EASyCAST
EAS Encoder/Decoder
Version 8.09

Operation Manual

think ahead.

TRILITHIC

Trilithic Company Profile

Trilithic is a privately held manufacturer founded in 1986 as an engineering and assembly company that builds and designs customer-directed products for telecommunications, military, and industrial customers. From its modest beginnings as a two-man engineering team, Trilithic has grown over the years and broadened its offerings of RF and microwave components by adding broadband solutions to its product line. This was accomplished with the acquisition of components manufacturer Cir-Q-Tel and instruments manufacturer Texscan.

Today, Trilithic is an industry leader, providing telecommunications solutions for major broadband, RF and microwave markets around the world. As an ISO 9000:2001 certified company with over 40 years of collective expertise in engineering and custom assembly, Trilithic is dedicated to providing quality products, services and communications solutions that exceed customer expectations.

Trilithic is comprised of five major divisions:

- **Broadband Instruments and Systems**
  Offers test, analysis, and quality management solutions for the major cable television systems worldwide.
- **Telecom Solutions**
  Offers affordable, easy-to-use instruments for testing and measurement of Telecom networks.
- **RF Microwave Components**
  Provides components and custom subsystems for companies specializing in cellular, military, and other wireless applications.
- **Emergency Alert Systems**
  Leading supplier of government-mandated emergency alert systems used by broadcast TV, cable TV, IPTV, DBS, and radio stations.
- **XFTP**
  Offers a specialty line of field technical products for cable operators and technicians, as well as a line of products for installing electronics in the home of the future.

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Table of Contents

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Chapter 1

General Information

Introduction

The EASyCAST Configuration software is designed to provide an intuitive, Windows-based interface for setting up an EASyCAST Encoder/Decoder. The interface between the Configuration software and the EASyCAST can be accomplished via an RS-232 connection, 10/100 BaseT Ethernet connection, or a telephone modem. The Configuration software provides:

- A single point of management for multiple EASyCASTs, maintaining configuration settings and log files for each encoder/decoder.
- Access to EAS logs stored within the EASyCAST
- An interface for generating EAS messages
- The ability to upgrade firmware
- A convenient means of upgrading the EASyNIC card's firmware

Helpful Website

The following website contains information which may be of interest:

http://www.trilithic.com

Trilithic's website contains product specifications and information, tips, release information, marketing information, frequently asked questions (FAQs), bulletins, and other technical information. Software and firmware updates are available through this website.

Where to Get Technical Support

Trilithic technical support is available Monday through Friday from 8:00AM to 5:00PM, EST. Callers in North America can dial 1-317-895-3600 or 1-800-344-2412 (toll free). International callers should dial 1-317-895-3600 or fax questions to 1-317-895-3613. You can also email technical support at *EASysupport@trilithic.com*.

For quicker support response when calling or sending email, please provide the following information:

- Your name and your company name
- The technical point of contact (name, phone number, email)
- The serial number of the EASyCAST Encoder/Decoder
- A detailed description of the problem you are having, including any error or information messages

Before any Trilithic EAS encoder/decoder can be returned for repair, Trilithic will issue a return material authorization (RMA) number. NO RETURNED EQUIPMENT WILL BE ACCEPTED WHICH DOES NOT HAVE AN RMA NUMBER PROMINENTLY DISPLAYED ON THE OUTSIDE SHIPPING CARTON AND ON THE SHIPPING LABEL. A complete and full description, in writing, regarding the service issues with the equipment must be supplied inside the shipping container with each piece of equipment for which an RMA number has been issued.

Hardware or software modifications and changes may occur at any time during production, shipping, and/or during the equipment's life span. These changes may occur or be implemented by Trilithic, Inc. without prior written notice or warning.

How this Manual is Organized

This installation manual addresses hardware installation concerns for the EASyCAST Encoder/Decoder.

This manual is divided into the following chapters:

- Chapter 1, “General Information,” provides Trilithic contact information and describes how this installation manual is structured.
- Chapter 2, “Important Information,” provides key information about the EASyCAST, how to correctly set up each encoder/decoder, references to supplementary manuals, and operational considerations.
- Chapter 3, “Software Installation,” details the procedure for installing the EASyCAST Configuration software, which will be used to configure and control the EASyCAST.
- Chapter 4, “General Configuration Information,” provides information about interacting with the EASyCAST, connecting the EASyCAST to the host computer, and establishing communication between the EASyCAST and the Configuration software.
- Chapter 5, “EASyCAST Configuration,” details the procedure for using the EASyCAST Configuration software to set up the EASyCAST Encoder/Decoder for operation in an EAS environment.
- Chapter 6, “Understanding EASyCAST Logs,” provides examples of various EAS logs and a description of the information contained within the logs.
- Chapter 7, “Appendix,” includes the warranty statement.

Conventions Used in this Manual

This manual has several standard conventions for presenting information:

- Connections, menus, menu options, and user-entered text and commands appear in **bold**.
- Section names, web and email addresses appear in *italics*.

A NOTE is information that will be of assistance to you related to the current step or procedure.

A CAUTION alerts you to any condition that could cause a mechanical failure or potential loss of data.

A WARNING alerts you to any condition that could cause personal injury.

Precautions

Do not use the EASyCAST Encoder/Decoder in any manner not recommended by the manufacturer.

Chapter 2
Important Information

Please read the following information regarding the installation, setup, and configuration for the EASyCAST Encoder/Decoder.

- Installation manuals for the EASyCAST are available at *www.trilithic.com*. An update to this *EASyCAST Operation Manual* may also be available through the website.
- Additional application-specific instructions are available at *www.trilithic.com*.
- Make sure the encoder/decoder time and time zone are correct. EAS messages are time-stamped and may be ignored if the encoder/decoder's time is incorrect.
- The firmware (internal operating system) of the EASyCAST is upgradeable using a personal computer. Check the EAS downloads section at *www.trilithic.com* frequently to determine if new firmware is available. Check for new firmware prior to using the equipment for the first time, as some EASyCAST units have been warehoused and may not have the latest firmware.
- Stations that use the internal character generator video input should ensure that the signal inserted complies with RS-170A NTSC specification in order to prevent synchronization problems with the character generator. Some computer or VCR video sources may cause video synchronization problems.

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Chapter 3
Software Installation

Computer System Requirements

In order to install the EASyCAST Configuration software, the following computer hardware and software conditions must be met:

- Windows XP or newer operating system
- A screen resolution of at least 800 x 600 pixels
- 500 MHz processor with 512 MB of RAM and 1.5 GB of free hard drive space

In addition, the following are required in order to establish communications between the EASyCAST Configuration software and the EASyCAST Encoder/Decoder:

- 9-pin RS-232 interface or USB to RS-232 adapter (if an Ethernet connection is not used)
- 10/100 BaseT Ethernet network interface card with an RJ-45 connector
- Telephone modem (optional for modem communications)


NOTE

If during installation, Windows asks if you wish to install the EASyCAST software without a digital signature or Windows logo testing, click the Yes button or the Continue Anyway button.


NOTE

This chapter provides instructions for installing the EASyCAST Configuration software. For detailed installation instructions for the EASyCAST, refer to the EASyCAST EAS Encoder/Decoder Hardware Manual.

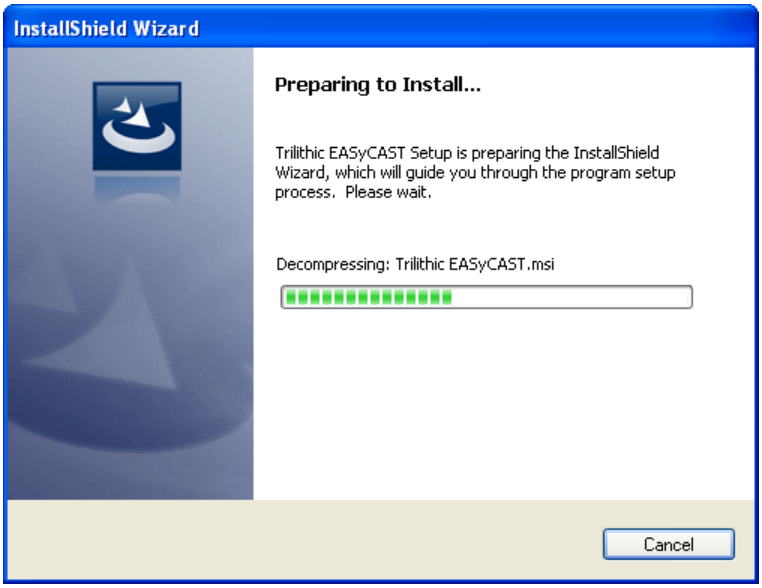
Installation Procedure

The EASyCAST Configuration software can be installed from a CD or from a Setup file that has been downloaded from Trilithic's EAS website (*www.trilithicEAS.com*). The installation procedure for both installation methods is outlined in the following sections.

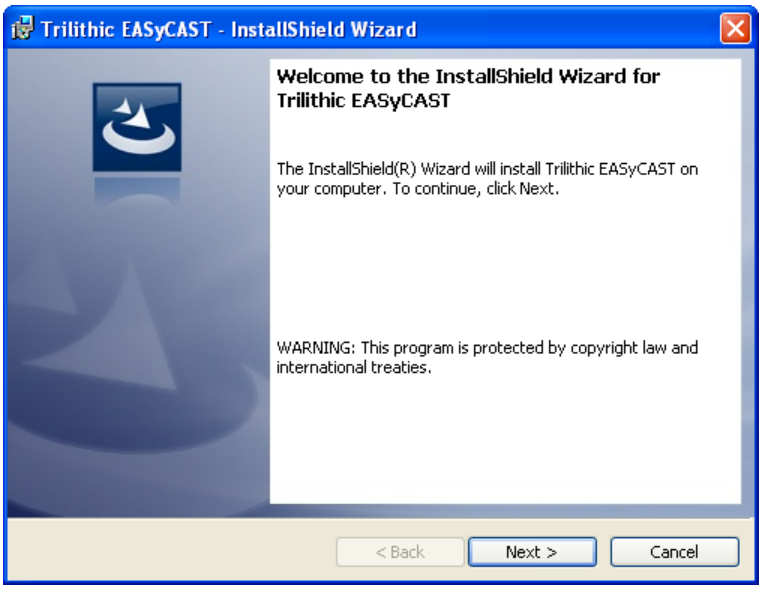
Installing from the CD

1. Depending on which operating system you are using, you may need to log in as the system administrator.
2. Insert the EASyCAST Configuration software CD into the appropriate drive.
3. If Autorun is enabled for the CD-ROM drive, the EASyCAST Configuration setup program will start automatically. If the setup program does not start, click the Windows **Start** button, then select **Run** and type **[drive]:\setup.exe**, then click the **OK** button (substitute the appropriate drive letter in the command line, in place of **[drive]**).
4. Depending on which operating system you are using, the "Open File - Security Warning" dialog box may appear. If this dialog box appears, click the **Run** button.

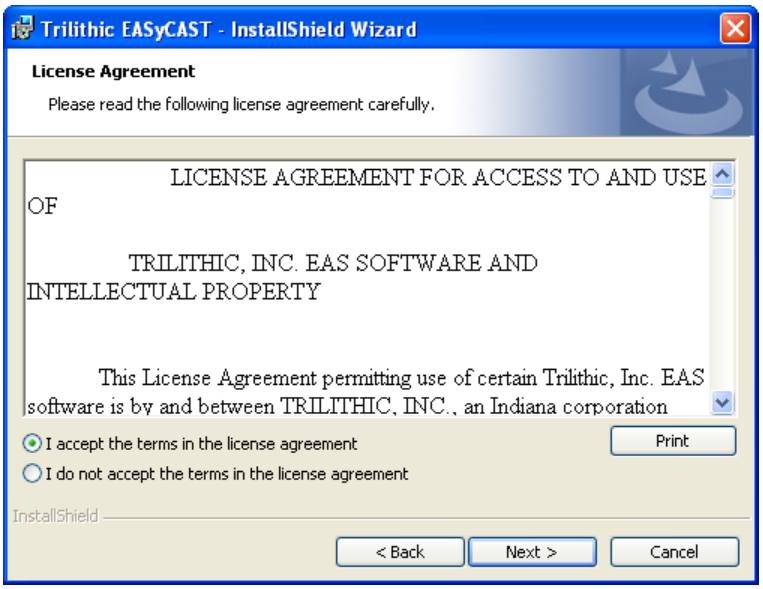
5. The “Preparing to Install...” window will appear momentarily to indicate the status of the software’s installation.



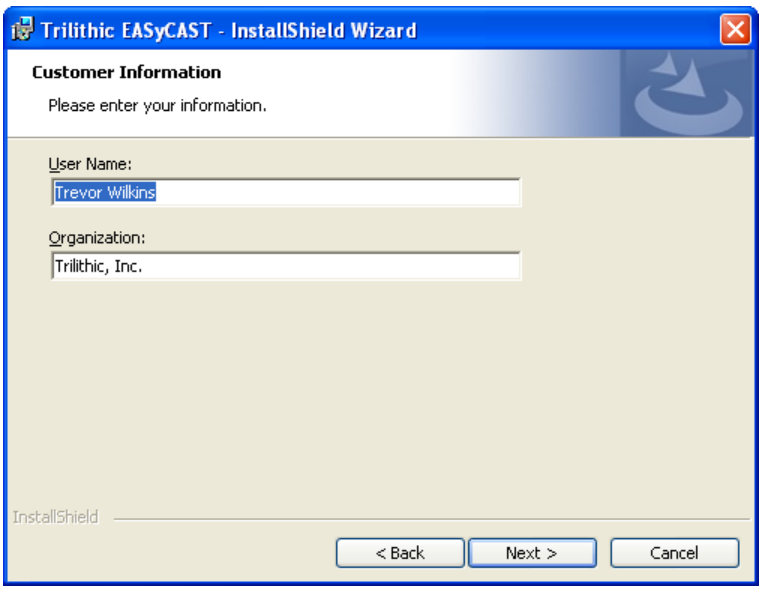
6. The” Welcome to the InstallShield Wizard” window for the EASyCAST Configuration software will appear. Click the **Next** button to continue with the installation.



7. The “License Agreement” window will appear. To continue with the installation, select the radio button which corresponds with acceptance of the license agreement, then click the **Next** button.

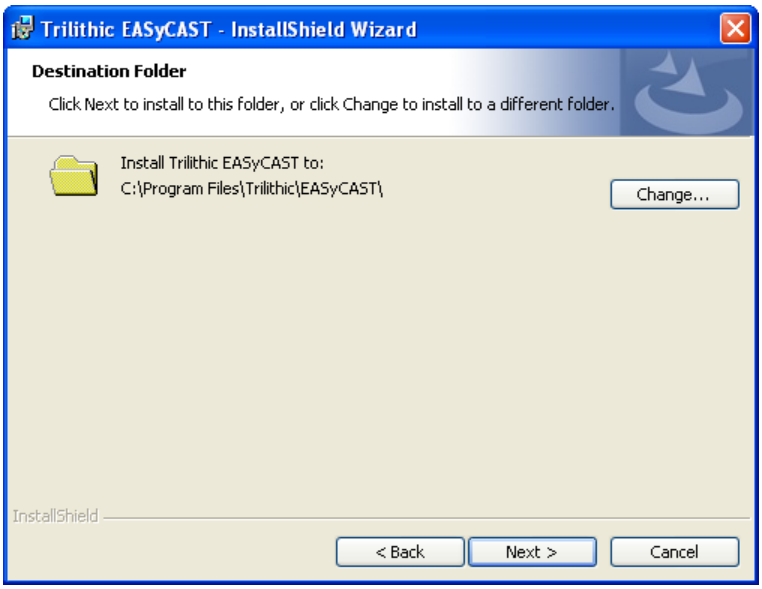


8. The “Customer Information” window will appear. Enter the user’s name and company into the text fields in the Customer Information window, then click the **Next** button.

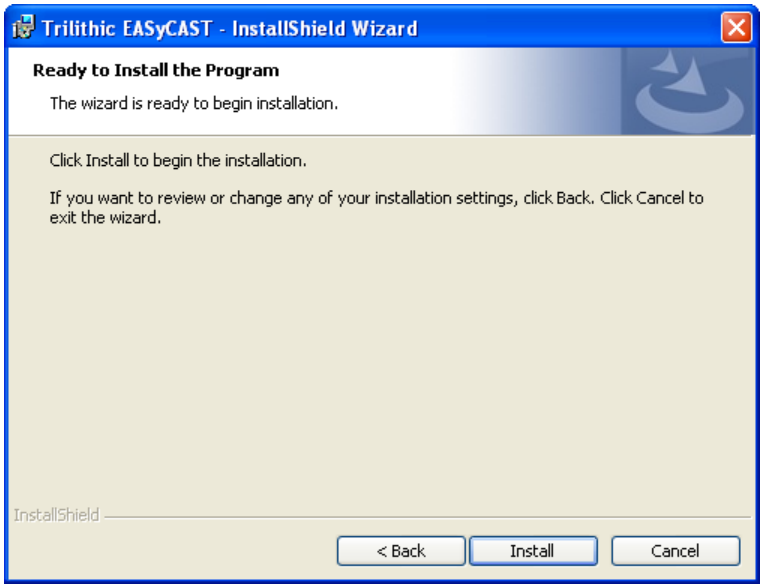


9. The “Destination Folder” window will appear. The default location in which the EASyCAST Configuration software will be installed is displayed. Click the **Change** button to select a folder other than the default; click the **Next** button to accept the default folder in which to install the EASyCAST Configuration software.

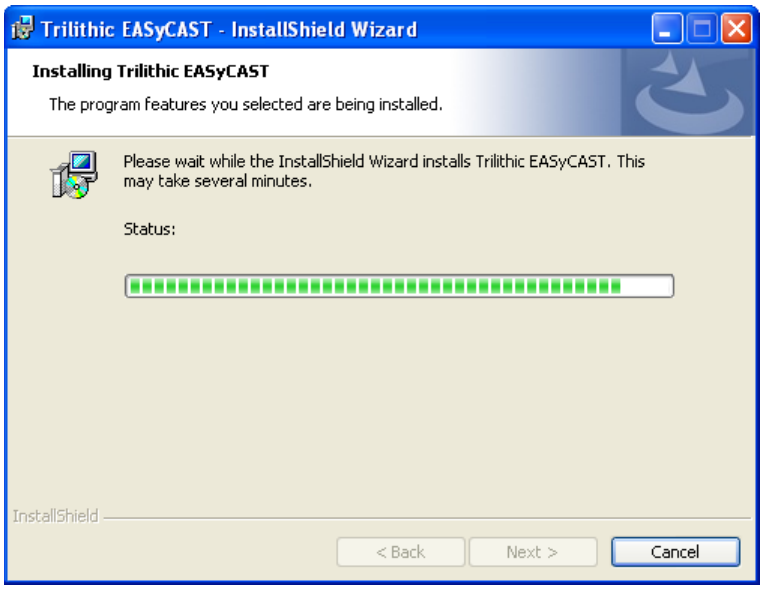
   If the software installation is an upgrade from a previous version of the EASyCAST Configuration software, select the same destination folder as the previous version in order to keep the previous configuration settings.



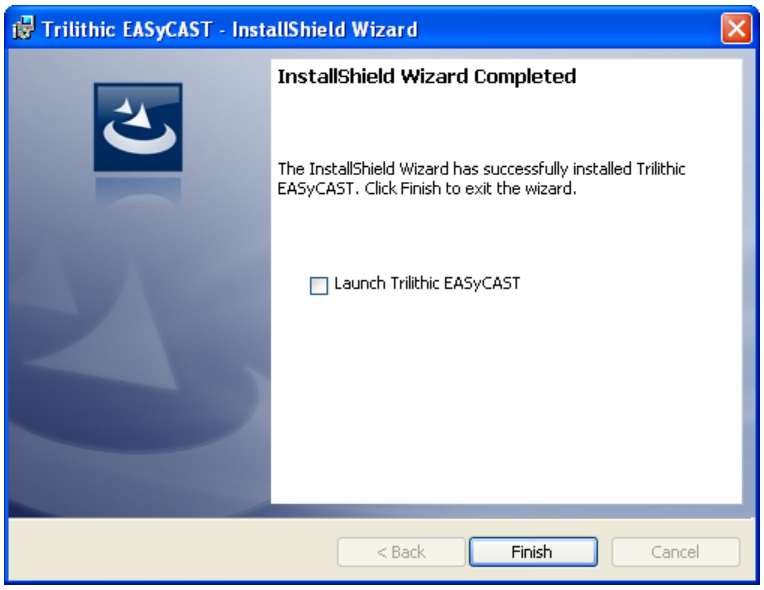
10. The “Ready to Install the Program” window will appear next. This window confirms the settings for the installation of the EASyCAST Configuration software. If the information shown is correct, click the **Next** button. To change the installation settings, click the **Back** button.



11. The “Installing Trilithic EASyCAST” window will appear momentarily to indicate the status of the software’s installation.



12. The “InstallShield Wizard Completed” window will appear. Click the **Finish** button to exit. The EASyCAST Configuration software installation is now complete.



Installing from the Internet

1. Depending on which operating system you are using, you may need to log in as the system administrator.
2. Download the latest version of the EASyCAST Configuration software through Trilithic’s EAS website *(www.trilithicEAS.com)*, and save the setup file to the local hard disk or Windows desktop.
3. Initialize the setup program by double-clicking the **Setup** icon on the desktop on local hard disk.
4. Follow the steps 4 through 12 in the ***Chapter 2: Software Installation***, ***Installation Procedure***, ***Installing from the CD***.

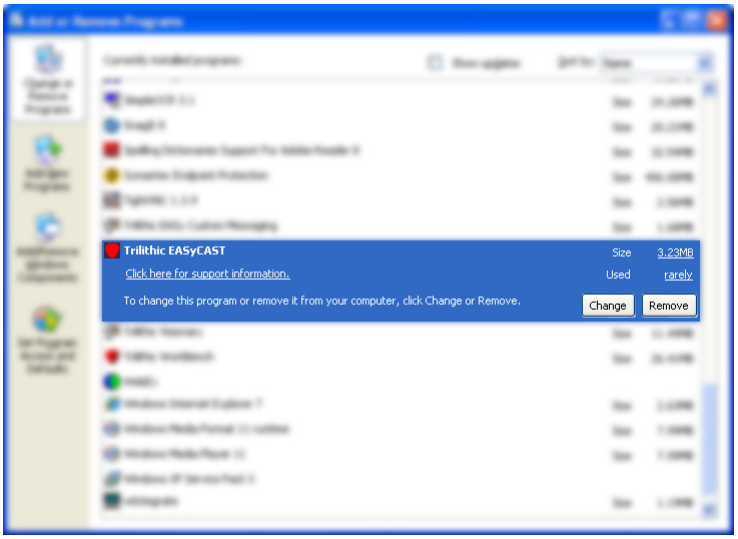
Software Updates

To update the EASyCAST Configuration software, the program must be removed and reinstalled. Follow the procedure outlined in ***Chapter 3: Installation***, ***Removing the EASyCAST Configuration software*** to remove the software. To reinstall the updated software, follow the procedure outlined in ***Chapter 3: Installation***, ***Installation Procedure***, ***Installing from the CD***, or ***Installing from the Internet***.

A current version of the EASyCAST Configuration software CD must be obtained from a Trilithic representative, or a current setup file must be downloaded from Trilithic's EAS website (*www.trilithicEAS.com*). After securing an updated version, perform the installation procedure as directed in the ***Chapter 3: Installation***, ***Installation Procedure***, ***Installing from the CD***, or ***Installing from the Internet*** section of this manual.

Removing the EASyCAST Configuration software

To remove the EASyCAST Configuration software from the host computer, the Windows "Add or Remove Programs" utility can be used. Open the "Add or Remove Programs" utility by clicking the Windows **Start** button, then the **Control Panel** program. From the Control Panel, click the **Add or Remove Programs** button. The following program list window will be displayed.



In the program list, scroll to find **Trilithic EASyCAST**. Click the program to select it, then click the **Remove** button to uninstall the program. A pop-up window will appear, confirming your decision to remove the program. Click the **Yes** button to remove the EASyCAST Configuration software; click the **No** button to cancel the program deletion.

Chapter 4

Initial Configuration

Starting the EASyCAST Configuration software

To start the EASyCAST Configuration software, double-click the EASyCAST icon on the desktop, or click the Windows **Start** button, **All Programs** group, **Trilithic** group, **EASyCAST** group, then click the **EASyCAST** program icon.

Connecting the EASyCAST to a Computer

Before connecting the EASyCAST Encoder/Decoder to the computer on which the EASyCAST Configuration software is installed, determine which type of connection will be used between the EASyCAST and the host computer: serial, Ethernet, or modem. Refer to the following procedures for instructions in establishing a connection between the EASyCAST and the host computer.

NOTE

If the EASyCAST Configuration software is being used to maintain multiple EASyCAST Encoder/Decoder configurations, select the appropriate system using the Select button on the Main tab before attempting to connect to a remote system.

Serial Connection

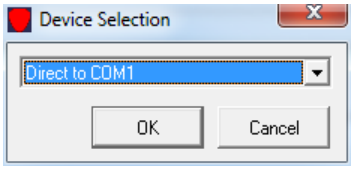
1. Connect the 9-pin null modem serial cable (provided) between the desired communications port on the computer, and COM-1 on the EASyCAST.
2. Ensure no other programs on the computer are using the required PC COM port.
3. On the **Main** tab, click the **Disconnect** button.

4. Click the **Select** button.

5. On the pop-up **Select Type of Communications Port** window, select the radio button corresponding to **Serial/Modem** then click the **Accept** button.

6. In the pop-up **Device Selection** window, select the PC COM Port from the pull-down list, then click the **OK** button.

   If the desired port is not shown in the **Device Selection** pull-down list, Windows does not properly recognize the device and a Windows driver may need to be installed.



7. Click the **Connect** button. The status message at the bottom-center of the program window will display "…Connected at 38400 BAUD."

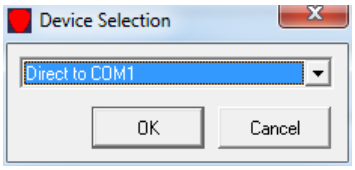
Modem Connection

1. Connect the computer and the EASyCAST Modem to their respective telephone lines.
2. Ensure no other programs on the computer are using the required PC COM port.
3. On the **Main** tab, click the **Disconnect** button.

4. Click the **Select** button.

5. On the pop-up **Select Type of Communications Port** window, select the radio button corresponding to **Serial/Modem** then click the **Accept** button.

6. In the pop-up **Device Selection** window, select the desired modem from the pull-down list, then click the **OK** button.



   If the desired port is not shown in the **Device Selection** pull-down list, Windows does not properly recognize the device and a Windows driver may need to be installed.

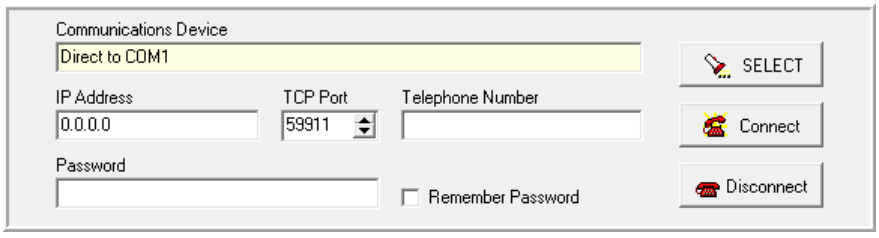
7. Enter the telephone number for the desired system in the **Telephone Number** text box, including any digits needed to access an outside line (1 for long distance; 9 for an outside line, etc.). A comma can be used to add a pause to the dialing, and dashes or spaces can be added for enhanced readability (for example: 9, 1, 555-456-7890).

8. Click the **Connect** button. After a short delay, the modem will connect and the status message at the bottom-center of the window will display the speed at which the modem connected.

9. When done configuring the modem connection for the EASyCAST, click the **Disconnect** button to open the telephone line.

Ethernet Connection

1. Connect the Ethernet cable (provided) between the desired communication port on the computer, and RJ-45 port on the EASyCAST.
2. Ensure no other programs on the computer are using the required Ethernet port.
3. On the **Main** tab, enter the **IP Address** and TCP **Port Number** of the EASyCAST, as directed by your IT administrator. Unless instructed by your IT administrator, enter the default TCP port number of **59911**.
4. Enter the default **Password** to access the EASyCAST: **Administrator**. After the initial configuration is complete, the password can be changed.



5. Click the **Disconnect** button.

6. Click the **Select COM Port** button.

7. On the pop-up **Select Type of Communications Port** window, select the radio button corresponding to **Ethernet** then click the **Accept** button.

NOTE

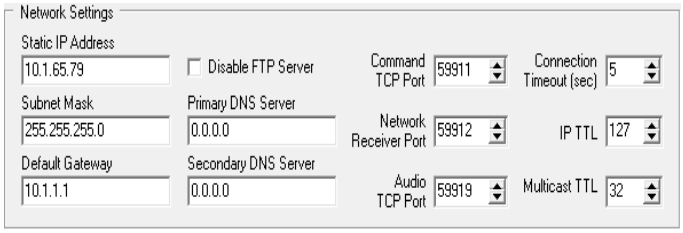
Connections made via the EASyCAST's Ethernet port do not require that the "Connect" button be clicked; the program automatically connects and disconnects to the TCP port on an as-needed basis.

First-Time EASyCAST Network Configuration

If the EASyCAST Encoder/Decoder has not been configured for your network, the initial network settings for the EASyCAST need to be programmed via the serial port, or directly to the PC's Ethernet port through a crossover cable using the factory default static IP Address.

Configure the EASyCAST via the RS-232 Serial Port

1. Connect the PC hosting the EASyCAST Configuration software to the EASyCAST via a serial connection. Refer to ***Chapter 5: EASyCAST Configuration***, ***The Main Tab***.
2. Start the EASyCAST Configuration software.
3. On the **Interfaces** tab, in the **Network Settings** group, enter the **Static IP Address**, **Subnet Mask**, **Default Gateway**, and **Command TCP Port** for the EASyCAST, as provided by your IT administrator.
4. Click the **Program IP Settings** button on the **Utilities** tab to write the configuration changes to the EASyCAST.
5. Click the **Reset Hardware** button on the **Utilities** tab to power cycle the EASyCAST, allowing the IP changes to take effect.



6. The EASyCAST is now configured with the new IP address and network settings.

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Chapter 5
EASyCAST Configuration

Overview

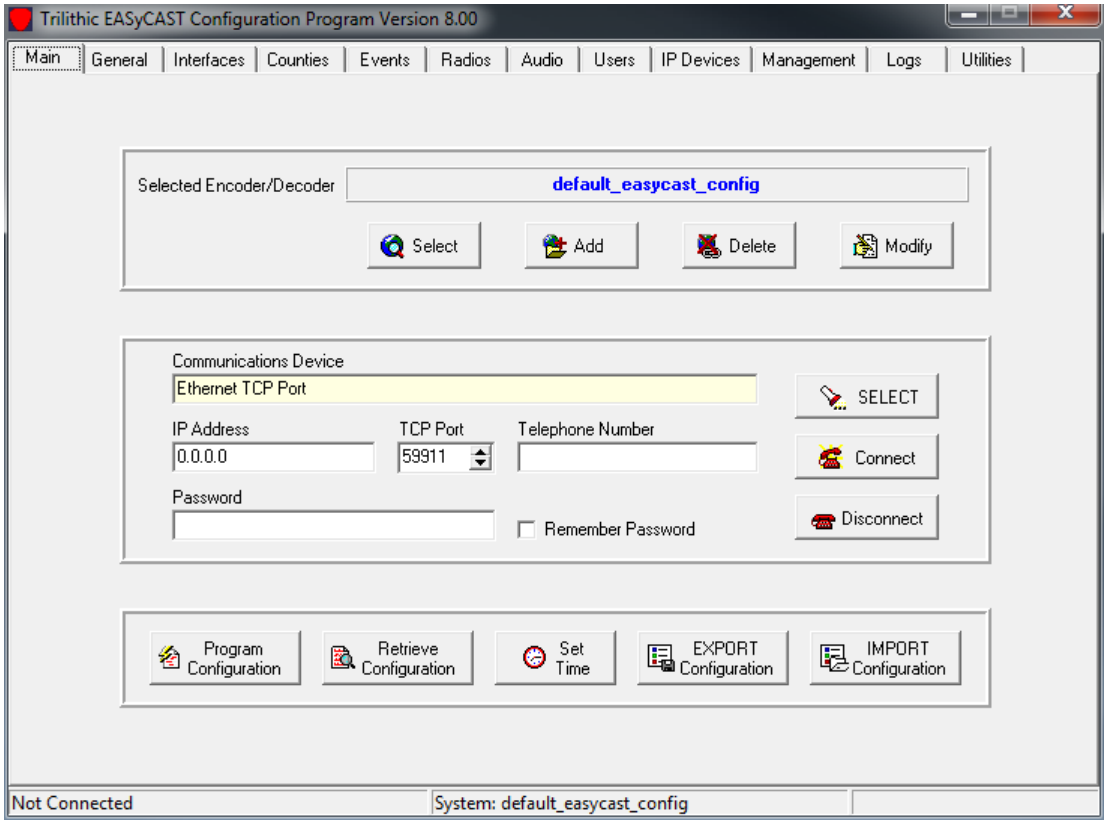
This chapter describes the procedures used to define monitoring assignments, set location and alert filters, and enter output devices and protocols.

NOTE

Changes made to the configuration will have no effect on the EASyCAST until the settings are uploaded by clicking the Program Configuration button on the Main tab.

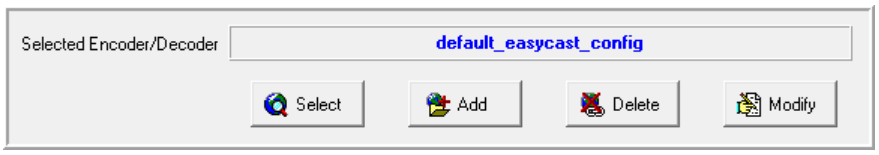
The Main Tab

The **Main** tab is used to set up communications between the EASyCAST Configuration software and the EASyCAST Encoder/Decoder, and to send a receive configuration data to and from the device. The parameters on the **Main** tab must be configured before any other changes in the program are made.

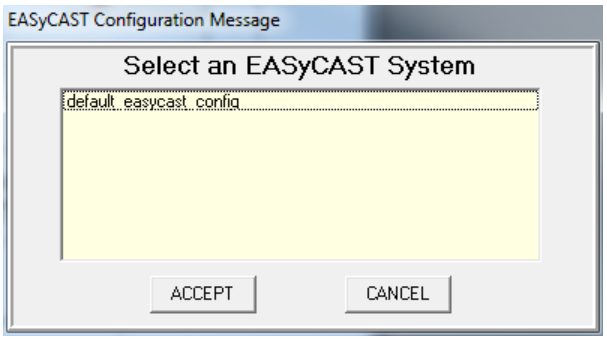


Adding and Managing EASyCAST Configurations

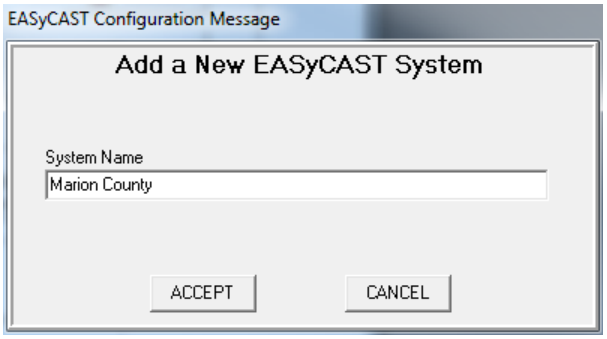
The EASyCAST Configuration software has the ability to maintain multiple configurations in order to communicate with multiple EASyCAST Encdoer/Decoders.



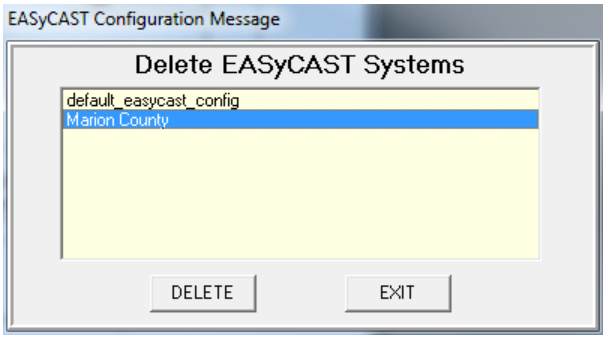
To select an EASyCAST configuration, click the **Select** button on the **Main** tab. From the pop up window, select the desired configuration by clicking on it once, then click the **Accept** button.



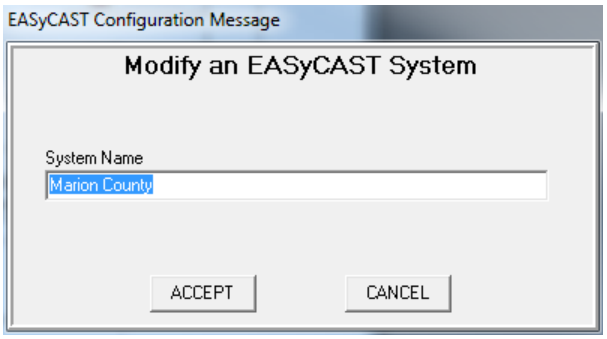
To add a new configuration to the list, click the **Add** button on the **Main** tab. Enter a unique name for the new configuration in the **System Name** field of the **Add a New EASyCAST System** pop up window, then click the **Accept** button.



To delete a configuration to the list, click the **Delete** button on the **Main** tab. From the pop up window, select the desired configuration by clicking on it once, then click the **Delete** button.

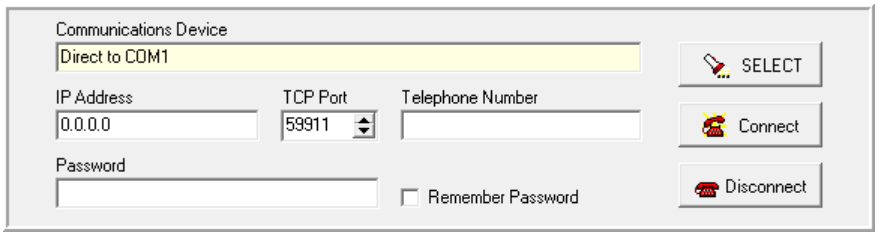


To modify a configuration from the list, click the **Modify** button on the **Main** tab. Enter a new name for the new configuration in the **System Name** field of the **Modify an EASyCAST System** pop up window, then click the **Accept** button.



Connecting to the EASyCAST Encoder/Decoder

The **Communications Device** group provides a means to configure the connection between the EASyCAST Configuration software and the EASyCAST. The three communications mediums are: Serial, Modem, and Ethernet.



Enter the IP address of the selected EASyCAST in the **IP Address** text box if connecting via Ethernet.

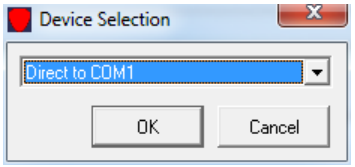
Enter the **TCP Port** that will be used to communicate with the EASyCAST (the default value is 59911).

If connecting via Modem, enter the modem telephone number of the selected EASyCAST in the **Telephone Number** text box.

A **Password** must be entered to gain access to an EASyCAST. The default password is **Administrator**. Checking the Remember Password box will alleviate the need to enter the password every time before connecting to the EASyCAST.

Select the communications protocol by clicking the **Select** button and choosing either **Serial/Modem** or **Ethernet**.

- **Serial/Modem** - If **Serial/Modem** was selected, the **Device Selection** pop up window will appear next. From the pull down list, select the desired modem or COM port, then click the OK button. A valid telephone number must be entered in the **Telephone Number** text box if connecting via Modem.
- **Ethernet** - In order to connect via Ethernet, a valid IP address must be entered in the **IP Address** text box.



NOTE

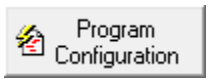
Only modem connections require that the Connect button be clicked; otherwise the program automatically connects and disconnects as-needed.

Connect to the selected EASyCAST by clicking the **Connect** button. A message at the bottom of the window will indicate the status of the connection.

Disconnect from the selected EASyCAST by clicking on the **Disconnect** button.

Program Configuration

The EASyCAST configuration software does not update the encoder/decoder in real time, meaning that any changes made within the configuration software must be sent to the EASyCAST before they will take effect. This is accomplished by clicking the **Program Configuration** button on the **Main** tab.



Retrieve Configuration

The configuration parameters for the selected EASyCAST can be downloaded to the EASyCAST Configuration software. To download the EASyCAST's configuration parameters to the Configuration software, click the **Retrieve Configuration** button.

Setting the EASyCAST Time

The EASyCAST's internal time can be set by synchronizing it with the computer on which the EASyCAST Configuration software is installed.

To synchronize the EASyCAST's internal clock with the PC's clock, click the **Set Time** button, on the **Main** tab.

This method of time keeping for the EASyCAST requires that the host computer's clock be monitored for accuracy, and that the synchronization process is repeated often to ensure that the EASyCAST's time remains accurate.

Refer to Chapter 5: EASyCAST Configuration, The Interfaces Tab, NTP Settings for information on synchronizing the EASyCAST's internal clock with an NTP server.

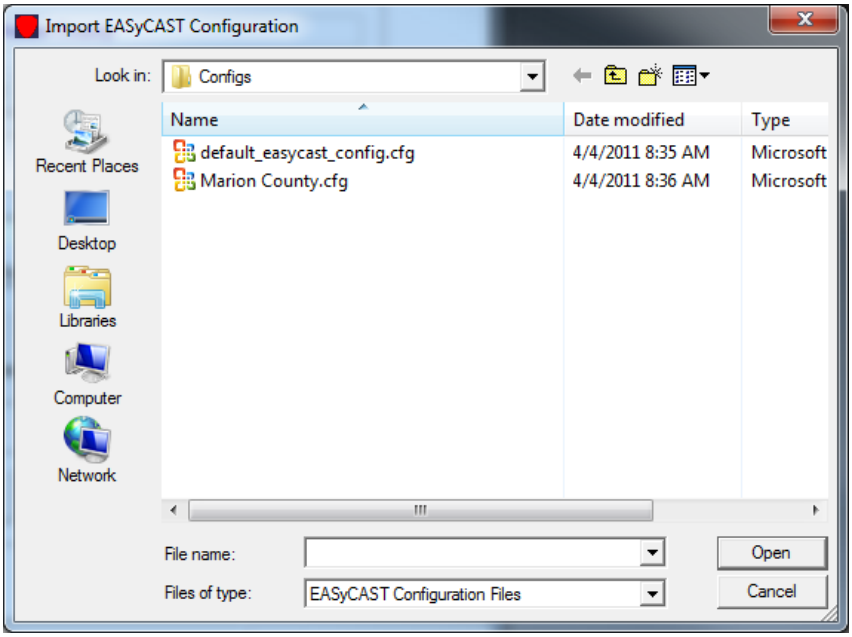
Exporting Configuration Files from the Selected EASyCAST

The configuration for an EASyCAST can be saved to a file for backup or transport.

To export a configuration file, first select the system as described in ***Chapter 5: EASyCAST Configuration, The Main Tab***.

1. On the **Main** tab, click the **Export Configuration** button.

2. The **Export EASyCAST Configuration** window will appear; navigate to the folder that the configuration file will be saved to. Type a name for the file, then click the **Save** button to export the configuration file.



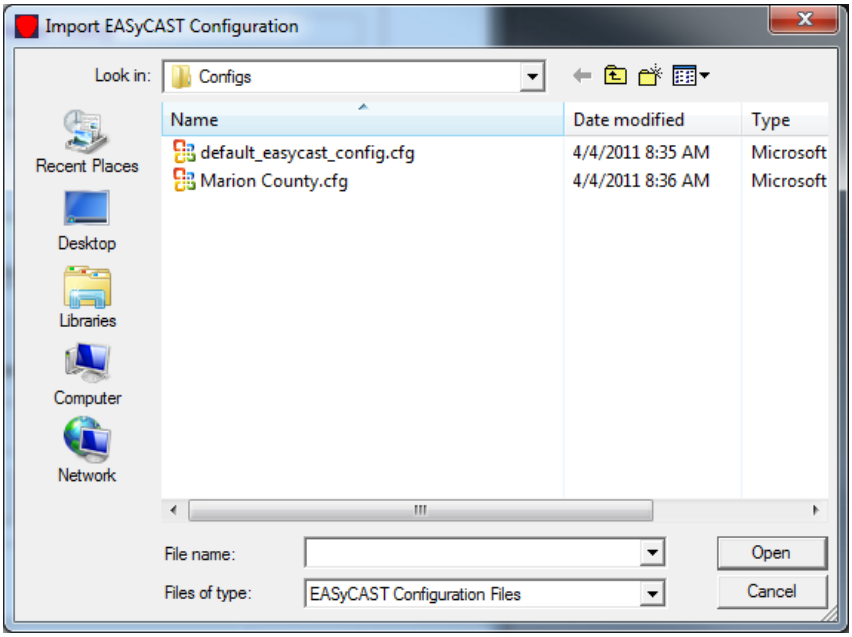
Loading Configuration Files to the Selected EASyCAST

Previously saved configuration files can be loaded in to the EASyCAST Configuration software.

To load a configuration file, first select the system as described in ***Chapter 5: EASyCAST Configuration***, ***The Main Tab***.

1. On the **Main** tab, click the **Import Configuration** button.

2. A **File Open** window will appear; navigate to the configuration file . Select the file then click the **Open** button to load the configuration file.

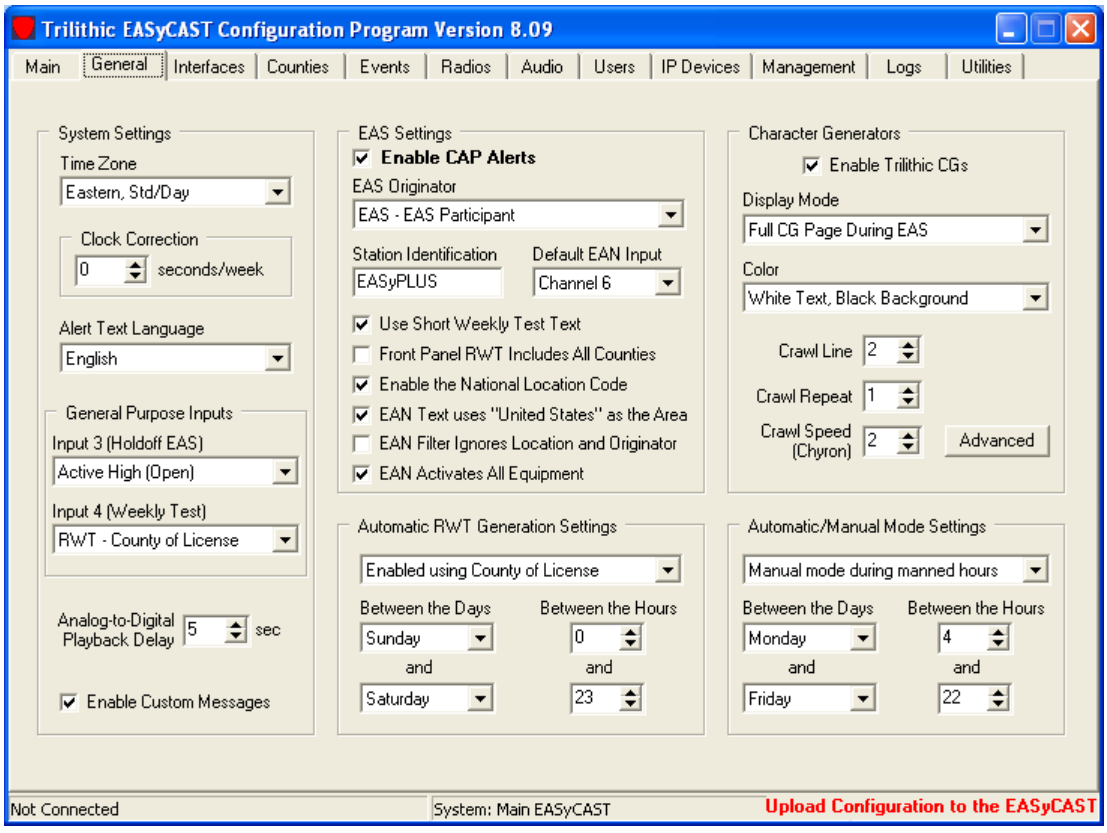


The General Tab

The **General** tab contains settings for the basic interfaces of the EASyCAST Encoder/Decoder, as well as miscellaneous controls that affect its behavior.

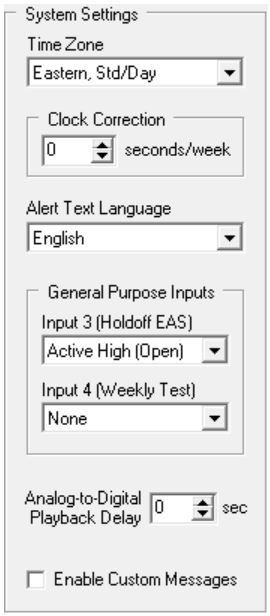
NOTE

Changes made on the General tab will have no effect on the EASyCAST until the settings are uploaded by clicking the Program Configuration button on the Main tab.



System Settings

The **System Settings** group contains miscellaneous controls for the EASyCAST program.



1. **Time Zone** - Select the time zone that the EASyCAST resides in.
2. **Clock Correction** - Adjust the value in the clock correction control box to automatically compensate for clock drift. Changing this setting is not recommended if the EASyCAST is monitoring a Network Time Protocol (NTP) server.
3. **Alert Text Language** - Use the pull-down list to select the language used for alert text.
4. **COM2 Message Protocol** - Use the pull-down list to select the protocol used by the COM 2 serial port when communicating with external character generators (or other devices).
5. **Analog-to-Digital Playback Delay** - Enter the time in seconds to delay the analog playback after network alerts are delivered.
6. **Enable Custom Messages** - With this check box selected, the EASy Custom Messaging program can access and control the EASyCAST.

General Purpose Inputs

The general purpose inputs are used to control the EASyCAST.

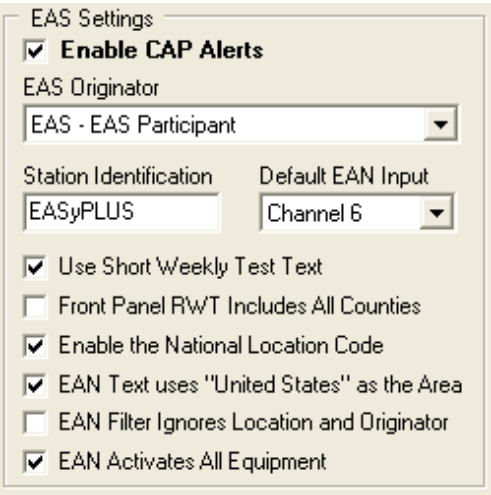
1. **Input 3 (Holdoff EAS)** - Input 3 is used for commercial insertion equipment to prohibit the EASyCAST from sending alerts during a commercial. The **Active High (Open)** option should be selected when input 3 will not be used. The **Active Low (Closed)** option should be selected when a closed contact will be used to prohibit EAS messages from being sent.
2. **Input 4 (Weekly Test)** - Input 4 is used to allow external equipment to trigger a required weekly test. Select an **RWT** option if the EASyCAST is connected to a switch or a contact closure that will trigger the required weekly test. Select the **None** option if input 4 is not connected.

NOTE

Inputs 1 and 2 are both active low, connect the input pin to its corresponding ground pin activate the function. Input 1 will abort an alert that is in progress. Input 2 will trigger an alert that has been received and is waiting to be transmitted.

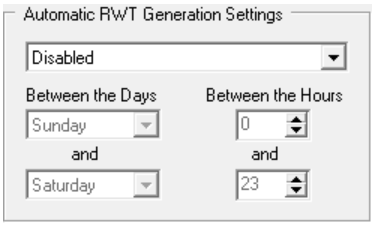
EAS Settings

The **EAS Settings** group is used to configure information that is included in outgoing EAS messages.



- **Enable CAP Alerts** - Allows the EASyCAST to receive CAP messages from EASyCAP series software or hardware.
- **EAS Originator** - Select the appropriate originator code for your system (default is “EAS participant”).
- **Station Identification -** Enter a unique identifier (up to 8 characters) for the EASyCAST.
- **Default EAN Input** - Uses the audio from an audio input when an EAN is received via CAP rather than the audio resource included in the CAP message. This allows for live interaction from station personnel, or use of dedicated audio for the EAN.
- **Use Short RWT Text** - A short message will be used for Required Weekly Tests. For example: “A Required Weekly Test has been issued by an EAS Participant”.
- **Front Panel RWT Includes All Counties** - Include all configured counties when encoding an RWT from the front panel menu. If disabled, only the county of license will be included.
- **Enable the National Location Code** - Enables the use of “000000” as the National Location code. FIPS code “000000” will be interpreted as the entire United States.
- **EAN Text uses “United States” as the Area** - The effected area shown in the text for an EAN will be “the United States”, regardless of what location codes are received.
- **EAN Filter Ignores Location and Originator** - An EAN will be accepted (and retransmitted) regardless of the received locations and originator code. Warning: enabling this setting goes against FCC EAS regulations, but ensures that the system will always activate if it receives an EAN.
- **EAN Activates All Equipment** - All equipment will be activated for an EAN, regardless of any configured location routing.

Automatic RWT Generation Settings



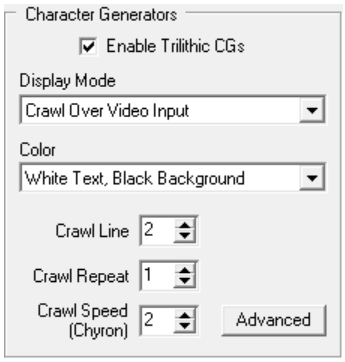
In the Automatic RWT Generation Settings group, set the parameters for automatic generation of Required Weekly Tests. It is desirable to manually generate the RWT once a week, on a different day and at a different time, from one week to the next. If manual RWT generation is not possible, set the EASyCAST Configuration software to perform an automatic RWT.

- **Disabled** - Select this option if the Required Weekly Test will be manually generated.
- **Enabled Using County of License** - Select this option to automatically encode an RWT every week using the county of license as the FIPS code.
- **Enabled Using Selected Counties** - Select this option from the pull-down list to encode RWT messages with all of the configured counties.

Using the **Between the Days** and **Between the Hours** pull-down lists, specify a span of days and hours in which the RWT will be generated. Precise scheduling is not permitted in order to assure compliance with FCC regulations. The EASyCAST will schedule an RWT to be transmitted each week between (and including) the days and hours specified. It also guarantees that a different time and day are used each week.

Character Generators

The EASyCAST can display EAS translation text on supported character generators. It also has the ability to display simple station identification text once an hour on the optional internal character generator.



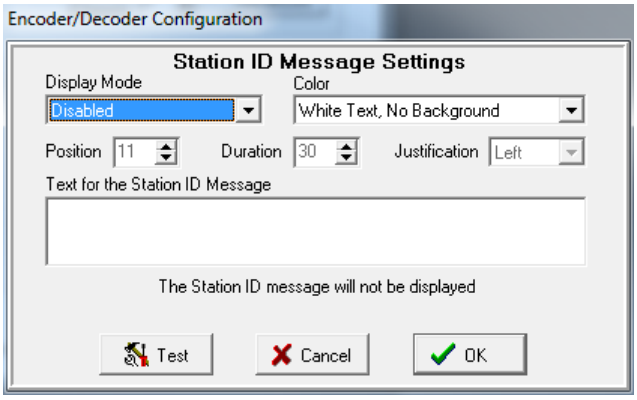
1. Select the **Enable Trilithic CGs** check box to activate the internal character generator and the communication interface for external Trilithic character generators.
2. Use the **Display Mode** pull-down list to select the video overlay mode for the character generators. The modes function as follows:
   - **Crawl Over Video Input -** This option allows video to be inserted at the input to the internal character generator. EAS text will crawl over this video.
   - **Full CG Page Always -** This option does not allow the video input to be seen at the video output.
   - **Full CG Page During EAS -** This option loops the video input through to the video output, except when an EAS message is in progress, at which time the EAS page is seen at the output.
3. Use the **Color** pull-down list to select a color scheme for the crawl text.
4. Use the **Crawl Line** control box to select the area in which an EAS crawl will be shown. **1** is at the top of the screen; **11** is at the bottom of the screen.
5. Use the **Crawl Repeat** control box to specify the number of times that the EAS message will be displayed. The number of repeats will affect the total duration of the message. The message can be repeated up to **9** times.
6. If a Chyron character generator is connected to the EASyCAST's serial port, the **Chyron Speed** control box is used to set the speed of the crawl text. **1** is the slowest speed; **9** is the fastest speed.

NOTE

With the exception of Chyron speed, all of the controls in the Character Generators group pertain to Trilithic character generators only.

Advanced CG Configuration

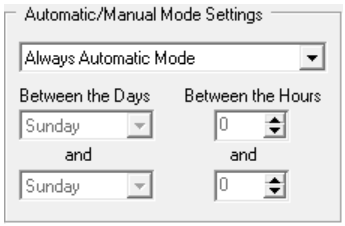
The EASyCAST Configuration software allows a custom station identification message to be displayed every 60 minutes at the top of the hour. To configure the station identification message, click the **Advanced** button in the **Character Generators** group.



1. Use the **Display Mode** pull-down list to select **Disabled**, **Display as a Caption**, or **Display as a Crawl**.
2. Use the **Color** pull-down list to select a color scheme for the text.
3. Use the **Position** control box to set the vertical location of the text message on the screen. **1** is at the top of the screen; **11** is at the bottom of the screen.
4. Use the **Duration** control box to set the time, in seconds, that the caption (if selected) will be displayed.
5. Use the **Justification** pull-down list to set the caption location (**left**, **center**, or **right** justified).
6. Enter the text that will be displayed as the station identification message in the **Text for the Station ID Message** text field.

After entering the configuration, click the **Test** button to display the station identification. Click the **OK** button to confirm the new configuration.

Automatic/Manual Mode Settings



The Automatic/Manual Mode Settings group allows the operator to specify whether or not the station has operators on-site, controlling the EASyCAST. Automatic or Manual modes will determine how the EASyCAST handles message forwarding.

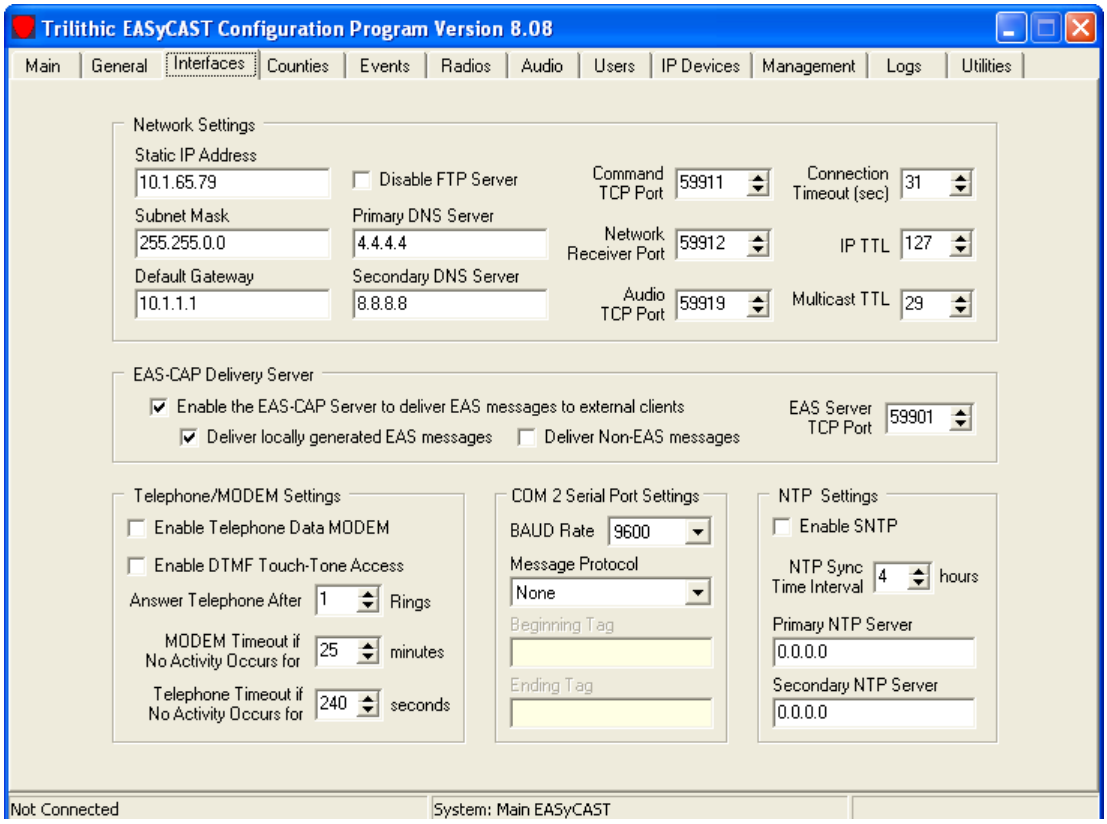
1. **Operation Mode -** This pull-down list is used to select the default forwarding mode of the EASyCAST:
   - **Always Automatic Mode -** Select this mode if the station is unmanned and there is no operator intervention in EAS message handling.
   - **Always Manual Mode -** Select this mode if the station is manned and there is operator intervention in EAS message handling.
   - **Manual Mode During Manned Hours -** Select this mode if the station is manned for part of the day (from 8:00 AM to 5:00 PM, for example), and is unmanned for part of the day. The days and hours in which the station is manned can be set in step 2.
2. Using the **Between the Days** and **Between the Hours** pull-down lists, specify a span of days and hours (in 24-hour time) in which the station is manned. Days and hours outside of the specified time frame are considered to be **Automatic Mode**.

NOTE

If the Set Mode to Manual or Set Mode to Automatic buttons on the Utilities tab are selected, the current operation mode will be overridden until the next scheduled mode change takes place, or until an operator manually changes the operation mode.

The Interfaces Tab

The Interfaces tab is used to set up the basic network and telephone configuration for an EASyCAST Encoder/Decoder that contains the Ethernet/modem (EASyNIC) option.



NOTE

Changes made on the Interfaces tab will have no effect on the EASyCAST until the settings are uploaded by clicking the Program Configuration button on the Main tab.

NOTE

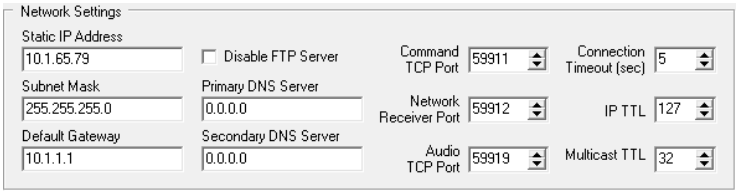
Changes made on the Interfaces tab require the EASyCAST to be rebooted to take effect. The EASyCAST may be rebooted using the Reset Hardware button on the Utilities tab.

NOTE

The IP address, subnet mask, default gateway, and command TCP port can be programmed using the Program IP Settings button on the Utilities tab. The EASyCAST must be rebooted after programming for changes to take effect.

Network Settings

The **Network Settings** group is used to configure the optional Ethernet interface for communication over a network.



1. Enter the **Static IP Address** of the EASyCAST.
2. Enter the **Subnet Mask**.
3. Enter the **Default Gateway** for the network.
4. Enter the configuration port number of the EASyCAST in the **Command TCP Port** box (The default value is 59911).
5. Enter the **Connection Timeout** (in seconds), after which the EASyCAST will disconnect from an unresponsive TCP connection.
6. Enter the port number, if any, which will be used for the EASyCAST to receive EAS alerts from EAS Network Receivers in the **Network Receiver Port** text box. (The default value is 59912)
7. Enter the **IP TTL** (time to live) value for TCP and unicast UDP.
4. Enter the port desired to receive audio from EASyCAP series software or devices in the **Audio TCP Port** box (The default value is 59919).
7. Enter the **Multicast TTL** value (maximum hops for multicast UDP packets).
8. If the **Disable FTP Server** option is selected, the internal FTP server will not be run once the EASyCAST is rebooted. This prevents new firmware from being uploaded. It also prevents preview audio and text from being retrieved.
9. Enter the IP addresses of the primary and secondary **DNS Servers**. If no domain name server is needed, set the values to **0.0.0.0**.

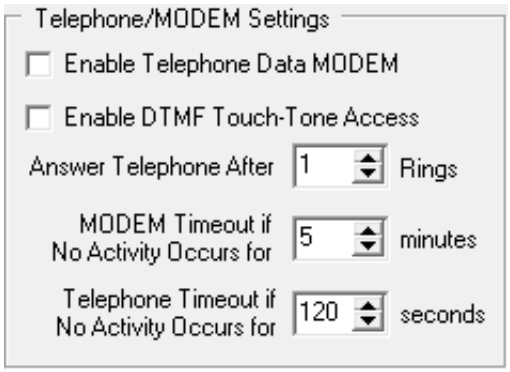
EAS-CAP Delivery Server Settings

The **EAS-CAP Delivery Server** group provides settings for delivering messages to external servers via an HTTP interface. The EASyCAP Encoder/Decoder and Integrated Server use this interface to receive EAS messages from the EASyCAST.

Note that this feature must be licensed before it's operational.

1. Select the **Enable the EAS-CAP Server to deliver EAS messages to external clients** check box to enable the server interface.
2. Select the **Deliver locally generated messages** check box to deliver messages that are locally generated. This includes messages manually originated by an operator or messages automatically generated by the EASyCAST (random RWT messages).
3. Select the **Deliver Non-EAS messages** check box to deliver custom (not EAS) messages.
4. Enter the TCP port used to deliver messages in the **EAS Server TCP Port box.** The default value is 59901.

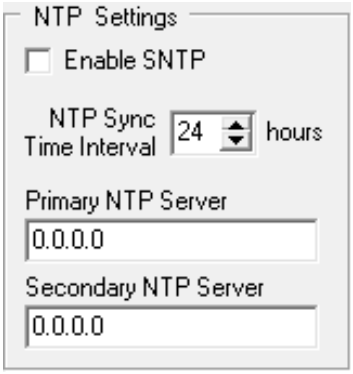
Telephone / Modem Settings



The **Telephone/MODEM Settings** group is used to configure the optional telephone interface of the EASyCAST Encoder/Decoder. This interface is used for voice and data communications over standard analog (POTS) telephone lines. The most common use for this interface is local emergency management access to the EASyCAST.

1. Select the **Enable Telephone Data MODEM** check box to enable data communication.
2. Select the **Enable DTMF Touch-Tone Access** check box to enable voice access to the EASyCAST using a telephone.
3. **S**et the **Answer Telephone After** control box for the number of telephone rings to allow before the modem answers the incoming call.
4. Set the **MODEM Timeout if No Activity Occurs for** control box to the time, in seconds, until the modem disconnects from an idle (no data has been transmitted) connection.
5. Set the **Telephone Timeout if No Activity Occurs for** control box to the time, in seconds, until the telephone interface disconnects if no buttons are pressed on the telephone.

NTP Settings



EAS messages use a time stamp to help determine if messages should be retransmitted. An accurate EAS clock is crucial for proper EAS operation. EAS message time stamps are based on the UTC (universal time coordinated) standard, while text displays are based on local time. It is critical that the system time, time zone, and daylight savings settings of the EASyCAST are correct.

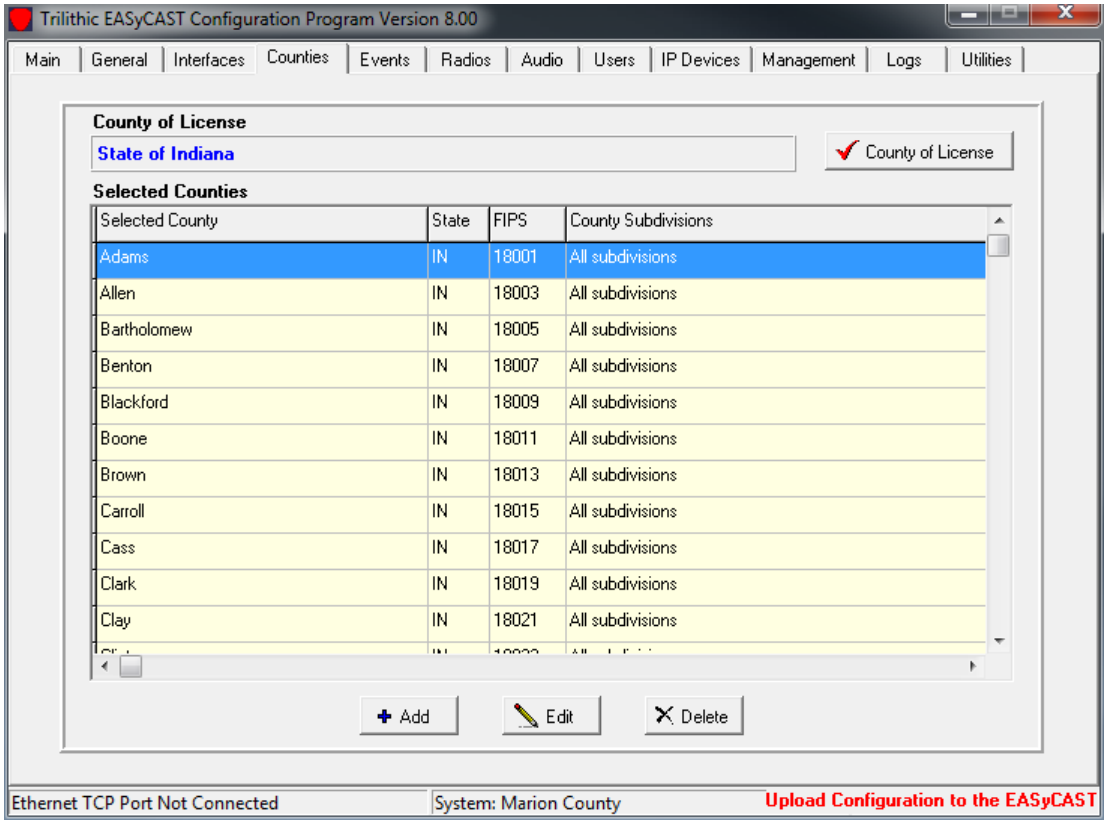
1. Select the **Enable NTP** check box to allow the EASyCAST to update its internal clock via an NTP server.
2. Select the **NTP Time Sync Interval** (in hours) for the EASyCAST to synchronize with the NTP server.
3. Enter the IP address of the **Primary NTP Server**.
4. Enter an IP address for a **Secondary NTP Server**, if available.

The Counties Tab

Every EAS message contains location information that is used by the EASyCAST to decide whether to retransmit a message that has been received by a monitored radio station. The counties that the system serves must be included in the county list. Nearby counties may be included as well. The term “county” is used loosely, and may be a city or other area specified in the FIPS standard used in EAS.

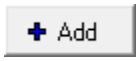
NOTE

Changes made on the Counties tab will have no effect on the EASyCAST until the settings are uploaded by clicking the Program Configuration button on the Main tab.

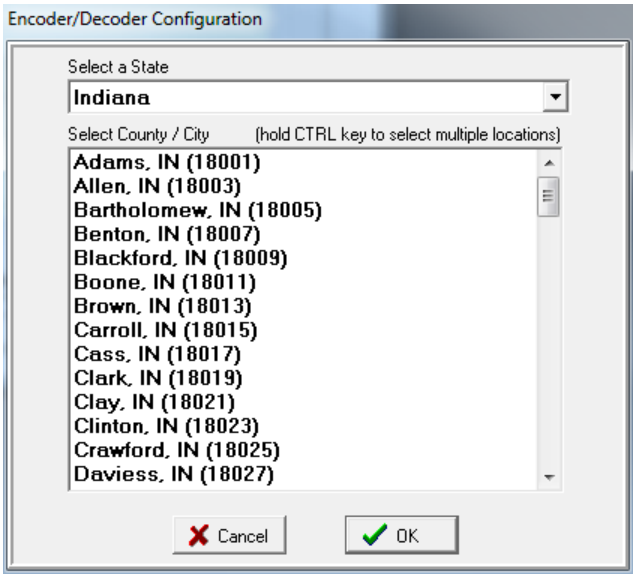


Add a County to the EASyCAST Active Counties List

1. Click the **Counties** tab at the top of the EASyCAST Configuration window.
2. Click the **Add** button.



3. From the pop-up window, select the state that the counties reside in from the **Select a State** pull-down list.
4. Locate the county to be added, then click the **OK** button. The county will appear in the **Selected Counties** list.



NOTE

Multiple counties can be selected by holding the Control (CTRL) key while clicking on each county name.

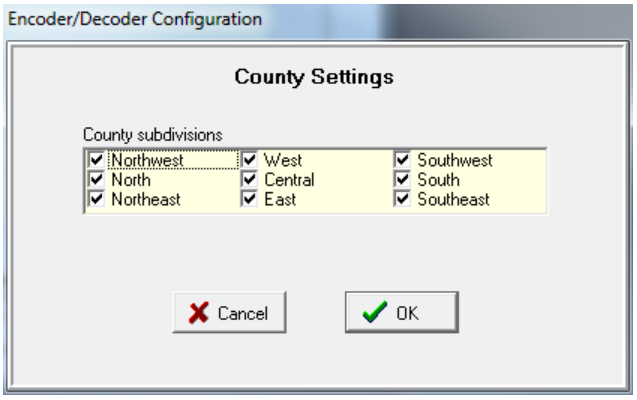
Configure County Subdivisions

NOTE

Use of County Subdivisions is rare and must be specified in the EAS State Plan and approved by the FCC. Trilithic recommends that all subdivisions within a county be left in the default (active) state.

1. Select a county from the **Selected Counties** list to be configured by clicking on the county name.
2. Click the **Edit** button.

3. From the pop-up **County Settings** window, use the check boxes to select which regions of the county will be processed. Disabling a **County Subdivision** will prevent the EASyCAST from transmitting EAS messages received for that specific **County Subdivision**.
4. After selecting the county subdivisions, click the **OK** button.

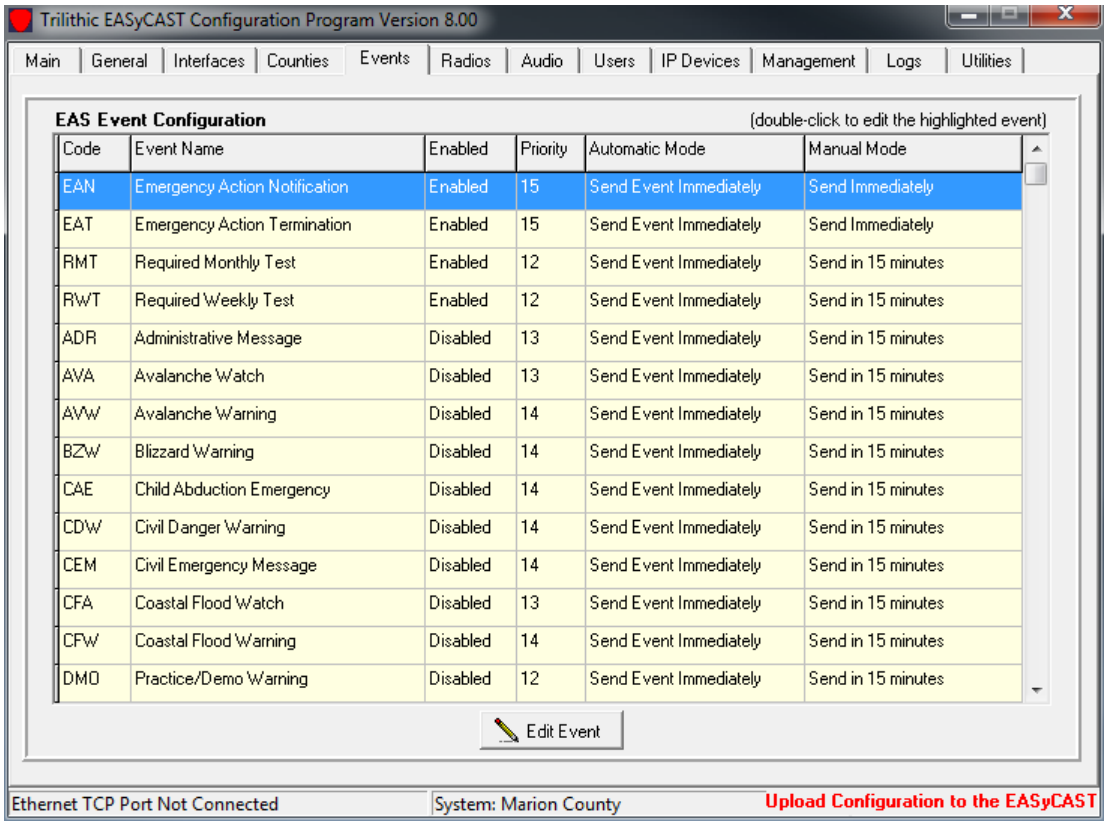


Delete a County from the Active Counties List

1. Select the county to be removed from the **Selected Counties** list by highlighting the county name.
2. Click the **Delete** button at the lower-right corner of the window to remove the county from the list.

The Events Tab

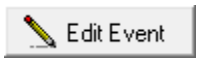
The **Events** tab is where each EAS event (warning type) is enabled or disabled, and the method of sending each event is configured. An event is identified with a three-letter code in the EAS protocol that provides a generic description of a federal, civil, or weather-related hazard condition (or test). By configuring each of the events, the EASyCAST administrator can choose which hazards are important enough to interrupt the broadcast.



Enabling and Configuring an Event

The **EAS Event Configuration** list contains the FCC-specified EAS events. It also contains pseudo-events used to configure community access messaging (LA1-LA9).

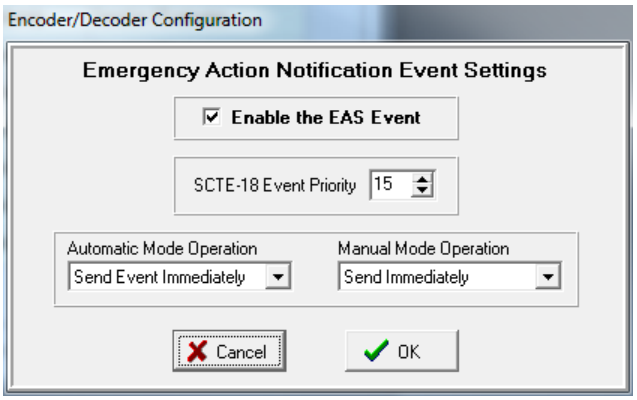
1. To change the configuration of an event, either double-click the event or highlight the event then click the **Edit Event** button.



2. From the pop-up window, select the **Enable the EAS Event** check box to allow the EASyCAST to retransmit the event, if received.

   Deselect this check box to prevent the event from being retransmitted.

3. The **SCTE-18 Event Priority** control box configures the priority level for the selected event. This is used by devices receiving SCTE-18 digital messages in order to determine if audio is required.



NOTE

The Automatic Mode Operation and Manual Mode Operation pull-down lists are used to configure the behavior of the event in Automatic (station is unmanned) and Manual (station is manned) conditions. Refer to Chapter 5: EASyCAST Configuration, The General Tab, Automatic/Manual Mode Settings for additional information.

4. In the **Automatic Mode Operation** pull-down list, retransmission of the event can be enabled or disabled. This setting is only used when the EASyCAST is operating in Automatic mode. If **Send Event Immediately** is selected, the EASyCAST will not wait for operator (or automation equipment) confirmation before sending the event. Select **Off - Do Not Send Event** to discard the incoming message.
5. In the **Manual Mode Operation** pull-down list, select the behavior for the event while the EASyCAST is in Manual mode. Any selection other than **Send Immediately** will allow time for an operator (or automation equipment) to retransmit or cancel the message.

NOTE

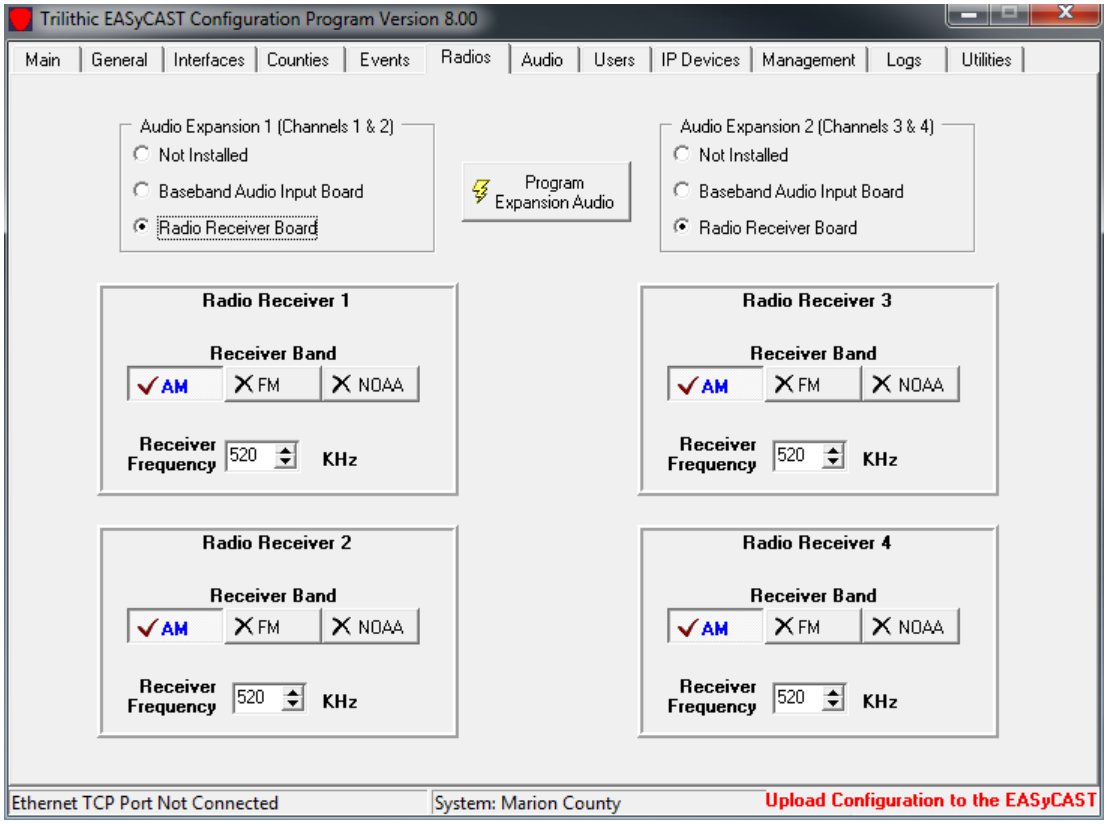
All incoming and outgoing EAS messages are logged, regardless of the configuration.

The Radios Tab

The **Radios** tab allows the configuration of up to four internal radios, their respective bands, and the frequencies on which each radio monitors.

NOTE

Changes made on the Radios tab will have no effect on the EASyCAST until the settings are uploaded by clicking the Program Configuration button on the Main tab.



Radio modules are grouped in pairs. Each of the four radios can tune AM, FM, and National Weather Service radio bands. The radio modules in **Audio Expansion 1** are optional, for use in states that require NOAA monitoring.

Configuring the Radios

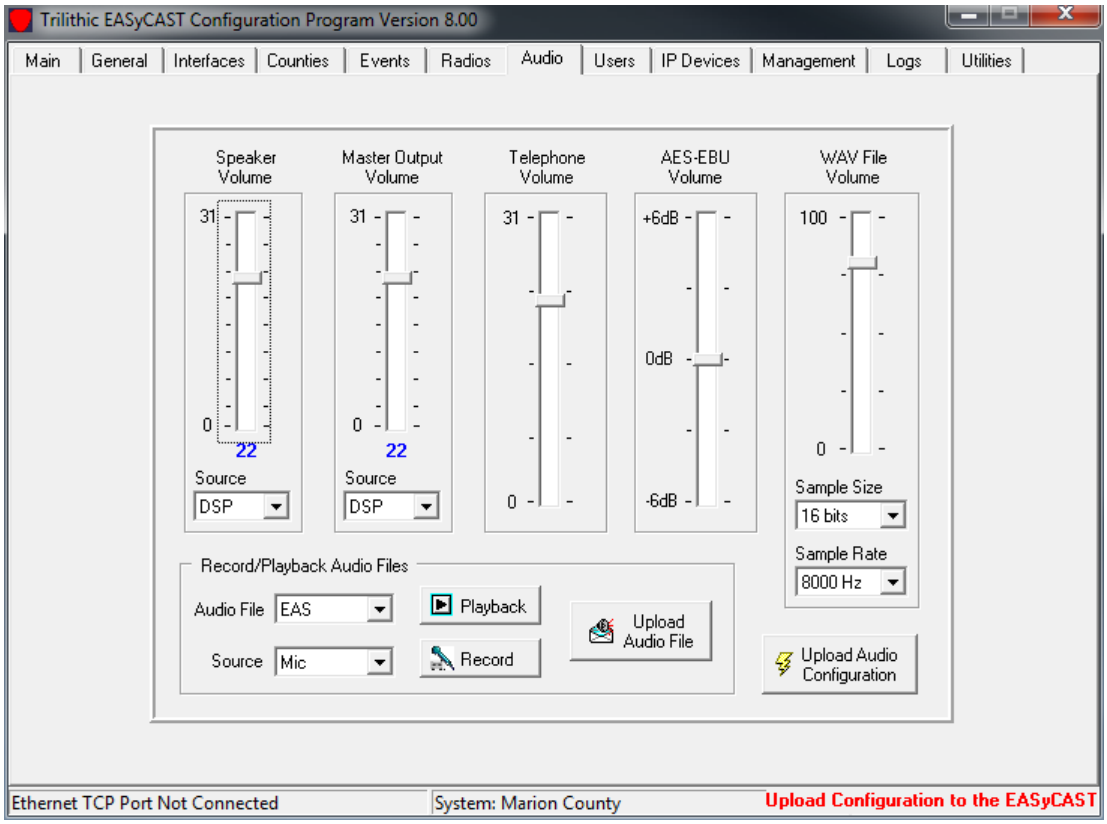
1. In the **Audio Expansion 1 (Channels 1 & 2, optional)** group and in the **Audio Expansion 2 (Channels 3 & 4)** group, select the radio button corresponding to the devices installed in **Audio Expansion 1** and **Audio Expansion 2**, inside the EASyCAST.
2. In each of the available **Radio Receiver** groups, select the radio band corresponding to each of the radio receivers installed in the EASyCAST (AM, FM, or NOAA).
3. In each of the available **Radio Receiver** groups, select the frequency which each radio receiver will tune to. Refer to your state's EAS plan for a list of radio frequencies which should be monitored.
4. Click the **Program Audio Expansion** button to load the settings to the EASyCAST.

The Audio Tab

The **Audio** tab allows configuration of EASyCAST audio volumes, selection of speaker and master output audio sources (for checking radio reception), and recording or playing back internally stored audio messages.

NOTE

For convenience while adjusting audio volume and checking radios, the Upload Audio Configuration button can be used in place of the Program Configuration button on the Main tab.



- **Speaker Volume** - This control is used to set the front panel speaker volume. The front panel speaker is used to allow operators to hear incoming messages that pass retransmit filters, and to hear outgoing messages. It can also be used to verify the quality of incoming signals.
  - **Source** - This control is used to temporarily route an input line to the front panel speaker for verifying incoming audio. For example, setting this control to **CH3**, then programming the configuration will cause the front panel speaker to play the radio 3 input. Return this control to **DSP** and program the configuration when finished checking inputs.
- **Master Output Volume** - This control sets the volume of all EAS audio outputs from the EASyCAST. This includes the volume of the audio switch output.
  - **Source** - This pull-down list is used to temporarily route an input line to audio outputs 1 through 4 on the back of the EASyCAST. The normal position for this control is **DSP**.
- **Telephone Volume** - This control is used to set the desired telephone input volume.
- **AES-EBU Volume** - This control acts as the master output volume for the (optional) AES audio outputs.
- **WAV File Volume** - This pull-down is used to set the volume for WAV files sent to IP devices (Visionary, EAC, Evertz, etc.).
  - **Sample Size** - This pull-down list adjusts WAV files for 8-bit or 16-bit audio resolution.
  - **Sample Rate** - This pull-down list configures the WAV file sample rate for 5500 or 8000 samples per second.
- **Upload Audio Configuration** - This button is used to program audio configuration changes to the EASyCAST.

The **Record/Playback Audio Files** group is used to record audio messages in the EASyCAST. Through this group, audio messages can also be played back to verify the content and quality of the message.

- **Audio File** - Use this pull-down list to select the audio storage section to record or play back. The **EAS** audio section is used for EAS events.
- **Source** - Select the source (microphone or one of the six internal audio inputs) from which the audio will be recorded.
- **Record** - Click the **Record** button and speak into the microphone on the front of the EASyCAST to record a message from the front panel microphone. While the message is being recorded, the **Record** button will change to a **Stop** button. Click the **Stop** button to end the audio tone playback.

- **Playback** - Click this button to play the audio message that has been recorded. While the audio message is playing, the **Playback** button will change to a **Stop** button. Click the **Stop** button to end the audio message playback.
- **Upload** - Click this button to upload an audio file (WAV format) via Ethernet.

Verifying Radio Reception

1. On the **Audio** tab**,** set the **Speaker Volume** to the maximum value by moving the slider to the top of the scale.
2. In the **Source** pull-down list, below the **Speaker Volume** slider, select the audio channel to be verified.
3. Click the **Program Audio Configuration** button to write the new settings to the EASyCAST.
4. Listen to verify that the audio from the radio is clear. The clarity of this audio is fundamental to the operation of the EASyCAST.

Recording an EAS Audio Message

The EAS audio memory segment of the EASyCAST is used during any EAS message other than the Required Weekly Test. Before originating an EAS message (other than a RWT), EAS audio must be recorded in order to prevent the audio from a previous message from being broadcast.

NOTE

In place of recording an audio message, a WAV file may be uploaded to the EASyCAST by selecting EAS in the audio file section; clicking the Upload Audio File button; then selecting the WAV file.

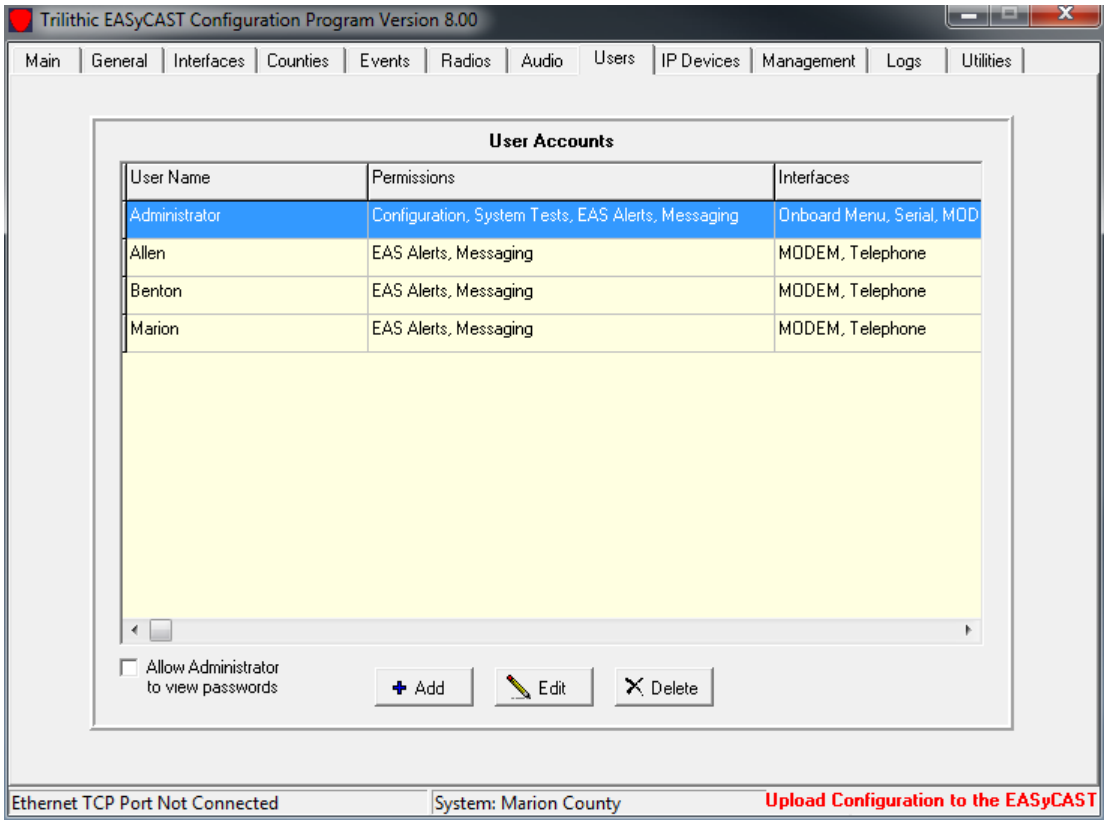
1. In the **Record/Playback Audio Files** group, select **EAS** from the **Audio File** pull-down list.
2. In the **Source** pull-down list, select **Microphone** to record from the microphone built into the EASyCAST front panel, or select **CH5** or **CH6** as necessary if using an external line-level source.
3. Click the **Record** button and speak into the microphone.
4. Click the **Stop** button to end the recording session (the **Record** button changes to the **Stop** button while recording is in progress).
5. Under the **Speaker Volume** slider, select DSP from the **Source** pull-down list then click the **Program Audio Configuration** button.
6. Click the **Playback** button to verify your recording.
7. When playback completes, click the **Stop** button.
8. Repeat steps 3 through 7 as necessary until your are satisfied with the recorded message.

The Users Tab

Access to the EASyCAST Encoder/Decoder is only available to users for which a valid account has been created through the EASyCAST Configuration software.

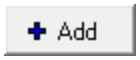
NOTE

Changes made on the Users tab will have no effect on the EASyCAST until the settings are uploaded by clicking the Program Configuration button on the Main tab.

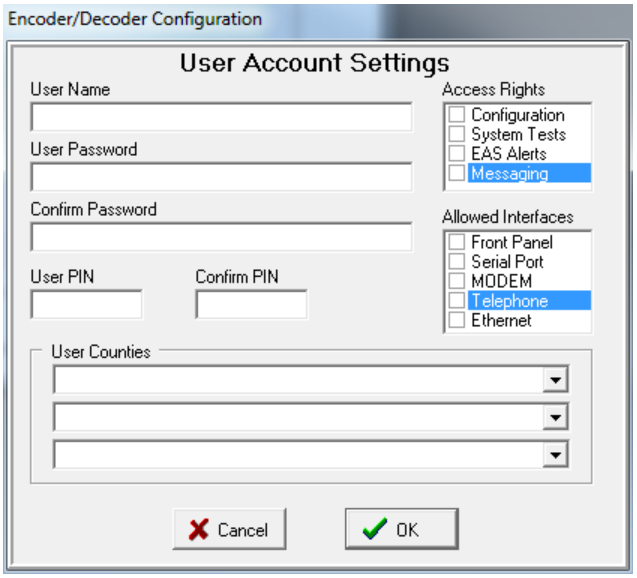


Adding a New User Account

1. To create a new user account, click the **Add** button. The **User Account Settings** pop-up window will appear.



2. Enter a unique **User Name**.
3. Enter a **User Password**.
4. Re-enter the password in the **Confirm Password** text box.
5. Enter a **User PIN** (personal identification number) that the user will use for touch-tone telephone access. The **User PIN** will also be used to access the EASyCAST via the front panel.
6. Re-enter the PIN in the **Confirm PIN** text box.



7. Use the three pull-down **User Counties** lists to select the county or counties to include in EAS messages generated by the user.
8. Select the check boxes which correspond to the features the user will have access to in the **Access Rights** group.
9. Select the communication methods that the user can use in the **Allowed Interfaces** group.

Click the **OK** button to add the new account as entered.

The new user will be displayed in the **User Accounts** group on the **Users** tab.

NOTE

The EASyCAST Configuration software will not allow multiple user accounts to be created with the same password. Each user account must be assigned a unique password.

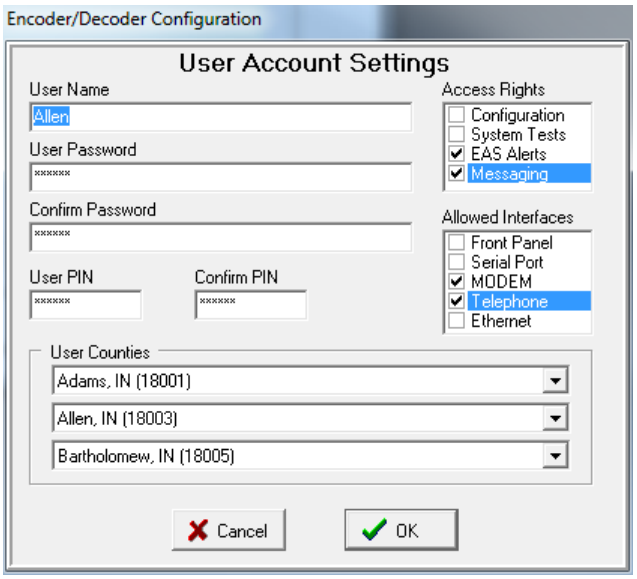
NOTE

The user password must be at least four characters long, cannot be the same as the administrator password, and cannot be "0000."

Modifying an Existing User Account

1. On the **Users** tab, click the user account to be modified.
2. Click the **Edit** button.

   The pop-up **User Account Settings** window will appear.
3. Make any necessary changes to the **User Name**, **User Password**, **User PIN**, **User County**, **Access Rights**, **or Allowed Interfaces**.
4. Click the **OK** button to add the new account as entered.

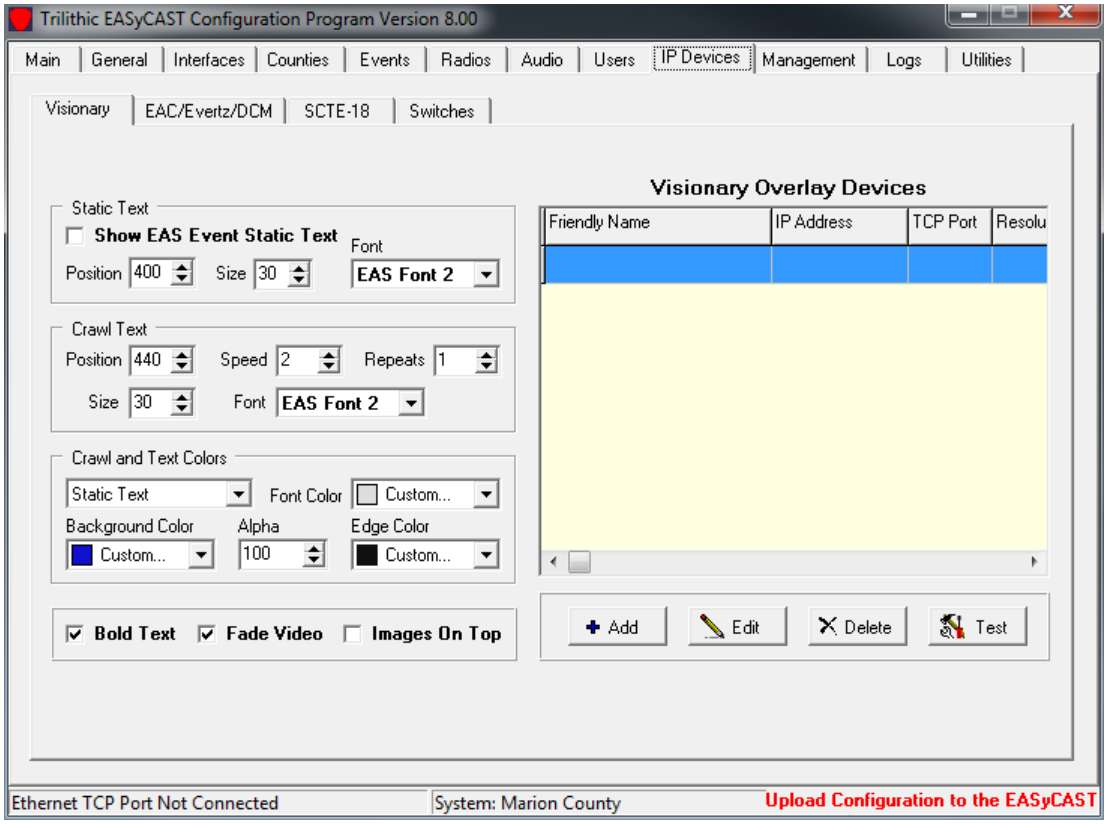


Deleting a User Account

1. On the **Users** tab, click the user account to be modified.
2. Click the **Delete User** button.

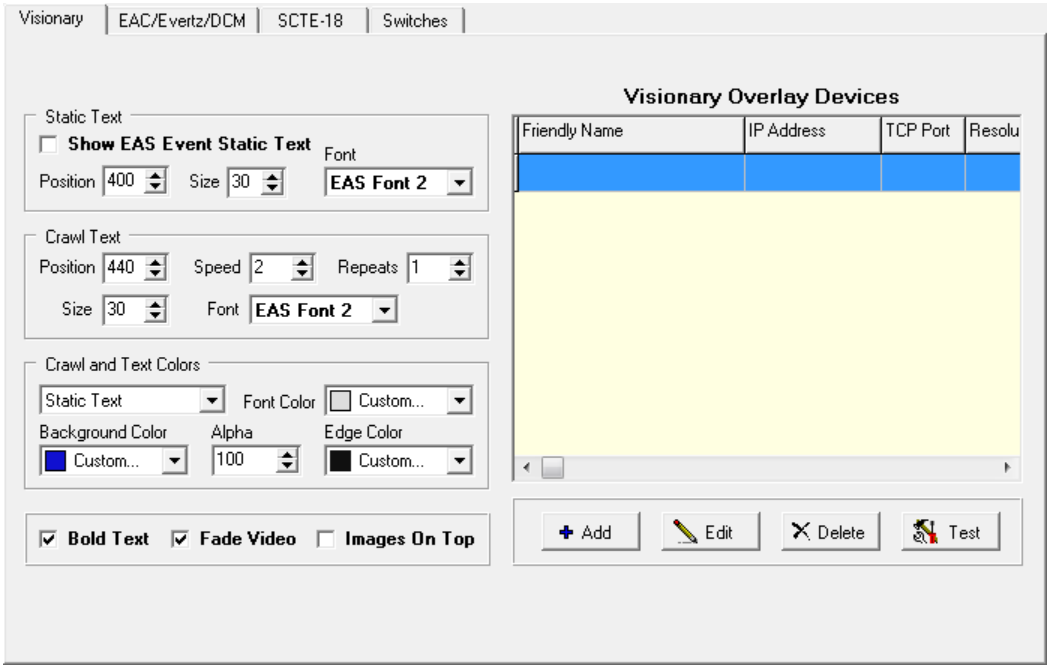
The IP Devices Tab

The **IP Devices** tab is used to configure communications between the EASyCAST Encoder/ Decoder and IP-controlled devices which are needed to air the message. The configuration process for each type of device includes selecting the communications protocol, entering the information needed to establish a connection, and selecting the locations and users that the remote IP device serves.



Configuring a Visionary Device

The **Visionary** tab is used to configure communications between the EASyCAST and the Visionary HD-SDI overlay system. The configuration process includes specifying an IP address, port numbers, display options, and locations that the Visionary serves.



Prior to configuring individual Visionary devices, general parameters for all configured Visionarys must be set. Perform the following general configuration parameters.

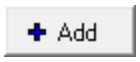
1. Select the **Show EAS Event Static Text** check box if the EAS event name should be shown.
   - Use the **Position** control box to set the vertical location for the EAS text. The top edge of the text is referenced by the location coordinate. **1** is closest to the top of the screen; **479** is closest to the bottom of the screen.
   - Use the **Size** control box to set the size (in points) of the EAS text. **1** is the smallest text size; **40** is the largest text size.
   - Use the **Font** pull-down list to select the font for the EAS text. Each of the three EAS fonts are configured using the Visionary Configuration software. Refer to the Visionary Configuration software manual for instruction in EAS font configuration.

2. The **Crawl Text** group allows adjustment of the movement and font parameters for on-screen display of EAS crawl text.
    - Use the **Position** control box to set the vertical location of the EAS crawl text. The top edge of the text is referenced by the location coordinate. **1** is closest to the top of the screen; **479** is closest to the bottom of the screen.
    - Use the **Speed** control box to set the speed at which the EAS text crawls across the screen. **1** is the slowest speed; **10** is the fastest speed.
    - Use the **Repeats** control box to enter the number of times that the crawl text will be displayed. The text may be repeated as many as **99** times.
    - Use the **Size** control box to set the size (in points) of the EAS text. **1** is the smallest text size; **40** is the largest text size.
    - Use the **Font** pull-down list to select the font for the EAS text. Each of the three EAS fonts are configured using the Visionary Configuration software. Refer to the Visionary Configuration software manual for instruction in EAS font configuration.
3. In the **Crawl and Text Colors** group, set the color display parameters for the on-screen display of EAS crawl and static text. This group allows custom color settings to be applied to each type of EAS alert (watches, warnings, tests, etc.).
    - Use the top-left pull-down list to select the text to be configured. For each item in the list, the color can be set individually.
    - Use the **Font Color** pull-down list to select from a list of colors. Click the color name that will be applied to the selected EAS text.
    - Use the **Background Color** pull-down list to select from a list of background colors. Click the color name that will be applied behind the EAS text.
    - Use the **Alpha** control box to adjust the transparency of the EAS text. Select **100** to render the text as opaque; select **0** to render the text as transparent.
    - Use the **Edge Color** pull-down list to select from a list of colors that will be applied to the edges (outlines) of the EAS text characters.
4. Additional Configuration Options
    - Select the **Bold Text** check box to display the EAS static or crawl text as bold.
    - Select the **Fade Video** check box to cause the EAS static or crawl text to “fade in” and “fade out” when displayed on the screen.
    - Select the **Images on Top** check box to display EAS logos or icons, or station identification logos as the top layer over EAS static or crawl text .

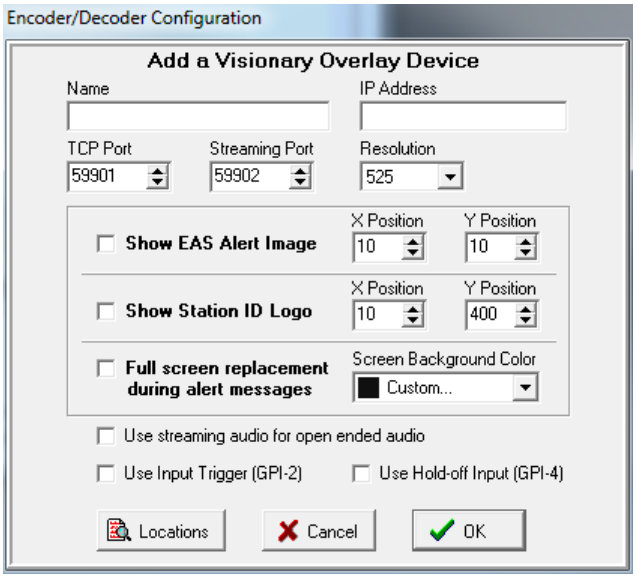
Adding a Visionary Device

To add a Visionary device to the list of managed devices, perform the following procedure.

1. To add a Visionary device to the list, click the **Add** button.



2. In the pop-up **Add a Visionary Overlay Device** window, enter a name in the text box. This will be used to identify the Visionary device.
3. Enter the **IP Address** of the Visionary Overlay device.
4. Enter the **TCP Port** number for communication with the EASyCAST (the default setting is **59901**).
5. Enter the **Streaming Port** number, which allows the EASyCAST to send streaming audio to the Visionary device (the default setting is **59902**).



6. Use the **Resolution** pull-down list to select the default screen resolution of the Visionary.
7. Select the **Show EAS Alert Image** check box to display an on-screen EAS image or icon to accompany the EAS event.
8. Use the EAS Alert Image **X Position** control box to set the horizontal location for the EAS image or icon. **1** is furthest left; **852** is furthest right.
9. Use the EAS Alert Image **Y Position** control box to set the vertical location for the EAS image or icon. **1** is closest to the top of the screen; **479** is closest to the bottom of the screen.
10. Select the **Show Station ID Logo** check box to display an on-screen station identification logo.
11. Use the Station ID Logo Group **X Position** to set the horizontal location for the station identification logo. 1 is furthest left; 852 is furthest right.

12. Use the Station ID Logo Group **Y Position** to set the vertical location for the station identification logo. 1 is closest to the top of the screen; 479 is closest to the bottom of the screen.
13. Select the **Use Streaming Audio for Open Ended Audio** check box to stream audio over the network for messages which do not have a finite message duration (such as a presidential EAN).


NOTE

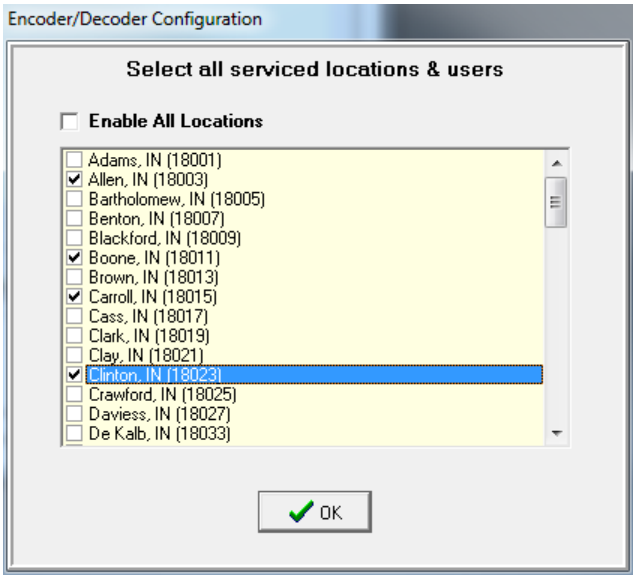
If the EASyCAST and Visionary are installed in the same location, It is preferable to wire the audio output from the EASyCAST to the audio input of the Visionary instead of streaming audio over the network.

14. Select the **Use Input Trigger (GPI-2)** check box to force the Visionary to wait for a contact closure on the Visionary's general purpose input 2 before sending the message.
15. Select the **Hold-Off Input (GPI-4)** check box to force the Visionary to wait for an open condition on the Visionary's general purpose input 4 contact closure prior to sending the message.

16. Click the **Locations** button to display a list of counties.

17. In the pop-up **Select All Serviced Locations & Users** window, select the county or counties that the Visionary device will serve, as well as the users who can activate the Visionary.

    This option will allow each Visionary to serve a different geographical location, and to prevent unnecessary interruption if the message is not intended for the location serviced by the Visionary.



18. Select the check box corresponding to **Enable All Locations** to send all selected events to the Visionary, regardless of locations, and to trigger the Visionary for any community access user.

19. Click the **OK** button to complete the process.

Editing a Visionary Device

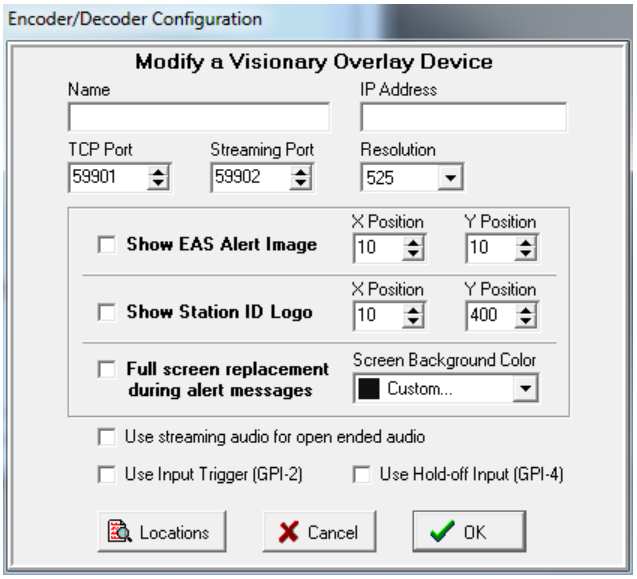
To change the existing Visionary configuration:

1. Select the device in the **Visionary Overlay Devices** list, then click the **Edit** button.

2. The pop-up **Modify a Visionary Overlay Device** window will appear.

   The process to edit a Visionary device is the same as adding a new device, outlined in ***Chapter 5: EASyCAST Configuration***, ***The IP Devices Tab***, ***Configuring a Visionary Device***, ***Adding a Visionary Device***.

   Refer to the ***Adding a Visionary Device*** section for detailed instructions in editing a Visionary Overlay device.



3. Click the **OK** button to complete the editing process.

Deleting a Visionary Device

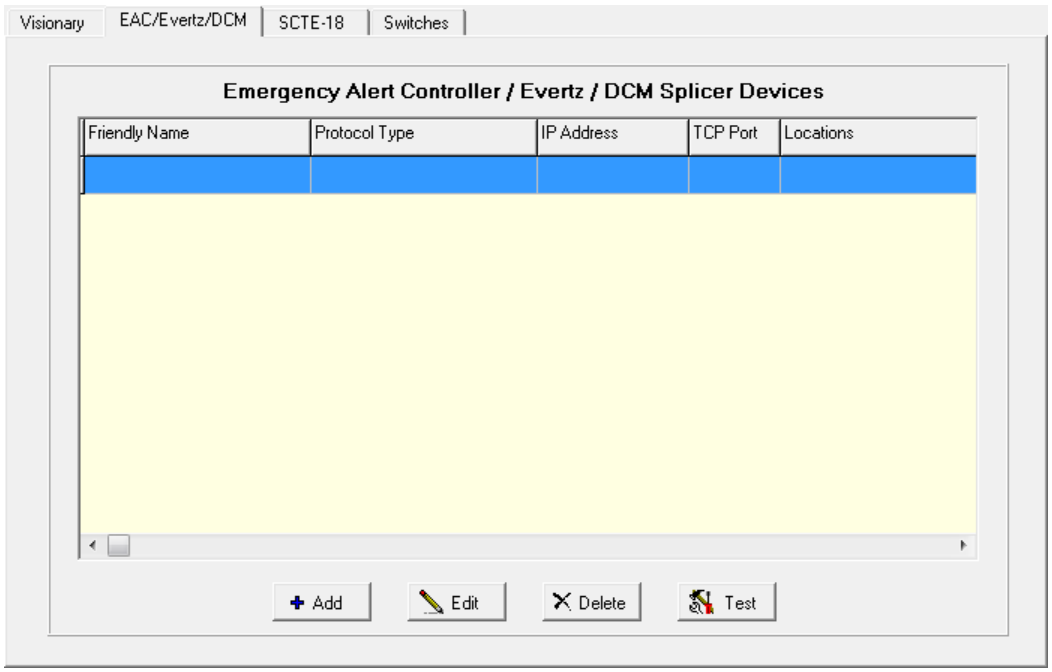
To delete a Visionary configuration, select the device from the **Visionary Overlay Devices** list by clicking on it once, then click the **Delete** button.

Testing a Visionary Device

Click the **Test** button to send a simulated EAS alert to the selected Visionary device. The **Test** button is intended as a setup and troubleshooting tool. It does not replace a legitimate EAS message, nor does it satisfy any legal requirements for EAS testing.

Configuring an Emergency Alert Controller / Evertz / DCM Devices

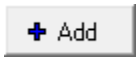
The **EAC/Evertz/DCM** tab is used to configure communications with emergency alert controllers (EACs), middleware servers, and character generators. The configuration process includes selecting a communication protocol, entering the IP and port information, and selecting the locations and users that the EAC serves.



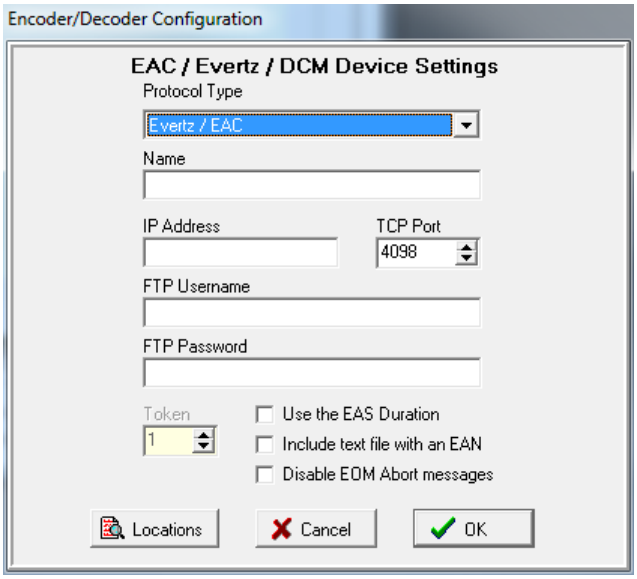
Adding an EAC / Evertz / DCM Device

To add an Emergency Alert Controller, Evertz CG, or DCM Splicer device to the list of devices, perform the following procedure.

1. To add a device to the list, click the **Add** button.



2. In the pop-up **EAC / Evertz / DCM Device Settings** window, select the communication protocol from the **Protocol Type** pull-down list. If an option cannot be edited, it has been set to the only value allowed by the **Protocol Type** selection.
3. Enter a name in the **Name** text box.
4. Enter the **IP Address**.
5. Enter the **TCP Port** number used (the default setting is **4098**).
6. Enter the **FTP Username**.
7. Enter the **FTP Password**.

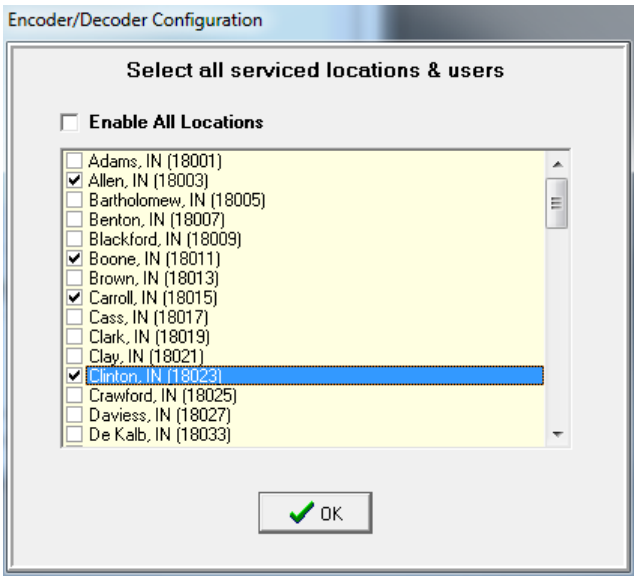


8. If the EAS text protocol is used, enter a number to identify the EASyCAST in the **Token** control box. The token number helps the EAC distinguish between multiple encoder/decoders.
9. If the **Use the EAS Duration** check box is not selected, a value of zero will be sent.
10. Select the **Include Text File with an EAN** check box to transfer the text file containing the EAS crawl text via FTP, prior to initiating the EAN.
11. Select the Disable EOM Abort Messages check box to prevent EASyCAST from sending an EOM when the abort button is pressed. Using the EOM as an abort message is not an official part of the specification and may not be supported by all devices.

11. Click the **Locations** button to select the location that will cause this device to be activated.

12. In the S**elect All Serviced Locations & Users** window, select counties that the device serves, as well as the users the device serves.

    This option will allow each EAC/ Evertz/DCM device to serve a different geographical location, and to prevent unnecessary interruption if the message is not intended for the location serviced.



13. Select the **Enable All Locations** check box to disable location routing and send all messages to the EAC/Evertz/DCM device.

14. Click the **OK** button to accept the configuration.

15. In the **EAC / Evertz / DCM Device Settings** window, click the **OK** button to complete the process.

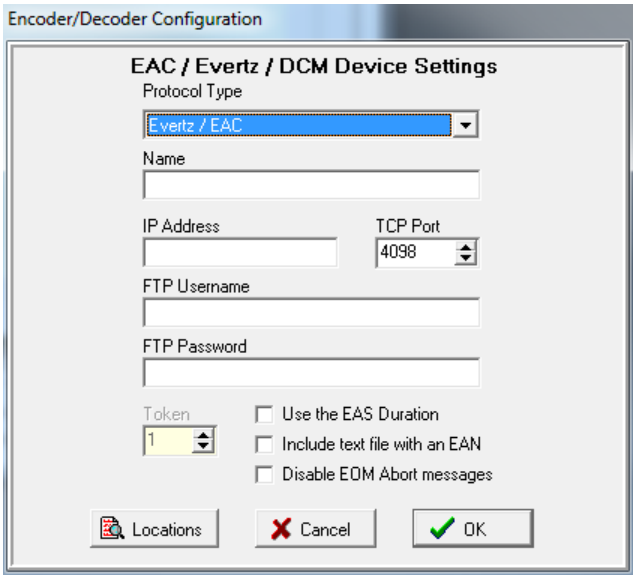
Editing an EAC / Evertz/ DCM Device

To edit an **EAC / Evertz / DCM Devices** in the list,

1. Select the device, then click the **Edit** button.
2. The pop-up **EAC / Evertz / DCM Device Settings** window will appear.

   The process to edit an EAC / Evertz device is the same as adding a new device, outlined in ***Chapter 5: EASyCAST Configuration***, ***The IP Devices Tab***, ***Configuring an EAC / Evertz / DCM Device***, ***Adding an EAC / Evertz / DCM Device***.

3. Click the **OK** button to complete the editing process.



Deleting an EAC / Evertz / DCM Device

To delete an EAC / Evertz / DCM device, perform the following procedure.

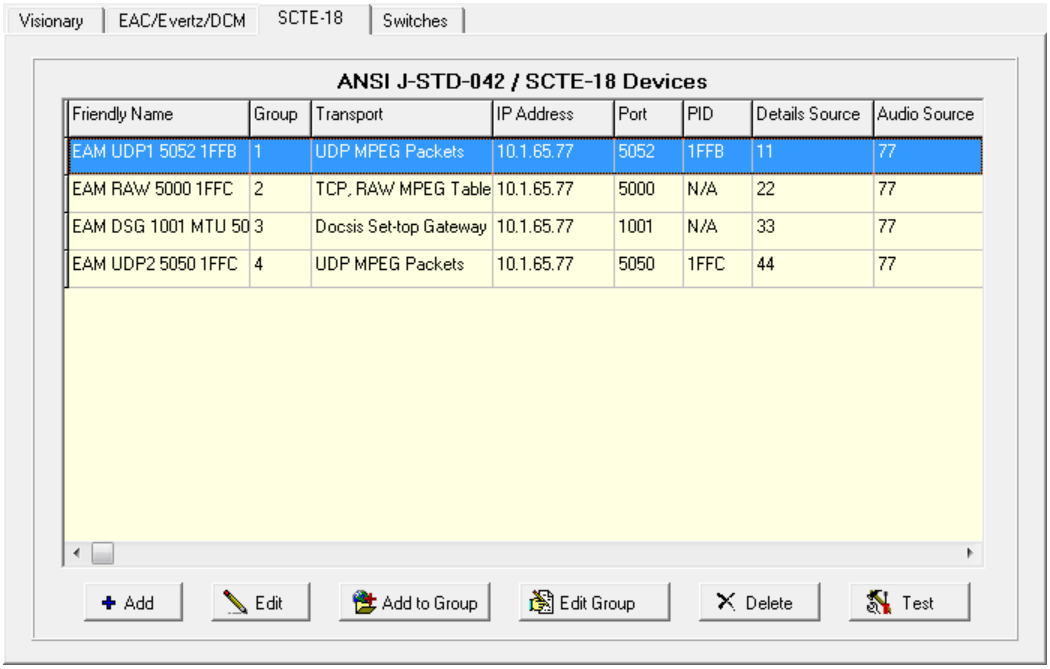
1. Select the device, then click the **Delete** button.
2. A status window will briefly appear; after the window closes, the selected device will no longer be displayed.

Testing an EAC / Evertz / DCM Device

Click the **Test** button to send a simulated EAS alert to the selected EAC / Evertz / DCM device. The **Test** button is intended as a setup and troubleshooting tool. It does not replace a legitimate EAS message, nor does it satisfy any legal requirements for EAS testing.

Configuring an ANSI J-STD-042 / SCTE-18 Device

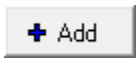
SCTE-18 messages contain all the information in the EAS protocol text, as well as text translation and timing information that downstream devices may use to display a text crawl and time the replacement of audio.



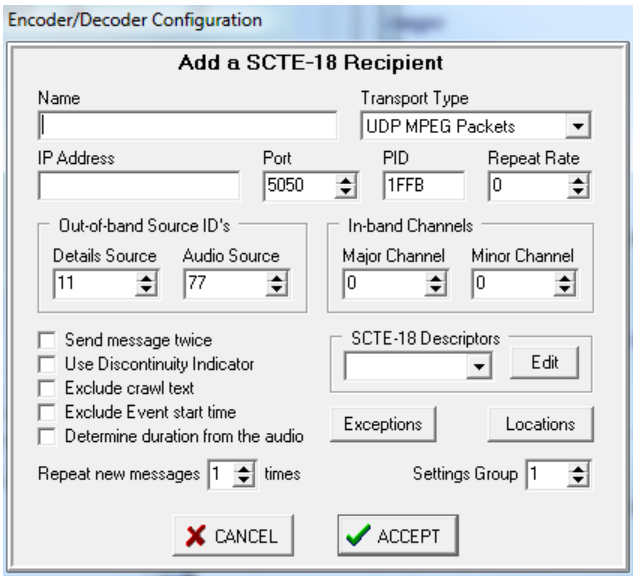
Adding an ANSI J-STD-042 / SCTE-18 Device

To add an SCTE-18 device to the list of devices, perform the following procedure.

1. Click the **Add** button.



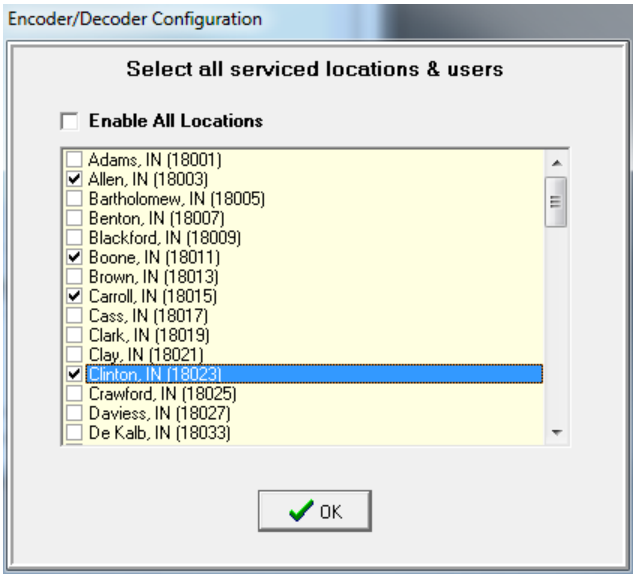
2. In the pop-up **Add an SCTE-18 Recipient** window, enter a name to identify the device in the **Name** text box.
3. Select the data transport protocol from the **Transport Type** pull-down list.
4. Enter the IP address of the SCTE-18 device in the **IP Address** text box.
5. Enter the TCP/UDP **Port** number (the default setting is **5050**).
6. Enter the **PID** (packet ID) for the SCTE-18 message (if using MPEG packets).



7. Select the interval for message repeats with the **Repeat Rate** control box (set the value to 0 for no repeats).
8. Use the **Details Source** control box to provide the out of band source informatoin for the EAS details channel.
9. Use the **Audio Source** control box to provide the information contained in the “audio_OOB_source_ID” field of the SCTE-18 message. Select the source ID from **0** to **65535**. This value is typically set to **0**.
10. Use the **Major Channel** control box to provide the major channel number of the EAS audio/video.
11. Use the **Minor Channel** control box to provide the minor channel number of the EAS audio/video.
12. Select the **Send Message Twice** check box to send the EAS message to the SCTE-18 device twice, with a sequence_number increment in between sends. This helps to insure that recipient devices do not discard the alert due to a duplicate sequence_number.

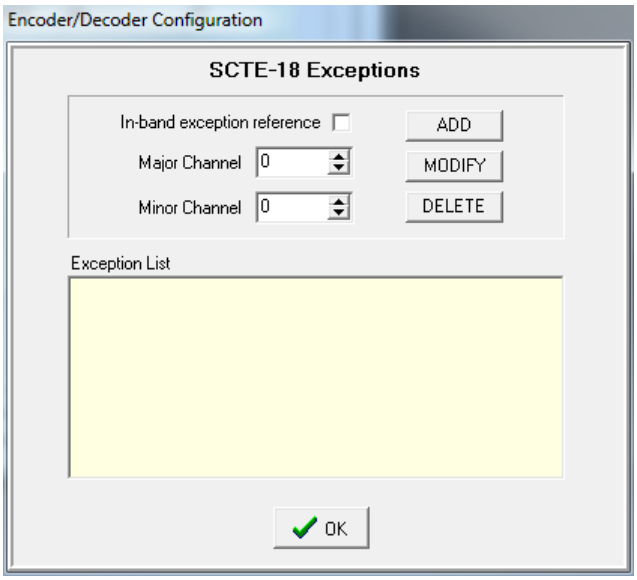
13. Select the **Use Discontinuity Indicator** check box to send a discontinuity indicator at the beginning of each SCTE-18 transmission.
14. Select the **Exclude Crawl Text** check box to prevent the crawl text from being included in the SCTE-18 message.
15. Select the **Exclude Event Start Time** check box to set the SCTE-18 event start time field to zero.
16. Select the **Determine Duration from the Audio** check box to base the alert message time remaining on the length of the audio.
17. The Settings Group control box is used to associate several SCTE-18 devices so that their configurations can be managed as a group. Refer to the ***Adding an ANSI J-STD-042 / SCTE-18 Device to a Group*** section for detailed instructions in adding an ANSI J-STD-042 or SCTE-18 device to a group.
18. Set the **Repeat new messages** value as necessary to send multiple copies of a new EAS message in order to establish an MPEG stream. The continuity_ indicator will be incremented for each packet sent. If a repeat rate is set for the message, this setting will apply for every repeat.
19. Click the **Locations** button to select which counties will activate the SCTE-18 device.

20. The **Select All Serviced Locations & Users** window will appear.
21. Select the location that, when included in the EAS message, should cause this device to activate. This option will allow each device to serve a different geographical location, and prevents unnecessary interruption if the message is not intended for the location serviced by the device.
22. Select the **Enable All Locations** check box to enable the device for all transmitted EAS messages.



23. To accept the changes, click the **OK** button.
24. Click the **Exceptions** button to open a pop-up window to view and edit which channels should not respond to the SCTE-18 message.

25. To add an exception, select **In-Band Exception Reference** if the exception is an in-band designator (source ID). Edit the **Source ID**, or the **Major** and **Minor** channel numbers, then click the **ADD** button.
26. To modify an existing exception, highlight it, change the settings, then click the **MODIFY** button.
27. To delete a configured exception, select the exception from the **Exception List**, then click the **Delete** button.
28. Click the **OK** button to save configuration changes.



29. Click the **Accept** button to complete the process.

Editing an ANSI J-STD-042 / SCTE-18 Device

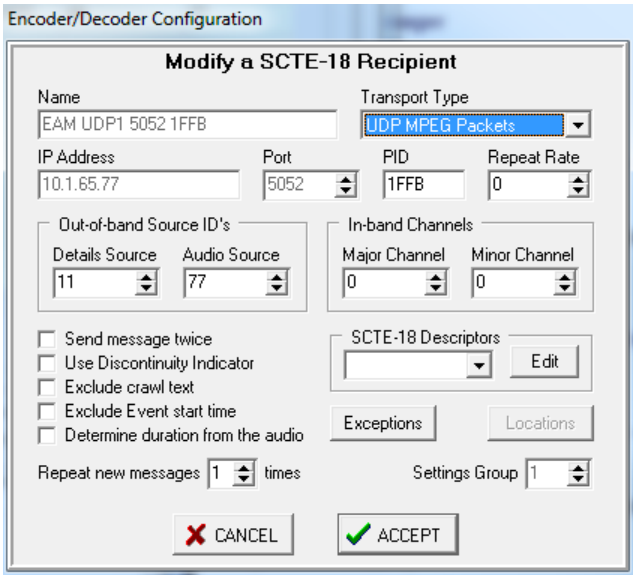
The EASyCAST Configuration software allows for complete management of linked SCTE-18 devices, including the editing of device parameters.

1. To edit an SCTE-18 device in the list, select the device in the **ANSI J-STD-042 / SCTE-18 Devices** list by clicking on it once, then click the **Edit** button.

2. The pop-up **Modify an SCTE-18 Recipient** window will appear.

   The process to edit an SCTE-18 device is the same as adding a new device, outlined in ***Chapter 5: EASyCAST Configuration***, ***The IP Devices Tab***, ***Configuring an ANSI J-STD-042 / SCTE-18 Device***, ***Adding an ANSI J-STD-072 / SCTE-18 Device***.

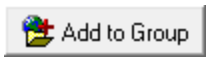
3. Click the **Accept** button to complete the editing process.



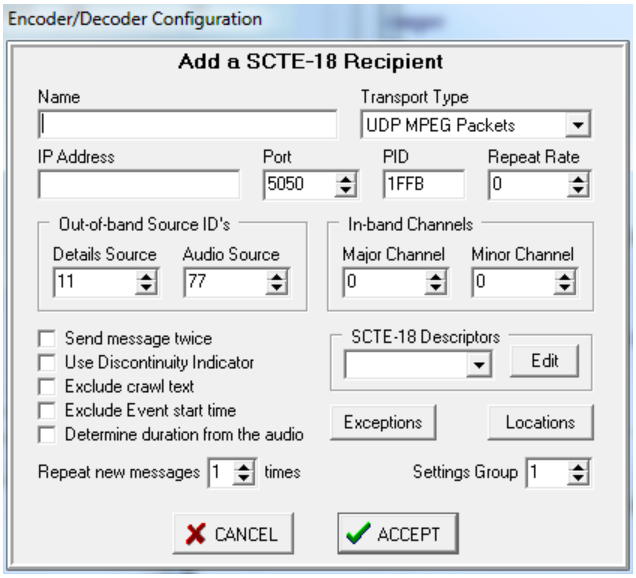
Adding an ANSI J-STD-042 / SCTE-18 Device to a Group

Grouping SCTE-18 devices together allows for configuration changes that will affect all devices in the group, rather than editing the device parameters individually. To add an SCTE-18 device to a group, perform the following procedure.

1. Select an existing device that will be the basis for the device you are adding, then click the **Add Group** button.



2. The pop-up **Add an SCTE-18 Recipient** window will appear.
3. Follow the procedure outlined in ***Chapter 5: EASyCAST Configuration***, ***The IP Devices Tab***, ***Configuring an ANSI J-STD-042 / SCTE-18 Device***, ***Adding an ANSI J-STD-072 / SCTE-18 Device*** to add the SCTE-18 device to a group.



Editing a ANSI J-STD-042 / SCTE-18 Group

Editing device parameters as part of a group allows for configuration changes that will affect all devices in the group.

1. To edit a group of SCTE-18 recipients, first select a device from the **ANSI J-STD-042 / SCTE-18 Devices** list which is a member of the group to be edited (as identified in the *Group* column), then click the **Edit Group** button.
2. The pop-up **Modify an SCTE-18 Recipient** window will appear.

3. Any changes made to the selected device will affect all devices in the group. For detailed instructions perform the process outlined in ***Chapter 5: EASyCAST Configuration***, ***The IP Devices Tab***, ***Configuring an ANSI J-STD-042 / SCTE-18 Device***, ***Editing an ANSI J-STD-042 / SCTE-18 Device***.
4. Click the **Accept** button to complete the editing of an ANSI J-STD-042 or SCTE-18 group.

Deleting an ANSI J-STD-042 / SCTE-18 Device

To delete an SCTE-18 recipient:

1. Select a device from the **ANSI J-STD-042 / SCTE-18 Devices** list, then click the **Delete** button.

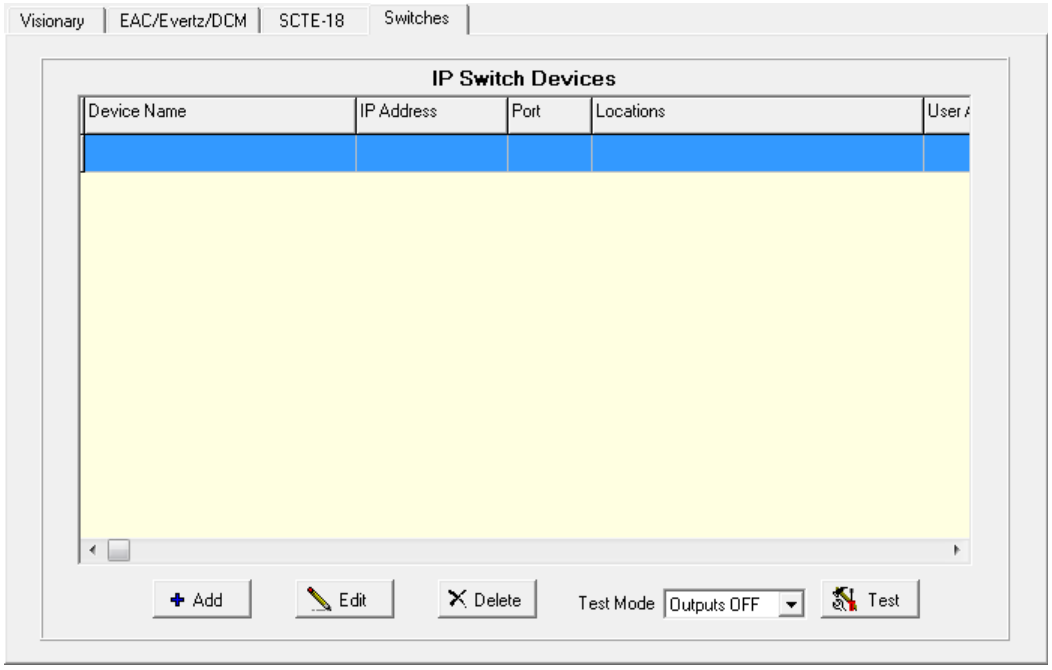
2. A status window will briefly appear; after the window closes, the selected device will no longer be displayed.

Testing an ANSI J-STD-042 / SCTE-18 Device

Click the **Test** button to send a simulated EAS alert to the selected device. The **Test** button is intended as a setup and troubleshooting tool. It does not replace a legitimate EAS message and does not satisfy any legal requirements for EAS testing.

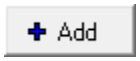
Configuring an IP Switch Device

IP switches allow contact closures to be used at distant locations via network connection. Additionally, IP switches allow county-specific contact closures.



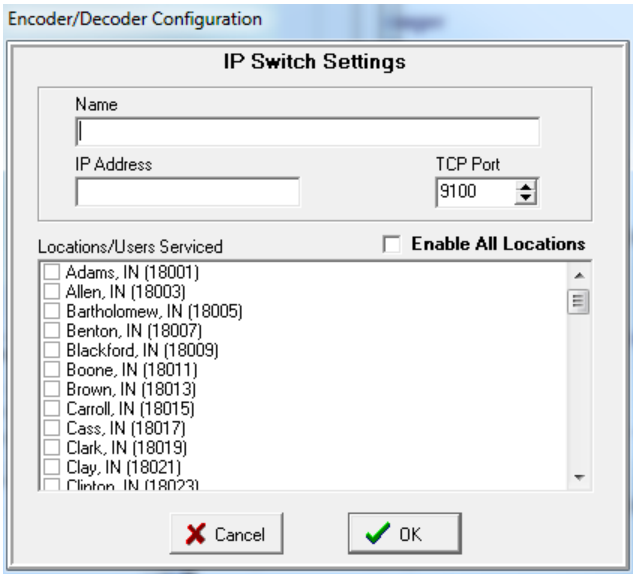
Adding an IP Switch Device

To add an IP switch device to the list of managed devices, perform the following procedure.



1. Click the **Add** button.
2. In the pop-up **IP Switch Settings** window, enter an identifying name in the **Name** text box.
3. Enter the **IP Address** of the IP switch.
4. Enter the **TCP Port** number which will be used to communicate with the remote IP switch (the default setting is **9100**).
5. From the **Locations/Users Serviced** list, select the check box corresponding to the counties that the IP switch will serve.

   This option will allow each IP switch device to serve a different geographical location, and to prevent unnecessary interruption if the message is not intended for the location serviced by the IP switch device.



6. Select the check box corresponding to **Enable All Locations** to activate the switch regardless of location codes contained in the message.
7. Click the **OK** button to complete the process.

Editing an IP Switch Device

To edit an IP switch device in the list of managed devices, perform the following procedure.

1. Select the IP switch device to edit in the **IP Switch Devices** list, then click the **Edit** button. The **IP Switch Settings** window will appear.

   Edit the device by following the procedure outlined in ***Chapter 5: EASyCAST Configuration***, ***The IP Devices Tab***, ***Configuring an IP Switch Device***, ***Adding an IP Switch Device***.

3. Click the **OK** button to complete the process.

Deleting an IP Switch Device

To delete an IP switch device from the list of managed devices, perform the following procedure.

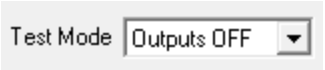
1. Select the device to be deleted from the **IP Switch Devices** list, then click the **Delete** button.

2. A status window will briefly appear; after the window closes, the selected device will no longer be displayed.

Testing an IP Switch Device

To perform a test of an IP switch device, first select the device to be tested from the **IP Switch Devices** window. This test is used to verify connectivity between the EASyCAST Encoder/Decoder and remote IP-controlled contact closure switches.

Use the **Test Mode** pull-down list to select whether the IP switch will be turned ON or OFF in the test.



Click the **Test** button to set the switch to the desired state.

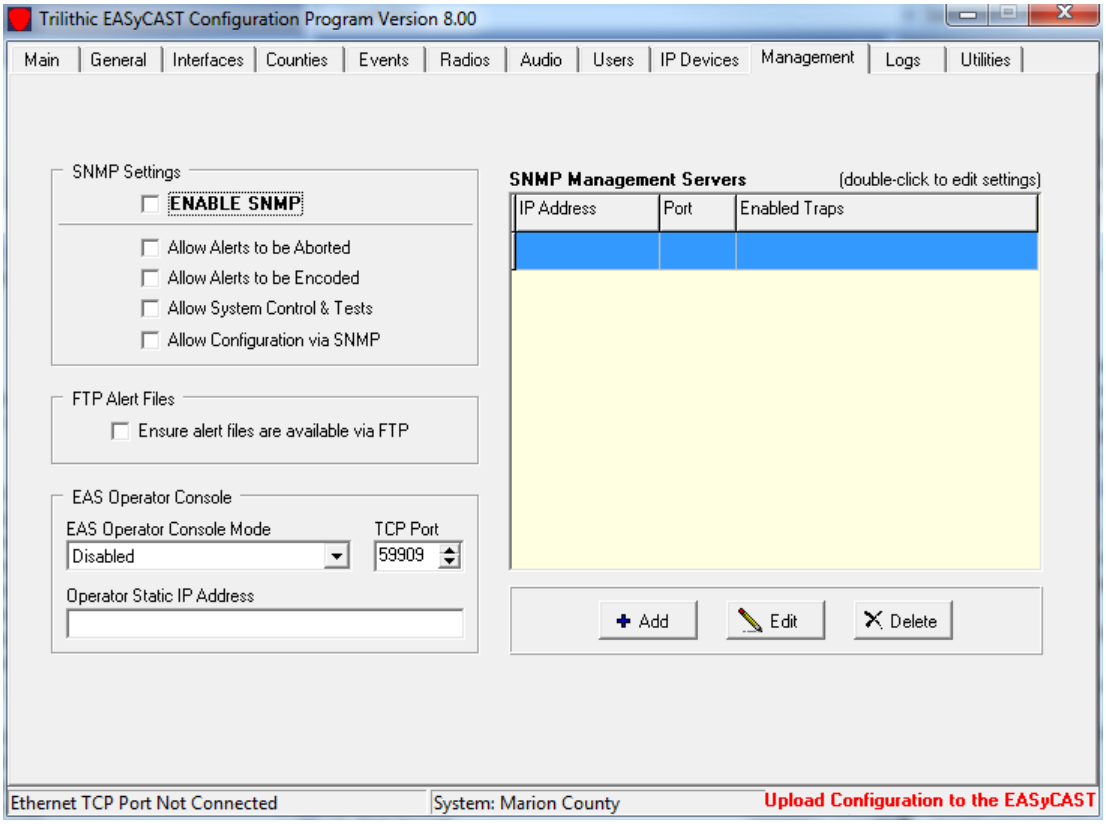
In order to return the contact closure to its normal position, use the **Test Mode** pull-down list to select the outputs off condition, then click the **Test** button.

The Management Tab

The Management tab allows the configuration of Simple Network Management Protocol (SNMP) options, including enabling and disabling SNMP capabilities, and configuring IP addresses for trap recipients (SNMP servers). The Management tab also allows configuration for the EAS Operation Console software.

NOTE

Changes made on the Management tab will have no effect on the EASyCAST until the settings are uploaded by clicking the Program Configuration button on the Main tab. Changes may also require a reboot to take effect.



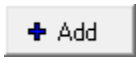
The following configuration parameters control the interaction between the EASyCAST Encoder/Decoder and SNMP management servers.

- **Enable SNMP** - This check box is the master enable/disable control for SNMP. Select this check box if any SNMP functions are desired.
- **Allow Alerts to be Aborted** - Select this check box to allow EAS messages in progress to be cancelled/aborted by means of SNMP commands. This option must also be enabled to allow pending messages to be confirmed for transmit.
- **Allow Alerts to be Encoded** - Select this option to allow EAS messages to be encoded/transmitted using SNMP. This should only be enabled for laboratory use or for generating the required weekly test.
- **Allow System Control & Tests** - Select this check box to allow the EASyCAST outputs to be controlled over SNMP.
- **EAS Operator Console Mode**
  - Select **Disabled** to prevent the EAS Console from being contacted when the EASyCAST receives an incoming message.
  - Select **Enabled Using Static IP Address** to contact the EAS Console at a specified IP address.
  - Select **Enabled Using Machine Name** to contact the EAS Console using a Machine Name (computer name).
- **TCP Port** - Enter the TCP port number used to communicate with the EAS Console (the default setting is 59909).
- **Operator Machine Name / Operator Static IP Address** - Enter the computer name or the IP address of the computer on which the EASy Consol software is running.

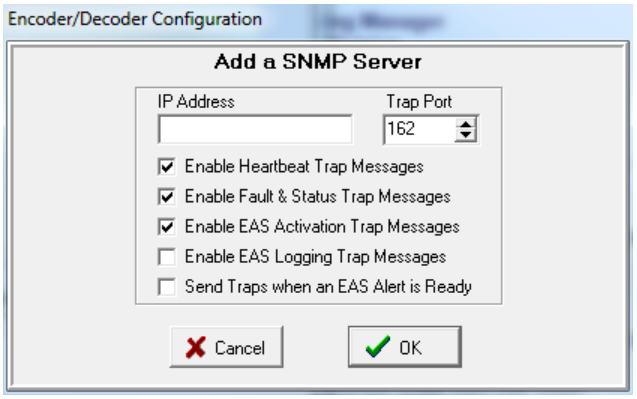
Adding an SNMP Server

To add an SNMP server to the list of **SNMP Management Servers**, perform the following procedure.

1. Click the **Add** button.



2. In the pop-up **Add an SNMP Server** window, enter the IP address of the SNMP server in the **IP Address** text box.



3. Enter the UDP port that will receive traps in the **Trap Port** text box (the default value is 162).
4. Select the **Enable Heartbeat Trap Messages** check box to enable periodic traps, indicating the EASyCAST is online and functioning. The heartbeat trap frequency averages two traps per minute.
5. Select the **Enable Fault & Status Trap Messages** check box to enable fault and status trap messages. Refer to the current MIB for details.
6. Select the **Enable EAS Activation Trap Messages** check box to enable EAS activation traps. EAS activation trap messages are used to inform operators that the EAS system has been activated.
7. Select the **Enable EAS Logging Trap Messages** check box to enable EAS logging traps, which occur when the EASyCAST saves a new log to its internal memory. The trap messages can be used to provide a backup of the EAS log in near real-time.
8. Select the **Send Traps when an EAS Alert is Ready** check box to alert the management software that an EAS alert is pending and awaiting confirmation.
9. Click the **OK** button to complete the process.

NOTE

After changing SNMP settings, the EASyCAST must be rebooted for the changes to take effect.

Editing an SNMP Server

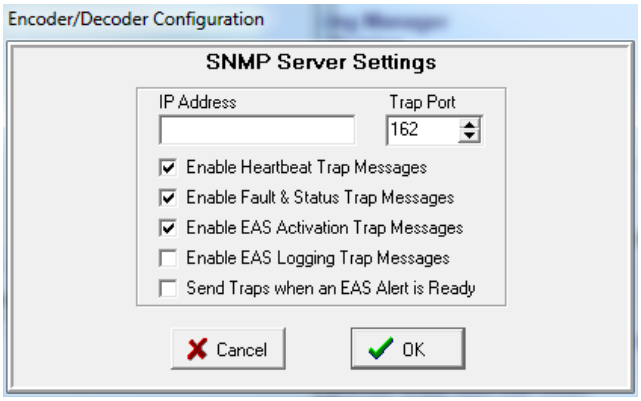
To edit an SNMP server in the list:

1. Select the server in the **SNMP Management Servers** list, then click the **Edit** button.

2. The pop-up **SNMP Server Settings** window will appear.

   The process to edit an SNMP server is the same as adding a new server, outlined in ***Chapter 5: EASyCAST Configuration***, ***The Management Tab***, ***Adding an SNMP Server***.

3. Click the **OK** button to complete the process.



NOTE

After changing SNMP settings, the EASyCAST must be rebooted for the changes to take effect.

Deleting an SNMP Server

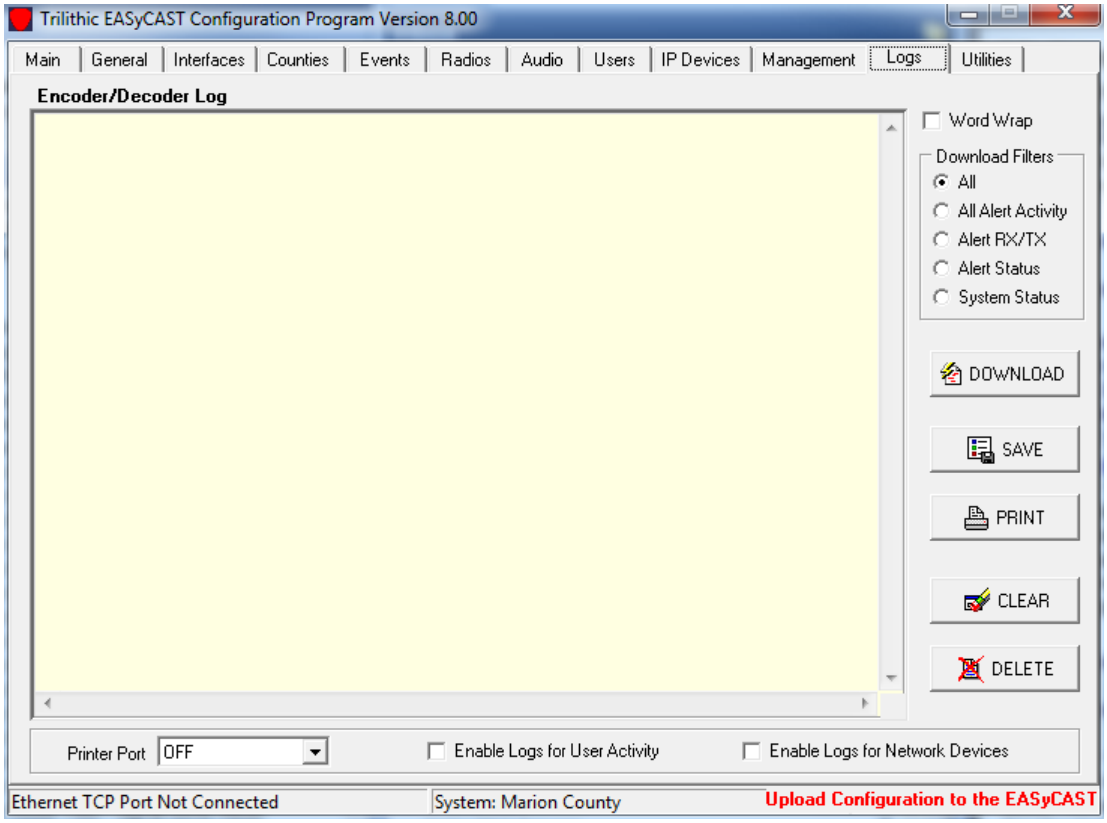
To delete an SNMP server, select a server from the **SNMP Management Servers** list, then click the **Delete** button.

NOTE

After changing SNMP settings, the EASyCAST must be rebooted for the changes to take effect.

The Logs Tab

To remain compliant with FCC regulations, the EAS logs from the EASyCAST Encoder/Decoder should be checked frequently to ensure test messages are received from each monitored radio station. The EAS log is proof to the FCC that receipts and activations have occurred. EASyCAST logs may be sent to a printer – connected to the parallel port – as they occur, or the EAS logs may be retrieved from the EASyCAST's internal memory using a computer. Retrieved logs may be saved as a text file, allowing logs to be easily stored.

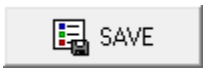


Managing EAS Internal Logs

To manage EAS internal logs:

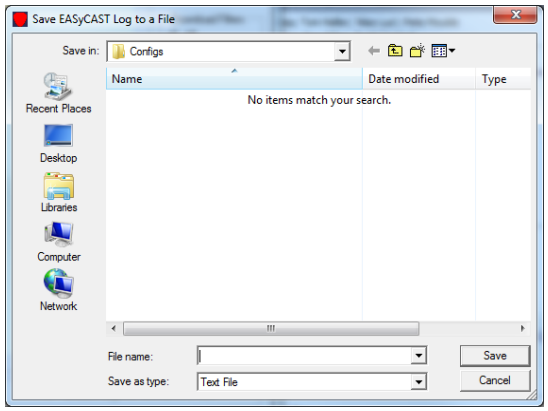
1. Select the EASyCAST for which logs will be retrieved, as described in ***Chapter 5: EASyCAST Configuration, The Main Tab***.
2. Click the **Download** button to retrieve the EAS logs stored on the EASyCAST.

3. Click the **Save** button to archive the downloaded EAS logs.



4. The pop-up **Save EASyCAST Log to a File** window will appear. Select the location where the EAS logs will be stored. In the **File Name** text box, enter the desired file name for the new log file. It is suggested that the file name include the station call letters and current date, for easy identification (WTRI EAS Log 08-12-09).

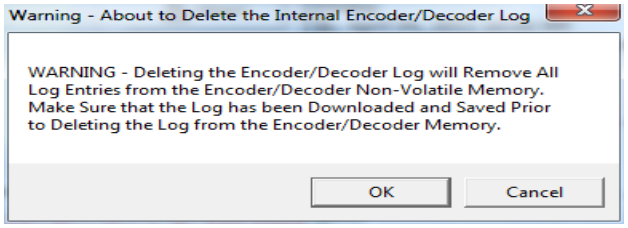
   Click the **Save** button.



5. Verify that the newly-saved log file has been started.
6. Click the **Delete** button to remove EAS logs from the EASyCAST's memory. The **Delete** button will clear the memory in the EASyCAST. This step cannot be undone.

7. A pop-up window will appear, asking you to confirm the EAS log deletion.

   Click the **OK** button to delete the EAS log files.



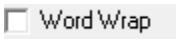
Download Filters

The radio buttons within the **Download Filters** group allow the user to select which types of logs will be retrieved from the encoder/decoder.

- **All** - Select this radio button to retrieve all types of logs stored on the EASyCAST Encoder/Decoder.
- **All Alert Activity** - Select this option to retrieve incoming alert, outgoing alert, alert delivery, and EAC status logs.
- **Alert RX/TX** - Select this option to retrieve incoming and outgoing alert logs.
- **Alert Status** - Select this option to retrieve network delivery and EAC status logs.
- **System Status** - Select this option to retrieve encoder/decoder status logs not pertaining to alerts.

Additional Functions

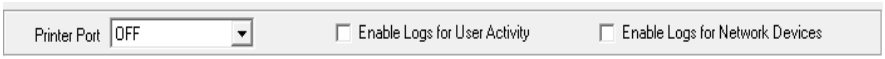
The following option only applies to the Configuration software display.



- **Word Wrap** - Select this check box to wrap text lines which do not fit within the boundaries of the **EASyCAST Log** window.

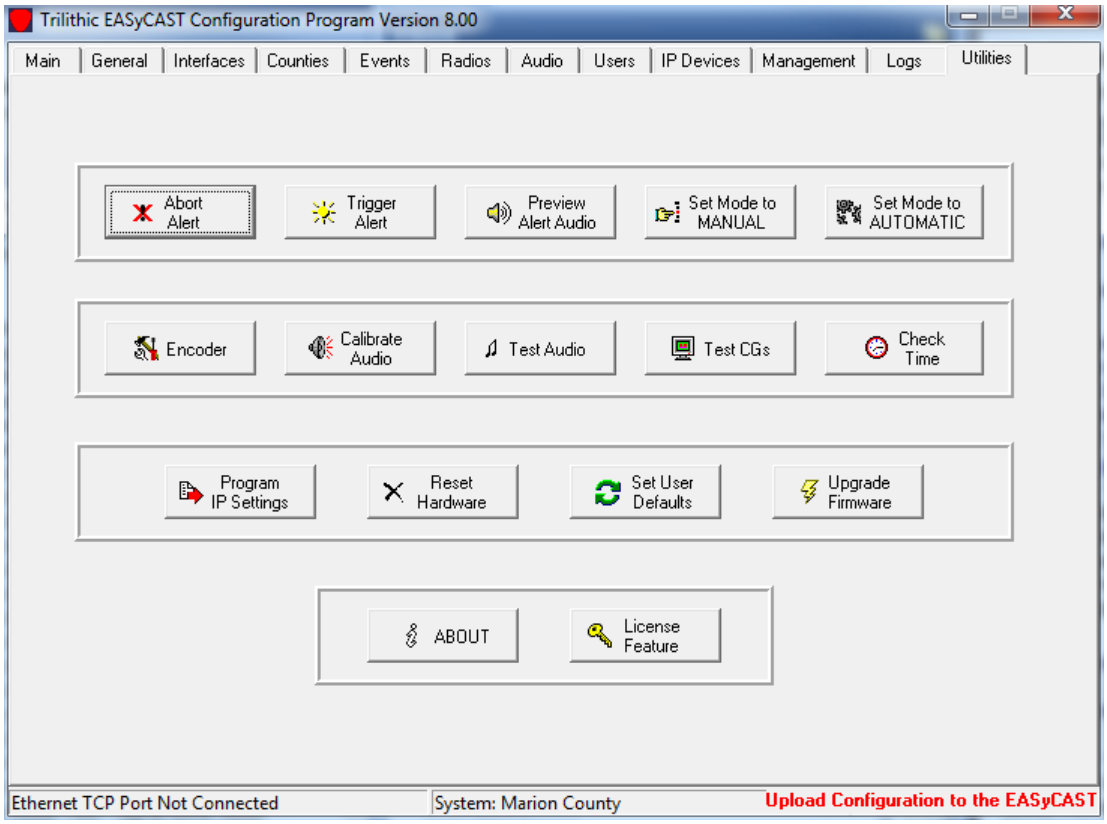
The following options are EASyCAST configuration options:

- **Printer Port** - Use the **Printer Port** pull-down list to disable the printer port of the EASyCAST, or to enable it and select the maximum number of characters per line.
- **Enable Logs for User Activity** - Select this check box to include logs concerning the user account which is used to generate messages.
- **Enable Logs for Network Devices** - Select this check box to include information regarding Ethernet message delivery and EAC status. Enabling this option may significantly reduce the available log resources of the encoder/decoder and produce lengthy EAS logs.



The Utilities Tab

The **Utilities** tab provides access to non-configuration tools that are needed to control, test, and determine the status of the EASyCAST Encoder/Decoder or the EASyCAST Configuration software.



Cancel an EAS Alert in Progress

The EASyCAST Configuration software allows operators to manually terminate an EAS message in progress. To cancel a message, click the **Abort Alert** button.

The EASyCAST Configuration software will connect to the EASyCAST and cancel the message.

Trigger a Pending EAS Alert

The EASyCAST Configuration software allows an operator to manually trigger a pending EAS alert when the EASyCAST is in the manual operation mode.

To manually send a pending EAS alert, click the **Trigger Alert** button.

Originate an EAS Alert

The EASyCAST Configuration software allows an operator to originate an EAS event. All originated messages other than an Required Weekly Test will be accompanied by an audio message.

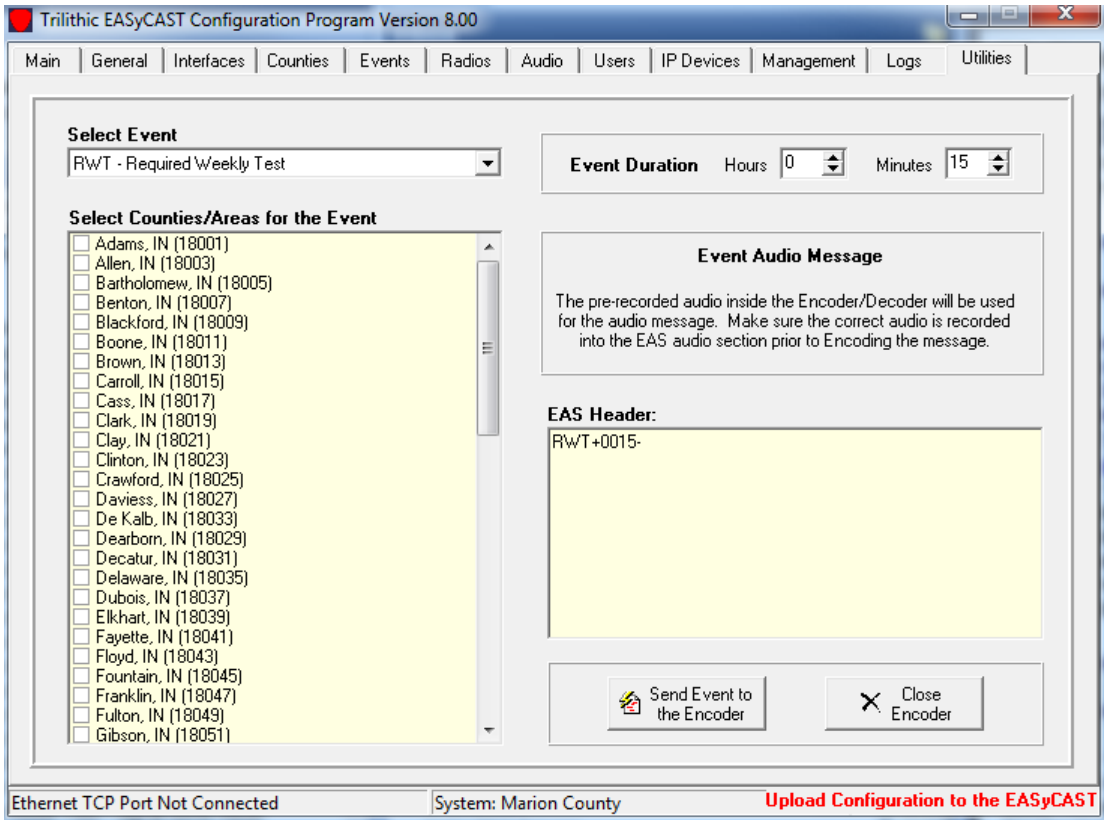
CAUTION

The audio that accompanies the originated EAS alert will be the last audio message that was recorded by the EASyCAST. This may be warning audio from a prior EAS alert. Before originating an EAS alert, verify that the accompanying audio is appropriate for the selected event.

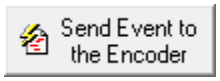
To manually trigger an EAS alert, perform the following procedure:

1. Connect the EASyCAST to the computer on which the EASyCAST Configuration software is installed, as outlined in ***Chapter 5: EASyCAST Configuration, The Main Tab***.
2. Record a voice message that will accompany the EAS message, as described in ***Chapter 5: EASyCAST Configuration, The Audio Tab, Recording a User Audio Message (Tune to Message)*** or ***Chapter 5: EASyCAST Configuration, The Audio Tab, Recording an EAS Audio Message***, as appropriate.
3. On the **Utilities** tab, click the **Encoder** button.

The **Utilities** window will display the **Event Configuration** window.



4. Select the event to be distributed from the **Select Event** pull-down list in the updated **Utilities** tab.
5. In the **Event Duration** group, select the time, in **Hours** and **Minutes**, for which the EAS event will remain in progress. In the case of an EAS warning, this duration should be the same as the duration for which the danger is expected to be present.
6. Select the county or counties which will receive the EAS event in the **Select Counties/Areas for the Event** list.
7. Click the **Send Event to the Encoder** button to initiate the EAS message. If the EASyCAST is operating in Automatic mode, the message will be processed and begin playing.



NOTE

If the Send Event to the Encoder button is clicked, the EAS alert message will interrupt normal programming.

8. Click the **Close Encoder** button to return to the normal **Utilities** tab. If the EASyCAST is operating in Manual mode, the event may need to be manually triggered.

9. Click the **Trigger Alert** button to instruct the EASyCAST to send the message.

Preview the EAS Alert Audio

If a message is received by the EASyCAST and has not yet been sent, the message audio can be heard through the EASyCAST front panel speaker by clicking the **Preview Alert Audio** button.

Change the EASyCAST Operational Mode

The EASyCAST's has both automatic and manual modes. Toggling between operational modes changes the behavior for each EAS event, as programmed on the Events tab. For more information, refer to ***Chapter 5: EASyCAST Configuration***, ***The Events Tab***, ***Enabling and Configuring an Event***.

To set each event to behave with Manual properties, click the **Set Mode to MANUAL** button.

To set each event to behave with Automatic properties, click the **Set Mode to AUTOMATIC** button.


NOTE

The Automatic and Manual mode buttons are a temporary override. The Operation Mode will be reset at the next scheduled operation mode change, as described in Chapter 5: EASyCAST Configuration, The Events Tab, Enabling and Configuring an Event.

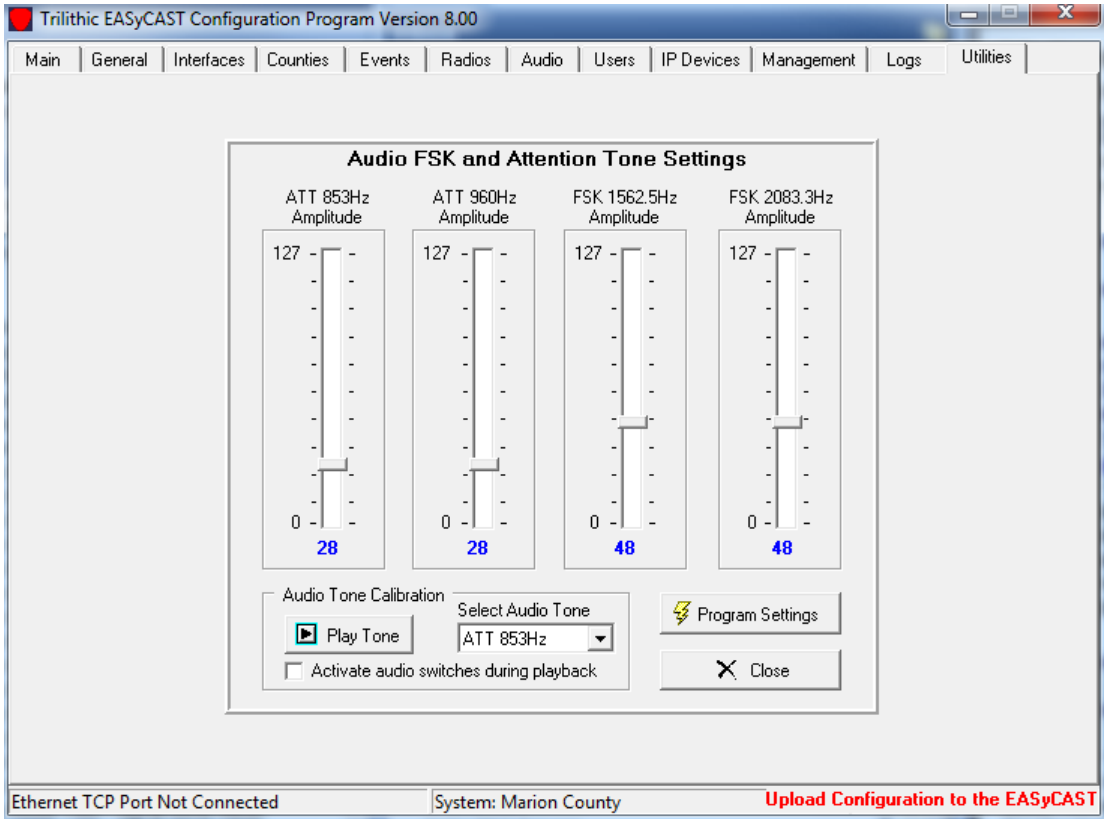
Calibrate FSK and Attention Tones

The EASyCAST Configuration software allows operators to calibrate the FSK audio and EAS tone settings. To calibrate the audio parameters, perform the following procedure:

1. Connect the EASyCAST to the computer on which the EASyCAST Configuration software is installed, as outlined in ***Chapter 5: EASyCAST Configuration, The Main Tab***.
2. Click the **Calibrate Audio** button.

   The **Utilities** window will refresh to display the **Audio FSK and Attention Tone Settings** window.



Use the Master Output Volume control on the Audio tab to adjust all EAS tones, and the voice playback simultaneously.

3. Use the **ATT 853 Hz Amplitude** control to set the relative volume of the 853 Hz tone part of the EAS dual-tone (attention tone). The default setting is 28.

4. Use The **ATT 960 Hz Amplitude** control to set the relative volume of the 960 Hz tone that is part of the EAS dual-tone (attention tone). The default setting is 28.
5. Use the **FSK 1562.5 Hz Amplitude** control to set the relative volume of the EAS "space" tone that is used to transmit EAS FSK data. The default setting is 48.
6. Use the **FSK 2083.3 Hz Amplitude** control to set the relative volume of the EAS "mark" tone that is used to transmit EAS FSK data. The default setting is 48.
7. Click the **Program Settings** button to program the audio configuration parameters to the EASyCAST.

The **Audio Tone Calibration** group is used to generate the tones used in EAS. It allows the tones to be played individually, or combined to create specific EAS tones.

8. Use the **Select Audio Tone** pull-down list to select which of the tones to play.
9. Click the **Play Tone** button to start the tone. When the audio tone begins playing, the **Play Tone** button will change to a **Stop** button. Click the **Stop** button to end the audio tone playback.
10. Select the **Activate Audio Switches During Playback** check box to trigger the encoder/decoder's audio switch while the tone is being played. If normal program audio is connected to the audio switch input, the input will be cut off and replaced with the audio tone.
11. Click the **Close** button to return to the normal **Utilities** tab.

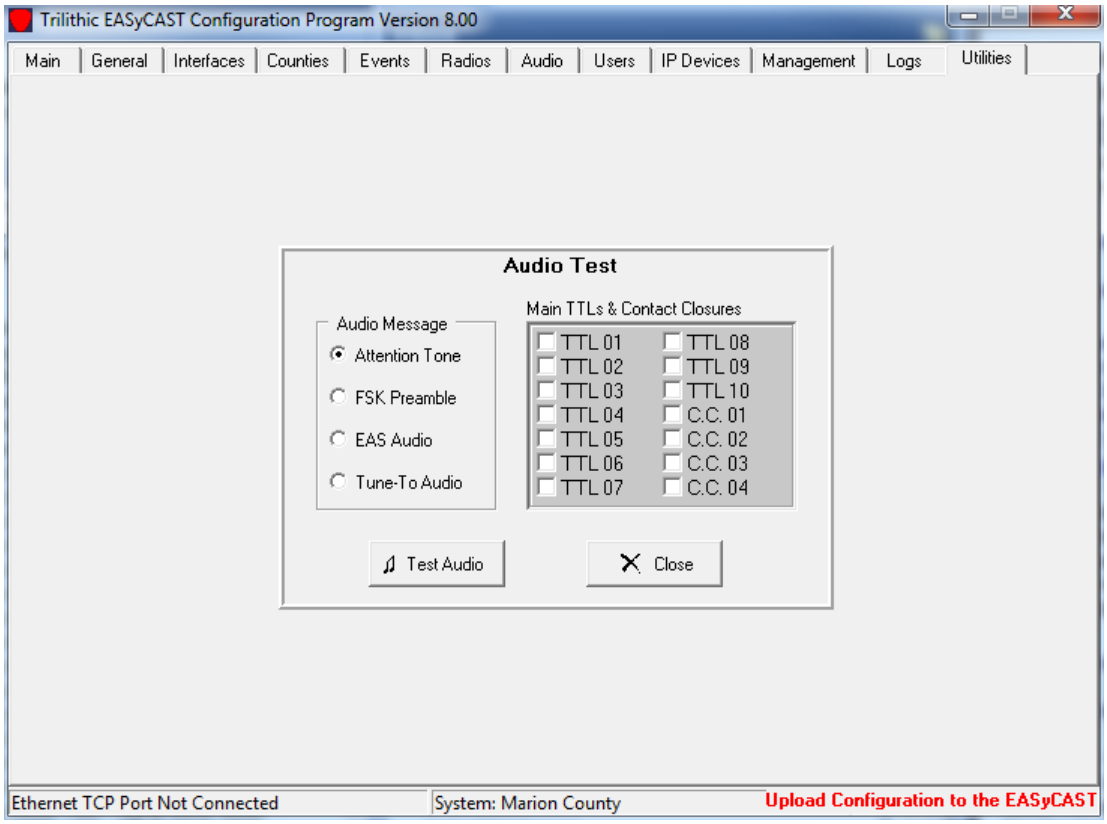
Test the Audio Function

The EASyCAST audio tests allow an operator to activate specific control lines while sending EAS tones or recorded voice messages. In order to perform these tests, the operator should know which TTL and contact closures (if any) are connected to the audio substitution equipment.

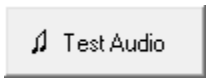
1. Connect the EASyCAST to the computer on which the EASyCAST Configuration software is installed, as outlined in ***Chapter 5: EASyCAST Configuration***, ***The Main Tab***.
2. If user audio or EAS audio will be used to perform the tests, refer to the sections ***Chapter 5: EASyCAST Configuration***, ***The Audio Tab***, ***Recording a User Audio Message (Tune to Message)*** or ***Recording an EAS Audio Message***, as appropriate.
3. On the **Utilities** tab, click the **Test Audio** button.

   The **Utilities** window will refresh to display the **Audio Test** window.



4. In the **Main TTLs & Contact Closures** group, select the control lines needed to replace programming audio within the broadcast station.
5. In the **Audio Message** group, select the radio button corresponding to the desired audio type.
6. Click the **Test Audio** button. The selected control lines will activate and the EAS audio will play.



7. Click the **Stop Test** button when finished (the **Test Audio** button will change to **Stop Test** when the audio is activated).
8. After all audio tests have been completed, click the **Close** button to return to the normal **Utilities** tab.

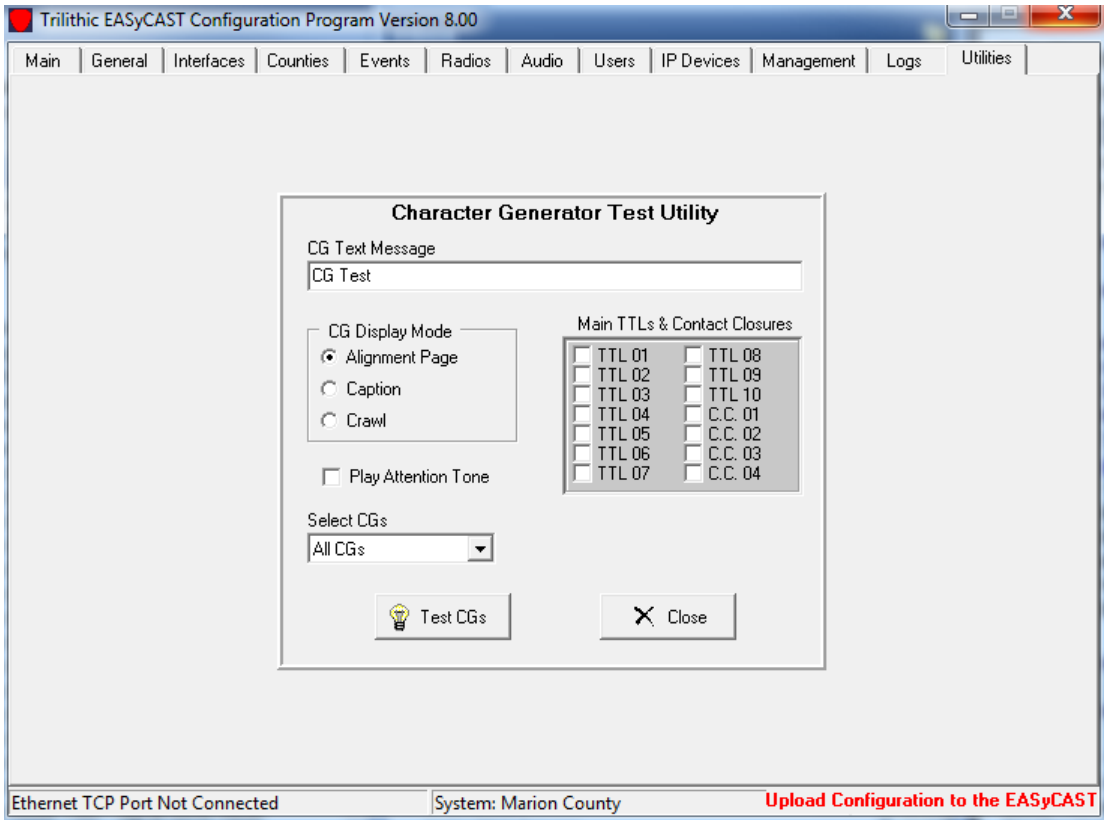
Test the Character Generator Function

The EASyCAST video tests allow an operator to activate specific control lines while sending video from Trilithic character generator(s). In order to perform these tests, the operator should know which TTL and contact closures are required to route video.

1. Connect the EASyCAST to the computer on which the EASyCAST Configuration software is installed, as outlined in ***Chapter 5: EASyCAST Configuration, The Main Tab***.
2. On the **Utilities** tab, click the **Test CGs** button.

   The **Utilities** window will display the **Character Generator Test Utility** window.



3. In the **Main TTLs & Contact Closures** group, select the control lines needed to route video. If an attention tone is to be used, select the audio routing control lines as well.

4. In the **CG Display Mode** group, select the radio button corresponding to the desired **Page**, **Caption**, or **Crawl** mode.
5. Select the **Play Attenuation Tone** check box to play an audio tone with the video.
6. In the **Select CGs** pull-down list, select the **All CGs** option.
7. Enter the text that will be displayed as an EAS message in the **CG Text Message** text box. This does not apply if **Alignment Page** is selected under **CG Display Mode**.
8. Click the **Test CGs** button. The selected control lines will activate and the video will play (with audio, if the audio option is selected).

9. Click the **Stop Test** button when finished (the **Test CGs** button will change to **Stop Test** when the video is activated).
10. After all video tests have been completed, click the **Close** button to return to the normal **Utilities** tab.

Verify the EASyCAST's System Time

Click this button to retrieve the current time of the EASyCAST's clock.

Program IP Settings

Click this button to send the IP address configured on the **General** tab to the encoder/decoder. The communication occurs over the interface specified on the **Main** tab. The EASyCAST must be rebooted after changing network settings.

Reset Hardware

Click this button to send a reset command to the encoder/decoder. Use this button after modifying any configuration that alters the network settings, including any settings that require the EASyCAST to monitor additional Ethernet ports.

Set User Defaults

Click this button to revert the encoder/decoder user accounts to their default values. Once the default settings have been programmed, the administrator password (**Administrator**) can be used to access the EASyCAST. This command only works over the RS-232 (serial) interface.

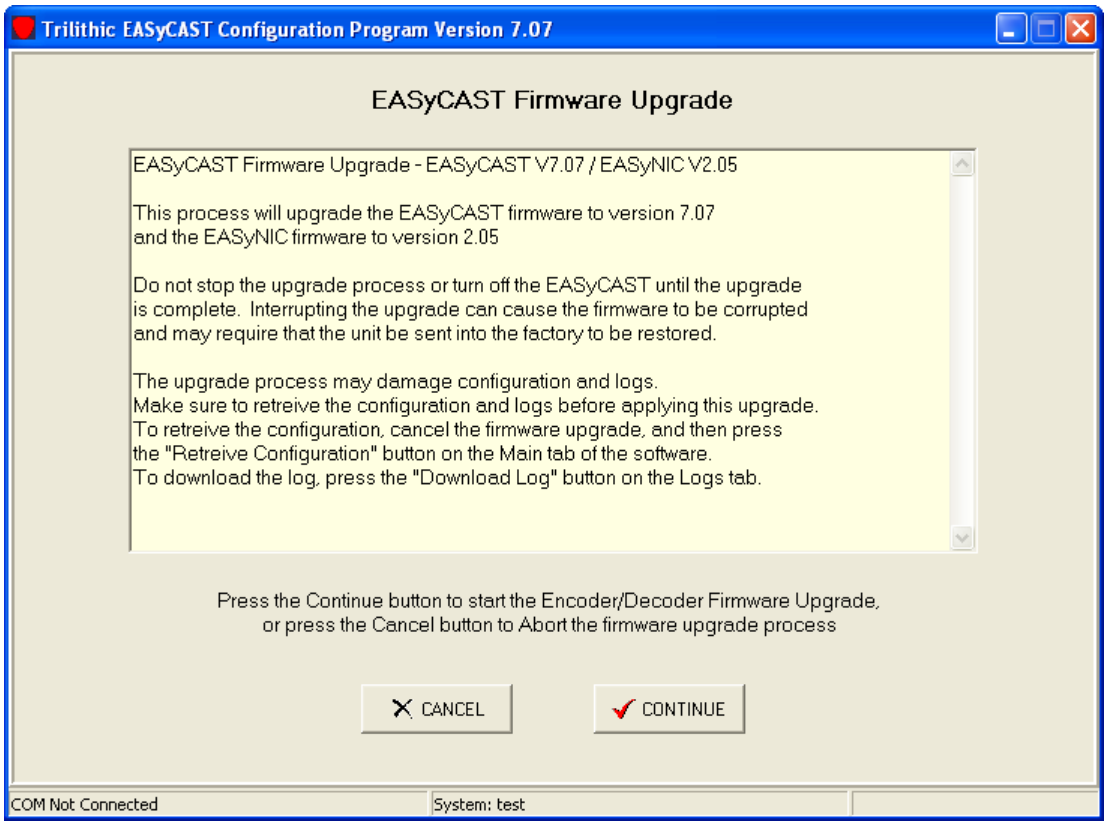
Upgrading the EASyCAST Firmware

It is preferable to upgrade the EASyCAST firmware (and the EASyNIC firmware, if a NIC card is installed) at the same time as the EASyCAST Configuration software. To upgrade the firmware, perform the following procedure.

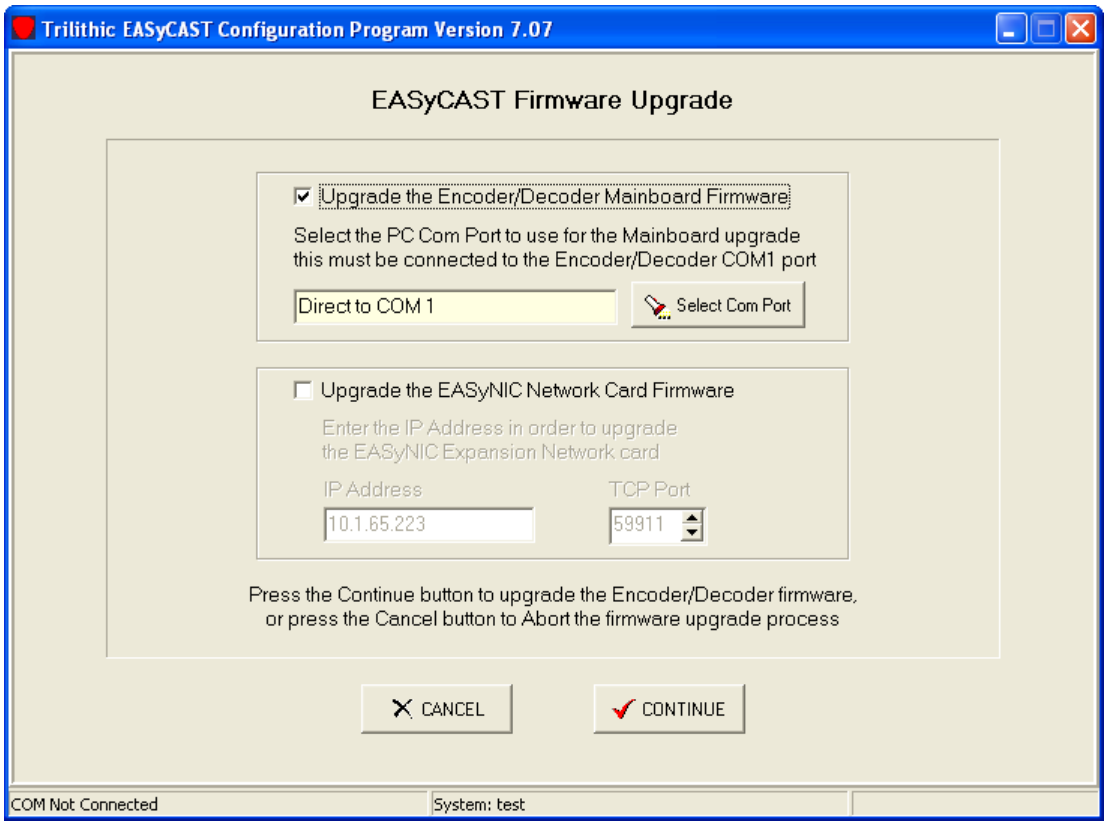
1. Start the EASyCAST Configuration software.
2. Connect the host computer on which the EASyCAST Configuration software is running to the EASyCAST, as described in ***Chapter 5: EASyCAST Configuration, The Main Tab***. The supplied serial null-modem cable must be connected between the EASyCAST's COM-1 port and an available RS-232 serial port on the host computer. If the encoder/decoder contains a NIC card, an Ethernet cable must be connected between the EASyCAST and the host computer. The EASyCAST must be put on the same network and within the subnet of the host computer.
3. Ensure no other programs on the host computer are using the required PC COM port.
4. On the **Utilities** tab, click the **Upgrade Firmware** button.

   The **Utilities** window will refresh to display the **EASyCAST Firmware Upgrade** window.



5. Click the **Continue** button to proceed with the firmware upgrade.
6. The screen will refresh to display the firmware upgrade selections. Select the check box(es) which correspond to the firmware features to be upgraded.
   - Select the **Upgrade the Encoder/Decoder Mainboard Firmware** check box to upgrade the EASyCAST's firmware. Click the **Select COM Port** button. From the pop-up **Device Selection** window, select the PC's communication port that will be used to connect to the EASyCAST.
   - Select the **Upgrade the EASyNIC Network Card Firmware** check box to upgrade the firmware on the EASyNIC network card, if it is installed in the EASyCAST. Enter the **IP Address** of the EASyCAST, and the **TCP Port** number used to connect to the encoder/decoder. The default value is 59911.



7. Click the **Continue** button again to proceed with the firmware upgrade. The screen will refresh to display the firmware selections that will be upgraded.
8. Click the **Continue** button to update the files listed, or click the **Program All Files** button to update all files, including those that are already up to date.

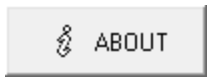
9. The screen will refresh to display a progress screen. The upgrade process may take as much as 10 minutes.
10. When the firmware upgrade is complete, a confirmation message will be displayed. Click the **OK** button to return to the **Utilities** tab.

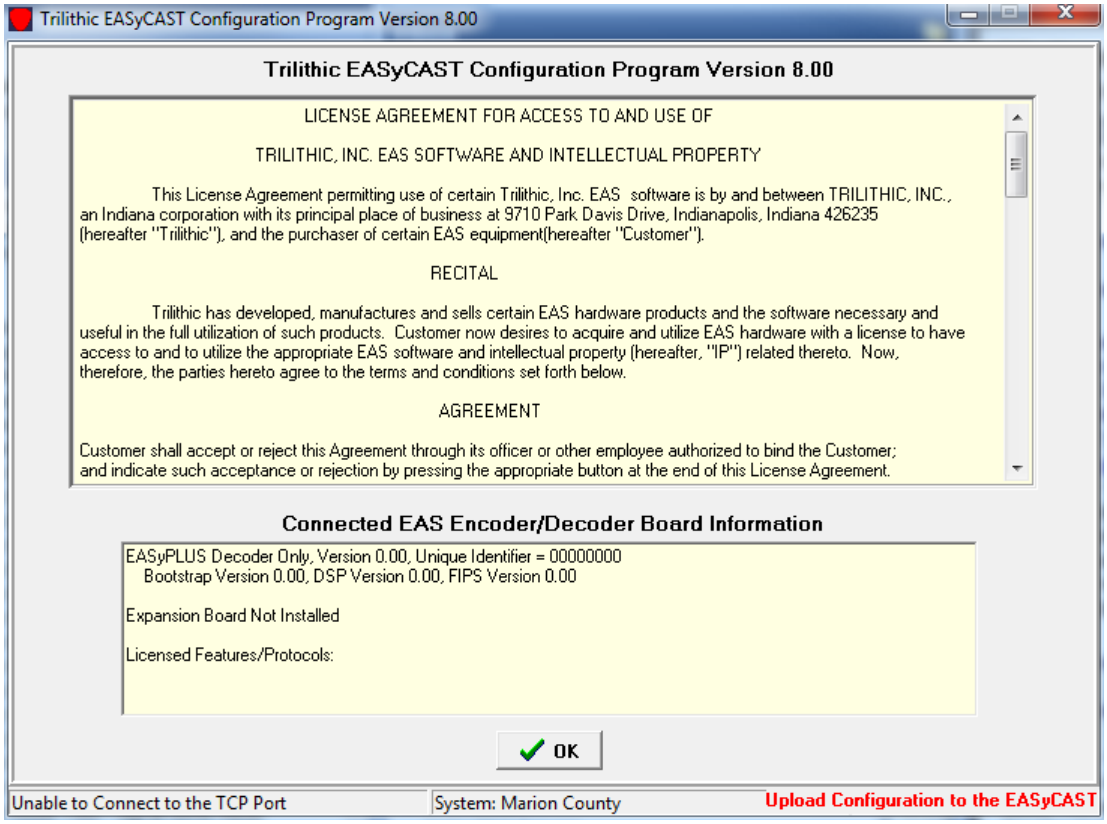

NOTE

If a flash update fails and the firmware has become corrupt, the firmware can still be updated by bypassing the normal operational firmware and booting into the flash loader. Unplug the power cord from the EASyCAST and wait 5 seconds. Press and hold the ENTER/SELECT key on the EASyCAST keypad (check mark key) while powering on the EASyCAST. The LCD will display the EASyCAST flash loader version; retry the firmware upgrade.

EASyCAST Configuration Software Information

1. Connect to the EASyCAST.
2. Click the **About** button on the **Utilities** tab to view general information about the EASyCAST Configuration software, the connected EASyCAST Encoder/Decoder, and the software license agreement.





3. Click the **OK** button to return to the normal **Utilities** tab.

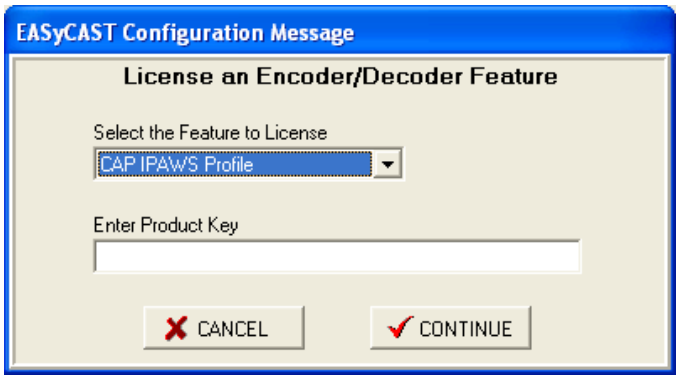
NOTE

The Unique Identifier shown on the about screen may be required when ordering product keys.

Unlocking Licensed Features

The EASyCAST Configuration software includes several additional features which can be unlocked by entering a license key. To unlock additional features, perform the following procedure.

1. Click the **License Feature** button. The pop-up **License an Encoder/ Decoder Feature** window will appear, containing the available features that can be licensed.
2. Contact Trilithic via email at *EASsales@trilithic.com* to obtain a license key for the desired feature or features.
3. Enter the product key in the **Enter Product Key** field then click the **Continue** button.



NOTE

With the EASyCAST Configuration software connected to the encoder/decoder, click the About button on the Utilities tab then highlight and copy the text in the Connected EAS Encoder/Decoder Board Information text field. Paste this text into the email message sent to EASsales@trilithic.com to obtain the license key code.

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Chapter 6

Understanding EASyCAST Logs

Overview

The EASyCAST Encoder/Decoder logs provide information on the major activities of the encoder/decoder, and specifically address federal requirements for EAS compliance. In general, logs occur chronologically, in the order in which the encoder/decoder becomes aware of an activity. This may not be the case when the logs are from peripheral devices, or when the encoder/decoder has grouped together related information.

The Log Header

The first lines of the EASyCAST log (if downloaded from the EASyCAST Configuration software) contain the date and time that the log was downloaded, the number of records downloaded, and the versions of the encoder/decoder software components.

The following is an example of an *EAS log header*:

```
********************************************************************************
09/5/2009 3:11:58 PM Download Encoder/Decoder Log, 681 Records
Configuration Software Version 6.98
EAS Encoder/Decoder Firmware Version 6.98
EASyNIC Firmware Version 1.80
********************************************************************************
```

EAS Message Receipts

EAS messages that are received but do not pass retransmit filters, contain information regarding the message itself, the time the message was processed, and the reason the message was not retransmitted. For details on EAS messages, refer to title 47, part 11 of the Code of Federal Regulations (47 CFR, part 11).

The following is an example of an *EAS receive log*:

```
10/02/09 18:17:20 EDT Receive Log
Originator: EAS Participant
Event: Required Monthly Test
Origination Time: 10/02/09 18:15:00 EDT
Expiration Time: 10/02/09 18:30:00 EDT
EAS Protocol Text: ZCZC-EAS-RMT-018003-018000-018097+0015-2752215-
WYRU/AM -
Alert Text: An EAS Participant has issued a *** Required Monthly Test *** for the
following counties: Allen IN - State of Indiana - Marion IN. Effective Until 10/02/09
18:30:00 EDT.   WYRU/AM
Received from Channel 1, Call Letters:   WYRU/AM
Status: Duplicate Message
```

The following explanation provides further information regarding the details contained within the EAS receive log, shown above.

10/02/09 18:17:20 EDT Receive Log

- *The local clock time when the message was decoded.*

Originator: EAS Participant

- *The type of organization that first sent the message.*

Event: Required Monthly Test

- *The EAS event (1 of 53 predefined events).*

Origination Time: 10/02/09 18:15:00 EDT

- *The encoder/decoder time when the message was first sent.*

Expiration Time: 10/02/09 18:30:00 EDT

- *The "effective until" time of the message (origination + duration).*

EAS Protocol Text: ZCZC-EAS-RMT-018003-018000-018097+0015-2752215-WYRU/AM –

- *The actual EAS code string received.*

Alert Text: An EAS Participant has issued a * Required Monthly Test *** for the following counties: Allen IN - State of Indiana - Marion IN. Effective Until 10/02/09 18:30:00 EDT. WYRU/AM**

- *An English translation of the received code string.*

Received from Channel 1, Call Letters: WYRU/AM

- *The encoder/decoder audio input that the message was received from.*

Status: Duplicate Message

- *The reason the message was not retransmitted.*

EAS Message Transmissions

EAS messages that are encoded by the user (not received off-air) contain information regarding the message itself, the time the message was processed, the times at which each EAS audio component is sent, the user account responsible for the message, and a message ID generated at log time. This information contained within the EAS message may help the reader to associate related logs with each other. For details on EAS messages, refer to title 47, part 11 of the Code of Federal Regulations (47 CFR, part 11).

The following is an example of an *EAS transmission log*:

10/02/09 18:19:00 EDT Transmit Log
Originator: EAS Participant
Event: Civil Emergency Message
Origination Time: 10/02/09 18:18:00 EDT
Expiration Time: 10/02/09 18:33:00 EDT
EAS Protocol Text: ZCZC-EAS-CEM-018047-018097+0015-2752218-Eng Test-
Alert Text: An EAS Participant has issued a *** Civil Emergency Message *** for the following counties: Franklin IN - Marion IN. Effective Until 10/02/09 18:33:00 EDT. Eng Test
Operator (ID 1F4) Initiated an Alert Message at 10/02/09 18:18:19 EDT
Transmitted 8 second Attention Tone at 10/02/09 18:18:24 EDT
Transmitted 21 second Voice Message at 10/02/09 18:18:34 EDT
Transmitted EOM at 10/02/09 18:18:56 EDT
Unique Message ID 12593899

The following explanation provides further information regarding the details contained within the EAS transmit log, shown on the previous page.

10/02/09 18:19:00 EDT Transmit Log

- *The encoder/decoder clock time when the log was entered.*

Originator: EAS Participant

- *The originator configured in the encoder/decoder.*

Event: Civil Emergency Message

- *The EAS event (1 of 53 predefined events).*

Origination Time: 10/02/09 18:18:00 EDT

- *The encoder/decoder clock time when the message was encoded.*

Expiration Time: 10/02/09 18:33:00 EDT

- *The "effective until" time of the message (origination + duration).*

EAS Protocol Text: ZCZC-EAS-CEM-018047-018097+0015-2752218-ENG TEST

- The actual EAS code string transmitted.

Alert Text: An EAS Participant has issued a * Civil Emergency Message *** for the following counties: Franklin IN - Marion IN. Effective Until 10/02/09 18:33:00 EDT. ENG TEST**

- *An English translation of the code string transmitted.*

Operator (ID 1F4) Initiated an Alert Message at 10/02/09 18:18:19 EDT

- *The ID of the login used to generate the message, and the time it was generated. The Login ID can be found in an earlier log.*

Transmitted 8 second Attention Tone at 10/02/09 18:18:24 EDT

- *The time that the Attention Tone (dual tone) was sent (if any).*

Transmitted 21 second Voice Message at 10/02/09 18:18:34 EDT

- *The time that the recorded voice message was sent (if any).*

Transmitted EOM at 10/02/09 18:18:56 EDT

- *The time that the End-of-Message signal was sent.*

Unique Message ID 12593899

- *A unique identifier used to combine discontinuous log items.*

EAS Message Receipt and Transmission

EAS messages that are received off-air and re-encoded by the EASyCAST contain elements of both the *receive* and *transmit* logs.

The following is an example of an *EAS retransmission log*:

10/02/09 18:17:11 EDT Receive & Retransmit Log
Originator: EAS Participant
Event: Required Monthly Test
Origination Time: 10/02/09 18:15:00 EDT
Expiration Time: 10/02/09 18:30:00 EDT
EAS Protocol Text: ZCZC-EAS-RMT-018003-018000-018097+0015-2752215-WYRU/AM -
Alert Text: An EAS Participant has issued a *** Required Monthly Test *** for the following counties: Allen IN - State of Indiana - Marion IN. Effective Until 10/02/09 18:30:00 EDT. WYRU/AM
EAS Header Received at 10/02/09 18:15:35 EDT
Received from Channel 5, Call Letters: WIRA/FM
Received Attention Tone at 10/02/09 18:15:40 EDT
Received Voice Message at 10/02/09 18:15:48 EDT
Received EOM at 10/02/09 18:16:11 EDT
Retransmitted the EAS Message at 10/02/09 18:16:30 EDT
Transmitted 8 second Attention Tone at 10/02/09 18:16:36 EDT
Transmitted 21 second Voice Message at 10/02/09 18:16:45 EDT
Transmitted EOM at 10/02/09 18:17:08 EDT
Unique Message ID 12593809

The following explantation provides further information regarding the details contained within the EAS transmit log, shown above.

10/02/09 18:17:11 EDT Receive & Retransmit Log

- *The local clock time when the message was entered into the log.*

Originator: EAS Participant

- *The type of organization that first sent this message.*

Event: Required Monthly Test

- *The EAS Event (1 of 53 predefined events).*

Origination Time: 10/02/09 18:15:00 EDT

- *The encoder/decoder clock time when the message was first sent.*

Expiration Time: 10/02/09 18:30:00 EDT

- *The “effective until” time of the message (origination + duration).*

EAS Protocol Text: ZCZC-EAS-RMT-018003-018000-018097+0015-2752215—WYRU/AM–

- *The actual EAS code string received/transmitted. The call letters are transmit call letters.*

Alert Text: An EAS Participant has issued a * Required Monthly Test *** for the following counties: Allen IN - State of Indiana - Marion IN. Effective Until 10/02/09 18:30:00 EDT. WYRU/AM**

- *An English translation of the transmitted code string.*

EAS Header Received at 10/02/09 18:15:35 EDT

- *The encoder/decoder time at which the EAS header was decoded.*

Received from Channel 5, Call Letters: WYRU/AM

- *The encoder/decoder audio input and the call letters of the station that the message was received from.*

Received Attention Tone at 10/02/09 18:15:40 EDT

- *The encoder/decoder time at which the attention tone was detected.*

Received Voice Message at 10/02/09 18:15:48 EDT

- *The encoder/decoder time at which the voice message was detected.*

Received EOM at 10/02/09 18:16:11 EDT

- *The encoder/decoder time at which the end-of-message was detected.*

Retransmitted the EAS Message at 10/02/09 18:16:30 EDT

- *The encoder/decoder time at which the EAS header was transmitted.*

Transmitted 8 second Attention Tone at 10/02/09 18:16:36 EDT

- *The encoder/decoder time at which the attention tone was transmitted.*

Transmitted 21 second Voice Message at 10/02/09 18:16:45 EDT

- *The encoder/decoder time at which the voice message was transmitted.*

Transmitted EOM at 10/02/09 18:17:08 EDT

- *The encoder/decoder time at which the end-of-message was transmitted.*

Unique Message ID 12593809

- *An EASyCAST-created reference identifier to help correlate related logs.*

Non-EAS Logs

The EASyCAST Encoder/Decoder logs may contain additional information regarding delivery, or failed delivery of IP based EAS messages, or even logs from external devices that are allowed to insert information into the EASyCAST log. These messages are plain-English notes.

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Chapter 7
Appendix

Trilithic EAS 2-Year Limited Warranty

Trilithic, Inc. (“Trilithic”) warrants to the buyer that the product will be free from defects in materials and workmanship, under normal use, operating conditions and service for a period of two (2) years from date of delivery. Trilithic reserves the right, before having any obligation under this limited warranty, to inspect the damaged product, and all costs of shipping the product to Trilithic for inspection shall be borne solely by the buyer. Trilithic’s obligation under this limited warranty shall be limited, at Trilithic’s sole option, to replacing or repairing the product, or to replacing or repairing any defective part, F.O.B. Indianapolis, Indiana. If neither of the two options is reasonably available, then Trilithic, in its sole discretion, may provide a prorated refund to the buyer of the purchase price of the product, as evidenced by the proof of purchase, less any applicable service fees in accordance with the following schedule: months 0-3 = 100%; months 4-12 = 50%; and months 13–24 = 25%. Batteries and fans are not included or covered by this limited warranty. Any product or part that is repaired or replaced under this limited warranty shall be covered only for the remainder of the original warranty period which applied to the original product or part, or for ninety (90) days, whichever is longer. All products or parts that are exchanged for replacement shall become the property of Trilithic.

In order to recover under this limited warranty, buyer must make a written claim to Trilithic within sixty (60) days of the occurrence and must present acceptable proof of original ownership of the product (such as an original receipt, purchase order or similar documentation). In order for this limited warranty to be effective, the product must have been handled and used as set forth in the documentation accompanying the product and/or its packaging. This limited warranty shall not apply to any damage due to accident, misuse, abuse, neglect, fire or other casualty. Further, this limited warranty shall not apply to any product which has been altered or where the damage was caused by a part not supplied by Trilithic. Trilithic retains the final decision whether a product is within warranty conditions.

THE REMEDY SET FORTH HEREIN SHALL BE THE ONLY REMEDY AVAILABLE TO THE BUYER AND TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT SHALL TRILITHIC BE LIABLE FOR ANY SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO, LOST REVENUES, LOST PROFITS, LOSS OF USE OF SOFTWARE, LOSS OR RECOVERY OF DATA, DOWNTIME, REPLACEMENT EQUIPMENT AND ANY THIRD PARTY CLAIMS ARISING OUT OF ANY THEORY OF RECOVERY INCLUDING WARRANTY, CONTRACT, STATUTORY OR TORT IN CONNECTION WITH THE PRODUCT, EVEN IF TRILITHIC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, IN THE EVENT THAT THIS LIMITED WARRANTY FAILS OF ITS ESSENTIAL PURPOSE, IN NO EVENT SHALL TRILITHIC’S ENTIRE LIABILITY TO BUYER EXCEED THE PURCHASE PRICE OF THE DEFECTIVE PRODUCT.

EXCEPT FOR THE LIMITED WARRANTY PROVIDED HEREIN, TO THE FULLEST EXTENT PERMITTED BY LAW, TRILITHIC DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED (INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), WITH RESPECT TO THE PRODUCT OR ITS SUITABILITY FOR ANY USE INTENDED FOR IT BY THE BUYER. TO THE EXTENT ANY IMPLIED WARRANTIES MAY NONETHELESS EXIST BY OPERATION OF LAW, ANY SUCH WARRANTIES ARE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY.

This limited warranty is non-transferable. This limited warranty does not affect any other legal rights buyer may have by operation of law. No agent, reseller, distributor or business partner of Trilithic is authorized to modify the terms of this limited warranty on behalf of Trilithic.

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