

EdgeVision

Multi-channel, Quality of Experience monitoring

User Guide

Version 1.41

M928-9900-106

1 May 2015



Copyright and Trademark Notice

Copyright © 2010-2015, Grass Valley USA, LLC. All rights reserved.

Belden, Belden Sending All The Right Signals, and the Belden logo are trademarks or registered trademarks of Belden Inc. or its affiliated companies in the United States and other jurisdictions. Grass Valley, Miranda, iControl, Kaleido-X, NVision, and Densité are trademarks or registered trademarks of Grass Valley USA, LLC. Belden Inc., Grass Valley USA, LLC, and other parties may also have trademark rights in other terms used herein.

ATTENTION: Please read the following terms and conditions carefully. By using EdgeVision documentation, you agree to the following terms and conditions:

Grass Valley hereby grants permission and license to owners of EdgeVision to use their product manuals for their own internal business use. Manuals for Grass Valley products may not be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, for any purpose unless specifically authorized in writing by Grass Valley.

A Grass Valley manual may have been revised to reflect changes made to the product during its manufacturing life. Thus, different versions of a manual may exist for any given product. Care should be taken to ensure that one obtains the proper manual version for a specific product serial number.

Information in this document is subject to change without notice and does not represent a commitment on the part of Grass Valley.

Warranty Policies

Warranty information is available in the Support section of the Grass Valley Web site (www.grassvalley.com).

Title	EdgeVision Version 1.41 User Guide
Part Number	M928-9900-106
Revision Date	1 May 2015 3:48 pm

toc

Table of Contents

1	About the EdgeVision System	1
	Harnessing the Power of the EdgeVision System	1
	Installation and Network Requirements.....	1
	EdgeVision Documentation	1
	Hardware and Software Overview	2
	About the Hardware	2
	EdgeVision Platform Requirements.....	3
	Software Requirements	3
2	Managing the Device Feeds	5
	Using EdgeVision Player to Monitor your Feeds	5
	About the EdgeVision Player	6
	Launching EdgeVision Player.....	7
	Assigning Feeds to the Monitors	8
	Accessing Feeds from Other Units	9
	Assigning a Feed to a Monitor with the Mouse.....	10
	Assigning a Feed to a Monitor with the Assign Button.....	11
	Assigning a Feed to a Monitor with the Shortcut Menu.....	12
	Loading all Feeds	13
	Stopping and Restarting a Feed	13
	Changing the Audio Focus in a Multi-View Display	14
	Changing Channels with the Remote and Focus Buttons.....	15
	Selecting the Number of Feeds to Display	16
	Configuring the Audio/Video Display.....	16
	Configuring the Audio Meter Display	16
	Changing the Display's Aspect Ratio.....	18
	Reviewing Video/Audio Streaming Performance.....	18
3	Device, Feed, and Stream Alarms	21
	About Reading Alarms	21
	Status Alarms.....	21
	Text Alarms.....	22
	Alarm Icon Colors.....	22
	Alarms in EdgeVision Player	25
	Reading Feed Input Alarms	26
	Reading Video Alarms.....	26
	Audio Alarms	28
	Reading Streaming Alarms	33
	Reading Test Alarms	35

Reading Device Health Alarms	36
Contact Us	37

About the EdgeVision System

This chapter presents an overview of the User Guide and explains how to work with the application and how the application fits in a broadcaster's network.

Summary

<i>Harnessing the Power of the EdgeVision System</i>	1
<i>Hardware and Software Overview</i>	2

Harnessing the Power of the EdgeVision System

A television streaming device allows you to access a TV feed (using coaxial, composite, component, or S-video cables) via an Internet connection. Using a software interface and a virtual remote control, you can view the video stream on his computer and control any connected devices.

The EdgeVision is a set-top box signal streaming encoder and probing device. While a television streaming device can redirect a single input to a single computer, the EdgeVision system not only allows you to view up to four feeds simultaneously, you can also switch to a single feed displayed in EdgeVision Player or as full-screen.

Rather than only displaying the video, EdgeVision Player also describes the behind-the-scenes aspects of the video feed. EdgeVision Player displays technical information about the feed, including any alarms or flags to direct your attention to possible conflicts or errors in the transmission.

Installation and Network Requirements

You can access the EdgeVision unit from a PC using a standard Web browser (Microsoft Internet Explorer or Mozilla Firefox). When a user logs in to EdgeVision, the software is automatically downloaded from the unit. Consequently, no other application software is needed, which greatly simplifies installation and system maintenance.

As the EdgeVision can be configured to output high quality, high bitrate audio/video, we recommend that the EdgeVision unit (as well as the associated equipment it controls) be installed on a dedicated LAN/WAN, using the existing security infrastructure. A qualified system administrator should verify that the setup follows your organization's security standards.

EdgeVision Documentation

The EdgeVision documentation set includes the following documents:

- **EdgeVision Release Notes:** provides a list of known limitations with the current release of the EdgeVision system.
- **EdgeVision Quick Start Guide:** provides basic instructions on how to install and configure the EdgeVision device so that you can view feeds in EdgeVision Player.
- **EdgeVision Installation Guide:** explains how to setup and configure the EdgeVision device, as well as define and enable alarms.
- **EdgeVision Users Guide:** explains how to use EdgeVision Player to monitor signals being delivered to viewers and how to read the alarms.

Although we have made every effort to ensure that the documentation is accurate, there may have been changes made that have not been documented. If you find any feature that is either not documented or documented incorrectly, please let us know by sending an e-mail to support@grassvalley.com

Hardware and Software Overview

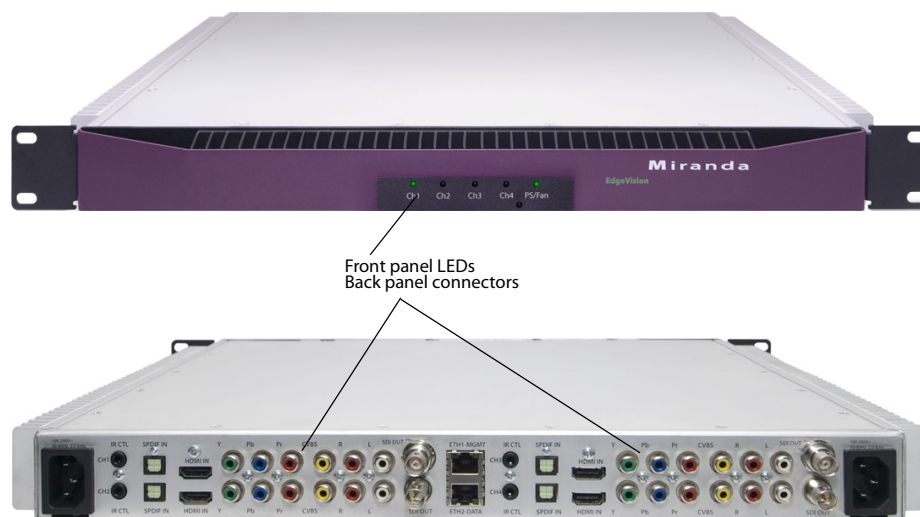
Grass Valley's EdgeVision allows television service providers and broadcasters to monitor their signals from the perspective of how they reach viewers at home. With its advanced video/audio streaming and extensive signal probing functions, EdgeVision connects to set-top boxes (STB) to help satellite, cable and IPTV operators and broadcasters to assess the quality of the signals being delivered to viewers.

EdgeVision provides high quality audio/video streams that allow you to see and hear the signals delivered across your networks in real-time.

About the Hardware

Available in single, dual and quad input configurations and featuring multiuser functionality, the EdgeVision device can monitor local and remote STB signals across an entire network.

At the back of the quad-input device are connectors for up to four inputs.



Once you install this device, you can connect to it via a Web browser and configure its network settings (using EdgeVision Admin), configure its video and audio parameters and alarm settings (using EdgeVision Configurator), and then monitor the feeds (using EdgeVision Player).

- For more information on how to configure the device using **EdgeVision Admin** Web page and **EdgeVision Configurator**, see the *EdgeVision Installation Guide*.
- For more information on how to use **EdgeVision Player**, see ["Using EdgeVision Player to Monitor your Feeds"](#), on page 5

EdgeVision Platform Requirements

The platform must meet the following system requirements:

Table 1-1:

EdgeVision Platform	Memory	Processor	Operating System
Minimum requirements for general usage	2 GB RAM	Intel Core i3 or better	Windows 7, Windows 8 ¹
Minimum requirement for streaming video and using iC Web	4 GB RAM		

1. You should use the version of Java that is recommended on the EdgeVision home page on your device.

Table 1-2:

Graphics Card
Optimized for nVidia or ATI GeForce or Radeon family with 1 GHz clock speed or faster, and minimum 128 MB memory.

Software Requirements

To run any application in the EdgeVision suite, you need to have the following software installed on your PC:

- a Web browser (Internet Explorer version 8.0 or Mozilla Firefox 1.5 or 2.0)
- Java Runtime Environment (JRE) version 6_Update 20. A Java update (which includes Java Web Start) can be downloaded by following the "Useful Downloads" link on the EdgeVision unit Startup page, and should be installed on PCs prior to operating EdgeVision.

You can connect to the EdgeVision unit from any PC on their network. The first step is to obtain the host name or IP address of the EdgeVision unit. Once you connect to an EdgeVision's IP address, you can use a Web browser to access the EdgeVision Web page and launch the applications on your PC.

Notes

- If the Java Web Start application reports errors regarding the inability to find files, it is important to clear the Internet Explorer cache.
-

Notes *(Continued)*

- On Windows 7 and Windows 8 platforms, it is recommended to use the Java 6 (update 20) runtime environment.
-

2 Managing the Device Feeds

This chapter explains how to connect the devices to the application so the user can view the feeds.

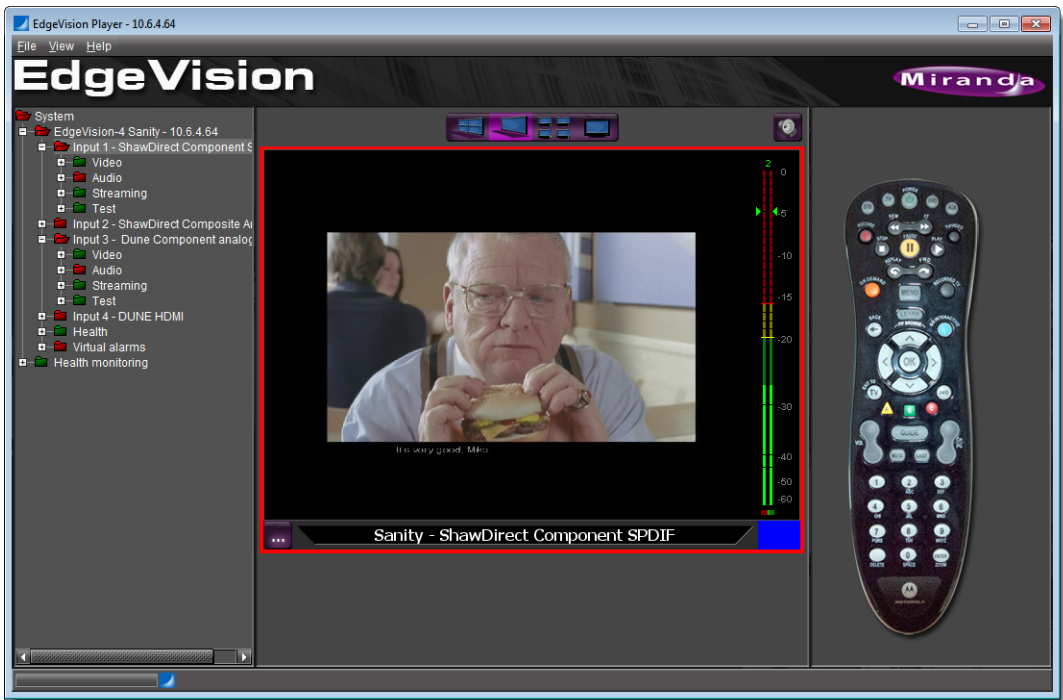
Summary

- Using EdgeVision Player to Monitor your Feeds* 5
- Assigning Feeds to the Monitors* 8
- Selecting the Number of Feeds to Display* 16
- Configuring the Audio/Video Display* 16

Using EdgeVision Player to Monitor your Feeds

Once you install the EdgeVision unit(s) into your network of broadcast feeds, you can use EdgeVision Player to monitor these feeds to ensure that they are broadcasting properly.

A typical scenario: you receive a call that the video is frozen on channel 225 in the Montreal-West area. You would launch EdgeVision Player on the unit that monitors that region, drag the Input that connects to that feed into one of the View panels, and use the Remote to select the affected channel. This allows you to view the feed as it would appear on a TV.



You can then confirm what appears in the View panel by checking the alarms in the Host Browser, specifically the **Video freeze** alarm. Once you have confirmed what is happening, you can begin to take the corrective steps.

Note: If you have a firewall active on the PC that is running EdgeVision Player, it may prevent the streams from being displayed.

See also

For more information about:

- launching EdgeVision Player, see [page 7](#).
- viewing the Input feeds, see ["Assigning Feeds to the Monitors"](#), on page 8.
- viewing single or multiple feeds, see ["Selecting the Number of Feeds to Display"](#), on page 16.
- modifying the audio playback and how the video appears in the monitors, see ["Configuring the Audio/Video Display"](#), on page 16.

About the EdgeVision Player

EdgeVision Player allows monitoring of feeds from a single or multiple EdgeVision units. On startup, EdgeVision Player will list the available feeds from the units connected to the currently selected EdgeVision device, although you can use the **Add host** command on the **File** menu to add other devices.



EdgeVision Player's layout is divided into three main areas:

- **Host Browser panel:** displays all the devices on your network and allows you to monitor displays the current status of the alarms.
- **View panel:** displays up to four media feeds from the input devices, as well as the current alarm status of the feed
- **Remote panel:** displays a remote device allows you to affect the feeds (change the channel, set the volume control, etc.)

Launching EdgeVision Player

EdgeVision Admin is a Web page that connects directly to your EdgeVision unit. Not only does it display its current operational status, but it also allows you to configure its network and device properties. These device properties also appear in EdgeVision Player and EdgeVision Configurator.

REQUIREMENT

Before beginning this procedure, make sure your client PC has a supported Web browser (see "[Software Requirements](#)", on page 3).

To launch EdgeVision Player

1. Launch the EdgeVision page in a Web browser (using the device's IP address).

SYSTEM RESPONSE: The EdgeVision home page appears.

2. Click **EdgeVision Player**.



SYSTEM RESPONSE: The browser prompts you to save an executable file to your hard drive. This file is an online installer, which will download EdgeVision Player—and other companion elements—from your EdgeVision device, and install them. Some browsers may allow you to run the file directly. Depending on your browser's security features, warnings may appear, which you may safely dismiss.

3. Unless your browser lets you run the file (and you choose to do so), navigate to the location where you saved the installer file and open it.

SYSTEM RESPONSE: Once EdgeVision Player is downloaded, a splash page appears.



SYSTEM RESPONSE: At the end of the installation process:

- If you have Windows 7, shortcuts are added to your desktop and to the **Start** menu (under **All Programs**).
- If you have Windows 8.1 or Windows 8, EdgeVision Player will appear on your desktop, in the **Apps** view with all the other applications on your PC (Windows 8.1), or in your **Start** screen (Windows 8).

SYSTEM RESPONSE: EdgeVision Player appears, displaying the devices located at the selected IP address along with the feeds being monitored.



Assigning Feeds to the Monitors

A list of the devices you are monitoring appears in the Host Browser on the left of the EdgeVision window. When you select a device to feed a monitor, the previous feed will end and the new feed will appear. These feeds are made available to EdgeVision Player using EdgeVision Configurator (see the *EdgeVision Installation Guide*).



Once the feeds are assigned to the monitors, the under monitor area will display the name of the selected feed. One of the feeds will be selected by default and indicated by the buttons above the remote (you may hear the audio feed from that stream). You can change the feed focus by clicking the feed buttons above the Remote. As you change the focus, the audio feed may change.

If you change the feed display from four to one, the feed that is flagged with the blue square is displayed. For more information on changing the number of feeds that are displayed, see ["Selecting the Number of Feeds to Display"](#), on page 16.

There are three ways to assign the feed from an Input to a monitor in EdgeVision Player. Once you start a feed, you can restart it at anytime. This command stops the feed, resets the connection, and restarts the feed in the selected monitor.

Determination of the correct streaming protocol for a given feed is a matter of EdgeVision processing user-configured settings as well as context data surrounding the stream request.

See also

For more information about how EdgeVision determines the appropriate streaming protocols to use, see the "Configuring Feed Inputs" section of the "Configuring Feeds and Alarms" chapter of the *EdgeVision Installation Guide*.

Accessing Feeds from Other Units

Once a unit is discovered, the details of that unit will be added to the Host Browser panel in EdgeVision Player window. EdgeVision Player settings are persistent. The next time you launch EdgeVision Player, the EdgeVision hosts will continue to be displayed.

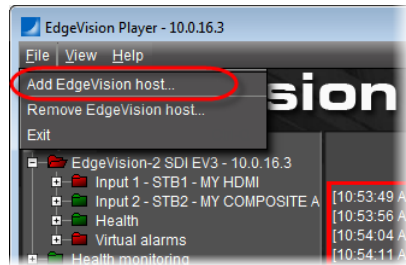
REQUIREMENTS

Make sure you meet the following conditions before beginning this procedure:

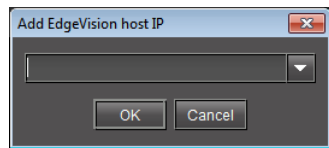
- EdgeVision Player is open (see [page 7](#)).
- You know the IP address of the remote EdgeVision unit.

To access feeds from other units on the network

1. In EdgeVision Player, on the **File** menu, click **Add EdgeVision host**.



SYSTEM RESPONSE: The **Add EdgeVision host IP** window appears.



2. Type the IP address of the unit you would like to connect to – or select from the list – and click **OK**.

SYSTEM RESPONSE: The unit appears in the Host Browser.

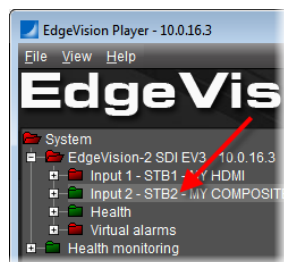
Assigning a Feed to a Monitor with the Mouse

REQUIREMENT

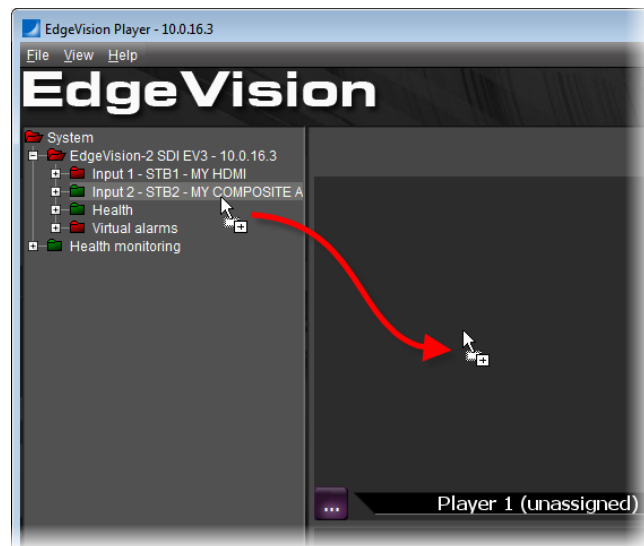
Before beginning this procedure, make sure EdgeVision Player is open (see [page 7](#)).

To assign a feed to a monitor with the mouse

1. In EdgeVision Player, on the Host Browser, select the input you would like to stream under the appropriate device.



2. Drag the selected input onto the desired monitor.



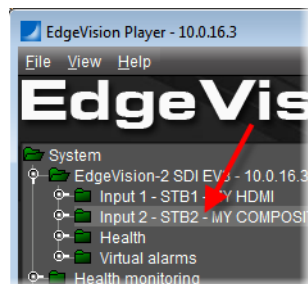
Assigning a Feed to a Monitor with the Assign Button


REQUIREMENT

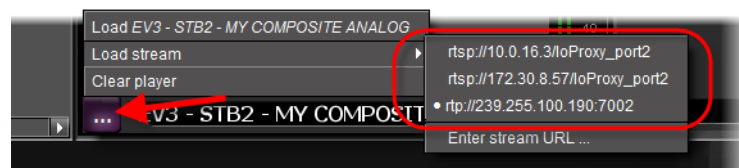
Before beginning this procedure, make sure EdgeVision Player is open (see [page 7](#)).

To assign a feed to a monitor using the Assign button

1. In EdgeVision Player, on the Host Browser, select the Input in the device you wish to use.




2. In the right pane, click the **Assign**  button located on the bottom-left of the monitor you want to use, point to **Load stream**, and then select the input you would like to stream to this monitor.



SYSTEM RESPONSE: The listed feed with the dot beside it is the default feed being streamed to this monitor.

IMPORTANT: How does EdgeVision populate the Load stream list?

- How EdgeVision Player determines which feed is streamed **by default** is described in the *EdgeVision Installation Guide* in the “Configuring Feed Inputs” section of the “Configuring Feeds and Alarms” chapter.
- How EdgeVision determines which feeds to feature in the **Load stream** list is a matter of EdgeVision Configurator pushing the Transport stream destination data to EdgeVision Player for each input (assuming the *Streaming mode* parameter is set to Transport stream). If, the Streaming mode is set to Elementary stream, then no RTP addresses are sent to the Player. Additionally, EdgeVision Player grays out Unicast IP addresses that do not match the client PC’s local NIC card’s IP addresses. This renders these Unicast addresses visible in the list although grayed out.

3. Select the input.
4. To clear the feed from the monitor, click the **Assign**  button and select **Clear player**.



Assigning a Feed to a Monitor with the Shortcut Menu

REQUIREMENT

Before beginning this procedure, make sure EdgeVision Player is open (see [page 7](#)).

To assign a feed to a monitor with the shortcut menu

1. In EdgeVision Player, on the Host Browser, select the input you would like to stream from the appropriate EdgeVision device.
2. Right-click the input, point to **Load stream in player**, and then click the desired monitor selection.



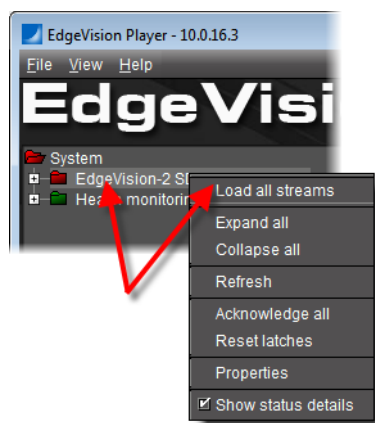
Loading all Feeds

REQUIREMENT

Before beginning this procedure, make sure EdgeVision Player is open (see [page 7](#)).

To load all feeds in the device

1. In EdgeVision Player, on the Host Browser, select the device whose feeds you would like to stream.
2. Right-click the device and select **Load all streams**.



All available streams on this device appear in the monitors in EdgeVision Player.

Stopping and Restarting a Feed

REQUIREMENT

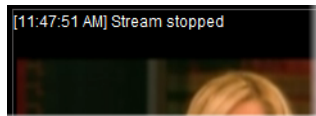
Before beginning this procedure, make sure EdgeVision Player is open (see [page 7](#)).

To stop and restart a feed

1. Right-click the monitor for which you wish to stop the stream and select **Stop streaming**.

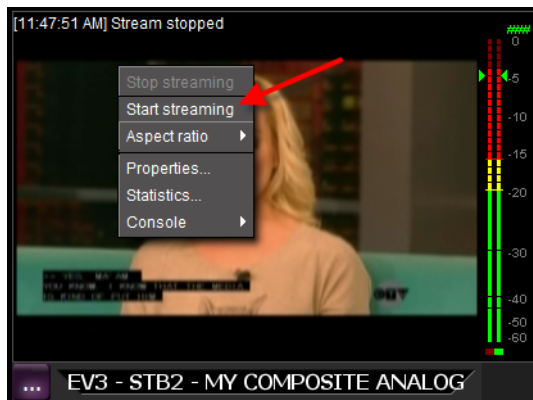


SYSTEM RESPONSE: The stream is stopped.



Note: If the stream is already stopped, the Stop streaming command will be dimmed.

2. Right-click the monitor and select **Start streaming** for the current monitor.

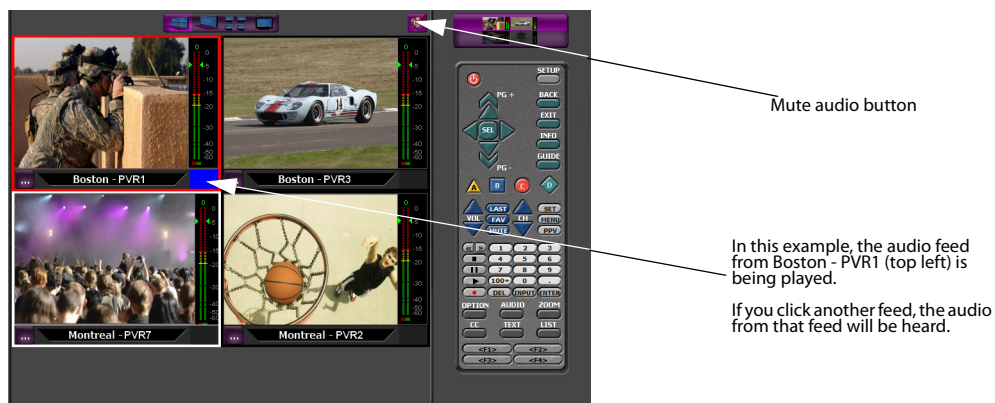


The stream restarts in the monitor.

Changing the Audio Focus in a Multi-View Display

While you can view multiple video feeds in a multi-view display (Multi-Player or Multi-View), you can listen to only one audio feed at a time.

In the bottom right of each feed display is the **Current Status** area, which indicates which feed display is currently selected. Only the feed that is currently selected will play the audio feed.



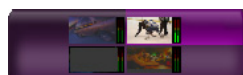
To change the feed focus, click in the video area for the feed you want to hear. When you select a feed, the **Current Status** area appears in Blue and the audio feed will be heard. If you click in a video area that is not playing a feed, you will hear nothing.

To mute the audio feeds, click the **Mute audio** button in the top right of the video feed area.

Changing Channels with the Remote and Focus Buttons

Although EdgeVision Player can display the video from up to four feeds at a time, you can use the Feed buttons to change the control and audio focus.

When you select a feed on which to focus, the audio for that feed will be played and a graphic representation of a remote for the company that is broadcasting that feed appears on the right side of the window. This remote is fully functional and will affect the feed to which it is linked.



In this example, Feed #2 is the focus, which means you can hear the audio feed from the top-right monitor. You can also affect that feed using the remote's buttons.

If you select multiple focus buttons, you can use the remote to affect several monitors at the same time. For example, if you select three focus buttons, you can change the channel on all three monitors instantly.



You can click any of these buttons and it will affect the feed monitor depending on the services offered by the set-top box.





When you select a monitor, the Remote illustration can change depending on how the feed is configured (in EdgeVision Configurator). Most remotes offer the following features:

- Channel selection
- Channel up/down
- Video inputs: Aux, DVD, TV, Cable
- Playback controls
- Menu controls
- Volume controls
- Power on/off

Selecting the Number of Feeds to Display

There are four types of layouts in the EdgeVision Player window. These layouts allow you to view up to four different feeds, focus on a single feed, and adjust the amount of information being displayed in the EdgeVision Player window.

Table 2-1: Four types of display options

Icon	Layout	Definition
	Multi-Player	All four feeds appear in the EdgeVision Player window with their audio meters displayed. The Host Browser and the Feed buttons also appear.
	Single Player	The selected feed, the Feed buttons, and the Host Browser appears in the EdgeVision Player window with its audio meter displayed.
	Multi-View	All four feeds fill the EdgeVision Player window and the Host Browser and Remote panel disappear.
	TV	The currently selected feed fills the EdgeVision Player window and everything else is hidden. You can also activate this display by double-clicking in a feed window.

When you switch to a full-screen mode (TV Mode or MultiView), the Display buttons are hidden. If you move the cursor to the top of the EdgeVision window, the Display buttons slide into view and you can change the Feed Display.

Configuring the Audio/Video Display

When the video feeds appear in the EdgeVision Player, the video and audio are played as they would appear on a TV. However, you can make changes to how the video is displayed, as well as how the audio signaled is measured.

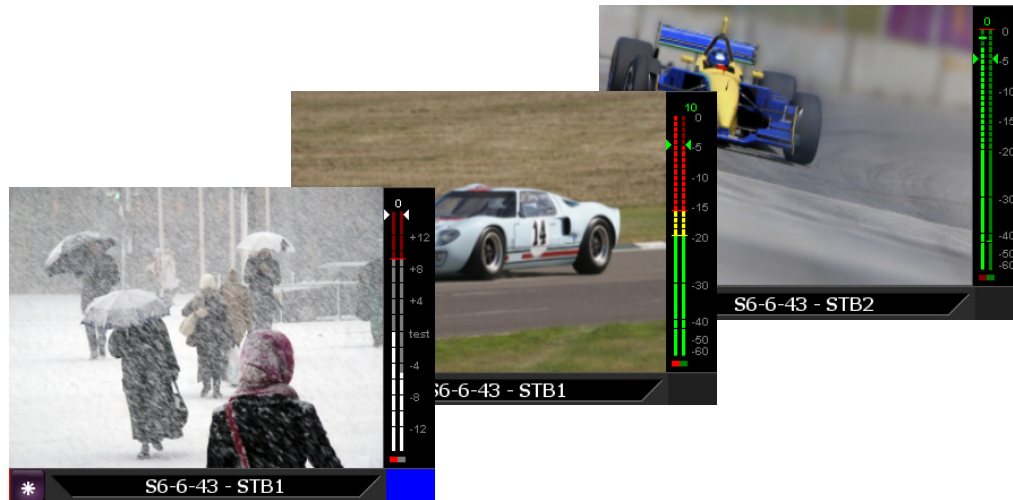
You can make the following adjustments:

- **Audio Meter display:** select how to measure the audio signal for the feed (see "[Configuring the Audio Meter Display](#)", on page 16).
- **Video Aspect Ratio:** select how the video signal appears in the preview window (see "[Changing the Display's Aspect Ratio](#)", on page 18).

Configuring the Audio Meter Display

The stereo audio feed that goes with the video can be measured and displayed in EdgeVision Player as a pair of audio meters. There are a variety of ways that these audio meters can be displayed, which transmit different types of information.

Note: The changes you make to the Audio Meter display will be reset to their default settings if you restart EdgeVision Player or if you change the View (see "[Selecting the Number of Feeds to Display](#)", on page 16).

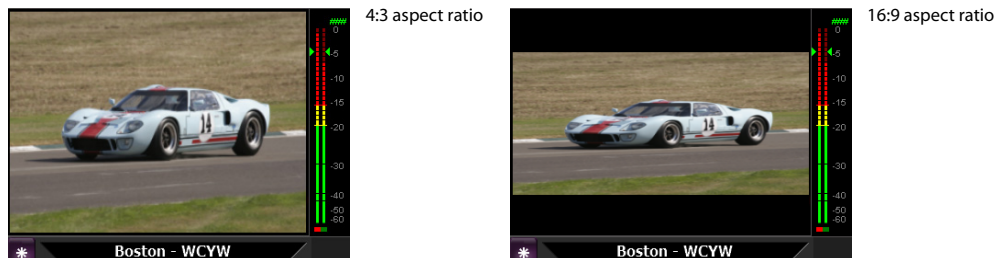


To change how the audio meters appear

1. Right-click the audio meters next to the monitor you want to affect, and then click **Properties**.
2. Select how the audio meters display the sound level measurements:
 - **Ticks**: displays horizontal lines at regular intervals along the audio meter
 - **Labels**: displays what the various gradation levels along the audio meter represent
3. Select the type of audio meter to display:
 - **Digital Peak Meter**: displays the levels of digital audio volume, measuring the peak levels
 - **Digital Peak + VU Meter**: displays the digital audio signal level in Volume Units (VU)
 - **Analog Peak Meter - UK PPM**: displays the analog audio signal level in Peak Programme Meter units for the United Kingdom (UK)
 - **Analog Peak Meter - EBU PPM**: displays the analog audio signal level in Peak Programme Meter units for the European Broadcasting Union (EBU)
 - **VU Meter**: displays the audio signal level in Volume Units (VU)
4. To display the number of times the audio meters exceed the maximum levels, select the Show Overload Counter checkbox. This value appears above the audio meters.
To change the maximum dBFS value which would trigger an overload, select the first tab and enter a new values in the Threshold fields: the left field represents left audio signal and the right field represents the right audio signal).
5. To display the relative phase of the two channels to indicate mono compatibility, select the **Show Phase Meter** checkbox. The phase meter appears below the audio meters.
6. Select where the audio meter should appear within the display space (Left, Center, Right).
7. Close the dialog box when done. The changes you make in this dialog box are applied immediately.

Changing the Display's Aspect Ratio

There are two standard video aspect ratios that you can use in the monitors:



- 4:3: the universal size ratio for standard-definition video formats (1.33:1)
- 16:9: the universal size ratio for high-definition television and European digital television (1.78:1)

To switch the aspect ratios for a feed in a monitor, right-click anywhere in the monitor and select the ratio you want to use. If you select **Automatic**, EdgeVision Player will select the aspect ratio that fits the current display best.

Note: The changes you make to the Video Aspect will be reset to their default settings if you restart EdgeVision Player or if you change the view (see ["Selecting the Number of Feeds to Display"](#), on page 16).

Reviewing Video/Audio Streaming Performance

EdgeVision Player provides the ability to review the performance of each video and audio stream.

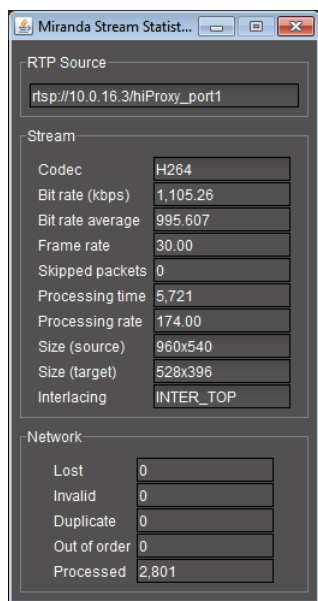


Figure 2-1 Stream Statistics window

To display the Video/Audio streaming performance statistics for a feed

1. Right-click on any active monitor and select **Statistics** on the pop-up menu.
 - To view the video statistics, right-click in the video area of the stream. There must be a video feed being displayed to be able to access the **Statistics** command.
 - To view the audio statistics, right-click the audiometer for the stream you wish to view.The Stream Statistics dialog box for the video or audio stream you selected appears.
2. Click **OK** when done.

The statistical values being tracked are as follows. These fields apply to video and audio statistics, depending on what you selected to display:

Table 2-2: Streaming Performance Statistics

Field	Description
RTP Source	Displays the Real Time Streaming Protocol (RTSP) for the current feed.
--- Stream panel ---	
Codec	Displays the device or application that is encoding and/or decoding the digital data stream or signal. <ul style="list-style-type: none">• For video, the h.264 codec is used.• For audio, the MPEG 1 L2 format uses the mpegaudio codec.• For audio, the AAC format uses the MPEG4-GENERIC codec.
Bitrate	Displays the number of bits that are processed per unit of time (measured in kilobytes per second) to stream the video signal.
Bitrate average	The average bitrate calculated over the last 10 seconds.
Frame rate	Displays the number of complete screens or frames drawn per second (measured in frames per second).
Skipped packets	Displays the number of packets that were not encoded, and therefore, not processed.
Processing time	Displays the time needed to process a single frame (measured in microseconds).
Processing rate	Displays the maximum number of frames per second that can be processed. If the number of frames per second is too close to the actual frame rate, this can mean that the system specifications of the client PC may be too low.
Size (source)	Displays the resolution (height x width) of the original video signal being transmitted.
Size (target)	Displays the resolution (height x width) of the received video signal as it is being displayed.
Interlacing	Displays the type of interlacing being applied in the video signal.
--- Network panel ---	
Lost	Displays the number of packets that were not received by the decoder.
Invalid	Displays the number of packets that were corrupted and therefore unreadable by the decoder.
Duplicate	Displays the number of packets that were received multiple times by the decoder.
Out of order	Displays the number of packets that were received in the incorrect sequence.

Table 2-2: Streaming Performance Statistics (*Continued*)

Field	Description
Processed	Displays the number of packets that were successfully processed by the encoder.

3

Device, Feed, and Stream Alarms

Summary

About Reading Alarms	21
Alarms in EdgeVision Player	25

About Reading Alarms

EdgeVision Player lists both *status* and *text* alarms in its System folder (on the left pane).

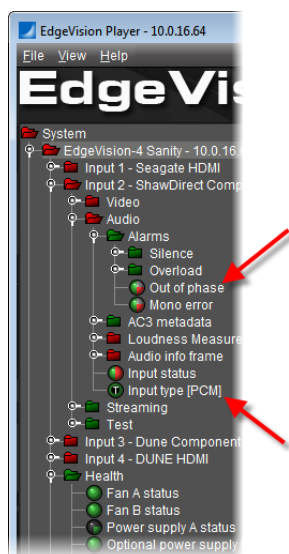


Figure 3-1 Status alarm example (upper arrow); Text alarm example (lower arrow)

Status Alarms

A *status* alarm indicates – through the color of its icon – the acknowledged, latched, and current status of:

- a physical or virtual device
- OR,**
- a more logical entity (e.g. an Input's streaming codec status)

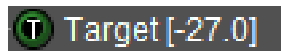
Note: Status alarms can be grouped together to form virtual alarms.

See also

For more information about status alarm icon colors and the notions of acknowledgement and latching, see ["Alarm Icon Colors"](#), on page 22.

Text Alarms

A *text* alarm provides textual information in the form of a measurement, calculation, or some other descriptive data. The icon of a text alarm displays the letter **T** (for *text*) inside it. The text is displayed to the right of the icon, starting with the name of the alarm and followed by its textual data within square brackets.



In the *System* folder on the left pane of EdgeVision Player, alarms are organized in hierarchical fashion with the *System* folder as root folder. Alarms subsumed within a folder are alarms associated with the physical or logical entity this folder represents. For example, there may be a folder named *EdgeVision-1* in which there is a sub-folder named *Health*. Within this *Health* folder there will be a list of alarms related to the health strictly for this particular EdgeVision device.

Note: Text alarms may live alongside (i.e. co-located at the same hierarchical level) with status alarms pertaining to the same device or logical entity.

See also

For more information about:

- Loudness measurement text alarms, see [page 29](#).
- AC3 audio metadata text alarms, see [page 31](#).
- Audio info frame text alarms, see [page 33](#).
- Streaming text alarms, see [page 33](#).
- Device health text alarms, see [page 36](#).

Alarm Icon Colors

Current Status Colors

A status alarm's icon may display three separate colors in three distinct quadrants. The left-most double quadrant indicates the *current* status of the alarm. The upper-right quadrant indicates the *latched* status. The lower-right quadrant indicates the *acknowledged* status.

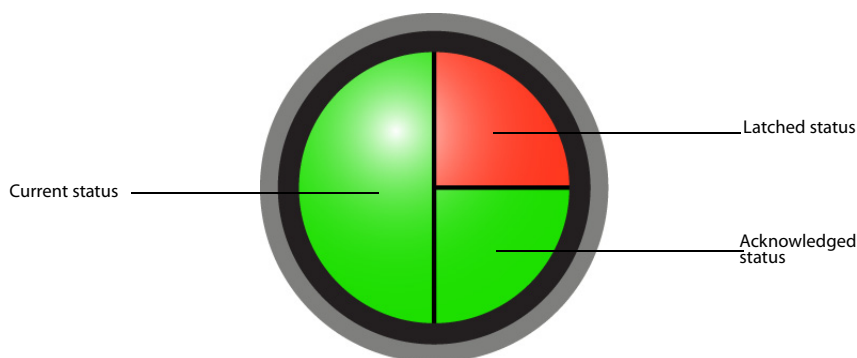


Figure 3-2 A status alarm icon's quadrant system

The color of the *current* status double-quadrant, on the left-hand side of a status alarm's icon, indicates the condition of the alarm in real-time. The color-coding is as follows:

Table 3-1: Status alarm color legend (current status)

Color	Status	Description
Green	Normal	The device, service, or signal being monitored is operating within allowable parameters.
Yellow	Minor	Warning that an error of low importance has occurred.
Orange	Major	Warning that an error of intermediate importance has occurred.
Red	Critical	Warning that an error of critical importance has occurred.
Gray	Unknown	Failure to get the status of an alarm provider, even though the source device has been detected.
Black	Disabled	Alarm exists, but has been disabled at the source. Some devices have the ability to deactivate certain alarms on the hardware itself, resulting in these alarms appearing black.

Latched and Acknowledged Status Colors

The *latched* status, if red, indicates that the alarm needs to be reset. If the latched status is green, this indicates that the alarm does not need to be reset (see [Figure 3-2](#), on page 23).

The *acknowledged* status, if red, indicates that the alarm needs to be acknowledged. Likewise, if the acknowledged status is green, this alarm does not require acknowledgement at this time (see [Figure 3-2](#), on page 23).

IMPORTANT: The acknowledged and latched statuses of EdgeVision status alarms are visible in iControl, but are only visible in EdgeVision Player if you choose to display the status details in the host browser's properties. If an alarm's latch status has been reset or the alarm has been acknowledged, these associated commands will appear dimmed.

To display the Status Properties in the Host Browser

1. Right-click any folder in the Host Browser and select **Properties**.

2. Select the **Show status details** checkbox and click **OK**.

Latched Status

This component of an alarm corresponding to the worst status that the alarm has recently exhibited.

For example, a transient fluctuation in a video signal may cause an alarm configured to detect a video signal freeze to turn red for a moment, and then return to green. EdgeVision keeps track of the fluctuation by setting the latched component of the alarm to red, giving the operator a visual cue that this alarm may need to be watched more closely. A latch can be reset by an operator, causing EdgeVision to set the latch status to green and then begin tracking status changes all over again.

The latched component of an alarm can be configured to track the alarm on either the server side (in which case the latch can be reset by any operator from any workstation), or on the client side (in which case the client workstation “remembers” the latch status from a previous session, regardless of what has happened on the server in the interim).

Latches can be reset by an operator when an alarm’s current status is green. Resetting a server-side latch for an overall (virtual) alarm simultaneously resets the latches on all associated sub-alarms. Resetting a client-side latch for an overall (virtual) alarm has no effect on the latches of associated sub-alarms (these must be reset one by one).

To reset an alarm’s latch status

- On the left pane, in the System folder, right-click the alarm you wish to reset and select **Reset Latch**.

Once you reset the latch on an alarm, the command will be dimmed for that alarm and you will not be able to reset it until the next event.

Acknowledged Status

This component of an alarm that reflects an operator’s response.

- If an alarm changes to an error status, its acknowledgment component (if it is visible) will also change color. When an operator acknowledges the alarm (by clicking on a button or choosing a menu item), the acknowledgment component turns green.
- If the issue that initially triggered the alarm is not resolved within a certain period of time, the acknowledgment component will once again change color to attract the operator’s attention.

Alarm acknowledgment can provide visual feedback to operators at different locations. An alarm acknowledgment by one operator will be seen by all operators and is usually an indication that somebody is attempting to resolve the cause of an alarm.

To acknowledge an alarm

- On the left pane, in the System folder, right-click the alarm you wish to reset and select **Acknowledge**.

Once you acknowledge an alarm, the command will be dimmed for that alarm and you will not be able to reset it until the next event.

A Simple Acknowledgement Scenario

The following is an example of a simple alarm acknowledgment scenario:

1. An alarm has an initial status of normal (green).
2. A critical error occurs, causing the alarm's current, latched and acknowledgment states to change from green to red.
3. After a few seconds, an operator acknowledges the alarm, which changes the acknowledgment state back to green. Other operators can see that the error is still present, but that someone is working on it.

A Recurring Acknowledgement Scenario

The following is an example of a recurring alarm acknowledgment scenario:

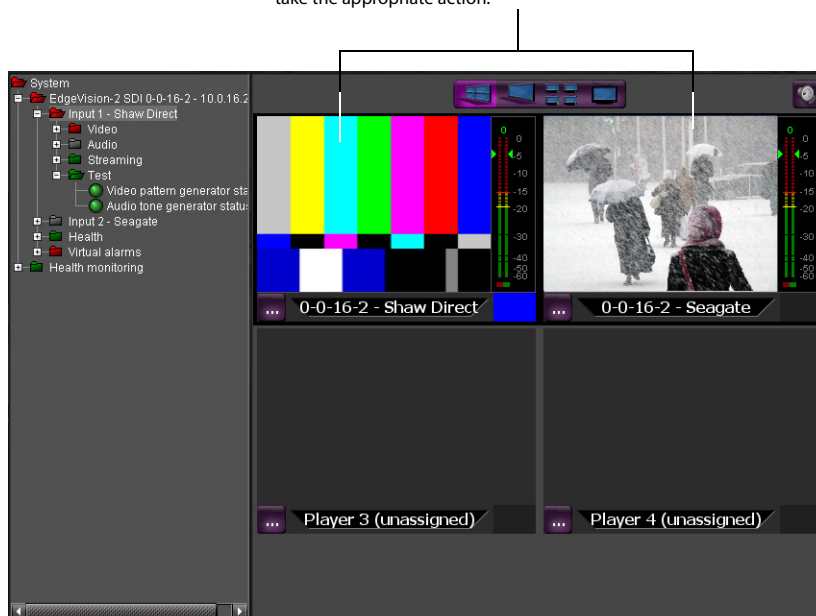
1. As in the previous scenario, the alarm is acknowledged and the acknowledgment state reverts to green.
2. If the problem is not fixed before the acknowledgment period expires, the acknowledgment state reverts to red, which triggers a second alarm (that is logged) with a note indicating the issue has now escalated once.
3. A scripted action might, at this point, send an SMS message to a supervisor.

Alarms in EdgeVision Player

The mere existence of an alarm does not necessarily mean that something is wrong.

As discussed in ["About Reading Alarms"](#) on page 21, alarms – especially text alarms – may exist simply as vehicles for transmitting monitoring-and-control statistics to an operator. For example, if you enable the **Test pattern generator status** alarm for a feed, but only plan to have a video pattern on a feed for four hours per day, the alarm can help you confirm that the video pattern is displaying at the correct time of day.

In this example, if you expect a Video Test pattern on Input 2, then the Alarm is Ok (Green). If a video feed comes through that channel, then the Video Test alarm may be triggered and you can take the appropriate action.



Note: By default, most alarms/flags are disabled **except** for the following:

- **Video loss** (found in Input #, Video, Alarms)
 - [Audio] **Input status** (found in Input #, Audio)
 - **Codec status** (found in Input #, Streaming)
 - **Enable SDI out** (found in Input #, SDI output)
 - **Fan A/B status** (found in Health)
 - **Optional power supply B status** (found in Health)
 - **Temperature front** (found in Health)
 - **Temperature front status** (found in Health)
 - **Temperature rear** (found in Health)
 - **Temperature rear status** (found in Health)
-

Reading Feed Input Alarms

In addition to alarms, the Host browser can also display the signal statistics using the Video, Audio, and Streaming fields. These values are current and updated in real-time.

Reading Video Alarms

The following alarms appear in the Video section for the Input (in the System folder). They allow you to monitor the presence of errors in video quality, format, and streaming rate.

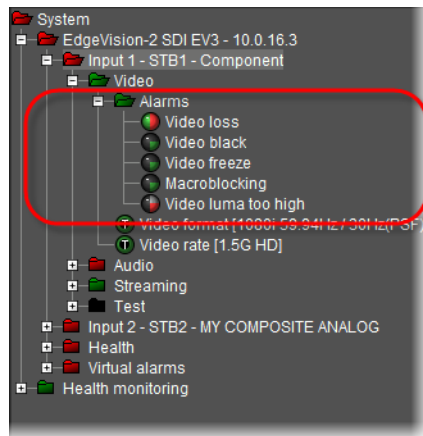


Figure 3-3 Regular Video alarms

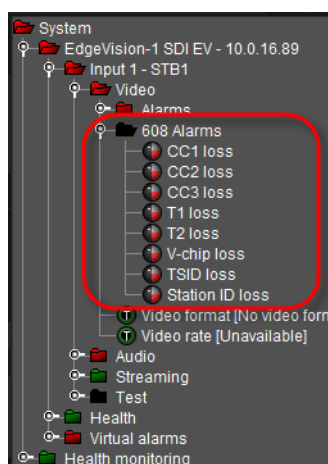


Figure 3-4 EIA 608 Closed Captioning alarms

You can enable or disable these alarms on the left pane (see ["Alarms in EdgeVision Player"](#), on page 25) or by using EdgeVision Configurator.

Table 3-2: Video Alarms

Alarm Type	Description
--- Regular video alarms ---	
Video loss	<ul style="list-style-type: none"> • Detects if there is a loss of video signal from the device. • Found in the Video, Alarms section for the Input.
Video black	<ul style="list-style-type: none"> • Detects if the luma level is lower than the IRE or mV levels are too low. • Found in the Video, Alarms section for the Input.
Video freeze	<ul style="list-style-type: none"> • Detects if the video is displaying a single frame of video for too long.¹ • Found in the Video, Alarms section for the Input.
Macroblocking detection	<ul style="list-style-type: none"> • Detects if the image compression is appearing as video errors, or when bandwidth is not enough to encode fine detail.² • Found in the Video, Alarms section for the Input.
Video luma too high	<ul style="list-style-type: none"> • Detects if the average luminance of the video is higher than the maximum threshold. • Found in the Video, Alarms section for the Input.
--- EIA 608 Closed Captioning alarms ---	
CC1 loss	Loss of data on Caption Channel 1
CC2 loss	Loss of data on Caption Channel 2
CC3 loss	Loss of data on Caption Channel 3
T1 loss	Loss of data on Text Channel 1
T2 loss	Loss of data on Text Channel 2
V-chip loss	Loss of V-chip XDS data

Table 3-2: Video Alarms (*Continued*)

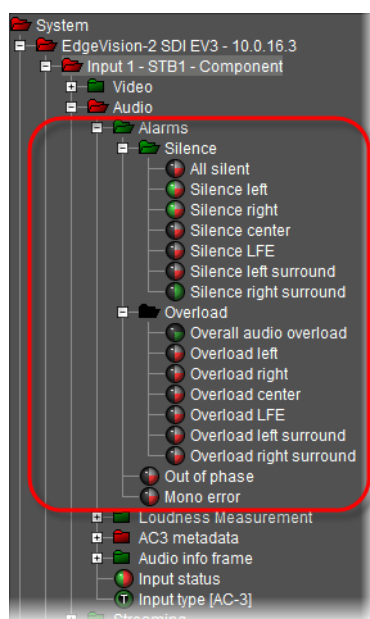
Alarm Type	Description
TSID loss	Loss of TSID XDS data
Station ID loss	Loss of Station ID XDS data

1. When possible, use an HDMI or Component input to detect Video Freeze accurately.
2. There are limitations on EdgeVision's ability to detect the presence of macroblocking on signals that have been subjected to horizontal scaling. For more information, see the *EdgeVision Installation Guide*.

Audio Alarms

Reading Audio Alarms

The following alarms appear in the Alarms sub-folder.



These alarms allow you to detect *errors* (threshold-driven) in audio quality, stereo/mono status, and the type of audio input present.

You can enable or disable these alarms on the left pane (see "[Alarms in EdgeVision Player](#)", on page 25) or by using EdgeVision Configurator.

Table 3-3: Audio alarms

Alarm Type	Description
--- General audio feed alarms ---	
Out of phase	<ul style="list-style-type: none"> • Detects if the left and right channels are no longer aligned (resulting in phase cancellation). • Found in the Audio, Audio # section for the Input.

Table 3-3: Audio alarms (*Continued*)

Alarm Type	Description
Mono error	<ul style="list-style-type: none"> • Detects if the audio signal is in Mono mode (using a single channel). • Found in the Audio, Audio # section for the Input.
--- Silence alarms ---	
All silent	<ul style="list-style-type: none"> • Detects if the audio feed has been interrupted on all channels. • Found in the Audio, Audio # section for the Input.
Silence left	<ul style="list-style-type: none"> • Detects if the audio feed has been interrupted on the left channel. • Found in the Audio, Audio # section for the Input.
Silence right	<ul style="list-style-type: none"> • Detects if the audio feed has been interrupted on the right channel. • Found in the Audio, Audio # section for the Input.
Silence center	<ul style="list-style-type: none"> • Detects if the audio feed has been interrupted on the center channel. • Found in the Audio, Audio # section for the Input.
Silence LFE	<ul style="list-style-type: none"> • Detects if the audio feed has been interrupted on the low frequency effects (LFE) channel. • Found in the Audio, Audio # section for the Input.
Silence left surround	<ul style="list-style-type: none"> • Detects if the audio feed has been interrupted on the left surround channel. • Found in the Audio, Audio # section for the Input.
Silence right surround	<ul style="list-style-type: none"> • Detects if the audio feed has been interrupted on the right surround channel. • Found in the Audio, Audio # section for the Input.
--- Overload alarms ---	
Overall audio overload	<ul style="list-style-type: none"> • Detects if there is an overall excess of audio signal from all channels. • Found in the Audio, Audio # section for the Input.
Overload left	<ul style="list-style-type: none"> • Detects if there is an excess of audio signal from the left channel. • Found in the Audio, Audio # section for the Input.
Overload right	<ul style="list-style-type: none"> • Detects if there is an excess of audio signal from the right channel. • Found in the Audio, Audio # section for the Input.
Overload center	<ul style="list-style-type: none"> • Detects if there is an excess of audio signal from the center channel. • Found in the Audio, Audio # section for the Input.
Overload LFE	<ul style="list-style-type: none"> • Detects if there is an excess of audio signal from the low frequency effects (LFE) channel. • Found in the Audio, Audio # section for the Input.
Overload left surround	<ul style="list-style-type: none"> • Detects if there is an excess of audio signal from the left surround channel. • Found in the Audio, Audio # section for the Input.
Overload right surround	<ul style="list-style-type: none"> • Detects if there is an excess of audio signal from the right surround channel. • Found in the Audio, Audio # section for the Input.

Reading Loudness Measurement Alarms

The alarms in the Loudness Measurement sub-folder allow you to display loudness measurements and probing information.

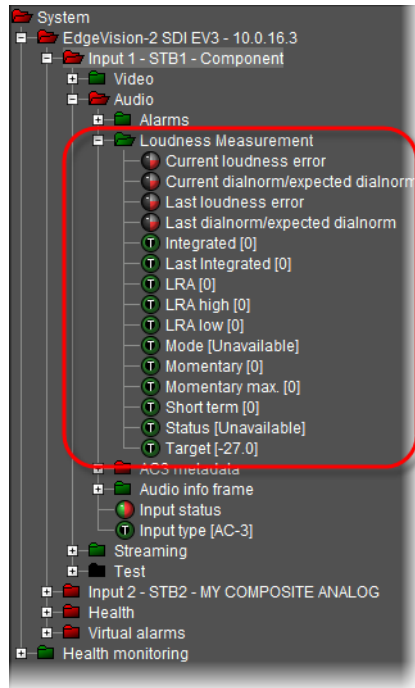


Table 3-4: Loudness Measurement alarms

Alarm Type	Description
Current ¹ loudness error	Active when the <i>Integrated</i> text value is outside the range bounded by the upper and lower deviation for a <i>set duration</i> . The alarm clears when the <i>Integrated</i> text value is within the range bounded by the upper and lower deviation for a <i>clear duration</i> . ²
Current dialnorm/expected dialnorm	Active if the Current Dialnorm is different from the Expected Dialnorm
Last ³ loudness error	Active when the <i>Last Integrated</i> text value is outside the range bounded by the upper and lower deviation. The alarm clears when the <i>Last Integrated</i> text value is within the range bounded by the upper and lower deviation
Last dialnorm/expected dialnorm	Active if the Last Dialnorm is different from the Expected Dialnorm.
Integrated	Integrated loudness reading in LKFS or LUFS, depending on whether the selected measurement mode in EdgeVision Configurator is in EBU or A85 mode
Last Integrated	Integrated value at the last segment transition.
LRA	<ul style="list-style-type: none"> Loudness Range in LU only when in EBU-Mode; the value should be blank when the Loudness mode is A85⁴ Loudness range is reset on a segment transition The definition and a reference implementation of the algorithm for calculating Loudness Range are described in EBU Tech Doc 3342 [R3]. $LRA = LRA\ high - LRA\ low$ The resulting Loudness Range is shown between the 10th and 95th percentiles of the distribution of loudness levels above the relative threshold).
LRA high	The maximum LRA value on the segment.
LRA low	The minimum LRA value on the segment.

Table 3-4: Loudness Measurement alarms (*Continued*)

Alarm Type	Description
Mode	Calculation mode for determining loudness. Possible values are EBU, A/85, Custom EBU, and Custom A/85.
Momentary	Momentary loudness uses a sliding rectangular time window of length 0.4 s. The measurement is not gated.
Momentary max	Maximum momentary loudness value within the current segment.
Short term	Short-term loudness uses a sliding rectangular time window of length 3 s. The measurement is not gated.
Status	Indicates if the loudness probe is active or not. Possible states are: <ul style="list-style-type: none"> <i>running</i>: if currently calculating loudness values <i>paused</i>: if not
Target	Expected loudness level configured by user. It is used to determine loudness errors if dialnorm metadata is not present.

1. The term *current* implies calculations culminating in a loudness error occur **before** the current segment is complete.
2. If dialnorm metadata is retrievable, then the dialnorm is used instead of the configured Target value to determine if there is a loudness error.
3. The term *last* implies calculations culminating in a loudness error occur **after** the segment is complete.
4. 1 LU is equivalent to 1 dB.

Reading AC3 Metadata Alarms (Audio)

The alarms in the AC3 metadata sub-folder allow you to retrieve metadata information packaged with AC3 audio feeds. This metadata should match the AC3 audio feed received from either a SPDIF or HDMI input.

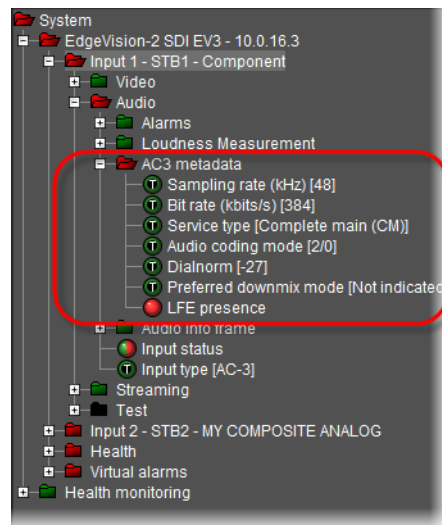


Table 3-5: AC3 metadata alarms

Alarm Type	Description
Sampling rate	Actual Sampling frequency of input audio signal. Possible choices are: <ul style="list-style-type: none"> • 48 kHz • 44.1kHz • 32 kHz
Bit rate	Actual bit rate of input audio signal. Possible choices are: 32, 40, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320, 384, 448, 512, 576, 640 kbps
Service type	Type of service. ¹ Possible choices are: <ul style="list-style-type: none"> • Main audio service: complete main (CM) • Main audio service: music and effects (ME) • Associated service: visually impaired (VI) • Associated service: hearing impaired (HI) • Associated service: dialogue (D) • Associated service: commentary (C) • Associated service: emergency (E) • Associated service: voice over (VO) • Main audio service: karaoke
Audio coding mode	<ul style="list-style-type: none"> • 1+1: Ch1, Ch2 (dual mono) • 1/0: Center • 2/0: Left - Right • 3/0: Left - Center - Right • 2/1: Left - Right - Subwoofer • 3/1: Left - Center - Right - Subwoofer • 2/2: Left - Right - Surround Left - Surround Right • 3/2: Left - Center - Right - Surround Left - Surround Right
Dialnorm	Measured dialnorm value, (average loudness value on current segment) Range: -1 to -31 dB
Preferred downmix mode	Preferred downmix mode recommended by audio source. Possible options: <ul style="list-style-type: none"> • Left total / Right total • Left only / Right only • Not indicated
LFE presence	Indicate if LFE (Low-frequency effect) is present in audio signal possible choices: yes, no

1. EdgeVision normally receives CM.

Reading Audio Info Frame Alarms

The alarms in the Audio info frame sub-folder allow you to display HDMI infoframe metadata information. This information should match the audio received through the HDMI input.

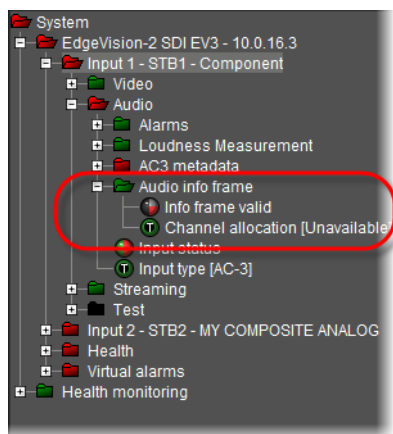


Table 3-6: Audio info frame alarms

Alarm Type	Description
Info frame valid	Indicate if the audio source contains a valid info frame. info frame is carried as part of HDMI audio.
Channel allocation	Indicates channel lineup as reported through metadata. Possible choices: 2/0, 2/0L, 3/0, 3/0L, 2/1, 2/1L, 3/1, 3/1L, 2/2, 2/2L, 3/2, 3/2L, 2/3, 2/3L, 3/3, 3/3L, 2/4, 2/4L, 3/4, 3/4L, 4/0, 4/0L, 5/0, 5/0L, 4/1, 4/1L, 5/1, 5/1L, 4/2, 4/2L, 5/2, 5/2L, Unavailable

Reading Streaming Alarms

The alarms in the Streaming sub-folder are for debugging purpose only. They provide streaming encoder resource usage statistics.

The statuses and text of *streaming* alarms are current and updated in real-time. These values also appear in EdgeVision Configurator. If you make changes to the EdgeVision device using EdgeVision Configurator, streaming alarms will display the changes in the signal, as necessary.

Device, Feed, and Stream Alarms

Reading Streaming Alarms

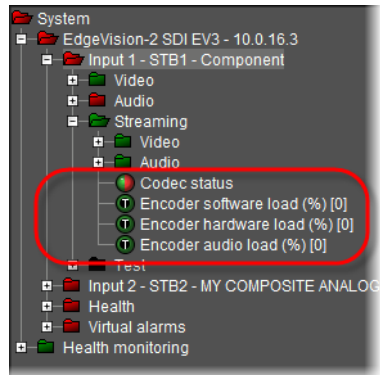


Figure 3-5 EdgeVision Streaming alarms: Encoder-related

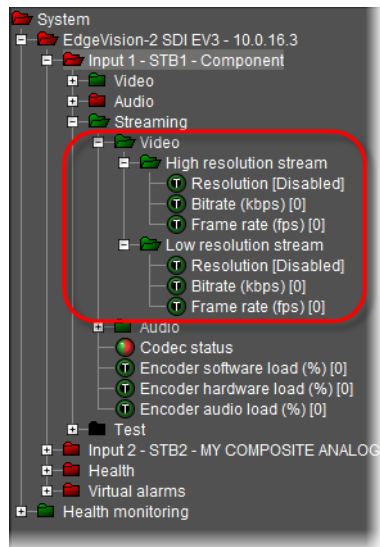


Figure 3-6 EdgeVision Streaming alarms: Video-related

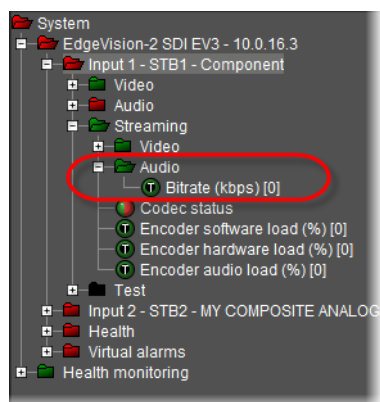


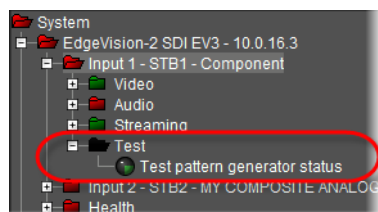
Figure 3-7 EdgeVision Streaming alarms: Audio-related

Table 3-7: Streaming Alarms

Alarm Type	Description
--- Encoder-related alarms (see Figure 3-5 , on page 34) ---	
Codec status	Streaming encoder resource usage statistics. This is for debugging purposes only.
Encoder software load	
Encoder hardware load	
Encoder audio load	
--- Video-related alarms: High resolution stream (see Figure 3-6 , on page 34) ---	
Resolution	Displays the current height/width display resolution for the High/Low video stream.
Bitrate	Displays the number of bits that are processed per unit of time (measured in kilobytes per second) to stream the video signal.
Frame rate	Displays the number of complete screens or frames drawn per second (measured in frames per second).
--- Video-related alarms: Low resolution stream (see Figure 3-6 , on page 34) ---	
Resolution	Displays the current height/width display resolution for the High/Low video stream.
Bitrate	Displays the number of bits that are processed per unit of time (measured in kilobytes per second) to stream the video signal.
Frame rate	Displays the number of complete screens or frames drawn per second (measured in frames per second).
--- Audio-related alarms (see Figure 3-7 , on page 34) ---	
Bitrate	Displays the number of bits that are processed per unit of time (measured in kilobytes per second) to stream the video signal.

Reading Test Alarms

The alarm in the Test sub-folder is red if *A/V test pattern* is enabled.



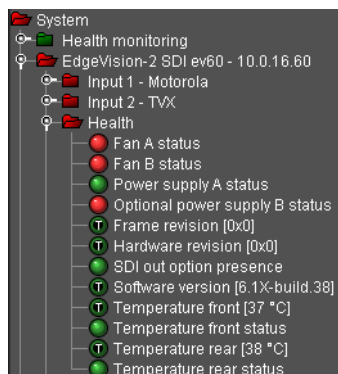
If use a Video or Audio Test pattern on the feed for an Input, then you should enable the associated alarms in EdgeVision Configurator. That way, you can use the alarm to confirm when the Video/Audio test pattern is active or not.

Table 3-8: Test Alarms

Alarm Type	Description
Test pattern generator status	<ul style="list-style-type: none">• Detects if the Video test pattern is currently active for the current Input feed.• Found in the Test section for the Input.

Reading Device Health Alarms

Device Health refers to the functional status of the hardware in the device itself. These alarms monitor the operational status of the mechanisms that ensure that the device can operate efficiently. These mechanisms provide the power, maintain the internal temperature levels, and display the current hardware versions.



These alarms are found in the Health Monitoring sub-folder for a device.

Table 3-9: Device Health alarms

Alarm/Flag	Description
Fan A/B status	Displays the current operational status of the cooling fans A/B inside the EdgeVision device.
Power supply A status	Displays the current operational status of the primary (A) power supplies.
Optional power supply B status	Displays the current operational status of the secondary (B) power supplies.
Frame revision	Displays the version number of the chassis that contains the hardware for the EdgeVision device.
Hardware revision	Displays the revision number for the hardware in the EdgeVision device.
SDI out option presence	Indicates if the SDI out option is present on the EdgeVision device.
Temperature front/rear	Displays the current temperature in the front of the unit (where the LEDs are displayed) and in the rear of the unit (where the connectors are located).
Temperature front status/rear status	Indicates if the current temperature in the front or rear of the unit has exceeded optimal limits.

You can also see these alarms and others in the EdgeVision Admin application (see the *EdgeVision Installation Guide* for more information).



Grass Valley Technical Support

For technical assistance, contact our international support center, at 1-800-547-8949 (US and Canada) or +1 530 478 4148.

To obtain a local phone number for the support center nearest you, please consult the *Contact Us* section of Grass Valley's Web site (www.grassvalley.com).

An online form for e-mail contact is also available from the Web site.

Corporate Head Office

Grass Valley
3499 Douglas-B.-Floreni, St-Laurent, Québec, Canada H4S 2C6
Telephone: +514 333 1772
Fax: +514 333 9828
Web: www.grassvalley.com

