in the appropriate sections below. The toolbar at the top of the viewer provides the ability to add, edit, delete, or print user groups.

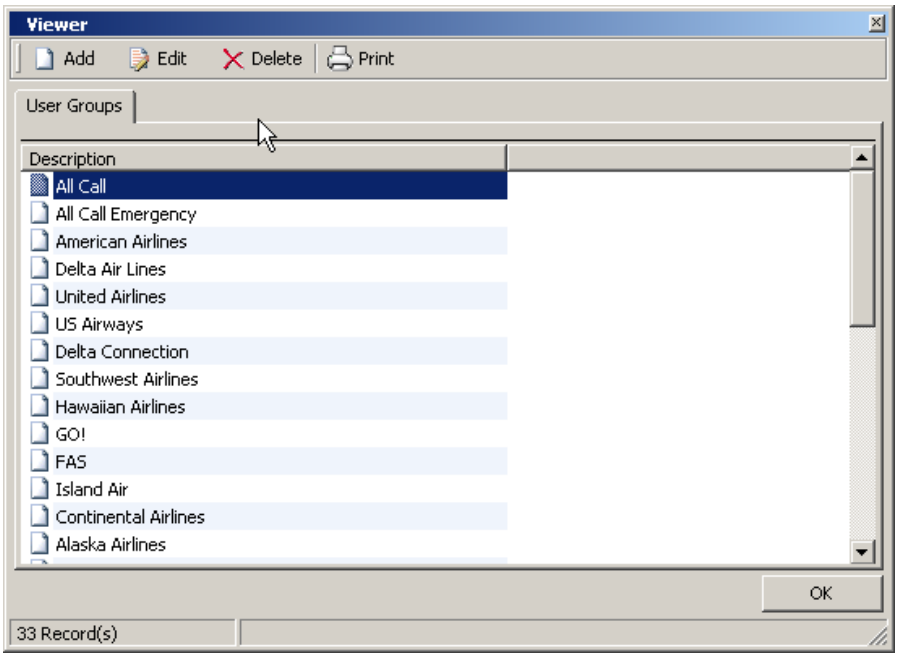

Figure 5-2: User Groups Viewer

Add

Click the *Add* button to open the User Group Editor with a blank form as shown in Figure 5-3. Enter a descriptive name for the user group here.

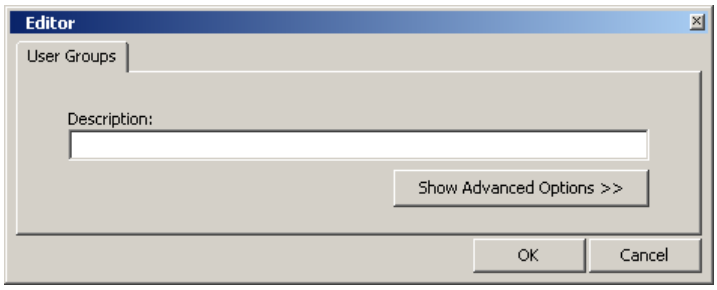

Figure 5-3: User Group Editor - New User Group

Add New User Group

The steps necessary to add a new User Group are as follows:

1. Click the *Add* button in the User Group Viewer.
2. Enter a meaningful description or name of the new user group.
3. Click on the *OK* button to save and return to the User Group Viewer. The new user group will appear at the end of the list in the viewer.

Note: The *Cancel* button can be clicked at any time to discard changes and return to the viewer form.

Show Advanced Options

This button provides access to configure the microphone station graphic permissions. This feature is provided for legacy support only and should not be used unless directed by IED Technical Support. The 528 Interface Designer should be used to control the graphic permissions for the mic stations.

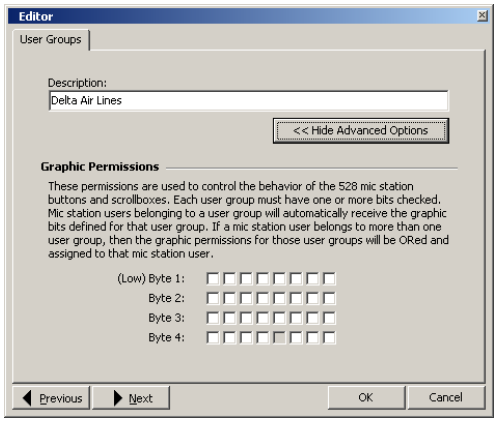

Figure 5-4: User Group Editor - Advanced Options

Edit

Click the ***Edit*** button to bring up the editor form for the user group selected in the User Group Viewer. Alternatively, double clicking on a user group in the viewer will also open the editor.

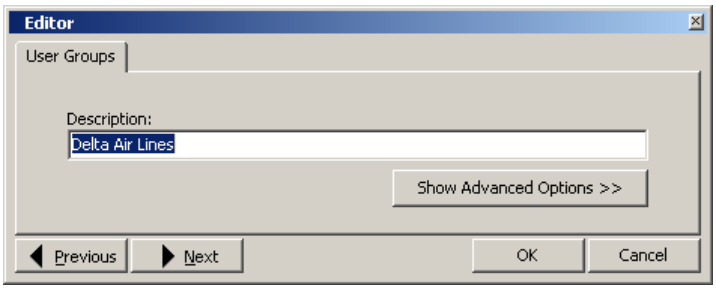

Figure 5-5: User Group Editor

Editing an existing user group opens a window with two additional buttons. Clicking on the ***Previous*** and ***Next*** buttons allows quick navigation to the previous and next records in the viewer. Navigating to a new record (via the ***Next*** and ***Previous*** buttons) after making changes to the data in the editor will result in a confirmation prompt as shown in Figure 5-6. The prompt options are as follows:

- Yes - Save current changes before navigating away.
- No - Do not save changes before navigating away.
- Yes to All - Save current and all subsequent changes while navigating using the Previous and Next buttons without any additional prompts.

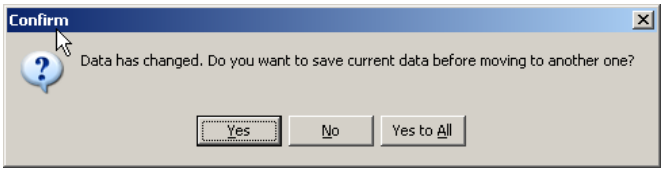

Figure 5-6: Edit Confirmation Dialog Box

Edit a User Group

The steps necessary to edit an existing User Group are as follows:

1. Highlight a user group in the User Group Viewer window.
2. Click the ***Edit*** button located on the toolbar.
3. Make necessary changes to the data on the form.
4. Click on the ***OK*** button to save and return to the User Group Viewer.

Note: The ***Cancel*** button can be clicked at any time to discard changes and return to the viewer form.

Delete

Click the *Delete* button to remove the currently selected user group from the system. The user is prompted for confirmation (Figure 5-7) before the selected record is erased. In addition to erasing one record at a time, multiple records can be selected at once. Simply select multiple user groups (by holding down the **[CTRL]** key and clicking on multiple records) in the viewer and click on the *Delete* button from the toolbar.

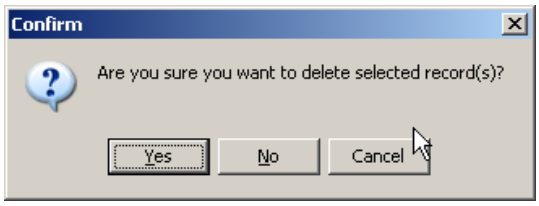

Figure 5-7: Delete Confirmation Dialog Box

Delete a User Group

The steps necessary to delete an existing User Group are as follows:

1. Highlight a user group in the User Group Viewer window or select multiple user groups by holding down the **[CTRL]** key while clicking.
2. Click the *Delete* button located on the toolbar.
3. Click the *Yes* button to delete the selected group(s).

Note: The *Cancel* or *No* button can be clicked at any time to cancel the delete operation and return to the viewer form.

Print

This button interfaces with the IED Print Manager software to open the print preview window containing the user group data. Refer to the IED Print Manager section for more information on this feature.

Companies

Companies are used in conjunction with mic station users, that are assigned membership to Companies. Companies are accessed by double-clicking on the Companies icon (as shown in Figure 5-8) in the Enterprise software (after highlighting/selecting an announcement controller on the TreeView). This brings up a viewer (Figure 5-9) that lists all companies that are currently setup in the system.

Figure 5-8: Companies Icon

A system is typically shipped with a few default companies (e.g. IED, Fire Department, etc). Steps to modify existing Companies or to add new ones are described in the appropriate sections below. The toolbar at the top of the viewer provides the ability to add, edit, delete, or print companies.

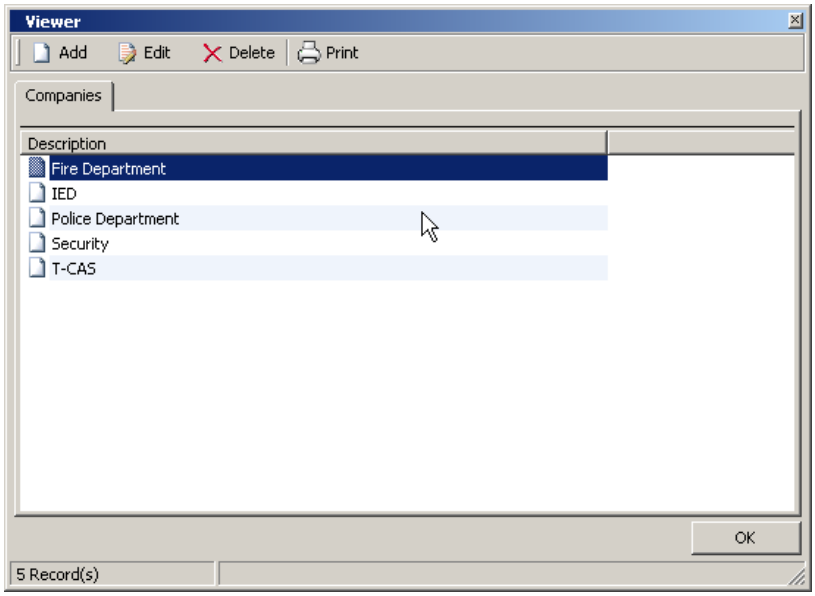

Figure 5-9: Companies Viewer

Add

Click the *Add* button to open the Company editor with a blank form as shown in Figure 5-10. Enter a descriptive name for the company here.

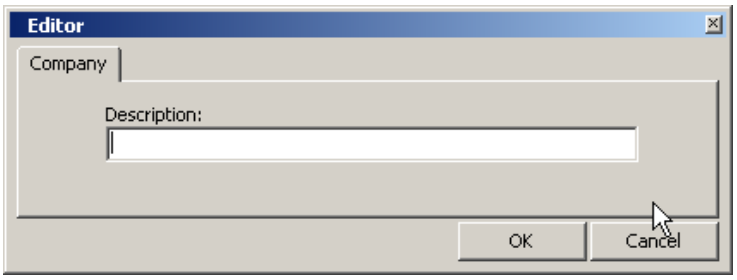

Figure 5-10: Company Editor - Add New

Add New Company

The steps necessary to add a new Company are as follows:

1. Click the *Add* button in the Company Viewer.
2. Enter a meaningful description or name of the new Company. Only the first 16 characters of the description will be displayed on the 508 or 528 mic stations. It is recommended that the description be kept to 16 characters or less.
3. Click on the *OK* button to save and return to the Company Viewer. The new Company will appear at the end of the list in the viewer.

Note: The *Cancel* button can be clicked at any time to discard changes and return to the viewer form.

Edit

Click the *Edit* button to bring up the editor form for the company selected in the Company Viewer. Alternatively, double-clicking on a company in the viewer will also open the editor.

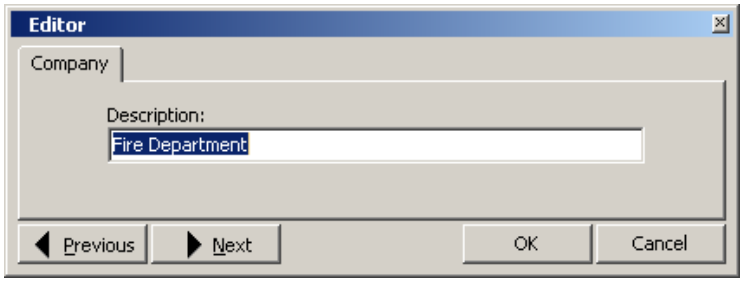

Figure 5-11: Company Editor

Editing an existing company opens a window with two additional buttons. Clicking on the *Previous* and *Next* buttons allows quick navigation to the previous and next records in the viewer. Navigating to a new record (via the *Previous* and *Next* buttons) after making changes to the data in the editor will result in a confirmation prompt as shown in Figure 5-12. The prompt options are as follows:

- Yes - Save current changes before navigating away.
- No - Do not save changes before navigating away.

- Yes to All - Save current and all subsequent changes while navigating the *Previous* and *Next* buttons and do not prompt any more.

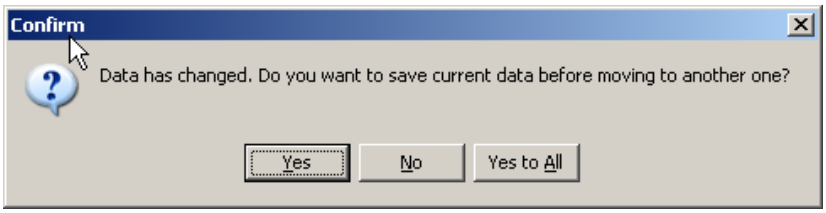

Figure 5-12: Edit Confirmation Dialog Box

Edit a Company

The steps necessary to edit an existing Company are as follows:

1. Highlight a company in the Company Viewer window.
2. Click the *Edit* button located on the toolbar.
3. Make necessary changes to the data on the form.
4. Click on the *OK* button to save and return to the Company Viewer.

Note: The *Cancel* button can be clicked at any time to discard changes and return to the viewer form.

Delete

Click the *Delete* button to remove the currently selected company from the system. The user is prompted for confirmation (Figure 5-13) before the selected record is erased. In addition to erasing one record at a time, multiple records can be selected at once. Simply select multiple Companies (by holding down the **[CTRL]** key and clicking on multiple records) in the viewer and click on the *Delete* button from the toolbar.

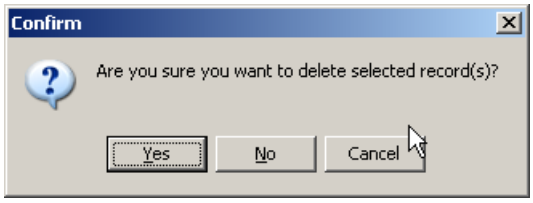

Figure 5-13: Delete Confirmation Dialog Box

Delete a Company

The steps necessary to delete an existing Company are as follows:

1. Highlight a company in the Company Viewer window or select multiple user companies by holding down the **[CTRL]** key while clicking.
2. Click the *Delete* button located on the toolbar.
3. Click the *Yes* button to delete the selected company or companies.

Note: The *Cancel* or *No* button can be clicked at any time to cancel the delete operation and return to the viewer form.

Print

This option interfaces with the IED Print Manager software to open up the print preview window containing all the Company data. Refer to the IED Print Manager section for more information on this feature.

Mic Station Users

The Mic Station Users section is used to prevent unauthorized access to mic stations that are configured to be locked and require login before operation. Mic Station Users are accessed by double-clicking on the Mic Station Users icon (Figure 5-14) in the Enterprise software. This brings up the Mic Station Viewer (Figure 5-15) that lists all users that are currently configured in the system. Mic Station Users are global to all announcement controllers in the system.

Figure 5-14: Mic Station Users Icon

Steps to modify existing data or to add new ones are described in the appropriate sections below. The toolbar at the top of the viewer provides the ability to add, edit, delete, or print users.

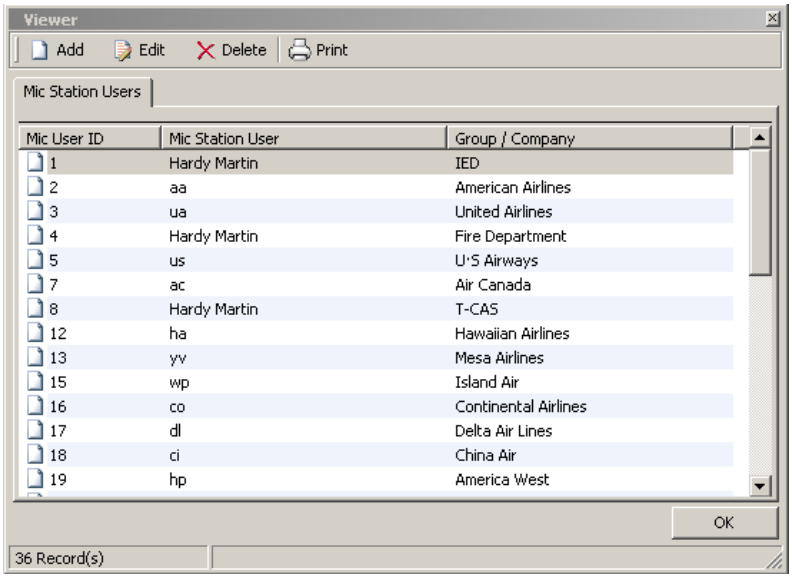

Figure 5-15: Mic Station Users Viewer

Add

Click the ***Add*** button to open the Mic Station Editor with a blank form as shown in Figure 5-16. Alternatively, double-clicking on a user in the viewer will also open the editor.

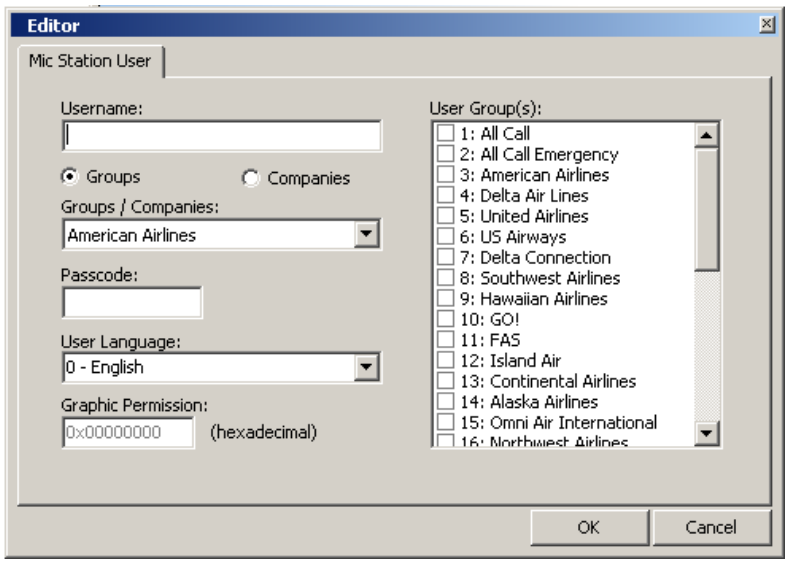

Figure 5-16: Mic Station User Editor - Add New

The Mic Station User Editor has several configuration options as described below.

- Username - The name for this user.
- Groups/Companies - Radio buttons used to indicate if this user is the member of a group or company.
- Groups/Companies - Droplist box used to assign the group or company to this user.
- Passcode - The numeric passcode that this user will use to log into a mic station.
- PIN - The Personal Identification Number for this user in installations with higher security requirements that require a user to log in with both a Passcode and PIN. *(Not shown, but may be visible in some installations)*
- User Language - The preferred language for the mic station user interface. In multi-lingual installations, the mic station will automatically change to this language upon user log-in.
- Graphic Permission - A numeric representation of the User Groups selected for this user. This is a read-only field and cannot be edited.
- User Groups - The permission groups to which this user belongs.

Add New Mic Station User

The steps necessary to add a new Mic Station User are as follows:

1. Click the *Add* button in the Mic Station User Viewer.
1. Enter a meaningful Username.
2. Select if the user is a member of a Group (Airline) or Company followed by the appropriate selection from the droplist box.
3. Enter a four or eight digit numeric Passcode. The size of the Passcode is determined by the setup in System Settings and by default set to a maximum length of four characters. Please refer to the appropriate section for more information on changing the length of passcodes.

4. *(optional)* Enter a four or eight character long numeric PIN if the field is visible. The size and visibility of the PIN is determined by the setup in System Settings. By default, the PIN is not visible and not required. Please refer to the appropriate section for more information on PIN.
5. Select the language for this user from the droplist box.
6. Select the appropriate entries from the User Groups listbox by clicking on the box next to the group name.
7. Click on the *OK* button to save and return to the Mic Station Users viewer. The newly added Mic Station User will appear at the end of the list in the viewer.

Note: The *Cancel* button can be clicked at any time to discard changes and return to the viewer form.

Edit

Click the ***Edit*** button to bring up the editor form for the user selected in the Mic Station User viewer. Alternatively, double-clicking on a user in the viewer will also open the editor.

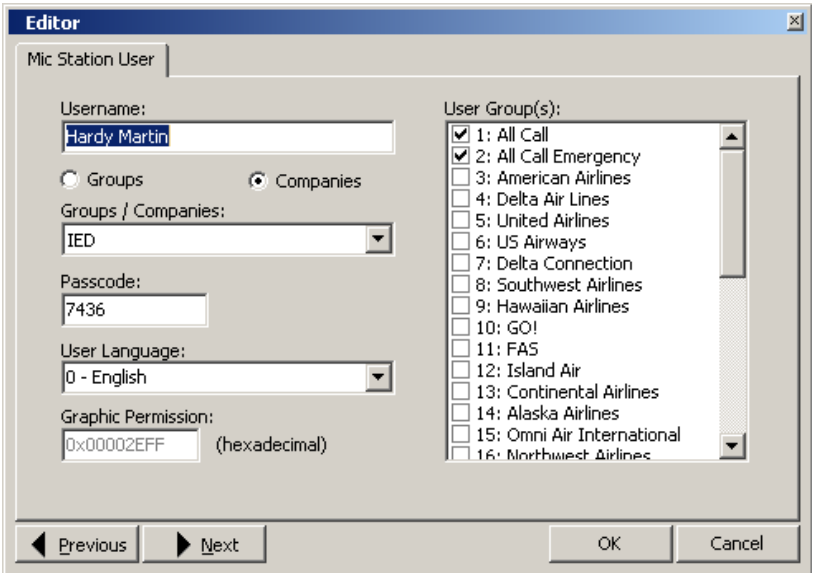

Figure 5-17: Mic Station User Editor

Editing an existing user opens a window with two additional buttons. Clicking on the *Previous* and *Next* buttons allows quick navigation to the previous and next records in the viewer. Navigating to a new record (via the *Next* and *Previous* buttons) after making changes to the data in the editor will result in a confirmation prompt as shown in Figure 5-18. The prompt options are as follows:

- Yes - Save current changes before navigating away.
- No - Do not save changes before navigating away.
- Yes to All - Save current and all subsequent changes while navigating using the *Previous* and *Next* buttons without any additional prompts.

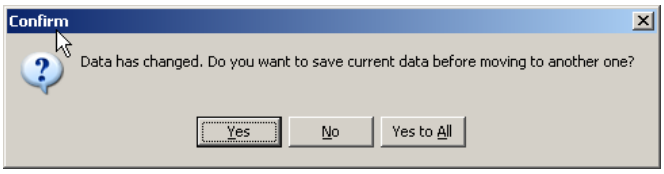

Figure 5-18: Edit Confirmation Dialog Box

Edit a Mic Station User

The steps necessary to edit an existing Mic Station User are as follows:

1. Highlight a user in the Mic Station User viewer window.
2. Click the *Edit* button located on the toolbar.
3. Make necessary changes to the data on the form.
4. Click on the *OK* button to save and return to the Mic Station Users viewer.

Note: The *Cancel* button can be clicked at any time to discard changes and return to the viewer form.

Delete

This option allows deleting the currently selected Mic Station User from the system. The user is prompted for confirmation (as shown in Figure 5-19) before the selected record is erased. In addition to erasing one record at a time, the user can choose to delete multiple records at a time as well. Simply select multiple Mic Station Users (by holding down the **[CTRL]** key and clicking on multiple records) in the viewer and click on the *Delete* button from the toolbar.

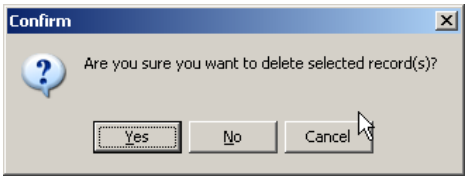

Figure 5-19: Delete Confirmation Dialog Box

Delete a Mic Station User

The steps necessary to delete an existing user are as follows:

1. Highlight a user group in the Mic Station User Viewer window or select multiple users by holding down the **[CTRL]** key while clicking.
2. Click the *Delete* button located on the toolbar.
3. Click the *Yes* button to delete the selected user(s).

Note: The *Cancel* or *No* button can be clicked at any time to cancel the delete operation and return to the viewer form.

Print

This option interfaces with the IED Print Manager software to open up the print preview window containing all the Mic Station User data. Refer to the IED Print Manager section for more information on this feature.

6

528 Interface Designer

The 528 series of digital microphone stations has a default user interface that provides access to the most common features needed in an airport facility. The 528 Interface Designer allows this default configuration to be altered to meet the needs of the installation. This opens the use of the 528 series microphone stations in other types of facilities. The following sections describe the usage of the 528 Interface Designer.

Note: This section applies to version 1.0.4.0 of the 528 Interface Designer.

Launching the 528 Interface Designer

The 528 Interface Designer is a separate application from the main Enterprise application. Therefore, it is not launched from an icon or menu located within the Enterprise Navigator window. The icon for launching the 528 Interface Designer is typically located on the IED Application Bar as shown in Figure 6-2. On some legacy systems, it may have been installed at a later time and is available as a shortcut icon on the desktop.

Figure 6-1: 528 Interface Designer Icon

Figure 6-2: Application Bar

From the application bar, click the 528 Interface Designer icon to launch the application. To launch from the desktop, double-click on the desktop icon. The main application window will appear as shown in Figure 6-3. From here, existing templates can be modified or new templates created and subsequently downloaded to one or more 528 series mic stations in the system.

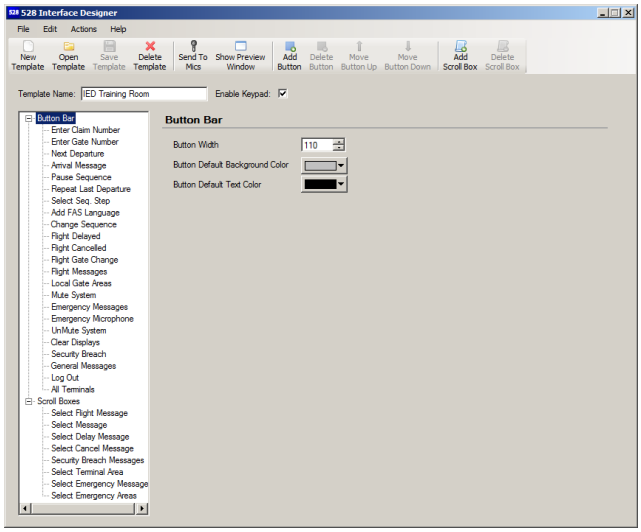

Figure 6-3: 528 Interface Designer

Security

While the 528 Interface Designer is not part of the main Enterprise application, it is still governed by the overall IED System Security service. Therefore, a user must have permissions assigned for the 528 Interface Designer in the Password Manager configuration. The Login/Logout process is the same as described in the *Overview* section of this manual.

Templates

Each button layout for a mic station is determined by a template. A single template can be used for as many mic stations as needed. However, each mic station can only have one template loaded at a time. Therefore, if a mic station must support multiple types of users (e.g., gate agent and emergency personnel), then one template must have functions for all users. Access to each button is determined by login permissions.

Opening, Adding, Renaming, and Deleting

By default, the last template edited will be loaded when the application is started. Once started, existing templates can be opened for editing or download to mic stations or new templates can be created.

Open a Template

1. Open the 528 Interface Designer by clicking on the icon located in the IED Application Bar or on the desktop.
2. Click the *Open Template* button on the toolbar. This will display the Open Template dialog box as shown in Figure 6-4.
3. Highlight the template in the window and click the *OK* button to load it. Double-clicking on the template name in the list will also cause it to open.

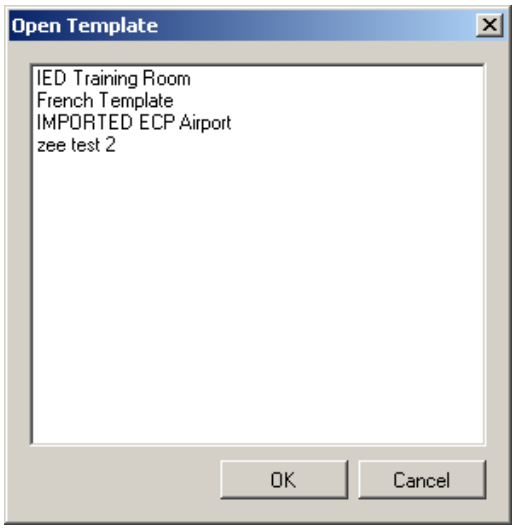

Figure 6-4: Open Template

Add a New Template

1. Open the 528 Interface Designer by clicking on the icon located in the IED Application Bar or on the desktop.
2. Click the *New Template* button located on the toolbar.
3. Enter a name for the template in the *Template Name:* field.
4. Click the *Save Template* button to save the new template.

5. Add and edit buttons and scroll boxes as needed. Save the template periodically to ensure changes are not accidently lost.

Rename a Template

1. Open the 528 Interface Designer by clicking on the icon located in the IED Application Bar or on the desktop.
2. Click the *Open Template* button on the toolbar. This will display the Open Template window as shown in Figure 6-4.
3. Highlight the template in the window and click the *OK* button to load it. Double-clicking on the template name in the list will also cause it to open.
4. Edit the name in the *Template Name* field.
5. Click the *Save Template* button to save the template with the new name.

Delete a Template

1. Open the 528 Interface Designer by clicking on the icon located in the IED Application Bar or on the desktop.
2. Click the *Open Template* button on the toolbar. This will display the Open Template window as shown in Figure 6-4.
3. Highlight the template in the window and click the *OK* button to load it. Double-clicking on the template name in the list will also cause it to open.
4. Click the *Delete Template* button located in the toolbar.
5. Click *Yes* to confirm the delete action. Clicking *No* will cancel the delete operation.

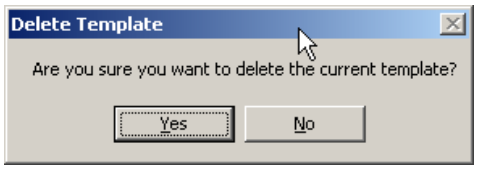

Figure 6-5: Delete Template Confirmation

Note: This will delete the template from the database. Mic stations that have this template loaded will not be changed until a new template is sent to those stations.

Importing and Exporting Templates

Sometimes it is necessary to create a template for one system and transfer it to another. In order to accomplish this, the 528 Interface Designer provides functions to import from a file and export to a file. The file is saved in an XML file format with a .xml file extension.

Export a Template

1. Open a template as previously described.
2. Click on the *File* menu and select *Export Template To File* as shown in Figure 6-6.

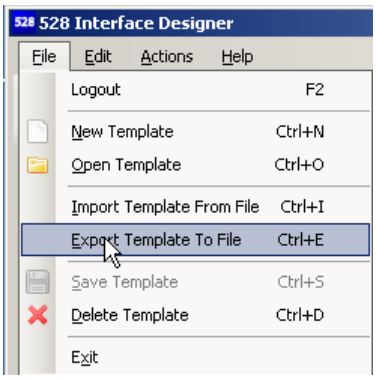

Figure 6-6: Export Template Menu

3. This will open a standard Windows *Save As* dialog window as shown in Figure 6-7.

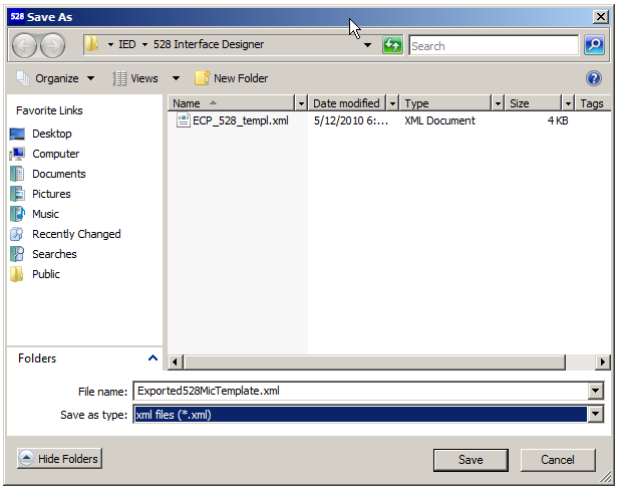

Figure 6-7: Template Save As Dialog

4. Type in a new name for the file in the ***Filename*** box. The .xml file extension is not required. It will be added to the filename automatically if omitted.
5. Select *xml files (*.xml)* as selected in the ***Save as type*** droplist box.
6. Select the appropriate file location using the file system navigation tools located at the top of the window.
7. Click the ***Save*** button to save the file.

Note: Click the ***Cancel*** button at any time to close the window without saving the file and return to the editor window.

Import a Template

1. Click on the ***File*** menu and select ***Import Template From File*** as shown in Figure 6-8.

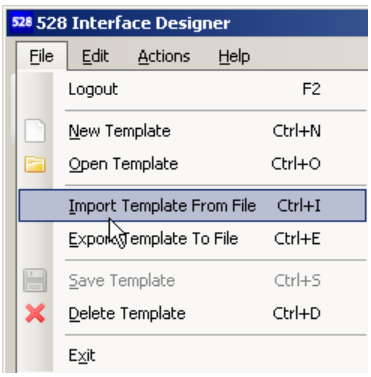

Figure 6-8: Import Template Menu

2. This will open a standard Windows *Open* dialog window as shown in Figure 6-9

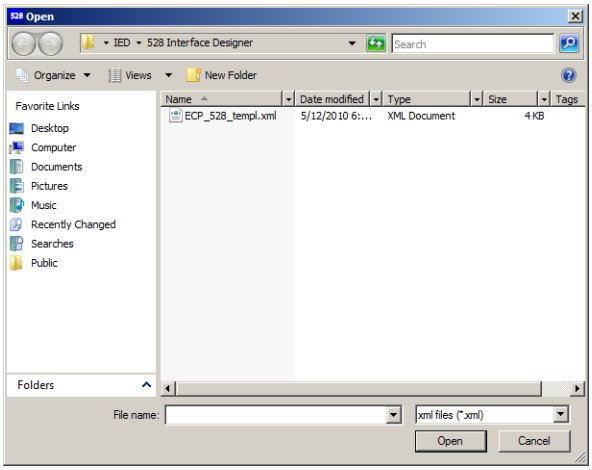

Figure 6-9: Import Template Dialog

3. Select the appropriate file location using the and file system navigation tools located at the top of the window.
4. Highlight the file to import as shown in Figure 6-9.
5. Click the ***Open*** button to load the template file. The imported template will have the text "IMPORTED" appended to the front of the template name as shown in Figure 6-10.

Figure 6-10: Imported Template Name

6. Rename the template, if necessary, and click the ***Save Template*** button located in the toolbar to save the imported template to the database.

Editing Templates

A 528 mic station interface consists of combinations of buttons and scroll boxes. Each has their own specific properties as they relate to functionality and appearance. The 528 Interface Designer's main purpose is to provide a simple tool to manipulate these properties.

Template Name

This is the name of the template as stored in the database.

Enable Keypad

When checked, the numeric keypad on the 528 mic station will accept numeric entries as defined in IED Enterprise under Entry Code Definitions. When unchecked, the numeric keypad cannot be used to enter page codes. The mic station functionality is restricted to the soft buttons mapped to the display. The keypad is still used to enter variable information when prompted by the interface.

Toolbar

The toolbar is located at the top of the application window as shown in Figure 6-11. Some buttons appear grayed out when that particular function is not available. Availability is based on the button or scroll box selected in the tree view located along the left side of the application window.

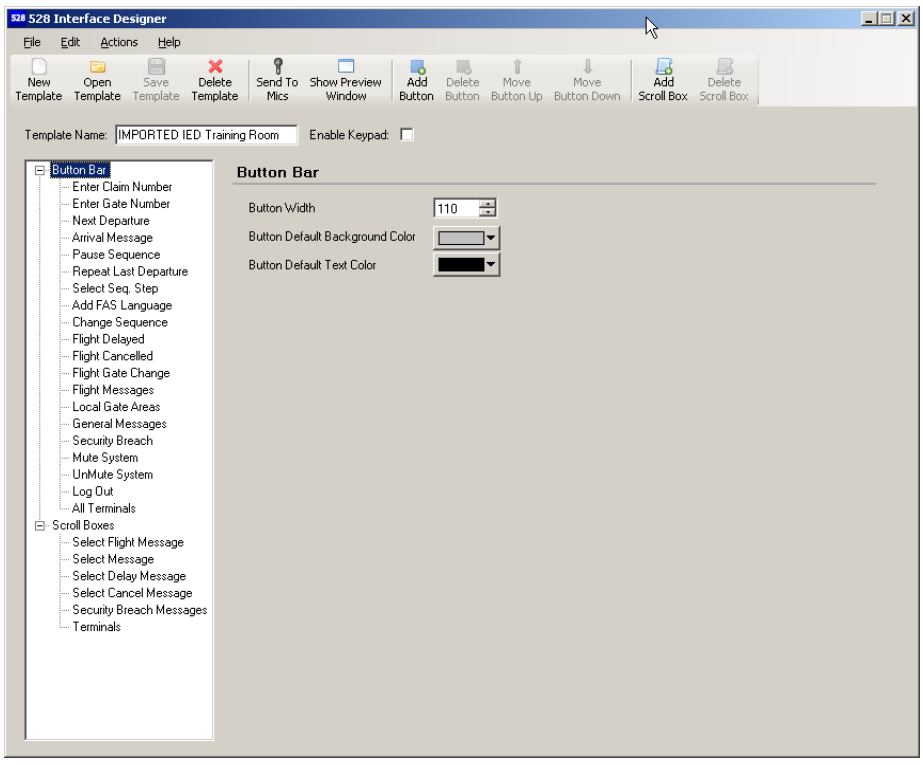

Figure 6-11: 528 Interface Designer Toolbar

The function of each button on the toolbar is described below.

New Template

Click this button to create a new blank template.

Open Template

Click this button to open the *Open Template* dialog box as shown in Figure 6-4.

Save Template

Click this button to save the current template to the database.

Delete Template

Click this button to delete the current template from the database. The application will prompt to confirm the delete action as shown in Figure 6-5.

Send to Mics

Click this button to open the transfer window and send the template to a mic station. *See "Transfer Templates" on page 104* for details on transferring templates.

Show Preview Window

Click this button to open the preview window for the mic station as shown in Figure 6-12. This displays a simulation of how the buttons will appear on the interface once transferred to a mic station.

There is a list box at the top of the screen titled *User name to view the preview for:*. This list box contains the entire list of mic station users on the system (as defined in Enterprise). When changing the value of this list box, the template will only show buttons and scroll box items for the user selected. This is a good way to display what a template will look like for a particular user without sending the template to the mic station.

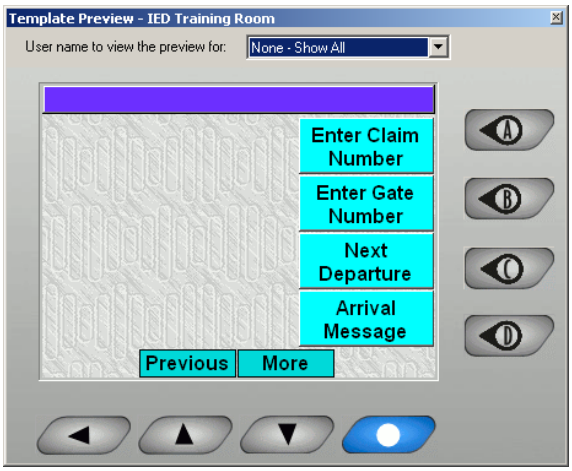

Figure 6-12: Preview Window

Add Button

Click this button to add a new button to the template. A new button is always added to the bottom of the treeview. Once added, the position is changed using the ***Move Button Up / Move Button Down*** buttons. Enter a name for the button in the caption field.

Delete Button

Click this button to delete the button currently selected in the treeview. This action is immediate and does not result in any further prompting.

Move Button Up

Click this button to move the currently selected button up one level in the tree view. Click as many times as needed to place the button in the desired place.

Move Button Down

Click this button to move the currently selected button down one level in the tree view. Click as many times as needed to place the button in the desired place.

Add Scroll Box

Click this button to add a new scroll box to the template. Enter a name for the scroll box in the title field.

Delete Scroll Box

Click this button to delete the currently selected scroll box from the template.

Buttons

The Button Bar

Each 528 mic station has a line of buttons on the right of the display, referred to as the *button bar*. The 528 Interface Designer is the tool used to program these buttons. When adding the first button, it will appear under the Button Bar in the tree view on the left side of the screen. Clicking on the ***Button Bar*** in the tree view will show settings that apply to all buttons in the template as shown below in Figure 6-13.

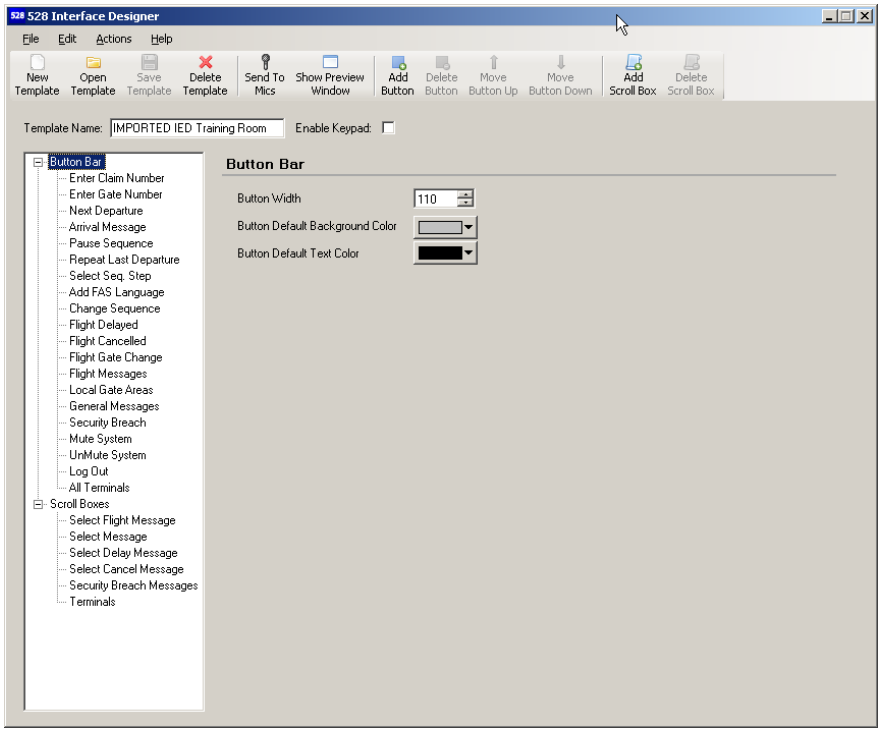

Figure 6-13: Button Bar Screen

Button Width

This is the width (in pixels) of all buttons on the mic station screen. The default value is 110 pixels.

Button Default Background Color

This is the background color used for all buttons that have the ***Use Default Colors*** checkbox checked next to the individual button color settings. This is useful as it provides an easy way to control the color of many buttons in the template.

Button Default Text Color

This is the text color used for all buttons that have the ***Use Default Colors*** checkbox checked next to the individual button color settings. This is useful as it provides an easy way to control the color of the text in the template.

Button Properties

When a button is selected on the treeview, its properties are edited using the controls displayed on the right side of the application window as shown in Figure 6-14.

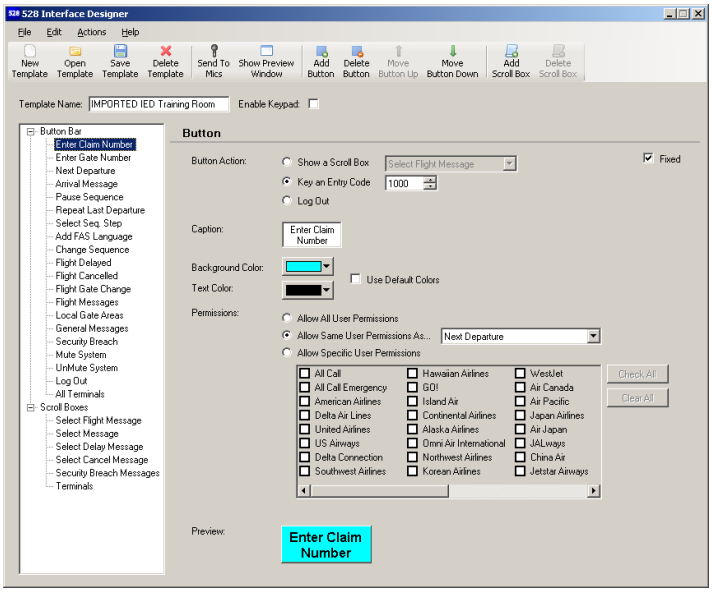

Figure 6-14: Button Properties

The controls available on this panel are as follows:

Button Action

This defines what will happen when a button is pressed. There are three options available.

- Show a Scroll Box - This action will result in opening the scroll box that is selected from the adjacent droplist box.
- Key an Entry Code - This action will transmit the code entered in the adjacent entry box to the announcement controller to activate a function.
- Log Out - This sets the button to perform the logout function when mic station security is used in a system.

Caption

This is the text that is displayed on the button. The character limit of the text is determined by the button width that is defined in the Button Bar section. Text will be automatically wrapped to a second line if it does not fit on a single line. To force a second line, press the **[ENTER]** key on the first line at the appropriate break point.

With the default button width of 110 pixels, the maximum number of characters that will fit on the button is 22 characters.

Background Color/Text Color

When the *Use Default Colors* checkbox is unchecked, the background color and text (font) color can be changed for this button by clicking on the appropriate icon. If *Use Default Colors* is checked, this button will use the default colors selected in the button bar panel.

Permissions

For systems that use mic station security or mic stations that are not locked, buttons are shown or hidden based on permissions assigned to each user or mic station. Each button has three options:

- Allow All User Permissions - Select this option to grant access to this button for all users.
- Allow Same User Permissions As... - Select this option to slave the permissions for a button to those of another button. The other button or scroll box to use as the master is selected from the adjacent droplist box.
- Allow Specific User Permissions - Select this option to restrict access to this button only to the users selected in the window. Check the box next to each user that should be allowed access. Two shortcut buttons are to the right of the window (*Check All/Clear All*) to allow quick selection or de-selection of all items in the list.

Note: Because of hardware limitations, there is a limited number (31) of different *Allow Specific User Permissions* available, so it's recommended to use the *Allow Same User Permissions As…* option as frequently as possible.

Preview

This is a preview of the button as it will appear on the mic station. It is useful to see the text layout of the button using the colors selected.

Scroll Boxes

Scroll boxes provide a list of items that are selected to perform an action. Each item in a scroll box is essentially the same as a button, but placed together in a group of other similar items. Using scroll boxes allows the design of a more intuitive and organized user interface and reduces the number of buttons. For example, a button can be created titled *PDRP Messages* and assigned an action to open a scroll box that has a list of PDRP messages available for that mic station. Access to each PDRP message in the list can be restricted based on individual user permissions.

Scroll Box Properties

When a scroll box is selected on the treeview, its properties are edited using the controls displayed on the right side of the application window as shown in Figure 6-15.

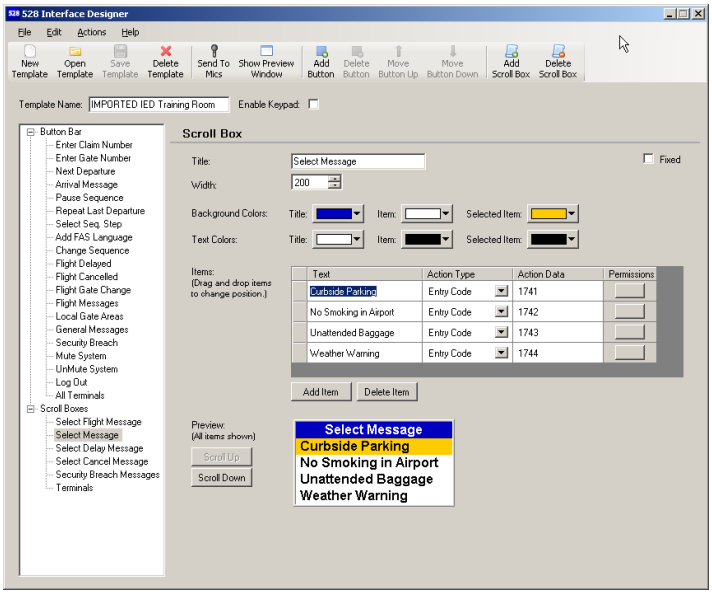

Figure 6-15: Scroll Box Properties

The features of this panel are as follows:

Title

This is the text that appears at the top of the scroll box when it is visible.

Width

This setting controls the width of the scroll box. It is important to note that if text in the scroll box exceeds this width, it will get cut off. This width can be no wider than the 528 screen width, which is 320 pixels.

Background Colors

This selects the background colors for the items in the scroll box. The background for the title bar, selected, and unselected items are each configured independently.

Text Colors

This selects the text (font) colors for the items in the scroll box. The text colors for the title bar, selected, and unselected items are each configured independently.

Items

Scroll box items are added to, edited, moved, or deleted from this item list. To move the position of the item in the scroll box, drag the first column with the grey box to a new location in the list.

Add Item

Click this button to add a new item to the bottom of the list. The position of the new item can then be arranged appropriately in the list by clicking and dragging the row.

Delete Item

Click this button to immediately remove the highlighted item from the list.

Text

This is the text that will display in the scroll box for the selected item.

Action Type

This setting determines the type of action assigned to the item. Currently, the only type available is *Entry Code*.

Action Data

This is the data associated with the item that is used when the item is selected. Currently, the entry code (as defined in Enterprise) is the only option available. This is the code that will be sent to the announcement controller when this item is selected to initiate an announcement (e.g. PDRP Message Number, Zone Group Number, etc.).

Permissions

Each item in the scroll box is shown or hidden based on permissions assigned to each user or mic station. Click the button in this column to bring up the permissions editor for the item as shown in Figure 6-16.

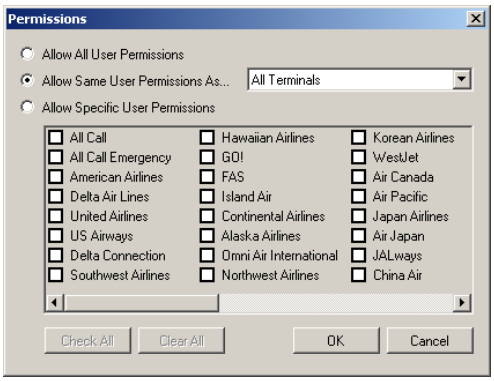

Figure 6-16: Scroll Box Item Permissions

Each item has three options:

- Allow All User Permissions - Select this option to give access to this item for all users.
- Allow Same User Permissions As... - Select this option to slave the permissions for an item to those of another button or item. The other button or item to use as the master is selected from the adjacent droplist box.
- Allow Specific User Permissions - Select this option to restrict access to this item only to the users selected in the window. Check the box next to each user that should be allowed access. Two shortcut buttons are to the right of the window (*Check All/Clear All*) to allow quick selection or de-selection of all items in the list.

Note: Because of hardware limitations, there is a limited number (31) of different *Allow Specific User Permissions* available, so it's recommended to use the *Allow Same User Permissions As…* option as frequently as possible.

Preview

The preview shows all items available for a scroll box as it will look on a 528 mic station. This is handy to use to test text length and font colors. Clicking the Scroll Up and Scroll Down buttons allow viewing of all items in the list.

Transfer Templates

When a template is open, it can be sent to one or more mic stations at any time.

Transfer a Template to a Mic Station

1. Open the template as described previously.
2. Click the *Send to Mics* button in the toolbar to open the transfer selection window as shown in Figure 6-17. This window will display all announcement controllers and the mic stations available in a tree view. Each announcement controller can be expanded or closed by clicking the + or - next to the checkbox.

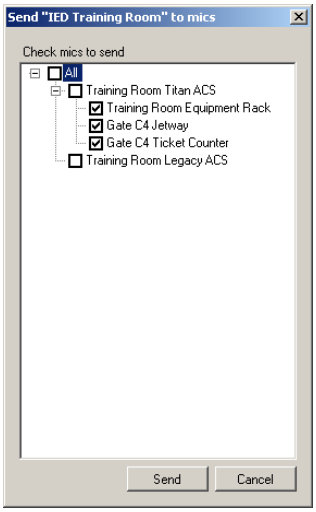

Figure 6-17: Transfer Window

3. Select the mic stations in the system that will receive the template by checking the box next to that mic station. Selecting the check box next to an announcement controller will select all of its mic stations.
4. Click the *Send* button to begin the transfer process.

Note: An IP address must be assigned to the mic station in Enterprise for this process to work. If an IP address is not present or a broadcast address is not associated with the announcement controller, then a prompt will appear for a broadcast address as shown in Figure 6-18. If prompted, enter the broadcast address for the announcement controller to begin the transfer.

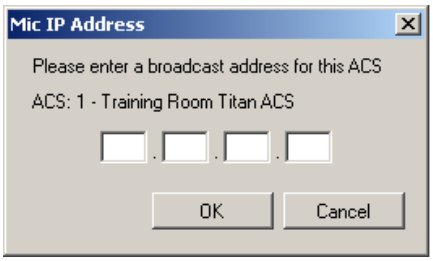

Figure 6-18: Enter Broadcast Address Window

Bulk Updating of Mic Stations

A special feature exists for transferring multiple templates to different mic stations in a single bulk transfer process. This provides a faster transfer method when multiple templates have already been created for mic stations in a system.

Execute a Bulk Update

1. Open the *Actions* menu and select the *Update Database and Devices* item. This will open the bulk update window as shown in Figure 6-19. The upper window lists all mic stations available in the system.

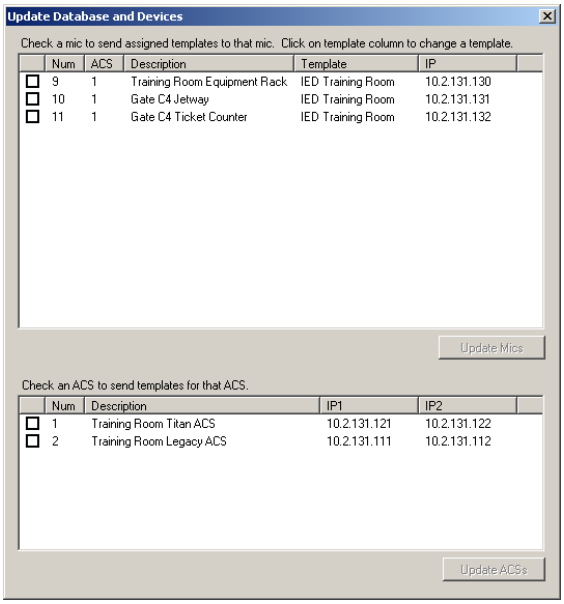

Figure 6-19: Update Database and Devices Window

2. Assign a template to a mic station by clicking on the template name for the mic station in the *Template* column. This will open a droplist box of available templates in the system.
3. Repeat step 2 to assign a template to each mic station as needed.
4. Check the box next to each mic station to update.
5. Click the *Update Mics* button to transfer the templates to the selected mic stations.

Announcement Controller Template Storage

Each announcement controller retains the template files for mic stations so that the correct template is loaded whenever the mic station reboots with factory default objects. This also applies to replacing a damaged mic station with a new one when it is configured with the same IP address, group number, and mic number. To ensure that this will function correctly, the templates must be transferred to the announcement controller.

Transfer Templates to Announcement Controller

1. Open the *Actions* menu and select the *Update Database and Devices* item. This will open the bulk update window as shown in Figure 6-19. The lower window lists the announcement controllers available in the system.
2. Check the box next to the announcement controller to receive the templates.
3. Click the *Update ACS* button to begin the transfer.

Default Text Table Data

In each mic station, there are certain text elements that do not change when a template is downloaded. This consists of generic text that is the same across all templates. These elements are things such as the *previous* and *next* button labels and the *Enter Zone Code* prompt that appears when entering a zone group. This text can be changed to alternative wording or other languages if necessary. To edit this text, select the ***Default Text Table Data*** from the ***Edit*** menu to open the data table as shown in Figure 6-20.

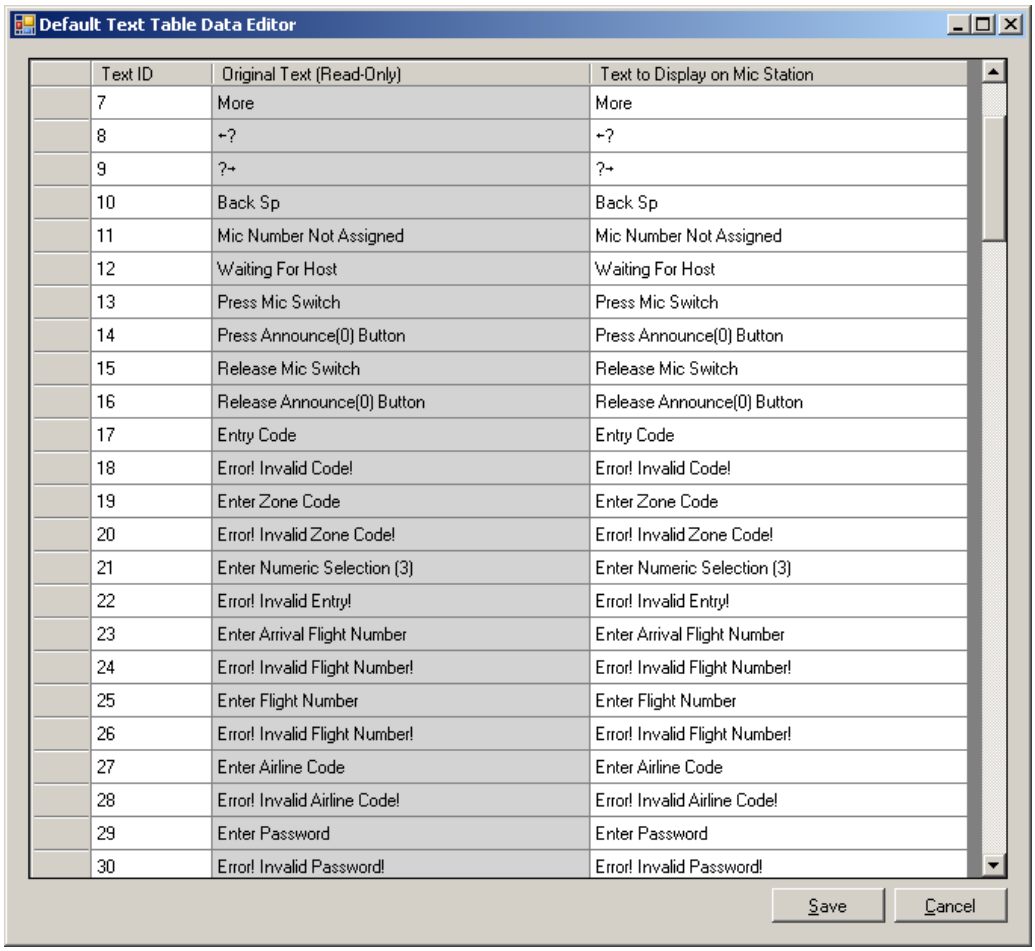

Figure 6-20: Default Text Table Data Screen

On this screen, select the appropriate field in the *Text to Display on Mic Station* column and edit it as necessary. Click the ***Save*** button to save changes when finished. Click ***Cancel*** to discard changes and close the window.

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7

Zone Group Setup

Zone Groups are a key element in the Enterprise software. This is the terminology and method used to define and program functions for system outputs known as page zones. Zone Groups consist of one or more zones and are used as elements when configuring microphone stations, live announcements, recorded announcements, PDRP messages, and visual paging. The following sections provide a description of Zone Group configuration.

Zone Groups

Zone Groups are a collections of individual zones in a system that are treated as a single announcement destination. When individual zones are programmed into zone group, they can be accessed with a single entry code. For example, a very large open area in a facility may have 50 loudspeakers but each power amplifier can only power 10 loudspeakers. Therefore, the 50 loudspeakers will be broken up into five (5) individual power amplifier channels, each of which is a ***zone*** with 10 loudspeakers. Physically, all of these loudspeakers are located in the same room and any page to that room will always need to go to all five (5) zones. A zone group would be made for this room that is made up of all five (5) zone outputs. Therefore, to configure a mic station or PDRP message to play to this room (all 5 zones), only a single zone group need be selected.

Zone groups can contain any number of analog audio (500D Card) zones, Titan digital audio zones, visual display and relay zones. Typically there are three different zone group types in a system: Local, Terminal and Emergency. Local zone groups are confined to zones within a single announcement controller while terminal and emergency zone groups are global to all announcement controllers in the system. These types are user-defined to each behave a certain way. Announcement properties such as priority and if an announcement is live or recorded are determined by the zone group type. For example, emergency zone groups are programmed to have a higher priority than the other types. When an emergency announcement is made, it will override any other announcements that are active in any of the same zones.

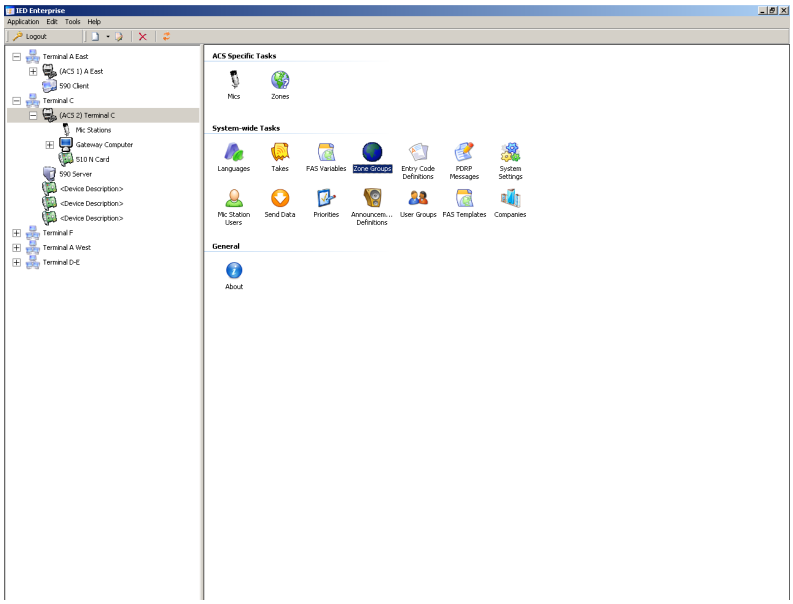


Figure 7-1: Enterprise Navigator Window

Zone Groups Viewer

Double-click the Zone Groups icon as shown in *"Enterprise Navigator Window" on page 110* to open the Zone Groups Viewer (*See "{h1.SectionTitle}" on page 111*). This window provides a list of all zone groups currently programmed in the selected announcement controller. This window provides access to edit or delete existing zone groups as well as add new ones.

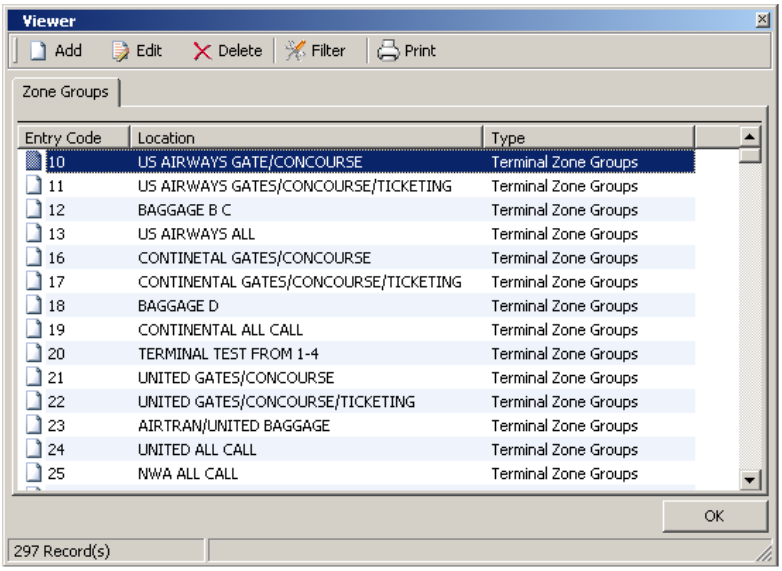


Figure 7-2: Zone Groups Viewer

Double-click any zone group to open the Zone Group Editor window for that zone group.

Figure 7-3: Zone Groups Viewer Toolbar

The toolbar located at the top of the Zone Groups Viewer provides quick access to the commands needed to add, edit, or delete zone groups.

Add

Click the *Add* button to open the Zone Group Editor with a new zone group entry as shown in *See "{h1.SectionTitle}" on page 112*.

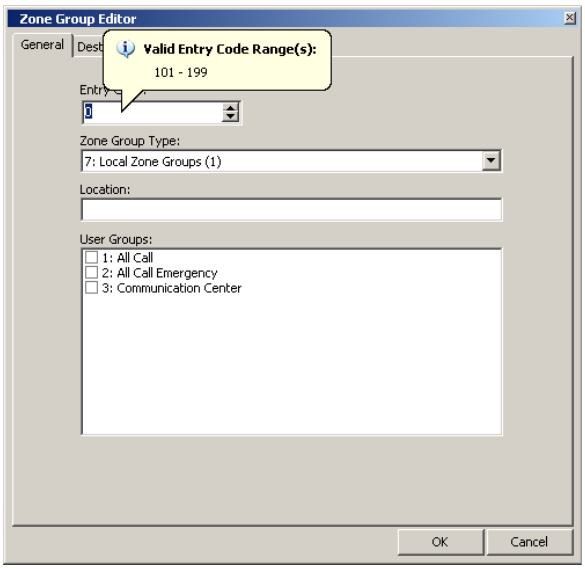


Figure 7-4: Zone Group Editor - New Zone Group

Add New Zone Group

The steps necessary for adding a new zone group are as follows:

Note: Refer to *"Zone Group Editor" on page 116* for details on the Zone Group Editor window.

1. Click on the *Zone Groups* icon from the Enterprise Navigator window to open the Zone Group Viewer.
2. Click the *Add* button to open the Zone Group Editor.
3. Select the appropriate *Zone Group Type* from the droplist box.
4. Enter an unused entry code for the new zone group. *Valid range(s) of numbers available for the selected zone group type will be listed in the pop-up help when the cursor is placed over the entry code text box.*
5. Type in a description of the zone group in the *Location* entry box.
6. Select the *User Groups* that will have permission to access this zone group.
7. Click the *Destinations* tab and select all system zones to be assigned to this zone group. Holding the cursor over a zone will open the flyover help balloon containing the description of each zone.
8. Click the *OK* button to save the changes and close the window.

Note: The *Cancel* button can be clicked at any time to discard changes and return to the viewer form.

Edit

Click the ***Edit*** button to open the editor form for the zone group highlighted in the Zone Groups Viewer. Alternatively, double-clicking on a zone group in the viewer will also open the editor.

Figure 7-5: Next / Previous Buttons

Editing an existing zone group opens a window with two additional buttons as shown in Figure 7-5. Clicking on the ***Previous*** and ***Next*** buttons allows quick navigation to the previous and next records in the viewer. Navigating to a new record (via the ***Next*** and ***Previous*** buttons) after making changes to the data in the editor will result in a confirmation prompt as shown in Figure 7-6. The prompt options are as follows:

- Yes - Save current changes before navigating away.
- No - Do not save changes before navigating away.
- Yes to All - Save current and all subsequent changes while navigating using the ***Previous*** and ***Next*** buttons without any additional prompts.

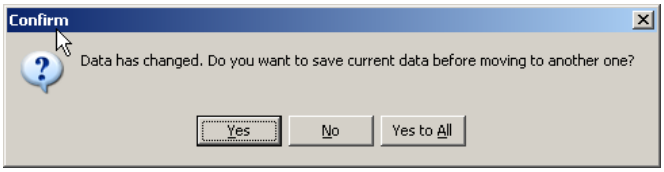


Figure 7-6: Edit Confirmation Dialog Box

Edit a Zone Group

The steps necessary to edit an existing zone group are as follows:

Note: Refer to *"Zone Group Editor" on page 116* for details on the Zone Group Editor window.

1. Click on the ***Zone Groups*** icon from the Enterprise Navigator window to open the Zone Group Viewer.
2. Highlight a zone group in the Zone Groups Viewer.
3. Click the ***Edit*** button to open the Zone Group Editor.
4. Make the necessary changes to the data on the form.
5. Click the ***OK*** button to save the changes and close the window.

Note: The ***Cancel*** button can be clicked at any time to discard changes and return to the viewer form.

Delete

Click the *Delete* button to remove the selected zone group from the system. The user is prompted for confirmation (*See "{h1.SectionTitle}" on page 114*) before the selected record is erased. In addition to erasing one record at a time, multiple zone groups can be selected at once. Select multiple zone groups by holding down the **[CTRL]** key while clicking on the records. Click the *Delete* button after all selections have been made.

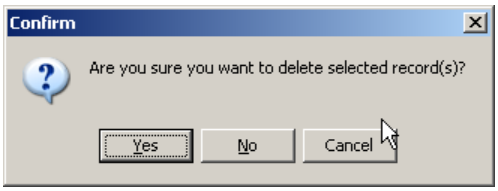


Figure 7-7: Delete Confirmation Dialog Box

Delete a Zone Group

1. Click on the *Zone Groups* icon from the Enterprise Navigator window to open the Zone Group Viewer.
2. Highlight a zone group in the Zone Group Viewer window or select multiple zone groups by holding down the **[CTRL]** key while clicking.
3. Click the *Delete* button located on the toolbar.
4. Click the *Yes* button to delete the selected group(s).

Note: The *Cancel* or *No* buttons can be clicked at any time to cancel the delete operation and return to the viewer form.

Filter

Click the *Filter* button to open a drop-down menu of available zone group types to display. This allows the user to only view zone groups of the types selected in the *Filter By* menu. A check next to the zone group type indicates the current filter setting.

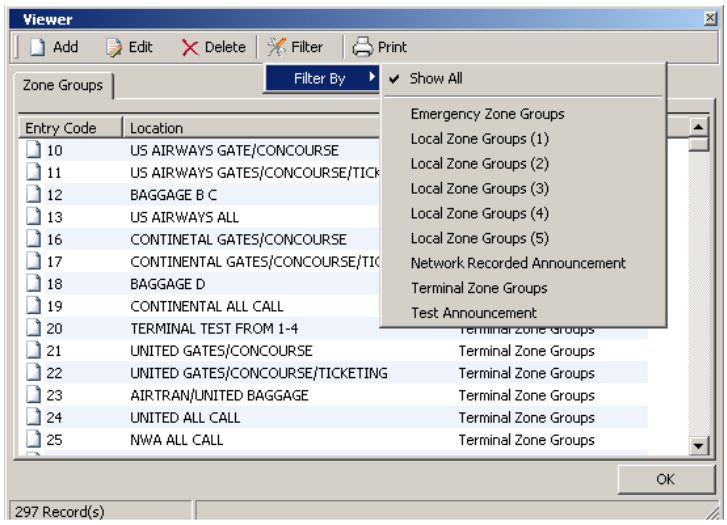


Figure 7-8: Zone Group Viewer Filter

Filter the Zone Groups list

1. Click on the ***Zone Groups*** icon from the Enterprise Navigator window to open the Zone Group Viewer.
2. Click the ***Filter*** button then move the cursor down to highlight the ***Filter By*** menu item.
3. Select the zone group type to be displayed. Select *Show All* to show all zone groups in the list.

Print

This button interfaces with the IED Print Manager software to open the print preview window containing the zone groups data. Refer to the IED Print Manager section for more information on this feature.

OK

Click the ***OK*** button to close the Zone Groups Viewer.

Zone Group Editor

Adding a new zone group or editing an existing zone group will open the Zone Group Editor window as shown in *See "{h1.SectionTitle}" on page 116*. When the cursor is moved to be above the Entry Code edit box, a pop-up balloon help appears with the range of values valid for the selected zone group type and for this announcement controller. There are two tabs on this window, ***General*** and ***Destination***, and they can be changed by clicking on the appropriate tab at the top of the window.

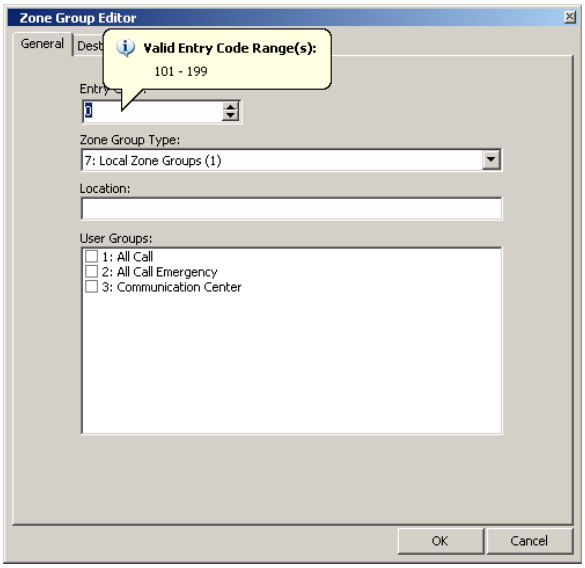


Figure 7-9: Zone Group Editor - General Tab

Details for the configuration options available on each tab are defined below. For step-by-step instructions on adding, editing, or deleting zone groups, refer to the previous pages.

General Tab

Entry Code

The value to be entered in a mic station or assigned to a mic station button or pop-up menu that will access this zone map. This value must be in the defined range for the selected Zone Group Type (droplist box below). When the mouse cursor is held above the Entry Code edit box, it displays the valid range of numbers in a pop-up balloon help box, as seen in *"Zone Group Editor - General Tab" on page 116*.

Zone Group Type droplist box

The type of zone group (announcement) associated with this entry. These are defined elsewhere in Enterprise by the system administrator. The default zone group types as shipped from the factory are Terminal, Local and Emergency. These default types are described below.*See "{h1.SectionTitle}" on page 116*

Terminal

10 through 99

Typically used for a large area in an airport such as a concourse or all of ticketing. These announcements are recorded and played back as the zones become available. This type of announcement is a lower priority and is typically used for courtesy announcements or general information. Terminal zone groups are global and use zones in all announcement controllers.

Local

3-digit code based on ACS number

Typically used for a gate holding area in an airport. This type of announcement is recorded and played back as the zones become available unless modified in the Announcement Definitions setup. Local announcements will override terminal announcements that are playing in the same zone. Local zone groups are confined to the announcement controller in which they are defined.

Emergency

901-950

By default these are the highest priority announcement and therefore will override any other announcement in the system. These are used for emergency announcements such as fire/evacuation or weather alerts. Unless used as a PDRP message, emergency zone groups are always live and are global to all announcement controllers in the system.

Location

A description of the zone group that is typically the physical location of the area. (e.g. Gate 1A, Concourse B, or Ticketing)

User Groups

A list of checkboxes used to define which user permission groups may access (use) this zone group. If a user is not assigned to a user group that is associated with a zone group here and attempts to page to this zone group, the mic station will indicate an error.

Destination Tab

The Destination tab (*See "{h1.SectionTitle}" on page 118*) is where zones are assigned to the zone group.

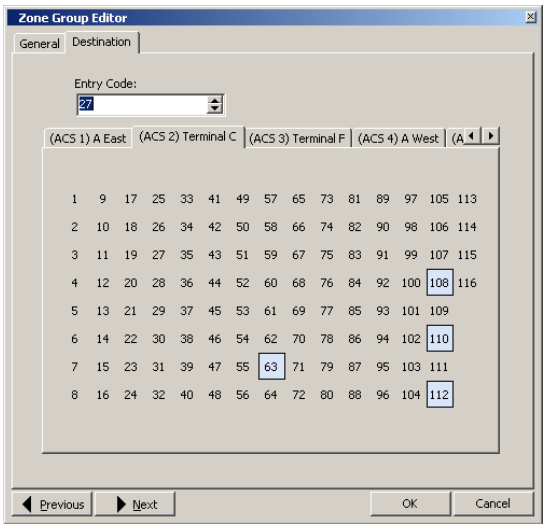


Figure 7-10: Zone Group Editor - Destination Tab

Entry Code

The value to be entered in a mic station or assigned to a mic station button or pop-up menu that will access this zone map. This value must be in the defined range for the selected Zone Group Type (droplist box located on the General tab). When the mouse cursor is held above the Entry Code edit box, it displays the valid range of numbers in a pop-up balloon help box. This is the same as on the General Tab, shown here also for convenience.

Announcement Controller Tabs

These tabs are for selecting each announcement controller, in order to view and select zones on that device. For some types of announcements, only the tab for the selected device will be visible and the remaining tabs will be hidden. Local announcements will only show the local announcement controller tab. Terminal and Emergency announcements will show all tabs.

Zone Array

On each tab, there is an array of zones available on that device. Toggle the selection of each zone on or off by clicking on it to determine membership to this zone group. Multiple sequential zones may be selected by clicking the first zone, holding the **[SHIFT]** key then selecting the last zone in the sequence.

Previous/Next buttons

These allow quick navigation to the previous or next zone group without exiting the window. If any changes have been made to the zone group, a prompt will appear as shown in Figure 7-6.

8

Zone Setup

Zones are the actual outputs on a system. Typically, zones are the outputs from the system that deliver announcements, program material, and/or background material to the physical space in a facility. Zones are also used to define other types of system outputs as well, such as visual displays, relays, multi-ACS channels, data channels, etc. The following sections describe adding zones to an announcement controller.

Zones

Zones are defined for each announcement controller in the system. All zones are accessed from the Zones icon in Enterprise as shown in Figure 8-1.

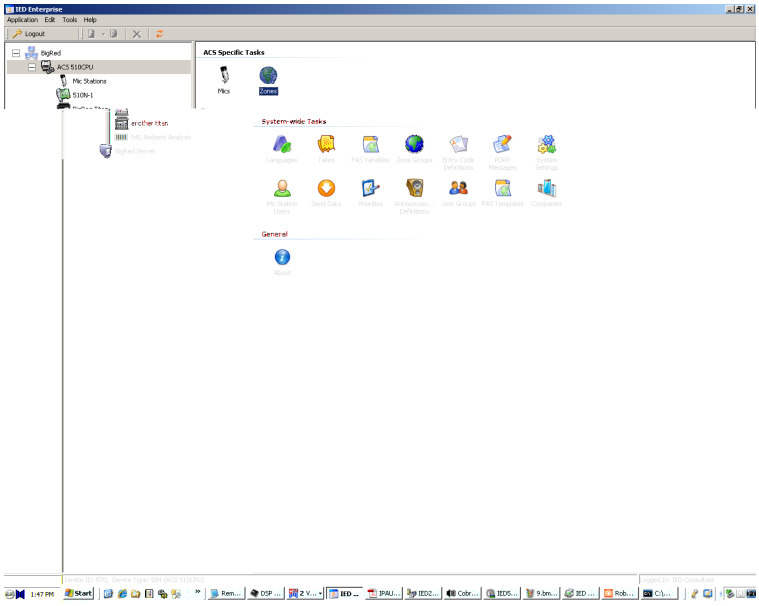


Figure 8-1: Enterprise Navigator Window

There are two windows involved for editing zones: the Zones List Viewer and the Zone Editor. Each of these windows is described in the sections that follow.

Zones Viewer

Double-click the Zones icon shown in Figure 8-1 to open the Zones Viewer (Figure 8-2). This window provides a list of all zones programmed in the selected announcement controller. This window provides access to edit or delete existing zones as well as add new ones. A filter can be applied to simplify the list and make it easier to view a specific group of data.

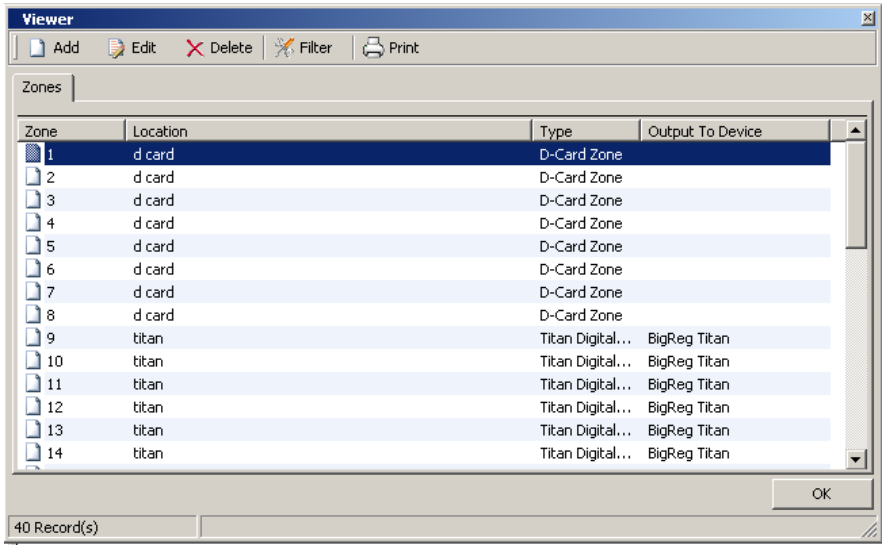


Figure 8-2: Zones Viewer

Double-click any zone in the list to open the Zone Editor window for that zone.

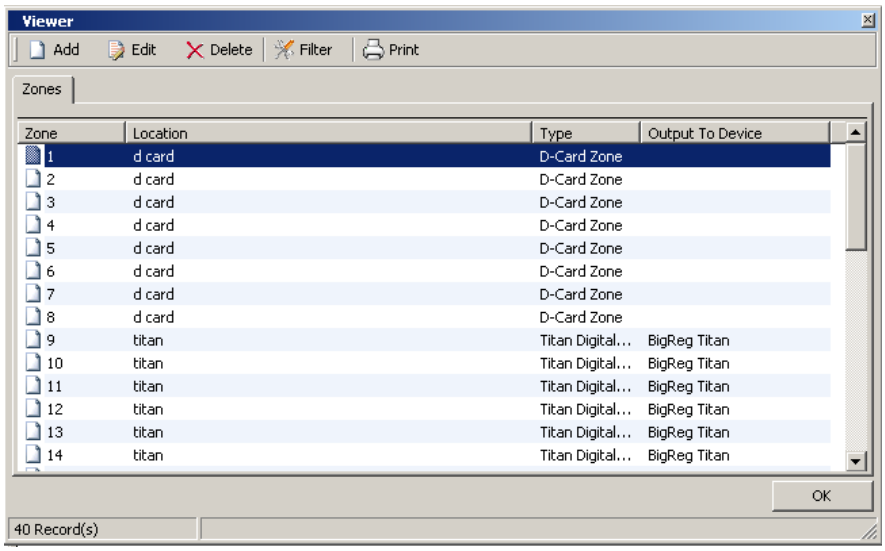


Figure 8-3: Zones Viewer Toolbar

The toolbar located at the top of the Zones Viewer provides quick access to the commands needed to add, edit, or delete zones.

Add

Click the *Add* button to open the Zone Editor with a new zone entry as shown in Figure 8-4.

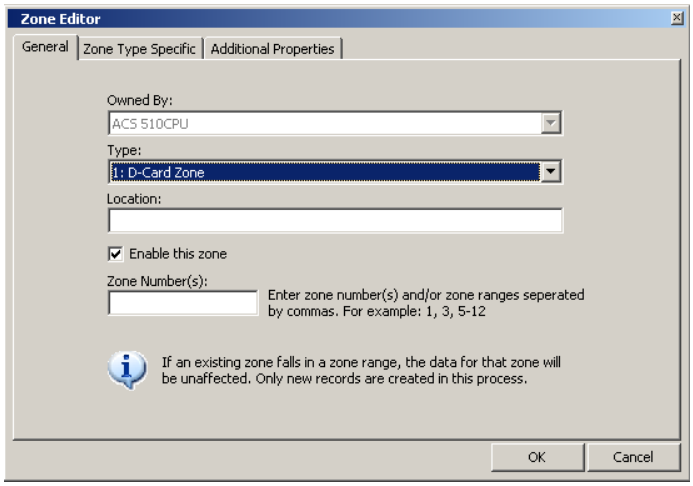


Figure 8-4: Zone Editor - New Zone

Add New Zone

The steps necessary to add a new zone to the system are as follows:

Note: Refer to the Zone Editor on *page 126* for details on the Zone Editor window.

1. Click on the *Zones* icon from the Enterprise Navigator window to open the Zones Viewer.
2. Click the *Add* button to open the Zone Editor window.
3. Select the *Type* for the zone.
4. Enter a description of the zone in the *Location* entry box.
5. Check the *Enable this zone* box to make the zone active. This can be left unchecked if this zone will be activated at a later time.
6. Enter the number for the zone in the *Zone Number(s)* entry box. Multiple zones can be added at one time by typing a "–" between numbers to indicate a range (e.g. 5–12) or use commas to separate multiple zones (e.g. 5, 7, 9). If the number or range includes a zone that already exists, that zone will be excluded from the addition and its data will not be changed.
7. Click the *Zone Type Specific* tab and edit as required. (See *page 127*)
8. Click the *Additional Properties* tab and edit as required.
9. Click the *OK* button to save the changes and close the window.

Note: The *Cancel* button can be clicked at any time to discard changes and return to the viewer form.

Edit

Click the Edit button to open the editor window for the zone highlighted in the viewer. Alternatively, double-clicking on a zone in the viewer will also open the editor.

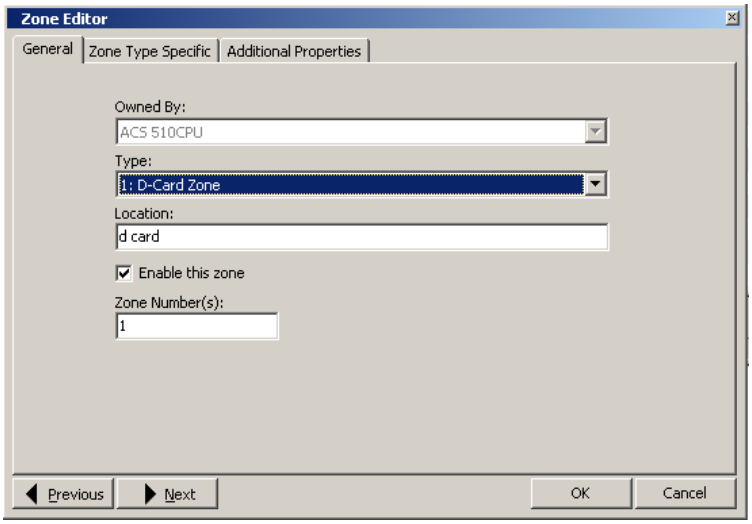


Figure 8-5: Next / Previous Buttons

Editing an existing zone opens the editor window with two additional buttons as shown in Figure 8-5. From this window, the option of entering multiple zones in the *Zone Number(s)* is not available. However, the zone number can be changed from this window.

Clicking on the *Previous* and *Next* buttons allows quick navigation to the previous and next records in the viewer. Navigating to a new record (via the *Next* and *Previous* buttons) after making changes to the data in the editor will result in a confirmation prompt as shown in Figure 8-6. The prompt options are as follows:

- Yes - Save current changes before navigating away.
- No - Do not save changes before navigating away.
- Yes to All - Save current and all subsequent changes while navigating using the *Previous* and *Next* buttons without any additional prompts.

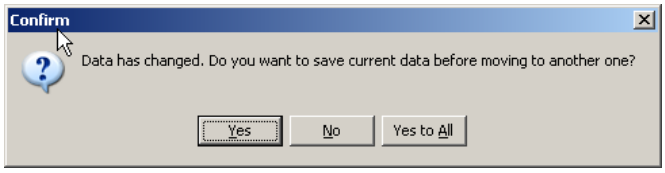


Figure 8-6: Edit Confirmation Dialog Box

Edit a Zone

The steps necessary to edit an existing zone are as follows:

Note: Refer to *"Zone Editor" on page 126* for details on the Zone Editor window.

1. Click on the *Zones* icon from the Enterprise Navigator window to open the Zones Viewer.
2. Highlight a Zone in the Zones Viewer.
3. Click the *Edit* button to open the Zone Editor.
4. Make the necessary changes to the data on the form.
5. Click the *OK* button to save the changes and close the window.

Note: The *Cancel* button can be clicked at any time to discard changes and return to the viewer form.

Delete

Click the *Delete* button to remove the selected Zone from the system. The user is prompted for confirmation (*"Delete Confirmation Dialog Box" on page 124*) before the selected record is erased. In addition to erasing one record at a time, multiple zones can be selected at once. Select multiple messages by holding down the **[CTRL]** key while clicking on the records. Click the *Delete* button after all selections have been made.

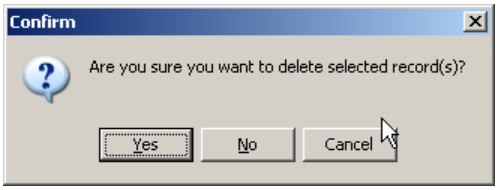


Figure 8-7: Delete Confirmation Dialog Box

Delete a Zone

1. Click on the *Zones* icon from the Enterprise Navigator window to open the viewer.
2. Highlight a zone in the viewer window or select multiple zones by holding down the **[CTRL]** key while clicking.
3. Click the *Delete* button located on the toolbar.
4. Click the *Yes* button to delete the selected zone(s).

Note: The *Cancel* or *No* buttons can be clicked at any time to cancel the delete operation and return to the viewer form.

Filter

Click the *Filter* button to open a drop-down menu of available zone types to display. This allows the user to only view zones of the type selected in the *Filter By* menu. A check next to the zone type indicates the current filter setting.

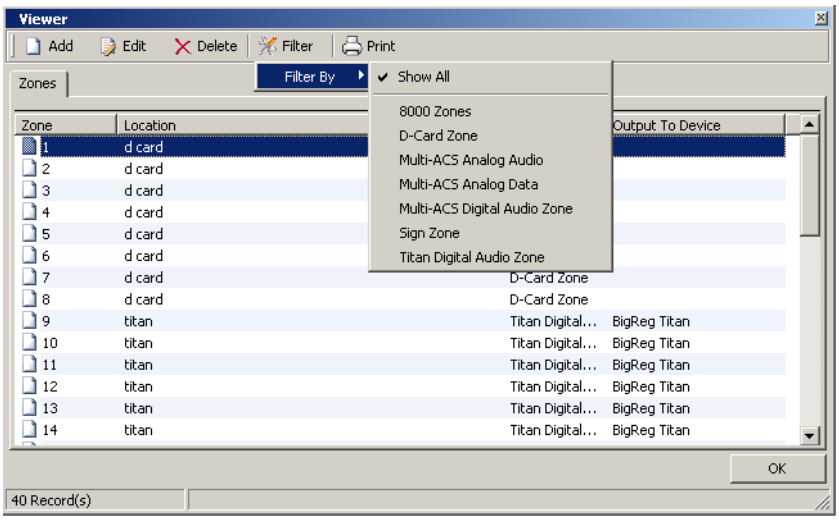


Figure 8-8: Zones Viewer Filter

Filter the Zones list

1. Click the ***Zones*** icon from the enterprise Navigator window to open the viewer.
2. Click the ***Filter*** button then move the cursor down to highlight the ***Filter By*** menu item.
3. Select the zone type to be displayed. Select *Show All* to show all types in the list.

Print

This button interfaces with the IED Print Manager software to open the print preview window containing the zones data. Refer to the IED Print Manager section for more information on this feature.

OK

Click the ***OK*** button to close the viewer.

Zone Editor

Adding a new zone or editing an existing zone will open the Zone Editor window. *"Zone Editor - General Tab" on page 126* shows the Zone Editor for an existing zone. There are three tabs on this window: *General*, *Zone Type Specific*, and *Additional Properties*.

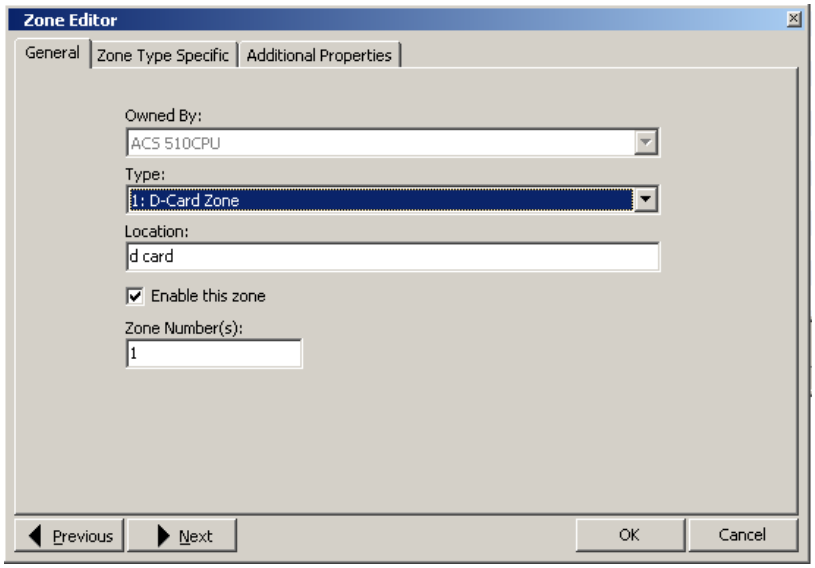


Figure 8-9: Zone Editor - General Tab

Details for the configuration options available on each tab are defined below. For step-by-step instructions on adding, editing, or deleting zones, refer to the previous section. There are two buttons located along the bottom of the window that are common to all tabs.

OK

Click the *OK* button to save changes and close the window.

Cancel

Click the *Cancel* button to discard any changes and close the window.

General Tab

The *General* tab is shown in *"Zone Editor - General Tab" on page 126*. Settings for zones must be made on this tab first. The options available on the *Zone Type Specific* tab are dependant on the *Type* setting on this tab.

Owned By

This field displays the parent announcement controller that controls this zone. This field is read-only.

Type

This droplist box sets the zone type. The current choices for types are:

- D-Card Zone - An analog audio zone on an ACS 500D card.
- Titan Digital Audio Zone - Typically a digital audio zone on a Titan frame such as a T9160, but may also apply to relay or logic zones on other Titan hardware.
- Sign Zone - A display used for visual paging.
- 8000 Zone - A zone or zonemap on a slaved 8000 Series system.
- Multi-ACS Analog Audio - An analog audio tie-line zone between two ACS's for multi-ACS announcements.
- Multi-ACS Analog Data - A control zone between two ACS's for multi-ACS announcements.
- Multi-ACS Digital Audio Zone - A digital audio tie-line zone between two ACS's. These are physically implemented via CobraNet audio between 510N cards.

Location

The logical name of this zone specific to the user selection is typed into the edit box. This is a description to aid the user when placing this zone into zone groups.

Enable this Zone

This option makes the zone active when checked. Zones can be left disabled (unchecked) when programming the system for future expansion.

Zone Number(s)

This is the unique identification number for this zone. When adding new zones, a range of numbers can be entered and the software will automatically create all the individual zones using the same general data. Afterwards, each zone must be edited to enter the location and other properties. When editing an existing zone, only a single zone number can be entered in this field to allow changing the zone number.

Zone Type Specific Tab

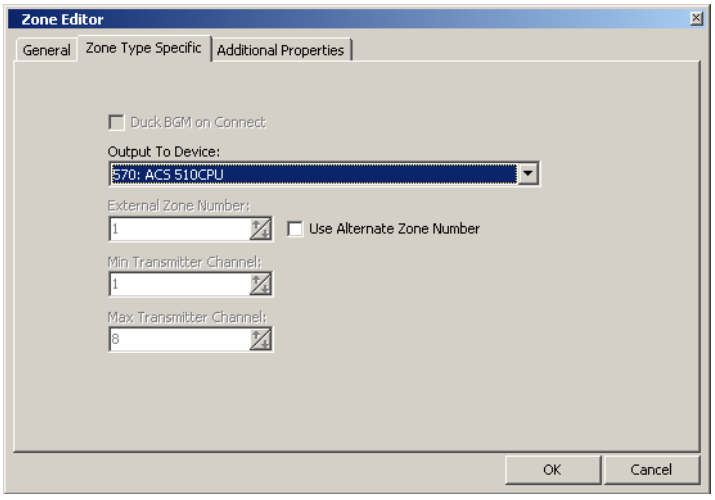


Figure 8-10: Zone Editor - Zone Type Specific Tab

Duck BGM on Connect

This setting is only available on analog 500D type zones. When checked, background music is ducked during a mute action that does not have any audio.

Output To Device

This is the device that is associated with the selected zone. For example, 500D card zones are associated with a 510CPU and digital zones are associated with a T9160 frame. The names of the devices available are based on the device names in the treeview.

External Zone Number

This is a number that is passed to another device associated with the zone when the box is checked. It is often used for Sign Zone types to indicate the display number that is different from the actual zone number. When not checked, the zone number passed to the device is the same as the zone number.

Min/Max Transmitter Channel edit boxes

This is used for all digital audio connections (e.g. T9160, multi-ACS, T9032DSP, etc.). This defines the minimum and maximum number of network audio channels the will be used to pass audio between ACS devices.

Additional Properties Tab

This tab is used for custom system configurations and is rarely used. This tab should not be edited unless directed to do so by IED Technical Support.

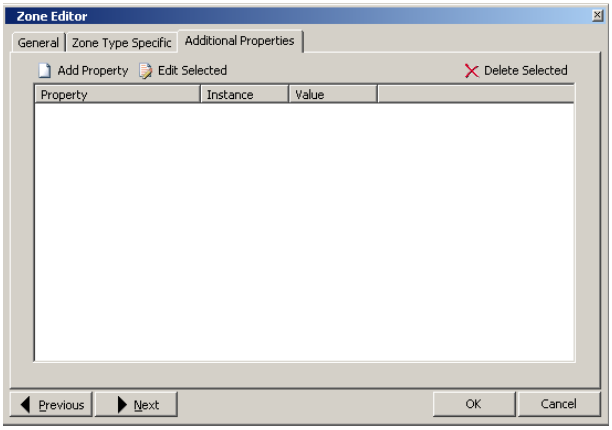


Figure 8-11: Additional Properties

9

PDRP Messages

Permanent Digital Record/Playback (PDRP) Messages are announcements consisting of pre-recorded message segments (referred to as ***Takes***). These takes are stored, identified, indexed and may be assembled together into coherent messages as needed. A take can be a sound, a word, phrase, or even a complete message. This section describes the process of taking individual takes and putting them together to form usable messages that can be triggered from microphone stations, external sources, or play on a schedule. The actual process of recording and editing takes is covered in the DRP Editor section of the manual

PDRP Messages

PDRP Messages offer a wide range of possibilities in providing automated message playback in a facility. PDRP Messages are sometimes referred to as *assembled messages* because the 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 PDRP Editor 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 to gain attention to the announcement. To produce the final "Welcome..." message, the following takes will be assembled using the PDRP Editor

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 PDRP 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.

Microphone stations can be programmed to play PDRP messages. Access to certain messages 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.

PDRP messages offer a wide range of system possibilities. The following sections describe the method of creating and assembling a PDRP message in the system.

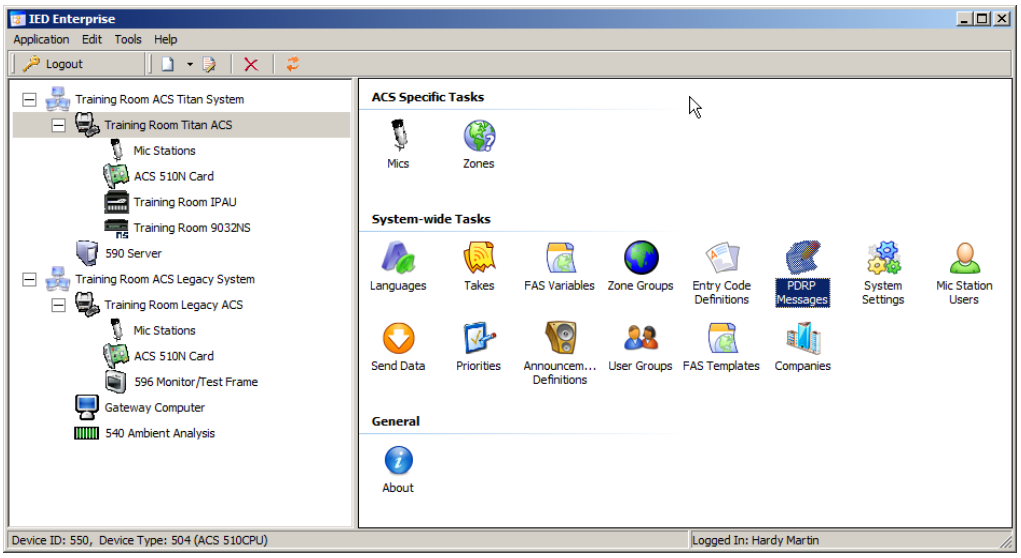


Figure 9-1: Enterprise Navigator Window

PDRP Messages Viewer

Double-click the PDRP Messages icon as shown in Figure 9-1 to open the Viewer (Figure 9-2). This window provides a list of all PDRP messages programmed in the announcement controllers. PDRP messages are global and apply to all announcement controllers in the system. This window provides access to edit or delete PDRP messages as well as add new ones.

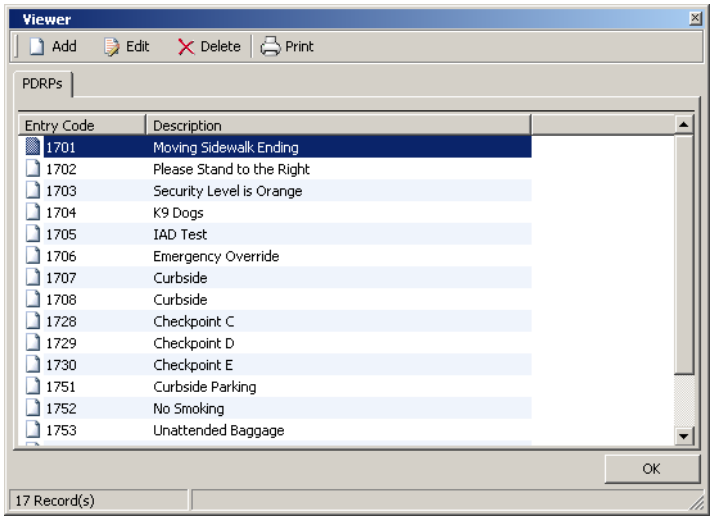


Figure 9-2: PDRP Messages Viewer

Double-click any message in the list to open the PDRP Message Editor window for that message.

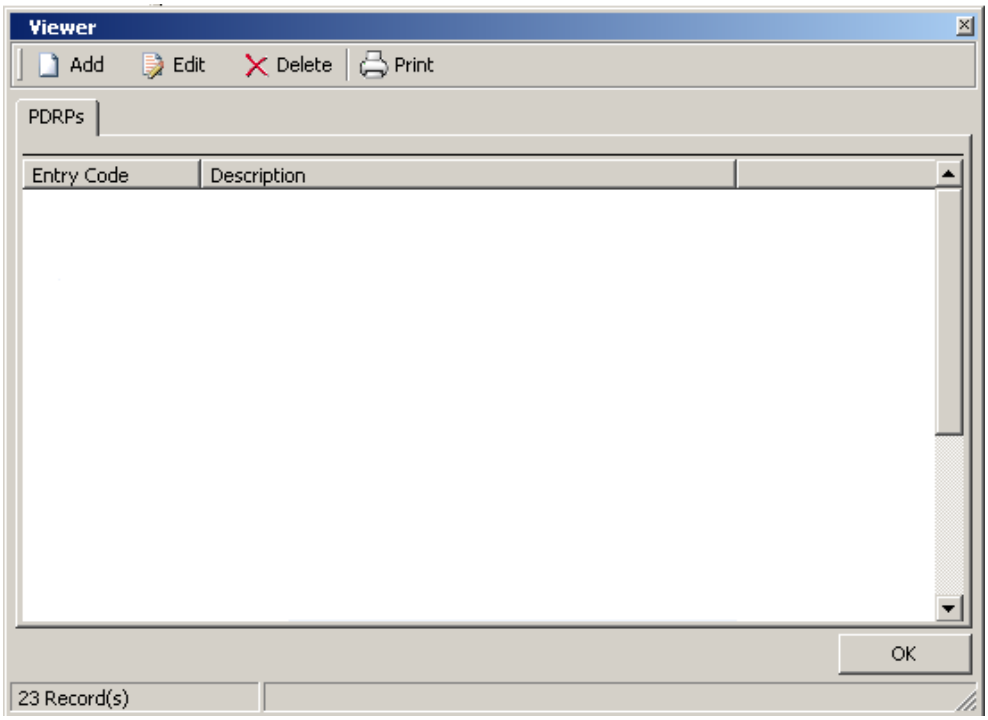


Figure 9-3: Viewer Toolbar

The toolbar located at the top of the Viewer provides quick access to the commands needed to add, edit, delete, or print messages.

Add

Click the *Add* button to open the PDRP Editor with a new message entry as shown in Figure 9-4.

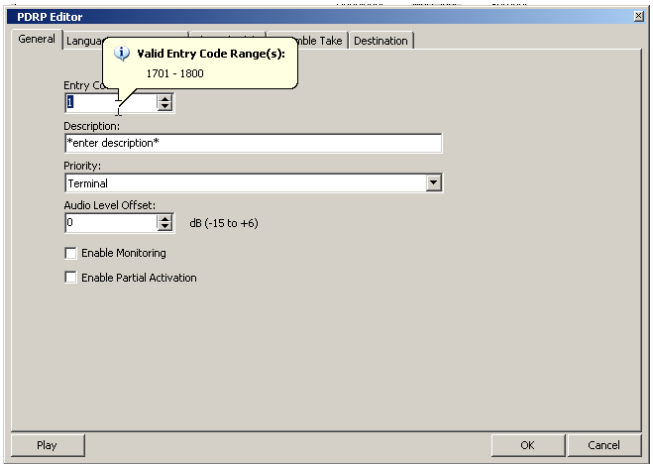


Figure 9-4: PDRP Message Editor - New Message

Add New PDRP Message

The steps necessary for adding a new PDRP message are as follows:

Note: Refer to the PDRP Message Editor on *"PDRP Editor" on page 136* for details on the PDRP Message Editor window.

1. Double-click on the *PDRP Messages* icon from the Enterprise Navigator window to open the Viewer.
2. Click the *Add* button to open the PDRP Editor.
3. Enter an unused entry code for the new PDRP Message. *Valid range(s) of numbers available for messages will be listed in the pop-up help when the cursor is placed over the entry code text box.*
4. Type in a description of the message in the *Description* entry box.
5. Select the appropriate announcement type in the *Priority* droplist box.
6. Leave the *Audio Level Offset* at 0 for a new message. This can be adjusted later to change the level of the message if needed.
7. Click the *Enable Monitoring* checkbox if the message needs to be monitored through a designated monitor zone.
8. Click the *Enable Partial Activation* checkbox if the message should play to available zones if some zones are active with another announcement that is the same or higher priority. If the message has a higher priority than an active announcement, then the message will take over the active zones from the lower priority announcement.

9. Click the ***Languages & User Groups*** tab and check the user groups that will have permission to access this message and select the language(s) in which the message should play.
10. Click the ***Play Schedule*** tab and enter how the message should be played. (*See "Play Schedule Tab" on page 139*)
11. Click the ***Assemble Take*** tab and load the takes for the message. (*See "Assemble Take Tab" on page 142*)
12. Click the ***Destination*** tab and select the zones where the message will be played. To save time, a Zone Group can be loaded for the message by clicking the ***Load Zonemap*** button and selecting a zone group from the drop-down list.
13. Click the ***OK*** button to save the changes and close the window.

Note: The ***Cancel*** button can be clicked to discard changes and return to the viewer form.

Edit

Click the ***Edit*** button to open the editor form for the PDRP message highlighted in the PDRP Viewer. Alternatively, double-clicking on a message in the viewer will also open the editor.

Figure 9-5: Next / Previous Buttons

Editing an existing message opens the editor window with two additional buttons as shown in Figure 9-5. Clicking on the ***Previous*** and ***Next*** buttons allows quick navigation to the previous and next records in the viewer. Navigating to a new record (via the ***Next*** and ***Previous*** buttons) after making changes to the data in the editor will result in a confirmation prompt as shown in Figure 9-6. The prompt options are as follows:

- Yes - Save current changes before navigating away.
- No - Do not save changes before navigating away.
- Yes to All - Save current and all subsequent changes while navigating using the ***Previous*** and ***Next*** buttons without any additional prompts.

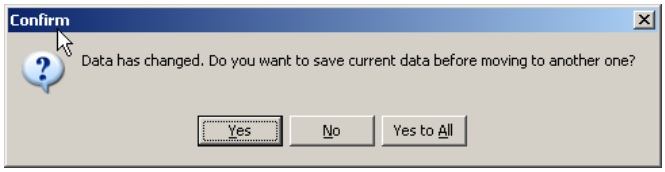


Figure 9-6: Edit Confirmation Dialog Box

Edit a PDRP Message

The steps necessary to edit an existing PDRP message are as follows:

Note: Refer to ***"PDRP Editor" on page 136*** for details on the PDRP Editor window.

1. Double-click on the *PDRP Messages* icon from the Enterprise Navigator window to open the Viewer.
2. Highlight a PDRP Message in the Viewer.
3. Click the *Edit* button to open the PDRP Editor.
4. Make the necessary changes to the data on the form.
5. Click the *OK* button to save the changes and close the window.

Note: The *Cancel* button can be clicked at any time to discard changes and return to the viewer form.

Delete

Click the *Delete* button to remove the selected PDRP Message from the system. The user is prompted for confirmation (Figure 9-7) before the selected record is erased. In addition to erasing one record at a time, multiple messages can be selected at once. Select multiple messages by holding down the **[CTRL]** key while clicking on the records. Click the *Delete* button after all selections have been made.

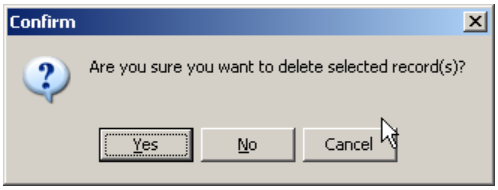


Figure 9-7: Delete Confirmation Dialog Box

Delete a PDRP Message

1. Double-click on the *PDRP Messages* icon from the Enterprise Navigator window to open the Viewer.
2. Highlight a message in the Viewer window or select multiple messages by holding down the **[CTRL]** key while clicking.
3. Click the *Delete* button located on the toolbar.
4. Click the *Yes* button to delete the selected group(s).

Note: The *Cancel* or *No* buttons can be clicked at any time to cancel the delete operation and return to the viewer form.

Print

This button interfaces with the IED Print Manager software to open the print preview window containing the PDRP Messages data. Refer to the IED Print Manager section for more information on this feature.

OK

Click the *OK* button to close the PDRP Message Viewer.

PDRP Editor

The PDRP Editor window is displayed when either the Add or Edit operations are performed. The editor window has five tabs across the top: General, Languages & User Groups, Play Schedule, Assemble Take and Destination. By default, the General tab is shown and each tab is displayed by clicking on it with the left mouse button. There are three buttons located along the bottom of the window that are common to all tabs.

OK

Click the *OK* button to save changes and close the window.

Cancel

Click the *Cancel* button to discard any changes and close the window.

Play

Click the *Play* button to play the message to either the defined destination or a user selected destination. Figure 9-8 shows the resulting window to set the play options for the message.

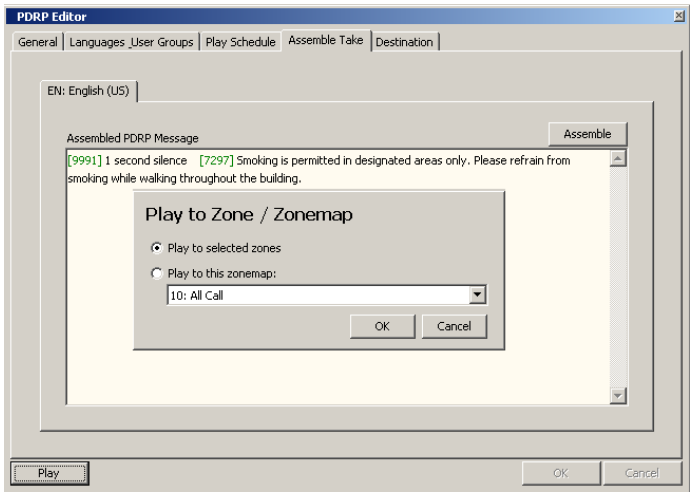


Figure 9-8: Play to Zone / Zonemap Pop-up

- Play to Selected Zones - Select this option to play the message to the zones as defined on the Destination tab.
- Play to this Zonemap - Select this option to play the message to the Zone Group selected from the droplist box.
- OK - Select this button to play the message.
- Cancel - Select this button close the window and return to the PDRP Editor without playing the message.

General Tab

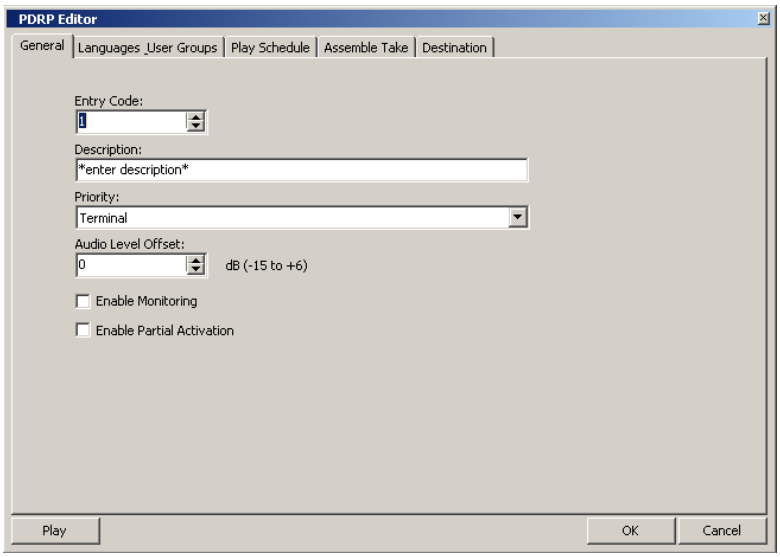


Figure 9-9: PDRP Editor - General Tab

Entry Code

This is the identifier for the message and the code used when playing the message from a microphone station or external control device. This value must be in the defined range for PDRP Messages which is usually 1701 through 1799. A pop-up balloon window will appear with the valid entry code range when the mouse pointer is moved over the entry code field.

Description

This field is used to enter a meaningful name for this message. (e.g. Curbside, No Smoking, No Parking)

Audio Level Offset

This is used to adjust the volume level for the entire message. This can provide as much as 15dB of attenuation to reduce the level of messages that appear to be too loud. Messages that are not loud enough can have their gain boosted here by as much as 6dB.

Enable Monitoring

When checked, the message can be monitored through a test zone.

Partial Activation

When checked, this message will be allowed to play when other announcements are already active in some of its defined zones. The message will play in the zones that are available. When not checked, the system will wait for all zones to be available before playing the message.

Priority

This determines the behavior of this message in relation to other messages or announcements in the system. Higher priority messages or announcements will take over zones from those set with a lower priority. A local priority announcement will override a terminal priority announcement only in the local priority announcement zones. Figure 9-10 shows the drop-list for the available selections in the default system configuration.

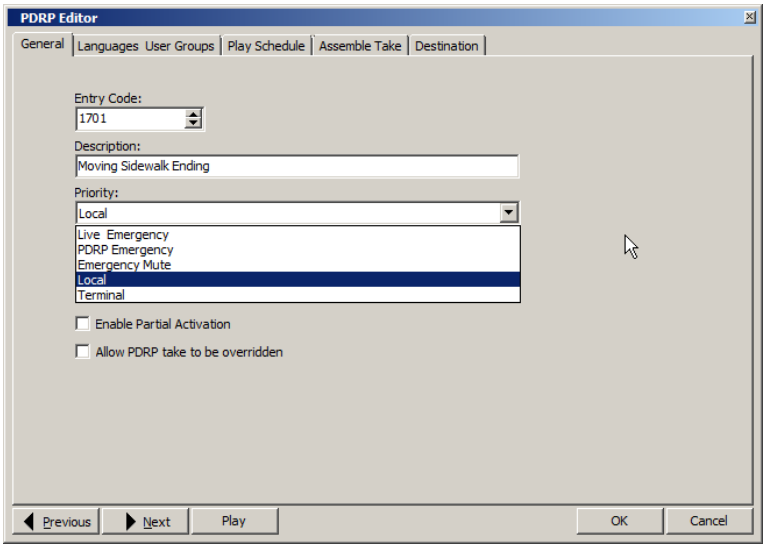


Figure 9-10: General Tab Priority Drop List

Language User Groups Tab

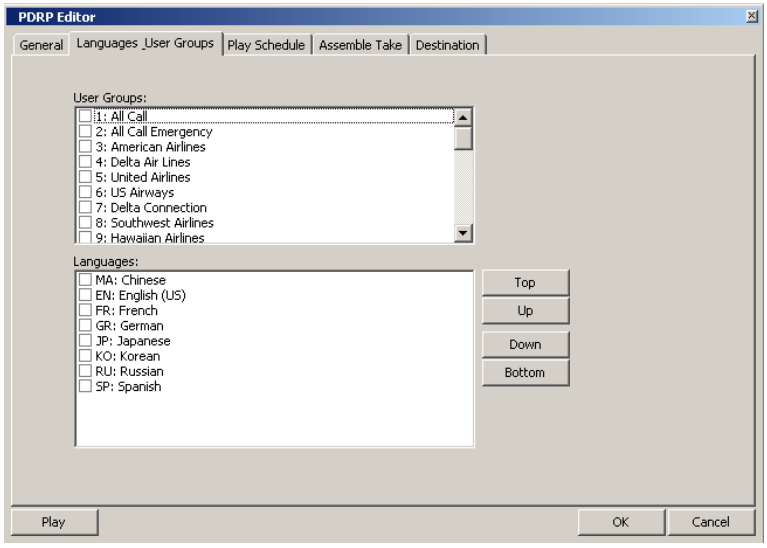


Figure 9-11: PDRP Editor - Languages & User Groups Tab

User groups

This list of check boxes determines who is allowed to activate this message from a mic station. When logins are not required at mic stations, at least one user group for the mic station must match a user group assigned to the PDRP message to allow the mic station access to this message. When logins are enabled, the mic station user must belong to the same user group as the message. Check all groups that apply to this message.

Languages

This selects the languages for this message. At least one language must be selected before proceeding to the Assemble Take tab. The languages selected here will change the language tabs available on the Assemble Take tab. The order of playback for messages using multiple languages is determined by the order in the list from top to bottom. The position of each language in the list is controlled by the buttons located to the right of the list.

- Top - Move the selected language to the top of the list.
- Up - Move the selected language up one position in the list.
- Down - Move the selected language down one position in the list.
- Bottom - Move the selected language to the bottom of the list.

Play Schedule Tab

The Play Schedule tab is used to define number of plays for a message when it is triggered from a mic station or to put it on a schedule.

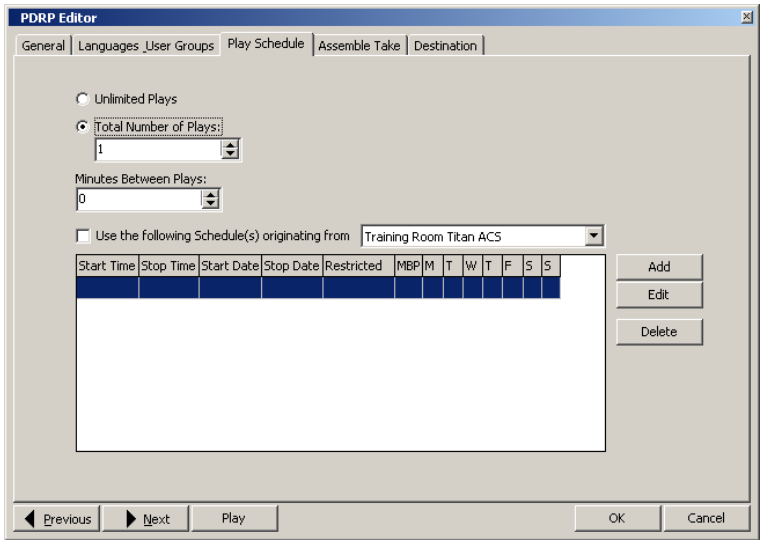


Figure 9-12: PDRP Editor - Play Schedule Tab

Unlimited Plays

Select this option to repeat the message indefinitely until a stop code is entered from a mic station. Stop codes are 100 higher than the entry code used to start the message. For example, if the PDRP message uses an entry code of 1701 to start, then an entry code of

1801 will stop it.

Total Number of Plays

Select this option to play the message a fixed number of times when triggered from a mic station or external interface. Enter the number of plays for the message in the entry box. When triggered from a mic station or external closure, the message will play the number of times entered unless a stop code is used to terminate it early.

Note: This number cannot be 0. A number of 15 or higher will result in continuous playback.

Minutes Between Plays

This is the time (in minutes) between the start of one message play and the start of the following message play. If zero, then the message plays continuously back-to-back when initiated from a mic station or external interface.

Schedules

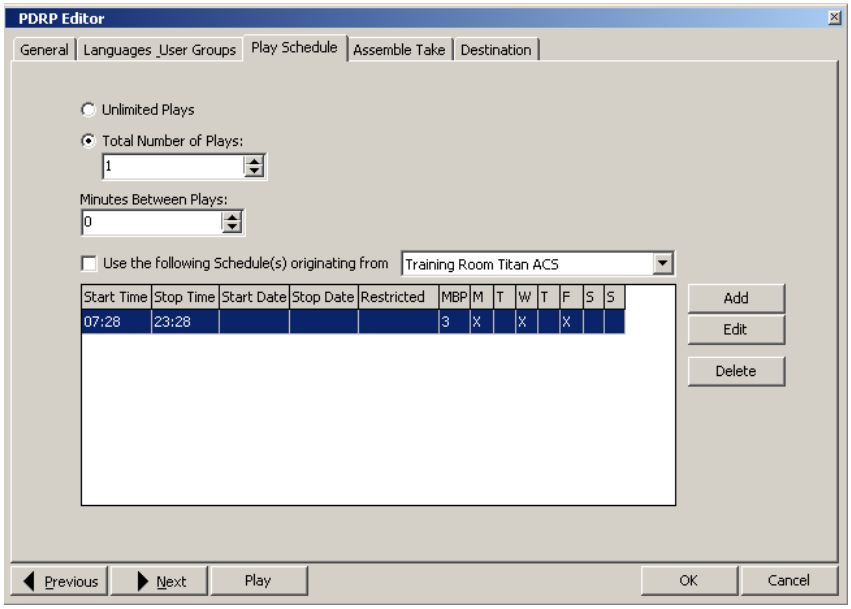


Figure 9-13: PDRP Editor - Schedule Entry

Use The Following Schedule(s) Originating From...

Check this box to enable time-triggered playback for this message. Turning this on will enable all schedule entries. Uncheck the box to stop scheduled playback. The droplist box to the right selects the announcement controller that will actually play the message, if more than one exists in the system.

Add

Click the *Add* button to create a new schedule. This will open the *Add/Edit Schedule* window as shown in Figure 9-14.

Edit

Click the *Edit* button to open the *Add/Edit Schedule* window for the highlighted schedule entry.

Delete

Click the Delete button to remove the highlighted schedule from the system.

Caution! *This delete action is immediate and will not result in any additional confirmation prompts. If a schedule is accidentally deleted, click the Cancel button to exit the PDRP Editor without saving changes. The schedule will not be removed from the system.*

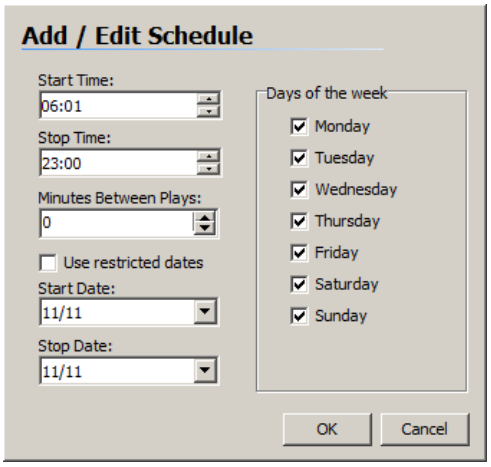


Figure 9-14: Add/Edit Schedule Pop-up Dialog Box

Schedule Editor

- Start Time - This is the time when the message will start playing on days/dates when it is active.
- Stop Time - This is the time when a message will stop playing on days/dates when it is active.

Note: The start and stop times are in 24-hour clock format.

- Minutes Between Plays - This is the time (in minutes) between the start of one message play and the start of the following message play. If zero, then the message plays continuously back-to-back.
- Use Restricted Dates - This will restrict message playback to days that fall within the range defined in the Start Date and Stop Date fields

- Start/Stop Date - This is a range of dates in which to play this message when the ***Use Restricted Dates*** checkbox is checked. Selecting this box will open a calendar box as shown Figure 9-15.

Figure 9-15: Date Selection Calendar

- Days of the Week - These checkboxes specify which days to allow the message to play.

Note: Multiple schedule entries can be set for the same PDRP message. One schedule entry may be defined to play the message between certain hours on weekdays, and a second entry to play different hours on the weekend.

Assemble Take Tab

Figure 9-16 shows the Assemble Take tab with a PDRP message created to play in a single language.

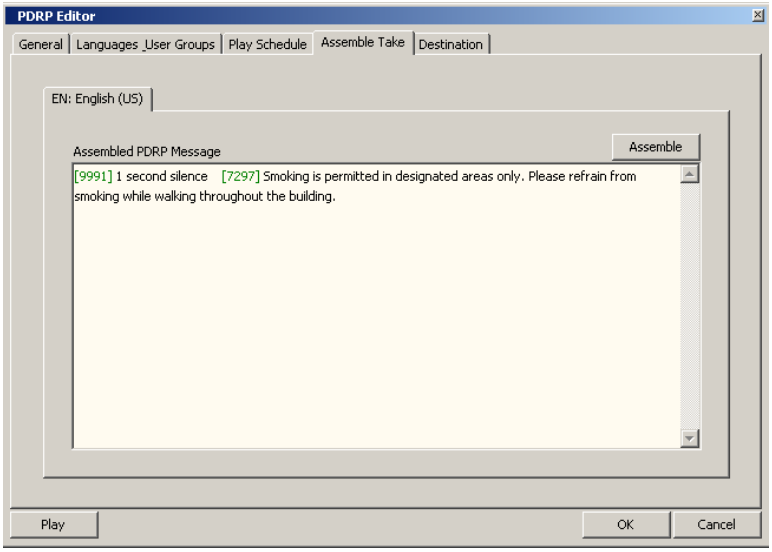


Figure 9-16: PDRP Editor - Assemble Take Tab

The controls on this tab are as follows:

Language tabs

An individual tab will be displayed for each language as selected in the Languages & User Groups tab. Each language has its own assembly that must be defined for the message to play back correctly in multiple languages.

Assembled PDRP Message area

This area displays the message as it has been assembled for playback for the language tab selected. Each take is displayed with the take number in green text surrounded by "[]" followed by the actual text of the take.

Assemble button

Click the ***Assemble*** button to open the Assemble Takes Editor as shown in Figure 9-17.

Assemble Takes Editor

This window is used to put together individual takes to create the final PDRP message. It opens as a result of clicking the ***Assemble*** button on the Assemble Take tab from the PDRP Message Editor.

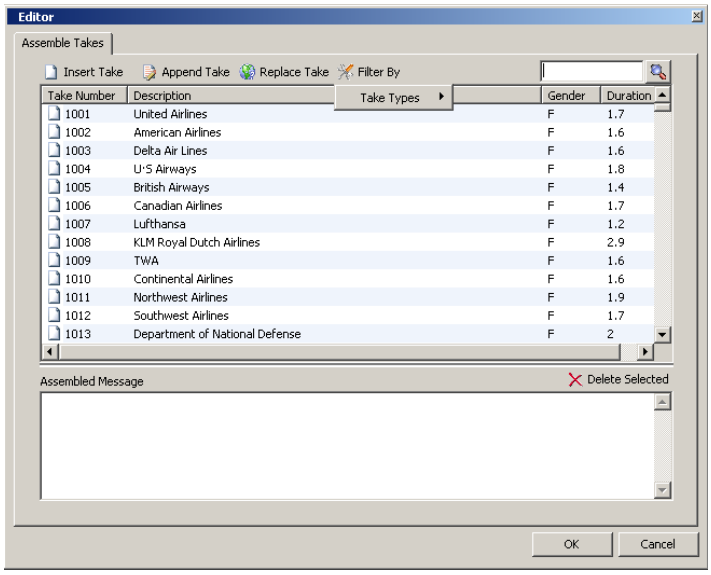


Figure 9-17: Assemble Takes Edit Window

The controls on this window are as follows:

Takes List

This is a list of the takes available on the system and is where takes are selected to be added to a message. This list can be both searched (by take number) and filtered (by take type) to make finding specific takes easier. It also displays specific information about each take.

- Take Number - This is the take as identified by the system. Take numbers are also used as the filename for the actual take file in the format of <TakeNumber>.DAX.

- Description - This is the text of the take. Only the first part of the text will fit in the list due to the width of the column. When the cursor hovers over a take, flyover help appears to show the entire text.
- Gender - *M* indicates that this take uses a male voice. *F* indicates that it is a female voice.
- Duration - This is the duration (in seconds) of the take.

Insert Take

Click the ***Insert Take*** button to place the highlighted take from the Takes List to the left of the current selection in the Assembled Message window.

Append Take

Click the ***Append Take*** button to place the highlighted take from the Takes List at the end of the message in the Assembled Message window.

Replace Take

Click the ***Replace Take*** button to replace the take that is selected in the Assembled Message window with the take highlighted in the Takes List.

Delete Selected

Click the ***Delete Selected*** button to delete the selected take in the Assembled Message window from the message.

Filter By

Click the ***Filter By*** and highlight the *Take Types* text to open the filter list. Selecting any of the available types will limit the display in the Takes List to only takes of that type. The filter selection in use is indicated by a check next to the type. Figure 9-18 the list of available filter criteria.

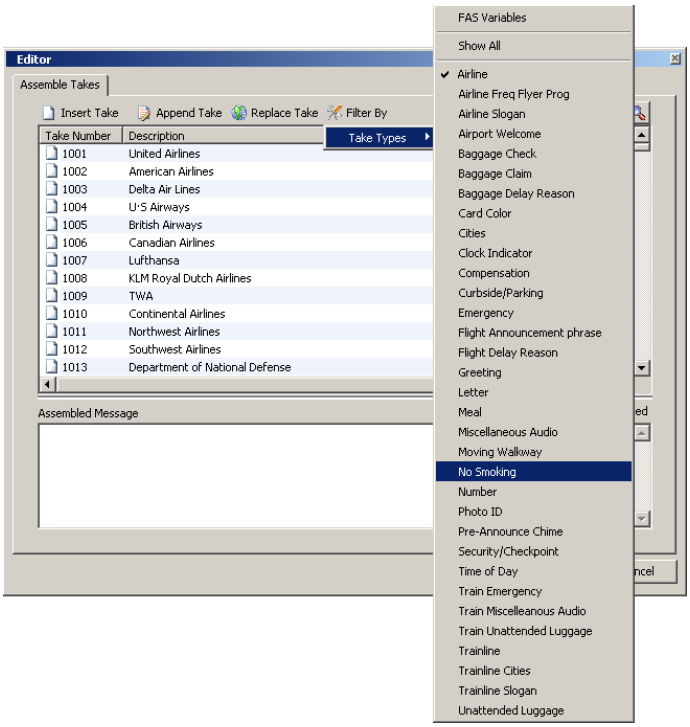


Figure 9-18: Assemble Takes Filter Criteria

Search

To search for a specific take number, enter the number in the ***Search*** box and click the icon to search for the take. When the take is found, it is listed in the Takes area in place of the list as shown in Figure 9-19. The insert/append/replace button can be used to place the take into the Assembled Message window. To get back to the complete list of takes, press the **[ESC]** key as indicated or select the ***OK*** or ***Cancel*** buttons.

Note: The search will only search the contents of the Takes List as displayed. Thus, if a filter has been applied, takes not included in that filtered list will not appear in the search. Select *Show All* as the filter criteria in order to search the entire take library.

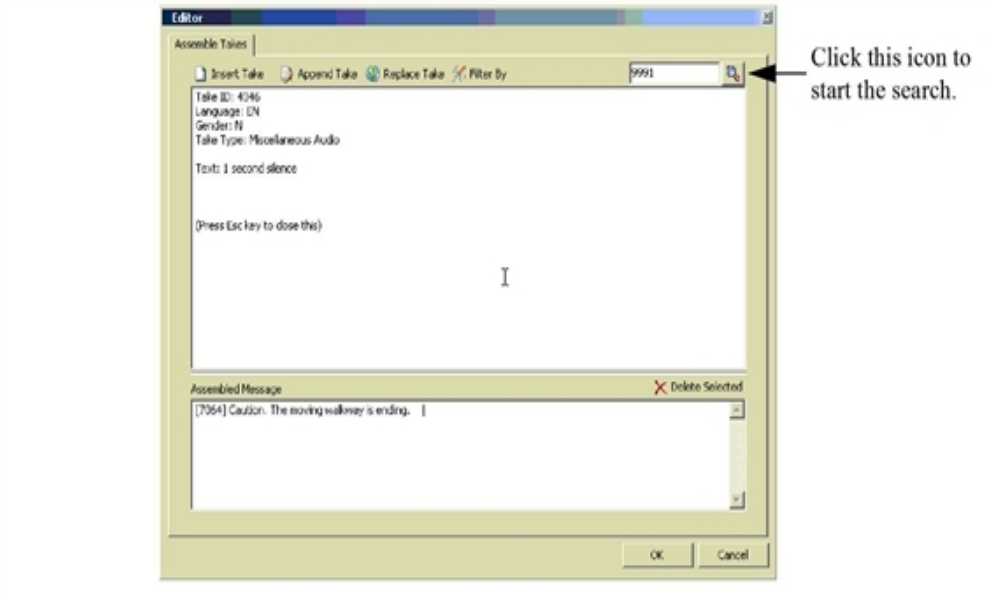


Figure 9-19: Assemble Takes Search Result Shown

OK

Click the *OK* button to save changes and exit the Assemble Takes Editor.

Cancel

Click the *Cancel* button to close the Assemble Takes Editor and discard any changes made.

Destination Tab

The Destination tab is used to define the default zones for this message. Figure 9-20 shows the Destination Tab, and is very similar to the Zone Group Editor window for Emergency and Terminal zone groups. There are sub-tabs for each announcement controller in the system.

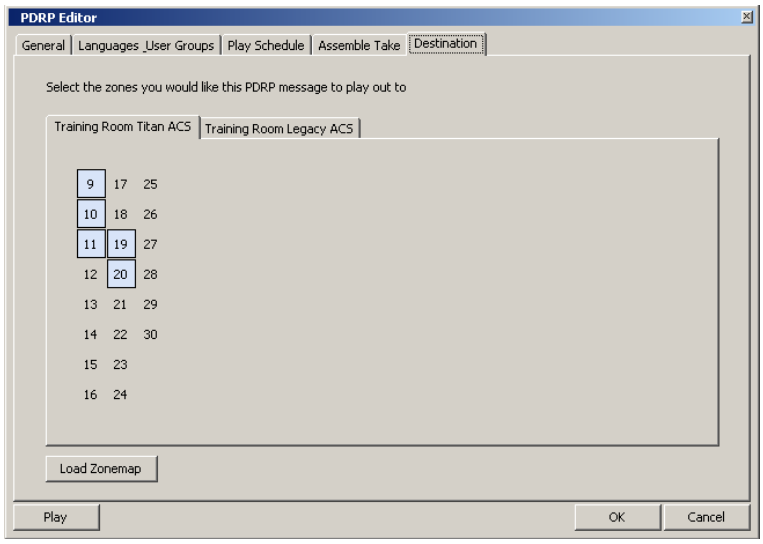


Figure 9-20: Destination Tab

Announcement Controller Tabs

These tabs are for selecting each announcement controller, in order to view and select zones that are owned by that device.

Zone Array

On each tab, there is an array of zones available on that device. Toggle the selection of each zone on or off by clicking on it to determine if it this message will play to that zone. Multiple sequential zones may be selected by clicking the first zone, holding the **[SHIFT]** key then selecting the last zone in the sequence. A flyover window will appear that displays the location associated with the zone number.

Load Zonemap

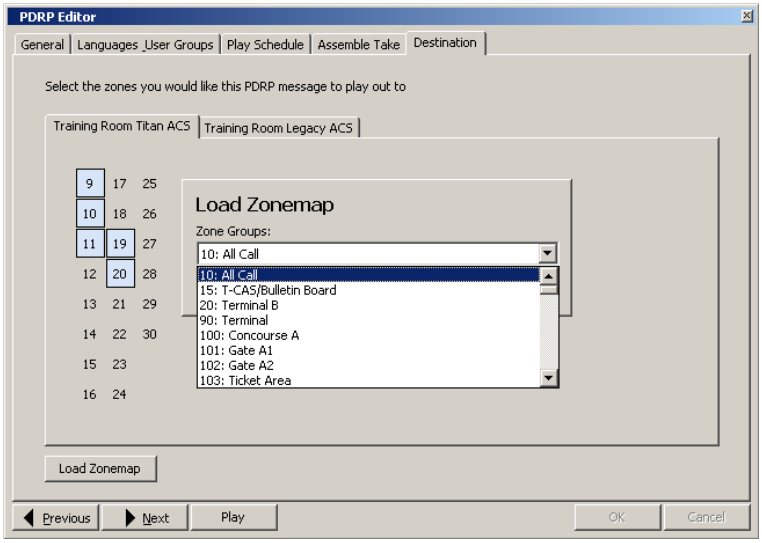


Figure 9-21: Load Zonemap

Click the ***Load Zonemap*** button to use zones previously defined in the Zone Groups setup. A new window will appear (Figure 9-21) and a zone map is selected using the droplist box.

OK

Click the ***OK*** button to load the selected zone map to this PDRP message. Any previous zone selections are discarded and the zone selections associated with this zone map are applied to the PDRP message.

Cancel

Click the ***Cancel*** button to exit the window without loading the zone map definitions.

10

Takes

Takes are the fundamental element used for creating PDRP messages and FAS announcements in the system. All PDRP messages are made up of one or more takes. Takes must first be added to the system and then they are available for use in the PDRP Messages section of the application. The following sections provide detail on managing takes stored in a system. For information on editing the audio of an individual take, refer to the *DRP Editor* section of the manual.

Takes

Takes are audio segments that are stored as files on the system. These can be either a whole message or a snippet, like a word or short phrase, to be assembled into a complete message. The current takes in the system are managed from the Takes Viewer window. Takes are added to the system using the Editor window. Takes are accessed from the Takes icon in Enterprise as shown in Figure 10-1.

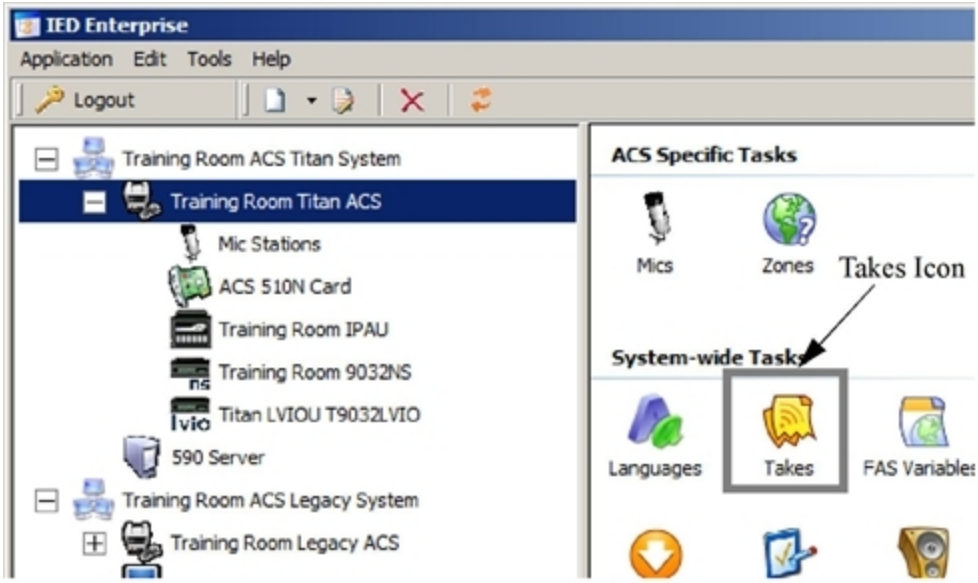


Figure 10-1: Enterprise Navigator Window

There are two windows involved for editing takes: the Takes Viewer and the Take Editor. Each is described in the sections that follow.

Viewer

Double-click the Takes icon shown in Figure 10-1 to open the Viewer (Figure 10-2). This window provides a list of all takes programmed in the selected announcement controller. This window provides access to edit or delete existing takes as well as add new ones. A filter can be applied to simplify the list and make it easier to view a specific group of data.

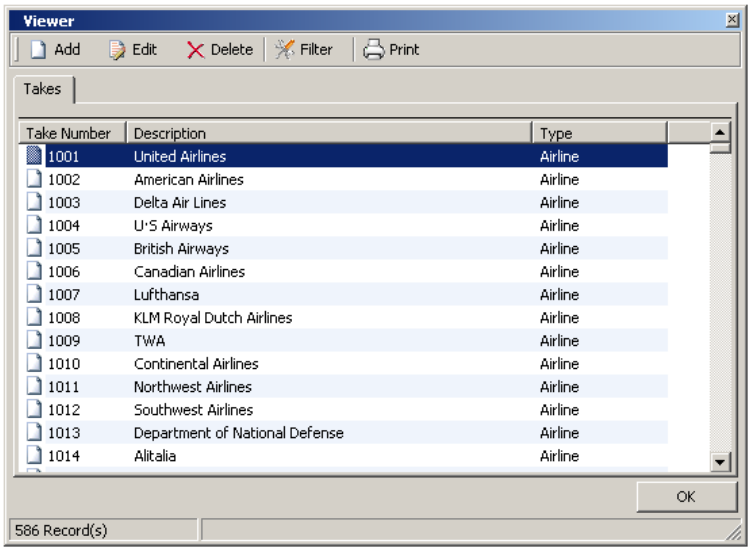


Figure 10-2: Takes Viewer

Double-click any take in the list to open the Editor window for that take.

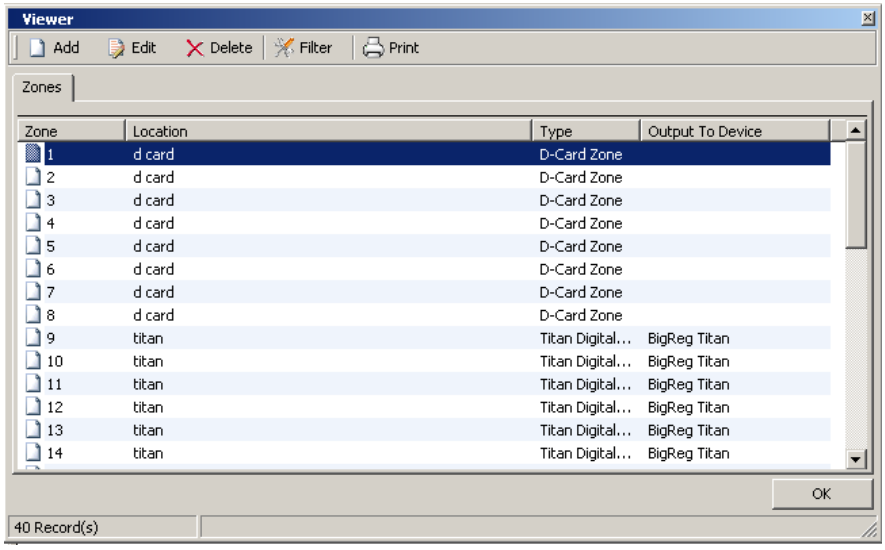


Figure 10-3: Takes Viewer Toolbar

The toolbar located at the top of the Viewer provides quick access to the commands needed to add, edit, or delete takes.

Add

Click the *Add* button to open the Editor with a new take entry as shown in Figure 10-4.

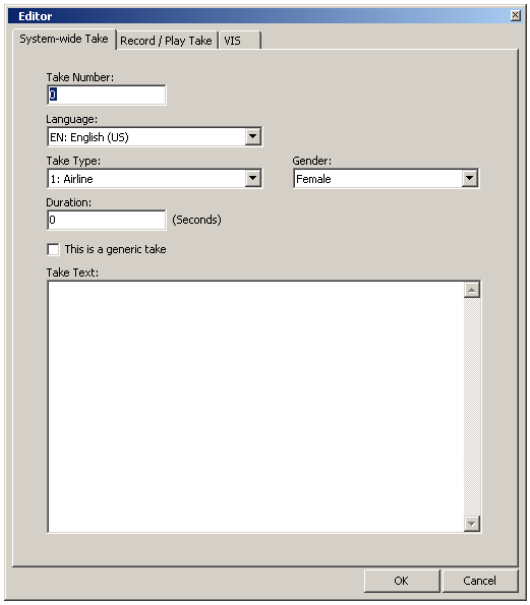


Figure 10-4: Take Editor - New Take

Add New Take

The steps necessary to add a new take to the system are as follows:

Note: Refer to the Take Editor on *"Take Editor" on page 156* for details on the Take Editor window.

1. Click on the *Takes* icon from the Enterprise Navigator window to open the Viewer.
2. Click the *Add* button to open the Editor window.
3. Enter a new (unused) take number in the *Take Number* field.
4. Select the appropriate language for this take from the *Language* droplist box.
5. Select the appropriate take type from the *Take Type* droplist box.
6. Select either Male or Female gender from the *Gender* droplist box.
7. Type in the text for the message in the *Take Text* entry box.
8. Go to the *Record / Play Take* tab.
9. Select the mic station that will be used to record the take from the *Use Mic Station* droplist box.
10. Click the *Record* button. A window with the take text will appear and the mic station will indicate that it is ready to record.
11. Press the mic switch on the station and record the message as it appears in the take text window.

12. To listen to the take, select the appropriate monitor zone group from the *Play to Zone Group* droplist box.
13. Click the *Play* button to play the take to the selected zone group.
14. Click the *Edit Take* button to open the DRP Editor and edit the take if needed. Refer to the documentation on the DRP Editor for instructions on take editing.
15. Once editing is complete, make note of the length (in seconds) of the new take and close the DRP Editor.
16. If this is a multi-ACS system, click the *Send* button to distribute the take file to all systems.
17. Enter the length of the message in the *Duration* entry box on the System-wide Take Tab.
18. If the system uses visual paging displays, go to the *VIS* tab and click the *Create VIS* button.
19. Click the *OK* button to save the changes and close the window.

Note: The *Cancel* button can be clicked at any time to discard changes and return to the viewer form.

Edit

Click the Edit button to open the editor window for the take highlighted in the viewer. Alternatively, double-clicking on a take in the viewer will also open the editor.

Figure 10-5: Next / Previous Buttons

Editing an existing take opens the editor window with two additional buttons as shown in Figure 10-5. Clicking on the *Previous* and *Next* buttons allows quick navigation to the previous and next records in the viewer. Navigating to a new record (via the *Next* and *Previous* buttons) after making changes to the data in the editor will result in a confirmation prompt as shown in Figure 10-6. The prompt options are as follows:

- Yes - Save current changes before navigating away.
- No - Do not save changes before navigating away.
- Yes to All - Save current and all subsequent changes while navigating using the *Previous* and *Next* buttons without any additional prompts.

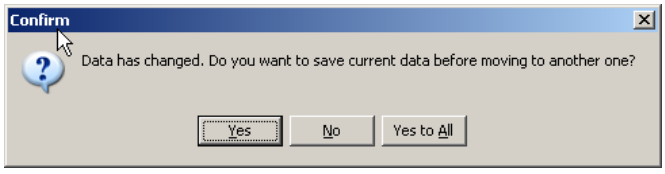


Figure 10-6: Edit Confirmation Dialog Box

Edit a Take

The steps necessary to edit an existing take are as follows:

Note: Refer to "Take Editor" on page 156 for details on the Take Editor window.

1. Click on the *Takes* icon from the Enterprise Navigator window to open the Viewer.
2. Select the appropriate filter type in the *Filter By* drop-down menu.
3. Highlight a Take in the Viewer.
4. Click the *Edit* button or double-click on the highlighted take to open the Editor.
5. Make the necessary changes to the data on the form.
6. To edit the actual audio of the take, click the *Edit Take* button located on the *Record / Play Take* tab.
7. Click the *OK* button to save the changes and close the window.

Note: The *Cancel* button can be clicked at any time to discard changes and return to the viewer form.

Delete

Click the *Delete* button to remove the selected take from the system. The user is prompted for confirmation (Figure 10-7) before the selected record is erased. In addition to erasing one record at a time, multiple takes can be selected at once. Select multiple messages by holding down the **[CTRL]** key while clicking on the records. Click the *Delete* button after all selections have been made.

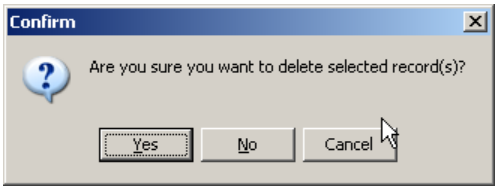


Figure 10-7: Delete Confirmation Dialog Box

Delete a Take

1. Click on the *Takes* icon from the Enterprise Navigator window to open the viewer.
2. Select the appropriate filter type in the *Filter By* drop-down menu.
3. Highlight a take in the viewer window or select multiple zones by holding down the **[CTRL]** key while clicking.
4. Click the *Delete* button located on the toolbar.
5. Click the *Yes* button to delete the selected take(s).

Note: The *Cancel* or *No* buttons can be clicked at any time to cancel the delete operation and return to the viewer form.

Filter

Click the ***Filter*** button to open a drop-down menu of available take types to display. This allows the user to only view takes of the type selected in the ***Filter By*** menu. A check next to the type indicates the current filter setting.

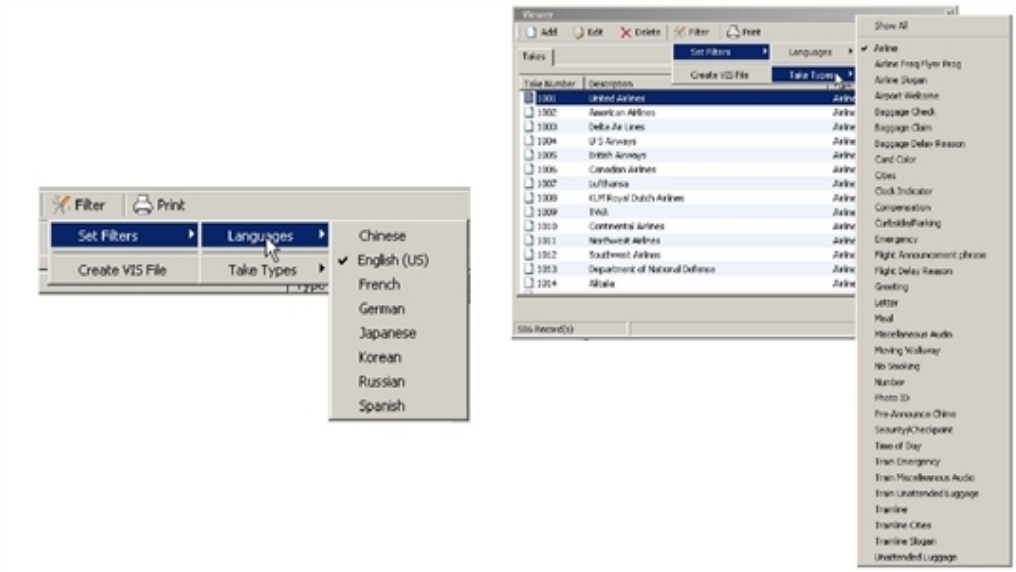


Figure 10-8: Takes Viewer Filter

Filter the Takes list

1. Click the ***Takes*** icon from the enterprise Navigator window to open the viewer.
2. Click the ***Filter*** button then move the cursor down to highlight the ***Set Filters*** menu item.
3. Select the language for the takes to be displayed from the ***Languages*** menu (Figure 10-8).
4. Select the take type to be displayed from the ***Take Type*** menu (Figure 10-8). Select *Show All* to show all types in the list.

Print

This button interfaces with the IED Print Manager software to open the print preview window containing the takes data. Refer to the IED Print Manager section for more information on this feature.

OK

Click the ***OK*** button to close the viewer.

Take Editor

Adding a new take or editing an existing take will open the Editor window. shows the Editor for an existing take. There are three tabs on this window: *System-wide Take*, *Record / Play Take*, and *VIS*.

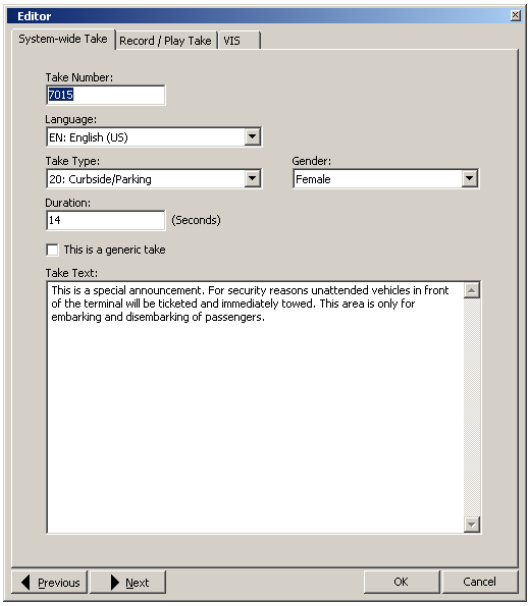


Figure 10-9: Takes Editor - System-wide Take Tab

Details for the configuration options available on each tab are defined below. For step-by-step instructions on adding, editing, or deleting takes, refer to the previous section. There are two buttons located along the bottom of the window that are common to all tabs.

OK

Click the *OK* button to save changes and close the window.

Cancel

Click the *Cancel* button to discard any changes and close the window.

System-wide Take Tab

The *System-wide Take* tab is shown in Figure 10-9.

Take Number

This is a unique identification number for the take. Most take numbers in the system are reserved for existing takes in the library. The take range 9401 through 9500 has been reserved for user-added takes. Use a number within this range for any new takes.

Language

Select the language for the take. This setting does not affect the audio or text of the take. It is used to categorize the take so it can be found correctly with other takes of the same language.

Note: When recording a take in multiple languages, the same take number should be used for each language. The system will store the takes in the appropriate language folder.

Take Type

This assigns a quick reference group to the take. Takes are categorized by their general purpose and are filtered by this setting from the Viewer. Figure 10-10 shows the list of take types available in the system.

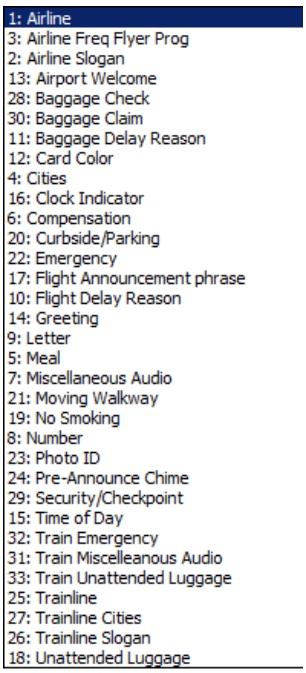


Figure 10-10: Take Types

Gender

Takes are identified as either male or female voice for reference.

Duration

This is the length (in seconds) of the take. It is used to calculate the correct timing information when the take will be shown on a visual paging display. It is important that this time be correct and is manually entered by typing a value directly in the entry box. The length of a take can be found by using the DRP Editor window.

Take Text

Type the text of the message into this box. The text in this box will be displayed when the take is being recorded so the user can read the message, word for word, while recording. It is also used to generate a visual message (VIS) file that is transferred to the announcement controller to use the take for visual messages. Text must be entered into the Take Text field before proceeding to the next step.

Record / Play Take Tab

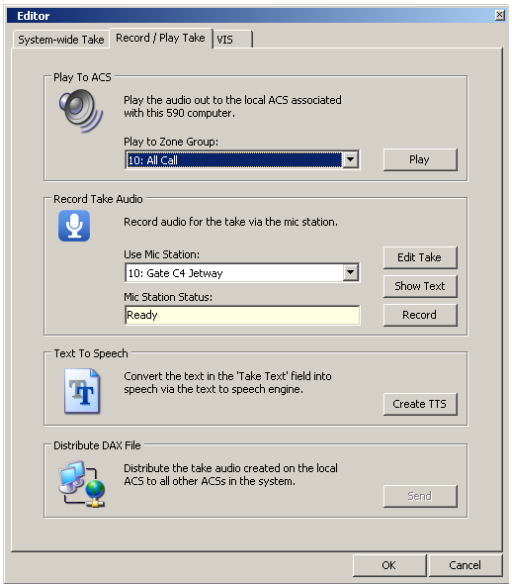


Figure 10-11: Takes Editor - Record / Play Take Tab

Play To ACS

- Play to Zone Group - Select the zone group from the droplist box to play take when the *Play* button is pressed.
- Play - Press this button to play the Take to the selected zone group.

Record Take Audio

- Use Mic Station - Select the mic station that will be used to record the take.
- Mic Station Status - This window displays the mic station status: ready, active, offline, or no audio detected.
- Edit Take - Click this button to open the DRP Editor to edit the audio of the take.
- Show Text - Click this button to display a window containing the take text.
- Record - Click this button to activate the selected mic station and record the take. The mic station will beep to indicate it is ready. Press and hold the mic switch or the Annc/0 button (for gooseneck microphone stations) to record the message. Release the switch/button when finished.

Text To Speech

This option is only available if the Text-To-Speech (TTS) engine and appropriate language options were purchased and installed on the system.

- Create TTS - Click this button to create the take using the TTS engine instead of recording the take from a mic station. The take will be generated and transferred to the announcement controller in the appropriate file format.

Note: Text must be entered in the ***Take Text*** field for this feature to work.

Distribute DAX File

- Send - When a take is recorded or edited, it is saved only to the announcement controller used to perform the record/edit function. In a multi-ACS system, click this button to transfer the take to all ACS mainframes in the system.

VIS Tab

VIS files are small files that contain the text for the take along with timing information used to properly show the take text on a visual display when used for visual paging. When a new take is created, a corresponding VIS file must be created to provide information to the visual paging system.

Create VIS

Click this button to generate the VIS file and transfer it to the appropriate announcement controller.

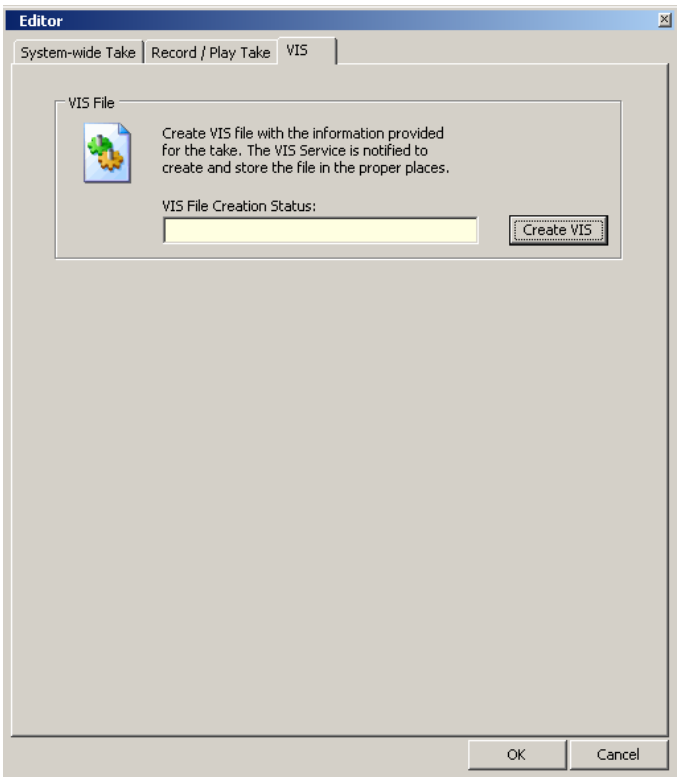


Figure 10-12: VIS Tab

11

DRP Editor

The DRP Editor is a standalone application that is part of the IED Enterprise suite of software. It allows the user to record new takes or modify existing takes stored on the announcement controller. The following sections describe how to use the DRP Editor.

DRP Recording

The DRP Editor provides users with the ability to add their own message recordings to a system. IED has reserved the take number range of 9401 through 9500 for all user-recorded messages. This take range must be used in order to avoid conflicts with other takes already recorded in the take library. If take numbers outside of this range are used, then it is likely that they will be lost when system upgrades are performed or if a hard drive is replaced.

IED recommends that all custom on-site takes be sent to IED to be archived on our network This will ensure that takes are preserved and can be restored on the system during upgrades or hardware replacements.

Audio File Formats

The ACS hardware uses a proprietary file format for recorded audio. This file format is referred to as a DAX file and uses a file extension of .dax appended to filenames. A standard PC audio file format is known as a WAV file and uses the .wav file extension. The DRP Editor supports both types of file formats and the ability to freely convert between them. WAV files must be 16 bit, mono with a sample rate of 16 kHz (16,000 Hz). Audio files that do not match these parameters must first be converted by another application before they can be used by the DRP Editor.

Recommended Recording Practices

IED has always prided itself on delivering professionally recorded audio takes with levels and sound characteristics consistent throughout the years. To help ensure your audio takes match these characteristics and levels please use the following guidelines when recording audio for use in an IED system.

- Use an omni-directional mic to help eliminate proximity effect.
- Use a pop filter or wind screen to reduce plosives.
- Record the vocalist with all EQ adjustments set flat.
- If a compressor is used, use sparingly and do not introduce any pumping effects.
- Record with the nominal audio level around -5dBfs as viewed with a peak program meter.
- All audio recordings should be done in a relatively noise free environment, free of noise from mechanical equipment or other noise sources.
- After on-site recorded takes have been installed, it is recommended that listening tests be performed on the ACS system PA by comparing playback of the new takes against standard IED-supplied takes and general mic station pages to ensure that new takes match in consistency and level.

Launching the DRP Editor

The DRP Editor can be opened in a number of ways. Typically, the application is opened by clicking on the IED DRP Editor menu item from the Tools menu in IED Enterprise (as shown in Figure 11-1).

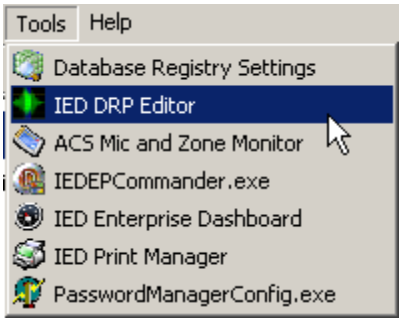


Figure 11-1: DRP Editor Menu Icon

Also, there is typically an icon for the IED DRP Editor on the IED Application Bar software as shown in Figure 11-2.

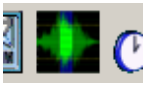


Figure 11-2: DRP Editor Application Bar Icon

Launching the application from the Tools menu or from the Application Bar software produces the window shown in Figure 11-3. The application starts with an empty workspace as indicated by the dark gray background and the empty file navigation tab. Take files can be opened, retrieved, or recorded using the appropriate menu and toolbar functions.

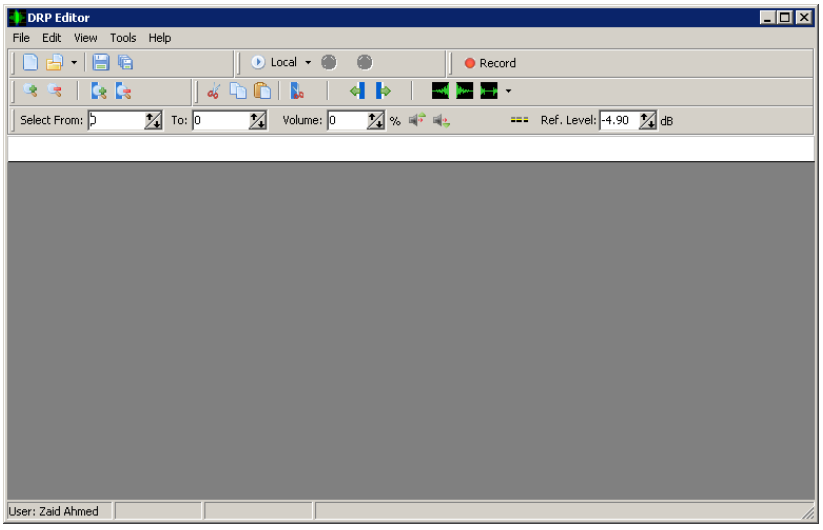


Figure 11-3: DRP Editor

Alternatively, the application can be launched from the Take Editor in Enterprise by clicking on the ***Edit Take*** button under the Record / Play Take tab page (as shown in Figure 11-4). The application is typically opened in this manner to edit the audio in the take recorded using the features on the Record / Play Take tab of the Take Editor Window.

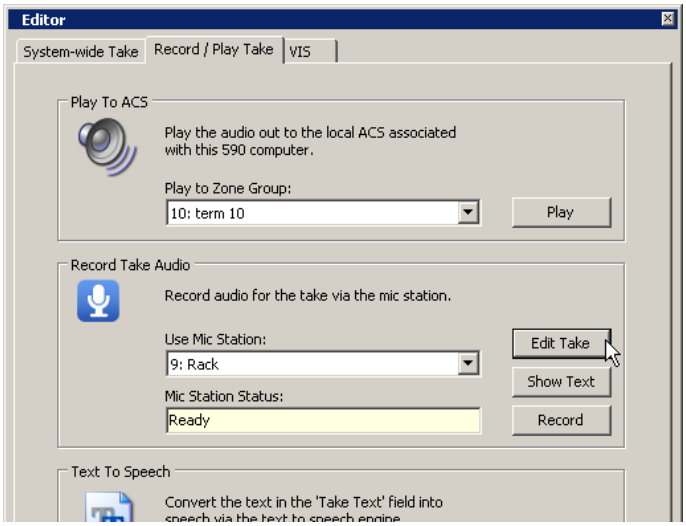


Figure 11-4: Enterprise Take Editor Window

The application will launch and automatically transfer the take from the ACS to the local computer and open the take file for editing (as shown in Figure 11-5). Any errors encountered in the file transfer will be displayed on the status bar located at the bottom on the window.

Main Window Overview

A graphical representation of the take audio is displayed in two sections of the application. The top window displays the complete view of the take audio. The bottom window (labeled *Detail View*) displays a selected portion of the file using the zoom features. Calling the Zoom In and Out features only changes the Detail View. Clicking on either window with the left or right mouse buttons moves the left and right selection cursors (seen in Figure 11-5 in white vertical lines) respectively. The cursors provide a mechanism to select or highlight regions of the take for editing. Selected regions have a blue background (instead of black) with the graph plotted in brighter green color with the ends marked by white vertical lines.

Left Mouse Button

Click the left mouse button to set the selection start point at the cursor position.

Right Mouse Button

Click the right mouse button to set the selection end point at the cursor position.

The DRP Editor allows the user to open and work with multiple files at the same time.

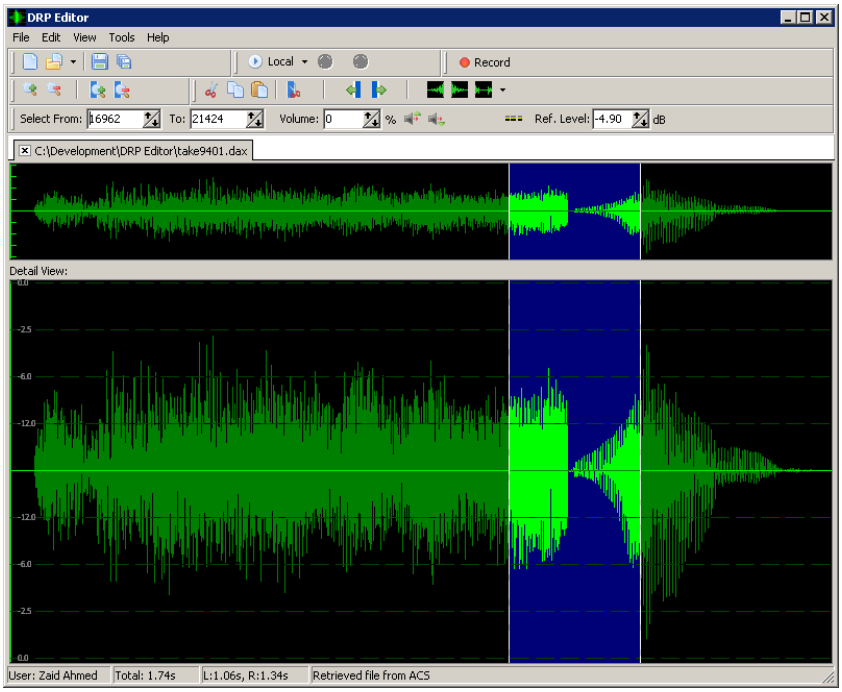


Figure 11-5: DRP Editor

Menus

The menu bar at the top provides access to functions of the DRP Editor. The available menu functions are described below.

File Menu

The ***File*** menu provides options to open, save and other file specific activities as shown in Figure 11-6.

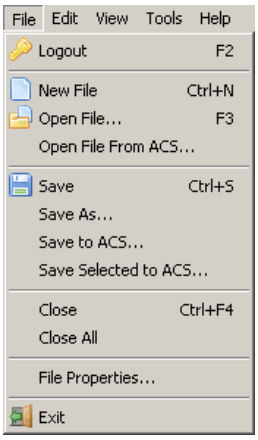


Figure 11-6: File Menu

Login / Logout

Access to the DRP Editor is governed by the IED Security Server and users must be logged in to use the application. Users can login (or logout) of the system at any time by selecting this option from the ***File*** menu or by pressing the **[F2]** key. Figure 11-7 shows the login window. Enter the proper user name and password to gain access to the application.

Figure 11-7: Login Window

The status bar is located across the bottom of the main application window. It displays the user that is currently logged into the system as shown in Figure 11-8. The status bar displays *"Not Logged In"* when no user is logged into the system.

Figure 11-8: Status Bar User

When logged in, the menu item changes to ***Logout*** and may be selected to log out of the system. Pressing the **[F2]** key will immediately log out.

New File

This option creates a new blank audio take with a length of one second. New files are given a default filename of **untitled1**, **untitled2**, etc. Files must be named when they are saved.

Multiple take files can be created, or opened, simultaneously and each will appear as a separate tab located immediately below the toolbar as shown in Figure 11-9. Switching between open files is accomplished by either clicking the appropriate tab or selecting the filename from the ***View*** menu.

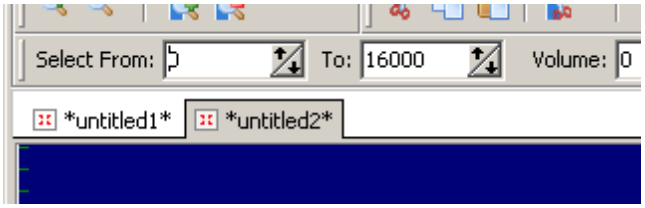


Figure 11-9: File Tabs

Open File

Select this option to open a take file from the local computer hard drive, mapped network drive, or portable media. This will open a standard Windows Open dialog window to allow selecting the file.

Note: Only WAV files of specific formats supported by the DRP Editor will be properly displayed (16 kHz, 16-bit, mono).

The length of the file and the positions of the left and right selection cursors are displayed on the status bar at the bottom of the application window. By default, the left and right cursors are set to the beginning and end of the file when opened. Figure 11-10 shows the total length of the audio file is 40.61 seconds with the left and right cursors, abbreviated by letters L and R, at 0 and 40.61 seconds respectively.

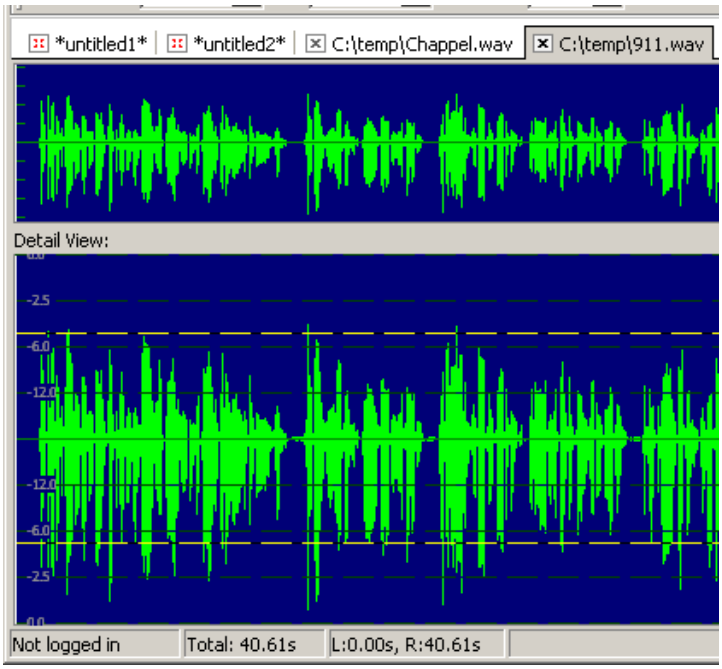


Figure 11-10: Take Detail View

Open File From ACS

Select this option to retrieve a take from the ACS. Selecting this option produces the window shown in Figure 11-11. Select the appropriate take language and take filename then click *Open* to retrieve the file from the ACS. The status bar at the bottom of the main window will indicate any errors that may have occurred.

Click the *Cancel* button to close the window without opening a take.

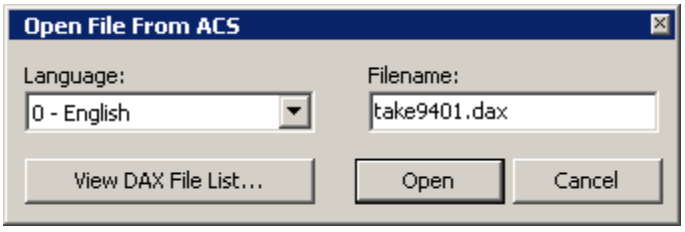


Figure 11-11: Open File from ACS

Click the *View DAX File List* button to display a window that lists available takes on the ACS.

Save

Select this option to save the changes made to the file. If the file was new, a *Save as* dialog window will prompt for a file name. Files are saved as either DAX or WAV formats. The advantage of saving a file in the DAX format is that it can be easily downloaded to the ACS via IED file transfer software. However, DAX files cannot be opened by other audio editing applications. Saving as WAV allows the file to be readily opened (and edited) using other audio editing applications, but cannot be directly transferred to an ACS.

Files that have been changed but not saved are marked by a red X to the left of the filename on the file tab. Saved files are marked by a black X to the left of the filename on the file tab. Figure 11-12 shows the file tab with three unsaved and one saved file.

Figure 11-12: File Tabs

Save As

This option is used to save a file to a local drive. Unlike the *Save* option, clicking on *Save As* will always bring up a standard Windows *Save as* dialog where the user is prompted to enter the filename and select the file type (WAV or DAX). The user can choose to keep the existing filename and type or enter different ones.

Save to ACS

This option allows the active file to be saved directly to the ACS. Selecting this option will display the window shown in Figure 11-13. Select the appropriate take language, enter the take filename and click on the *Save* button to download the audio take file to the ACS. The status bar located at the bottom of the main window will indicate success or failure of this operation.

Click the *Cancel* button to close the window without transferring the file.

Care must be taken to not override a take file in the ACS unless intended. The user is not notified if a file with the same name currently exists on the ACS. However, clicking on the *View DAX File List* button produces a window that lists the files that are currently stored on the ACS.

Note: Note that this option is only available to logged in users with sufficient permission.

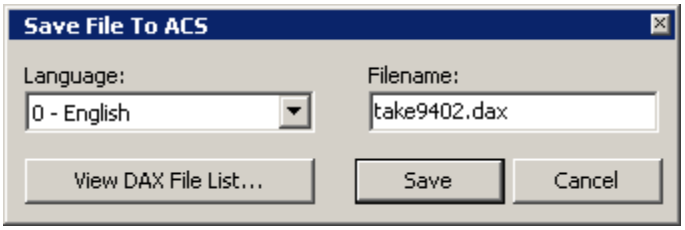


Figure 11-13: Save File to ACS Window

Save Selected to ACS

This option allows a selected region of the take file to be saved to the ACS. The selected region of the take appears in brighter color with a blue background, whereas unselected regions have a black background. A region is selected by setting the start point with the left mouse button and then setting the end point with the right mouse button.

Clicking on this option opens the window shown in Figure 11-13. The behavior of this option is identical to the *Save to ACS* menu option.

Close

This option closes the active take file. The user is prompted with a confirmation dialog box (as shown in Figure 11-14) if the file has changes that have not been saved. Click the *Yes* button to save and close the file. A *Save as* dialog window will open and prompt for a filename if the file has never been saved. If it has been saved before, it will simply be saved using the same name. Click the *No* button to close the file without saving. Click the *Cancel* button to close the window and return to the application. The file that was attempting to close will remain open.

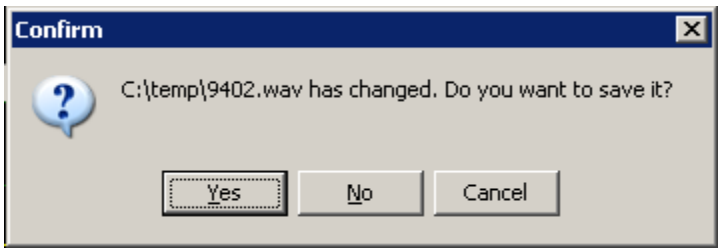


Figure 11-14: Save Prompt

Close All

Select this option to close all open files. The user will be prompted for action regarding any unsaved files. Click the *Yes* button on the confirmation dialog to save and close the file. A *Save as* dialog window will open for new files that have never been saved. Click the *No* button to close the file without saving. Click the *Cancel* button to close the confirmation dialog and return to the application leaving any remaining files open. Click the *Yes to All* button to save all currently open files. Files that already have a filename will be saved and closed automatically and those that are labelled **untitled** will be closed after a filename is entered using the standard Windows *Save as* dialog boxes.

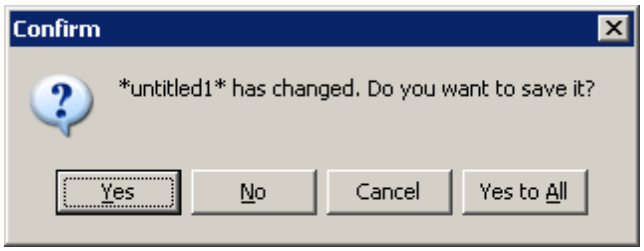


Figure 11-15: Save Prompt

File Properties

This option opens an information window as shown in Figure 11-16. Information, such as length, sample rate, bits per sample, etc, are displayed on this window. Currently, the DRP

Editor only supports WAV files that have a sample rate of 16 kHz, 16 bits per sample, and 1 channel (mono) of data. WAV files of a format other than that specified cannot be properly converted to DAX files that are required for the ACS.

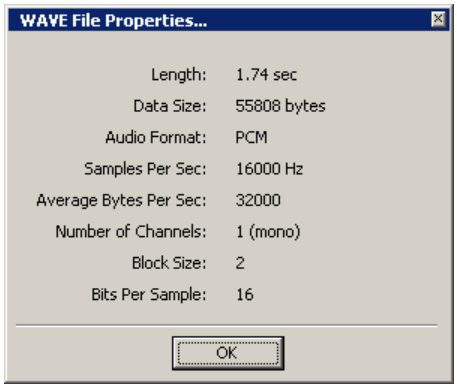


Figure 11-16: File Properties

Exit

This option closes the application. The user is prompted for action regarding any unsaved files.

Edit Menu

The Edit menu contains options to modify the take.

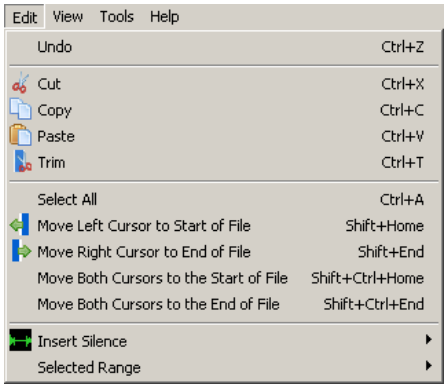


Figure 11-17: Edit Menu

Undo

Select this option to reverse the last action made by the user.

Cut

This option removes the selected audio region and stores it on the clipboard so it can be inserted later using the ***Paste*** command.

Copy

This option places a copy of the selected region onto the clipboard so it can be inserted later using the *Paste* command.

Paste

This option is only available if a selected region has been placed on the clipboard using either the *Cut* or *Copy* commands. The region from the clipboard will be inserted at the location of the left selection cursor. Audio data starting at the left selection cursor is shifted to the right of the pasted region.

Trim

This option discards the audio data to the left and to the right of the selected region. The unselected region is discarded, leaving only the selected region to occupy the entire workspace. The trim operation is useful for removing leading and trailing silences or unwanted audio.

Select All

This option moves the left and right selection cursors to the start and end of the audio data respectively. This provides a quick means to select an entire take for editing.

Move Left Cursor to Start of File

This option moves the left selection cursor to the start of the audio data. The right selection cursor is unchanged.

Move Right Cursor to End of File

This option moves the right selection cursor to the end of the audio data. The left selection cursor is unchanged.

Move Both Cursors to Start of File

This option moves the left and right selection cursors to the beginning of the audio data.

Move Both Cursors to End of File

This option moves the left and right selection cursors to the end of the audio data.

Insert Silence Sub-Menu

This option allows inserting a short duration of silence at the location of the left selection cursor. Selecting this menu item will open a sub-menu shown in Figure 11-18. From this sub-menu, select the desired amount of silence to insert at the left cursor location. Audio data to the right of the left selection cursor will be shifted to the right to make room for the inserted silence.

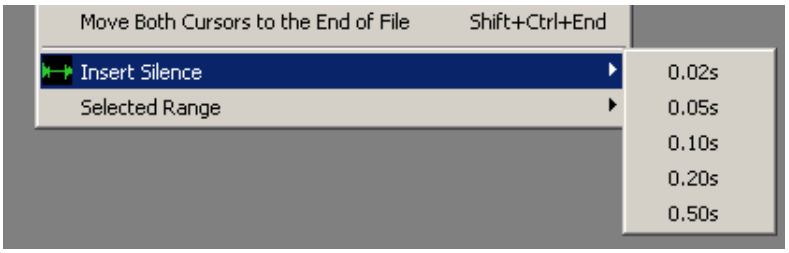


Figure 11-18: Insert Silence Sub-Menu

Selected Range Sub-Menu

This option provides access to effects that can be applied to a selected region of audio data. Clicking on this menu item displays the sub-menu shown in Figure 11-19.

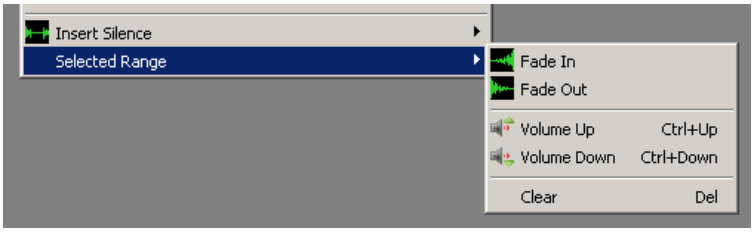


Figure 11-19: Selected Range Sub-Menu

Fade In

This option will produce a fade in that begins at the left selection cursor and ends at the right selection cursor. The selection will linearly increase in volume from silence to full level. It is recommended that a short face in be placed at the beginning of all recorded takes to prevent any unwanted pops.

Fade Out

This option will fade the audio out beginning at the left selection cursor and ending at the right selection cursor. The selection will linearly decrease in volume from the full level to silence. It is recommended a short fade out be placed at the end of all recorded takes to prevent any unwanted pops.

Volume Up

This option increases the amplitude of the selected region by the percentage entered in the *Volume* field located on the toolbar (Figure 11-20). In the example below, selecting the *Volume Up* option will increase the amplitude of the selected region by 8%.

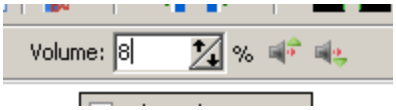


Figure 11-20: Volume

Volume Down

This option decreases the amplitude of a selected region by the percentage entered in the *Volume* field located on the toolbar (Figure 11-20). In the example above, selecting the *Volume Down* option will decrease the amplitude of the audio level of the selected region by 8%.

Clear

Select this option to reduce the selected range to zero, thus placing silence in the selected range. This removes the audio data without altering the length of the take. This option can be used to remove all leading and trailing noise from a take.

View Menu

The options from the *View* menu are used to modify the way the audio data is displayed in the Detail View. This menu (Figure 11-21) provides access to commands to zoom in and out of the take to allow better editing. It also provides the ability to select between any of the take files currently open in the application.

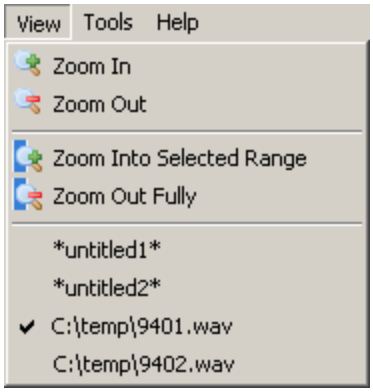


Figure 11-21: View Menu

Zoom In

This option causes the horizontal axis of the Detail View to stretch left and right, revealing more details of the waveform. Unlike a true zoom-in feature, the vertical axis (representing the amplitude of the audio) remains unchanged. Figure 11-22 illustrates how a zoomed-in region appears in the Detail View. The *Zoom In* command can be used multiple times to provide up to ten times magnification of the waveform.

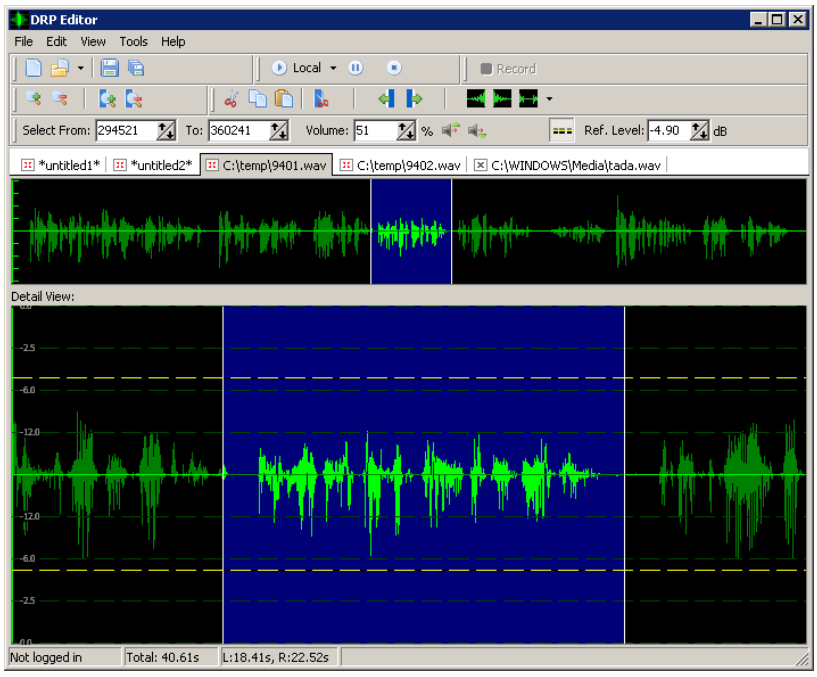


Figure 11-22: Detail View

Zoom Out

Click this function to display a broader view of the waveform in the Detail View. ***Zoom Out*** can be called as many times as needed until the entire waveform is displayed in the Detail View.

Zoom Into Selected Range

Click this option to magnify the selected region to fill the width of Detail View. Figure 11-23 shows an example of this feature. Notice the left and right selection cursors are at the left and right edge of the Detail View window and the differences of the Detail View windows of Figure 11-22 and Figure 11-23. The user can select another region and use this feature again to reveal details of that region in the Detail View.

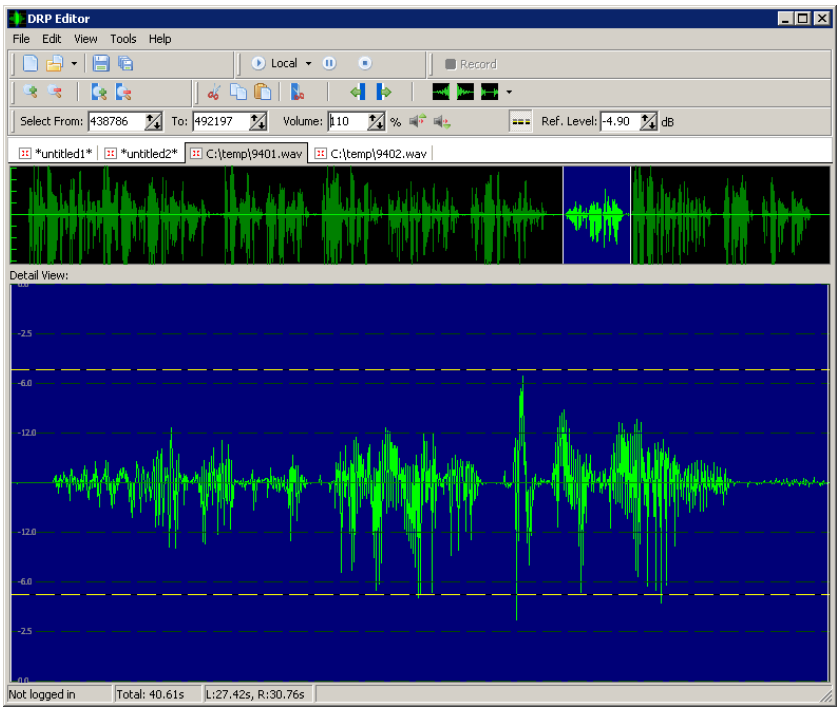


Figure 11-23: Detail View - Zoom to Selected Range

Zoom Out Fully

This option removes all zoom effects applied to the Detail View and will display the complete waveform in the width of the Detail View.

Tools Menu

The ***Tools*** menu provides options to play and record audio as well as access the application's configuration options. Figure 11-24 shows the items available on the ***Tools*** menu.

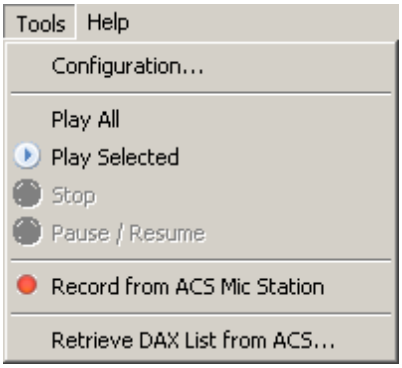


Figure 11-24: Tools Menu

Configuration

Select this option to open the configuration window as show in Figure 11-25. This window allows setting up of the behavior of the DRP Editor regarding retrieval and playback of takes, the mic station to use to record, etc. The window is divided into two tabs, each described in detail below.

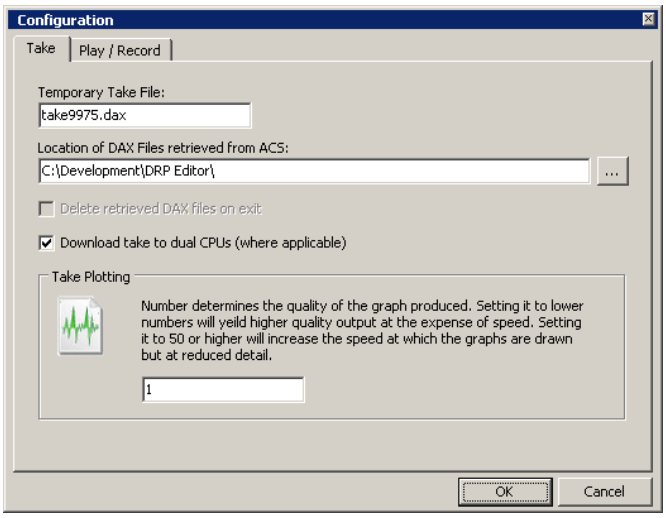


Figure 11-25: Configuration Window - Take Tab

Take Tab

- Temporary Take File - The filename used to temporarily save the take on the ACS when using the ACS for playback.
- Location of DAX Files retrieved from ACS - The temporary location of takes retrieved from the ACS. Typically, this is either c:\ied\ or c:\temp\.
- Delete retrieved DAX files on exit - When checked, takes retrieved from the ACS to the local computer will be deleted when the application shuts down.

Note: This option is disabled for the current released version of the software.

- Download take to dual CPUs (where applicable) - Checking this option will download the take from the local computer to both CPUs (if dual CPUs exist) on the local ACS when *Save to ACS* option is chosen from the *File* menu.
- Take Plotting - The DRP Editor is capable of opening large take files. However, graphing large files is time consuming and in most cases the need to see every single detail of a waveform is not necessary. This option controls the detail level of the audio waveform. Setting it to lower numbers (1 is the lowest allowed value) will yield higher quality graphs at the expense of rendering speed. Setting it to 50 or higher will increase the speed at which waveforms are rendered, but at a reduction in graph quality.

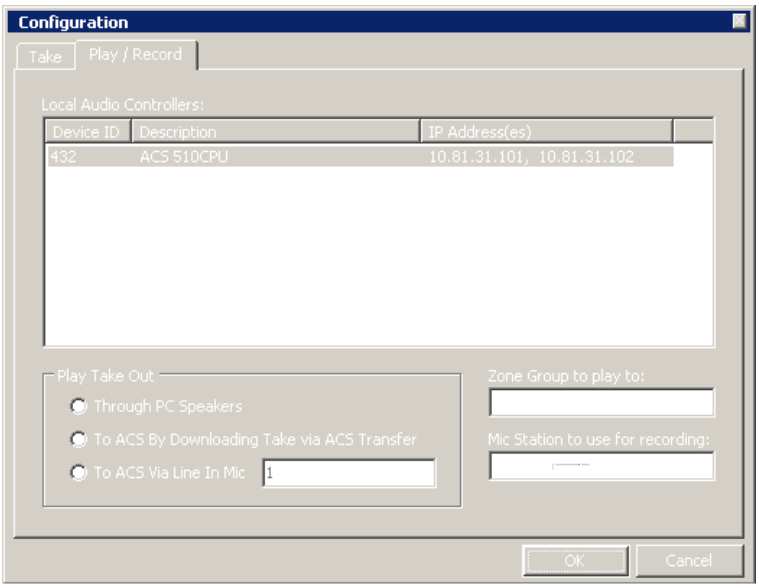


Figure 11-26: Configuration Window - Play / Record Tab

Play / Record Tab

- Local Audio Controllers - This list box shows the Device ID, Description, and IP Address of the ACSs configured in Enterprise. Only one ACS can be selected from the list to be the local ACS. This is the ACS whose mic station will be used for recording and retrieving take files for the application.
- Play Take Out - Takes can be played through the speaker output of the computer (if speakers are connected) or by temporarily downloading it to the ACS. Some systems will have the output of the sound card connected to an input on the ACS. If this is the case, the take can be played as a Line In connection on the ACS. Only one method can be used to play take audio at any given time.
- Zone Group to Play to - The local zone group to use when playing take audio through the ACS.
- Mic Station to user for recording - The mic station that will be used to record takes.

Play All

This option plays the entire audio take. A red vertical line tracks the segment of the audio that is being played and the status bar at the bottom of the main window shows the status of the request.

Play Selected

This option plays the audio in the selected region of the take. A red vertical line tracks the segment of the audio that is being played and the status bar at the bottom of the main window shows the status of the request.

Stop

This option stops playing the take. It is unavailable when the audio play method is setup in the Configuration window to play takes by downloading to the ACS.

Pause / Resume

This option pauses playback, if playing, or resumes the playback, if paused. It is unavailable when the audio play method is setup in the Configuration window to play takes by downloading to the ACS.

Record from ACS Mic Station

This option activates the designated mic station to record a take. Once selected, the mic station will start beeping indicating that it is ready. Additionally, the status bar at the bottom of the main window will show *Ready To Go Active* (as shown in Figure 11-27) indicating that the user can start recording by pressing the mic switch or Annc/0 button on the mic station.

Figure 11-27: Mic Station Status

The record operation times out if the user does not activate the mic station within a few seconds. The status bar at the bottom will inform the user with an appropriate message if no audio was detected by the ACS. On successful recording, the software will automatically retrieve and display the recorded Take.

Retrieve DAX List from ACS

Click this option to open the Take List window. This window is used to list all takes that are currently on the ACS. The ACS can have several thousand individual takes spanning across multiple languages. Because of this, retrieving and listing all takes is time consuming. The user can narrow down the range and language of the take list by entering appropriate values in the ***Start***, ***Stop***, and ***Language*** controls. Click the ***Retrieve List*** button to populate the ***Available Takes on the ACS*** list box with take numbers that reside on the ACS. Note that this does not retrieve the takes, but lists the numbers of the takes that are already on the ACS. For example, Figure 11-28 shows all English takes in the range 9401 through 9999. Once initiated, the user can stop the take listing operation by clicking on the ***Cancel List*** button at any time. The software will stop searching for more takes and list only those already discovered.

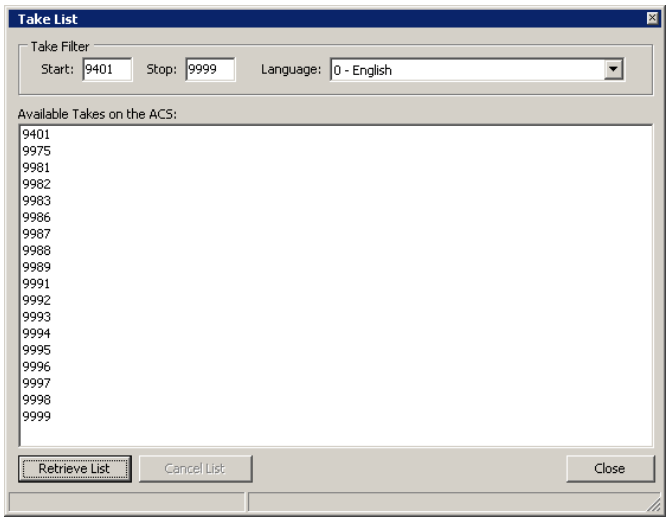


Figure 11-28: Take List Window - Populated

Help Menu

The help menu has only one option as shown in Figure 11-29. Selecting the *About* menu item displays the window shown in Figure 11-30. This window displays the program name, version number, release date, and copyright information.

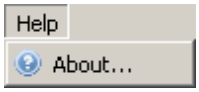


Figure 11-29: Help Menu

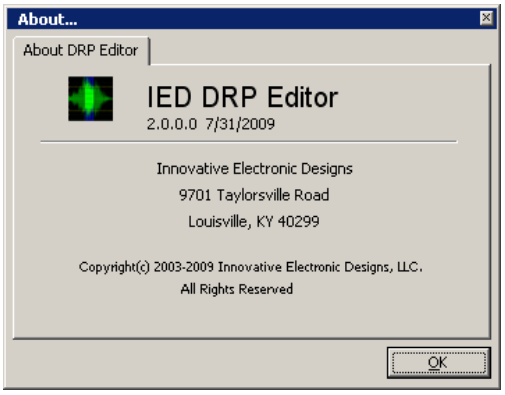


Figure 11-30: About Window

Toolbar

The purpose of the toolbar is to provide quick access to commonly used application commands, most of which are also accessible from the menus. The toolbar is shown in Figure 11-31.

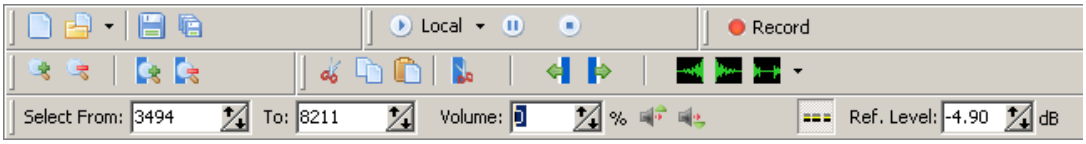


Figure 11-31: Toolbar

The following options are available from the toolbar. Please refer to appropriate titles under the File Menu for additional details on many of these features.

New File

This option creates a new blank audio take with a length of one second.

Open File

This option opens a dialog window to load take file from a local drive. Clicking on the down arrow next to the icon opens a drop-down menu with options to *Open File* and *Open File From ACS*.

Save

This option saves the changes made to an opened file.

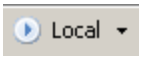
Save All

This option saves changes made to all opened files. Files that already have a filename will be saved automatically and those that are labeled *untitled* will be prompted for filenames using a standard Windows *Save as* dialog box.

Note: This option is not available from the menu bar.

Play Selected

This option plays the audio of the selected region. Clicking on the down arrow next to the icon opens a drop-down menu with options to *Play Selected* and *Play All*.



Pause / Resume

This option pauses playback, if playing, or resumes the playback, if paused, of the take.

Stop

This option stops playback of the take.

Record from ACS Mic Station

This option activates the mic station to record the take audio.

Zoom In

This option causes the horizontal-axis of the Detail View graph to stretch left and right, revealing more details of the waveform.

Zoom Out

This displays a broader view of the waveform in the Detail View.

Zoom Into Selected Range

This option expands the selected range in the Details View.

Zoom Out Fully

This option removes all zoom effects from the Detail View.

Cut

This option removes a selected region and places it on the clipboard.

Copy

This option stores a copy of the selected region on the clipboard.

Paste

This option inserts at the region from the clipboard into the take at the left selection cursor location.

Trim

This option removes the audio data to the left and right of the selected region.

Move Left Cursor to Start of File

This option moves the left selection cursor to the start of the audio data.

Move Right Cursor to End of File

This option moves the right selection cursor to the end of the audio data.

Fade In

This option will produce a fade in that begins at the left selection cursor and ends at the right selection cursor. The selection will linearly increase in volume from silence to the full level. It is recommended that a short face in be placed at the beginning of all recorded takes to prevent any unwanted pops.

Fade Out

This option will fade the audio out beginning at the left selection cursor and ending at the right selection cursor. The selection will linearly decrease in volume from the full level to silence. It is recommended a short fade out be placed at the end of all recorded takes to prevent any unwanted pops.

Insert Silence

This option allows inserting short durations of silence at the location of the left selection cursor. Clicking on this option produces the sub-menu shown in Figure 11-18.

Select From / To

The values in the textboxes control the positions of the left and right selection cursors. The spin edit labeled *Select From* controls the position of the left selection cursor. The spin edit labeled *To* controls the position of the right selection cursor. Changing the values in the spin edit boxes moves the left and right cursor positions on the display. Alternatively, clicking on different regions on the graph updates the values in the textboxes.

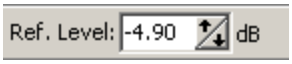
Volume

The value in the *Volume* determines the percentage of volume to increase or decrease when the *Volume Up* and *Volume Down* buttons, or menu items, are selected.

Toggle Reference Line

This button toggles the yellow colored horizontal line on and off. The line acts as a reference for the audio level that all takes should be contained within so that the volume of a recorded take is consistent with the volume of other pre-loaded takes.

Reference Line Level



This textbox displays the dB value of the yellow colored horizontal reference line. The default value is -4.90dB. Changing this value will move the reference line. Additionally, the reference line value can be changed by holding down the **[SHIFT]** key and left-clicking on the Detail View graph.

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12

Time Talker

Time Talker is a software application that provides an automated service to play audio cues of the current time at programmed intervals. This application is capable of sending time command cues to any combination of zone groups across multiple announcement controllers. The following sections describe the configuration of Time Talker.

Launching Time Talker

Time Talker is a separate application from the main Enterprise application. Therefore, it is not launched from an icon or menu located within the Enterprise Navigator window. The icon for launching Time Talker is typically located on the IED Application Bar as shown in Figure 12-3. On some legacy systems, it may have been installed at a later time and is available as a shortcut icon on the desktop.

Figure 12-1: Time Talker Icon

Figure 12-2:

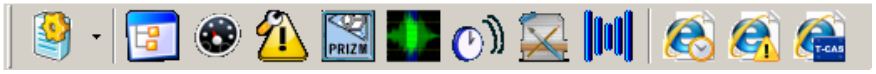

Figure 12-3: Application Bar

Double-click the Time Talker icon to launch the application. The IED Time Talker Configuration window will appear as shown in Figure 12-4. From here, current time events can be modified or new events created.

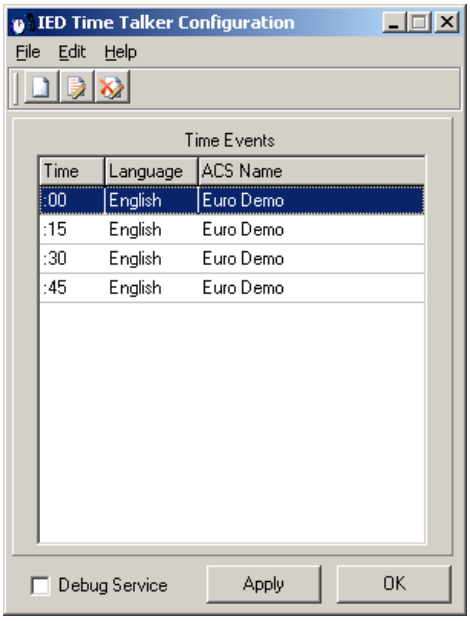

Figure 12-4: Time Talker

Time Talker Configuration Window

The Time Talker Configuration window displays a list of time events as shown in Figure 12-4 and the edit option buttons. Events are added, edited, or deleted using the buttons located on the toolbar as shown in Figure 12-5.

Figure 12-5: Toolbar Buttons

Add

Click this button to add a new event to the schedule.

Edit

Click this button to edit the highlighted event. Double-clicking the event in the list will also open the event for editing.

Delete

Click this button to delete the highlighted event.

Apply

Click this button to activate any changes without closing the application.

OK

Click this button to close the application and save any changes that have been made.

Debug Service

This is an option used for system debugging and should remain unchecked.

File Menu

The only item currently available under the ***File*** menu is the ***Exit*** option. Select this option or select the X located in the top-right corner of the window to close the Time Talker application.

Figure 12-6: File Menu

Edit Menu

The *Edit* menu provides functions to add, edit, or delete time events. These three menu items correspond to the three buttons available on the toolbar. The last three options available in this menu open the windows necessary to properly configure Time Talker. Each configuration window is described in *"Time Talker Setup" on page 189.*

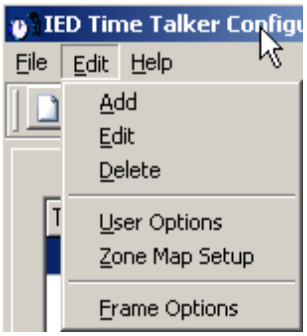

Figure 12-7: Edit Menu

Help Menu

Currently, the only available item in the *Help* menu is the option to show the application's *About* box as shown in Figure 12-8. This provides the version number and build date of the Time Talker application.

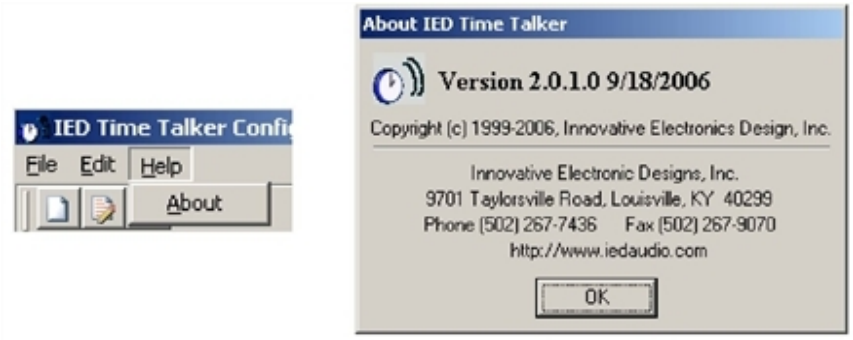

Figure 12-8: Help Menu and About Box

Time Talker Setup

Since Time Talker is a separate application and does not utilize the same database as Enterprise, it must be configured properly before it will function. The three configuration windows are described in detail below.

Frame Options

Announcement controllers that can play back time messages are defined in Time Talker as Frames. Frames are configured from the ***Frame Options*** dialog that is opened from the ***Edit*** menu. A toolbar at the top of the window provides two buttons. The button on the left is used to ***Add*** a new frame to the system using the data in the ***Name*** and ***IP Address (Primary)*** fields. The button on the right will ***Delete*** the frame currently highlighted in the list.

Note: Frames cannot be edited once created. To make changes to a frame, add a new frame with the correct information and delete the old one.

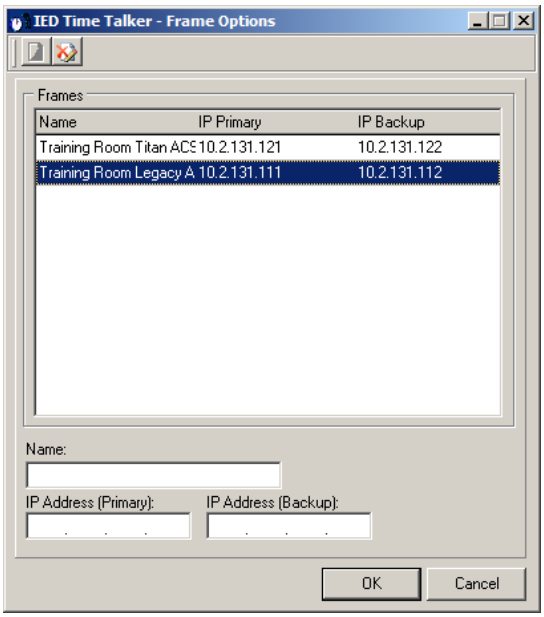

Figure 12-9: Frame Options

The features in this window are:

Frames List Box

This is a list of all announcement controllers that are currently defined in Time Talker.

Name

This is a text entry box used to define a name for this frame (e.g., Terminal A).

IP Address (Primary)

This is the IP address for the announcement controller. This field must be defined to allow Time Talker to communicate with an announcement controller.

IP Address (Backup)

This is the IP address for the backup announcement controller CPU, if installed. This field should be left blank for systems that do not have redundant processors.

OK

Click this button to save the frame additions or deletions and close the window.

Cancel

Click this button to discard any changes and close the window.

Zone Map Setup

Zone Maps in Time Talker correspond to Zone Groups that are defined in Enterprise. The zone groups to receive time announcements must be entered into Time Talker using the ***Zone Map Setup*** dialog box that is accessed from the ***Edit*** menu. First, the zone group number must be determined by looking at the *Zone Groups Setup* section in Enterprise. Then, the group number is entered in the ***Zone Number*** field with a description typed into the ***Description*** field. Click the ***Add Zone Map to Time Talker*** button to add the zone group to Time Talker.

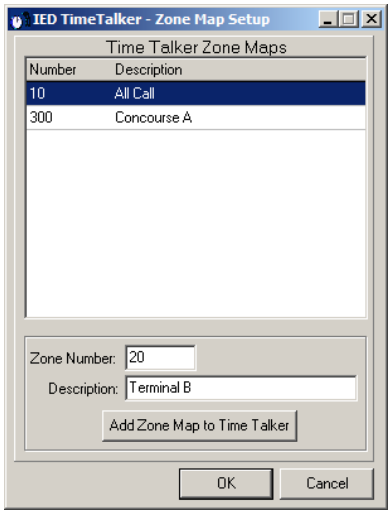

Figure 12-10: Zone Map Setup

Zone Number

This is a Zone Group number as defined in Enterprise to use as a zone map in Time Talker.

Description

This is a text description for this zone map to aid in configuring time events.

Add Zone Map to Time Talker

Click this button to add the zone number and description to Time Talker.

OK

Click this button to save the changes and close the window.

Cancel

Click this button to discard any changes and close the window.

User Options

The *User Options* window is accessed through the *Edit* menu. It provides controls to determine when Time Talker will be active and inactive as well as how it will operate.

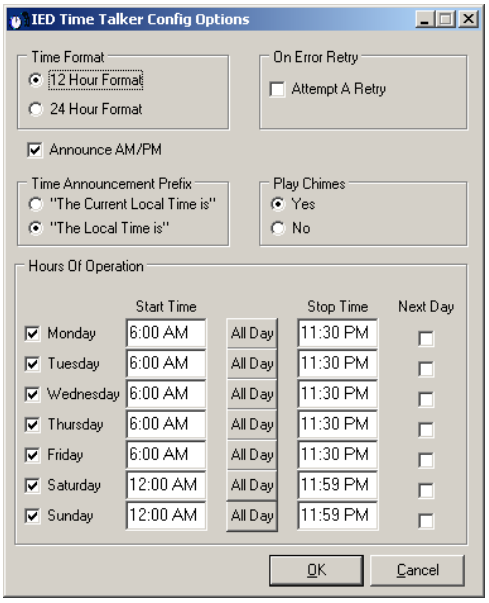

Figure 12-11: User Options

Configuration options for Time Talker announcements are as follows:

Time Format

Select either 12 or 24 hour time format for the audio announcements initiated by Time Talker.

On Error Retry

When checked, Time Talker will attempt a retry if it receives an error when attempting to initiate an announcement. When not checked, it will simply ignore the error and try again at the next event time.

Announce AM/PM

When checked, the AM/PM designations will be appended to the time in the announcement. When left unchecked, the announcement will include the hour and minutes without the AM/PM appended to the announcement.

Time Announcement Prefix

Two announcement lead-ins are available to precede each time announcement. Select either "The Current Local Time is" or "The Local Time is" to precede the time announcement.

Play Chimes

Select to either enable or disable a chime tone to play before the announcement to draw attention to the message.

Hours of Operation

The times during which time announcements are played are individually configured for each day.

- Day checkboxes - Check a box to enable announcements on each day.
- Start/End Time - Define the time window for each day when announcements will play.
- All Day button - Press this button to quickly set the announcements to play all day for the selected day. (12:00AM-11:59PM)
- Next Day checkbox - If checked, then the end time is on the next day. This allows time windows to span midnight. For example, a day could be defined to start at 6:00AM and play until 1:00AM the next morning.

Time Events

The Time Talker event schedule is a repeating schedule that cycles through every hour. Events are defined to play at a relative minute after the top of the hour. For example, if the time is to be played only at the top of the hour, then the ***Time*** field would be *:00* to indicate that the event is to play every hour. If the time is to also play at the bottom half of the hour, then the ***Time*** field would be set at *:30* to indicate that the event should play 30 minutes after the hour. Figure 12-12 shows a schedule with time events set to play every 15 minutes.

Each event will only play once in any given hour and it can only play in one language. Multiple events must be created, one for each language, in order to play multi-lingual time announcements.

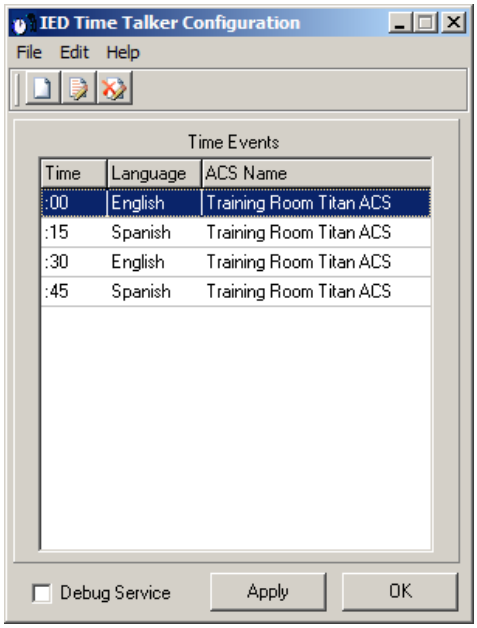

Figure 12-12: Time Talker

Define Events

Events are programmed using the ***Define Events*** window as shown in Figure 12-13. This window will appear when a new event is created or an existing event is selected for editing.

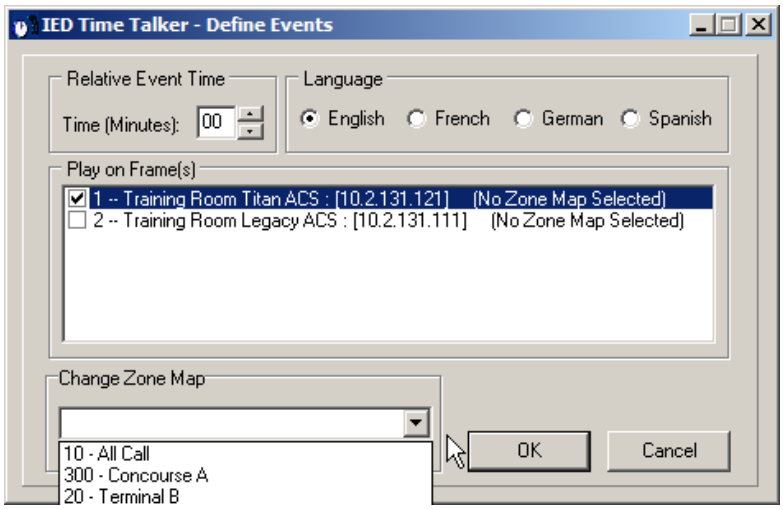

Figure 12-13: Define Events Window

Event configuration options are as follows:

Relative Event Time

Use the up/down arrow buttons to set the minute after the hour when the message will play.

Language

Select the language to use for the time announcement.

Play on Frame(s)

Check the box for each announcement controller that should play the event.

Change Zone Map

This droplist box will display the zone maps available on the frame highlighted in the ***Play on Frame(s)*** list. Click to open the droplist box and select the zone map to use for that frame.

OK

Click this button to save the changes and close the window.

Cancel

Click this button to discard any changes and close the window.

Note: While the application is still open, an event will not begin playing on the set times until the ***Apply*** button is pressed.

13

Password Management

The Enterprise Software Suite offers a great degree of flexibility for user access. Control is accomplished by the use of passwords and permissions assigned to each user in the system. The system utilizes a centralized security server that runs in the background to manage user access to various functions on all server and client computers in the system. The following sections explain the configuration of users and their permissions.

Accessing Password Configuration Options

There are two different methods for accessing the password configuration options. Primarily, users are configured from the IED Application Bar as shown in Figure 13-1. This provides direct access to the four essential areas needed to manage users, passwords, and permissions.

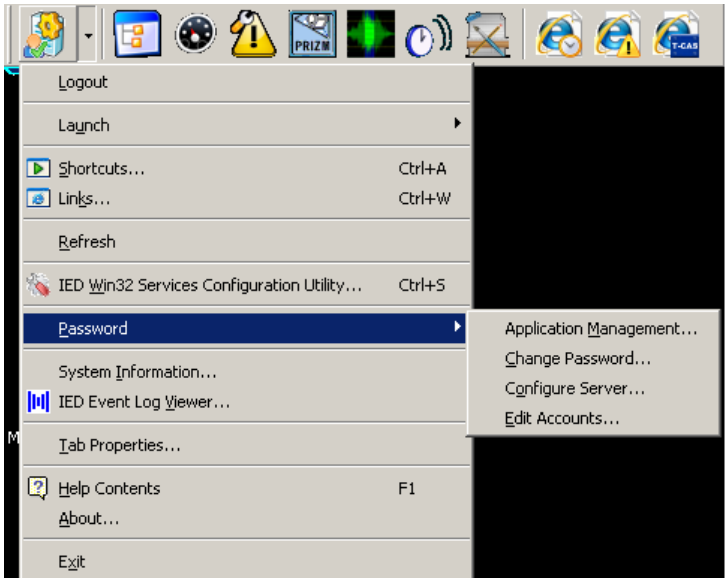

Figure 13-1: IED Application Bar

Alternatively, the Password Manager configuration utility can be launched from the ***Tools*** menu on the Enterprise Navigator window as shown in Figure 13-2.

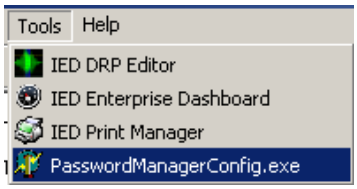

Figure 13-2: Enterprise Tools Menu

The Password Manager config utility is a launcher application containing a main menu of buttons used to launch the various configuration windows for the password server. Figure 13-3 shows the main menu of the Password manager config utility.

Note: The ***App Mgmt*** button is typically grayed out and is reserved for use by factory service personnel.

Figure 13-3: Password Manager Main Menu

Login / Logoff

If a user is currently logged into the system, the first menu choice will be ***Logoff***. Selecting this function will immediately cause the user to be logged off the system. When this is done, the ***Logoff*** button and menu item changes to ***Login***.

When a user is not logged into the system, the button and menu will display ***Login***. Selecting this will display the Login dialog box as in Figure 13-4. Enter a valid user name and password and click the *OK* button to log into the system.

The **[F2]** key can be used as a shortcut to access the Login/Logoff functions.

Figure 13-4: Login Dialog Box

Application Management

This menu item (or *AppMgmt* button from the Password Manager utility) is used to access the Application Area Management configuration. This function is typically not available (or grayed out) to most users and is for IED factory personnel use only. Examples of the configuration screens are shown below, but the details of configuring this section are beyond the scope of this manual.

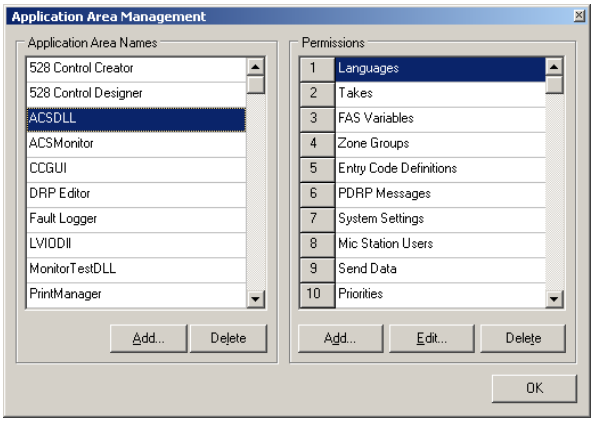

Figure 13-5: Application Area Management

Click the *Add* button under the Application Area Names list to create a new application area. The window below will prompt for a name of the new application area. Clicking the *Delete* button will remove the application area and all associated permissions from the system.

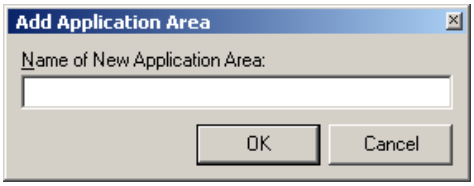

Figure 13-6: Add Application Area

Click the *Add* button under the Permissions list to create a new permission for the selected application area. Fill in the information as needed in the *Add Permission* window shown below and click the *OK* button to save.

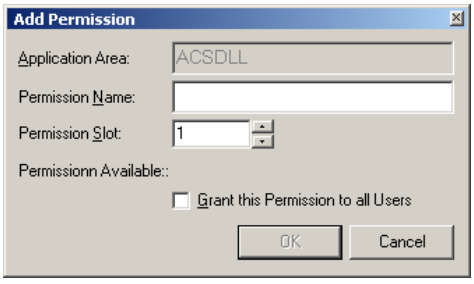

Figure 13-7: Add Permission

Configure Server

Selecting this menu item (the ***Config*** button from the Password Manager utility) opens the *IED Security Server Parameters* window. The configuration options are displayed across two tabs: Options and Language.

Options Tab

The Options tab appears as shown in Figure 13-8. This tab is divided into three areas: Startup Options, Login Options and Automatic Logout Options.

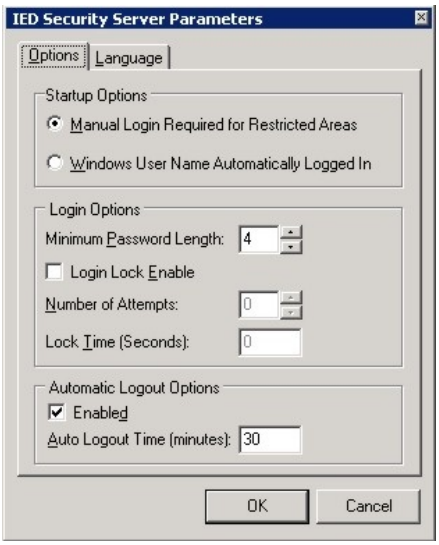

Figure 13-8: Security Server Parameters - Options Tab

Startup Options

- Manual Login Required for Restricted Areas - When selected, users must always enter a user name and password each time the application is started.
- Windows User Name Automatically logged in - When selected, the user will be logged into the system using the same login credentials used for the Windows login. This requires the same username and password to be entered in the Password Manager.

Note: Manual login is recommended on operational systems.

Login Options

- Minimum Password Length - Enter the minimum length for user passwords. The allowable range is 1 to 10 characters.
- Login Lock Enable - The purpose of this feature is to prevent rapid, repeated attempts to log in under the conditions set by the next two entries. If the box is checked, the feature is active.

- Number of Attempts - This specifies how many unsuccessful login attempts in a row are tolerated before invoking the *Lock Time*. The valid range for this setting is between 1 and 10 failed login attempts.
- Lock Time - This specifies the number of minutes to lock the system (allow no more login attempts) after a string of unsuccessful login attempts.

Automatic Logout Options

- Enabled - When checked, the system will automatically logout the current user after a period of inactivity as specified in *Auto Logout Time (minutes)* field.
- Auto Logout Time (minutes) - This specifies the amount of time the system will wait before initiating the automatic logout.

Language Tab

When users are created, they are assigned a language that is used to determine (for some applications) the actual language in which the application will operate when that user logs into the system. When a new user is created, the system will default to the language selected here.

The current default language will appear highlighted in the list. To change the default language, highlight the language in the list and click the *Set as Default* button. Now, new users will be created with this language selected by default. Each user can then be adjusted to use the language that is appropriate.

Figure 13-9: IED Security Server Parameters - Language Tab

Verify

The ***Verify*** function only available from the Password Manager utility and is used to test a username/password combination without logging out the current user. To test a username/password combination, click the ***Verify*** button (Figure 13-3) and enter the login credentials in the login window. If the combination entered is valid, a small *Verify Successful* window will appear as shown in Figure 13-10. If there is an error, a small *Verify Failed* window will appear as shown in Figure 13-11. In either case, click the ***OK*** button to close the window and continue.

Figure 13-10: Verify Successful

Figure 13-11: Verify Failed

Change Password

To simply change a user's password, select the Change Password menu item or click the *Chng PW* button on the Password Manager utility. The Change Password window for the current user will appear as shown in Figure 13-12. Enter the current password in the *Old Password* field. Enter the new password in the *New Password* field and then again in the *Confirm Password field*. Click the *OK* button to change the password.

Note: Placeholder *'s will appear in place of actual characters when typing in any of these edit boxes.

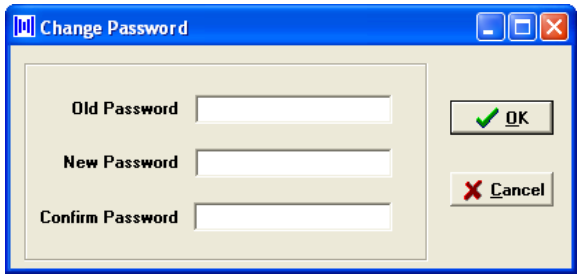

Figure 13-12: Change Password

Edit Accounts

Select this menu item (or the ***Edit Accts*** button on the Password Manager utility) to open the *Edit User Accounts* window as shown in Figure 13-13. The screen has two menus located just below the title bar and two function icons available on the toolbar.

Figure 13-13: Edit User Accounts Window

Menus

File Menu

This menu has one available function. Select ***Close*** to exit the *Edit User Accounts* screen and return to the main menu.

Edit Menu

This menu leads to all the functions used to create or modify user accounts.

New

Select this function to create a new user. This will open the *New User* window as shown in Figure 13-16. A shortcut to this function is provided on the toolbar by clicking on the left of the two icons.

Delete

Select this function to delete the selected user from the system. A shortcut to this function is available by clicking the right icon (with the X) on the toolbar.

User Information

Select this function to open the *Edit User* window (Figure 13-17)for the selected user. Clicking the ***Edit User Information*** button will perform the same function.

Permissions

Select this function to open the *User Permissions* window (Figure 13-18) to modify the permissions for the selected user. Clicking the ***Edit Permissions*** button will perform the same function.

User Accounts

Select User

Click this droplist box to open a list of all users in the system as shown in Figure 13-14. Scroll through this box and select a user to view or edit.

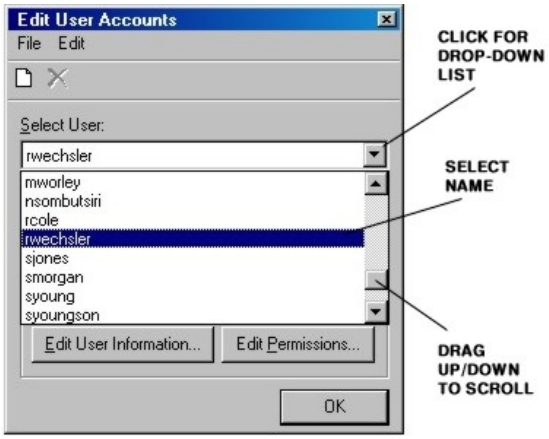

Figure 13-14: User Selection

Selected User Information

This section will display the username along with the first and last names of the selected user. This is the user that will be edited when either the ***Edit User*** Information or ***Edit Permissions*** buttons or menu functions are selected. This is also the user that will be deleted when the ***Delete*** button is pressed.

Figure 13-15: User Name Selected

Create New User

To create a new user account, select either the New icon or the New menu item from the Edit menu. ANew User form will appear as shown in Figure 13-16. Enter the appropriate information as described in the next section and click the *OK* button to save the new user.

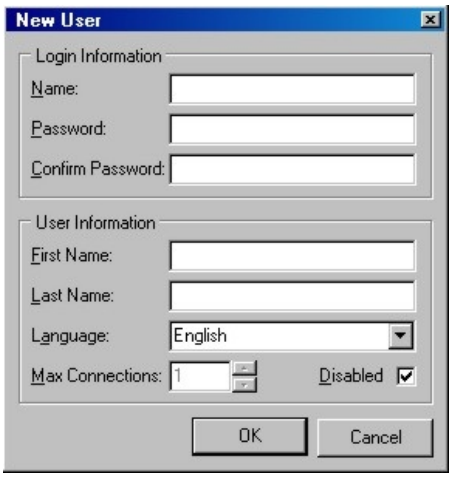

Figure 13-16: New User

Edit User Information

To edit information about the selected user, click the ***Edit User Information*** button, or select ***User Information*** from the ***Edit*** menu to display the *Edit User* form as in Figure 13-17.

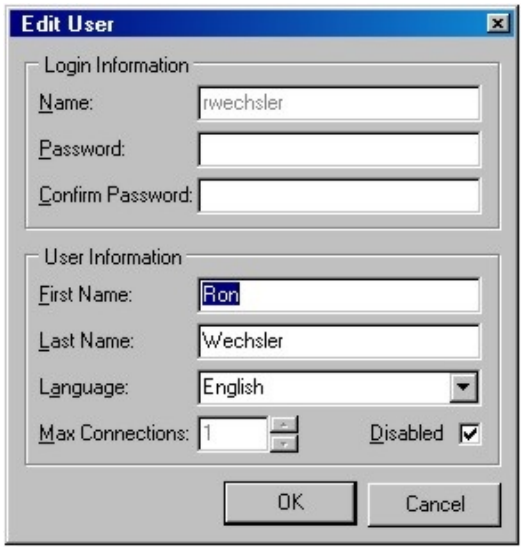

Figure 13-17: Edit User

Name

This the unique username that applies to this user and is the name that must be used at the login prompt. This name may or may not have any relationship to the user's legal name, which can be entered in the ***First Name*** and ***Last Name*** fields. This is the name

entered from the *New User* window and is read-only and cannot be changed.

Password

This field is used to enter the password for the user. The password should be some combination of letters and/or numerals, which can be remembered by the user. For good security, it should be six or more characters in length. Obvious choices such as the user's phone number, address, or social security number are not recommended. When typing in this field, the characters are not visible and will be shown as "*" for security purposes.

Confirm Password

This field is used to re-enter the password to verify it was typed correctly. The system will compare this field with the *Password* field and notify the user if there are any discrepancies.

First Name

This field is used for the user's legal first name, which may or may not be associated with their username.

Last Name

This field is used for the user's legal last name, which may or may not be associated with their username.

Language

Select a language appropriate for this user from the droplist box. For those parts of Enterprise that have language localization, this selection will automatically change the menus and other controls to the language for this user when they login to the system.

Max Connections

This setting specifies the number of concurrent logins that this user can have without first logging off at another location/computer. For example, if the number in this window is set to 1, the user can only long on at a second location/computer in the system after logging off at the first. If the number is set at 3, the user can log on at a third location while already logged on at two other locations.

Disabled

When checked the *Max Connections* feature is disabled and there are no restrictions on the number of points in the system where this user can remain logged on.

OK

Click this button to save changes and close the window.

Cancel

Click this button to discard the changes and close the window.

Edit Permissions

Permissions grant individual users the authority to edit, change, set up, or control the use of certain features, sub-features, or portions of the Enterprise program and associated applications. Their purpose is to allow maximum program flexibility, yet provide a means to limit it to those most qualified.

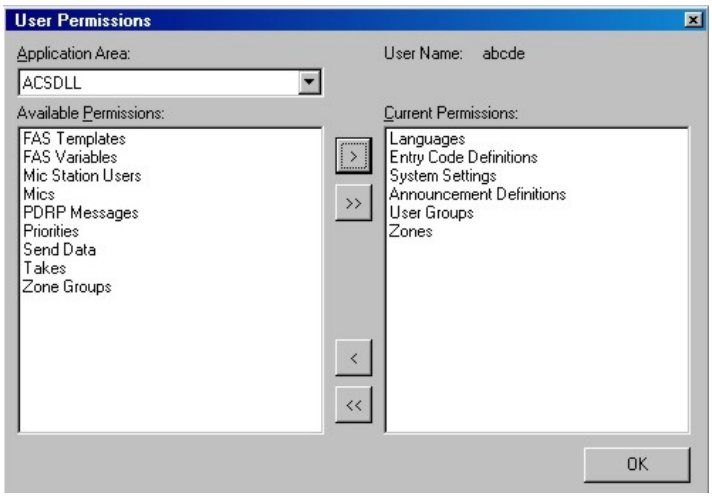

Figure 13-18: User Permissions

To edit permissions, select a user from the *Select User* droplist box and then either click the *Edit Permissions* button or select *Permissions* from the *Edit* menu. The *User Permissions* screen will appear as shown in Figure 13-18.

Application Area

This droplist box selects the specific application group of permissions that will be available for editing. Refer to Table 13-1 for a list of the available application areas and what permissions are available for each area.

Available Permissions

This lists the permissions that can be granted for the selected application area.

Current Permissions

This lists the permissions currently granted to the current user.

>

This button is used to add the highlighted permission in the *Available Permissions* window to the *Current Permissions* window, thus granting the user's access to that function. Multiple permissions may be selected by holding the **[CTRL]** or **[SHIFT]** keys while selecting items in the list using the left mouse button.

>>

This button is used to add all items in the *Available Permissions* window to the *Current Permissions* window. This is a quick way to grant a user's access to all permissions associated with the selected application area.

<

This button is used to remove the highlighted permission in the *Current Permissions* window to the *Available Permissions* window, thus removing the user's access to that function. Multiple permissions may be selected by holding the **[CTRL]** or **[SHIFT]** keys while selecting items in the list using the left mouse button.

<<

This button is used to remove all items in the *Current Permissions* window to the *Available Permissions* window. This is a quick way to remove a user's access to all permissions associated with the selected application area.

Application Areas

Table 13-1 lists the available application areas and their associated permissions for the Password Manager application.

Table 13-1: Application Areas and Permissions

Application Area	Description	Permissions
528 Control Designer	Grants permissions for the 528 Interface Designer application.	Advanced
		Basic
540 General	Grants access to the Ambient Analysis configuration and calibration areas of Enterprise for systems utilizing the legacy 540M hardware.	Edit Schedule
		Offline Edit
		Online Edit
		Run Calibration
ACSDLL	Grants access to a wide variety of system setup and operation features for the announcement controllers in a system.	Announcement Definitions
		Companies
		Entry Code Definitions
		FAS Templates
		FAS Variables
		Languages
		Mic Station Users
		Mics
		PDRP Messages
		Priorities
		Send Data
		System Settings
		Takes
		User Groups
		Zone Groups
		Zones
ACSMonitor	Grants access to configure the ACS Monitor function.	Configure

Application Area	Description	Permissions
AppBar	Grants access to the IED Application Toolbar.	Administrator
		GeneralUser
		WindowsServiceConfiguration
CCGUI	Grants access to application areas specific to the Convention Center GUI application suite.	audiocontrol
		full
		roomcontrol
DRP Editor	Grants access to the DRP Editor application functions as well as restricts the ability to save takes certain ranges.	All Areas
		Save All Take Range
		Save Take User Range
Fault Logger	Grants access to manage the Fault Logger application.	Delete Fault Records
		Edit Configuration
LVIODII	Grants access to configure the 9032LVIO hardware to operate with the system.	Configure
MonitorTestDLL	Grants access to the configuration and operation of the Monitor/Test sub-system on systems utilizing the legacy 596M hardware with Gateway computer.	Configure
PAConsole	Grants access to specific applications that are used as a live PA console interface.	AdHocAnnc
		AnncLogView
		AnncSchedule
		Configuration
		EditSchedule
		EmergencyAnnouncement
		LiveAnnc
		MacroCreate
		PDRPAnnc
		QuickPickCreate
		TTAnnc
PrintManager	Grants access to print reports.	Print
PRIZMCMS	Grants access to configure the Prizm CMS application.	Add Devices
		Delete Devices
		Edit Existing Devices
PRIZMContentManager	Grants access to the functions available in the Prizm Content Manager application.	cmEditBilling
		cmEditChannels
		cmEditCust
		cmEditMedia
		cmEditPlaylists
		cmEditScreens
		cmGenerateReports
		cmViewBilling
		cmViewCust

Application Area	Description	Permissions
PrizmSmartClient_Admin	Grants access to the administrative functions of the Prizm Smart Client application.	AdminFeatures
		DataBaseUtils
		GroupCodes
		MasterOverwrite
		SystemOptions
PrizmSmartClient_General	Grants access to general areas of the Prizm Smart Client application.	CAS
		ConditionalOptions
		DailySched
		MasterSched
		OfflineSchedules
		TicketCounters
		UserOptions
PrizmSmartClient_ UserOptions	Grants access to various configuration options for the Prizm database.	DailyFlightTypes
		DailyROFields
		DateFormat
		EditableGroupCodes
		Language
		LoginTimeout
		MasterFlightTypes
		MasterROFields
		TimeFormat
		ViewableGroupCodes
SYSTEM	Grants access to various system-wide parameters.	Change Password
		Configure Server
		Edit Accounts
		Exit Program
TitanDLL	Grants access to the features specifically related to the Titan series frames in a system.	Config. Adv. Channel Settings
		Config. Adv. Test Params
		Config. IED24 Comms Params
		Configure Ambient
		Configure Channels
		Configure EQ
		Configure Tests
		Frame Save/Load/Send Settings
		Grid Edits
		Run Tests
		Set Levels

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14

596 Series Test Configuration

This section describes the configuration of the Monitor/Test sub-system for installations that use the 596 series components for system supervision. This includes the 590RU Gateway computer with installed 590A audio supervision card and 590I communications card.

Gateway Monitor/Test Setup

The Gateway Computer device must be added and configured to each ACS where one is used.

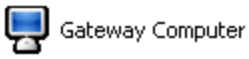

Figure 14-1: Gateway Icon

To configure the monitor points and operations for the Gateway, click on the Gateway Computer icon (see Figure 14-1) on the tree view in Enterprise. This changes the right panel of Enterprise to the Gateway configuration options as shown in Figure 14-2.

Figure 14-2: Gateway Configuration Icons

Configure Monitor Points

This section is used to define the monitor points managed by the Gateway, and their automated test properties. Clicking this icon displays the monitor point configuration grid as shown below in Figure 14-3. Each 596 unit used in the system will be shown on a separate tab and is selected by clicking the corresponding tab at the top of the form.

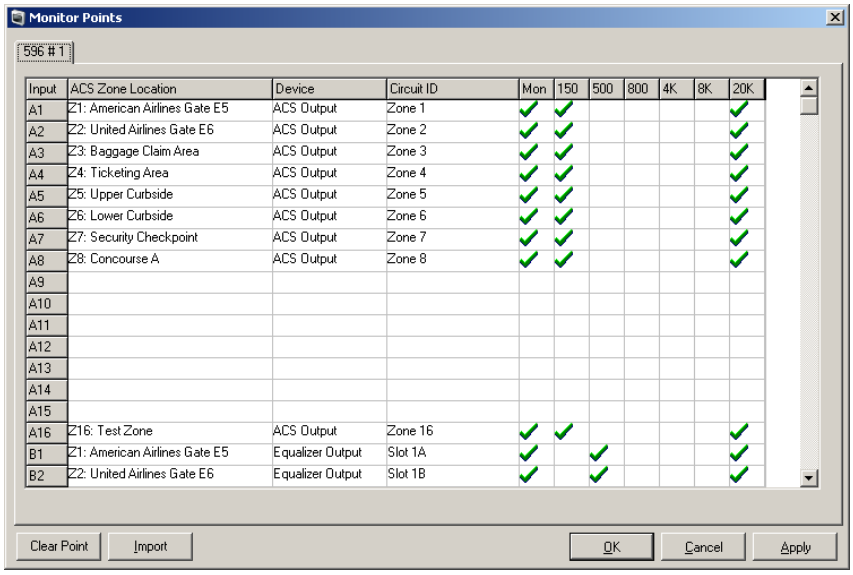

Figure 14-3: Configure Monitor Points Grid

Monitor Point Grid

The columns in the grid are as follows:

Input

This represents the physical input on the 596 where the monitor point is wired.

ACS Zone Location

Click this field to open a drop-down of all analog zones configured for the ACS. Select the appropriate zone to associate with this monitor point.

Device

Click this field to open a drop-down list to identify which point in the signal chain is represented by the monitor point. The available devices are as follows:

- ACS Output
- Equalizer Output
- 540 Output
- Amplifier Circuit
- Speaker Circuit
- DC Circuit

- Remote Monitoring

Circuit ID

Enter a logical text description of the monitor point.

Mon

Check this box to make the point available for audible monitoring through the local rack-mount monitor speaker. Only audio points should be checked. DC voltage points (e.g., power supply monitoring points) should not be checked.

150

Include the monitor point in the 150 Hz audible test.

500

Include the monitor point in the 500 Hz audible test.

800

Include the monitor point in the 800 Hz audible test.

4K

Include the monitor point in the 4 kHz audible test.

8K

Include the monitor point in the 8 kHz audible test.

Note: Only one audible tone may be selected per monitor/test point.

20K

Include the monitor point in the 20k periodic inaudible test. This test is typically executed every 60 seconds. The interval between tests is configured in the section about *"Monitor Test " on page 227*.

Clear Point

Click this button to clear the settings for the selected point in the monitor point grid.

Import

Click this button to import monitor data from a version 6 ACS Toolset System.

OK

Click this button to send points to the Gateway and close the window.

Cancel

Click this button to close the window without saving any changes.

Apply

Click this button to send data to the Gateway without closing the window.

Test Results

Test results are divided into three different categories. These categories are represented by three tabs as shown in Figure 14-4.

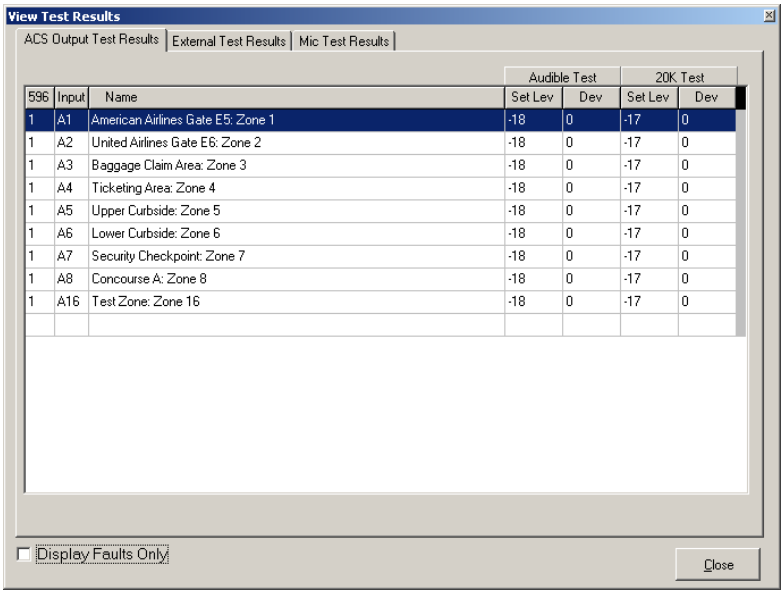

Figure 14-4: View Test Results

Display Faults Only

Check this box to filter the result and display only the points that have tested out of tolerance. When left un-checked, test results for all points are displayed.

Close

Click the **Close** button to exit the window.

ACS Output Test Results Tab

This tab displays the results for all monitor points that have been designated *ACS Output* as a device type. The columns in the results grids are as follows:

596

This is the 596 frame number where the monitor point is physically located.

Input

This is the physical input on the 596 frame for the monitor point. (i.e. A1-A16, B1-B16, C1-C16 or D1-D16)

Name

This is the name of the test point and includes the location and zone number.

(Audible Test) Set Lev

This is the level that was recorded for the audible test when a system set was performed. This value is in dBu and is used as the reference level each time a test is executed.

(Audible Test) Dev

This is the variation in level between the set level and the actual measured level from the last test. When the deviation is outside of the allowable window, the system will consider the monitor point in a fault status and report the fault accordingly.

(20K Test) Set Lev

This is the level that was recorded for the periodic 20k test when a system set was performed. This value is in dBu and is used as the reference level each time a test is executed.

(20K Test) Dev

This is the variation in level between the set level and the actual measured level from the last test. When the deviation is outside of the allowable window, the system will consider the monitor point in a fault status and report the fault accordingly.

External Test Results

This tab displays the results for test points that are not configured as an ACS Output device type. The columns for the grid (as shown in Figure 14-5) are identical in function to those on the *ACS Output Test Results* tab.

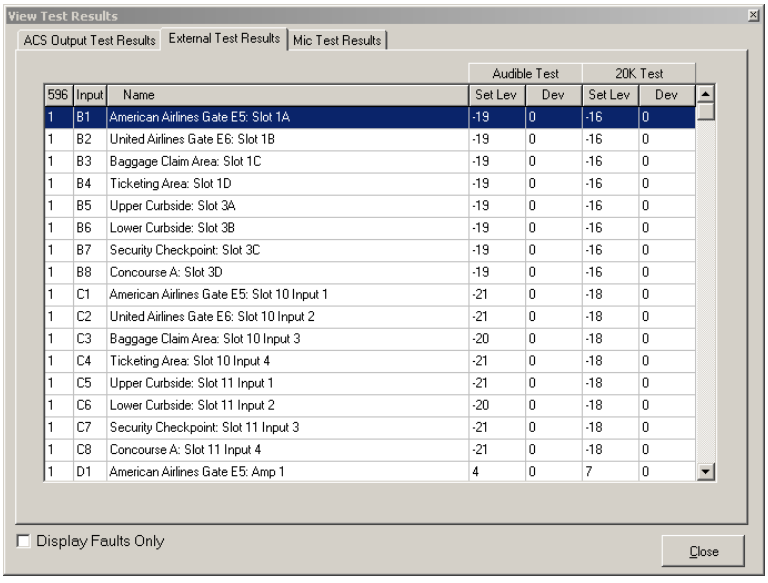

Figure 14-5: External Test Results Tab

Mic Test Results

Analog microphone stations have a built-in 500Hz oscillator that is used to validate the audio signal path from the mic station to the 500C card. This tab displays the results for mic station test points. The results grid is shown below in Figure 14-6.

Note: This applies to analog 500 and 508 series microphone stations only.

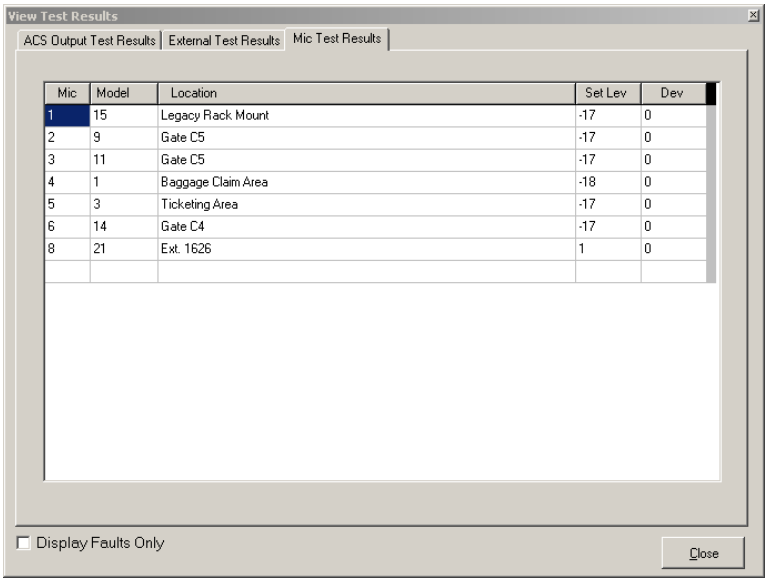

Figure 14-6: Mic Test Results Tab

Mic Test Results Grid

The columns in this result grid are as follows:

Mic

This is the mic station number as defined in the mic station setup.

Model

This is the model number of the mic station as defined in the mic station setup.

Location

This is the description entered by the user in the mic station setup.

Set Lev

This is the level that was recorded for the mic station test when a system set was performed. This value is in dBu and is used as the reference level each time a test is executed.

Dev

This is the variation in level between the set level and the actual measured level from the last test. When the deviation is outside of the allowable window, the system will consider the monitor point in a fault status and report the fault accordingly.

Monitor Zone

Double-click the ***Monitor Zone*** icon to open the *ACS - Circuit Test* window. This feature is used to monitor the point in real time and execute a test or set on an individual circuit. A zone is selected from the drop-down list and then all points available for that zone are displayed in the monitor point list. Selecting a point in the list will immediately switch the monitoring to that point.

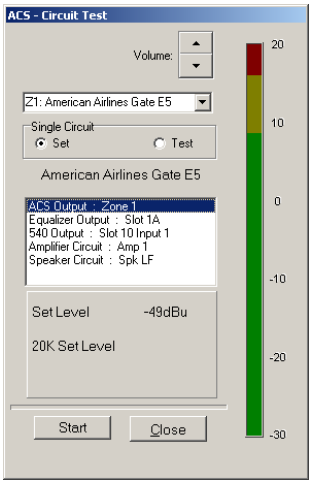

Figure 14-7: ACS Circuit Test Window

Volume

Click the up or down arrows to adjust the volume of the monitor output. This is an output physically located on the 590A card and is used to drive a powered speaker that is usually the speaker located in the rack-mount microphone station.

Level

This meter displays the current signal level for the selected monitor zone.

Zone droplist

This is a list of zones in the system that are available for monitoring. Select a zone from this list first and a list of available monitor points for that zone is displayed in the point selection list located in the middle of the window.

Single Circuit radio button

This selects the function that will be performed when the ***Start*** button is pressed. Choose *Set* to run an individual circuit set for the selected point. Choose *Test* to run an individual circuit test for the selected point.

Monitor Point list

This list is located in the middle of the window and is populated with a list of points assigned to the zone selected from the zone drop-down list. Click on a point to monitor the point. This is also the point that will be tested or set when the ***Start*** button is pressed.

Result Label

The result of the test or set is displayed below the Monitor Point list. The set level and deviation are displayed for a point after a test or set has been executed for that point.

Start

Click this button to start a circuit set or test. The function executed is based on the selection made in the *Single Circuit* radio button group.

Close

Click this button to close the window.

Monitor Mics

Double-click the ***Monitor Mics*** icon to open the *ACS - Mic Station Test* window. This feature is used to monitor a mic station in real time and execute a test or set on an individual mic station. A mic station is selected from the drop-down list.

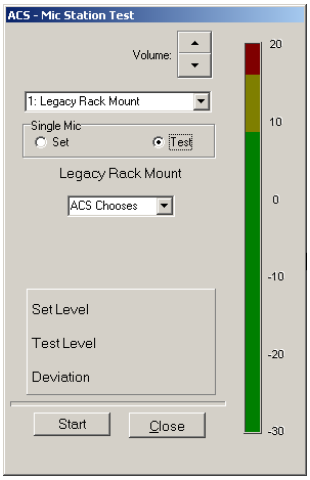

Figure 14-8: Monitor Mics Window

Volume

Click the up or down arrows to adjust the volume of the monitor output. This is an output physically located on the 590A card and is used to drive a powered speaker that is usually the speaker located in the rack-mount microphone station.

Level

This meter displays the current signal level for the selected mic station.

Mics droplist

This is a list of mic stations in the system that are available for monitoring. Select a mic station from this list to activate monitoring.

Single Circuit radio button

This selects the function that will be performed when the ***Start*** button is pressed. Choose *Set* to run an individual set for the selected mic station. Choose *Test* to run an individual test for the selected mic station.

Bus droplist

This drop-down list allows an individual bus to be used for the test. Select a bus to use for the test or select *ACS choose* to allow the ACS to select the appropriate bus to use for the test.

Result Label

The result of the test or set is displayed on the lower part of the window above the buttons. The set level, test level, and deviation are displayed for a mic station after a test or set has been executed for that mic station.

Start

Click this button to start a mic station set or test. The function executed is based on the selection made in the *Single Circuit* radio button group.

Close

Click this button to close the window.

Gateway Configuration

Double-click the *Gateway Configuration* icon to open the window shown in Figure 14-9.

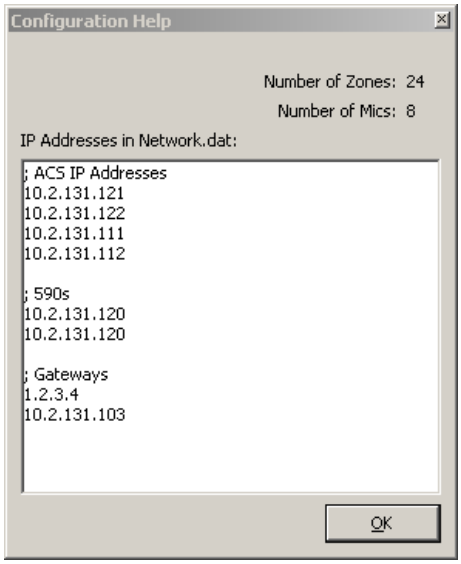

Figure 14-9: Gateway Configuration Window

The window displays the IP addresses that the gateway uses to communicate with other devices in the system. It also shows the total number of zones and mics programmed in the system. This is a read-only display as these items are configured elsewhere in Enterprise.

Monitor Test

Double-click the ***Monitor Test*** icon to open the *Monitor Testing* window as shown in Figure 14-10. This window has five tabs and is used to configure various supervision parameters as well as initiate a system-wide set or test.

OK

Click this button to save changes and close the window.

Cancel

Click this button to close the window without saving any changes.

Apply

Click this button to save the changes without closing the window.

General Tab

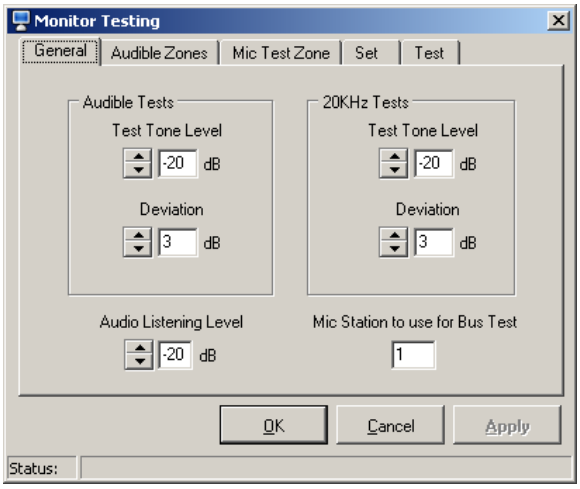

Figure 14-10: Monitor Test - General Tab

Audible Tests - Test Tone Level

This level specifies the output level (in dBu) for the test tone coming out of the 590A card when an audible set or test is executed.

Audible Tests - Deviation

This determines the deviation window for the test results. When a test result exceeds the deviation value from the points set value, a fault will be declared. For the audible test, the deviation is above and below the set level.

Example:

Set Value = -23dB, Deviation = 3dB

If the test result of the point is within the range of -25.9 to -22.9, then the point will pass the test.

If the test result of the point is -26dB or lower or -20 or higher, then a fault will be declared.

20KHz Tests - Test Tone Level

This level specifies the output level (in dBu) for the test tone coming out of the 590A card when a 20kHz set or test is executed.

20KHz Tests - Deviation

This determines the deviation window for the test results. When a test result exceeds the deviation value from the points set value, a fault will be declared. For the 20kHz test, the deviation is below the set level.

Example:

Set Value = -23dB, Deviation = 3dB

If the test result of the point is -25.9 or higher, then the point will pass the test.

If the test result of the point is -26dB or lower, then a fault will be declared.

Audio Listening Level

This sets the level of the output physically located on the 590A card that is used to drive a powered monitor speaker. This level only affects the audible monitor level during a test and will not impact the test results. This level can be adjusted by either typing in a value or clicking the up or down arrow buttons.

Mic Station to use for Bus Test

The 500R card located in the 500ACS mainframe has eight (8) audio busses. In order to test these busses, the system uses the oscillator in a mic station to test each bus. This mic station is typically the rack-mount mic station located in the equipment room. Enter the appropriate mic station number in the box to designate that station for the bus test.

Audible Zones Tab

This tab determines the zones that will be activated during an audible test. Zones that are highlighted (in green) will have a test tone played to them when a test or set is executed. Click on a zone number to add or remove it from the audible test group.

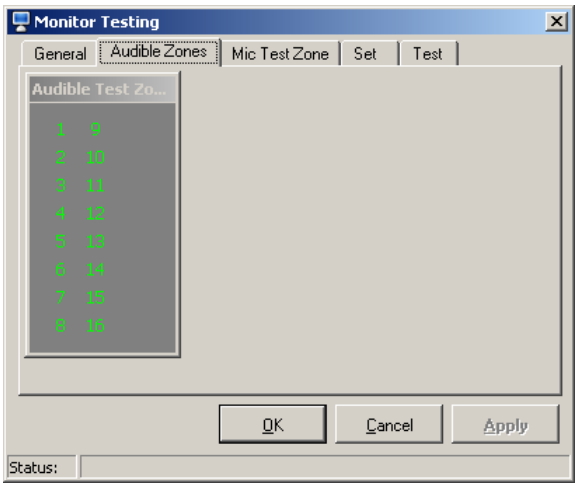

Figure 14-11: Monitor Test - Audible Zones Tab

Mic Test Zone Tab

In order to test a microphone station, the test signal from the station must be routed to an output zone that has been properly configured as an ACS Output device type and wired to a 596 Monitor/Test mainframe. Any zone in the system can be used for this purpose, but that zone will always have the test tones from the mic station during a set or test. It is recommended that the last zone in the system be designated as the Mic Test Zone and not used as a system output zone. The currently selected zone will appear highlighted in green. Click on a zone number to change the zone.

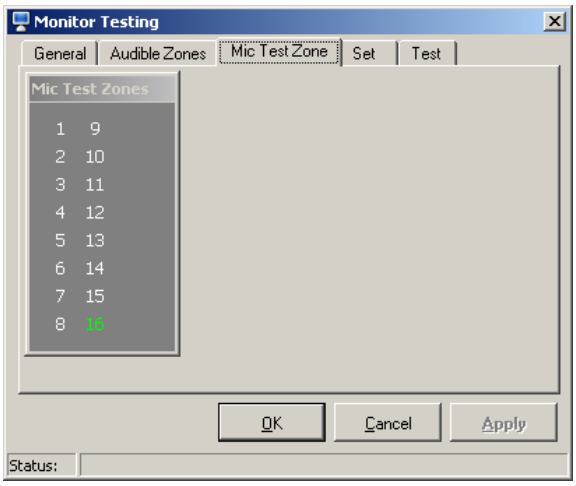

Figure 14-12: Monitor Test - Mic Test Zone Tab

Set Tab

Click the ***Start*** button on this tab to perform a system-wide set. This will cause audible tones to be played through the system and the levels at each point will be recorded as the set values for each point.

Caution! *Executing a system-wide set will block all non-emergency operations from being performed on the system. 900 series emergency messages or live announcements will override the set operation.*

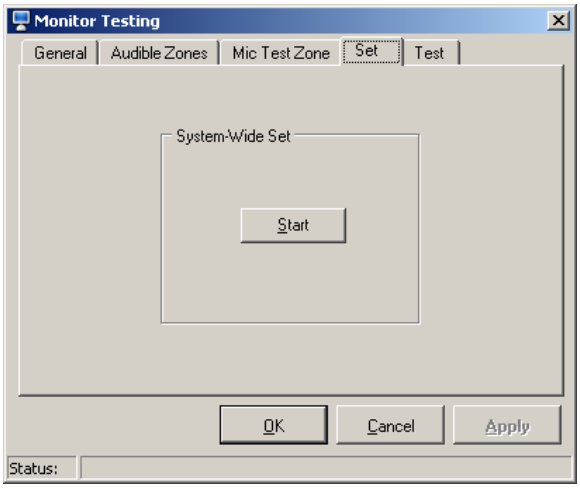

Figure 14-13: Monitor Test - Set

Test Tab

The controls on this tab are used to manually execute the various system-wide tests and configure the automatic testing options. To test a single circuit, refer to the *"Monitor Zone" on page 222*.

Caution! *Executing a system-wide test will block all non-emergency operations from being performed on the system. 900 series emergency messages or live announcements will override the set operation.*

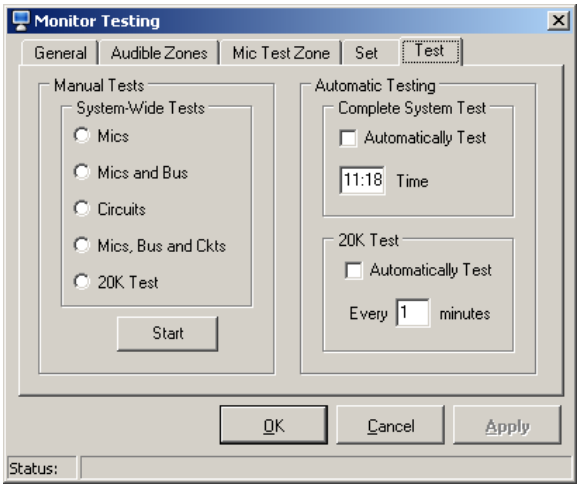

Figure 14-14: Monitor Test

Manual Tests

Select the type of system-wide test to perform when the ***Start*** button is pressed.

- Mics - Test all 500 and 508 series microphone stations in the system.
- Mics and Bus - Test all 500 and 508 series microphone stations in the system plus all 500R busses.
- Circuits - Test all audio output circuits in the system.
- Mics, Bus and Ckts - Test all three of the above items together.
- 20K Test - Execute a manual 20K test.

Start button

Click this button to execute the type of test selected in the *System-Wide Tests* button selection group.

Automatic Testing

These options determine the automatic behavior of the available system tests.

Complete System Test

When the box is checked, a complete system-wide test will automatically run at the time entered in the *Time* box. (24-hour clock format). Uncheck the box to disable the automatic system test. This test should be scheduled at a time when the system use is minimal and the facility is mostly unoccupied by the public.

20K Test

When the box is checked, a 20kHz test will be performed at the specified time interval (in minutes). This test is inaudible and will not impact system operation.

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15

Titan Series Auto Test Configuration

Titan series amplifier frames (T9160) are equipped with automatic test functionality to allow each frame to monitor its own health as well as that of attached speaker circuits. Any suspected faults are reported to IED's Fault Logger application. This functionality is configured from the *Auto Tests* window in Enterprise.

Auto Tests Window

To access the Auto Test functionality, open the Auto Tests window by first selecting a frame in Enterprise's left hand pane then double-clicking the Test icon.

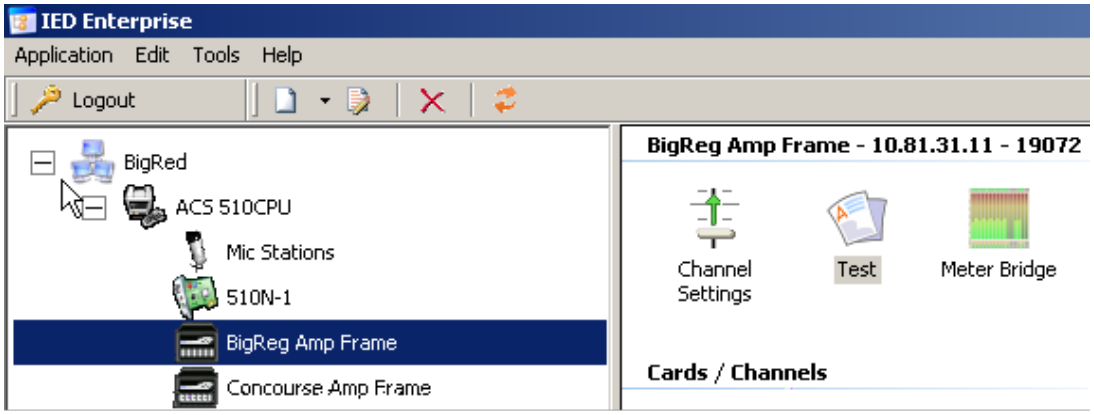
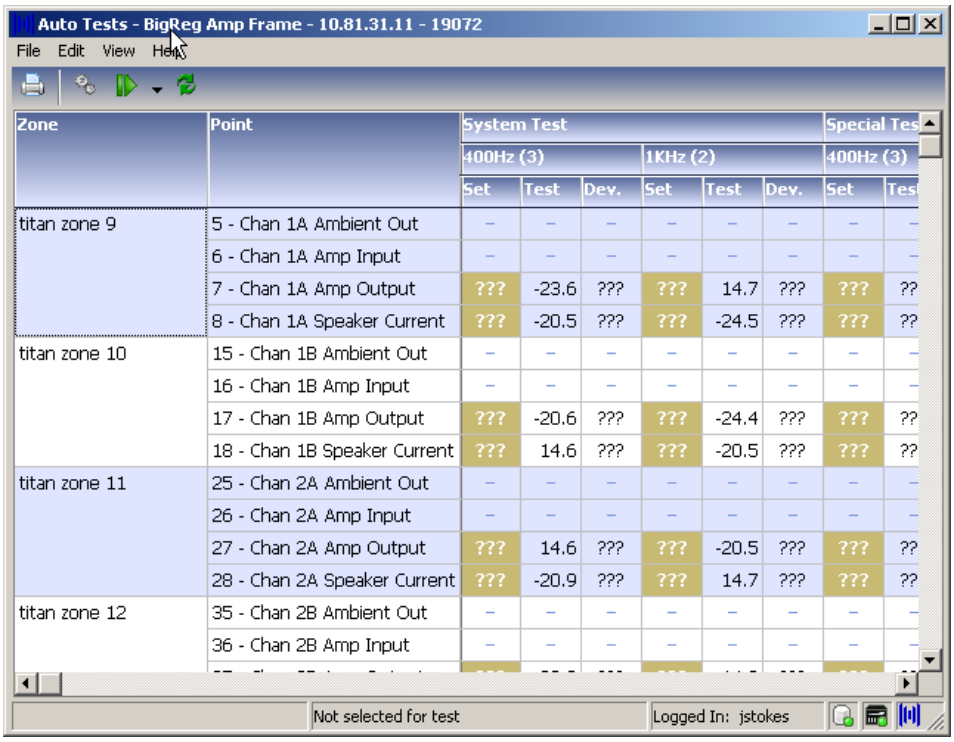


Figure 15-1: Accessing the Auto Tests Window

The Auto Tests window displays information regarding the currently configured tests, along with the most recent results, if any, for those tests. Additionally, the Auto Tests window provides the ability to manually initiate tests, perform sets, play the test tone for a specific point, refresh the displayed test results, open the Auto Test Configuration window and print test result information via IED Print Manager.

Note: User access to features of the Auto Tests window are controlled by permissions. Some features of the Auto Tests window may not be available if the user does not have that level of permission.



Zone	Point	System Test						Special Tes	
		400Hz (3)			1KHz (2)			400Hz (3)	
		Set	Test	Dev.	Set	Test	Dev.	Set	Tes
titan zone 9	5 - Chan 1A Ambient Out	–	–	–	–	–	–	–	–
	6 - Chan 1A Amp Input	–	–	–	–	–	–	–	–
	7 - Chan 1A Amp Output	???	-23.6	???	???	14.7	???	???	??
	8 - Chan 1A Speaker Current	???	-20.5	???	???	-24.5	???	???	??
titan zone 10	15 - Chan 1B Ambient Out	–	–	–	–	–	–	–	–
	16 - Chan 1B Amp Input	–	–	–	–	–	–	–	–
	17 - Chan 1B Amp Output	???	-20.6	???	???	-24.4	???	???	??
	18 - Chan 1B Speaker Current	???	14.6	???	???	-20.5	???	???	??
titan zone 11	25 - Chan 2A Ambient Out	–	–	–	–	–	–	–	–
	26 - Chan 2A Amp Input	–	–	–	–	–	–	–	–
	27 - Chan 2A Amp Output	???	14.6	???	???	-20.5	???	???	??
	28 - Chan 2A Speaker Current	???	-20.9	???	???	14.7	???	???	??
titan zone 12	35 - Chan 2B Ambient Out	–	–	–	–	–	–	–	–
	36 - Chan 2B Amp Input	–	–	–	–	–	–	–	–

Figure 15-2: Auto Tests Window

The Auto Tests window is broken down into the following specific areas of information, each of which is discussed in more detail below:

Title Bar

The Title Bar is the blue area at the very top of the window and contains general information pertaining to the entire window.

Menu and Tool Bars

The Menu and Tool Bars are immediately below the Title Bar and provide access to the various functionality of the Auto Tests window.

Test Results Grid

The Test Results Grid is the large section in the center of the window and contains information regarding the frame's Auto Test results.

Status Bar

The Status Bar is the grey bar at the bottom of the window and provides a variety of status information.

Title Bar

In addition to the window name, the title bar at the top of the Auto Tests window displays the following information about the amplifier frame being controlled by this window:

- The frame's description
- The frame's IP address
- A numeric identifier for the frame - This number is often called the I24 device handle. It is unique to the system and is used by some low level tools to identify the frame.

Menu and Tool Bars

The Menu and Tool bars provide quick access to the various functions of the Auto Tests window. The following list details this functionality.

File

Login/Logout

Opens the login window or causes the currently logged in user to be logged out. This functionality is also available by pressing F2.

Print

Opens IED Print Manager. (See the section of this document on Enterprise Printing for information on IED Print Manager.) This functionality is also available by holding down <Ctrl> and pressing P.

Close

Closes the Auto Tests window. This functionality is also available by pressing F10.

Edit

Auto Test Configuration

Opens the Auto Test Configuration window. This option requires the current user to have the 'Configure Tests' permission under Titan DLL in IED's Password Manger.

View

Refresh

Refreshes the test results shown in the Test Results Grid.

Auto Refresh

When this item is checked, the Test Results Grid automatically refreshes the test results and other data whenever a test completes, regardless of whether the test was started automatically or manually.

Help

About

Displays the About window.

Run Tests

The Run Tests menu is only available from the tool bar or as a pop-up menu by right clicking in the Test Results Grid. This menu provides a sub-menu for each defined test which in turn provides menu items to initiate sets and tests. Since all of these sub-menus are identical except for which test is run, only the default 'Periodic Test' is detailed in the list below.

Periodic Test (or other test name)

Full Test

Run a test (all frequencies) for all points in the test. This option requires the current user to have the 'Run Tests' permission under Titan DLL in IED's Password Manger.

Single Point Test

Run a test (all frequencies) for a single test point. This option opens the Point Selection window shown below. This option requires the current user to have the 'Run Tests' permission under Titan DLL in IED's Password Manger.

Test Tone

Play a tone on a single test point. The tone expires after several minutes or may be stopped with the Stop Current Test menu item. (This option opens the Point Selection window shown below. Both the point and the frequency of the tone may be selected on this window. This option requires the current user to have the 'Run Tests' permission under Titan DLL in IED's Password Manger.

Full Set

Perform a set (all tones) for all points in the test. This option requires the current user to have the 'Set Levels' permission under Titan DLL in IED's Password Manger.

Single Point Set

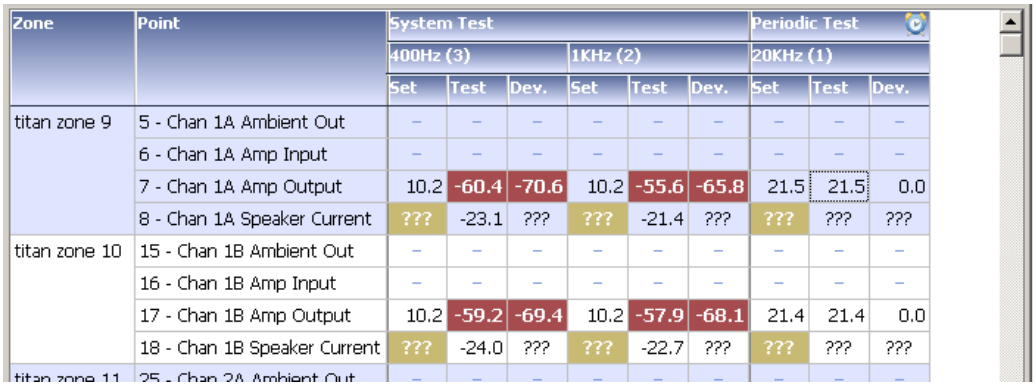
Perform a set (all tones) for a single test point. This option opens the Point Selection window shown below. This option requires the current user to have the 'Set Levels' permission under Titan DLL in IED's Password Manger.

Stop Current Test

Stops any tests which are currently running in the frame. This item is most useful to turn off Test Tones before they expire. This option requires the current user to have the 'Run Tests' permission under Titan DLL in IED's Password Manger.

Test Results Grid

The Test Results Grid provides detail regarding the most recent results from each of the frame's Auto Tests. Each row of the grid provides information for a specific test point, while each column provides information for a specific result value.



Zone	Point	System Test						Periodic Test		
		400Hz (3)			1KHz (2)			20KHz (1)		
		Set	Test	Dev.	Set	Test	Dev.	Set	Test	Dev.
titan zone 9	5 - Chan 1A Ambient Out	–	–	–	–	–	–	–	–	–
	6 - Chan 1A Amp Input	–	–	–	–	–	–	–	–	–
	7 - Chan 1A Amp Output	10.2	-60.4	-70.6	10.2	-55.6	-65.8	21.5	21.5	0.0
	8 - Chan 1A Speaker Current	???	-23.1	???	???	-21.4	???	???	???	???
titan zone 10	15 - Chan 1B Ambient Out	–	–	–	–	–	–	–	–	–
	16 - Chan 1B Amp Input	–	–	–	–	–	–	–	–	–
	17 - Chan 1B Amp Output	10.2	-59.2	-69.4	10.2	-57.9	-68.1	21.4	21.4	0.0
	18 - Chan 1B Speaker Current	???	-24.0	???	???	-22.7	???	???	???	???
titan zone 11	25 - Chan 2A Ambient Out	–	–	–	–	–	–	–	–	–

Figure 15-3: Test Results Grid

The top of the Test Results Grid's contains header rows which have white text on a blue background that fades from dark to light. Header rows do not move when the grid is scrolled.

Before discussing the meaning of the text in the header rows, it is first necessary to understand the non-header rows in the grid. Each of these non-header rows represents a specific location, or test point, in a channel's signal chain where audio levels can be measured. For Titan series amplifier frames, there are four test points per channel (additional points may be available in some cases). These points are grouped by channel and each channel group is delineated by alternating light blue and white backgrounds. Information about the four test points in Titan amplifier frame is provided in the following list:

Ambient Out

The Ambient Out point allows signal measurement after all digital signal processing is complete, but prior to the signal being converted to analog for amplification.

Amp Input

The Amp Input point allows signal measurement after the signal is converted to analog, but before amplification.

Amp Output

The Amp Output point allows measurement of the audio signal after amplification. The values measured on this point are affected by the load and condition of the speaker circuit.

Speaker Current

The Speaker current point is measured at the same place in the signal chain as the Amp Output point, but is a current measurement rather than a voltage measurement. Changes in the speaker circuit's load usually result in noticeable changes in the value measured at this

point.

The text in the header rows provides organizational descriptions of the data in the grid's columns. The header row for the first two columns simply show one title per column, but header rows for the remaining columns show a more complex organization where several columns share titles in the first and second rows. The meanings of each column title and their organizational meaning are provided in the following list:

Zone

The Zone column lists the page zone, if any, assigned to each of the channels by which the Points are grouped. The data cells in this column span several rows, indicating that all of those rows belong to the zone's assigned channel. In the case where the same zone is assigned to multiple channels, the rows are grouped by channel (not zone) and therefore the zone will be displayed more than once. As stated above, the alternating blue and white backgrounds designate channel groupings and therefore each Zone cell completely spans each row of blue or white background.

Points

The Points column lists each of the points available for testing in the amplifier frame. The points are organized by channel so that all of the points on any given channel appear together. This grouping is displayed by one Zone cell spanning several Points cells as well as by the alternating blue and white background.

<Test Name> (top row of columns three and greater)

Each defined test has its own column header which spans one or more Frequency columns. (By Default there are two tests defined the 'System Test' and the 'Periodic Test', each of which, by default, spans one Frequency column.) For example, in Figure 15-9 the 'System Test' column header spans two Frequency columns, '400Hz' and '1Khz'. Essentially, this means that both 400Hz and 1 kHz tones are used (separately) during the 'Periodic Test'. Test Columns headers have borders which are slightly thicker and darker. A clock symbol in this column header indicates that the test is scheduled to run automatically. (See the Edit Test Schedules window for more information.)

<Frequency> (second row of columns three and greater)

Each defined test signal has its own column header, labeled with the tone's frequency, which spans three Test Results columns: Set, Test and Dev. For each Frequency column header, the same three result columns are repeated so that the three values in these columns may be shown for each frequency. For example, in Figure 15-9 each of the frequency columns, '400Hz', '1KHz', and '20kHz' span three columns, 'Set', 'Test', and 'Dev.' In essence, this means that each point may be tested for each frequency within a given test.

Set, Test and Dev. (third row of columns three and greater)

These three column headers each specify the actual result data for the frequency (and test) under which they are grouped. All three columns are shown for each frequency, whether or not any points are actually configured for testing under that frequency/test. The values

shown in these columns are measured at the point listed in the Points column of the row in which the value appears. Additionally, the values shown are measured as the frequency under which they are shown is generated through the channel. If a point is not configured for testing under a given frequency, all three columns will show a blue dash rather than a value. Likewise, in the case where a point is configured as part of the test, but the value is unknown for some reason, three question marks (???) are displayed rather than a value. The following list discusses each of these three columns in detail:

Set

The data under the Set column header represents the value, for this intersection of frequency and point, to which all test measurements, for the same intersection of frequency and point, are compared. In other words this value is the recorded measurement under normal operating conditions. This value is referred to as a 'Set Value' and is generated when a Full or Point Set is performed from the Run Tests menu and then re-used for tests until another Set is performed. A yellow background and/or question marks instead of a value in the Set column (as shown for the Speaker Current points in Figure 15-9) indicates that a valid set value has not been recorded for this point, frequency, test. This could indicate that a Set has never been performed or that there is an issue at that point. For Current points, this usually indicates that the load on the amplifier is not significant enough for a valid measurement.

Test

The data under the Test column shows the most recent measurement taken at that point for the frequency under which the value appears. This measurement can be the result of a manual Full or Point test or of an automatic (scheduled) Full test. This column will have a red background (as with the Amp Output points in Figure 15-9) if it differs more than the configured deviation from the value in the Set column. Question Marks in this column can indicate that the point was not tested (usually because it has no valid set value during an automated test run) or that the value measured was invalid (in the noise floor).

Dev.

The data under the Dev. column shows the deviation between the Test value and the Set value. The deviation is calculated by subtracting the Set value from the Test value, rather than being measured. This column will have a red background (as with the Amp Output points in Figure 15-9) if it is outside the configured allowable deviation for the point, frequency and test under which the value is shown. Question marks in this column occur whenever either the Set value or the Test value is not known.

Status Bar

The Auto Tests window's Status Bar has six sections, three text sections and three graphic sections. These sections are described in the following list:

The left most text section displays information specifying the currently running test. If no tests are currently running, this section is blank. This section also displays information on background processes which prevent editing, such as make permanent.

When the cursor is held over one of the header rows in the Test Results Grid, the center text section displays the date and time of the most recent results for the test specific to the column under the mouse. If the cursor is held over a specific point, additional information regarding that point may be displayed. The possible additional information is detailed in the following list:

- 'Not Set' - The point does not have a valid set value. Generally, the Set column for the point in the Test Results Grid will also have a yellow background.
- 'Not tested in last test' - The point has a valid set value but does not have a valid result from the last run of the test. (This is rare and usually indicates that 'OK results' are not being saved for the test, only bad results. See the Edit Test Schedules window for more information.)
- 'Not selected for test' - The point is not configured as part of the test. (In other words, it is not checked in the Auto Test Configuration window's point selection grid.)

The right most text section displays the currently logged in user, or the words 'Not Logged In' if no user is logged in.

The left most graphic section indicates whether or not the Auto Tests window is correctly communicating with the database. A green 'light' indicates good communications and red indicates a problem with database communications.

The center graphic section indicates whether or not the Auto Tests window is communicating with the amplifier frame. A green 'light' indicates good communications and red indicates that the window is not communicating with the frame.

The right most graphic section becomes animated whenever the software is 'busy' with some background processing.

Point Selection Window

The Point Selection window is displayed when either Single Point Test or Test Tone is selected from the Run Tests pop-up menu. This window (see Figure 15-4) allows selection of a specific point and frequency to be used in the Single Point Test or for the Test Tone. (It is necessary to specify a point for the Test Tone so that the system knows which channel should receive the selected tone.) Only points already configured as part of the chosen test chosen are available in this window.

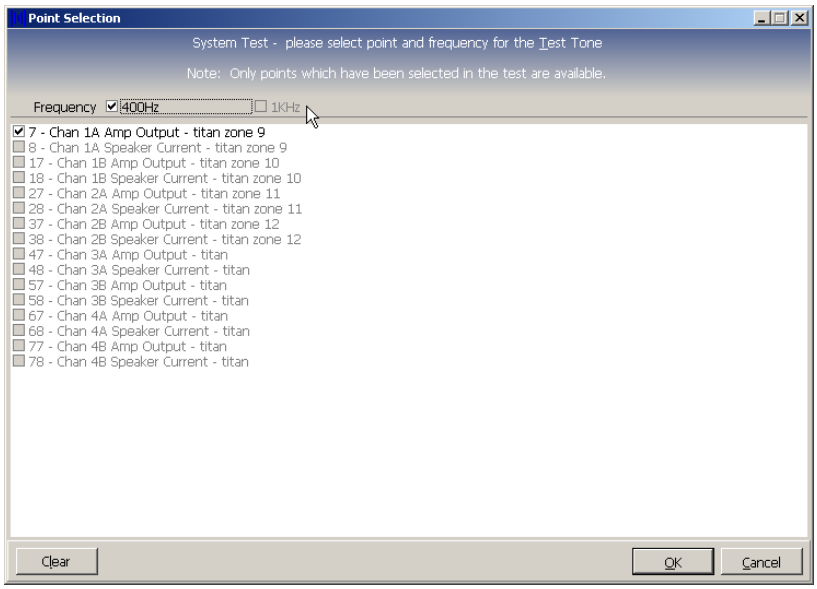


Figure 15-4: Point Selection Window

The top (dark blue fading to gray) portion of the Point Selection window specifies the description of the test to be run, brief instructions to select a point (and possibly a frequency), the type of test to be run (Single Point Test or Test Tone) and a reminder that the only points available are points already configured as part of the test.

For tests with multiple frequencies, a list of checkboxes, one for each available frequency is shown near the top of the window, immediately below the reminder. Only one frequency may be selected at a time.

The main portion of the window (in white) displays a list of checkboxes, one for each available test point. Only one point may be selected at a time. The other controls on this window are as follows:

Clear

button - Clears any point selection, resetting the form to defaults.

OK

button - This button is only available after one point, and one frequency if displayed, has been selected. Clicking the OK button initiates the test shown at the top of the window for the point (and frequency if shown) selected and then closes the Point Selection window.

Cancel

button - Close the window without taking any other action. The test shown at the top menu is not run.

Auto Test Configuration Window

The Auto Test Configuration window (see Figure 15-5) opens when the Auto Test Configuration menu item or toolbar button. This window provides the ability to add or remove points from a test's configuration, to set the positive and negative deviation thresholds for each point and to access configuration windows for signal settings, test schedules and point definitions.

Note: Unlike the Auto Tests window, and most other windows used to configure Titan frames, the changes made on this window are not live edits and do not take effect until the changes are saved via the File ' Close menu or the OK button.

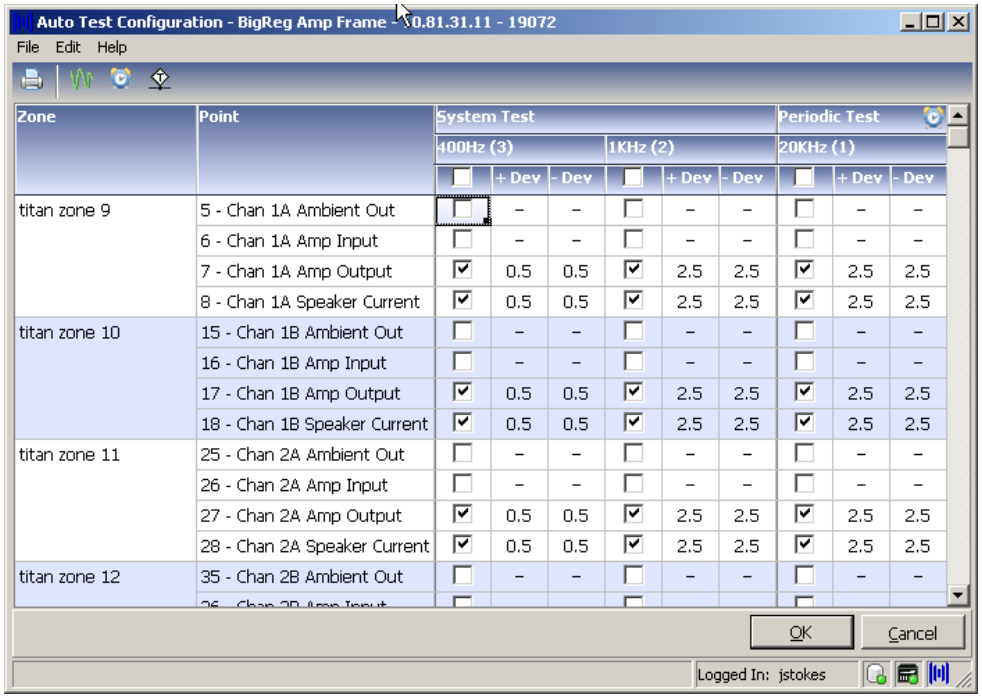


Figure 15-5: Auto Test Configuration Window

The Auto Test Configuration window is broken down into the following specific areas of information, each of which is discussed in more detail below:

- The Title Bar is the blue area at the very top of the window which contains general information pertaining to the whole window.
- The Menu and Tool Bars are immediately below the Title Bar and provide access to the various functionality of the Auto Test Configuration window.
- The Point Selection Grid is the large section in the center of the window in which lists points and their deviations.
- On the right, near the bottom of the window are the OK and Cancel buttons.
- The Status Bar is the grey bar at the bottom of the window and provides a variety of status information.

Title Bar

In addition to the window name, the title bar at the top of the Auto Test Configuration window displays the following information about the amplifier frame which runs the tests being edited in this window:

- The frame's description
- The frame's IP address
- A numeric identifier for the frame - This number is often called the I24 device handle. It is unique to the system and is used by some low level tools to identify the frame.

Menu Tool Bars

The Menu and Tool bars provide quick access to the various features of the Auto Test Configuration window. The following list details these features.

File

Login/Logout

Opens the login window or causes the currently logged in user to be logged out. This functionality is also available by pressing F2.

Print

Opens IED Print Manager. (See the section of this document on Enterprise Printing for information on IED Print Manager.) This functionality is also available by holding down <Ctrl> and pressing P.

Close

Closes the Auto Test Configuration window. This functionality is also available by pressing F10. If any changes have been made, choosing this option will cause Changes Not Saved dialog box to appear.

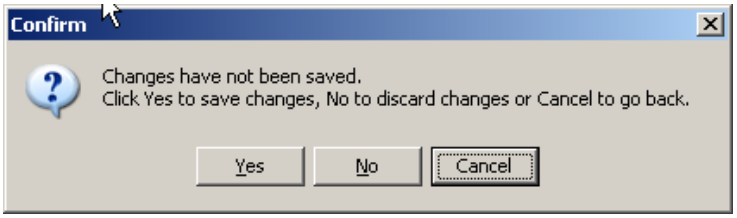


Figure 15-6: The Changes Not Saved dialog box

In the Changes Not Saved dialog box: the Yes button saves changes and closes the Auto Test Configuration window; the No button closes the Auto Test Configuration window without saving; and the Cancel button returns to the Auto Test Configuration window without saving.

Edit

Edit Signal Settings

Opens the Edit Test Signals window.

Edit Test Schedules

Opens the Edit Test Schedules window.

Edit Points Definitions

Opens the Edit Test Points window. This option requires the current user to have the 'Configure Adv. Test Params' permission under Titan DLL in IED's Password Manger.

Help

About

Displays the About window.

Point Selection Grid

The Point Selection Grid (see Figure 15-7) provides the ability to edit the points which are selected to be in each test, as well as the positive and negative deviation thresholds for each selected point.

Zone	Point	System Test						Periodic Test		
		400Hz (3)			1KHz (2)			20KHz (1)		
			+ Dev	- Dev		+ Dev	- Dev		+ Dev	- Dev
titan zone 9	5 - Chan 1A Ambient Out	☐	–	–	☐	–	–	☐	–	–
	6 - Chan 1A Amp Input	☑	0.5	0.5	☐	–	–	☐	–	–
	7 - Chan 1A Amp Output	☑	0.5	0.5	☑	2.5	2.5	☑	2.5	2.5
	8 - Chan 1A Speaker Current	☑	0.5	0.5	☑	2.5	2.5	☑	2.5	2.5
titan zone 10	15 - Chan 1B Ambient Out	☐	–	–	☐	–	–	☐	–	–
	16 - Chan 1B Amp Input	☐	–	–	☐	–	–	☐	–	–
	17 - Chan 1B Amp Output	☑	0.5	0.5	☑	2.5	2.5	☑	2.5	2.5
	18 - Chan 1B Speaker Current	☑	0.5	0.5	☑	2.5	2.5	☑	2.5	2.5
titan zone 11	25 - Chan 2A Ambient Out	☐	–	–	☐	–	–	☐	–	–

Figure 15-7: Point Selection Grid

The top of the Point Selection Grid contains header rows which have white text on a blue background that fades from dark to light. Header rows do not move when the grid is scrolled.

Before discussing the meaning of the text in the header rows, it is first necessary to understand the non-header rows in the grid. Each of these non-header rows represents a specific location, or test point, in a channel's signal chain where audio levels can be measured. For Titan series amplifier frames, there are four test points per channel (additional points may be available in some cases). These points are grouped by channel and each channel group is delineated by alternating light blue and white backgrounds. Information about the four test points in Titan amplifier frame is provided in the following list:

Ambient Out

The Ambient Out point allows signal measurement after all digital signal processing is complete, but prior to the signal being converted to analog for amplification.

Amp Input

The Amp Input point allows signal measurement after the signal is converted to analog, but before amplification.

Amp Output

The Amp Output point allows measurement of the audio signal after amplification. The values measured on this point are affected by the load and condition of the speaker circuit.

Speaker Current

The Speaker current point is measured at the same place in the signal chain as the Amp Output point, but is a current measurement rather than a voltage measurement. Changes in the speaker circuit's load usually result in noticeable changes in the value measured at this point.

The text in the header rows provides organizational descriptions of the data in the grid's columns. The header row for the first two columns simply show one title per column, but header rows for the remaining columns show a more complex organization where several columns share titles in the first and second rows. The meanings of each column title and their organizational meaning are provided in the following list:

Zone

The Zone column lists the page zone, if any, assigned to each of the channels by which the Points are grouped. The data cells in this column span several rows, indicating that all of those rows belong to the zone's assigned channel. In the case where the same zone is assigned to multiple channels, the rows are grouped by channel (not zone) and therefore the zone will be displayed more than once. As stated above, the alternating blue and white backgrounds designate channel groupings and therefore each Zone cell completely spans each row of blue or white background.

Points

The Points column lists each of the points available for testing in the amplifier frame. The points are organized by channel so that all of the points on any given channel appear together. This grouping is displayed by one Zone cell spanning several Points cells as well as by the alternating blue and white background.

<Test Name> (top row of columns three and greater)

Each defined test has its own column header which spans one or more Frequency columns. (By Default there are two tests defined the 'System Test' and the 'Periodic Test', each of which, by default, spans one Frequency column.) For example, in Figure 15-9 the 'System Test' column header spans two Frequency columns, '400Hz' and '1Khz'. Essentially, this means

that both 400Hz and 1KHz tones are used (separately) during the 'Periodic Test'. Test Columns headers have borders which are slightly thicker and darker. A clock symbol in this column header indicates that the test is scheduled to run automatically. (See the Edit Test Schedules window for more information.)

<Frequency> (second header row of columns three and greater)

Each defined test signal has its own column header, labeled with the tone's frequency, which spans three Test Results columns: Set, Test and Dev. For each Frequency column header, the same three result columns are repeated so that the three values in these columns may be shown for each frequency. For example, in Figure 15-9 each of the frequency columns, '400Hz', '1KHz', and '20kHz' span three columns, 'Set', 'Test', and 'Dev.' In essence, this means that each point may be tested for each frequency within a given test.

+Dev. and -Dev. (third row of columns three and greater)

These three column headers each relate to the data in the point selection grid. The following list discusses these columns in detail:

- The checkboxes in the first column indicate whether or not the point for the row of each checkbox is selected to be tested at the frequency of the test for the column of the checkbox. Checked means the point is selected for testing. For example, in Figure 15-7 the point labeled '6 - Chan 1A Amp Input' is selected to be tested for the 400Hz frequency but not at the 1KHz frequency of the System test. To select a point, place a check in the checkbox by either clicking on the checkbox or by pressing the spacebar when the cell containing the checkbox is highlighted.
- +Dev. and -Dev. - The +Dev. and -Dev. columns allow modification of the deviation thresholds for that point, frequency, test. A deviation threshold is the amount a measurement can vary from the Set value for the same point, frequency, test before a fault is declared. The positive deviation, or +Dev., is the amount the measured value can vary above the set value; the negative deviation, or -Dev., is the amount the measured value can vary below the set value.

There are a number of shortcuts available in the Point Selection Grid:

- Arrow keys can be used to navigate the grid.
- The space bar provides a shortcut method to check/uncheck checkboxes.
- The check boxes in the header row can be used to select or deselect all the checkboxes in the column below them.
- Deviation values can be cut and pasted using standard Windows cut and paste (Ctrl-C and Ctrl-V, respectively). If a deviation value is pasted to a point not selected for testing, the grid automatically selects that point for testing.
- Right clicking on a deviation displays the Copy Deviation pop-up menu, which allows the copying of the selected deviation value to other points under the frequency. Each choice is defined below Figure 15-8.

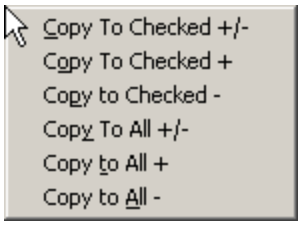


Figure 15-8: Copy Deviation Pop-up Menu

- Copy To Checked +/- - Copies the selected value to both positive and negative deviations of all checked points under the selected test and frequency.
- Copy To Checked + - Copies the selected value to only the positive deviations of all checked points under the selected test and frequency.
- Copy To Checked - - Copies the selected value to only the negative deviations of all checked points under the selected test and frequency.
- Copy To All +/- - Copies the selected value to both positive and negative deviations of all points under the selected test and frequency, automatically selecting all points.
- Copy To All + - Copies the selected value to only the positive deviations of all points under the selected test and frequency, automatically selecting all points.
- Copy To All - - Copies the selected value to only the negative deviations of all points under the selected test and frequency, automatically selecting all points.

OK

The OK button saves any changes which have been made and then closes the Auto Test Configuration window.

Cancel

The Cancel button discards any changes which have been made to the point configuration of each test and closes the Auto Test Configuration window.

Status Bar

The Auto Test Configuration window's Status Bar has five sections, two text sections and three graphic sections. These sections are described in the following list:

- The left text section displays information on background processes which prevent editing, such as make permanent
- The right text section displays the currently logged in user or the words 'Not Logged In' if no user is logged in.
- The left most graphic section indicates whether or not the Auto Test Configuration window is correctly communicating with the database. A green 'light' indicates good communications and red indicates a problem with database communications.
- The center graphic section indicates whether or not the Auto Test Configuration window is communicating with the amplifier frame. A green 'light' indicates good communications and red indicates that the window is not communicating with the frame.

- The right most graphic section becomes animated whenever the software is 'busy' with some background processing.

Edit Test Signals Window

The Edit Test Signals window allows for the modification, creation and deletion of the test signal settings (tones) available for testing. This window can be accessed from the menus or toolbar of the Auto Test Configuration Window.

Note: Changes made on this window are not live edits and do not take effect until the changes are saved via the OK button.

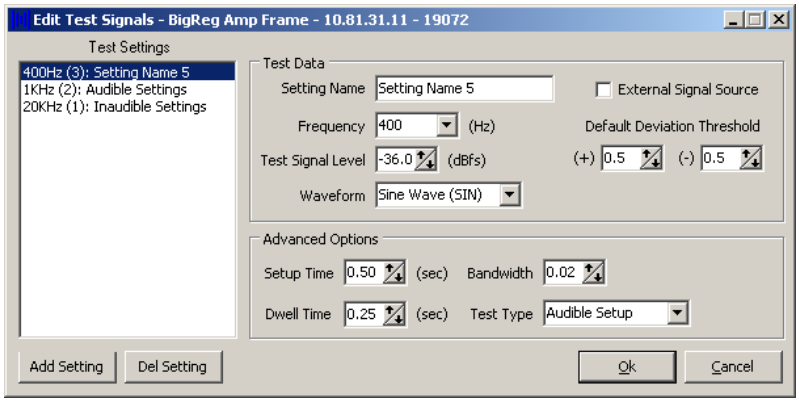


Figure 15-9: Edit Test Signals Window

- The Edit Test Signals window can be broken down into five different sections. These sections are listed here and discussed in greater detail in the following paragraphs:
- The Title Bar is the blue area at the very top of the window which contains general information pertaining to the whole window.
- The Test Settings list box, the Add Setting button and the Del Setting button.
- The Test Data group box at the top-right of the window.
- The Advanced Options group box at the bottom-right. These options require that the current user to have the 'Configure Adv. Test Params' permission under Titan DLL in IED's Password Manger and may not be visible for all users.
- On the right, at the bottom of the window are the OK and Cancel buttons.

Title Bar

In addition to the window name, the title bar at the top of the Auto Test Configuration window displays the following information about the amplifier frame which runs the tests being edited in this window:

- The frame's description
- The frame's IP address
- A numeric identifier for the frame - This number is often called the I24 device handle. It is unique to the system and is used by some low level tools to identify the frame.

Test Settings list box, Add Setting button and Del Setting button

The Test Settings list box shows the currently defined signal settings, displaying both the Frequency and the Setting Name for each signal setting. The details of the selected signal setting are editable in the Test Data group box and, if available, the Advanced Options group box on the right. To change which signal setting is being edited, simply select the desired signal setting by clicking on it in this list box.

Clicking the Add Setting button to adds a new setting with default values, and automatically select it so that it is available for immediate editing.

Clicking the Del Setting button deletes the currently selected signal setting.

Note: Every amplifier frame leaves the factory with two default signal settings. These settings are labelled '20KHz (1) Inaudible Settings' and '1KHz (2) Audible Settings'. The 20KHz setting cannot be deleted and is not available for use except with the (also factory default) 'Periodic' test, which is sometimes referred to as the 'Inaudible' test. Because the 20KHz signal setting is used by the 'Periodic' test, modification of the 20KHz setting is discouraged. With the exception of the 20KHz / Periodic Test, all signal settings are available for use with all tests other than the 'Periodic Test'.

Test Data

The Test Data group box contains the commonly used edits for signal settings. Each of these edits is discussed in the following list:

Setting Name

This edit box provides the ability to assign the signal setting a human readable name. This name is displayed in the Test Settings list box on the left. It is not necessary to include the frequency of the test setting in the name since the Auto Test windows automatically display the frequency whenever a Setting Name is displayed.

Frequency

This droplist box provides the ability to set the frequency of the tone generated by this signal setting. While several frequencies are provided in the drop list, it is also possible to type in other frequencies in the range of zero to 20,000 Hertz. If the Waveform droplist box is set to 'None (DC)' the Frequency droplist box changes to zero and cannot be edited.

Test Signal Level

This spin edit allows adjustment of the signal level for the selected signal setting. Generally, this value should be in the neighborhood of -36.0 dBfs for audible tones, to avoid extremely loud audible tones. The valid range of values for the Test Signal Level ranges from -50.0 dBfs to -10.0 dBfs.

Waveform

This droplist box provides the ability to change the test tone from a Sine Wave to a constant DC voltage. Under most circumstances, the Waveform should be a Sine Wave.

External Signal Source

In rare cases, it might be necessary to use an externally sourced test signal rather than allowing the frame to generate its own test tone. In cases where this is necessary, the External Signal Source checkbox must be checked for all signal settings relying on the external source(s). When this checkbox is checked, the Waveform and Frequency cannot be edited.

Default Deviation Threshold (+/-)

These two spin edits control the default values used for the positive and negative deviation thresholds when a point is first selected for testing on the Auto Test Configuration Window. The spin edit labeled '(+)' changes the default positive deviation threshold, and the spin edit labeled '(-)' changes the default negative deviation threshold.

Advanced Options

The Advanced Options group box contains parameters which should only be modified by qualified personnel. Consequently, these edit controls are not visible unless the current user has the 'Configure Adv. Test Params' permission under Titan DLL in IED's Password Manger. Each of these settings is detailed in the following list:

Setup Time

This spin edit controls the amount of time the system waits at the beginning of a test to allow for the signal generator to 'settle' into a consistent signal.

Dwell Time

This spin edit controls the amount of time the system waits after selecting a point before measurement is made to allow any noise generated by switching points to dissipate.

Bandwidth

This spin edit controls the bandwidth of the bandstop and bandpass filters used when measurement is made, if any.

Test Type

This drop list box allows provides the system with some additional information used to better tune specific tests. In general the following rules should be used to determine this setting:

- 20K Setup - Select this option for inaudible tones.
- Audible Setup - Select this option for audible tones.
- Pgm Mute + Bnd Pass - Select this option only when it is necessary to mute the program audio during the test.
- None - This option is reserved for factory use.

OK

The OK button saves any changes which have been made and then closes the window.

Cancel

The Cancel button discards any changes which have been and closes the window.

Edit Test Schedules Window

The Edit Test Schedules Window (see Figure 15-10) allows for the creation, deletion and scheduling of test sequences. Test sequences are usually referred to simply as tests. The two terms 'test sequence' and 'test' are used somewhat interchangeably in this document. This window can be accessed from the menus or toolbar of the Auto Test Configuration Window.

Note: Changes made on this window are not live edits and do not take effect until the changes are saved via the OK button.

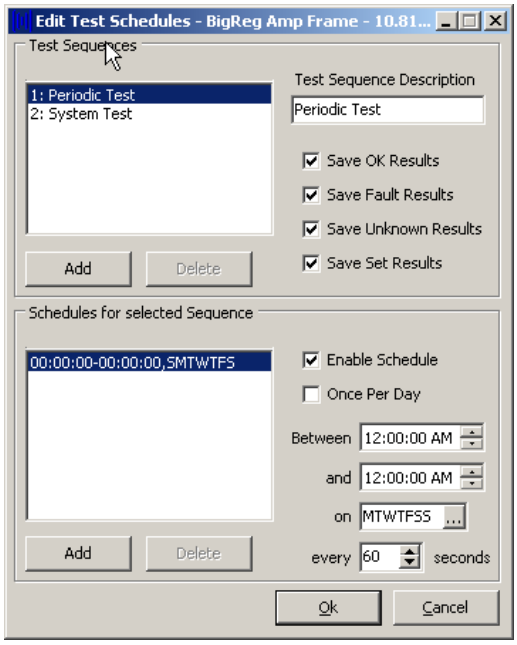


Figure 15-10: Edit Test Schedules Window

The Edit Test Schedules window can be broken down into four different sections. These sections are listed here and discussed in greater detail in the following paragraphs:

- The Title Bar is the blue area at the very top of the window which contains general information pertaining to the whole window.
- The Test Sequences group box.
- The Schedules for selected Sequences group box.
- The OK and Cancel buttons.

Title Bar

In addition to the window name, the title bar at the top of the Auto Test Configuration window displays the following information about the amplifier frame which runs the tests being edited in this window:

- The frame's description
- The frame's IP address

- A numeric identifier for the frame - This number is often called the I24 device handle. It is unique to the system and is used by some low level tools to identify the frame.

Test Sequences

The edits in the Test Sequences group box allow for creating, deleting and modifying the name and basic options of a test. Each of these edits is discussed in detail in the following paragraphs.

The Test Sequences list box, on the left of the Test Sequences group box, allows for the selection of existing tests so that they may be edited.

The Add button in the Test Sequences group box adds a new test, with a default schedule which is not enabled.

The Delete button in the Test Sequences group box deletes the currently selected test.

Note: Every amplifier frame leaves the factory with two default test sequences. These settings are labelled 'Periodic Test' and 'System Test'. The 'Periodic' test, which is sometimes referred to as the 'Inaudible' test, cannot be deleted and modification of this test is discouraged.

The Test Sequence Description edit box allows for editing the name of the selected test. This name appears in the Test Sequences list box as well as in the column headers of the Auto Tests and the Auto Test Configuration windows.

Below the Test Sequence Description edit box are four checkboxes which affect how the frame saves test results for the selected test:

Save OK Results

When checked, the frame saves test results for points which are set properly and which pass the test. If not checked, these results are not saved, and therefore are not displayed in the Auto Tests window.

Save Fault Results

When checked, the frame saves test results for points which are set properly and which fail the test. If not checked, these results are not saved, and therefore are not displayed in the Auto Tests window.

Save Unknown Results

When checked, the frame saves test results for points which do not test properly (this is a rare condition). If not checked, these results are not saved, and therefore are not displayed in the Auto Tests window.

Save Set Results

When checked, the frame saves sets as results. If not checked, sets are not saved as results. Note that set values are always saved, but if they are not saved as results, the set run will not appear in the Auto Tests window. However, the Auto Tests window overrides this setting so

that all sets performed are saved as results.

Schedules for selected Sequences

The edit controls in the Schedules for selected Sequence group box allow for configuring the test sequence selected in the Test Sequences list box to be run automatically at defined times. If necessary, the same test can be run with multiple schedules. The edit controls in this group box are discussed in detail in the following paragraphs.

The Schedules list box, on the left of the Schedules for selected Sequences group box, allows for the selection of an existing schedule for the test selected in the Test Sequences list box so that the schedule may be edited.

The Add button in the Schedules for selected Sequence group box group box adds a new schedule with default settings.

The Delete button in the Schedules for selected Sequence group box deletes the currently selected Schedule.

Note: Each test must have at least one schedule defined. Therefore, if only one schedule is listed, the Delete button is disabled.

The remaining items in this group box define the parameters of the schedule (when the test will be run). These items are not specifically labeled, but rather are organized with labels so that reading the list gives a clear, human understandable description of the schedule. (For example, for the values shown in Figure 15-10 the test will be run "between 12:00 am and 12:00 am (24 hours) on Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday every sixty seconds."

For clarity, this document will refer to the top two spin edits as the 'time edits', the edit next to the label 'on' as the 'day edit' and the bottom spin edit as the 'interval edit'.

Each of the schedule parameters are discussing in the following list:

Enable Schedule

This checkbox determines whether the selected test will be run automatically according to the remainder of the selected schedule's parameters. If checked, the selected test will be run according to the schedule. If unchecked, the test will not be run according to the schedule, but the selected test will still be run if other schedules are defined and enabled for this test. When the Enable Schedule checkbox is unchecked, the remaining items in this group cannot be edited.

Once Per Day

When checked, this check box configures the schedule to only run the test once per day, at the time specified in the top time edit, on the days shown in the days edit. Since these values are not used in this case, the other time edit and the interval edit are disabled when this checkbox is checked. If unchecked, the schedule is configured to run the selected test between the times specified in the time spin edits, on the days shown in the days edit, at the interval defined by the interval spin edit.

Time Edits

This document refers to the top two spin edits in the Schedules group box as the time edits. These edits specify the start and stop times of the schedule, with the top time edit as the start time. In other words, the selected test will only be run between the time shown in the top time edit and the time shown in the other time edit (or run once, at the time in the top time edit, if Once Per Day is checked). If both time edits show the same time, then there is no limit on what time a test runs automatically.

Days Edit

This document refers to the edit below the time edits as the Days edit. This edit control specifies the days on which a test schedule runs the selected test. If no days are selected, then the test will not be run on this schedule. To edit the selected days, click on the '...' button in this edit and the Day Selection dialog box opens (see Figure 15-11). This dialog box contains a checkbox for each day of the week, as well as four quick buttons which select only the days specified on the button. The OK button saves changes to the day selection and closes the dialogue box. The Cancel button cancels any changes and closes the dialogue box.

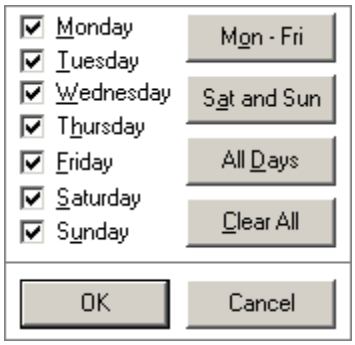


Figure 15-11: Day Selection dialog

Interval Edit

This document refers to the bottom spin edit as the Interval edit. This edit control specifies, in seconds, how often the selected test is run during the allowed times on the allowed days. Generally this value should not be shorter than 60 seconds. This edit is meaningless and therefore disabled, if the Once Per Day checkbox is checked.

OK

The OK button saves any changes which have been made and then closes the window.

Cancel

The Cancel button discards any changes which have been and closes the window.

Edit Test Points Window

The Edit Test Points Window allows for the creation, deletion and editing of the points available for testing. This window can be accessed from the menus or toolbar of the Auto Test Configuration Window if the current user has the 'Set Levels' permission under Titan DLL in IED's Password Manger.

Note: Changes made on this window are not live edits and do not take effect until the changes are saved via the OK button.

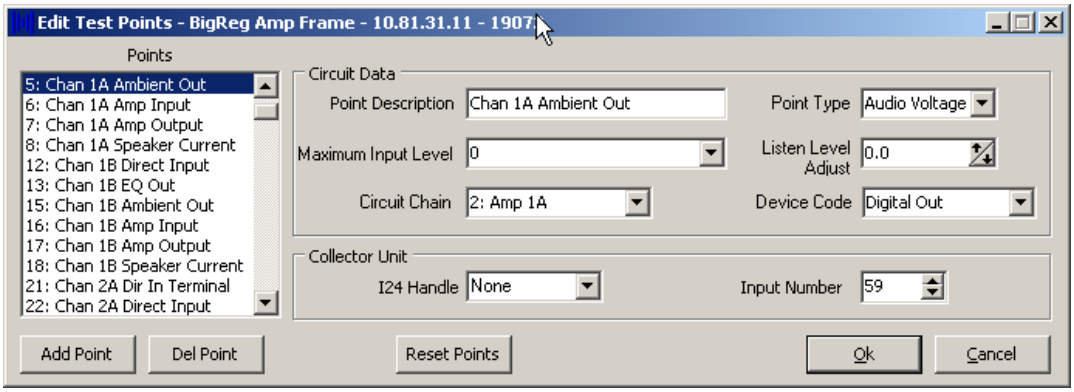


Figure 15-12: Edit Test Points Window

The Edit Test Schedules window can be broken down into five different sections. These sections are listed here and discussed in greater detail in the following paragraphs:

- The Title Bar is the blue area at the very top of the window which contains general information pertaining to the whole window.
- The Points list box, the Add Point button and the Del Point button.
- The Circuit Data group box.
- The Collector Unit group box.
- The Reset Points button, the OK button and the Cancel button.

Title Bar

In addition to the window name, the title bar at the top of the Auto Test Configuration window displays the following information about the amplifier frame which runs the tests being edited in this window:

- The frame's description
- The frame's IP address
- A numeric identifier for the frame - This number is often called the I24 device handle. It is unique to the system and is used by some low level tools to identify the frame.

Points list box, Add Point button and Del Point button

The Points list box, lists the currently defined test points, with the currently selected point highlighted in blue.

The Add Point button adds a new point with default parameters and automatically selects that point for editing.

The Del Point button deletes the currently selected point

Circuit Data

The Circuit Data group box details the parameters of the selected test point, many of which are dependent on the circuit to which the point is 'attached'.

The Point Description edit box allows editing of a human readable description for each point. This description is shown in the Points list box as well as on the Auto Tests and Auto Test Configuration windows.

The Maximum Input Level droplist box allows editing of the anticipated maximum input level for the selected point. This value is used by the hardware to insure an accurate measurement while maintaining electrical protection to the measurement circuits. When in doubt, choose the highest reasonable value and lower it if the measurement at the point is too low. The available choices are:

- "-10 dB (Low Line Level)
- "14 dB (Line Level)
- "24 dB (High Line Level)
- "30 dB (596S sensor / 8 Ohm speaker)
- "40 dB (70v Speaker Level)

The Circuit Chain droplist box contains a list of channel inputs and channel amplifiers. If the selected point is on the input side of a channel, the appropriate channel input should be selected; likewise if the selected point is on the output side of a channel, the appropriate channel amplifier should be selected. For example, if the point is on the speaker circuit of channel 3B, then "Amp 3B" should be selected. If the point is not on a channel controlled by this frame, then "None" should be selected.

The Point Type droplist box specifies whether the point is intended to measure Audio Voltage or Audio Current. For points external to the frame, this setting should always be Audio Voltage.

The Listen Level Adjust spin edit, specifies a value by which the audio level is adjusted when this point is monitored. This allows the volume on the monitor speaker to be similar as one switches between points for monitoring.

The Device Code list box should generally be set to Miscellaneous for points external to the frame. The remaining choices only apply to points internal to the frame.

Collector Unit

The Collector Unit group box provides edits that specify where the test point is connected to the system.

The I24 Handle droplist box lists the available point collector units for this frame. The collector unit to which the point is physically wired should be selected in this droplist box.

Units which have names enclosed in angle brackets, '<>' are cards internal to the frame and should not be selected for most purposes. Other (external) collector units, for example a T9032MT, must be added to IED Enterprise before appearing in this droplist box.

The Input Number spin edit specifies the exact input of the above collector to which the point is physically connected. For example, on a T9032MT, this number corresponds to the physical input number of the T9032MT.

Reset Points, OK and Cancel Buttons

The Reset Points button resets all default test points back to default values and restores any default points which were deleted. Points which have been added with the Add Point button are not affected.

The OK button saves any changes which have been made and then closes the window.

The Cancel button discards any changes which have been and closes the window.

About Window

The About window provides copyright, version, and location information about the T9160.DLL software from which the Titan Auto Test windows are loaded. The information on this screen is often used to verify the installed version of this DLL.

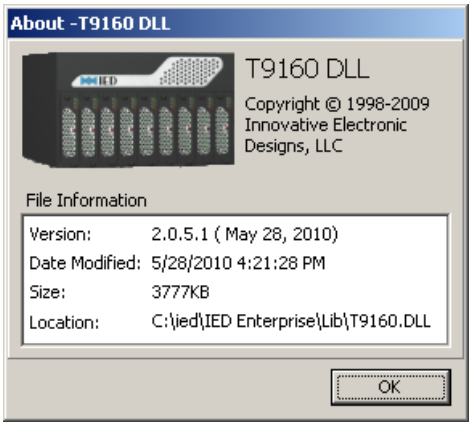


Figure 15-13: About Window

Pressing the OK button closes this window.

16

System Supervision

System Supervision is a sub-system of the IED system that includes several components. The core component of this feature is the System Supervision Service that is an application that runs in the background of the Windows operating system on the server computer. This service receives and logs fault reports received from devices that report various status information. It also polls network devices for their current status and faults.

Accessing System Supervision Features

System Supervision is a feature of 590 Servers and as such, configuration for it can be found associated with *590 Server* devices in IED Enterprise. Options to view faults, setup relays, etc., become available when a 590 Server is selected, as shown in Figure 16-1.

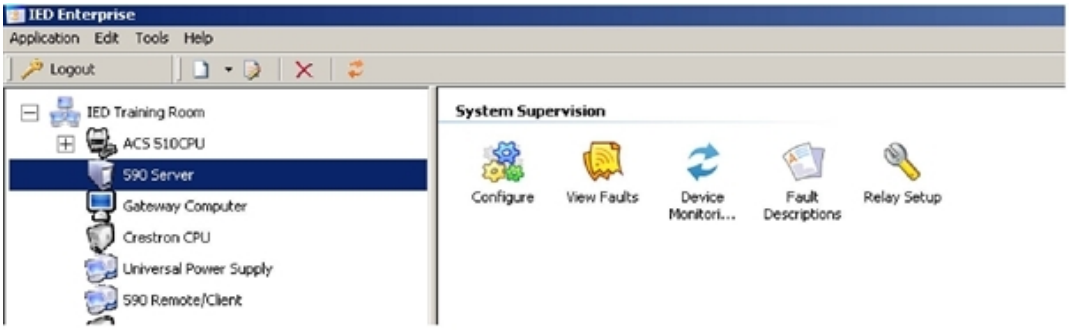


Figure 16-1: Accessing System Supervision Controls

Each section below describes one of the System Supervision features shown: Configure, View Faults, Device Monitoring, Fault Descriptions and Relay Setup.

Configure

This icon opens a window that allows adjustment of the polling rate, response time-out, etc. of the System Supervision background process. Usually, one does not have to tweak anything in this window as System Supervision is automatically configured with optimal settings. And, in fact only advanced users should access this area. Figure 16-2 shows a typical Configuration window.

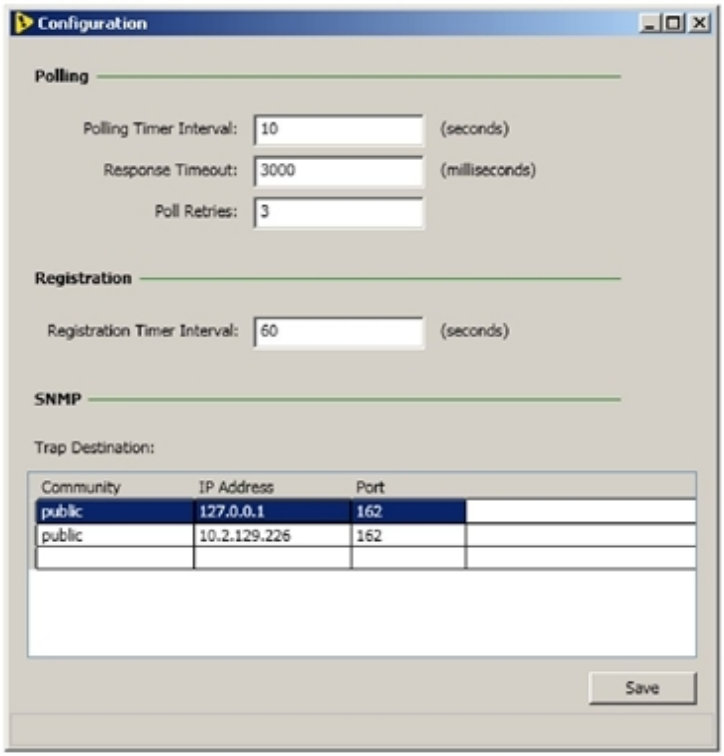


Figure 16-2: Configuration Window

The Configuration window is divided into three subsections.

Note: Unless there are serious network latency issues, the ***Polling*** and ***Registration*** settings should not be altered from the defaults.

- The Polling section controls the rate at which devices are polled (Polling Timer Interval, which is the overall clock for the background process), the maximum time to wait for a response (Response Time-out), and the number of times to poll an unresponsive device before it is declared as a fault (Poll Retries).
- The Registration section allows setting the interval at which all IED Devices are registered for faults. IED Devices typically report faults to those clients that have registered for fault notification. A device that is registered will report its faults immediately to the System Supervision Service rather than wait for the next poll.

- The SNMP section allows one to set up destinations to where the System Supervision Service is to report SNMP Traps for each fault/clear condition that it encounters. These receiving systems would be servers with third-party software such as a MIB Browser or SNMP Console. Setting up and configuring these systems is beyond the scope of this document.

View Faults

Double-click this icon to open up the *Current Faults* window that shows all the faults that are currently in the system. Figure 3 shows an example window.

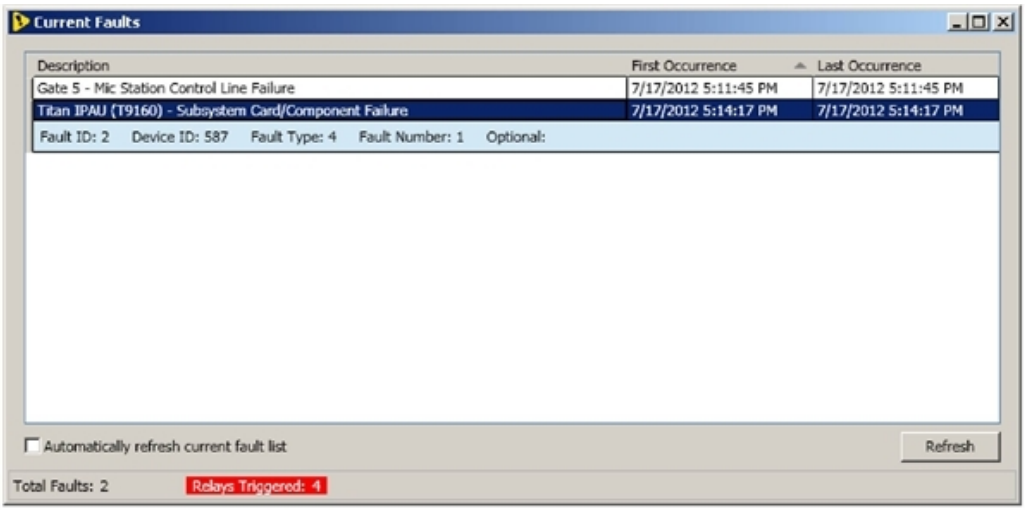


Figure 16-3: Current Faults Window Showing Faults In The System

At a glance, the grid shows the description of a fault, the first time it occurred, and for recurring faults, the last time it occurred. Additional information about a fault can be viewed by selecting a fault from the grid. This is shown in Figure 16-3 above via the light blue box below the second fault listed. These details are typically useful for doing additional diagnosis or advanced troubleshooting or to report to the manufacturer technical support personnel.

The *Current Faults* window only retrieves the current faults on startup and does not automatically refresh the list on a timer, as it is a resource (and network) intensive operation. Clicking on the *Refresh* button will update the grid with fresh data from the Service. To automatically update the grid on a timer, simply check the *Automatically refresh current fault list* checkbox.

If System Supervision was installed to trigger relays on faults then the Viewer will also show the number of relays that have been triggered due to fault conditions in the system. Hovering the mouse over the *Relays Triggered* label will show the relays that are currently tripped, as shown in Figure 16-4.

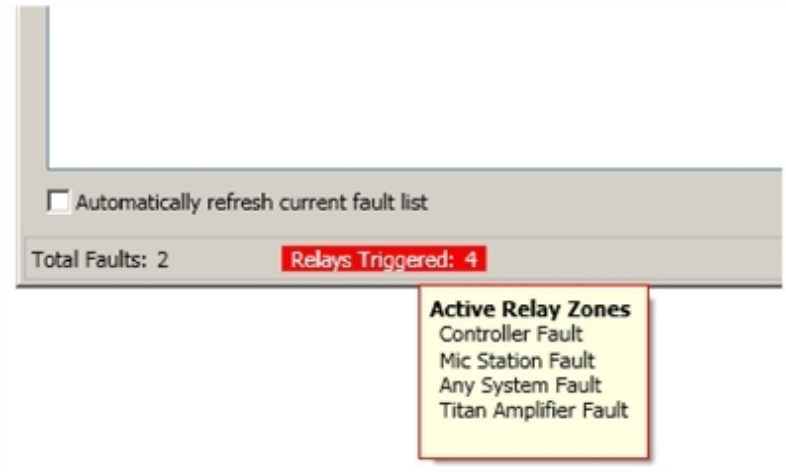


Figure 16-4: Relays That Are Currently Tripped Due To Fault Conditions

Device Monitoring

This icon brings up the window (as shown in the example in Figure 16-5) that allows setting up how devices are to be monitored by the Service, or if they are to be monitored at all. The grid in Figure 16-5 shows three columns which are quite self-explanatory. The last column determines the technology to use to monitor the device selected in the grid. Typically, IED devices are monitored via IEDnet (an IED proprietary technology), whereas non-IED devices are monitored (for network connectivity only) via PING (ICMP protocol packets).

One should make selections in this grid appropriate to the types of devices and the supervision requirements/needs of the system.

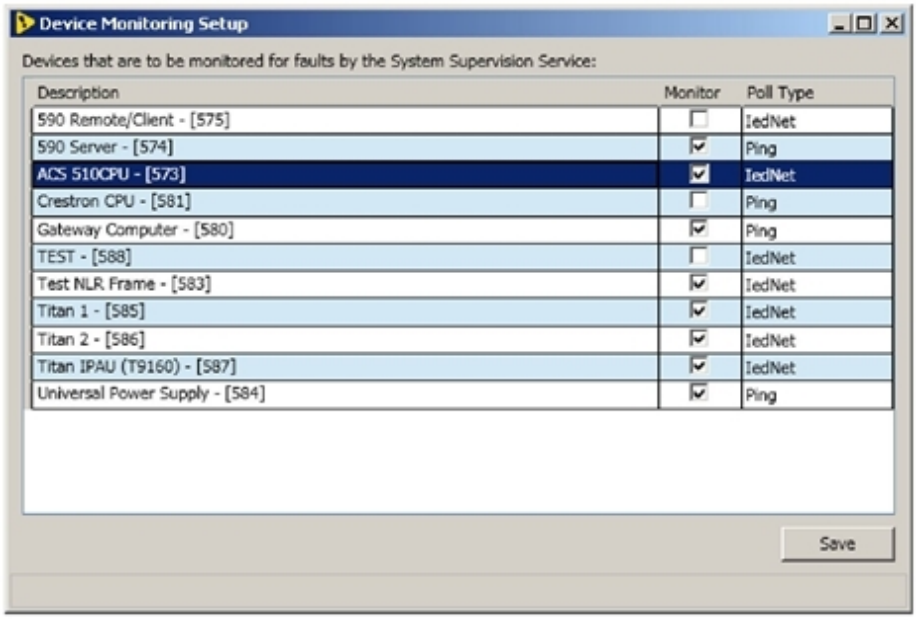


Figure 16-5: Sample Device Monitoring Setup Window

Fault Descriptions

This window allows one to override the auto-generated fault descriptions produced by System Supervision software. The droplist control can be used to select the device whose fault descriptions are to be overridden.

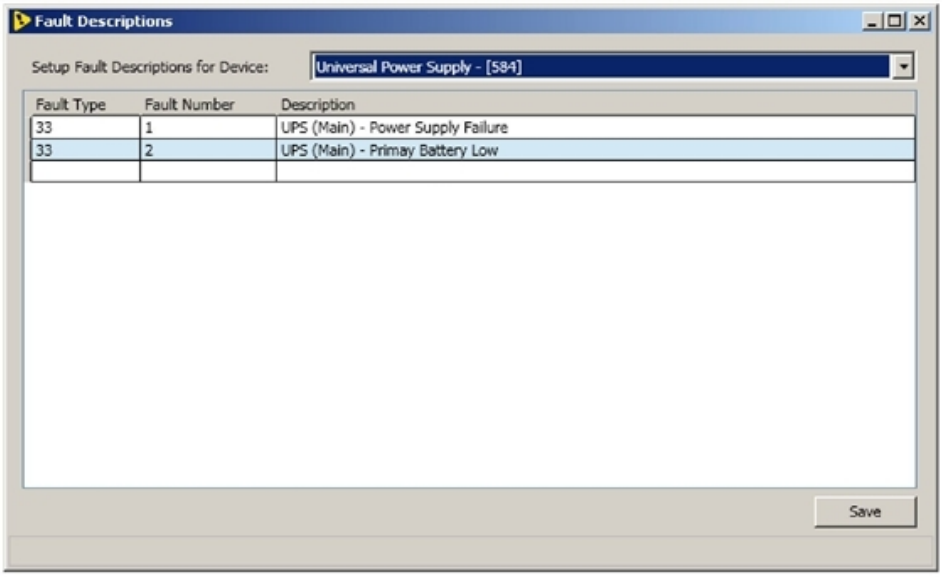


Figure 16-6: Sample Fault Description Window

The grid underneath the droplist is where fault descriptions are associated with a fault type and number pair. This is shown in Figure 16-6.

Setting up fault descriptions requires an understanding of the system as a whole and the IED fault numbering system used. A list of fault types and fault numbers is included at the end of this document, or one may use the details that appear in the Fault View pop-up. The actions available in the grid on this window are:

- Add New Fault Description – Type into the blank line at the bottom of the grid.
- Edit a Fault Description – Simply click on the cell to edit (Fault Type, Fault Number or Description) and edit the value in the grid.
- Delete a Fault Description – Click on a row and press the **DEL** key on the keyboard.

Relay Setup

The Relay Setup window allows one to set up relays to trip when fault and clear conditions occur. Figure 16-7 shows a typical Relay Setup window. The window has two parts. The top part allows selection of a relay device, and the bottom part, grouped under the ***Relay Setup*** heading, allows setting up individual relays on the frame.

One uses the ***Relay Frame*** droplist to select the relay device that is to be configured. The ***Frame Address*** edit box allows one to edit the IED422 serial bus address of the relay frame. This option is available only on an IED564 relay device, and is grayed out for other relay device types.

Under the ***Relay Setup*** section, the list box titled ***Available Relays*** allows one to pick and configure individual relay outputs on the frame. Initially, all of the relays will have a red border and will be labeled ***Unassigned***. To setup up a relay, performs the following steps:

1. Check the checkbox labeled ***Relay is triggered by fault conditions***.
2. Enter a meaningful description that is to be displayed in the status bar of the ***Current Faults*** window (see Figure 16-4 above) when the relay is tripped due to a fault condition.
3. Make a section in the ***Activation*** droplist. The ***Activation*** droplist determines if the relay is to be latched (i.e., stay activated), pulsate, or pulse only once, when it is triggered by a new fault condition.
4. Optionally check the ***Reverse polarity*** checkbox. When not checked, relays are active high and inactive low. Checking this option reverses the logic.
5. Set up fault triggers for this relay via the ***Trigger*** droplist. (See below.)

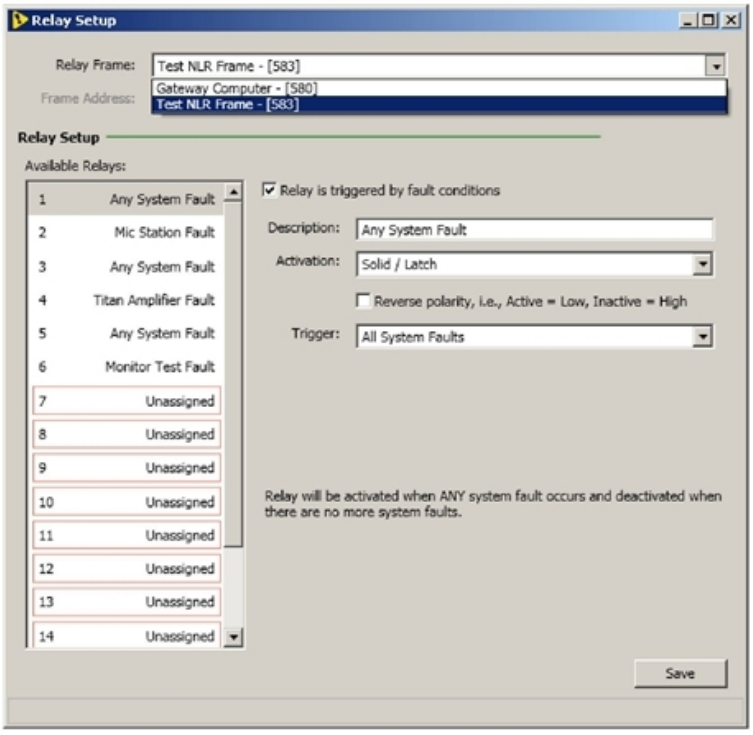


Figure 16-7: Relay Setup Window

The ***Trigger*** droplist can be used to associate the types of fault condition that will trip each relay. Making a droplist selection brings up additional edit controls, such as grids and a list of checkboxes. The options for the ***Trigger*** droplist are:

- All System Faults (see Figure 16-7) – Trip the relay on any fault in the system. This would be a "general fault" relay.
- Faults from Selected Devices (see Figure 16-8) – Trip the relay when there is any fault on a selected device or devices. For example, to trigger a relay for any Titan amp frame, one would select those devices in the device list that appears as in Figure 16-9.

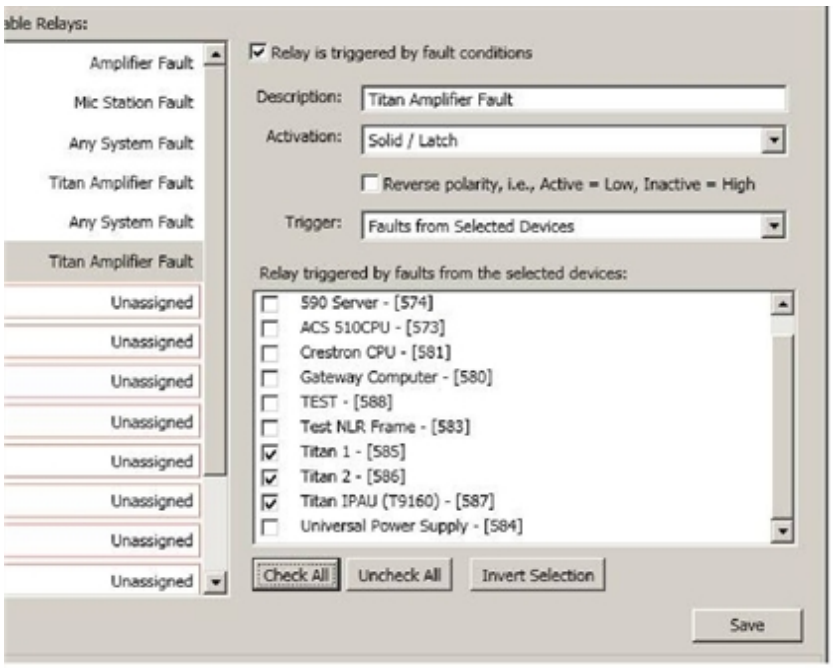


Figure 16-8: Sample Faults From Selected Devices View (Titan Amps)

- Custom Trigger (Advanced Setup) (see Figure 16-9, Figure 16-10, and Figure 16-11) – Trip the relay based on any permutation and combination of device, fault type and fault number. This is an advanced option that requires some knowledge of the internal fault numbering system, and so may require information from the IED to complete. But, this option will allow setups like a relay for any mic station control communication fault, or any hardware failure plus monitor/test deviations that affect certain zones (e.g., setting up one such relay per zone or zone map in the system). The value in any column may be an asterisk (*) to mean any/all, an individual value or a range of numbers (e.g., 1-5) as shown in the sample figures below.

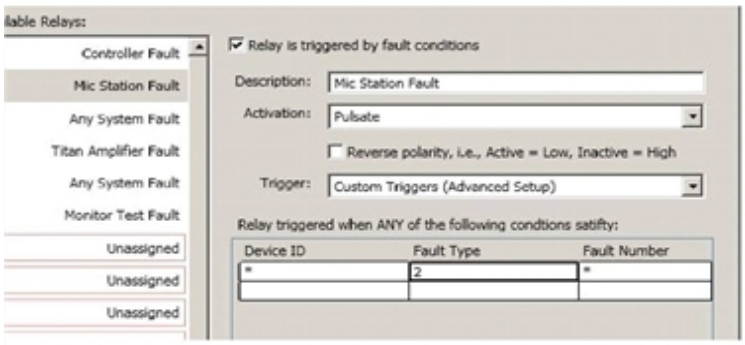


Figure 16-9: Sample Custom Triggers View (Any Mic Station)

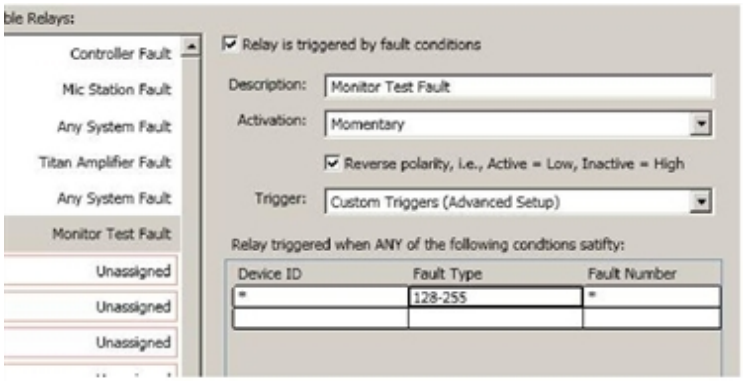


Figure 16-10: Sample Custom Triggers View (Any Monitor/Test Fault)

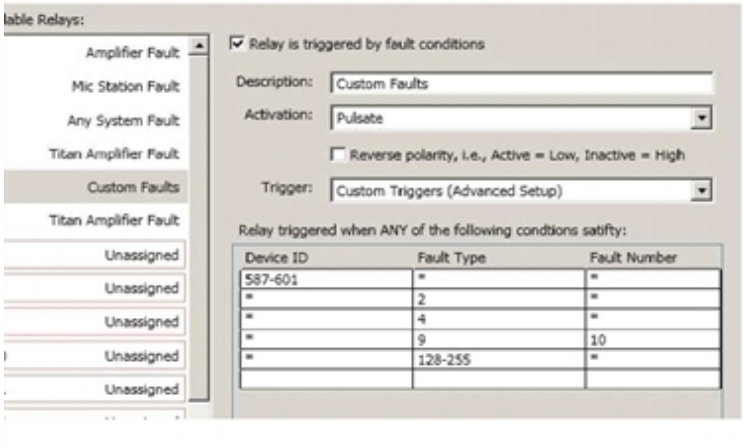


Figure 16-11: Sample Custom Triggers View (Mixture)

IED Network Fault Numbering

The table below shows the numbering system used for faults reported by IED devices/software. These values may be needed by the system configurator when defining fault descriptions or fault relays. The basic report is a two-byte entity consisting of a Fault Type byte and a Fault Number byte. The only values shown are those for 510/520ACS systems and GLOBALcom vACS systems. Faults for older 8000-based systems are not included in this table to avoid clutter.

Table 16-1: Fault Types and Fault Number Meanings

Type	Name	Fault Number Values
2	Mic Station Control Line Failure	Mic Station Number *
4	Subsystem Card/Component Failure	Card/Component Number ACS Systems: Card Type (upper 3 bits) 0 – C Card, 1 – D Card, 2 – R Card, 4 – N Card Card Slot/Number – lower 5 bits Titan Frames *T9160 (IPAU):* 224 – Amplifier Card 1 Fault 225 – Amplifier Card 2 Fault 226 – Amplifier Card 3 Fault 227 – Amplifier Card 4 Fault 228 – Amplifier Card 5 Fault 229 – Amplifier Card 6 Fault 230 – Amplifier Card 7 Fault 231 – Amplifier Card 8 Fault 232 – Amplifier Card 9 Fault 239 – Faulted Amplifier Not Backed Up 241 – Communication Fault AIO Unit 1 242 – Communication Fault AIO Unit 2 243 – Communication Fault MTC Unit 1 244 – Communication Fault MTC Unit 2 245 – Communication Fault LVIO Unit 1 246 – Communication Fault LVIO Unit 2 *T90xxDSP (NDU):* 241 – Communication Fault AIO Unit 1 242 – Communication Fault AIO Unit 2 243 – Communication Fault AIO Unit 3 244 – Communication Fault AIO Unit 4 245 – Communication Fault MTC Unit 1

Type	Name	Fault Number Values
5	Subsystem environmental	Titan T9160 (IPAU): 1 – Amplifier Card 1 Over Temperature 2 – Amplifier Card 2 Over Temperature 3 – Amplifier Card 3 Over Temperature 4 – Amplifier Card 4 Over Temperature 5 – Amplifier Card 5 Over Temperature 6 – Amplifier Card 6 Over Temperature 7 – Amplifier Card 7 Over Temperature 8 – Amplifier Card 8 Over Temperature 9 – Amplifier Card 9 Over Temperature 17 – Channel 1A Ground Fault 18 – Channel 1B Ground Fault 19 – Channel 2A Ground Fault 20 – Channel 2B Ground Fault 21 – Channel 3A Ground Fault 22 – Channel 3B Ground Fault 23 – Channel 4A Ground Fault 24 – Channel 4B Ground Fault 25 – Channel 5A Ground Fault 26 – Channel 5B Ground Fault 27 – Channel 6A Ground Fault 28 – Channel 6B Ground Fault 29 – Channel 7A Ground Fault 30 – Channel 7B Ground Fault 31 – Channel 8A Ground Fault 32 – Channel 8B Ground Fault 33 – Fan 1 Fault 34 – Fan 2 Fault 35 – Fan 3 Fault 36 – Fan 4 Fault
9	Subsystem Failure	1 – Audio Controller (ACS) 10 – Communication Channel (Network) 14 – Backup CPU Failure* 48 – Relay Device Down (reported by fault logger) 100 – Device Off-line 110 – PING Failure
10	564 Fault	564 Frame Number

Type	Name	Fault Number Values
14	Card Internal Fault	**Titan** *T9160 (IPAU):* 240 – Fault Status on DSP Core 241 – Fault Status AIO Unit 1 242 – Fault Status AIO Unit 2 243 – Fault Status MTC Unit 1 244 – Fault Status MTC Unit 2 245 – Fault Status LVIO Unit 1 246 – Fault Status LVIO Unit 2 Titan *T90xxDSP (NDU):* 240 – Fault Status on DSP Core 241 – Fault Status AIO Unit 1 242 – Fault Status AIO Unit 2 243 – Fault Status AIO Unit 3 244 – Fault Status AIO Unit 4 245 – Fault Status MTC Unit 1
15	Card Warning	**Titan Frames:** 0-239 – Warning Status on External Card at CAN Bus Address give by Fault Number 240 – Warning Status on DSP Core 241-245 – Warning Status on Internal Card at CAN Bus Address give by Fault Number *Titan T9160 (IPAU):* 241 – Warning Status AIO Unit 1 242 – Warning Status AIO Unit 2 243 – Warning Status MTC Unit 1 244 – Warning Status MTC Unit 2 245 – Warning Status LVIO Unit 1 246 – Warning Status LVIO Unit 2 *Titan T90xxDSP (NDU):* 241 – Warning Status AIO Unit 1 242 – Warning Status AIO Unit 2 243 – Warning Status AIO Unit 3 244 – Warning Status AIO Unit 4 245 – Warning Status MTC Unit 1
30	Wrong Mic Station Type	Mic Station Number*
32	(Windows) 540 Fault	540 Frame Number
33	SNMP Trap generated faults	SNMP Trap Number
34	Monitored Services	1: Fault Log Fault Service 2: Fault Log E-mail Service 3: Fault Log Relay Service 4: Fault Log SNMP Service 5: Fault Log Service Monitoring Service 6-10: Reserved for future Fault Log Services 11-255: “Monitored“ Services
60	LVIO Closure	Input Number

Type	Name	Fault Number Values
65-80	Mic Audible Fault for ACS	Mic Station Number
81-96	ACS Toolset Fault Report for ACS System 1..16	1: Gateway Fault 2: 596 Fault 3: DOS 540 Fault (i.e., managed by Gateway)
128-255	Monitor Point Audible/20K Test Fault (ACS Systems with Legacy M/T, e.g., 596's)	Combine Fault Type and Fault Number into word, then: Bits 15: 1 (always - High Bit) Bits 14: 0 for Audible Test, 1 for 20K Test Bits 13-11: ACS Number (0-7 for ACS 1-8)** Bits 10-6: 596 Frame Number (0-31 for Frames 1-32) Bits 5, 4: Point Letter (0-3 for A-D) Bits 3-0: Point Number (0-15 for Points 1-16)
128-255	Monitor Point Test Fault (Titan Systems)	Combine Fault Type and Fault Number into word, then: Bits 15: 1 (always - High Bit) Bits 14-12: Sequence Number (0-7 for seq 1-8) Bits 11-9: Test Setting Code (0-7 for code 1-8) Bits 8-0: Point Number (1-511 for Points 1-511)

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17

VisDID Setup

There are two configuration files that reside on each DDC computer that determine how each display attached to that computer will operate. The VisDID.xml file is used to configure the overall setup of the attached displays. The MessageList.xml file is used to define the content that will be shown on each display when a visual announcement is not taking place. The following sections describe the configuration properties available in each file.

VisDID.xml

This file is the main setup file for VisDID Immediate and VisDID Continuous applications that run on the DDC (Display Driver Computer). It is typically located under C:\ied\vis\did\VisDID.xml. The file can be edited with any text editor, but the structure of the file must be maintained.

Sample File

```
<vis_config>
    <htmltimeout_msec>10000</htmltimeout_msec>
    <blackouttime_msec>80000</blackouttime_msec>
    <maxdhtmlwait_msec>60000</maxdhtmlwait_msec>
    <screens>
        <screen signid="1" zoneid="1" displayid="1">
            <top>0</top>
            <left>0</left>
            <height>768</height>
            <width>1024</width>
            <images>
                <image1path>c:\ied\vis\evacuateRight.gif</image1path>
                <image2path>c:\ied\vis\test.gif</image2path>
                <image3path/>
            </images>
            <continuous>
                <halfscreen>false</halfscreen>
                <stayontop>false</stayontop>
                <hidemouse>true</hidemouse>
            </continuous>
            <immediate>
                <halfscreen>false</halfscreen>
                <stayontop>false</stayontop>
                <scrollrate>2</scrollrate>
                <timerinterval>3</timerinterval>
                <compressratio>1.0</compressratio>
                <justification>justCenter</justification>
                <holdtimeperchar>0.1</holdtimeperchar>
                <hidewhendone>true</hidewhendone>
                <hidemouse>true</hidemouse>
                <color val="$000000"/>
                <defaults>
                    <cellholdtime>120</cellholdtime>
                    <linesperpage>4</linesperpage>
                    <backcolor val="$000000"/>
                    <font>
                        Arial Unicode MS
                        <color val="$FFFF00"/>
                    </font>
                    <directories>
                        <image>C:\IED\VIS\Images</image>
                        <file>C:\IED\VIS\files</file>
                    </directories>
                </defaults>
            </immediate>
        </screen>
    </screens>
    <colors>
    <color id="5" val="$FFFF00"/>
    </colors>
</vis_config>
```

Tag List

The following is a list of all tags present in the VisDID.xml file, with explanations and possible values for all elements and attributes. The outline tree structure will mirror the tree structure of the file.

All tags "<...>" need to have a matching closing tag "</...>" or be closed themselves "<.../>" in a rigid tree structure. (i.e. <x><y>some value</y><z>some value</z></x>)

Tag	Definition	Value
<vis_config>	Root level node for the entire document	
<htmltimeout_msec>	Amount of time that the applications are to wait before abandoning an HTML request	Integer representing the number of milliseconds. (1000milliseconds = 1second)
<blackouttime_msec>	Amount of time with continuous errors the screen will wait before showing a black page.	Integer representing the number of milliseconds. (1000milliseconds = 1second)
<maxdhtmlwait_msec>	Amount of time with continuous errors the screen will wait before refreshing itself	Integer representing the number of milliseconds. (1000milliseconds = 1second)
<screens>	List container for all screens (up to four)	
<screen>	Attribute "signid", "zoneid", "displayid" : Together, unique identifier for each VisDID screen in the system. To get your sign or zone id you need to find the sign zone you are working on in the zone viewer in Enterprise. Open the Zone Type Specific tab make sure the Use Alternate Zone Number checkbox is checked. The value in the External Zone Number field is the zoneid the DDC should use. Sign id is used to differentiate between different physical displays attached to the DDC. Display id is used for serial control of the monitor. If multiple screens are present on a DDC, there will be multiple "screen" nodes side by side.	signid - zoneid - displayid -
<top>	The y-axis value of the top edge of the VisDID display screen.	Integer representing the location in pixels
<left>	The x-axis value of the left edge of the VisDID display screen. Note: When using multiple monitors on one DDC, the subsequent screens will usually have an offset value in the <left> coordinate. For example, the <left> value for screen 2 will be the <width> of screen 1.	Integer representing the location in pixels
<height>	The size of the VisDID display screen across the y-axis	Positive integer representing the height as the number of pixels
<width>	The size of the VisDID display screen across the x-axis	Positive integer representing the width as the number of pixels

Tag	Definition	Value
<images>	A list container for ad-hoc image slots (up to 8). These may be used for system emergency/evacuation conditions and directions, for example.	
<imageXpath>\ (where x = 1-8)	The fully qualified windows path for the image to be used in this particular slot Example:.In a typical installation, each DDC will be configured with 2 emergency evacuation messages, one which displays an evacuation arrow for fire, and one for tornados (e.g., seek shelter condition). In this case, <image1path> would be populated with the path for the fire evacuation image, while <image2path> would be populated with the path for the tornado evacuation image.	
<continuous>	Container for all VisDID Continuous specific setup information	
<halfscreen>	Allow VisDID Continuous to fill only half of the defined screen.	***true*** - fill half screen ***false*** - fill whole screen
<stayontop>	Control VisDID Continuous' "on top" status in relation to other applications.	***true*** - stay on top ***false*** - do not stay on top
<hidemouse>	Indicate whether VisDID Continuous should hide the mouse cursor.	***true*** - mouse cursor will be hidden ***false*** - mouse cursor will be visible
<immediate>	Container for all VisDID Immediate specific setup information.	
<halfscreen>	Allow VisDID Immediate to fill only half of the defined screen.	***true*** - fill half screen ***false*** - fill whole screen
<stayontop>	Control VisDID Immediate's "on top" status in relation to other applications. VisDID Immediate always resides on top of VisDID Continuous.	***true*** - stay on top ***false*** - do not stay on top
<scrollrate>	integer representing the number of pixels the screen is to scroll during each timer interval (see below)	
<timerinterval>	integer representing the number of milliseconds to wait between each scrolling shift operation.	
<compressratio>	Floating point representing the aspect ratio of the screen (i.e. a stretch ratio). 1.0 means no stretching	

Tag	Definition	Value
<justification>	string representing the (default) justification scheme to apply to the scrolling text	*justCenter* - scrolling text will be centered *justRight* - scrolling text will be aligned with the left border of the screen *justLeft* - scrolling text will be aligned with the right border of the screen
<holdtimeperchar>	Floating point representing the default number of seconds to hold a line on the screen if no timer information is given. (e.g. if the holdtimeperchar is set to 0.1 and a single line of an untimed message is 30 characters long, that particular line will stay on screen for 3.0 seconds)	
<hidewhendone>	Set VisDID Immediate to return to the background once message playback is complete.	*true* - will not remain visible *false* - will remain visible
<hidemouse>	Indicate whether or not VisDID Immediate should hide the mouse cursor while playing a message.	*true* - mouse cursor will be hidden *false* - mouse cursor will be visible
<color>	"val" : Blue/Green/Red Hexadecimal representation of the color to use for the background of VisDID Immediate Messages (e.g. "$FF0000" represents the color Blue {blue = 255, green = 0, red = 0})	
<defaults>	Container list for all default values in VisDID Immediate	
<cellholdtime>	Default time to hold a block of text on screen if no other timing information is provided. Provided in 60ths of a second.	
<linesperpage>	Number of lines to fit on the screen for immediate messages. Text is scaled appropriately.	
<backcolor>	Blue/Green/Red Hexadecimal color representation for the background color.	
<font>	Name of font family to use	
<color>	"val": Blue/Green/Red Hexadecimal color representation for the font color	
<directories>	Container node for Prizm Content Delivery settings	
<image>	The default directory where images will be stored locally	
<file>	The default directory where Prizm Content Manager will be stored locally.	
<colors>	Container node for colors list (mapping of simple color numbers like 1, 2, 3 to RGB values).	

Tag	Definition	Value
<color>	"id": The index in the color list of this color "val": Blue/Green/Red Hexadecimal color representation of this color.	

MessageList.xml

This is the content specification file for VisDID Continuous. It is generally located at c:\ied\vis\did. The file can be edited with any text editor, but the structure of the file must be maintained.

Sample File

```
<messagelist>
    <screen signid="1" zoneid="1">
        <message id="1" format="HTML" count="0" priority="6" holdtime="0" refreshrate="3"restart="false">
            http://vernon/prizmcm/playcontent.asp
        </message>
    </screen>
</messagelist>
```

Tag List

The following is a list of all tags present in the MessageList.xml file, with explanations and possible values for all elements and attributes. The outline tree structure will mirror the tree structure of the file.

All tags "<...>" need to have a matching closing tag "</...>" or be closed themselves "<.../>" in a rigid tree structure. (i.e. <x><y>some value</y><z>some value</z></x>)

Tag	Definition	Value
<messagelist>	Root level node for messagelist.xml document	
<screen>	Defines a single screen in the system. If there are multiple screens, there will be multiple tags.	***signid*** - Integer representing the sign ID. ***zoneid*** - Integer representing the zone ID. Together, uniquely identify a screen. Zoneid maps to the zone in the Announcement Controller (or external zone). Signid is useful for differentiating physical DDC devices.

Tag	Definition	Value
<message>	Defines a specific message for VisDID Continuous. Each message is a content screen that will be displayed for a certain amount of time before moving to the next. If there are multiple messages, there will be multiple instances of this node.	***id*** - Unique identifier for messages on this DDC. ***format*** - Defines what type of content this message contains. Possible values are HTML and File. *File extensions supported if* File *format is selected:* Mpg, mpeg, Wmv, Avi, Mov, Mp4, Jpg, jpeg, Gif, Bmp, png, Swf ***count*** - The number of times this message is to play before moving on to the next. ***priority*** - Not currently used. ***holdtime*** - The amount of time this particular message will stay on the screen in VisDID Continuous. Measured in 60ths of a second. ***refreshrate*** - The amount of time VisDID Continuous should wait in between refreshes of this message. Any differences in the new HTML document are seamlessly merged so no flicker is noticed. Measured in seconds. ***restart*** - Not currently used. URL to content resource whether it be an HTML page or media file.

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