CableVista
Edge Decoder

Basic Interoperability Guide with Monroe One-Net EAS

Document Name: Basic Interoperability Guide with Monroe One-Net EAS
Document ID:
Last modified: February 8, 2011

Vecima Networks Inc.
4210 Commerce Circle
Victoria, BC, Canada V8Z 6N6

Contents

List of Figures

About this Document

Purpose

This manual provides a guide for configuring the Vecima Networks CableVista (version 6.3.2N) and Monroe Electronics One-Net (version 1.8-1) to implement EAS messages on a customer headend. The information contained in this manual, including the values for IP addresses, transport streams, and PID values, gives an example of a typical configuration only. Individuals configurations will vary based on business decisions, network equipment, and the analog and digital equipment used by the customer.

Note: Required configuration values are noted under specific entries.

Organization of the Configuration Guide

Part 1— Overview of the EAS settup windows used to configure CableVista and One-Net to implement EAS messages.
Chapter 2— A quick start guide for systematically setting up and troubleshooting a simple CableVista and One-Net configuration
Chapter 3— Instructions on how to generate and interpret CableVista and One-Net logs

Document Conventions

This manual uses the following special formats to emphasize key information. Be aware of all warnings and cautions before you begin to install the product.

Note: Whenever you see this icon and heading, the associated text provides some important information not directly related to the topic.

In addition, this guide uses the following text formatting:

Format	Meaning
Italic	New terms and book titles appear in italics
All Capital	Acronyms and abbreviations are given in all capital letters
Bold	Inidcates menu items, commands, or buttons on the user interface
Monospace	Shows names of commands, directories, or on-screen output

Getting Support

Visit the Vecima Networks Web page at www.vecima.com.

- Get the latest announcements from Vecima Networks.
- Download product related software, manuals, application notes, or other information
- about Vecima products.

Other Documentation

You can find more information about the products in the following manuals:

- One-Net Digital Emergency Alert System Encoder/Decoder Users Manual, model R189, version 1.8-1, available from the Monroe Electronics Web site.

- CableVista Edge Decoder (NTSC) Installation and Operation Guide, available from Vecima Networks.

For technical support:

Contact technical support by telephone or email.
• Email:
• Telephone:
Be prepared to provide your model number and phone number

Overview for EAS Setup

The set up specifics given in this manual might change depending on custom features and where the SCTE18 packet is sent. The basic configuration is:

- Out-of-band if the SCTE18 packet is sent through the fast Ethernet port
- In-band if the SCTE18 packet is sent throught the Gigabit Ethernet port. The SCTE18 packet has the information rquired by the CableVista to initialize, send, and stop EAS messaging.

This configuration guide assumes the user has previously set up One-Net to connect to the network. One-Net has these features:

- DVS644(SCTE18)
- Stream MPEG
- NIC card connetion to the network

Typical Configuration Process

The following steps give an outline of a typical configuration for the CableVista and One-Net:

1) Set up the physical cable and IP addressing to meet network requirements:
   a) Connect the physical cabling to the ports on the CableVista, ie:, F/e for management, and GbE for the transport streams.
   b) In coordination with your IT department, configure the equipment with the IP addressing scheme used for connectivity to the network. The access lists have to allow passing the traffic through switches and other network equipment.
   c) Some IP addresses, UDP ports, and other settings require a matching value between CableVista and One-Net. Ensure that all settings have the required matching value.

Note: The steps listed here are only basic requirements to achieve a connection between the equipment. Customized networks may have different requirements. For example, If your network only allows unicast and you try multicast, then network traffic will not reach equipment and messages will not be received. If the One-Net is set to access Gigabit Port 0/1 on CableVista and cable is in CableVista GbE 0/2, again no messages will reach Cablevista.

---

2) Set up debug logging on CableVista through console or telnet.
   a) Enable Debug at the console. You can telnet into the CableVista using web page IP address and password.
   b) Type Y after the 11 Debug Error Message Logging : Disabled to enable EAS debug logs. Logs generated in this way give more details on the CableVista EAS debug logs.
3) View the One-Net logs as follows:
   a) Click Encoder tab>Originated Alerts to check currently active messages.
   b) Click Decoder tab>Originated&Forwarded Alerts.
   c) Check the other logs for information on EAS messages, such as Server > Operation Log.
4) Test the CableVista output to the television set.
   a) Click Per-Channel EAS Setting to check the set up of the CableVista.

b) Send a message from the CableVista by clicking Send Message from the EAS Message Text Crawl panel. This will show in the CableVista log but not the alarms.

5) Test the connectivity between One-Net and CableVista by setting up and sending a test message from One-Net. If the physical connection and IP addressing is correct, then an alarm and log messages will be asserted on CableVista. A message may display on the TV depending on the initial setup.
6) Send the Required Weekly Test (RWT) from Monroe One-Net. The RWT is a text crawl message without an audio component and also an EAS message.
    - Before sending check the event priority level on One-Net. The default priorities 1 - 11 does crawl on the CableVista. Check the CableVista Per-Channel EAS Settings>Priority Handling.
    - If you send an event in the priority range of a force tune, an outage will occur with black screen or other interruptions. If you have the force tune set up, then the channels will switch to that channel.
    - The Monroe will send an end-of-event, to clear previous events, before sending new EAS event.
7) Add set up to include audio with external source or Out-of-band audio source ID. The external source is the recommended method. **The Monroe OneNet uses hexadecimal for Audio PID values.** You can check audio PID values using the CableVista's Input Settings> Transport Streams> "View Stream analysis" hyperlink. The encoder may use decimal or hexadecimal for the Audio PID value.
8) Add set up to include force tune:
    - Vecima Recommended Method - Default force tune on CableVista. The switch will last the length of the sound event (AMTR).
    - Unavailable Method - Force tune on Monroe One-Net. If you try to send force tune from One-Net, the TV screen will go black for the duration of the force tune.
    - Non-implemented method - Inband Minor Channel is used to change to program in MPTS. This requires a MPTS to each output port on CableVista. The MPTS requires a program number that can be tuned to. If the values point to non-existent program, there will be black screen during the EAS event. Default time is 15 minutes. When not using, set values to zero. Vecima does not recommend this method.
    - You need to check the CableVista log for Media Processor Reset. These can prevent the force tune from returning to the original program stream. A Media Processor Reset during a force tune results in the original mapping information being lost. Stream problems will cause the resets.

Ending a Message manually

The Monroe sends an end EAS message before sending next message. You cannot end a message once it starts.

Note: For simple configurations, refer to the Quick Start section of this manual for a step-by-step process.

Common Setup Features

This section covers settings that are common to all EAS messages and configurations.

Displaying an EAS Summary

The EAS Summary page of the CableVIsta user interface (UI) displays a table with the summary information for all cards.

The page displays:

- **Slot/Port.Channel** – Given for each card and card type.
- **In-Band and Out-of-Band** – Shows whether they are enabled or disabled.
- **FIPS codes** - Shows where the EAS message is from.
- **Ignore or Crawl Priority** – Shows the event priorities and what values they are set for. The range of numbers is 0 to 15. The Figure shows the default values.
- **Crawl Location and Speed** – Describes the location on the TV where the text crawl message is displayed and the speed at which it is displayed.

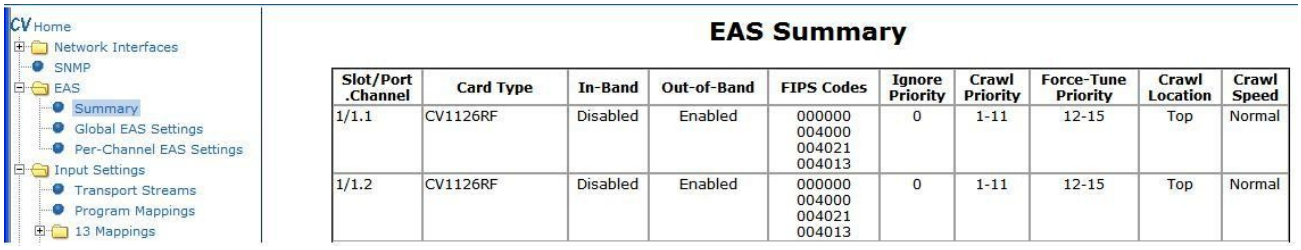

Figure 1: EAS Summary on CableVista

Setting EAS Message Handling

The Per Channel EAS Settings page on the CableVista UI allows you to set the in-band or out-of-band option and whether the option is enabled or disabled. You can set both options to enabled. The default is with all ports selected.

Note: You can set individual ports.

To set up EAS message handling:

1. Select the channels that you want to change and de-select the channels that you do not want to set.
2. Select **Enabled** or **Disabled** from the drop down box.
3. Click on **Submit** to apply the settings.The EAS Message Handling drop down box will show the setting in an additional line and a banner at the top of the page will show the individual channel settings.

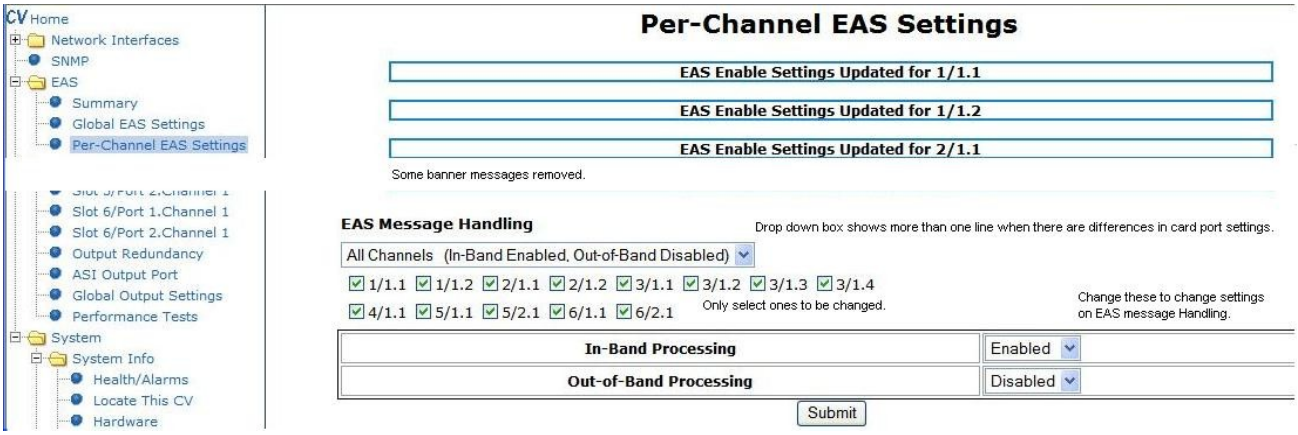

Figure 2: Per Channel EAS Settings

Setting FIPS on CableVista

Each state and region in the United States is represented by a Federal Information Processing Standard (FIPS) numeric code. See Figure 3.

To set FIPS codes on CableVista:

1. Click **EAS > Per-Channel EAS Settings** to view the page that displays the FIPS codes. The page contains a form that you can use to create a complete FIPS code.
2. Use the drop list and check boxes found under **FIPS Location Codes** to select the channels for which you want to set FIPS codes. The default is **All Channels**. You can omit channels by clearing the check box for that channel or you can select individual ports by clicking the check box that corresponds to the port.
3. Select a state to reveal the counties contained in that state, then select a county and/or subdivision within the county. The code for these selections is displayed in the **Code** field.
4. Click **Add** to add the code to the list of FIPS codes for the selected channels. To remove a code from the list, select the code and click **Remove**.

Click **Submit** to apply your settings. A banner will appear at the top of the page to display the changes.

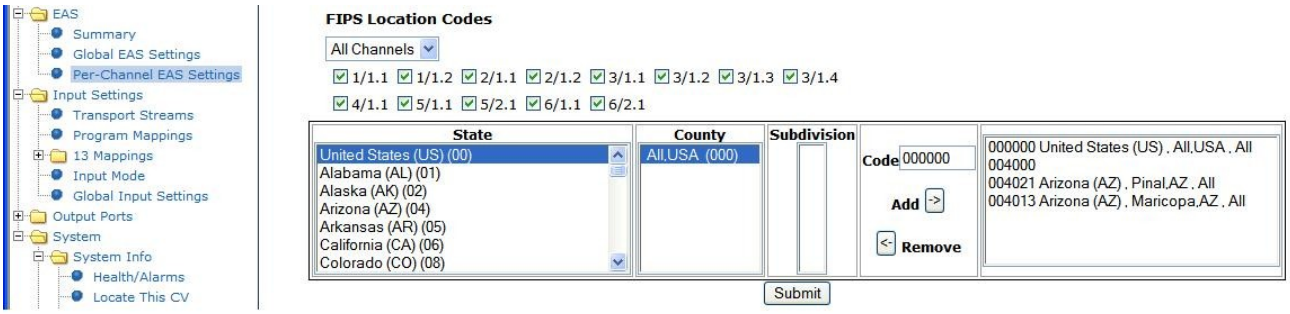

Figure 3: CableVista FIPS Location Codes

Setting Available EAS Types and Available FIPS on One-Net

To set up the Available EAS Types on One-Net, select **Setup>Encoder**. The circled items in Figure 4 show the values that you need to change. Click **Add** to add each EAS code to the setup list.

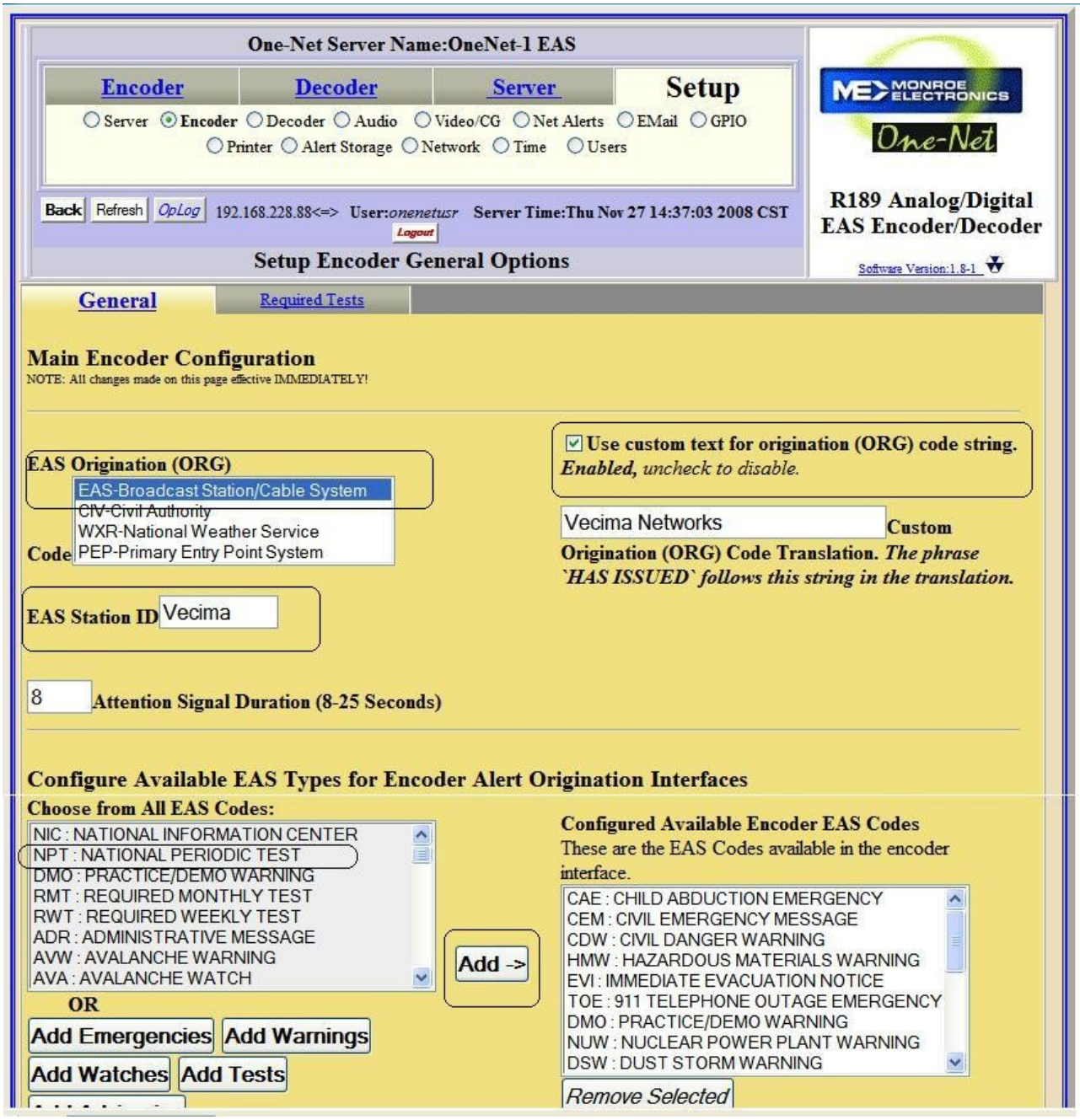

Figure 4: One-Net setting up encoder EAS types

To set up the Available FIPS on One-Net, select **Setup>Encoder**. The circled items in Figure 5 show the values that you need to change. Click **Add** to add each FIPS code to the setup list.

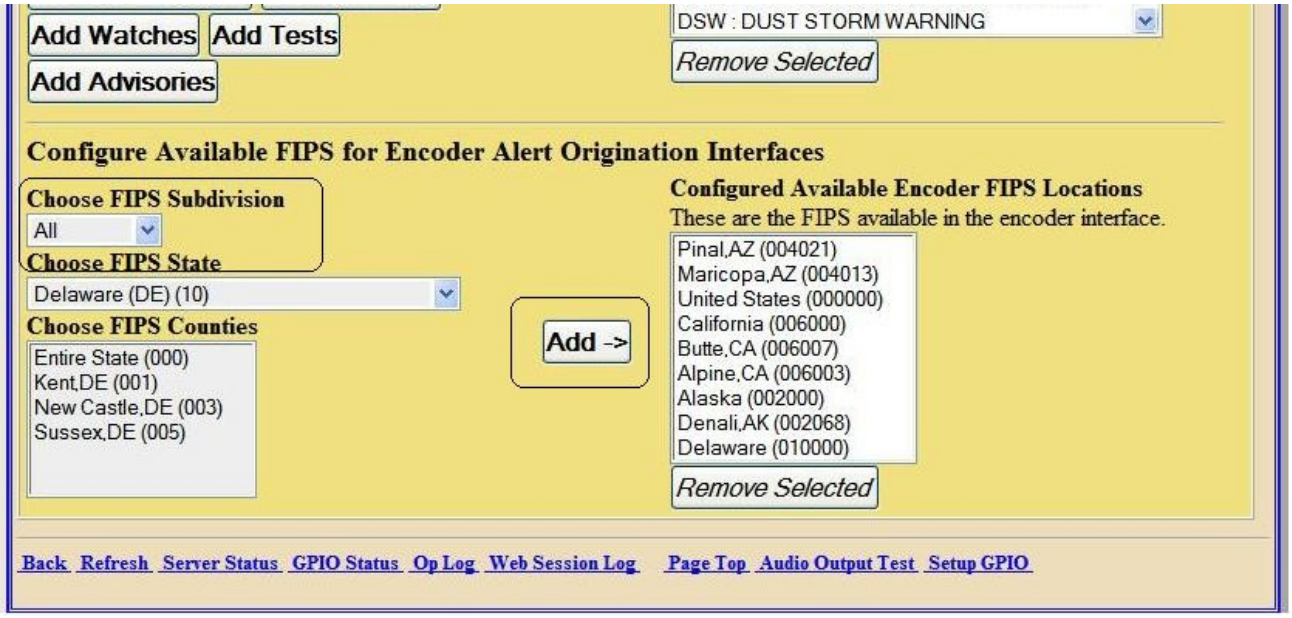

Figure 5: Setting up available FIPS on One-Net

After setting up available FIPS codes on the Monroe One-Net Encoder tab, select the locations in select box and click on **Add Selected FIPS**. See Error: Reference source not found.

You can click on hyperlink **Available FIPS locations** to go to the web page to set up available FIPS. This will take you to **Setup** tab, **Encoder** radio button selection, **General** tab. See the *One-Net Digital Emergency Alert System Encoder/Decoder* users manual, Section 5.9, for more details on **Configure Available FIPS** and **Configure Available EAS Types**

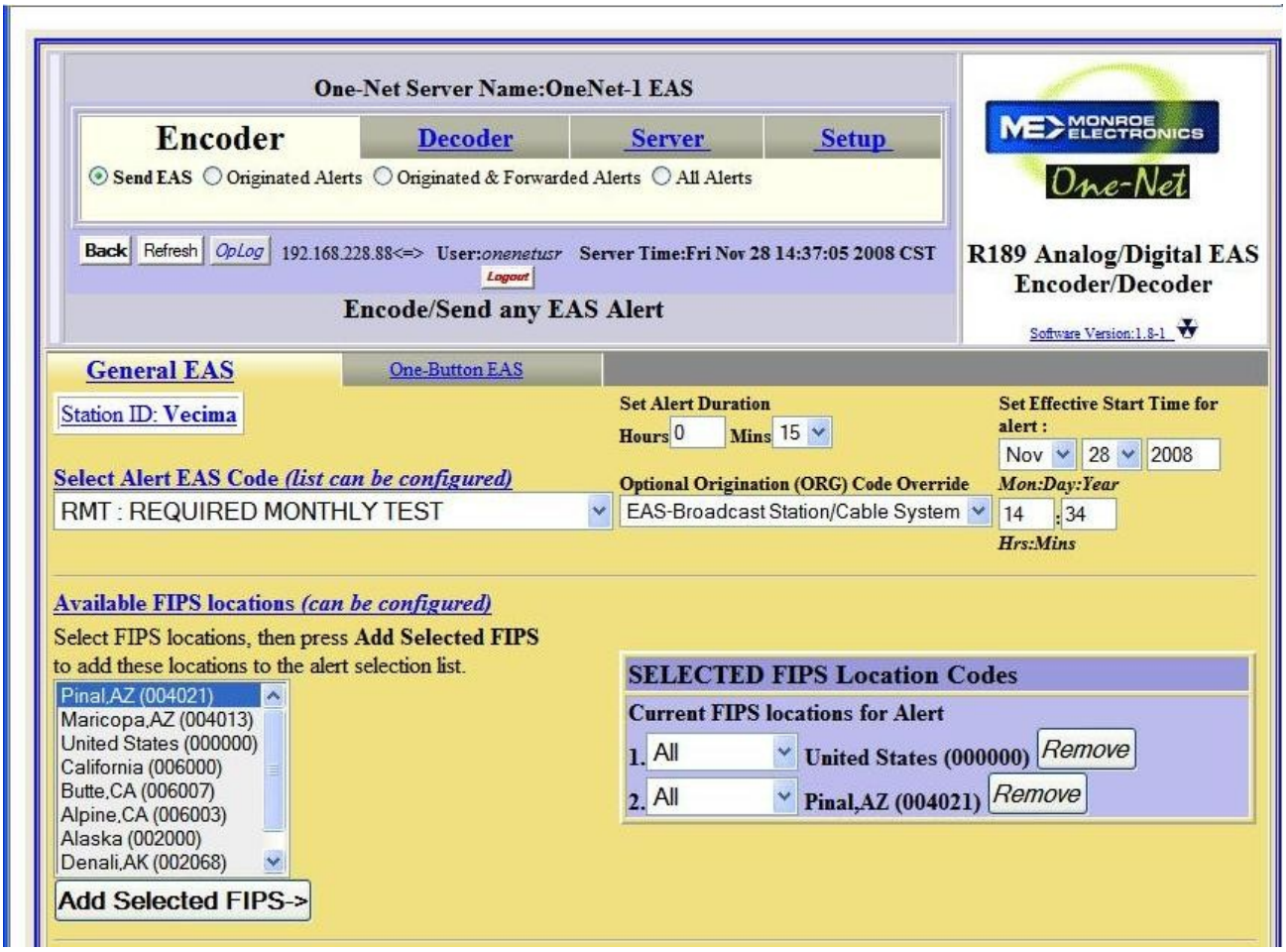

Figure 6: Setting up FIPS locations

You can set the FIPS for **Setup>Net Alerts>SCTE18** client at the bottom of the web page. Clear the **All FIPS code trigger** check box. The default setting is to select All FIPS codes trigger and send all. See Figure 7.

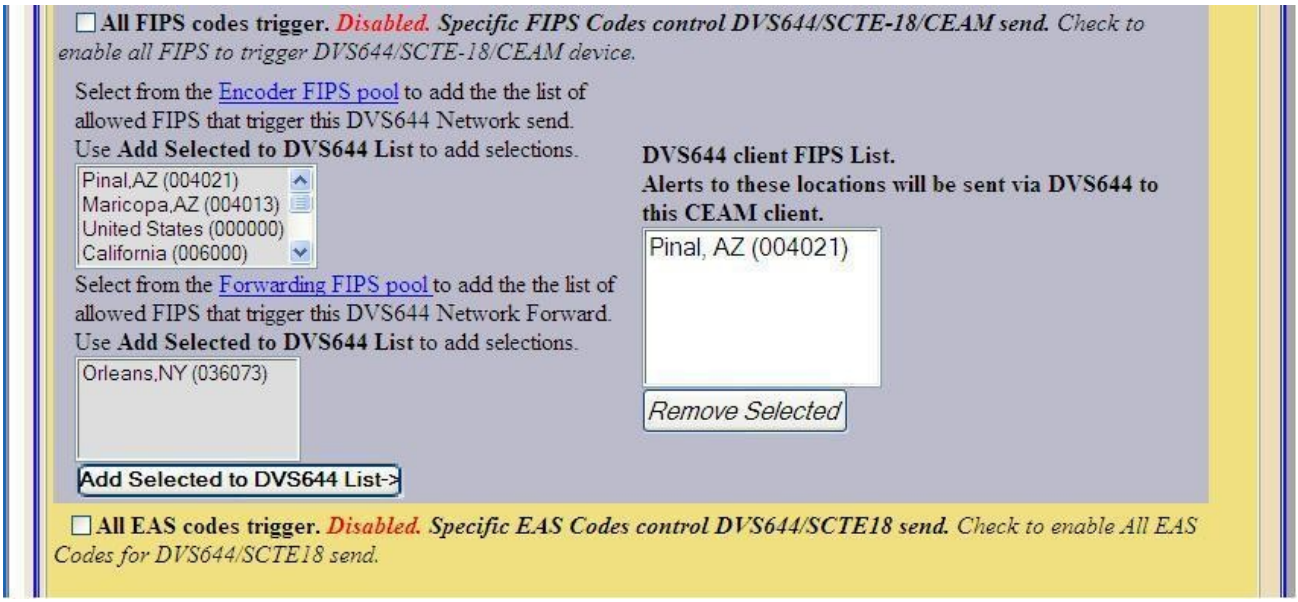

Figure 7: One-Net FIPS setup on Setup, Alerts, and SCTE 18 client

Setting the FIPS and EAS Codes on One-Net SCTE 18 Client

To set up the FIPS and EAS codes on the SCTE 18 client:

1. Click **Setup>Net Alerts>DVS644(SCTE18)** to open the One-Net interface page. Find the alert type priority settings at the bottom of the page
2. Set the priority levels based on types, such as advisories, tests, or warnings. Select from the drop down list for each type of priority (see Figure 8). These levels need to match the ones on the CableVista. See also, Figure 9 and Figure 11. For settings on cards, see Figure 12.

Figure 8: Alert type priority selection

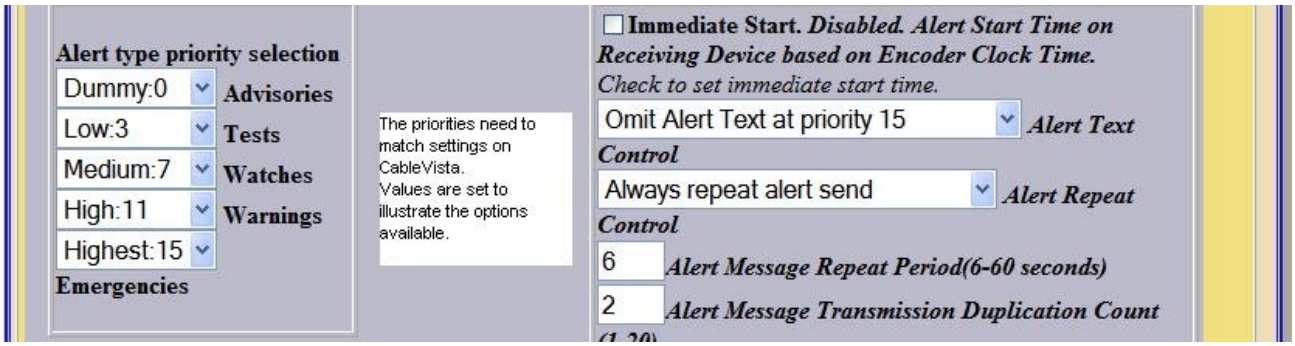

Figure 9: Alert type priority selection values

To set the types of EAS codes sent from the encoder and the SCTE 18 client:

1. On the SCTE 18 client, de-select **All EAS codes trigger**.
2. Click the EAS code that you want to set from **Choose from All EAS Codes** and click **Add Selected to EAS Code List**. The default would be to select and send all. See Figure 10.

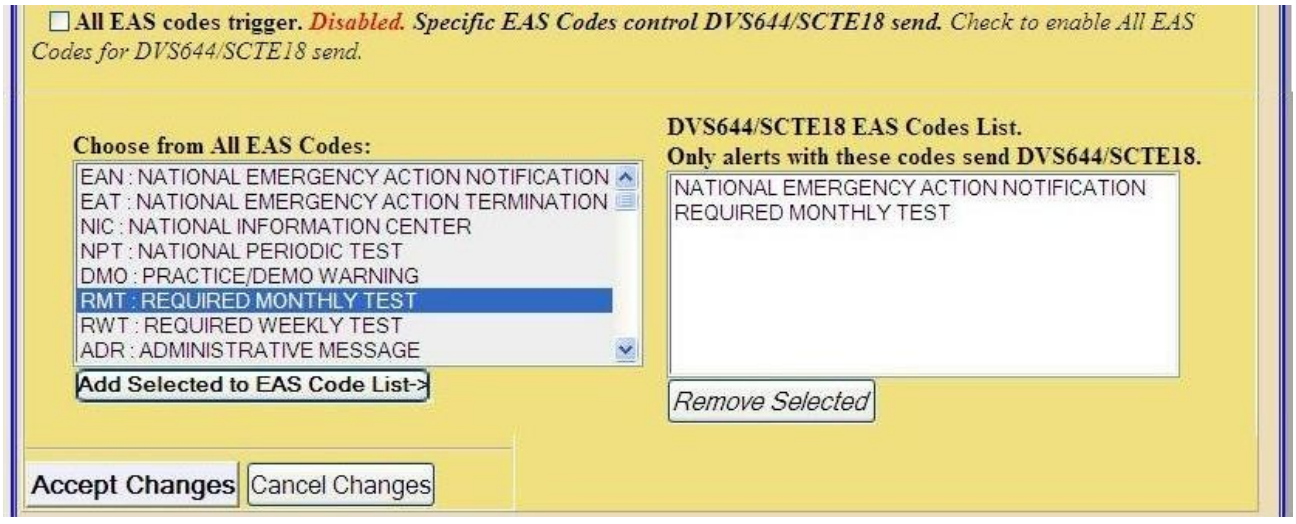

Figure 10: One-Net SCTE client EAS codes

Setting Priority Handling on CableVista

Access the Priority Handling panel by clicking **EAS>Per-Channel EAS Settings**. The default setting for channel selection is having all ports and values selected. See Figure 11 and Figure 8. For more information about settings on CableVista cards, see Figure 12.

To change priorities in CableVista

1. Select the channels that you want to change and de-select the channels that you do not want to set.
2. Change the values in **Ignore**, **Crawl**, and **Force Tune**. These values must match the values on One-Net.
3. Click **Submit** to apply your settings.

Setting Text Crawl Attributes on CableVista

This sets the locations for display on the TV. This is on the EAS ->Per-Channel EAS settings. The default is for all ports. See Figure 11: Priority Handling, Text Crawl Attributes, Send EAS Text Crawl For settings on cards See Figure 12: CableVista Output Card EAS Settings

To change text crawl location and speed in CableVista

1. Select the channels that you want to change and de-select the channels that you do not want to set.
2. Change the values in **Location** and **Speed**.
3. Click **Submit** to apply your settings.

Sending Text Crawl on CableVista

Use this page to send a text crawl from the CableVista through the output port to a TV. Open the page by clicking **EAS>Per-Channel EAS settings**. Sending a text crawl text tests the connectivity and function of the Text Crawl on CableVista. The results of the text crawl will show in the log but not the alarms page. See Figure 11. For settings on cards, see Figure 12.

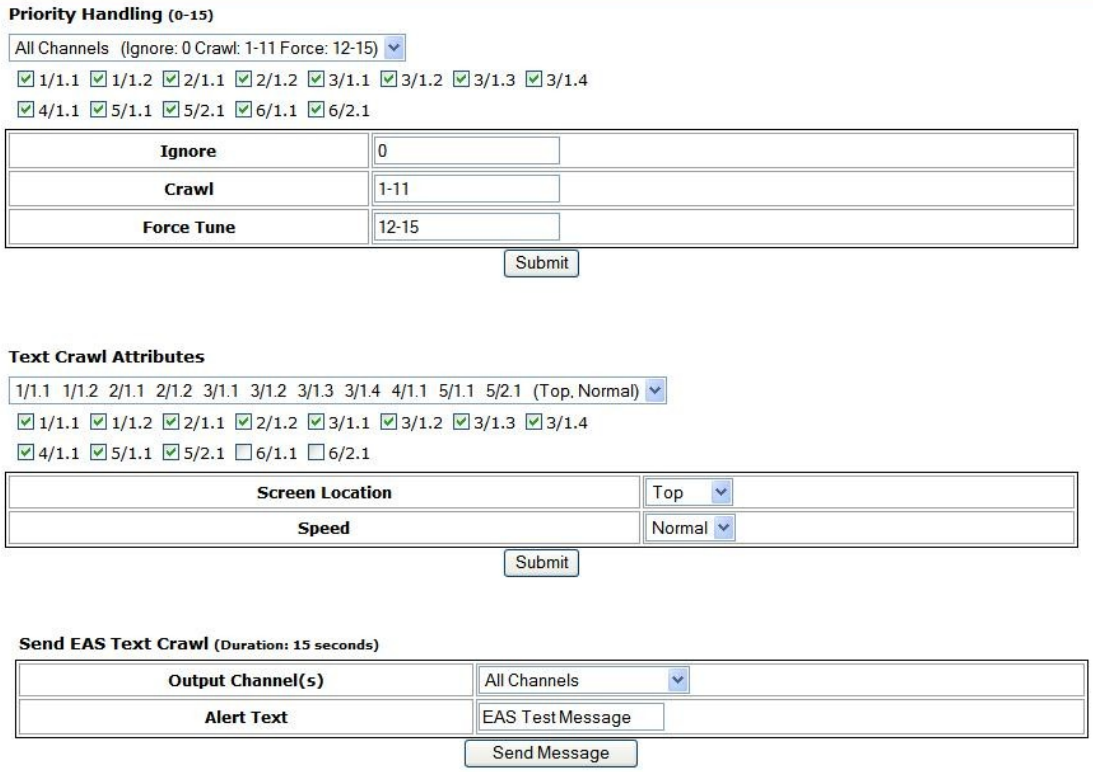

Figure 11: Priority handling, Text Crawl, Attributes, Send EAS Text Crawl

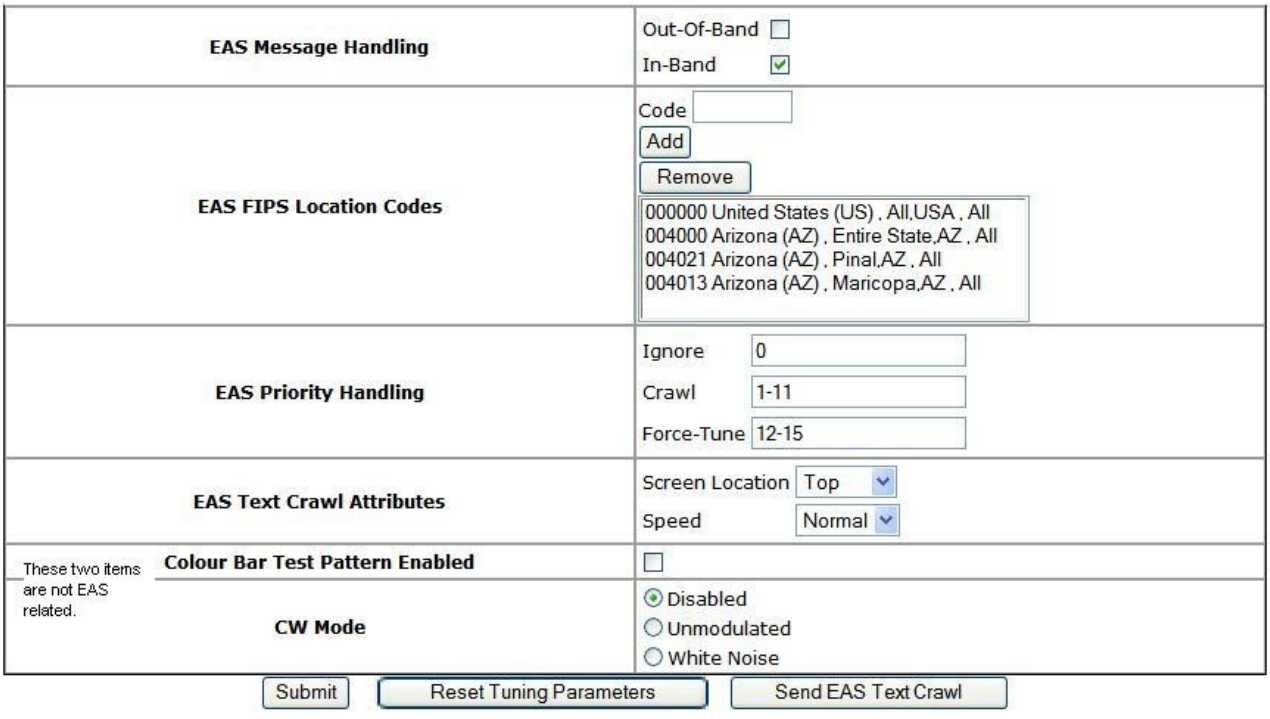

Figure 12: CableVista output card EAS settings

Setting Required Weekly Test Audio Forwarding on One-Net

To enable a Required Weekly Test (RWT):

1. Select the Setup tab from the One-Net Server page.
2. Select the Decoder option.
3. Click **Forwarding Weekly Test Audio**. See Figure 13. This is required to have RWT crawl with audio overlay.

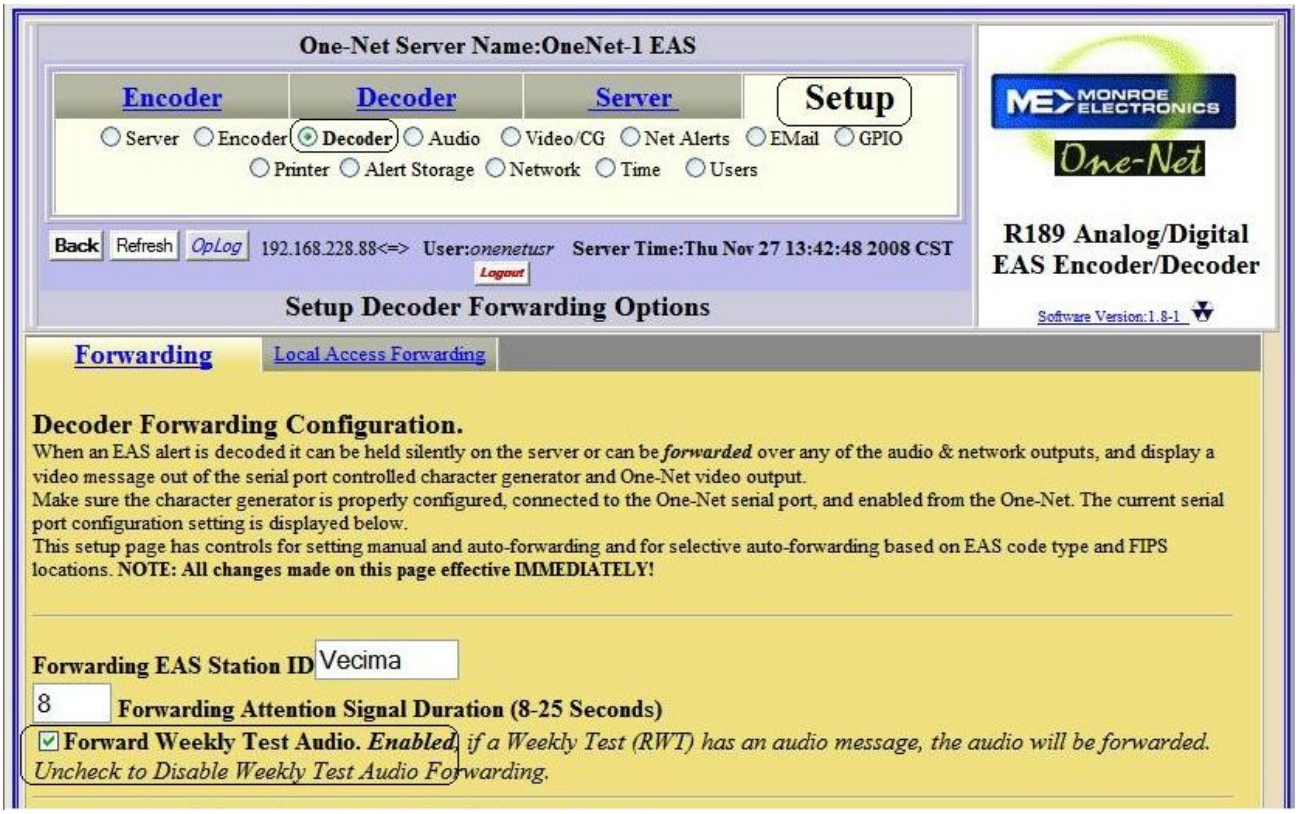

Figure 13: One-Net forwarding Required Weekly Test audio

To set One-Net to forward duplicate alerts, select an option from the drop list under **Configure Duplicate Alert Handling for Decoder Auto-Forwarding**. By default, when two alerts are identical, only one alert is sent

To customize the EAS or FIPS codes that One-Net sends, clear the check box next to Allow All EAS Codes or Allow All FIPS Codes, then choose the specific codes that you want One-Net to forward. See Figure 14.

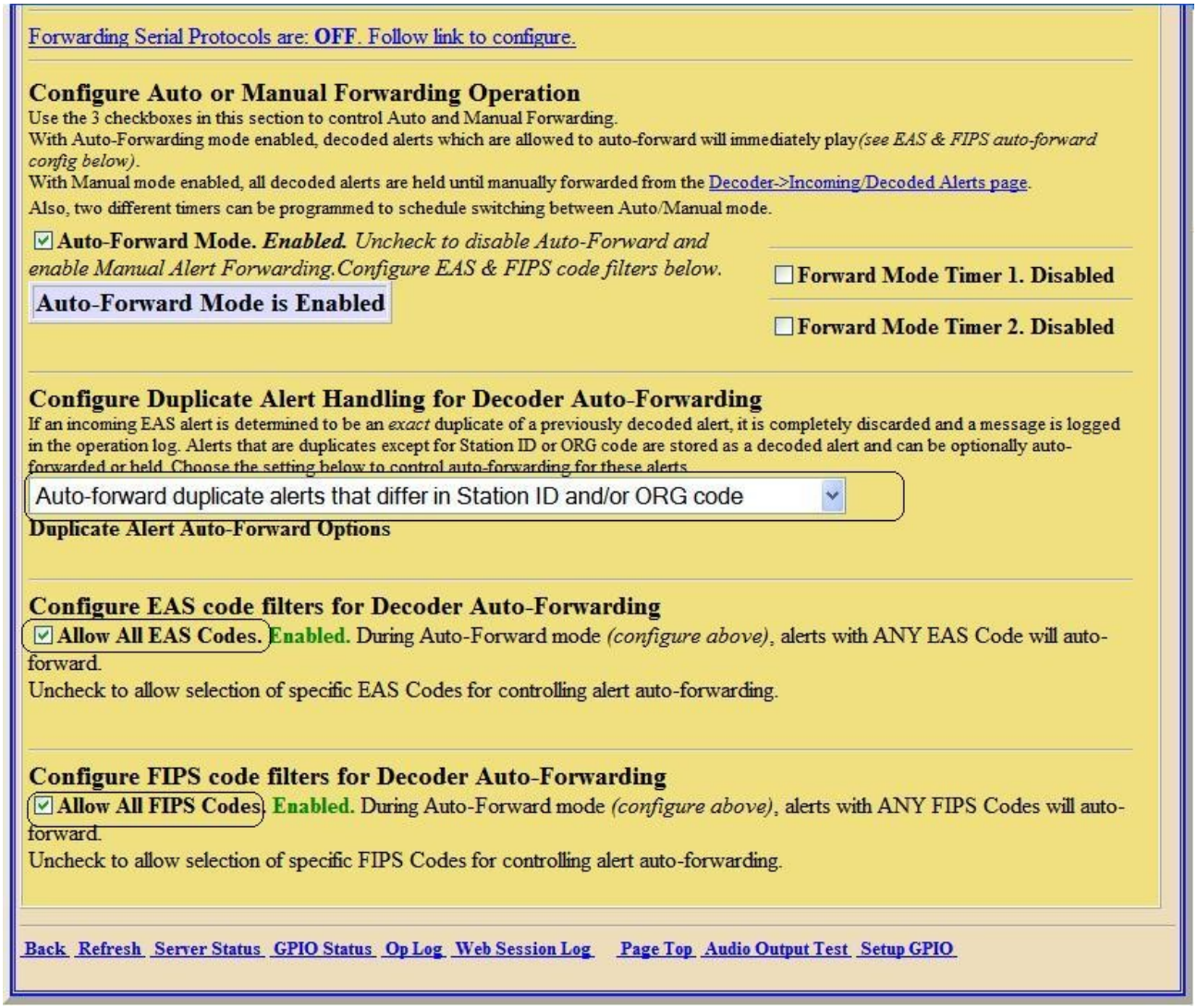

Figure 14: Setting Decoder Forward Duplicate Alerts, EAS Codes, and FIPS Codes options

Sending an EAS Message

To send an EAS message:

1. From the One-Net server page, select **Encoder** and the **Send EAS** option.
2. Select the **Alert EAS Code**.

> **Note**: RWT will have fewer audio options and will require forwarding to be set up to send audio overlay. See Figure 13 for setup of audio with RWT.

3. Set up a list of FIPS locations, by selecting each FIPS code from the **Available FIPS locations** and clicking **Add Selected FIPS**. See Figure 15.
4. Select audio type, if required, and click on **Send EAS Alert**. See Figure 15
5. You will be prompted to confirm sending of message. Click, **Yes, Send Alert!** to confirm. See Figure 16. One-Net displays a message to indicate the message is being sent.
6. You can view all current, scheduled, and expired alerts by clicking **Encoder>Originated Alerts**. Current alerts display in the red box under **Currently Active Originated Alerts**. See Figure 17.

Figure 15: One-Net sends EAS message

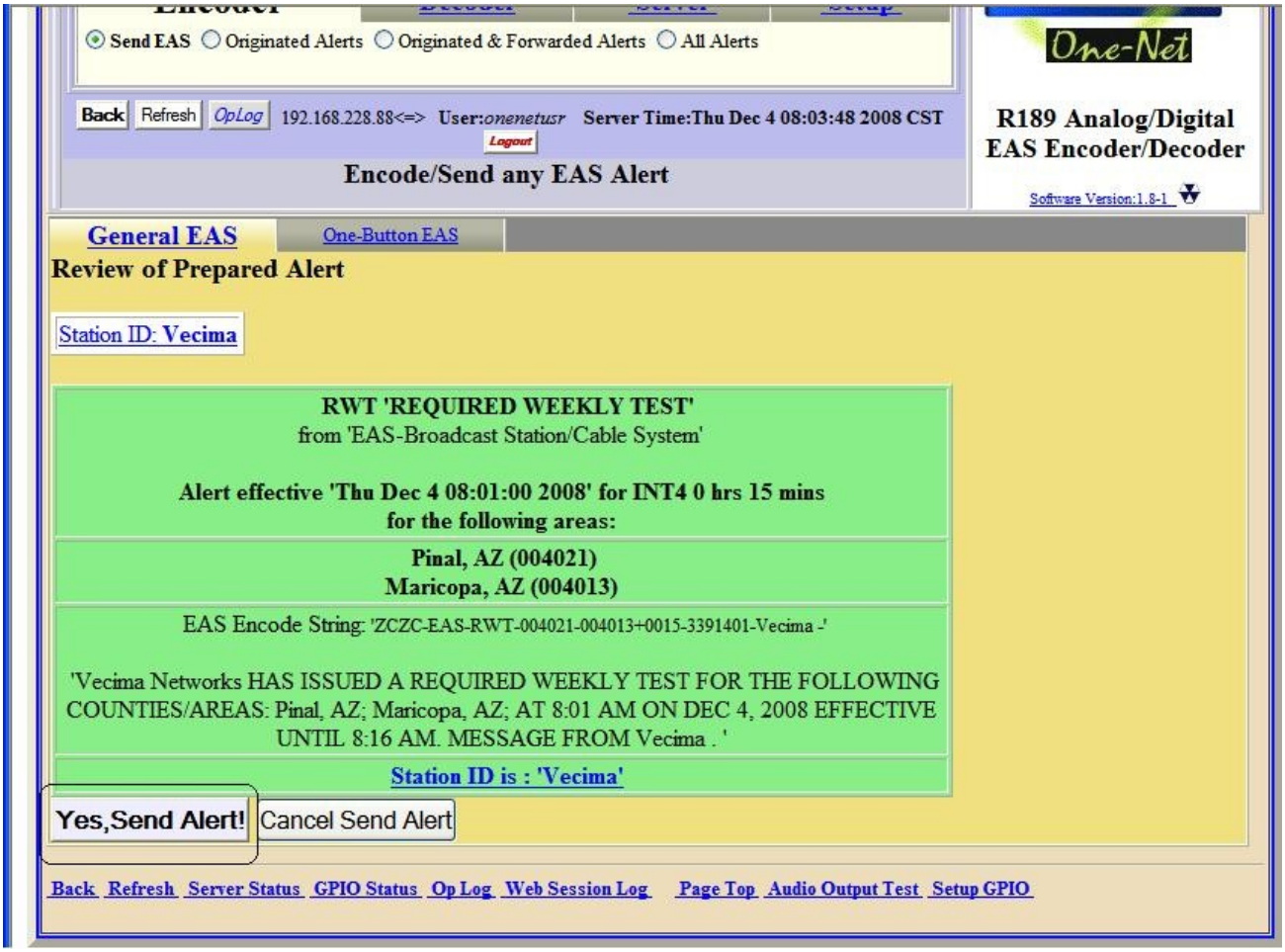

Figure 16: One-Net confirms sending EAS alarm

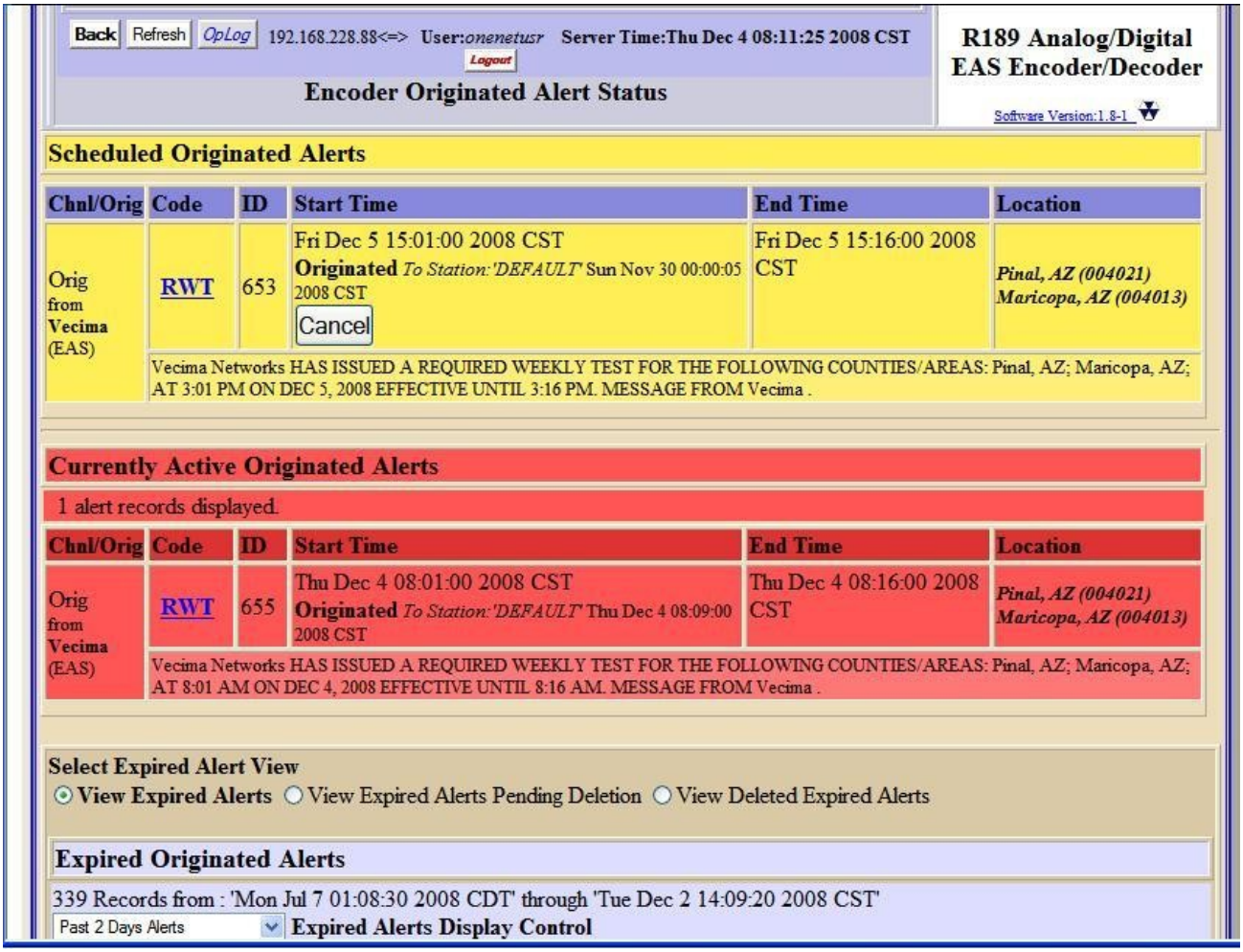

Figure 17: One-Net Encoder Originated Alerts

Customizing EAS Messsages

The settings for EAS messaging can be set up with a number of variations:

- In-Band listening for EAS control packets - unicast EAS crawl with or without audio.
- In-Band listening for EAS control packets - v2 or v3 multicast EAS crawl with or without audio
- Out-of-Band listening for EAS SCTE control packets - unicast EAS crawl with or without audio
- In-Band listening for EAS SCTE control packets - default Force-Tune messaging configured on CableVista
- Out-of-Band listening for EAS SCTE control packets - default Force-Tune messaging configured on CableVista

Quick Start

The following process provides instructions on how to configure a typical CableVista and One-Net system. It includes verification steps to help you to troubleshoot the configuration.

Step 1: Set up the physical and network connections including the network addressing and testing. Consult with the IT department who would perform most of this step.
Step 2: Send a text crawl message from CableVista to test the connection. A successful test ensures that all the components are working from cards to TVs.
Step 3: Set CableVista and One-Net to send control packets using either in-band or out-of-band. Next, Set up the basic text crawl with no audio. View the configuration on the web interface and the logs to check the setup. For a more advanced configuration, continue with step 4 and 5.
Step 4: Set up a text crawl with either an external audio source or an internal One-Net audio source.
Step 5: Set up force tune on CableVista.

Step 1: Set Up Physical Connections and Common Settings.

Network Protocols

CableVIsta and One-Net use IP addressing based on unicast or multicast communications. Multicast communication is based on IGMP v2 or IGMP v3 protocol.

- IGMP v2 requires the multicast address and UDP port.
- IGMP v3 requires the multicast address, UDP port, and source IP address.

Physical Connections for Audio.

In the back of the Monroe One-Net is a sound card and EAS sound. A cable with headphone type pins is required to connect the sound.

The top card on the back panel is for output sound. It has D-connector on its left. The next hole is round for sound cable. The card below the sound has Phoenix connector on the left side of card. The sound cable goes in round hole beside first BNS connector to right.

See the *One-Net Digital Emergency Alert System Encoder/Decoder User Manual*, Section 3.4 for instructions for Audio wiring

Step 2: Send a Text Crawl Message from CableVista

Sending an EAS text crawl message allows you to test the output from CableVista cards to the TV. The results of the text crawl will appear in the logs, but not in the alarms.

To send a text crawl message from CableVista:

1. On the CableVista web interface, click **EAS>Global EAS Settings** or **EAS>Per-Channel EAS Settings**. See Figure 19 and Figure 20.
2. Select the output channel to where you want to send the message.
3. Type the text crawl message in the Alert Text field.
4. Click Send Message. The EAS text crawl message will display on a predefined channel for a 15 second duration.

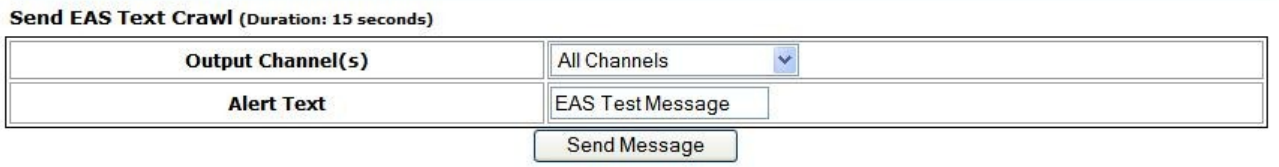

Figure 18: Send EAS text crawl

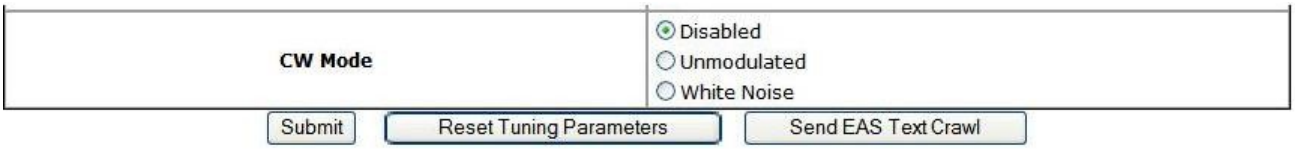

Figure 19: CableVista output card EAS crawl

Step 3: Setting Up Control Packets and Text Crawl Messages

One of the main choices that you must make is whether to use out-of-band (OOB) or in-band to send control packets. The SCTE 18 packet contains the configuration information on the EAS message for the CableVista.

- The Monroe One-Net with OOB sends the SCTE 18 packet to the fast Ethernet port on the CableVista.
- The Monroe One-Net configured for in-band sends the SCTE 18 packet to the GigaBit port on the CableVista.

Note: Send an EAS message to test your configuration. See the following section.

In-Band Listening for EAS Control Packets

To set CableVista to listen for in-band EAS control packets:

1. From the CableVista web interface open the Global EAS Settings page (see Figure 20) by clicking **EAS>Global EAS Settings**.
2. Under **In-Band Source**, click the **Enable** check box.
3. By default, the EAS PID is set as `0x1FFB` and in most cases should be left at this value.
4. Set GbE Port to Both GbE, GbE 0/1 or GbE 0/2 depending on port cable is attached to. For this example:
   - Set Type to Unicast
   - Set UDP Port to 5050

Note: You can also set multicast by changing the drop down box for Type to IGMPv2 or IGMPv3. You will need to add the multicast IP address and UDP Port.

See also, Figure 7: One-Net FIPS setup on Setup, Alerts, and SCTE 18 client.

The settings on the Cablevista must match the Settings on One-Net **Setup>Net Alerts>SCTE 18 Client Interfaces**.

To set up the client's unicast address on One-Net:

1. From the One-Net web interface, click **Setup>Net Alerts>DVS644(SCTE18).** See Figure 20: Setting inband unicast options on Global EAS.

2. Set up the client's IP address, port, and program values. This information should be the same as from **CableVista Network Interfaces>Gigabit Ethernet Settings**.

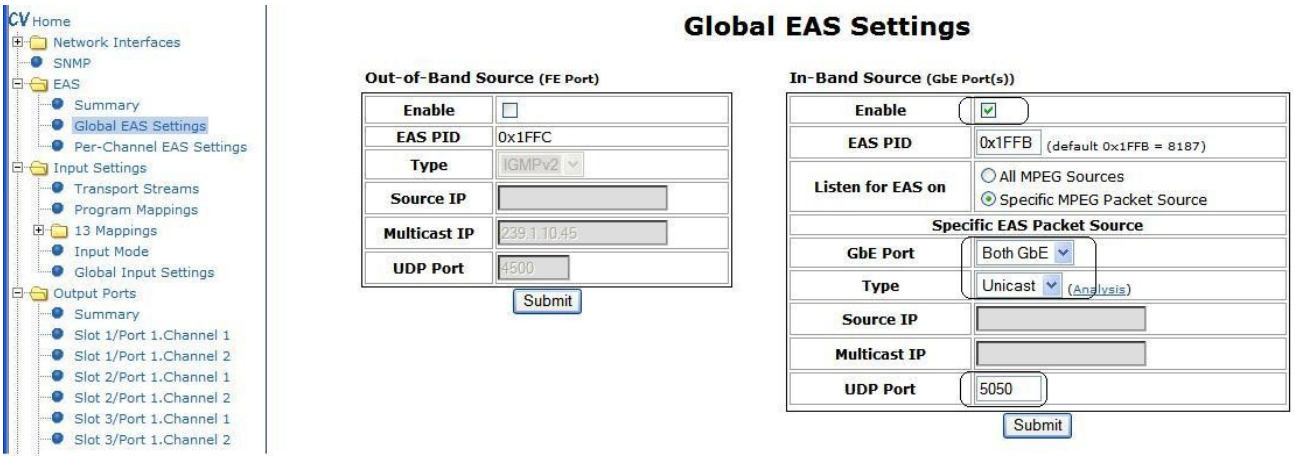

Figure 20: Setting inband unicast options on Global EAS Settings

Out-of-Band Listening for EAS Control Packets

The CableVista Out-Of-Band settings can be set for unicast, multicast IGMPv2 and multicast IGMPv3. The CableVista and One-Net have to be set to the same IP address and UDP Port. Both have to be set to out-of-band. The unicast limits configuration since each CableVista has to have its own client on One-Net. Sending audio with same unicast IP will allow only two addresses with internal sound.

To set CableVista to listen for in-band EAS control packets:

1. From the CableVista web interface open the Global EAS Settings page (see Figure 20: Setting inband unicast options on Global EAS) by clicking **EAS>Global EAS Settings**.
2. Under **Out-of-Band Source**, click the **Enable** check box.
3. By default, the EAS PID is set as `0x1FFC` and in most cases should be left at this value.
4. For this example, set the following values:
    - Set Type to IGMPv2
    - Multicast IP to 239.1.2.120
    - Set UDP Port to 2400

Note: You can also set multicast by changing the drop down box for Type IGMPv3. You will need to add the multicast IP address and UDP Port.

See Figure 7: One-Net FIPS setup on Setup, Alerts, and SCTE 18 client: Monroe FIPS setup on Setup, Alerts, SCTE 18 client.

The settings on the CableVista must match the settings on One-Net **Setup>Net Alerts>SCTE 18 Client interfaces**.

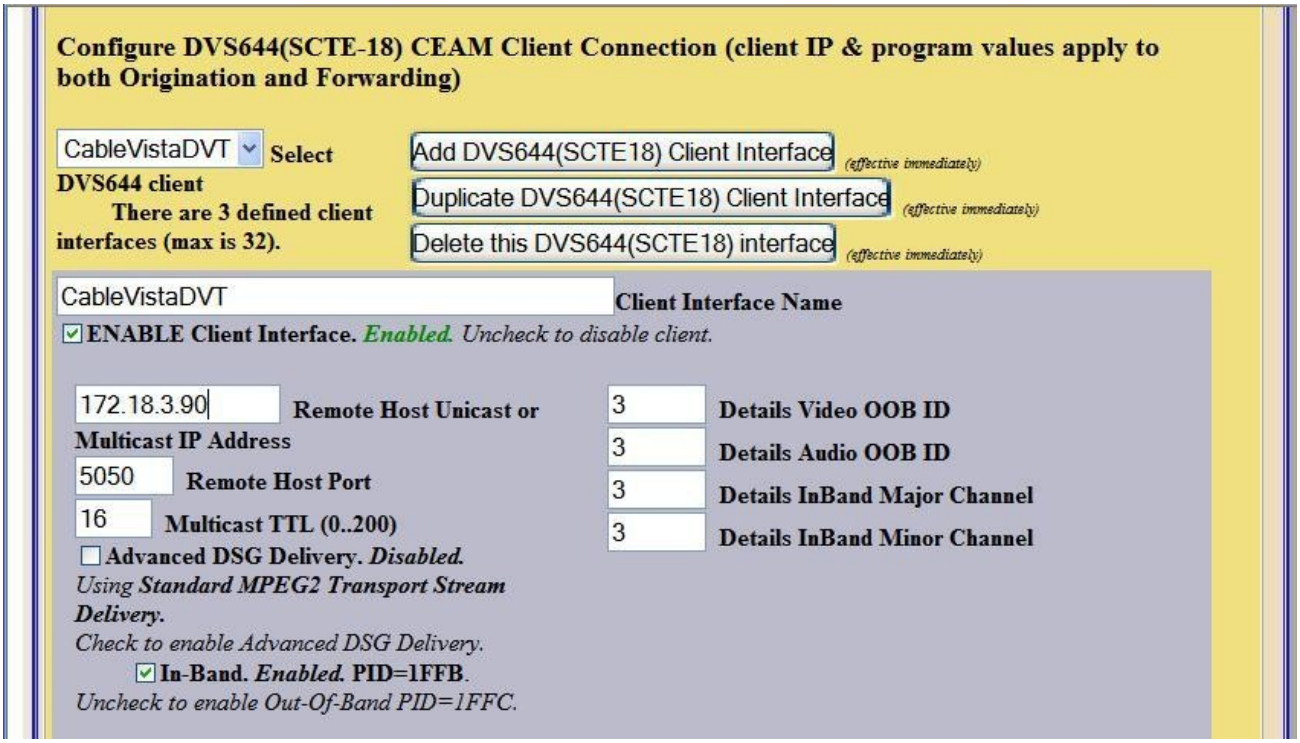

Figure 21: Setting inband and unicast options on One-Net

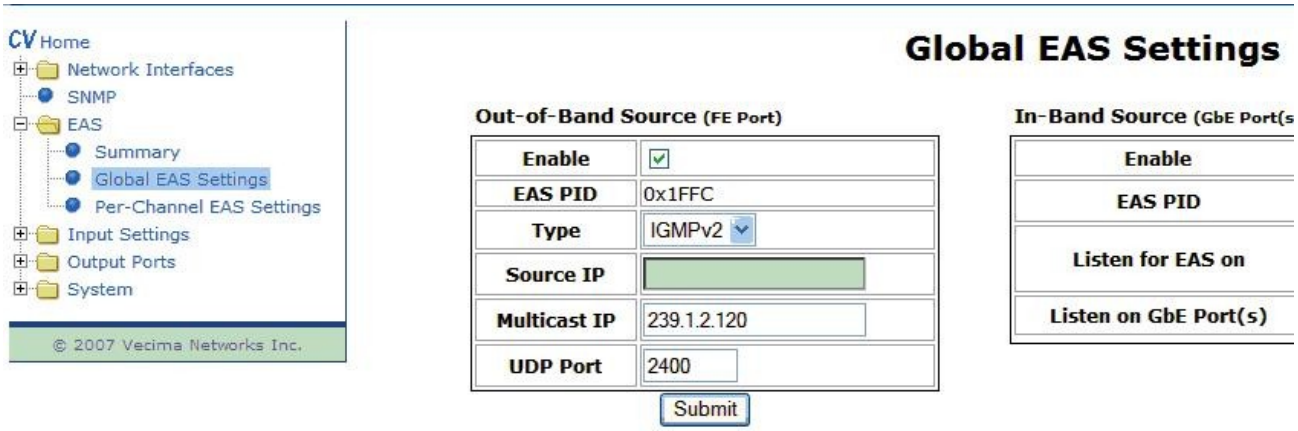

Figure 22: CableVista Out-of-Band multicast settingst

Setting Up Basic Text Crawl with No Audio

Figure 24: View Alarms EAS shows the View Alarms page from CableVista with the EAS Asserted that indicates that the EAS message was received. The Event Code type and Priority will depend on the settings on Monroe One-Net. What occurs will depend on the configuration sent by the One-Net and configuration on CableVista.

If no alarm is asserted on CableVista after sending an alarm from One-Net, then there is a problem with the configuration. Potential areas to check include an IP address mismatch between One-Net and CableVista. For other potential problems review this manual and documentation for One-Net and CableVista

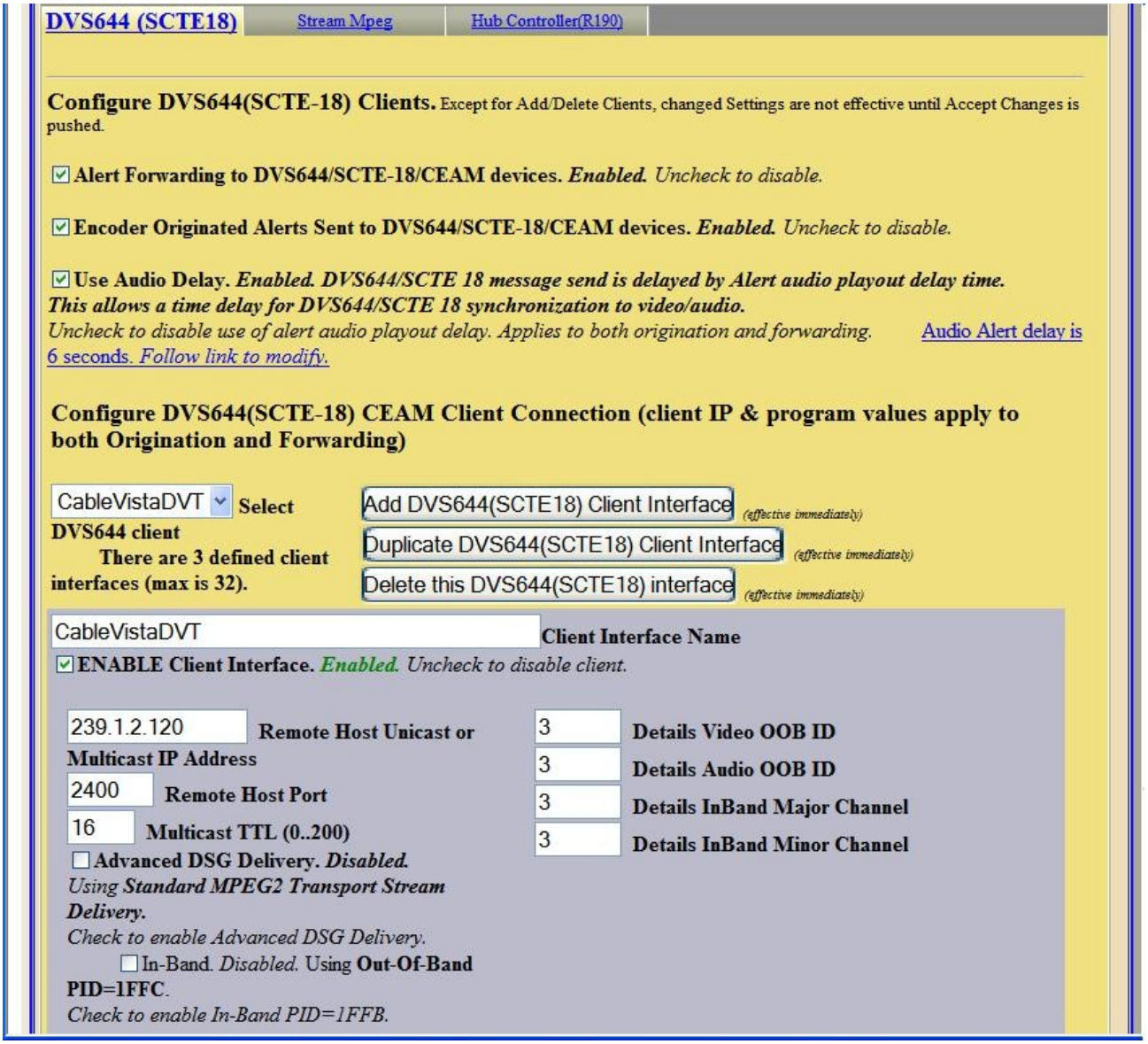

Figure 23: One-Net Out-of-Band multicast settings

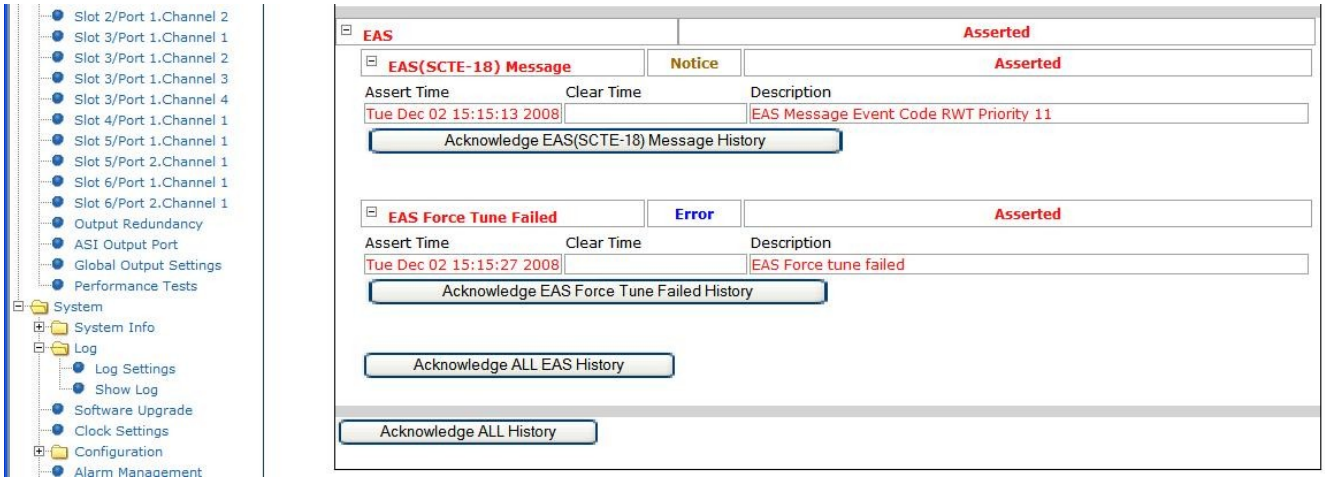

Figure 24: View Alarms EAS on CableVista

For a sample log, see Table 1: CableVista EAS log states. In this sample, the text without audio has

start audio missing in log.

- The start audio, indicated with a line that has `FLAGS  0xNNNNNNNN3` (where `N` represents other digits) will be missing.
- The force tune will have values of 0's.

See Table 2: *CableVista log with crawl only* for examples of other logs. See Table 3: *Monroe One-Net log with crawl only* for examples of One-Net logs.

You can test the text crawl by sending an EAS message from One-Net. For examples of this, see Figure 15: One-Net sends EAS message and Figure 16: One-Net confirms sending EAS alarm.

Step 4: Setting Up a Text Crawl with External or Internal Audio Source.

The EAS text message can have an audio overlay. The audio overlay can be with audio external transport stream or from Monroe One-Net through Stream MPEG. For internal audio source, you have to have the hardware for Stream MPEG installed on the Monroe One-Net. The hardware has to have cables. See Monroe One-Net manual for connection information.

The CableVista Out-Of-Band settings can be set for unicast, multicast IGMPv2 and multicast IGMPv3. The CableVista and Monroe One-Net have to be set to the same IP address and UDP Port. Both have to be set to out-of-band. The unicast limits configuration since each CableVista has to have own client on Monroe. Sending audio with same unicast IP will allow only two addresses with internal sound.

Setting Up an External Audio Source.

The process for setting CableVista with an external audio source is the same as in Step 3. However, the Monroe One-Net requires setting up the MPEG Audio Sync Private Descriptor. The Stream MPEG will still be disabled.

To set the MPEG Audio Sync Private Descriptor:

1. Click **Setup>Net alerts>SCTE18** to open the appropriate web page. See Figure 25.
2. Select the MPEG Audio Sync check box.
3. Ensure that the IP Addressing information and Audio PID match an existing transport stream. The Monroe OneNet uses hexadecimal numbers for PID values.

Note: From the Transport Streams page of the CableVista interface, you can map this transport stream to CableVista and then check the PID values by clicking View Stream Analysis. This shows the PID value in format: PID decimal (hexadecimal) i.e. PID: 1002 (0x03ea) See *CableVista Edge Decoder Installation and Operation Guide*, Input Settings, for more information.

---

4. You need to delete this Transport Stream Mapping after checking PID values. The CableVista will add it when the EAS message is run.
5. Select the Physical Port that matches the Port on CanbleVista. When **Current Active Physical** Port is selected, then port 0/1 on CableVista will be selected. The example in Figure 25 shows **Physical Port 2** selected, but selecting port 1 is more common.

6. Set **Alert Repeat** to **Always repeat alert send** to set a crawl with audio overlay. This will send the `FLAG` with right most digit of 3 to log which indicates that the start audio has been sent.

7. Set the **Alert Message Repeat Period** to an appropriate time. This indicates the time period in seconds before the next message is sent. See Figure 25.
8. Set **Alert Message Transmission Duplication Count**. See Figure 25.
9. Configure all options that are common to all messages, refer to other sections in this manual for configuration instructions:
   - Figure 11: Priority handling, Text Crawl, Attributes, Send EAS Text Crawl
   - Figure 12: CableVista output card EAS settings
   - Figure 8: Alert type priority selection
   - Figure 6: Setting up FIPS
   - Figure 13: One-Net forwarding Required Weekly Test audio
10. Test your setup by sending an EAS message from One-Net. See the following
    - Figure 15: One-Net sends EAS message
    - Figure 16: One-Net confirms sending EAS alarm

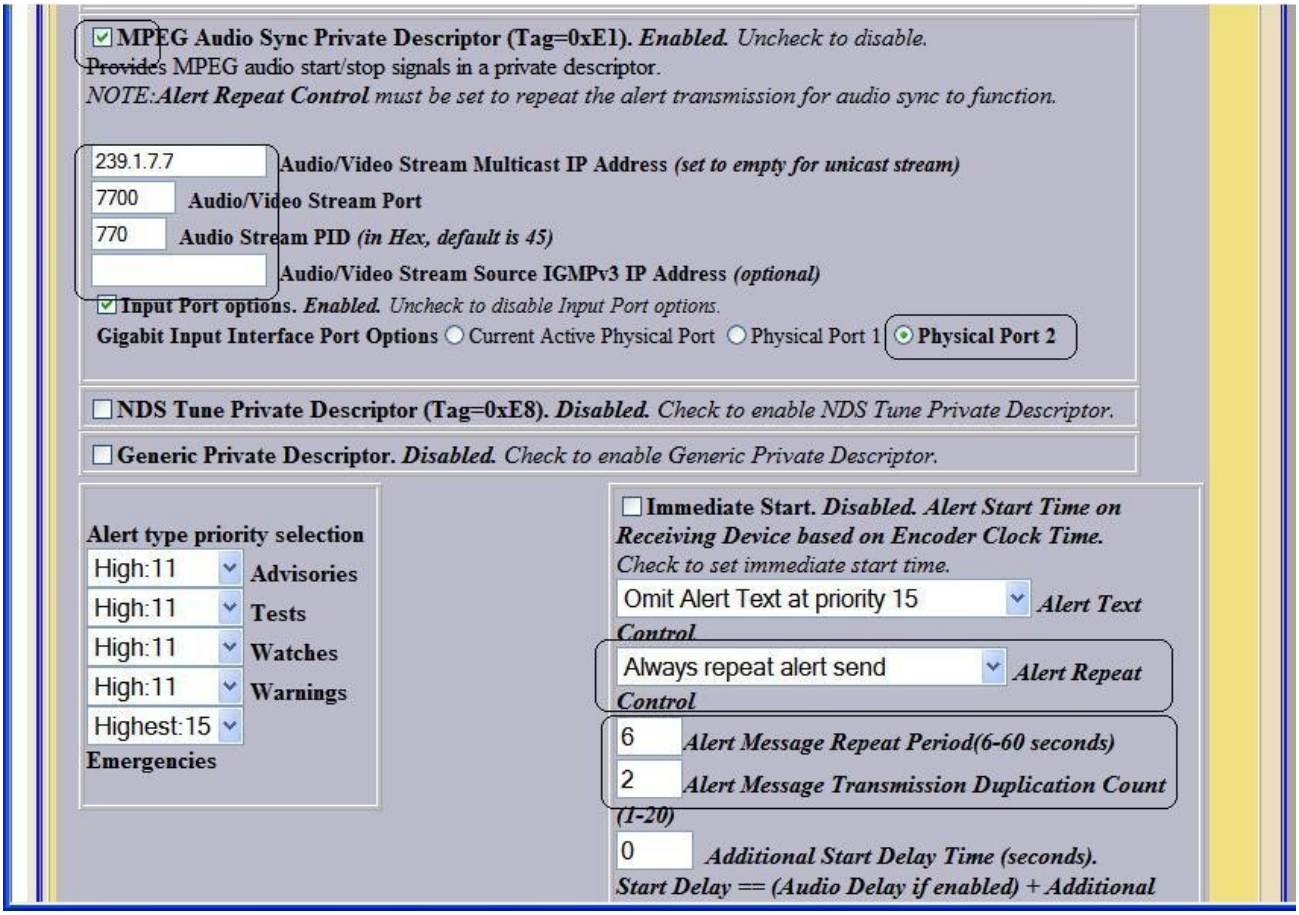

Figure 25: One-Net MPEG Audio Sync Private Descriptor

Setting Up an Internal Audio Source

The first part of the process for setting CableVista with an internal audio source is the same as setting it for an external audio source. However, to avoid mixing the audio and video of two streams, ***the transport stream must not exist on the network***. After completing steps 1-10 of the above procedure, **To set the MPEG Audio Sync Private Descriptor**, continue with the procedure below.

Setting up MPEG streams for an internal audio source:

1. Click **Setup>Net Alerts>Stream MPEG**

2. Ensure that the **Remote Host Unicast or Multicast**, **Remote Host Port**, and **Audio Stream PID** match the CableVista values set for MPEG Audio Sync Private Descriptor. See *CableVista Edge Decoder Installation and Operatoin Guide, Appendix B*.
3. Use the default values for the other Program and PID values.
4. Set the All FIPS and All EAS codes trigger to be enabled or set to specific values to match your setup requirements. Form move information see the following pages:
   - See Figure 7: One-Net FIPS setup on Setup, Alerts, and SCTE 18 client
   - See Figure 10: One-Net SCTE client EAS codes
5. Verify your setup by running an alert. When connected to a TV, you can see the crawl and hear the audio.

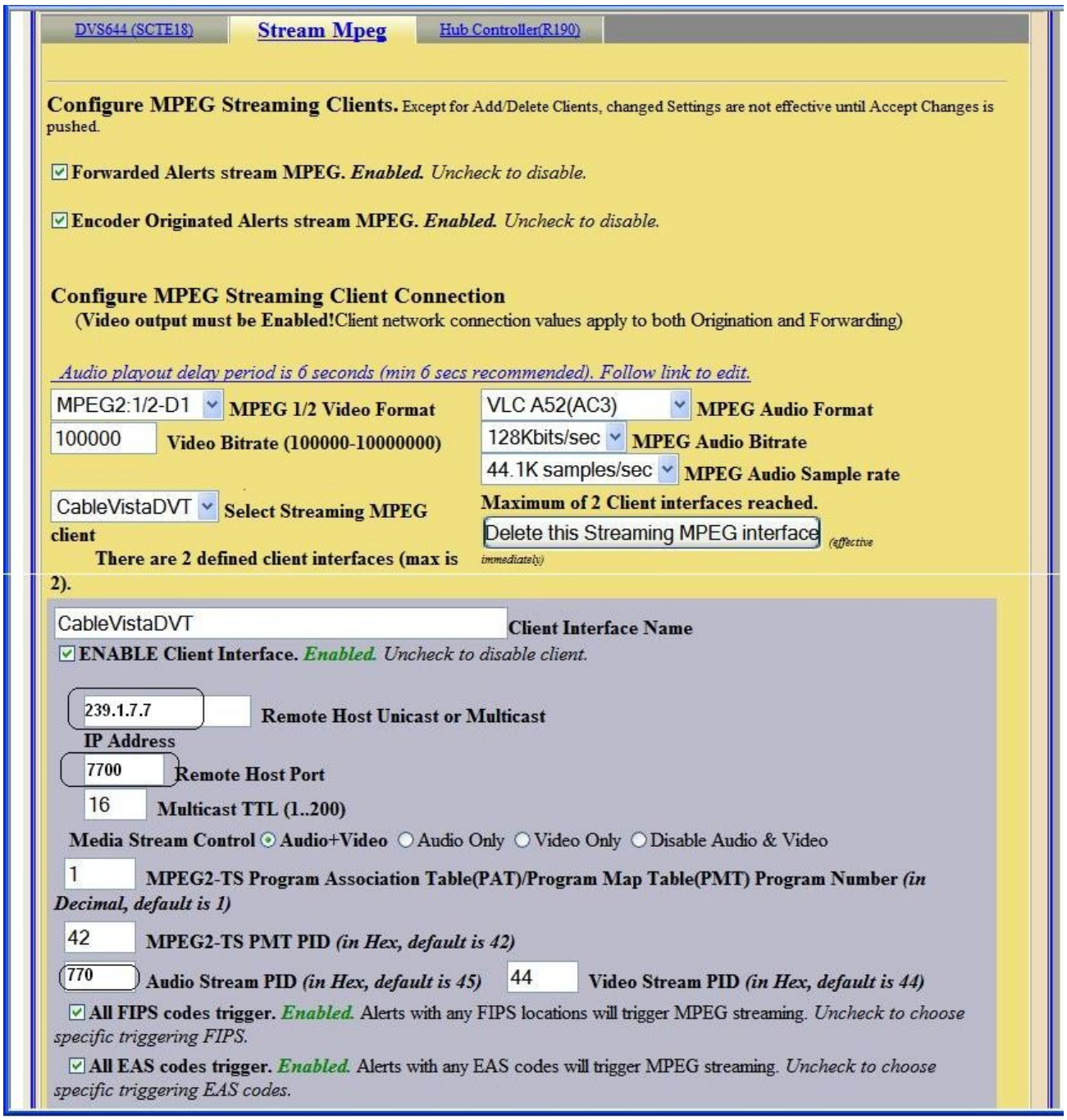

Figure 26: Setting up Net Alerts Stream MPEG on One-Net

Step 5: Setting Up Force Tune on the CableVista

You must set up the force tune so that the stream will exist when force tune is being run.

Note: Monroe does not support Force Tune messaging via the user_private_descriptor E2.

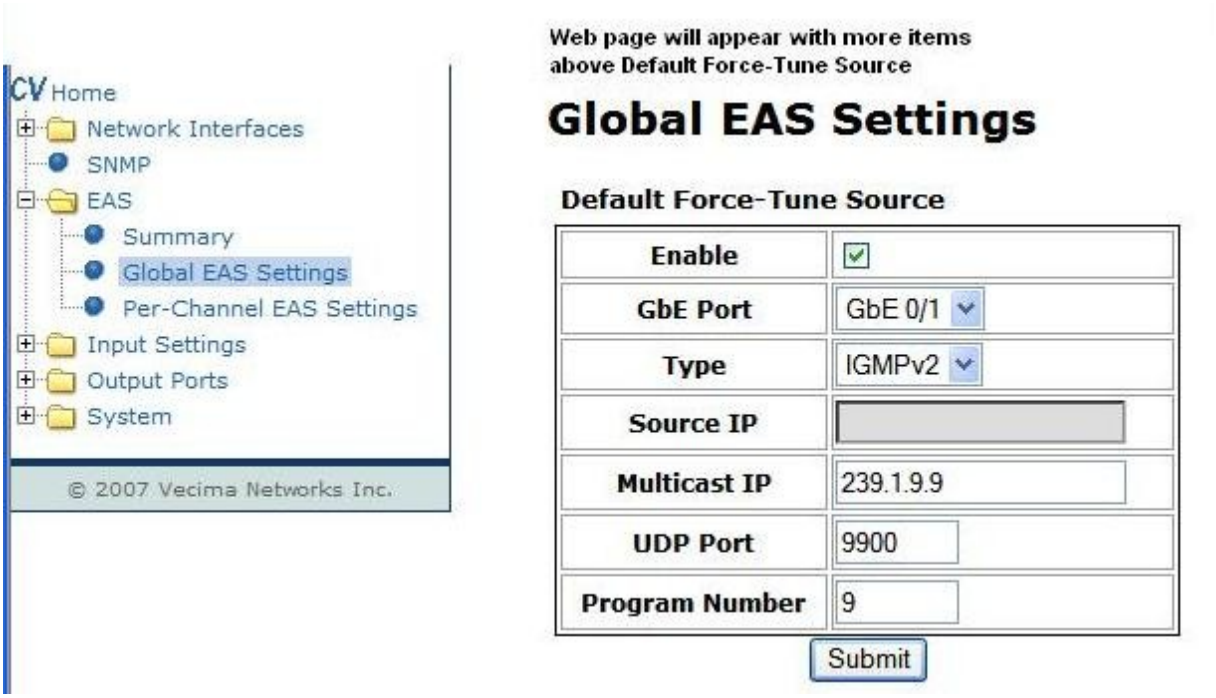

Figure 27: Setting up force tune

To test the force tune setup:

1. Run an alarm with Monroe One-Net that has priority in the CableVista's force tune range. The TV should switch to this Transport Stream. At the end of the alarm, the TV should switch back to regular program. Refer to the following figures:
   - Figure 15: One-Net sends EAS message
   - **Figure 16: One-Net confirms sending EAS alarm**

Interpreting the EAS logs

When an EAS message is received by the CableVista, a process with a number of steps begins: the CableVista is initialized, the EAS message starts, and the EAS message ends.

- The initialization sets the CableVista to be ready to receive the EAS message. This has a **`FLAG`** value with rightmost digit ending in **1**.
- The start sending sends the information to set up the audio and possibly the force tune. This may be missing or have values set to 0's if no audio or force tune is configured. This has a **`FLAG`** value with rightmost digit ending in **3**. You can check the time stamps for FLAG 3 and FLAG 5 to determine if sufficient time exists to play out audio. Is the AMTR value for the crawl duration long enough to play out audio?
- The stop sendings sends the information to have the EAS message stopped, Input Settings-> Transport Streams activated, and IGMP joins removed. This has a **`FLAG`** value with rightmost digit ending in **5**.

EAS States	*Log*	*Description*
Initialize Force Tune	Nov 4 12:36:00 (none) daemon.debug SCTE-18[698]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:224.1.0.73, IP Src:0.0.0.0, Udp Port:1000 }	• Phy Port is CableVista Gigbit port 0/1 • IP Dest is the unicast or multicast IP address of stream • IP Source is the IP address of stream. • UDP Port for stream.
Initialize Audio	Nov 4 12:35:42 (none) daemon.debug SCTE-18[698]: Decoded Audio Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.2.120, IP Src:0.0.0.0, Udp Port:2400 }	• Phy Port is CableVista Gigbit port 0/1. • IP Dest is unicast or multicast IP of audio source. This can be from external transport stream or Monroe.internal audio.
Initialize EAS message	Nov 4 12:35:42 (none) daemon.debug SCTE-18[698]: Decoded cable_emergency { CODE:RWT PRI:0x07, ID:0x01c6, DUR:0x000f, PID:0x1ffc, APID:0x0045, DPROG:0x0002, AMTR:0x001a, FLAGS:0x00010201 ... }	• CODE is EAS alert code • ID: in hex (0x01c6) Identifier from Monroe in decimal (454) • PID is inband (0x1ffc) or out-of-band hex value (0x1ffb) • APID is audio PID hex • DPROG is minor program • AMTR is event duration in seconds in hex. • FLAGS 0x???????1 shows this is initialization string. (? is place holder and will have numbers)
Start Sending Force Tune Stream	Nov 4 12:36:00 (none) daemon.debug SCTE-18[698]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:224.1.0.73, IP Src:0.0.0.0, Udp Port:1000 }	• Phy Port is CableVista Gigbit port 0/1 • IP Dest is the unicast or multicast IP address of stream • IP Source is the IP address of stream. • UDP Port for stream.
Start Sending Audio	Nov 4 12:36:00 (none) daemon.debug SCTE-18[698]: Decoded Audio Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.2.120, IP Src:0.0.0.0, Udp Port:2400 }	• Phy Port is CableVista Gigbit port 0/1. • IP Dest is unicast or multicast IP of audio source. This can be from external transport stream or Monroe.internal audio.
Start Sending	Nov 4 12:36:00 (none) daemon.debug SCTE-18[698]: Decoded cable_emergency	• CODE is EAS alert code

EAS States	*Log*	*Description*
EAS message	{ CODE:RWT PRI:0x07, ID:0x01c6, DUR:0x000f, PID:0x1ffc, APID:0x0045, DPROG:0x0002, AMTR:0x0009, FLAGS:0x00010203 ... }	• ID: in hex (0x01c6) Identifier from Monroe in decimal (454) • PID is inband (0x1ffc) or out-of-band hex value (0x1ffb) • APID is audio PID hex • DPROG is minor program • AMTR is event duration in seconds in hex. • FLAGS 0x???????3 shows this is send message string. (? is place holder and will have numbers)
End Message	Nov 4 12:36:08 (none) daemon.debug SCTE-18[698]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:224.1.0.73, IP Src:0.0.0.0, Udp Port:1000 }	• Phy Port is CableVista Gigbit port 0/1 • IP Dest is the unicast or multicast IP address of stream • IP Source is the IP address of stream. • UDP Port for stream.
End Message	Nov 4 12:36:08 (none) daemon.debug SCTE-18[698]: Decoded Audio Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.2.120, IP Src:0.0.0.0, Udp Port:2400 }	• Phy Port is CableVista Gigbit port 0/1. • IP Dest is unicast or multicast IP of audio source. This can be from external transport stream or Monroe.internal audio.
End Message	Nov 4 12:36:08 (none) daemon.debug SCTE-18[698]: Decoded cable_emergency { CODE:RWT PRI:0x07, ID:0x01c6, DUR:0x000f, PID:0x1ffc, APID:0x0045, DPROG:0x0002, AMTR:0x0002, FLAGS:0x00010205 ... }	• CODE is EAS alert code • ID: in hex (0x01c6) Identifier from Monroe in decimal (454) • PID is inband (0x1ffc) or out-of-band hex value (0x1ffb) • APID is audio PID hex • DPROG is minor program • AMTR is event duration in seconds in hex. • FLAGS 0x???????5 shows this is end message string. (? is place holder and will have numbers)
Does the Default Expiry and End Group after default duration of 15 minutes	Nov 4 12:51:07 (none) daemon.debug usermap[698]: Left IGMP group SAddr: 0.0.0.0 DAddr: 239.1.2.120 Nov 4 12:51:07 (none) daemon.debug SCTE-18[698]: Event expiry occured for cable_emergency { PRI:0x07, ID:0x01c6, DUR:0x000f, PID:0x1ffc, APID:0x0045, DPROG:0x0002, AMTR:0x0002 ... }	• The EAS TS IGMP group left IP address.

Table 1: CableVista EAS log states

Sample Logs

When an EAS message is received by the CableVista, a process with a number of steps begins: the CableVista is initialized, the EAS message starts, and the EAS message ends. Each step on the process generates log information for the CableVista and One-Net. The following section shows samples of each log.

Initialize EAS message

```
Nov  4 12:35:43 (none) daemon.debug remapd[698]: Buffering 1 EAS MPEG frame...
Nov  4 12:35:43 (none) daemon.debug set_marv_eas_force_tune[698]: mask: 000000 V: 481 PA: 482 SA: 483 PMT: 480 TT: 0 PCR: 481
Nov  4 12:35:43 (none) daemon.debug SCTE-18[698]: Performing Forcetune for channel_mask: 0x000000
Nov  4 12:35:43 (none) daemon.debug SCTE-18[698]: External TS source for program found, adjusting streams
Nov  4 12:35:42 (none) daemon.debug SCTE-18[698]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:224.1.0.73, IP
Src:0.0.0.0, Udp Port:1000 }
Nov  4 12:35:42 (none) daemon.debug SCTE-18[698]: Decoded Audio Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.2.120, IP
Src:0.0.0.0, Udp Port:2400 }
Nov  4 12:35:42 (none) daemon.debug SCTE-18[698]: Decoded cable_emergency { CODE:RWT PRI:0x07, ID:0x01c6, DUR:0x000f,
PID:0x1ffc, APID:0x0045, DPROG:0x0002, AMTR:0x001a, FLAGS:0x00010201 ... }
Nov  4 12:35:42 (none) daemon.warn remapd[698]: Alarm Asserted: EAS(SCTE-18) Message: EAS Message: Event Code RWT Priority 7
Nov  4 12:35:42 (none) daemon.debug remapd[698]: Buffering 1 EAS MPEG frame...
```

Start Sending EAS message

```
Nov  4 12:36:00 (none) daemon.debug remapd[698]: Unbuffering 1 EAS MPEG frames with channel mask 0x030033...
Nov  4 12:36:00 (none) daemon.debug remapd[698]: Buffering 1 EAS MPEG frame...
Nov  4 12:36:00 (none) daemon.debug SCTE-18[698]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:224.1.0.73, IP
Src:0.0.0.0, Udp Port:1000 }
Nov  4 12:36:00 (none) daemon.debug SCTE-18[698]: Decoded Audio Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.2.120, IP
Src:0.0.0.0, Udp Port:2400 }
Nov  4 12:36:00 (none) daemon.debug SCTE-18[698]: Decoded cable_emergency { CODE:RWT PRI:0x07, ID:0x01c6, DUR:0x000f,
PID:0x1ffc, APID:0x0045, DPROG:0x0002, AMTR:0x0009, FLAGS:0x00010203 ... }
Nov  4 12:36:00 (none) daemon.debug remapd[698]: Unbuffering 1 EAS MPEG frames with channel mask 0x030033...
Nov  4 12:36:00 (none) daemon.debug remapd[698]: Buffering 1 EAS MPEG frame...
Nov  4 12:36:00 (none) daemon.debug remapd[698]: Unbuffering 1 EAS MPEG frames with channel mask 0x030033...
Nov  4 12:36:00 (none) daemon.debug remapd[698]: Buffering 1 EAS MPEG frame...
Nov  4 12:36:00 (none) daemon.debug SCTE-18[698]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:224.1.0.73, IP
Src:0.0.0.0, Udp Port:1000 }
Nov  4 12:36:00 (none) daemon.debug SCTE-18[698]: Decoded Audio Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.2.120, IP
Src:0.0.0.0, Udp Port:2400 }
Nov  4 12:36:00 (none) daemon.debug SCTE-18[698]: Decoded cable_emergency { CODE:RWT PRI:0x07, ID:0x01c6, DUR:0x000f,
PID:0x1ffc, APID:0x0045, DPROG:0x0002, AMTR:0x0009, FLAGS:0x00010203 ... }
Nov  4 12:36:00 (none) daemon.debug remapd[698]: Unbuffering 1 EAS MPEG frames with channel mask 0x030033...
Nov  4 12:36:00 (none) daemon.debug remapd[698]: Buffering 1 EAS MPEG frame...
```

End EAS message

```
Nov  4 12:51:07 (none) daemon.debug usermap[698]: Left IGMP group SAddr: 0.0.0.0 DAddr: 239.1.2.120
Nov  4 12:51:07 (none) daemon.debug SCTE-18[698]: Event expiry occured for cable_emergency { PRI:0x07, ID:0x01c6, DUR:0x000f,
PID:0x1ffc, APID:0x0045, DPROG:0x0002, AMTR:0x0002 ... }

Nov  4 12:36:09 (none) daemon.debug SCTE-18[698]: Force-tune event expiry occured.
Nov  4 12:36:08 (none) daemon.debug remapd[698]: Unbuffering 1 EAS MPEG frames with channel mask 0x030033...
Nov  4 12:36:08 (none) daemon.debug remapd[698]: Buffering 1 EAS MPEG frame...
Nov  4 12:36:08 (none) daemon.debug SCTE-18[698]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:224.1.0.73, IP
Src:0.0.0.0, Udp Port:1000 }
Nov  4 12:36:08 (none) daemon.debug SCTE-18[698]: Decoded Audio Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.2.120, IP
Src:0.0.0.0, Udp Port:2400 }
Nov  4 12:36:08 (none) daemon.debug SCTE-18[698]: Decoded cable_emergency { CODE:RWT PRI:0x07, ID:0x01c6, DUR:0x000f,
PID:0x1ffc, APID:0x0045, DPROG:0x0002, AMTR:0x0002, FLAGS:0x00010205 ... }
Nov  4 12:36:07 (none) daemon.debug remapd[698]: Unbuffering 1 EAS MPEG frames with channel mask 0x030033...
Nov  4 12:36:07 (none) daemon.debug remapd[698]: Buffering 1 EAS MPEG frame...
Nov  4 12:36:07 (none) daemon.debug remapd[698]: Unbuffering 1 EAS MPEG frames with channel mask 0x030033...
Nov  4 12:36:07 (none) daemon.debug remapd[698]: Buffering 1 EAS MPEG frame..
```

Figure 28: CableVista Sample Log for EAS Message

One-Net Log for EAS Message

Click **Server>logs>Operation Log** to display the page that shows the One-Net logs for EAS messages

Heading information on EAS message

Log File for Dec 4, 2008

```
08:09:00 AM : SERVER:  ----------Start ORIGINATED Alert id 655.----------
08:09:00 AM : SERVER:  -------ORIGINATING EAS Alert---------
08:09:00 AM :     Alert ID = 655  Alert type = RWT  Channel ID = Orig
08:09:00 AM :    EAS Header='ZCZC-EAS-RWT-004021-004013+0015-3391401-Vecima  -'
08:09:00 AM :    Vecima Networks HAS ISSUED A REQUIRED WEEKLY TEST FOR THE FOLLOWING COUNTIES/AREAS:
Pinal, AZ;
Maricopa, AZ;
AT 8:01 AM
ON DEC 4, 2008
EFFECTIVE UNTIL 8:16 AM.
MESSAGE FROM Vecima  .
```

Log of EAS messaging and Clients

```
08:09:00 AM : DVS644:   Client 1 All FIPS locations are accepted.
08:09:00 AM : DVS644:   Client 1 All EAS Codes are accepted.
08:09:00 AM : DVS644:   Client DVS644/SCTE18 send via Standard MPE2 Transport Stream delivery.
08:09:00 AM : DVS644:    Sending DVS644/SCTE18 alert for client DVS644.1 to DASDEC network server.

08:09:00 AM : STREAM_MPEG:   Client 1 All FIPS locations are accepted.
08:09:00 AM : STREAM_MPEG:   Client 1 All EAS Codes are accepted.
08:09:00 AM : SERVER:    Streaming MPEG Video/Audio to client 1 at '239.1.10.45:4500'.
08:09:00 AM : SERVER:     Starting Alert Video. Video duration is 0 minutes 24 seconds.
```

08:09:06 AM : NETWORK: DVS644 Client 1: Sent SCTE18 EAS (seqnum=30,time remaining=13,CRC=-1099975875[0xbe6fb33d]) to IP 192.168.230.234:5050: 2 copies

```
08:09:10 AM : VIDEO:     Start Page Display
08:09:10 AM : SERVER:    GPO EAS_VIDEO (state to ON) ignored.
```

```
08:09:11 AM : SERVER:    GPO EAS_BROADCAST has been Closed (ON).
08:09:11 AM : SERVER:    GPO BALANCED_AUDIO_OUT has been Closed (ON).
08:09:11 AM : SERVER:    GPO EAS_AUDIBLE (state to ON) ignored.
08:09:11 AM : SERVER:    GPO EAS_BROADCAST.START (pulse) ignored.
08:09:11 AM : SERVER:    GPO EAS_BROADCAST.START_STOP (pulse) ignored.
08:09:11 AM : AUDIO:     Playing file
'/opt/dasdec/dasdec/originated_events/Orig_655_2008_12_04_08_08_59_header.wav'
```

08:09:11 AM : STREAM_MPEG: MPEG Aud/Vid streaming to 'UDP:239.1.10.45:4500' started. AudPID=0x455,VidPID=0x44

```
08:09:13 AM : NETWORK:   DVS644 Client 1: Sent SCTE18 EAS (seqnum=31,time remaining=7,CRC=-
1950629674[0x8bbbc0d6]) to IP 192.168.230.234:5050: 2 copies
```

```
08:09:18 AM : AUDIO:     Playing file '/opt/dasdec/dasdec/static_audio/eom44100.wav'
08:09:19 AM : NETWORK:   DVS644 Client 1: Sent SCTE18 EAS (seqnum=0,time
remaining=1,CRC=760216900[0x2d4ffd44]) to IP 192.168.230.234:5050: 2 copies
```

```
08:09:25 AM : SERVER:    GPO EAS_AUDIBLE (state to OFF) ignored.
08:09:25 AM : SERVER:    ORIGINATED Alert ID 655 Ended.
08:09:25 AM : ----------------------------------------------------
08:09:25 AM : SERVER:    Alert End : GPO EAS_BROADCAST has been Opened (OFF).
08:09:25 AM : SERVER:    GPO EAS_BROADCAST.STOP (pulse) ignored.
08:09:25 AM : SERVER:    GPO EAS_BROADCAST.START_STOP (pulse) ignored.
```

```
08:09:34 AM : NETWORK:   DVS644 Client 0: Sent SCTE18 EAS (seqnum=17,time remaining=2,CRC=-
684290072[0xd7368fe8]) to IP 192.168.230.232:1200: 2 copies
08:09:36 AM : VIDEO:     End Page Display
```

```
08:09:41 AM : SERVER:    GPO EAS_VIDEO (state to OFF) ignored.
08:09:42 AM : SERVER:    Video for ORIGINATED Alert ID 655 Ended.
--------------------------------------------------
```

```
08:09:43 AM : STREAM_MPEG:   MPEG stream to '239.1.10.45:4500' stopped.
```

```
08:16:00 AM : SERVER:  -------ORIGINATED EAS Alert Expired---------
08:16:00 AM :     Alert ID = 655  Alert type = RWT  Channel ID = Orig
08:16:00 AM :    EAS Header='ZCZC-EAS-RWT-004021-004013+0015-3391401-Vecima
```

Figure 29: Monroe Log File Sections

Cable Vista Log with Crawl Only

CableVista Log with crawl only
This is the end of the message.
Dec 4 10:24:24 (none) daemon.debug SCTE-18[956]: Event expiry occured for cable_emergency { PRI:0x0b, ID:0x0291, DUR:0x000f, PID:0x1ffc, APID:0x0000, DPROG:0x0003, AMTR:0x000d ... }
Dec 4 10:09:37 (none) daemon.err remapd[956]: Alarm Asserted: EAS Force Tune Failed: EAS Force tune failed
Dec 4 10:09:37 (none) daemon.debug SCTE-18[956]: Force-tune event expiry occured.
... Does repeated Discard Duplicate current
Dec 4 10:09:37 (none) daemon.debug SCTE-18[956]: Discarded duplicate current cable_emergency { CODE:RWT, PRI:0x0b, ID:0x0291, DUR:0x000f, PID:0x1ffc, APID:0x0000, DPROG:0x0003, AMTR:0x000d, FLAGS:0x00000201 ... }
Dec 4 10:09:24 (none) daemon.debug remapd[956]: Unbuffering 1 EAS MPEG frames with channel mask 0x000000... Dec 4 10:09:24 (none) daemon.debug remapd[956]: Buffering 1 EAS MPEG frame... Dec 4 10:09:24 (none) daemon.debug SCTE-18[956]: Discarded duplicate current cable_emergency { CODE:RWT, PRI:0x0b, ID:0x0291, DUR:0x000f, PID:0x1ffc, APID:0x0000, DPROG:0x0003, AMTR:0x000d, FLAGS:0x00000201 ... } Dec 4 10:09:24 (none) daemon.debug remapd[956]: Unbuffering 1 EAS MPEG frames with channel mask 0x000000... Dec 4 10:09:24 (none) daemon.debug remapd[956]: Buffering 1 EAS MPEG frame...
Dec 4 10:09:24 (none) daemon.debug remapd[956]: Unbuffering 2 EAS MPEG frames with channel mask 0x000000... Dec 4 10:09:24 (none) daemon.debug remapd[956]: Buffering 1 EAS MPEG frame...
The EAS message sends information to inialize the EAS message. The force tune and Decoded Audio Stream Info have 0's for the IP addressing information.
Dec 4 10:09:24 (none) daemon.debug SCTE-18[956]: Performing Forcetune for channel_mask: 0x000000 Dec 4 10:09:24 (none) daemon.debug SCTE-18[956]: External TS source for program found, adjusting streams Dec 4 10:09:24 (none) daemon.debug SCTE-18[956]: Decoded Force-Tune Stream Info { Type:NONE, Phy Port:0, IP Dest:0.0.0.0, IP Src:0.0.0.0, Udp Port:0 } Dec 4 10:09:24 (none) daemon.debug SCTE-18[956]: Decoded Audio Stream Info { Type:NONE, Phy Port:1, IP Dest:0.0.0.0, IP Src:0.0.0.0, Udp Port:0 } Dec 4 10:09:24 (none) daemon.debug SCTE-18[956]: Decoded cable_emergency { CODE:RWT, PRI:0x0b, ID:0x0291, DUR:0x000f, PID:0x1ffc, APID:0x0000, DPROG:0x0003, AMTR:0x000d, FLAGS:0x00000201 ... } Dec 4 10:09:24 (none) daemon.notice remapd[956]: Alarm Asserted: EAS(SCTE-18) Message: EAS Message Event Code RWT Priority 11
This clears previous EAS messages before starting the next message.
Dec 4 10:09:24 (none) daemon.debug SCTE-18[956]: Event expiry occured for cable_emergency { PRI:0x0b, ID:0x0290, DUR:0x000f, PID:0x1ffc, APID:0x0000, DPROG:0x0003, AMTR:0x0000 ... } Dec 4 10:09:24 (none) daemon.debug remapd[956]: Buffering 1 EAS MPEG frame...
Dec 4 10:08:34 (none) daemon.warn log[3321]: Log cleared By User
The start of the EAS message occurs after the previous EAS message is cleared. This is the start of the log.

Figure 30: CableVista log with crawl only

Monroe One-Net Log with Crawl Only

Only information for Client 1 is included. Each client has own information.

```
10:09:06 AM : SERVER:  ----------Start ORIGINATED Alert id 657.----------
10:09:06 AM : SERVER:  -------ORIGINATING EAS Alert---------
10:09:06 AM :     Alert ID = 657  Alert type = RWT  Channel ID = Orig
10:09:06 AM :    EAS Header='ZCZC-EAS-RWT-004021-004013+0015-3391608-Vecima  -'
10:09:06 AM :    Vecima Networks HAS ISSUED A REQUIRED WEEKLY TEST FOR THE FOLLOWING COUNTIES/AREAS:
Pinal, AZ;
Maricopa, AZ;
AT 10:08 AM
ON DEC 4, 2008
EFFECTIVE UNTIL 10:23 AM.
MESSAGE FROM Vecima  .


10:09:06 AM : DVS644:    Sending DVS644/SCTE18 alert for client DVS644.0 to DASDEC network server.
10:09:06 AM : DVS644:   Client 1 All FIPS locations are accepted.
10:09:06 AM : DVS644:   Client 1 All EAS Codes are accepted.
10:09:06 AM : DVS644:   Client DVS644/SCTE18 send via Standard MPE2 Transport Stream delivery.
10:09:06 AM : DVS644:    Sending DVS644/SCTE18 alert for client DVS644.1 to DASDEC network server.

10:09:12 AM : NETWORK:   DVS644 Client 1: Sent SCTE18 EAS (seqnum=4,time
remaining=13,CRC=420735476[0x1913e9f4]) to IP 192.168.230.234:5050: 2 copies
10:09:16 AM : VIDEO:     Start Page Display
10:09:16 AM : SERVER:    GPO EAS_VIDEO (state to ON) ignored.
10:09:17 AM : SERVER:    GPO EAS_BROADCAST has been Closed (ON).
10:09:17 AM : SERVER:    GPO BALANCED_AUDIO_OUT has been Closed (ON).
10:09:17 AM : SERVER:    GPO EAS_AUDIBLE (state to ON) ignored.
10:09:17 AM : SERVER:    GPO EAS_BROADCAST.START (pulse) ignored.
10:09:17 AM : SERVER:    GPO EAS_BROADCAST.START_STOP (pulse) ignored.
10:09:17 AM : AUDIO:     Playing file
'/opt/dasdec/dasdec/originated_events/Orig_657_2008_12_04_10_09_05_header.wav'

10:09:19 AM : NETWORK:   DVS644 Client 1: Sent SCTE18 EAS (seqnum=5,time remaining=7,CRC=-
811034239[0xcfa89981]) to IP 192.168.230.234:5050: 2 copies

10:09:31 AM : SERVER:    GPO EAS_AUDIBLE (state to OFF) ignored.
10:09:31 AM : SERVER:    ORIGINATED Alert ID 657 Ended.
10:09:31 AM : ------------------------------------------------
10:09:31 AM : SERVER:    Alert End : GPO EAS_BROADCAST has been Opened (OFF).
10:09:31 AM : SERVER:    GPO EAS_BROADCAST.STOP (pulse) ignored.
10:09:31 AM : SERVER:    GPO EAS_BROADCAST.START_STOP (pulse) ignored.

10:09:41 AM : VIDEO:     End Page Display
10:09:47 AM : SERVER:    GPO EAS_VIDEO (state to OFF) ignored.
10:09:48 AM : SERVER:    Video for ORIGINATED Alert ID 657 Ended.
------------------------------------------------

10:23:00 AM : SERVER:  -------ORIGINATED EAS Alert Expired---------
10:23:00 AM :     Alert ID = 657  Alert type = RWT  Channel ID = Orig
10:23:00 AM :    EAS Header='ZCZC-EAS-RWT-004021-004013+0015-3391608-Vecima  -'
```

Figure 31: Monroe One-Net log with crawl only

Generating Logs for Text Crawl and Force Tune

Sending a text crawl with the following configurations lets you see where the values are displayed in logs; however, the settings will not provide a real force tune or audio with crawl on your system.

Note: The force tune IP that results from these settings does not have an active Transport Stream.

CableVista settings:

- out-of-band 239.1.2.120 UDP 2400
- Default force Tune 239.1.9.9 UDP 9900 Program 9.

Monroe settings:

- Client
  - 239.1.2.120 UDP 2400
  - MPEG Audio Sync Private Descriptor
  - 239.1.7.7 UDP 7700 APID 770
- Monroe MPEG Stream
  - 239.1.8.8 UDP 8800
  - Program 8
  - Default values for others
  - Program 1
  - PMTP PID 42
  - Audio Stream PID 45
  - Video Stream PID 44

CableVista Logs

The top of log has the last entries.

CableVista Log -- settings for Force Tune and audio. Repeatative items removed and replaced with elipsis
Dec 17 10:57:07 (none) daemon.debug usermap[955]: Left IGMP group SAddr: 0.0.0.0 DAddr: 239.1.7.7 Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: EAS Pid Conflict Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: Program Redundancy Failed Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: Program Redundancy Failover Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS No Supported Video Found Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS No Supported Audio Found Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS Encrypted Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS Bitrate Exceeds Max Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS Program Count Exceeds Max Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS PID Count Exceeds Max Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS PCR Repetition Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS Video Bitrate Exceeds Max Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS PAT Decode Error Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS PMT Decode Error Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS Continuity Count Error Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS Alignment Error Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: TS No Data
…
Dec 17 10:57:07 (none) daemon.debug usermap[955]: Left IGMP group SAddr: 0.0.0.0 DAddr: 239.1.9.9
Dec 17 10:57:07 (none) daemon.debug remapd[955]: 707: Ack alarm name alarm: EAS Pid Conflict ... repeats same as above twice
Dec 17 10:43:47 (none) daemon.warn statusd[389]: Alarm Cleared: Output Channel Continuity: Output Channel 6/2.1 continuity error ... repeats this for each output while doing EAS since no valid TS
Dec 17 10:42:50 (none) daemon.info statusd[389]: Alarm Asserted: TS Continuity Count Error: GbE Port 0/1 [Src 0.0.0.0] Grp 224.1.0.64

CableVista Log -- settings for Force Tune and audio. Repeatative items removed and replaced with elipsis

Port 1000 Program 1

Dec 17 10:42:10 (none) daemon.info remapd[955]: Alarm Cleared: TS No Data: GbE Port 0/2 [Src 0.0.0.0] Grp 239.1.7.7 Port 7700
Dec 17 10:42:09 (none) daemon.info remapd[955]: Alarm Asserted: TS No Data: GbE Port 0/2 [Src 0.0.0.0] Grp 239.1.7.7 Port 7700
Dec 17 10:42:09 (none) daemon.info remapd[955]: Alarm Cleared: TS No Data: GbE Port 0/1 [Src 0.0.0.0] Grp 239.1.9.9 Port 9900
Dec 17 10:42:09 (none) daemon.info remapd[955]: Alarm Asserted: TS No Data: GbE Port 0/1 [Src 0.0.0.0] Grp 239.1.9.9 Port 9900
Dec 17 10:42:09 (none) daemon.err remapd[955]: Alarm Asserted: EAS Force Tune Failed: EAS Force tune failed
Dec 17 10:42:09 (none) daemon.debug SCTE-18[955]: Force-tune event expiry occured.
Dec 17 10:42:03 (none) daemon.debug remapd[955]: Unbuffering 1 EAS MPEG frames with channel mask 0x331f33...
Dec 17 10:42:03 (none) daemon.debug remapd[955]: Buffering 1 EAS MPEG frame...
Dec 17 10:42:03 (none) daemon.debug SCTE-18[955]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.9.9, IP Src:0.0.0.0, Udp Port:9900 }
Dec 17 10:42:03 (none) daemon.debug SCTE-18[955]: Decoded Audio Stream Info { Type:ASM, Phy Port:2, IP Dest:239.1.7.7, IP Src:0.0.0.0, Udp Port:7700 }
Dec 17 10:42:03 (none) daemon.debug SCTE-18[955]: Decoded cable_emergency { CODE:HMW, PRI:0x0b, ID:0x02a0, DUR:0x000f, PID:0x1ffc, APID:0x0770, DPROG:0x0003, AMTR:0x0002, FLAGS:0x00010205 ... }
Dec 17 10:42:03 (none) daemon.debug remapd[955]: Unbuffering 1 EAS MPEG frames with channel mask 0x331f33...
Dec 17 10:42:03 (none) daemon.debug remapd[955]: Buffering 1 EAS MPEG frame...
Dec 17 10:42:03 (none) daemon.debug remapd[955]: Unbuffering 1 EAS MPEG frames with channel mask 0x331f33...
Dec 17 10:42:03 (none) daemon.debug remapd[955]: Buffering 1 EAS MPEG frame...
Dec 17 10:42:03 (none) daemon.debug SCTE-18[955]: Stopping playback of EAS audio PID 0x0770 for Channels: 0xCC8FCC
Dec 17 10:42:03 (none) daemon.debug SCTE-18[955]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.9.9, IP Src:0.0.0.0, Udp Port:9900 }
Dec 17 10:42:03 (none) daemon.debug SCTE-18[955]: Decoded Audio Stream Info { Type:ASM, Phy Port:2, IP Dest:239.1.7.7, IP Src:0.0.0.0, Udp Port:7700 }
Dec 17 10:42:03 (none) daemon.debug SCTE-18[955]: Decoded cable_emergency { CODE:HMW, PRI:0x0b, ID:0x02a0, DUR:0x000f, PID:0x1ffc, APID:0x0770, DPROG:0x0003, AMTR:0x0002, FLAGS:0x00010205 ... }
Dec 17 10:42:03 (none) daemon.debug remapd[955]: Unbuffering 1 EAS MPEG frames with channel mask 0x331f33...

Dec 17 10:41:59 (none) daemon.debug remapd[955]: Unbuffering 1 EAS MPEG frames with channel mask 0x331f33...

Dec 17 10:41:59 (none) daemon.debug remapd[955]: Buffering 1 EAS MPEG frame...
Dec 17 10:41:59 (none) daemon.debug SCTE-18[955]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.9.9, IP Src:0.0.0.0, Udp Port:9900 }
Dec 17 10:41:59 (none) daemon.debug SCTE-18[955]: Decoded Audio Stream Info { Type:ASM, Phy Port:2, IP Dest:239.1.7.7, IP Src:0.0.0.0, Udp Port:7700 }
Dec 17 10:41:59 (none) daemon.debug SCTE-18[955]: Decoded cable_emergency { CODE:HMW, PRI:0x0b, ID:0x02a0, DUR:0x000f, PID:0x1ffc, APID:0x0770, DPROG:0x0003, AMTR:0x0006, FLAGS:0x00010203 ... }
Dec 17 10:41:59 (none) daemon.debug remapd[955]: Unbuffering 1 EAS MPEG frames with channel mask 0x331f33...
Dec 17 10:41:59 (none) daemon.debug remapd[955]: Buffering 1 EAS MPEG frame...
Dec 17 10:41:59 (none) daemon.debug remapd[955]: Unbuffering 1 EAS MPEG frames with channel mask 0x331f33...
Dec 17 10:41:59 (none) daemon.debug remapd[955]: Buffering 1 EAS MPEG frame...
Dec 17 10:41:59 (none) daemon.debug SCTE-18[955]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.9.9, IP Src:0.0.0.0, Udp Port:9900 }
Dec 17 10:41:59 (none) daemon.debug SCTE-18[955]: Decoded Audio Stream Info { Type:ASM, Phy Port:2, IP Dest:239.1.7.7, IP Src:0.0.0.0, Udp Port:7700 }
Dec 17 10:41:59 (none) daemon.debug SCTE-18[955]: Decoded cable_emergency { CODE:HMW, PRI:0x0b, ID:0x02a0, DUR:0x000f, PID:0x1ffc, APID:0x0770, DPROG:0x0003, AMTR:0x0006, FLAGS:0x00010203 ... }
Dec 17 10:41:59 (none) daemon.debug remapd[955]: Unbuffering 1 EAS MPEG frames with channel mask 0x331f33...
Dec 17 10:41:59 (none) daemon.debug remapd[955]: Buffering 1 EAS MPEG frame...

... repeats and decreases AMTR which is a hex number representing seconds. The increment value is set on Monroe

…
Dec 17 10:41:04 (none) daemon.debug SCTE-18[955]: Starting playback of EAS audio PID 0x0770 for Channels: 0xCC8FCC
Dec 17 10:41:04 (none) daemon.debug SCTE-18[955]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.9.9, IP Src:0.0.0.0, Udp Port:9900 }
Dec 17 10:41:04 (none) daemon.debug SCTE-18[955]: Decoded Audio Stream Info { Type:ASM, Phy Port:2, IP Dest:239.1.7.7, IP Src:0.0.0.0, Udp Port:7700 }
Dec 17 10:41:04 (none) daemon.debug SCTE-18[955]: Decoded cable_emergency { CODE:HMW, PRI:0x0b, ID:0x02a0, DUR:0x000f, PID:0x1ffc, APID:0x0770, DPROG:0x0003, AMTR:0x003c, FLAGS:0x00010203 ... }
Dec 17 10:41:04 (none) daemon.debug remapd[955]: Unbuffering 1 EAS MPEG frames with channel mask 0x331f33...
Dec 17 10:41:04 (none) daemon.debug remapd[955]: Buffering 1 EAS MPEG frame...

Dec 17 10:40:57 (none) daemon.debug ue_set_pcr_index[389]: Updated PCR Index to 0 for 8191 on 16
Dec 17 10:40:57 (none) daemon.debug ue_set_pcr_index[389]: Updated PCR Index to 0 for 8191 on 14

…
Dec 17 10:40:57 (none) daemon.debug remapd[955]: Unbuffering 1 EAS MPEG frames with channel mask 0x331f33...
Dec 17 10:40:57 (none) daemon.debug remapd[955]: Buffering 1 EAS MPEG frame...
Dec 17 10:40:57 (none) daemon.debug remapd[955]: Unbuffering 2 EAS MPEG frames with channel mask 0x331f33...

CableVista Log -- settings for Force Tune and audio. Repeatative items removed and replaced with elipsis

Dec 17 10:40:57 (none) daemon.debug remapd[955]: Buffering 1 EAS MPEG frame...
Dec 17 10:40:57 (none) daemon.debug igmp[955]: IGMP group joined SAddr: 0.0.0.0 DAddr: 239.1.7.7
Dec 17 10:40:57 (none) daemon.debug igmp[955]: IGMP group joined SAddr: 0.0.0.0 DAddr: 239.1.9.9
Dec 17 10:40:57 (none) daemon.debug SCTE-18[955]: Decoded Force-Tune Stream Info { Type:ASM, Phy Port:1, IP Dest:239.1.9.9, IP Src:0.0.0.0, Udp Port:9900 }
Dec 17 10:40:57 (none) daemon.debug SCTE-18[955]: Decoded Audio Stream Info { Type:ASM, Phy Port:2, IP Dest:239.1.7.7, IP Src:0.0.0.0, Udp Port:7700 }
Dec 17 10:40:57 (none) daemon.debug SCTE-18[955]: Decoded cable_emergency { CODE:HMW, PRI:0x0b, ID:0x02a0, DUR:0x000f, PID:0x1ffc, APID:0x0770, DPROG:0x0003, AMTR:0x0042, FLAGS:0x00010201 ... }
Dec 17 10:40:57 (none) daemon.notice remapd[955]: Alarm Asserted: EAS(SCTE-18) Message: EAS Message Event Code HMW Priority 11
Dec 17 10:40:57 (none) daemon.debug SCTE-18[955]: Event expiry occured for cable_emergency { PRI:0x0b, ID:0x029f, DUR:0x000f, PID:0x1ffc, APID:0x0770, DPROG:0x0003, AMTR:0x0000 ... }
Dec 17 10:40:57 (none) daemon.debug remapd[955]: Buffering 1 EAS MPEG frame...
Dec 17 10:40:03 (none) daemon.warn log[27886]: Log cleared By User

End of CableVista Log

Figure 32: CableVista Logs

One-Net Logs

The Monroe One-Net log has the first entries at the top.

Monroe Log repeatitive entries or other clients removed and replaced with elipsis

```
Log File for Dec 17,2008
10:40:50 AM : SERVER:  ----------Start ORIGINATED Alert id 672.----------
10:40:50 AM : SERVER:  -------ORIGINATING EAS Alert---------
10:40:50 AM :     Alert ID = 672  Alert type = HMW  Channel ID = Orig
10:40:50 AM :    EAS Header='ZCZC-EAS-HMW-006007+0015-3521640-Vecima  -'
10:40:50 AM :    Vecima Networks HAS ISSUED A HAZARDOUS MATERIALS WARNING FOR THE FOLLOWING
COUNTIES/AREAS:
Butte, CA;
AT 10:40 AM
ON DEC 17, 2008
EFFECTIVE UNTIL 10:55 AM.
MESSAGE FROM Vecima  .
```

```
...
10:40:50 AM : DVS644:   Client 1 All FIPS locations are accepted.
10:40:50 AM : DVS644:   Client 1 All EAS Codes are accepted.
10:40:50 AM : DVS644:   Client DVS644/SCTE18 send via Standard MPE2 Transport Stream delivery.
10:40:50 AM : DVS644:    Sending DVS644/SCTE18 alert for client DVS644.1 to DASDEC network server.
...
10:40:50 AM : STREAM_MPEG:   Client 1 All FIPS locations are accepted.
10:40:50 AM : STREAM_MPEG:   Client 1 All EAS Codes are accepted.
10:40:50 AM : SERVER:    Streaming MPEG Video/Audio to client 1 at '239.1.8.8:8800'.
10:40:50 AM : SERVER:     Starting Alert Video. Video duration is 1 minutes 17 seconds.
10:40:50 AM : SERVER:     Serial Interface Not Enabled
10:40:51 AM : SERVER:     Starting Alert Audio (pending alert audio events=0)
...
```

```
10:40:57 AM : NETWORK:   DVS644 Client 1: Sent SCTE18 EAS (seqnum=14,time
remaining=66,CRC=860401899[0x3348b0eb]) to IP 239.1.2.120:2400: 2 copies
10:41:01 AM : VIDEO:     Start Page Display
10:41:01 AM : SERVER:    GPO EAS_VIDEO (state to ON) ignored.
10:41:01 AM : SERVER:    GPO EAS_BROADCAST has been Closed (ON).
10:41:01 AM : SERVER:    GPO BALANCED_AUDIO_OUT has been Closed (ON).
10:41:01 AM : SERVER:    GPO EAS_AUDIBLE (state to ON) ignored.
10:41:01 AM : SERVER:    GPO EAS_BROADCAST.START (pulse) ignored.
10:41:01 AM : SERVER:    GPO EAS_BROADCAST.START_STOP (pulse) ignored.
10:41:02 AM : STREAM_MPEG:   MPEG Aud/Vid streaming to 'UDP:239.1.8.8:8800' started.
AudPID=0x45,VidPID=0x44
...
```

Monroe Log repeatitive entries or other clients removed and replaced with elipsis

```
10:41:03 AM : NETWORK:   DVS644 Client 1: Sent SCTE18 EAS (seqnum=15,time remaining=60,CRC=-
553022291[0xdf098cad]) to IP 239.1.2.120:2400: 2 copies
10:41:05 AM : AUDIO:     Playing file '/tmp/playlist_resampled0.wav'
10:41:10 AM : NETWORK:   DVS644 Client 1: Sent SCTE18 EAS (seqnum=16,time
remaining=54,CRC=1327288738[0x4f1cd1a2]) to IP 239.1.2.120:2400: 2 copies

...
10:41:16 AM : NETWORK:   DVS644 Client 1: Sent SCTE18 EAS (seqnum=17,time
remaining=48,CRC=1229541739[0x4949516b]) to IP 239.1.2.120:2400: 2 copies
10:41:22 AM : NETWORK:   DVS644 Client 1: Sent SCTE18 EAS (seqnum=18,time
remaining=42,CRC=1423005231[0x54d1562f]) to IP 239.1.2.120:2400: 2 copies

...
```

```
...
```

```
10:41:57 AM : AUDIO:     Playing file '/opt/dasdec/dasdec/static_audio/eas_attn44100.wav'
10:41:59 AM : NETWORK:   DVS644 Client 1: Sent SCTE18 EAS (seqnum=24,time
remaining=6,CRC=2108741610[0x7db0d7ea]) to IP 239.1.2.120:2400: 2 copies
10:42:03 AM : NETWORK:   DVS644 Client 1: Sent SCTE18 EAS (seqnum=26,time remaining=2,CRC=-
254591322[0xf0d33ea6]) to IP 239.1.2.120:2400: 2 copies

...
```

```
...
10:42:18 AM : VIDEO:     End Page Display
10:42:23 AM : SERVER:    GPO EAS_VIDEO (state to OFF) ignored.
10:42:24 AM : SERVER:    Video for ORIGINATED Alert ID 672 Ended.
--------------------------------------------------

...
10:42:25 AM : STREAM_MPEG:   MPEG stream to '239.1.8.8:8800' stopped.
10:43:03 AM : SERVER:    GPO EAS_AUDIBLE (state to OFF) ignored.
10:43:03 AM : SERVER:    ORIGINATED Alert ID 672 Ended.
10:43:03 AM : --------------------------------------------------
10:43:03 AM : SERVER:    Alert End : GPO EAS_BROADCAST has been Opened (OFF).
10:43:03 AM : SERVER:    GPO EAS_BROADCAST.STOP (pulse) ignored.
10:43:03 AM : SERVER:    GPO EAS_BROADCAST.START_STOP (pulse) ignored.
```

```
10:55:00 AM : SERVER:  -------ORIGINATED EAS Alert Expired---------
10:55:00 AM :     Alert ID = 672  Alert type = HMW  Channel ID = Orig
10:55:00 AM :    EAS Header='ZCZC-EAS-HMW-006007+0015-3521640-Vecima  -'
```

Figure 33: One-Net Logs

7.0 EAS State Alarms

7.0.1 EAS Audio Error

Alarm Description: EAS Audio Pid not unique
Severity Level: Error
Cause & Effect: This alarm will become asserted if an EAS message is received and upon decoding it is found that the provided audio pid is the same as another pid within one of the other streams on the system. This scenario then is an indicator of a PID conflict.
Resolution: Modify your EAS settings and ensue that the chosen audio PID does not conflict with any other PIDs on your video network. This is a special alarm that will not actually be cleared until you
acknowledge it on the "View Alarms" web-page.

7.0.2 EAS(SCTE-18) Message

Alarm Description: EAS Message Event Code <code> Priority <priority>
Severity Level: Notice
Cause & Effect: This alarm will be asserted as an indicator whenever an EAS message has been received. This does not indicate an error rather it is simply a status call.
Resolution: Since this is a status call and not an actual error, simply acknowledge the alarm and continue normal operations. The severity level of notice is used to show that proper operation is continuing but an event has occurred and the operator should be informed.

7.0.3 EAS Data Error

Alarm Description: Did not get all EAS data
Severity Level: Error
Cause & Effect: This alarm will be asserted when an EAS message has been received but either all required packets did not arrive or the data was corrupt and could not be parsed, or the data arrived but was out of order. This will prevent the message from being sent to the channels.
Resolution: Check your EAS equipment for configuration problems and confirm that the network path between the equipment and the CableVista is complete.

7.0.4 EAS Force Tune Failed

Alarm Description: EAS Force tune failed
Severity Level: Error
Cause & Effect: This alarm will be asserted when a force tune EAS message has been received but the system was not able to complete the process. This can be caused by the system not being able to find the force tune program (No Data) or the data within the program. (PIDs)
Resolution: Check your EAS equipment for configuration problems and confirm that the network path between the equipment and the CableVista is complete. Additionally check your CableVista system to ensure that the system is configured correctly. This is a special alarm that is only cleared when the user has acknowledged its presence.

7.0.5 EAS Pid Conflict

GbE Input Alarm Description: GbE Port <port #> [Src <ip>] Grp <ip> Port <udp port>
ASI Input Alarm Description: ASI Port <port #>
Severity Level: Error
Cause & Effect: This alarm will be asserted when the EAS configured or default PID of 0x1FFB or 0x1FFC is found in a non EAS stream. The effect of this could be that the conflicting PID will be transmitted to all output channels, or an EAS message will not be passed through the system. An additional note for this alarm is that if you delete the affected stream, this alarm will be cleared and acknowledged to effectively remove the alarm from the system.
Resolution: Check the CableVista to ensure that it is configured for your EAS network correctly.

Also, check the incoming video streams to ensure that they are not using the configured EAS PID.