Haivision

Viper™ InStream™
Software Player
User's Guide Version 2.0

HVS-ID-UG-VIP-InS-200
Issue 01

Copyright

©2013 Haivision. All rights reserved.

Document Number: HVS-ID-UG-VIP-InS-200
Version Number: v2.0-01

This publication and the product it describes contain proprietary and confidential information. No part of this document may be copied, photocopied, reproduced, translated or reduced to any electronic or machine-readable format without prior written permission of Haivision. The information in this document is subject to change without notice. Haivision assumes no responsibility for any damages arising from the use of this document, including but not limited to, lost revenue, lost data, claims by third parties, or other damages.

If you have comments or suggestions concerning this user's guide, please contact:

Technical Publications Department
Haivision
4445 Garand
Montréal, Québec, H4R 2H9 Canada

Telephone: 1-514-334-5445
info@haivision.com

Trademarks

The Haivision logo, Haivision, and certain other marks used herein are trademarks of Haivision. All other brand or product names identified in this document are trademarks or registered trademarks of their respective companies or organizations.

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

Table of Contents

About This Guide 5
About Haivision 6
Reliability of Information 6
Obtaining Documentation 6
Related Documents 7
Service Support 7
Document Conventions 7

Chapter 1: Launching InStream
Introduction 9
"Zero-Footprint" InStream Player 9
Recommended Hardware Specifications 9
Getting Started 10
Accessing the Viper Launch Portal 10
VOD Viewing Options 12
VOD Search Options 14
Sharing and Managing Assets 15
Publishing Assets to the Furnace 17
Updating Your User Profile 18
Launching the InStream Player 20

Chapter 2: InStream Interface
Overview 23
InStream Player Window 24
InStream Player Controls 25
Dashboard 25
Control Bar – Live Channels 26
Control Bar – On-Demand Assets 27
Adjusting the Player Settings 29
Player Settings 30
Adjusting the Video Settings 33
Video Settings 34

Chapter 3: Using InStream
Dual-Stream Playback 36

Playing Dual-stream Channels 36
Closed Captioning Alerts 39
Managing Closed Captioning Alerts 39
Specifying Reminders and Alert Settings 41
Audio Talkback 42
On-Demand Videos 44
Summary of VOD Controls 44
Hotmarks 46

Appendix A: Keyboard Shortcuts 47
InStream Keyboard Shortcuts 48
Player Keyboard Shortcuts 49
Picture-In-Picture Shortcuts 51

Appendix B: Warranty Information 52
Haivision End User Software License Agreement 52

About This Guide

Welcome to the User's Guide for Haivision's Viper™ InStream™ player, Version 2.0. This guide describes how to use the InStream player to view video available through the Viper Streaming & Recording Appliance.

Topics In This Section

About Haivision 6
Reliability of Information 6
Obtaining Documentation 6
Related Documents 7
Service Support 7
Document Conventions 7

About Haivision

Haivision is a global leader in delivering advanced video networking, digital signage, and IP video distribution solutions. Haivision offers complete end-to-end technology for video, graphics, and metadata to help customers to build, manage, and distribute their media content to users throughout an organization or across the Internet. Haivision has specific expertise in the enterprise, education, medical/healthcare, and federal/military markets.

Haivision is based in Montreal and Chicago, with technical centers in Beaverton, Oregon; Austin, Texas; and Hamburg, Germany.

Reliability of Information

The information contained in this user's guide has been carefully checked and is believed to be entirely reliable. However, as Haivision improves the reliability, function, and design of its products, the possibility exists that this guide may not remain current.

If you require updated information, or any other Haivision product information, contact:

Haivision
4445 Garand
Montréal, Québec, H4R 2H9 Canada

Telephone: 1-514-334-5445
Email: info@haivision.com

Or visit our website at: http://www.haivision.com

Obtaining Documentation

You may download the Viper firmware, Release Notes, and this User's Guide through Haivision's Download Center at: http://www.haivision.com/download-center/

NOTE All customers may access the Download Center; however, a login is required. If you do not have a login, select the link to create an account.

Related Documents

In addition to this guide, the following documents are also available through Haivision's Download Center (see link above):

- Viper Getting Started Guide
- Viper Administration Guide

Service Support

Haivision is committed to providing the service support and training needed to install, manage, and maintain your Haivision equipment.

For more information regarding service programs, training courses, or for assistance with your support requirements, contact Haivision Technical Support via our Support Portal on our website at: http://www.haivision.com/support/

Document Conventions

The following document conventions are used throughout this guide.

TIP The light bulb symbol highlights suggestions or helpful hints.

NOTE Indicates a note, containing special instructions or information that may apply only in special cases.

IMPORTANT Indicates an emphasized note. It provides information that you should be particularly aware of in order to complete a task and that should not be disregarded. IMPORTANT is typically used to prevent loss of data.

CAUTION Indicates a potentially hazardous situation which, if not avoided, may result in damage to data or equipment, or minor to moderate injury. It may also be used to alert against unsafe practices.

CHAPTER 1: Launching InStream

This chapter introduces the Viper™ InStream™ player and describes how to launch InStream.

Topics In This Chapter

Introduction 9
"Zero-Footprint" InStream Player 9
Recommended Hardware Specifications 9
Getting Started 10
Accessing the Viper Launch Portal 10
VOD Viewing Options 12
VOD Search Options 14
Sharing and Managing Assets 15
Publishing Assets to the Furnace 17
Updating Your User Profile 18
Launching the InStream Player 20

Introduction

The Viper Streaming & Recording Appliance is the evolution of Haivision's Furnace VF Live Encoder and VF Stand-Alone Encoder. The Viper incorporates the live encoding capabilities of the Makito/Barracuda encoders, while addressing advanced applications requiring built-in storage.

The Viper combines encoding, storage, compute power, and a Touch Panel human-machine interface. The Viper can be used either as a stand-alone appliance or as a companion contribution appliance for the Furnace IP video distribution system. Within a Furnace environment, the Viper acts as an additional recording and encoding appliance, supporting and enhancing Haivision's ecosystem.

"Zero-Footprint" InStream Player

Viper InStream is a platform independent soft player delivered "on demand" to the desktop through simple web links. InStream supports Mac OSX, Windows, and Linux systems. (Please note that Apple Power PC and Solaris are no longer supported with InStream.)

Whether delivered to the desktop as needed or to Stingray Set Top Boxes on power-up, InStream requires no software installation, software upgrades, or maintenance. It is secure, easy-to-use, and allows for very controlled player distribution and a harmonious user experience across the enterprise.

Recommended Hardware Specifications

Following are the recommended hardware specifications for computers running InStream, v2.0 in a single HD stream configuration:

- CPU: Intel i7 870 at 2.94 GHz
- Memory: 4 GB DDR3-1333

Note that this type of platform can support playback of multi HD streams as well.

Following are the recommended hardware specifications for additional stream configurations:

- SD MPEG-2 Intel Pentium III 500 MHz or PowerPC G3 700 MHz
- SD H.264 Pentium D 2.8 GHz
- HD H.264 Intel Core 2 Quad 2.66 GHz

Getting Started

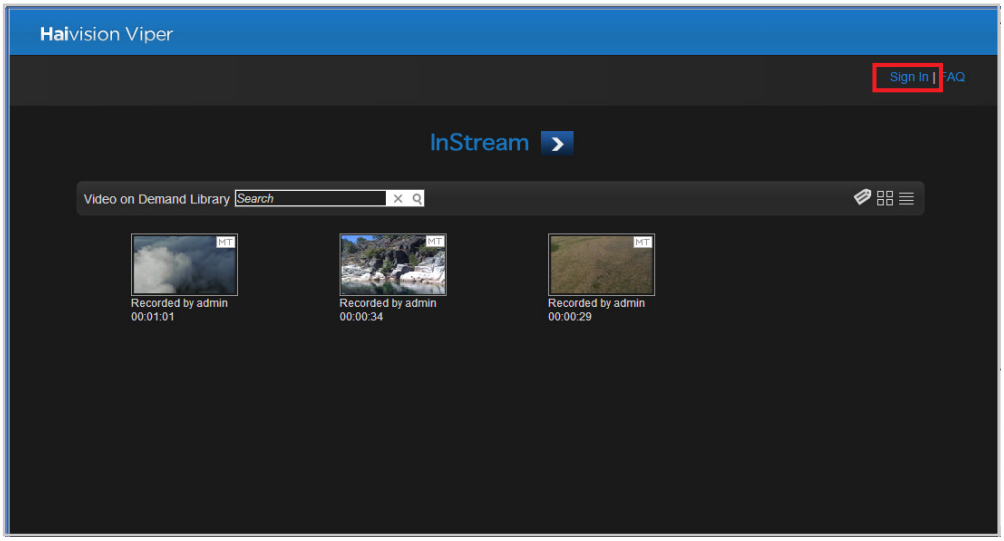
NOTE Your system administrator will provide the URL or IP address for your Furnace or Viper server, as well as your username and initial password.

Accessing the Viper Launch Portal

To access the Viper Launch Portal:

1. Launch a Java enabled Web browser of your choice (such as Internet Explorer, Firefox, Chrome, or Safari).
2. Type the URL or IP address for your license server in the browser's address bar and press ENTER.

   The Viper Launch portal appears, as shown in the following example.



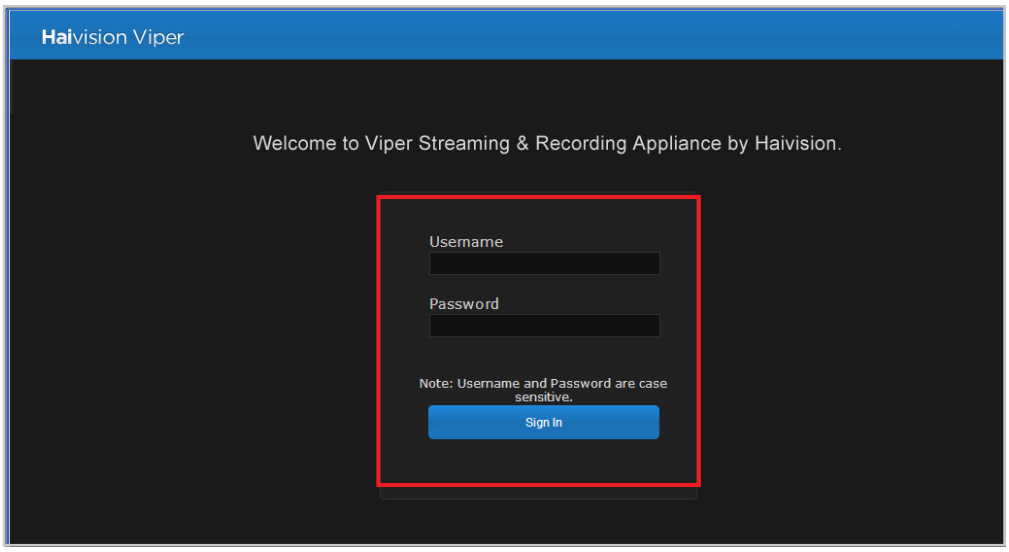
NOTE Your system may have been configured to have some content available to "guest" users, i.e., available without signing in, such as being able to launch InStream or to access active VoD Now links. For this reason, the Launch portal may include thumbnail links to On-Demand (VOD) assets (as shown in the example above).

Also, the theme may have been configured for a different look and feel.

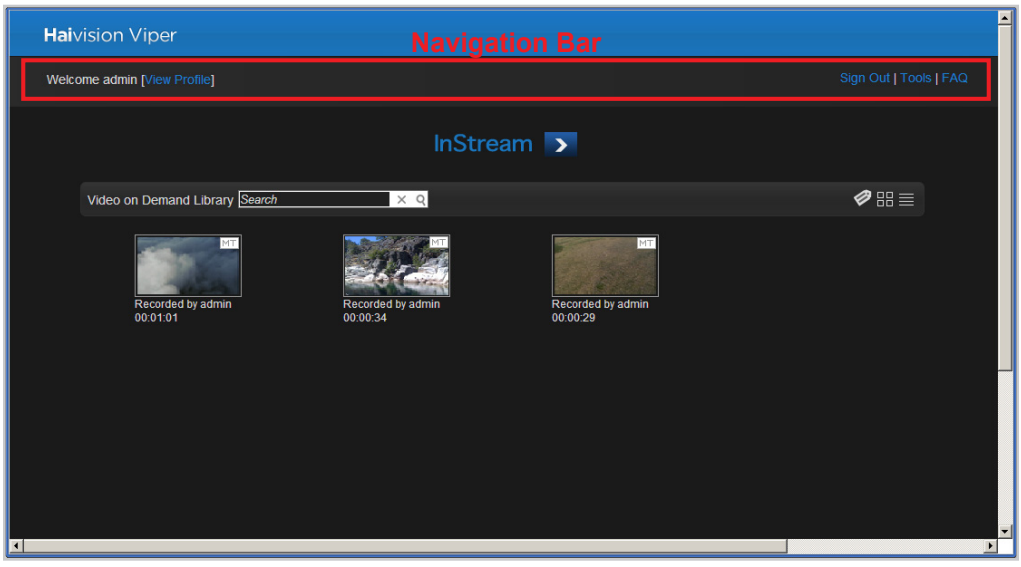
3. Click Sign In from the navigation bar.
4. If you see a Security Certificate warning, click Continue to this website (or equivalent) to accept the certificate and continue to the Sign In page.

5. On the Sign In page, sign in with the username and password supplied by your system administrator. Then press ENTER or click Sign In.

   Below is an example of the Sign In page.



   Once you have successfully signed in, the Launch portal re-appears with your account information and links to the Profile and Tools pages added to the navigation bar (as shown in the following example).

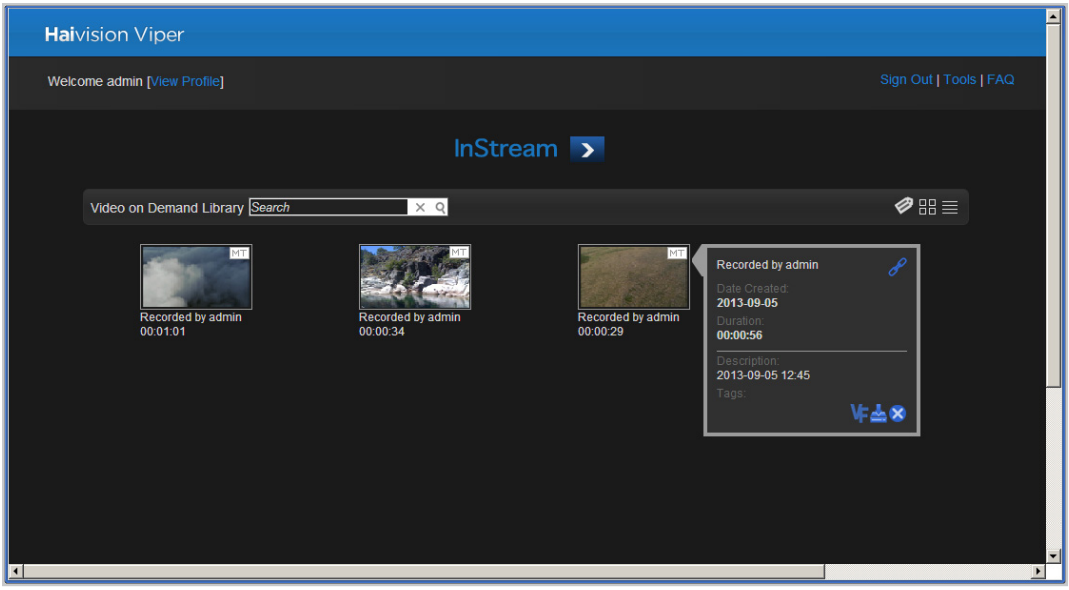


Related Topics

- VOD Viewing Options

VOD Viewing Options

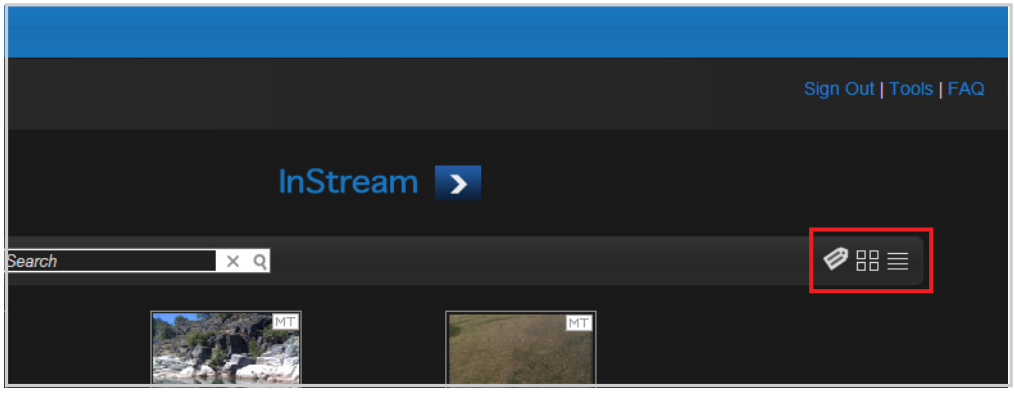
The Launch portal opens with available On-Demand (VOD) assets displayed in Thumbnail View, with the asset Title as the caption for each thumbnail. When you hover over a thumbnail, a small dialog appears with additional information about the asset, including the Date Created, Duration, Description, and Tags (if defined).



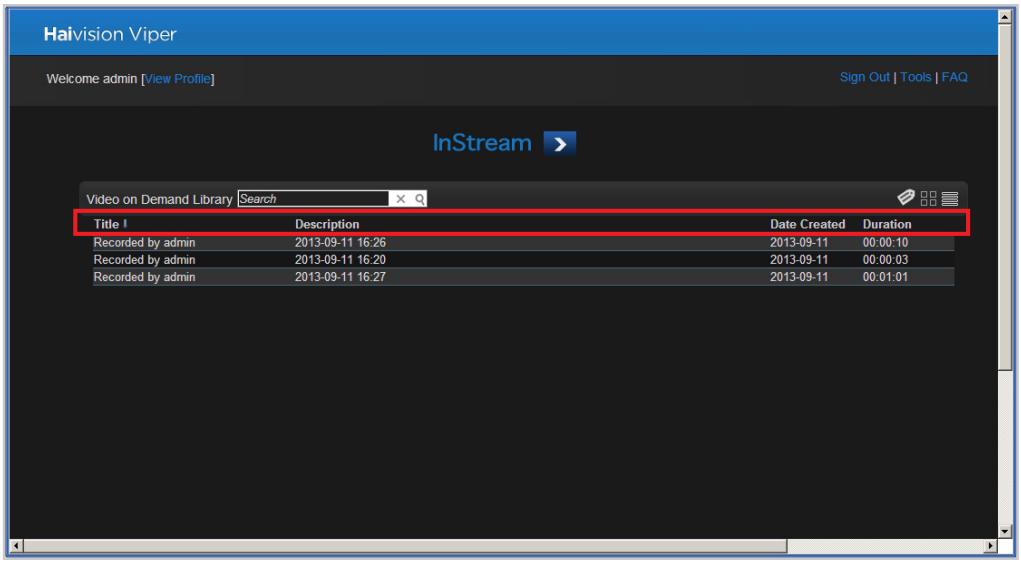
TIP The MT logo on top of the image indicates that it is a multi-track asset. If there is no MT logo, it means that it is a single track asset.

You can change the display to List View, which replaces the thumbnails with horizontal rows of information. In List View, you can click any of the column headers to sort the list by that header type (each click toggles between ascending or descending order).

1. To switch from Thumbnail View to List View, click on the toolbar.



2. To sort the list by a different category (for example, Description, Creation Date, or Duration instead of Title), click any of the column headers.



3. To change the sort order of the list (i.e., from ascending to descending order), click the selected column header. In the above example, the list is sorted by Title in ascending order. To change to descending order, click Title↓.

4. To switch from List View back to Thumbnail View, click .

Related Topics

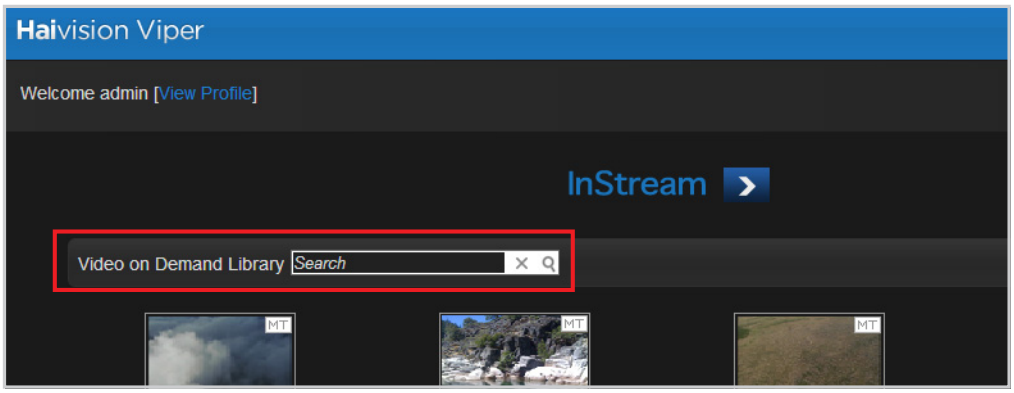
- VOD Search Options

VOD Search Options

From the Launch portal, you can either search for keywords in the asset Title or Description, or you can select tags to filter your search (this only applies to assets for which tags have been assigned).

To search for assets:

1. Type a keyword or phrase in the Search field and click .

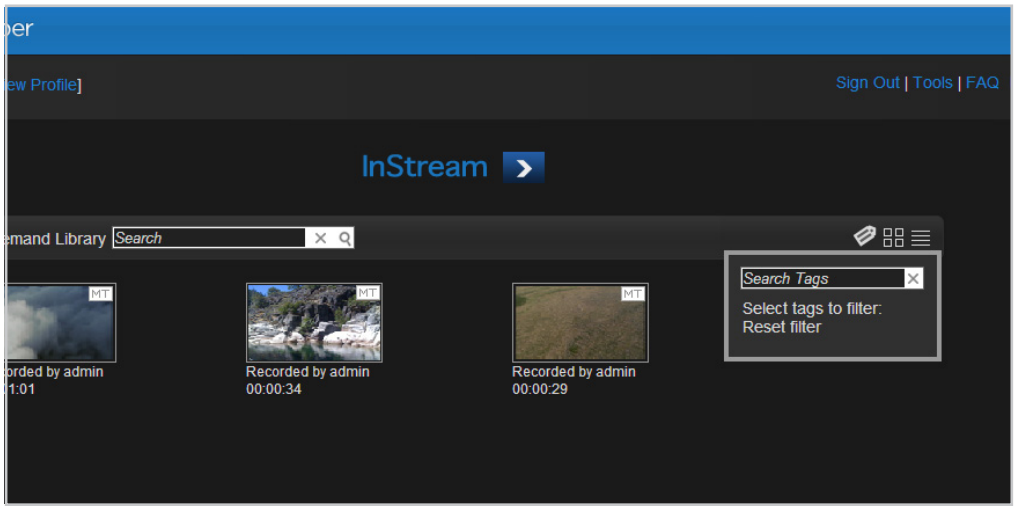


The Launch portal will then only show assets that contain that word or phrase in the Title or Description.

2. To clear the search, click .

To select tags to filter your search:

1. Click to open the Search Tags dialog.



2. To filter a long list, you can type a keyword or phrase in the Search Tags field. As you type, the list immediately shows only matches for your text. To restore the list, click .

3. Each time you select a tag, it moves to the top of the list and is highlighted. The Launch portal then only shows assets that have been assigned that tag.

4. To de-select a tag, click . To de-select all tags, click Reset filter.

Related Topics

- Sharing and Managing Assets

Sharing and Managing Assets

When you hover over a thumbnail or a row, the information dialog that opens includes an option to copy the URL in order to share the asset. Depending on the permissions assigned to your account, you may also download the asset or delete the asset from your system. The asset will be downloaded as an indexed .ts (Transport Stream) file with no metadata.

If your Viper is part of a Furnace realm, when you hover over a thumbnail or a row, the information dialog that opens includes an additional option to "publish" the asset to the host Furnace server.

To copy and share the asset:

1. Hover over the selected thumbnail and click .

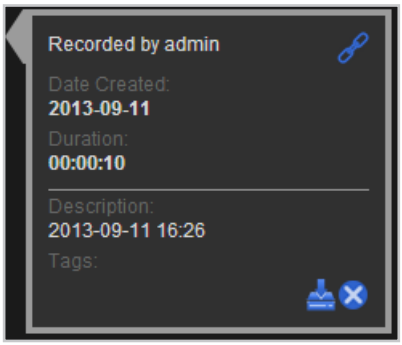
   The asset information dialog will now show the URL link.

2. Press CTRL+C (or for Mac OS X CMD+C) to copy the URL.

3. You can paste the URL into an email or into a new browser window, according to your requirements.

To download the asset:

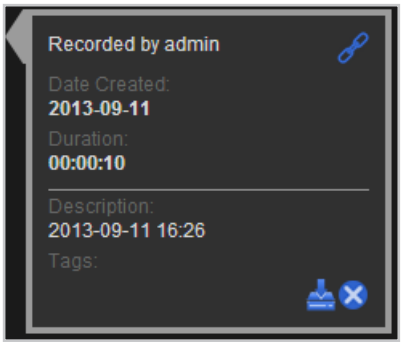
1. Hover over the selected thumbnail and click .



2. When prompted, confirm the file name and save location and then click Save.

To delete the asset:

1. Hover over the selected thumbnail and click .



2. Click OK to confirm the deletion.

Related Topics

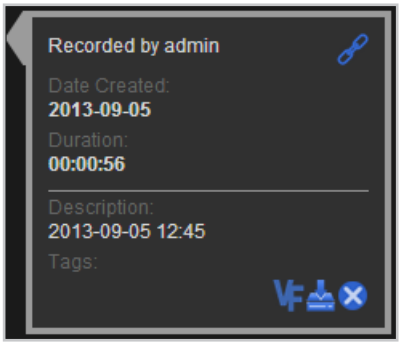
- Publishing Assets to the Furnace

Publishing Assets to the Furnace

If your Viper is part of a Furnace realm, you can also "publish" the asset to the host Furnace server.

To "publish" the asset to the host Furnace server:

1. Hover over the selected thumbnail and click .



You will see a confirmation message that the asset is being published.

Related Topics

- Updating Your User Profile

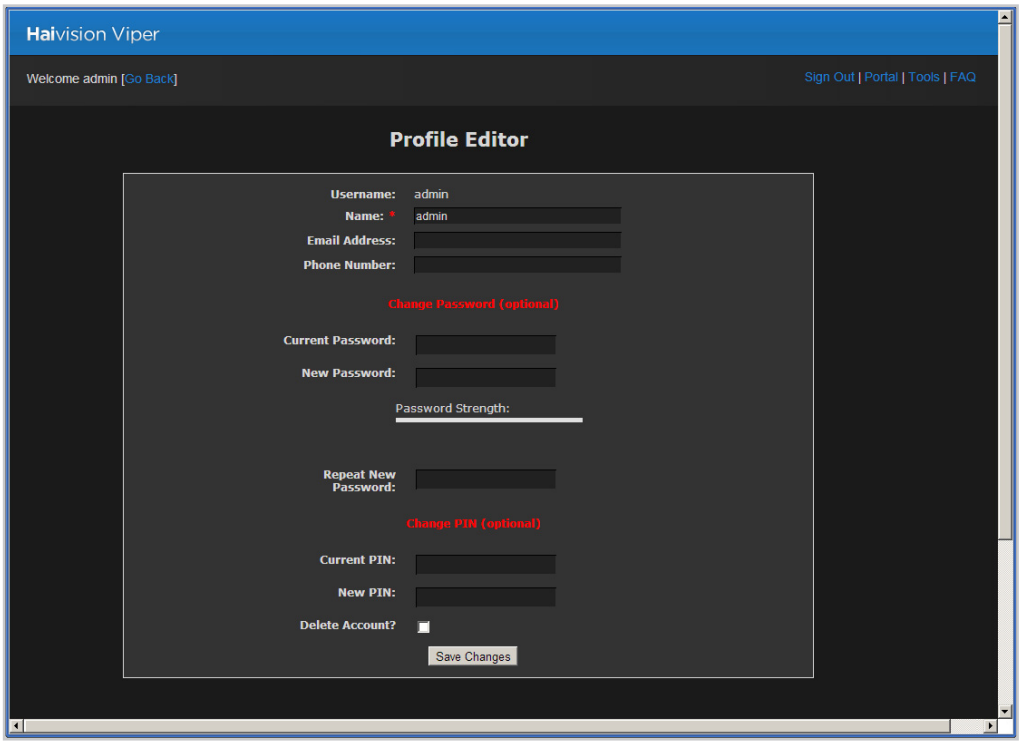
Updating Your User Profile

Once you have successfully signed in, you can view your account information. Depending on the permissions assigned to your account, you may also modify this information, change your password or PIN, and/or delete the account.

To view and update your user profile:

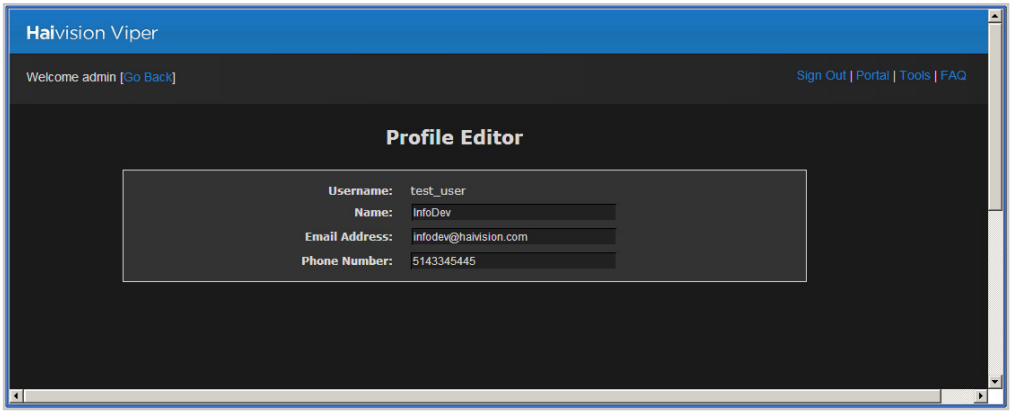
1. From the Viper Launch portal, click View Profile to open the Profile page.

   The following example shows an account with full permissions.



2. Type in the required changes (such as your contact information).
3. If it is the first time you are accessing your account, be sure to change your password and PIN (a PIN can be 4 or 12 characters long).
4. Click Save Changes.

NOTE If your account has been configured with view-only permissions (as shown in the following example), you will need to contact your system administrator to make any changes to your account.



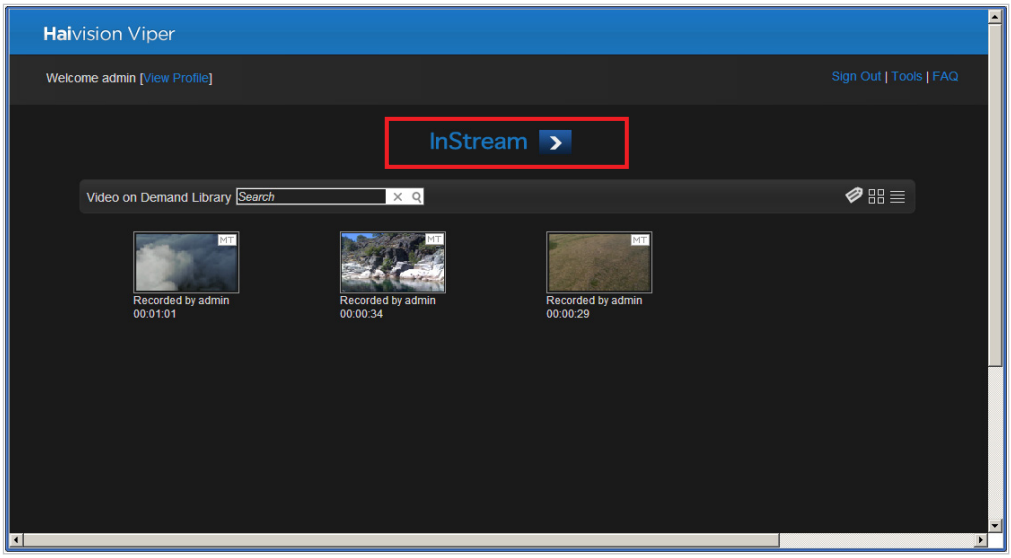
Related Topics

- Chapter 2: "InStream Interface"

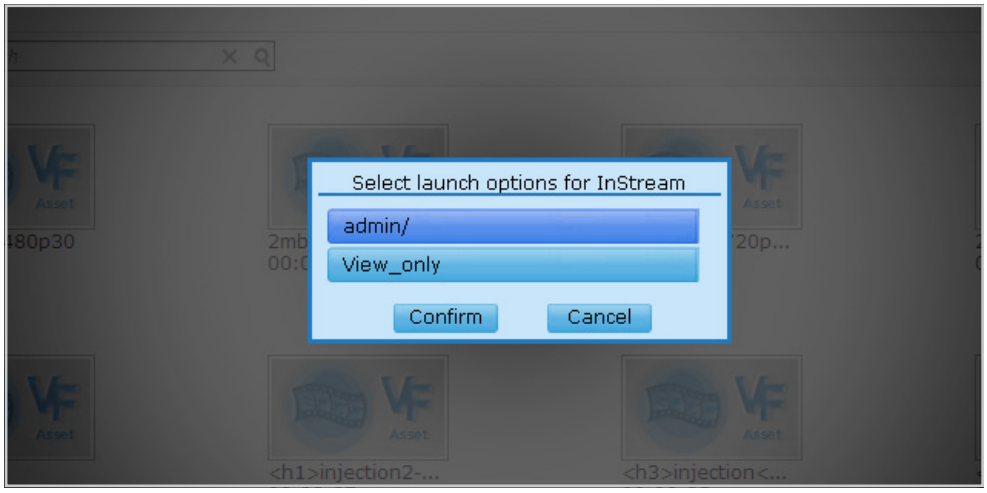
Launching the InStream Player

To launch the InStream player:

1. From the Viper Launch portal, click the InStream launch button to start the process of delivering the InStream player to your computer.



NOTE If your account has been assigned to more than one user group (with conflicting launch permissions), when you launch InStream, a dialog box (such as the following example) will appear prompting you to select one of the groups:



2. If you see the Select Launch Options prompt, select a group and click Confirm.

   This will cause InStream to launch with the permissions of the selected group enabled.

For an overview and details on using the InStream player, see the following section "InStream Interface".

CHAPTER 2: InStream Interface

This chapter describes the InStream interface and provides information you need to know to get started viewing live video and VOD assets.

Topics In This Chapter

Overview 23
InStream Player Window 24
- InStream Player Controls 25
  - Dashboard 25
  - Control Bar – Live Channels 26
  - Control Bar – On-Demand Assets 27
- Adjusting the Player Settings 29
  - Player Settings 30
- Adjusting the Video Settings 33
  - Video Settings 34

Overview

InStream launches as shown in the example below.

Controls over the viewing experience are available on the player window and Player Settings menu (right-click to open). For details, see "InStream Player Window" on page 24.

NOTE From the Viper Launch portal, you can click one of the thumbnail links to start playing an On-Demand (VOD) asset. See "Accessing the Viper Launch Portal" on page 10.

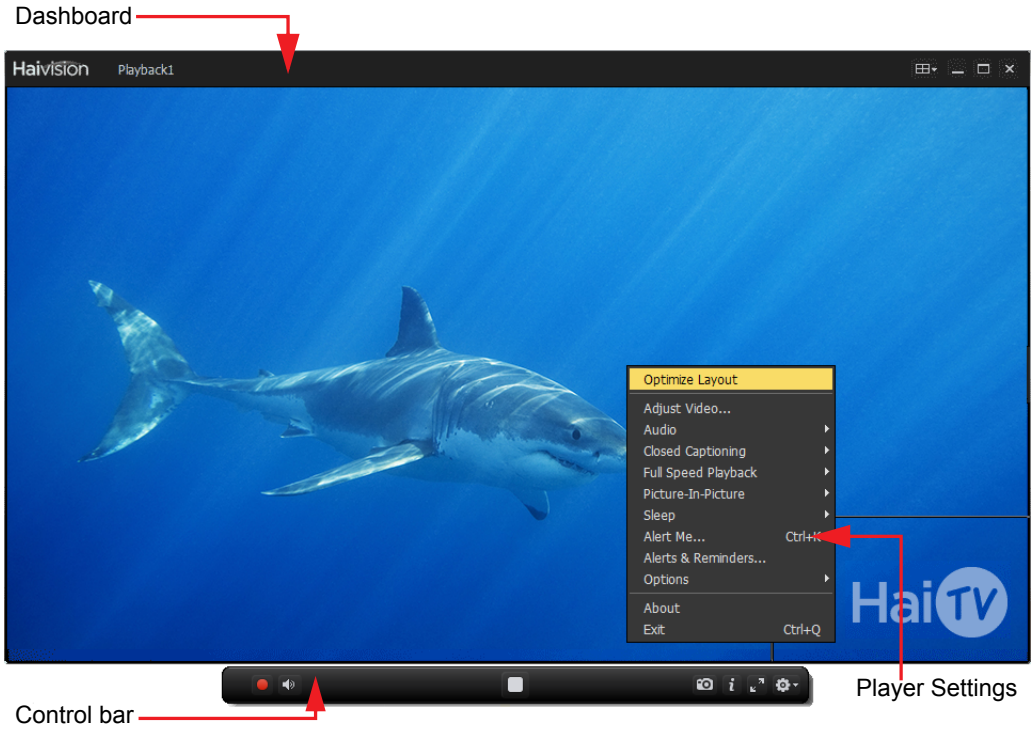
IMPORTANT In order to maximize the performance of the appliance, we recommend that you do not access VOD assets *while* there is ongoing recording from the Touch Panel interface.

InStream Player Window

The InStream player window allows you to view Live Channels in a variety of layouts, with numerous controls over the viewing experience. The player window controls are arranged in two areas:

- The **Dashboard** runs across the top of the player window.
- The **Control bar** is a "floating palette" located by default just below the player window, but you can move it anywhere on your screen. When you launch InStream, the Control bar appears when you pass the cursor over the player window.

The InStream player window is designed to maximize viewing resources, so playing videos takes up the entire player window. If you do not move the cursor for about 4 seconds, or if it is outside the player window, the Control bar, Dashboard and Guide button fade out. These controls reappear when you move the cursor over the player window (although you can set the Dashboard to remain visible via the Player Settings menu, as shown below).



The Player Settings menu opens when you right-click anywhere in the player window or when you click the Player Settings button on the Control bar. For more information, refer to "Adjusting the Player Settings" on page 29. The following section describes the Dashboard and Control bar controls.

For a list of keyboard shortcuts for the player controls (where available), refer to Appendix A: "Keyboard Shortcuts".

InStream Player Controls

Dashboard

The Dashboard (top of player window) serves to identify the video and to control basic aspects of the player window. The Dashboard controls are described in the following table.

Dashboard Control	Description
Logo [e.g., "Haivision"]	This area is typically used to display your organization's logo.
Message area [e.g., "Operating Room 2"]	This area is used to display information about the video stream currently playing, as well as messages broadcast by your system administrator.
Minimize	Click to reduce the InStream player to a button on the toolbar. This minimizes both the player and Guide windows. TIP: You can also press ALT+UP ARROW.
Maximize	Click to expand the player window to occupy the entire screen (while still showing the toolbar). TIP: You can also press ALT+DOWN ARROW. NOTE: To maximize the player window and remove the toolbar, select Full Screen All from the player settings menu (right-click).
Close	Click to close the player window and exit InStream. TIP: You can also press CTRL+Q or ALT+F4.

Control Bar – Live Channels

The Control bar (located by default below the player window) is used to control video playback and perform various other functions. The following table describes the Live Channel controls. For features such as Talkback, Recording, and Snapshot, permissions must have been assigned to your user/group account or the control icon will not be present. To make changes to your account, contact your system administrator.

Live Channel Controls	Description
	Click to start talking into your microphone (i.e., to talk directly to individuals at the video source). For details, see "Audio Talkback" on page 42.
	Click to start recording live channel programs to a standard MPEG Transport Stream (.ts) file to your local hard drive. You will be prompted for the recording Save location each time local recording starts. TIP: You can enable or disable the prompt for the recording Save location from the Player Settings Options menu. For details, see "Player Settings" on page 30.
Volume / Mute	Click the volume icon to toggle the sound On or Off (Mute). The Volume icon also changes to indicate the volume level. TIP: You can also press CTRL+M.
	Position cursor over Volume icon to display the volume level slider. Click and drag the volume slider to the right (to increase the volume) or left (to decrease the volume). TIP: You can also press CTRL+UP ARROW or CTRL+DOWN ARROW to increase or decrease the volume.
Play / Stop	Click to start or to stop video playback. Note that Live streams cannot be paused. TIP: You can also use the spacebar to toggle between the two.
Snapshot	Click to take a snapshot of the current video frame (excluding visible controls) and place it on the clipboard. TIP: You can also press CTRL+C.

Live Channel Controls	Description
Information	Click to display information in the Dashboard: • 1st click: Channel name • 2nd click: Video status (Playing, Paused, etc.) • 3rd click: InStream version • 4th click: Reception status TIP: You can also press CTRL+I to cycle information displayed.
Fullscreen Current	Click to expand the current video frame to full screen (i.e., no toolbar). Double-click or press ESC to return the frame to its former size. TIP: You can also press ALT+ENTER.
Player Settings	Click to open the Player Settings menu. For details, see "Adjusting the Player Settings" on page 29.

Control Bar – On-Demand Assets

The controls unique to viewing On-Demand assets are described in the following table.

On-Demand Controls	Description
Time code	Displays the time code value that uniquely identifies the current frame in a digital video sequence. TIP: Pressing CTRL+B on your keyboard changes the time reference from time-codes to a frame index. Press it again to return to time format.
HotMarks menu	Click to display a list of Hotmarks (if defined). Hotmarks are typically used to create shortcuts to jump to predefined points in the video.
Scrub bar	Shows the progress of the video playback. Click and drag to move through the video.
Hotmarks	If defined, Hotmark indicators appear when you pass the cursor over the scrub bar. When you rest the cursor on one of the indicators, a caption appears displaying the title, such as "Chap1" or "Hot2". Clicking on an indicator causes the video to jump to that spot in the video.

On-Demand Controls	Description
Play / Pause	Click to start or pause video playback. TIP: You can also use the spacebar to toggle between the two.
Previous Hotmark	Click to jump to the previous Hotmark. TIP: You can also press CTRL+LEFT ARROW.
Rewind / Step Backward (Shift - Slow Motion Reverse)	Click to rewind the video. If paused, click to step backward one frame at a time. TIP: You can also press the LEFT ARROW key.
Fast Forward / Step Forward (Shift - Slow Motion Forward)	Click to fast forward the video. If paused, click to step forward one frame at a time. TIP: You can also press the RIGHT ARROW key.
Next Hotmark	Click to jump to the next HotMark. TIP: You can also press CTRL+RIGHT ARROW.
Duration	Displays the duration (HH:MM:SS) of the current video. Hovering over the timeline or dragging the scrub bar will turn the duration field yellow to indicate the current position.

For more information on playing On-Demand (VOD) assets, see "On-Demand Videos" on page 44.

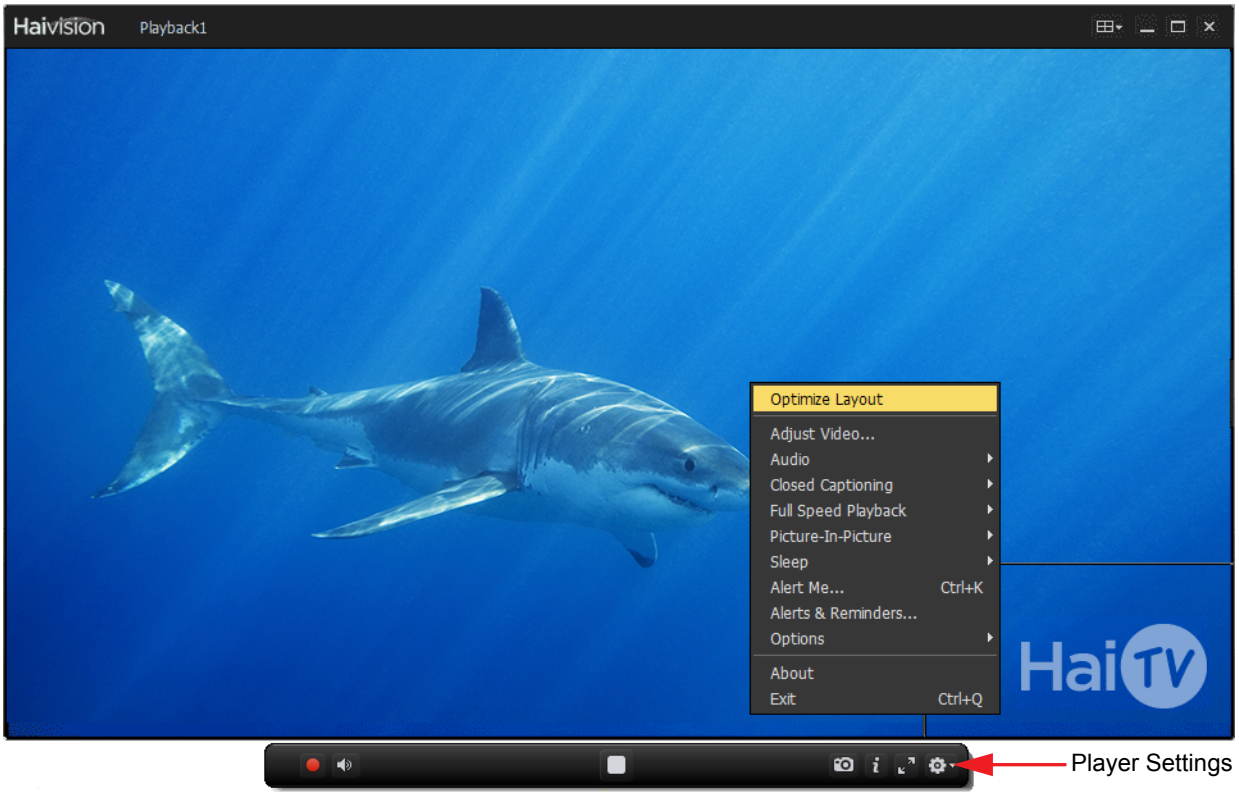
Adjusting the Player Settings

The InStream Player Settings provide additional controls over the viewing experience, such as adjusting the video, enabling Full Speed Playback hiding the Dashboard. You can also turn On or Off the prompt for the recording Save location each time local recording starts.

To display the Player Settings menu:

1. Right-click the player window, or click the Player Settings button on the Control bar.

   The Player Settings menu opens (shown below).



The Player Settings menu varies according to the context. For the complete list of the Player Settings, refer to the following section "Player Settings".

Keyboard shortcuts (where available) for the Player Settings are listed at the right of the menu options. For the list of shortcuts, refer to "InStream Keyboard Shortcuts" on page 48 (Appendix A).

Player Settings

The following table lists the InStream Player Settings menu options. To access this menu, right-click anywhere in the player window or click the Player Settings button on the Control bar.

InStream Player Setting	Description
Optimize Layout	Resizes the Player Window to encompass all viewers. You can also double-click on the border of the player to resize to encompass all viewers.
Adjust Video...	Opens the Video Settings window, which includes controls, such as Brightness and Contrast, to adjust the appearance of the video. For the list of controls, see "Video Settings" on page 34. See also "Adjusting the Video Settings" on page 33.
Audio ▶	
SAP Audio	• Enables/disables Secondary Audio Programming (SAP). SAP is an auxiliary audio channel for Analog television that is often used for an alternate language.
Closed Captioning ▶	Enables/disables Closed Captioning Text On/Off (if present in content).
CC1 - CC4	• Selects one Closed Captioning channel
Full Speed Playback ▶	Assigns the best video playback (i.e., smooth, full speed playback as opposed to compressed playback that plays I Frames only) to either:
Active Stream Only	• The currently selected stream.
All Streams	• All streams playing.
None	• Full Speed Playback is disabled (I Frames only).
Refresh	• Forces the update of the Full Speed mode.
Picture-In-Picture ▶	Used to manage Picture-in-Picture (PIP) functionality for multi-stream playback. For more information, see "Dual-Stream Playback" on page 36.
Swap	• Swaps the PIP stream with the video stream
Hide/Shows	• Hides the PIP window

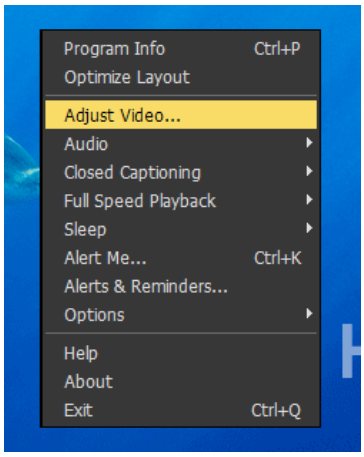
InStream Player Setting	Description
Small Window Medium Window Large Window	• These options select the size of the PIP window
Attach/ Detach	• When the PIP window is outside the player window, attaches or “docks” the PIP window to the adjacent player window border. A magnet icon appears to show that the windows are docked. • When the windows are docked, detaches the windows so that they can be moved independently.
Optimize	• Resizes the PIP window to encompass the PIP video. • You can also double-click the border of the PIP window to resize to encompass the PIP video.
Sleep ▶	Allows selection of sleep time as well as turning off sleep. Select any of the following: • Off, 15, 30, 45, 60, 90 NOTE: When the sleep timer reaches one minute, a popup will ask if you wish to cancel the timer or continue. This will stay visible for 15 seconds.
Alert Me…	Opens the Manage Closed Captioning Alerts dialog box. From here, you can define keywords to monitor Closed Captioning streams. A check next to the menu option indicates that Alerts have been enabled. For more information, see “Closed Captioning Alerts” on page 39.
Alerts & Reminders…	Opens the Alerts & Reminders Settings dialog box. From here, you can specify alert action(s) that keyword occurrences will trigger, such as unmuting the audio, bringing the player window in front, or beeping. For more information, see “Closed Captioning Alerts” on page 39.
Options ▶	Select any of the following:
Thumbnail	• Switches the view to a very small thumbnail version of the video.

InStream Player Setting	Description
Full Screen All	• Maximizes the player window to occupy the entire screen and removes the toolbar. NOTE: In contrast, the Maximize button on the Dashboard expands the player window but still shows the toolbar. Also, the Full Screen Current button expands just the current video frame to full screen.
Native Resolution	• Resizes the player window to the original stream resolution. NOTE: 1 pixel/screen = 1 pixel in video (up to the maximum screen size).
Video On Top	• Keeps InStream always on top of other open windows on the desktop when selected.
Dashboard	• Removes or replaces the “dashboard” controls at the top of the InStream player.
Timecode	• Turns On/Off the timecode display in VoD player controls.
VU Meters	• Turns On/Off the audio VU (Volume Unit) bars along the bottom of the player.
Stream Status	• Turns On/Off the stream status display along the bottom of the player.
Recording Prompt	• Turns On/Off the prompt for the recording Save location each time local recording starts.
About	Provides an informational notice about the InStream application.
Exit	Exits/Closes the InStream player.

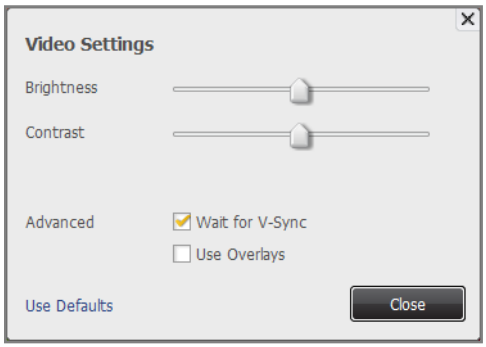
Adjusting the Video Settings

To adjust video settings:

1. Right-click the player window, or click the Player Settings button.
2. On the Player Settings menu, select Adjust Video….



The Video Settings dialog box opens with sliders to adjust the brightness and contrast.



3. Make the desired adjustments. See "Video Settings" on page 34.

   Your changes take effect immediately.
4. When you are satisfied with your adjustments, click Close.
5. To return to the original video settings, click Use Defaults.

TIP You can also adjust the contrast and brightness using keyboard shortcuts:

CTRL+F1/F2 to adjust brightness down/up

CTRL+F3/F4 to adjust contrast down/up

CTRL+F5 to reset the picture settings

Video Settings

The following table lists the Video Settings for the InStream player. To access this dialog box, select Adjust Video… from the Player Settings menu.

Video Setting	Description
Brightness	Adjusts the overall level of light or dark for the display. Drag or click the slider to the right to make the display brighter, or to the left to make it darker.
Contrast	Adjusts the contrast between the lightest and darkest parts of the display. Drag or click the slider to the right to increase the contrast, or to the left to decrease the contrast.
Advanced	Select either one:
Wait for V-Sync (checkbox)	• (Not available if Use Overlays is enabled) Vertical synchronization (V-Sync) refers to the synchronization of frame changes with the Vertical blanking interval. V-Sync eliminates page-tearing artifacts and ensures that only whole frames are seen on-screen.
Use Overlays (checkbox)	• (Only on Windows systems with one screen) Video overlay speeds up the video display.

CHAPTER 3: Using InStream

This chapter provides additional information on InStream viewing capabilities.

Topics In This Chapter

Dual-Stream Playback 36
Playing Dual-stream Channels 36
Closed Captioning Alerts 39
Managing Closed Captioning Alerts 39
Specifying Reminders and Alert Settings 41
Audio Talkback 42
On-Demand Videos 44
Summary of VOD Controls 44
Hotmarks 46

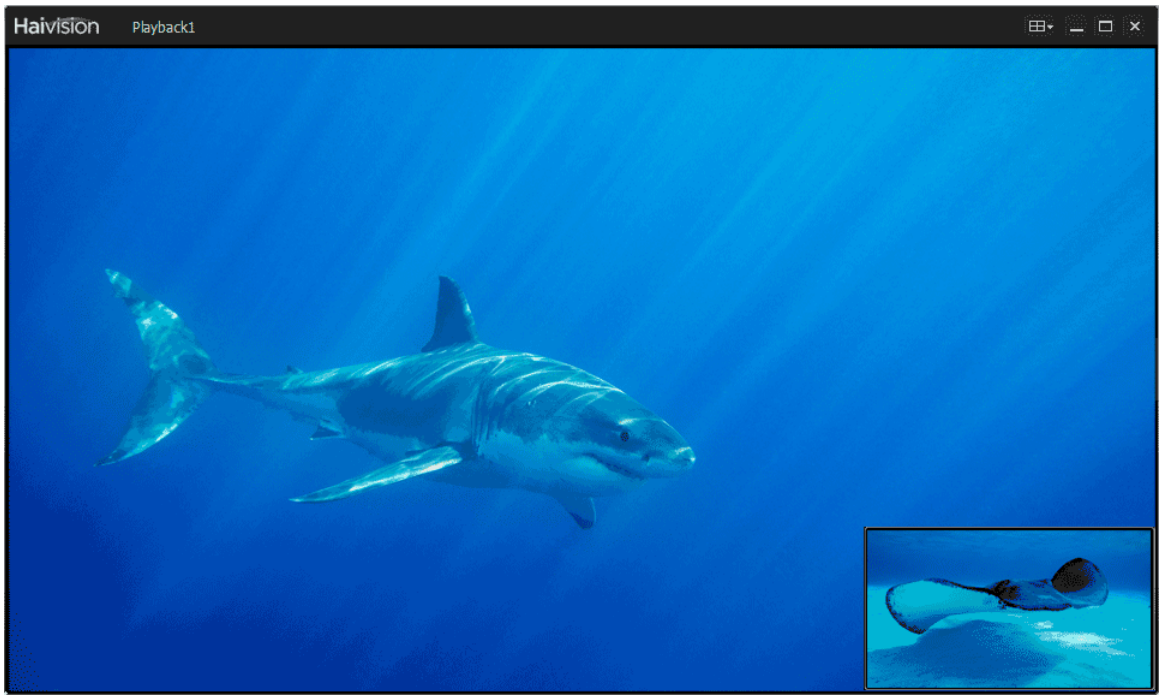
Dual-Stream Playback

InStream also supports dual-stream playback from two encoder sources to one channel. You may select one or both streams for playback with standard Picture-in-Picture (PIP) functionality.

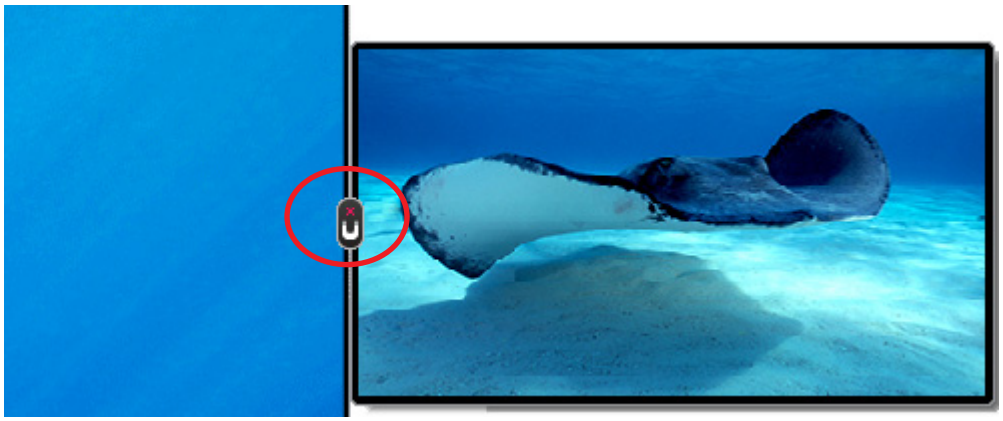
InStream also supports dual-stream playback from two encoded sources to one channel with standard Picture-in-Picture (PIP) functionality.

Playing Dual-stream Channels

When you start playing a dual-stream channel, by default, the PIP window is in the lower right-hand corner (as shown in the example below).



- You can select the PIP window and either reposition it within the player window or drag it outside the window.
- When the PIP window is moved outside the player window, you can attach or "dock" it to any of the player window borders (right, left, top, or bottom) by moving the PIP window close to that border until the magnet icon appears (as shown below).

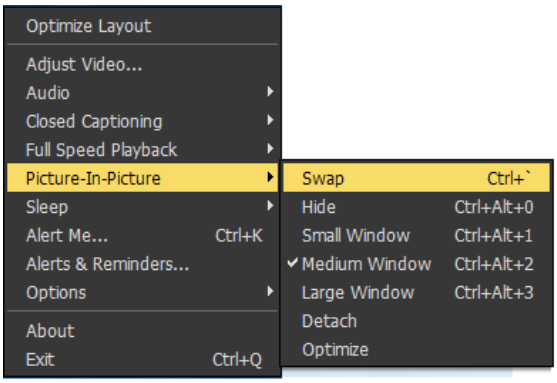


When the PIP and primary windows are docked, they move in unison when you click and drag either window.

To detach the windows so that they can be moved independently:

- Click the magnet icon.

  Or right-click and select **Detach** from the Player Settings menu, which now includes Picture-in-Picture ▶▶ (shown below).



The Picture-in-Picture menu options are used to manage dual-stream playback functionality. When the PIP window is outside the player window, the Picture-in-Picture menu includes the **Attach/Detach** toggle options.

To swap the PIP stream with the video stream:

- Select **Swap** from the Picture-in-Picture menu.

NOTE Audio cannot be swapped. It is always from the “primary” stream (as defined in the Channel Editor).

To hide the PIP window:

- Select **Hide** from the Picture-in-Picture menu.

To resize the windows:

- To resize either window, drag its border with the mouse.
- To resize the PIP window, right-click either window and select either **Small Window**, **Medium Window**, or **Large Window** from the Picture-in-Picture menu.
- To resize the PIP window to encompass the PIP video, select **Optimize**.

For the list of Picture-in-Picture menu options, refer to "Player Settings" on page 30.

Closed Captioning Alerts

InStream allows you to monitor Closed Captioning streams by defining keywords to monitor and specifying alert action(s) to be triggered by occurrences of the keywords. Examples of alerts include unmuting the audio, bringing the player window in front, or beeping. Using alerts allows you to keep the video player minimized on a channel but be alerted if/when the keyword occurs in the Closed Captioning stream.

From the Manage Closed Captioning Alerts dialog box (shown below), you can create a list of alerts that can be individually activated/de-activated or deleted.Your list of alerts is automatically saved for the next time you open the player.

For any alerts that are activated, InStream tracks and displays the number of "hits" or occurrences of each keyword in the Closed Captioning stream. You can reset the count for individual alerts or select and reset all alerts. You can also enable or disable monitoring in one selection using the Enable Alerts checkbox.

NOTE With dual-stream playback, Closed Captioning shows in both windows. However, alerts can only be used to monitor the CC stream in the "primary" window.

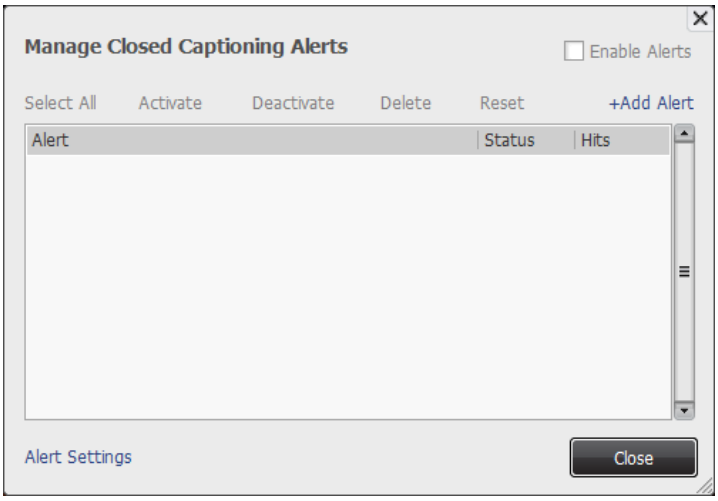
Managing Closed Captioning Alerts

To define Closed Captioning alerts:

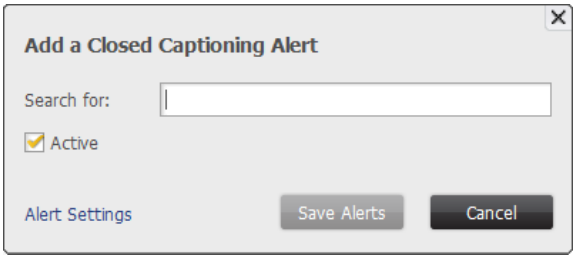
1. Right-click anywhere in the InStream window to open the Player Settings menu, and select Alert Me…. (A check next to the menu option indicates that Alerts have been enabled.)

   Or you can press CTRL+K

2. On the Manage Closed Captioning Alerts dialog box, click Add Alert.



3. Type the keyword into the Search for text box and click Save Alerts. (Note that alert text is case-insensitive.)



The keyword is added to the Alert list with an Active status, by default.

TIP To monitor a phrase, enclose it in “quotation marks”. Otherwise, InStream looks for each keyword separately.

---

4. Repeat until you have added all keywords to monitor. (Note that the focus remains in the text box to allow you to type in the next keyword.)
5. To change the status of a keyword, highlight it in the list and click Activate or Deactivate.
6. To delete a keyword, highlight it and click Delete.
7. To reset the Hits tally to 0 for a keyword, highlight it and click Reset.
8. To start monitoring the Closed Captioning stream, check the Enable Alerts checkbox. (Note that one alert must be active before you can enable alerts.)

   InStream will display the number of occurrences for each alert as it monitors the Closed Captioning stream. Monitoring will continue as long as alerts are enabled.
9. To return to the InStream window, click Close or the X button in the upper right corner.

Specifying Reminders and Alert Settings

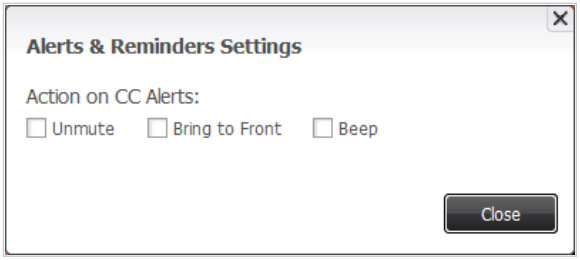
To specify the Alert action:

1. On the Manage Closed Captioning Alerts dialog box, click Alert Settings.

   -or-

   Right-click anywhere in the InStream window to open the Player Settings menu, and select Alerts & Reminders….

2. On the Alerts & Reminders Settings dialog box (shown below), check any of the following alert action(s) to be triggered when the keywords occur in the Closed Captioning stream:



   - Unmute the audio
   - Bring the player window to the Front (when previously behind)
   - Beep

   This setting applies to all alerts. You can select any, all, or no actions.

Audio Talkback

The Talkback feature enables you to talk directly to individuals at the Viper video source. If Talkback permissions have assigned to your user/group account, the Talkback button is present on the player window on the Control bar (as shown below). To make changes to your account, contact your system administrator.

To use Talkback, you simply "push" the Talkback button and start speaking into your microphone, like using a walkie-talkie.

Talkback is "First-In/First Served", meaning that only one user can use the return audio channel at a time. So you must keep pushing the button to use the talkback channel. This prevents anyone from accidentally locking and not releasing the channel.

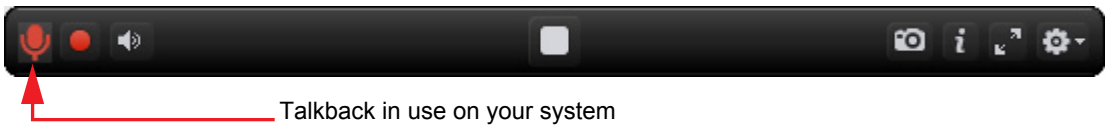
To avoid audio feedback loops, InStream mutes the audio playback of the incoming stream when the Talkback button is pressed. Your system may also have been configured to delay the unmuting of the audio once the user stops pushing the Talkback button.

The audio is only sent to the source video encoder; it is not distributed to other viewers of the stream.

To start Talkback:

1. Start playing the channel.
2. Verify that Talkback button is present on the Control bar.
3. Click and hold the Talkback button and start speaking into your microphone.

   The button turns red when in use on your system (as shown below).



4. When you have finished talking, release the Talkback button.

CAUTION Unplugging or disabling the microphone while using Talkback could cause InStream stability issues. Do not unplug or disable your microphone while holding down the Talkback button. However, there is no problem with unplugging the microphone while using InStream as long as you are not actively using Talkback.

For questions of Talkback access or group/user entitlement, please contact your system administrator.

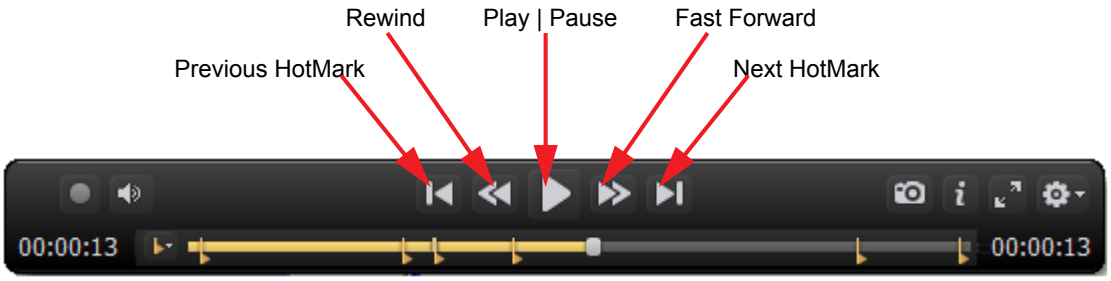
On-Demand Videos

When you launch VOD assets from the portal, in addition to the standard InStream player controls, the Control bar contains VCR-type controls such as Fast Forward/Rewind, Step Forward/Backward, Slow Motion Forward/Reverse, Next/Previous HotMark, Pause, and Play/Pause.

This type of streaming experience is different than the channel-based system. The channel-based system uses multicast streams, which means that a single stream on the network may be viewed by any number of authorized users who tune in without affecting the network bandwidth load. With On-Demand assets, InStream uses unicast streams in which each user receives a unique stream that consumes the network bandwidth necessary to support each user's unique stream.

NOTE InStream provides a click and drag scrub bar on the VOD slider to move through the video. Note that there is a small delay when the scrub bar is released because the video is only stored on the server; this is a very important feature of the system for content protection. Content is never cached on your computer.

Using the VOD controls, you can speed up, slow down, or reverse the playback of videos. You can also advance or reverse a video one frame at a time.



Summary of VOD Controls

When you are in Play mode, Fast Forward and Rewind offer two speeds of fast forward and reverse (10x and 20x).

- Click either button once to play or rewind the video at 10x speed.
- Click it again to play or rewind the video at 20x.
- Click it again to return to normal speed.

The Fast Forward and Rewind icons will change to indicate the speed, i.e., one green arrow for 10x, 2 green arrows for 20x.

Using the SHIFT key in conjunction with the Fast Forward or Rewind button plays the video at 1/3 speed for one click and 2/3 speed for a second click.

When you are in Pause mode, Fast Forward and Rewind are downgraded to single step forward/backward.

To Pause/Resume the video:

- To freeze the video, click Pause .
- To resume playing the video from the position at which it was paused, click Play .

To use Single Frame Advance/Reverse:

- To step forward or backward one frame at a time, click Pause and then click Forward or Reverse .

  -or-

  Click Pause , press and hold the CTRL key, and use the mouse wheel to step forward/backward one frame at a time.

To use Slow Motion Forward:

- While InStream is playing video, SHIFT-click the Forward button once to play video at 1/3 actual speed.
- Click again to play video at 2/3 actual speed.
- Click once more to return to actual speed.

To use Slow Motion Reverse:

- While InStream is playing video, SHIFT-click the Reverse button once to play video at 1/3 actual speed in reverse.
- Click again to play video backward at 2/3 actual speed.
- Click once more to cancel reverse mode and return to actual speed.

Clicking Play or Pause always returns the InStream player to the requested mode.

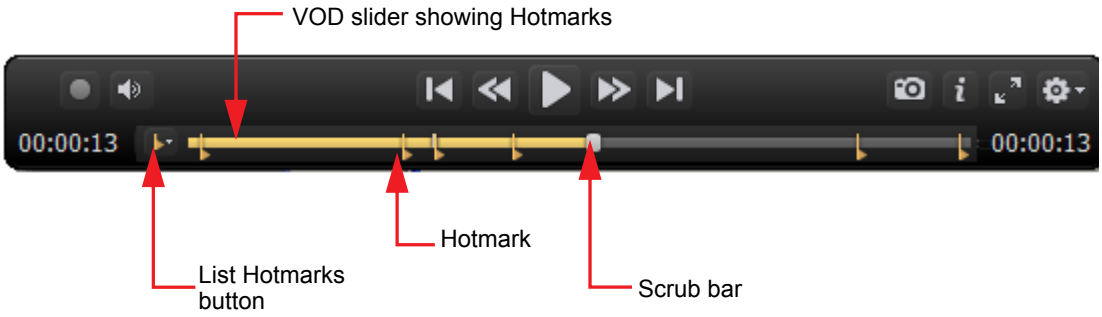
TIP Pressing CTRL+B on your keyboard changes the time reference on the scrub bar from time-codes to a frame index. Press it again to return to time format. See "InStream Keyboard Shortcuts" on page 48.

Hotmarks

As you move the cursor over the VOD slider (shown below), you will see any Hotmarks™ that have been added to the video.

- Hotmarks are yellow indicators (with optional annotations) and typically provide shortcuts to selected points in the recording.

You can click any marker to jump to that spot in the video. You can also select items from the Hotmarks menu, or use shortcut keys (CTRL+LEFT ARROW or RIGHT ARROW) to cycle through the markers.



APPENDIX A: Keyboard Shortcuts

This appendix lists the keyboard shortcuts available for the InStream player.

Topics In This Appendix

InStream Keyboard Shortcuts 48
Player Keyboard Shortcuts 49
Picture-In-Picture Shortcuts 51

InStream Keyboard Shortcuts

The following tables lists available shortcuts for the InStream player. See also "Player Keyboard Shortcuts" on page 49 for shortcuts that apply to the player window only.

InStream Player Keyboard Shortcuts - (for Mac OS X - substitute CMD key for CTRL key, except where indicated)	
Feature	**Shortcut**
Guide	CTRL+G
Minimize	ALT+UP ARROW Mac OS X: CMD+UP ARROW
Maximize	ALT+DOWN ARROW Mac OS X: CMD+DOWN ARROW
Volume Up Volume Down	CTRL+UP ARROW CTRL+DOWN ARROW
Full Screen On/Off	ALT+ENTER, DOUBLE-CLICK Mac OS X: CMD+ENTER
Full Screen All	ALT+SHIFT+ENTER Mac OS X: CMD+SHIFT+ENTER
Full Screen Off	ESC, DOUBLE-CLICK
Brightness Up Brightness Down	CTRL+F2 CTRL+F1
Contrast Up Contrast Down	CTRL+F4 CTRL+F3
Contrast/Brightness Reset	CTRL+F5
Cycles through Full Speed Playback modes. NOTE: Default is primary window at Full Speed and others at I Frames only (see "Player Settings" on page 30.)	SHIFT+CTRL+F
Refreshes the Full Speed Playback setting (used with multiple selection)	SHIFT+CTRL+R
VU (Volume Unit) Bar On/Off	CTRL+V
Stream Status	SHIFT+CTRL+S

InStream Player Keyboard Shortcuts - (for Mac OS X - substitute CMD key for CTRL key, except where indicated)	
Feature	**Shortcut**
Grow/Shrink Font (Guide)	CTRL++ (plus) CTRL+- (minus)
Reset Font	CTRL+O
Sleep Timer: 15/30/45/60/75/90 Minutes	CTRL+S
Program Info	CTRL+P
Dashboard On/Off	CTRL+D
Time/Frame Display	CTRL+B
Mute On/Off	CTRL+M
Thumbnail Mode On/Off	CTRL+T
Cycle Information Bar	CTRL+I
Copy Information Text	SHIFT+CTRL+C
Snapshot *No effect on Linux	CTRL+C
Exit	CTRL+Q ALT+F4

Player Keyboard Shortcuts

The following table lists the shortcuts for InStream that apply to the player window only and have no function or a different function in the Guide window. For example, pressing the UP ARROW, DOWN ARROW, HOME, and END moves the focus up and down the channel listing (without changing channels) in the Guide window.

Note also that, with the exception of "Play/Pause Video" (UP/DOWN ARROWS and SPACEBAR), these shortcuts only apply to watching VOD (and not live) video.

InStream Video Player Keyboard Shortcuts (for Mac OS X - substitute CMD key for CTRL key, except where indicated)	
Feature	**Shortcut**
Play Video	UP ARROW
Pause Video	DOWN ARROW

InStream Video Player Keyboard Shortcuts (for Mac OS X - substitute CMD key for CTRL key, except where indicated)	
Feature	**Shortcut**
Pause/Play Video	SPACEBAR
VOD only	
Fast Forward (Video playing) Rewind (Video playing)	RIGHT ARROW LEFT ARROW
Frame Forward (Video paused) Frame Backward (Video paused)	RIGHT ARROW LEFT ARROW
Slow Motion Forward (Video playing) Slow Motion Reverse (Video playing)	SHIFT+RIGHT ARROW SHIFT+LEFT ARROW
Goto Start	HOME
Goto End	END
Previous HotMark Next HotMark	CTRL+LEFT ARROW CTRL+RIGHT ARROW
Jump 30 Seconds Backward Jump 30 Seconds Forward	PAGE UP PAGE DOWN

Picture-In-Picture Shortcuts

The following table shows a list of available shortcuts for the InStream Picture-in-Picture (PIP) options for multi-stream playback.

InStream Picture-In-Picture Keyboard Shortcuts	
Feature	**Shortcut**
Swap PIP stream with main video stream	CTRL+`, DOUBLE-CLICK Mac OS X: CMD+`
Show/Hide PIP	CTRL+ALT+O Mac OS X: CMD+CTRL+O
Small Window	CTRL+ALT+1 Mac OS X: CMD+CTRL+1
Medium Window	CTRL+ALT+2 Mac OS X: CMD+CTRL+2
Large Window	CTRL+ALT+3 Mac OS X: CMD+CTRL+3
Optimize	Double-click border of PIP window

APPENDIX B: Warranty Information

Haivision End User Software License Agreement

READ BEFORE USING

THE SOFTWARE PROGRAMS ARE PROTECTED BY NATIONAL AND INTERNATIONAL COPYRIGHT LAWS AND TREATIES. READ THE TERMS OF THE FOLLOWING END USER (SOFTWARE) LICENSE AGREEMENT ("AGREEMENT") CAREFULLY BEFORE USING THE PRODUCT. BY USING THE PRODUCT, YOU CONFIRM YOUR ACCEPTANCE OF THIS AGREEMENT. IF YOU DO NOT AGREE TO THESE TERMS, HAIVISION IS UNWILLING TO LICENSE THE LICENSED SOFTWARE TO YOU AND YOU ARE NOT AUTHORIZED TO INSTALL OR USE THE LICENSED SOFTWARES.

1. DEFINITIONS

1.1 Entitlement. The collective set of applicable documents authorized by Haivision Systems Inc. or its affiliate Haivision (collectively "Haivision) evidencing your obligation to pay associated fees (if any) for the license, associated Services, and the authorized scope of use of Licensed Software under this Agreement.

1.2 You (or Your). The individual or legal entity specified in the Entitlement, or for evaluation purposes, the entity performing the evaluation.

1.3 License Fee. License Fee shall mean the consideration paid to Haivision for use of the Licensed Software. The License Fee is part of the price paid for the relevant Product.

1.4 Licensed Software. Licensed Software shall mean the executable version of Haivision's computer software, program or code, in object code format (specifically excluding source code), together with any related material including, but not limited to the Reference Manuals or database schemas provided for use in connection with the Licensed Software and including, without limitation, all Upgrades through the date of installation.

1.5 Reference Manuals. Reference Manuals shall mean the most current version of the documentation for use in connection with the Licensed Software provided by Haivision to You.

1.6 Updates. Updates shall mean any periodic software releases, additions, fixes, and enhancements thereto, release notes for the Licensed Software and related Reference Manuals, (other than those defined elsewhere in this section as Upgrades) which have no value apart from their operation as part of the Licensed Software and which add minor new functions to the Licensed Software, but none so significant as to warrant classification as an Upgrade, which may be provided by Haivision to fix critical or non-critical problems in the Licensed Software on a scheduled, general release basis. Updates to the Licensed Software ("Version") are denoted by number changes to the right of the decimal point for a version and revision number (for example going from 2.0.0 to 2.1.3).

1.7 Upgrades. Upgrades shall mean any modification to the Licensed Software made by Haivision, which are so significant, in Haivision's sole discretion, as to warrant their exclusion under the current license grant for the Licensed Software. Upgrades of Licensed Software are denoted by number changes to the left of the decimal point for a release number (for example going from 2.0 to 3.0).

2. RIGHTS GRANTED, RESTRICTIONS AND SUPPORT

2.1 License to Use.

(a) Subject to the terms and conditions set forth herein and subject to the terms of your Entitlement, Haivision hereby grants to You a non-exclusive, personal, limited and nontransferable right and license to use the Licensed Software in accordance with the terms of this Agreement. This license is granted to You and not, by implication or otherwise, to any parent, subsidiary or affiliate of Yours without Haivision's specific prior written consent. This license is for the limited use of the Licensed Software by You for the purpose of creating, managing, distributing and viewing IP Video assets. This license does not grant to You the right to use any Licensed Software in connection with any public broadcasting or broadcasting for home or residential purposes, or any license for content whatsoever. The license and rights granted to You in this Section (2.) do not include the right to sublicense to distributors, resellers and other third parties any of the rights granted to You in this Section (2.). All rights not expressly granted You in this Agreement are reserved to Haivision and no implied license results from this license.

2.2 Restrictions.

(a) Reproduction. You shall not copy, distribute, reproduce, use or allow access to any of the Licensed Software, except as explicitly permitted under this Agreement. You shall not modify, adapt, translate, export, prepare derivative works from, decompile, reverse engineer, disassemble or otherwise attempt to derive source code from the Licensed Software or any internal data files generated by the Licensed Software, or use the Licensed Software embedded in any third party hardware or software. You shall also not use the Licensed Software in an attempt to, or in conjunction with, any device, program or service designed to circumvent technological measures employed to control access to, or the rights in other work protected by copyright laws. You shall not remove, modify, replace or obscure Haivision's copyright and patent notices, trademarks or other proprietary rights notices affixed to or contained within any Licensed Software. No right is granted hereunder for any third party who obtains access to any Licensed Software through You to use the Licensed Software to perform services for third parties.

(b) Ownership. The Licensed Software is conditionally licensed and not sold. As between the parties, Haivision and/or its licensors owns and shall retain all right, title and interest in and to all of the Licensed Software, including all copyrights, patents, trade secret rights, trademarks and other intellectual property rights therein, and nothing in this Agreement shall be deemed to transfer to You any ownership or title to the Licensed Software. You agree that it will not remove, alter or otherwise obscure any proprietary rights notices appearing in the Licensed Software. All Haivision technical data and computer software is commercial in nature and developed solely at private expense.

3. TERM AND TERMINATION

3.1 Term. The license and service term are set forth in your Entitlement(s). Additionally, this Agreement may be terminated without cause by You upon thirty (30) days written notice to Haivision.

3.2 Termination for Breach. Your rights under this Agreement will terminate immediately without notice from Haivision if You materially breach it or take any action in derogation of Haivision's rights to Software. Haivision may terminate this Agreement should any Software become, or in Haivision's reasonable opinion likely to become, the subject of a claim of intellectual property infringement or trade secret misappropriation.

3.3 Termination; Effect; Survival. Upon the termination of this Agreement for any reason: (a) all license rights granted hereunder shall terminate; (b) You shall immediately pay to Haivision all amounts due and outstanding as of the date of such termination or expiration; and (c) You shall return to Haivision all Licensed Software and all Haivision Confidential Information not otherwise required under the terms of this Agreement or certify that all such Licensed Software and Confidential Information have been destroyed. Notwithstanding any termination of this Agreement, the following provisions of this Agreement shall survive for the relevant period of time set forth therein, if any: Sections 2.2, 4.1, 4.2, and 6.

4. REPRESENTATIONS, DISCLAIMER AND LIMITATION OF LIABILITY

4.1 Haivision Warranty.

(a) Haivision warrants that the Licensed Software will operate substantially in accordance with the Reference Manuals provided for a term of ninety (90) days (the "Warranty Period") after its delivery date. As Your sole and exclusive remedy for any breach of this warranty, Haivision will use its commercially reasonable efforts to correct any failure of the Licensed Software to operate substantially in accordance with the Reference Manuals which is not the result of any improper or unauthorized operation of the License Software and that is timely reported by You to Haivision in writing within the Warranty Period, provided that in lieu of initiating commercially reasonable efforts to correct any such breach, Haivision may, in its absolute discretion, either (i) replace the Licensed Software with other software or technology which substantially conforms to the Reference Manuals or (ii) refund to You a portion of the fee paid for the relevant Product, whereupon this Agreement shall terminate. This warranty shall immediately terminate if You or any third party makes or attempts to make any modification of any kind whatsoever to the Licensed Software.

(b) All proprietary Hardware, if any, will be subject to the then current warranty terms of Haivision. All non-proprietary Hardware, if any, is sold "AS IS"; however, to the extent that Haivision has the legal right to do so, Haivision hereby transfers to You any and all warranties made by Haivision's vendors to Haivision with respect to such non-proprietary Hardware which was sold by Haivision or the Reseller to You, provided that You expressly acknowledge and agree that Haivision disclaims any and all liability in connection with any such non-proprietary Hardware, as set forth in Section 4.2(b) of this Agreement.

4.2 Warranty Disclaimers.

(a) THE EXPRESS WARRANTIES SET FORTH IN SECTION 4.1(a) ABOVE IN RESPECT OF THE LICENSED SOFTWARE ARE IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, OR STATUTORY, REGARDING THE LICENSED SOFTWARE, OR ITS OPERATION, FUNCTIONALITY, PERFORMANCE, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANT-ABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS (ALL OF WHICH ARE DISCLAIMED). HAIVISION DOES NOT WARRANT THAT ANY OF THE LICENSED SOFTWARE WILL MEET ALL OF YOUR NEEDS OR REQUIREMENTS, OR THAT THE USE OF ANY OF THE LICENSED SOFTWARE WILL BE UNINTERRUPTED OR ERROR-FREE, OR THAT ALL ERRORS WILL BE DETECTED OR CORRECTED.

(b) THE EXPRESS WARRANTIES SET FORTH IN HAIVISION'S WARRANTY TERMS IN RESPECT OF HAIVISION PROPRIETARY HARDWARE ARE IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, OR STATUTORY, REGARDING ANY SUCH PROPRIETARY HARDWARE, OR ITS OPERATION, FUNCTIONALITY, PERFORMANCE, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALL NON-PROPRIETARY HARDWARE SOLD BY HAIVISION OR THE RESELLER TO YOU IS SOLD "AS IS" EXCEPT FOR HAIVISION'S AGREEMENT TO TRANSFER TO YOU ANY WARRANTY GIVEN TO IT BY ANY VENDOR FROM WHOM SUCH HARDWARE WAS PURCHASED FOR RESALE TO YOU HEREUNDER IN ACCORDANCE WITH THE PROVISIONS OF

SECTION 4.1(b), AND HAIVISION DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, OR STATUTORY, REGARDING ANY SUCH NON-PROPRIETARY HARDWARE, OR ITS OPERATION, FUNCTIONALITY, PERFORMANCE, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

4.3 Liability Limitation. IN NO EVENT SHALL HAIVISION OR ITS OFFICERS, EMPLOYEES, AGENTS, REPRESENTATIVES, MEMBERS OF HAIVISION, NOR ANYONE ELSE WHO HAS BEEN INVOLVED IN THE CREATION, PRODUCTION OR DELIVERY OF THE LICENSED SOFTWARE, BE LIABLE TO YOU, YOUR CUSTOMERS OR TO ANY OTHER THIRD PARTY FOR CONSEQUENTIAL, INDIRECT, INCIDENTAL OR SPECIAL DAMAGES, LOST PROFITS, LOSS OF USE, INTERRUPTION OF BUSINESS OR FOR ANY DAMAGES FOR ANY BREACH OF THE TERMS OF THIS AGREEMENT OR FOR LOST OR CORRUPTED DATA ARISING FROM ANY CLAIM OR ACTION HEREUNDER, BASED ON CONTRACT, TORT OR OTHER LEGAL THEORY AND WHETHER OR NOT SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. HAIVISION SHALL NOT BE LIABLE FOR DAMAGES FOR ANY CAUSE WHATSOEVER IN AN AMOUNT IN EXCESS OF THE FEE PAID TO HAIVISION BY YOU FOR THE RELEVANT PRODUCT.

5. INDEMNIFICATION

5.1 Indemnification by Haivision.

(a) Haivision shall indemnify and hold You harmless against any and all actions, claims, losses, damages, liabilities, awards, costs and expenses (including reasonable attorneys' fees) ("Claims") arising out of i) any accusation or purported violation of any third person's US and copyright, trademark, patent rights or trade secrets, proprietary information on account of Your use of the Licensed Software when used in accordance with the terms of this Agreement, or (ii) relating to or arising out of any negligence or wilful misconduct on the part of Haivision or any breach by Haivision of the terms of this Agreement or any Maintenance and Support Agreement, or applicable law. You shall promptly notify Haivision in writing of any such Claim and promptly tender the control of the defense and settlement of any such Claim to Haivision. Haivision shall thereafter undertake the defense of any such Claim using counsel of its choice. You shall cooperate with Haivision, in defending or settling such Claim at the expense of Haivision; provided that Haivision shall not settle any Claim against You which would require the payment of money by You without the prior written consent of You, which consent shall not be unreasonably withheld. You shall have the right to consult and provide input into the defense with counsel of its choice at its own expense. Haivision shall not reimburse You for any expenses incurred by You without the prior written approval of Haivision, which approval shall not be unreasonably withheld.

(b) If any Licensed Software is, or in the opinion of Haivision may become, the subject of any Claim for infringement, then Haivision may, or if it is adjudicatively determined that any of the Licensed Software infringes in the manner described above (except to the extent that any translation, modification, addition or deletion or combination by You is the sole source of such Claim), then Haivision shall, at its option, either (i) procure for You the right to continue use of the Licensed Software for the term hereof, (ii) replace or modify the Licensed Software with other suitable and reasonably equivalent products so that the Licensed Software becomes non-infringing, or (iii) terminate this Agreement and refund to You a portion of the fee paid for the relevant Product.

(c) Haivision shall have no liability for: (i) the use of other than the then current release of the Licensed Software; (ii) the use of the Licensed Software other than as set forth in its accompanying documentation and as permitted herein; (iii) the modification of any of the Licensed Software by any party other than Haivision; or (iv) any infringement arising from the use of any Licensed Software by You after Haivision has issued a written notice to You requiring You to cease using such Licensed Software when Haivision exercises its option to terminate the License pursuant to Section 3.2 (collectively, "Exclusions"). SECTION 5.1

STATES HAIVISION'S ENTIRE OBLIGATION WITH RESPECT TO ANY CLAIM REGARDING THE INTELLECTUAL PROPERTY RIGHTS OF ANY THIRD PARTY.

5.2 Indemnification by You. You shall indemnify and hold Haivision harmless against any and all Claims directly or indirectly arising out of, or in any manner whatsoever associated or connected with Your performance, purported performance or non-performance of its rights and obligations under this Agreement, and against any and all Claims incurred by or on behalf of any of the foregoing in the investigation or defense of any and all such Claims.

6. OTHER PROVISIONS

6.1 Export and Other Restrictions. This Agreement, and all Your rights and Your obligations under this Agreement, are subject to all applicable Canadian and U.S. Government laws and regulations relating to exports including, but not limited to, the U.S. Department of Commerce Export Administration Regulations and all administrative acts of the U.S. Government thereunder. In the event the Licensed Software or the Hardware is exported from the United States or re-exported from a foreign destination, You shall ensure that the distribution and export/re-export of the Licensed Software or the Hardware is in compliance with all laws, regulations, orders, or other restrictions of the U.S. Export Administration Regulations. You agree that neither it nor any of its Affiliates will export/re-export any Licensed Software, Hardware, technical data, process, Products, or service, directly or indirectly, to any country for which the Canadian government or United States government (or any agency thereof) requires an export license, other governmental approval, or letter of assurance, without first obtaining such license, approval or letter.

6.2 Publicity. Neither party shall make or authorize or permit any other person to make any announcement or other like statement concerning this Agreement or the subject matter, terms or conditions hereof, without the other party's prior written consent.

6.3 Transfer and Assignment. Haivision may assign, sublicense, or transfer this Agreement and/or any or all of its rights or obligations hereunder. You may not assign, transfer or delegate any of its rights or obligations hereunder (whether by operation of law or otherwise) without the prior written consent of Haivision. Any unauthorized assignment, transfer or delegation by You shall be null and void. No other Person shall have or acquire any right under or by virtue of this Agreement.

6.4 Waiver and Amendment. No modification, amendment or waiver of any provision of this Agreement shall be effective. No failure or delay by either party in exercising any right, power or remedy under this Agreement, except as specifically provided herein, shall operate as a waiver of any such right, power or remedy. Without limiting the foregoing, any terms and conditions of the Entitlement or similar materials submitted by either party to the other shall be of no force or effect.

6.5 Enforcement by Third Party. For any Licensed Software licensed by Haivision from other suppliers, the applicable supplier is a third party beneficiary of this Agreement with the right to enforce directly the obligations set forth in this Agreement against You.

6.6 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the Province of Québec, Canada and the Laws of Canada applicable therein (excluding any conflict of laws rule or principle, foreign or domestic).

6.7 Severability. If any provision of this Agreement is held by a court of competent jurisdiction to be contrary to law, such provision shall be changed and interpreted so as to best accomplish the objectives of the original provision to the fullest extent allowed by law and the remaining provisions of this Agreement shall remain in full force and effect.

6.8 Force Majeure. Neither party shall be liable to the other party for any failure or delay in performance to the extent that such delay or failure is caused by fire, flood, explosion, war, terrorism, embargo, government requirement, labor problems, export controls, failure of utilities, civil or military

authority, act of God, act or omission of carriers or other similar causes beyond its control. If any such event of force majeure occurs, the party delayed or unable to perform shall give immediate notice to the other party, and the party affected by the other's delay or inability to perform may elect, at its sole discretion, to terminate this Agreement or resume performance once the condition ceases, with an option in the affected party to extend the period of this Agreement up to the length of time the condition endured. Unless written notice is given within 30 calendar days after the affected party is notified of the condition, the latter option shall be deemed selected. During an event of force majeure, the affected party shall exercise reasonable effort to mitigate the effect of the event of force majeure.

If you have questions, please contact Haivision Systems Inc., 4445 Garand, Montréal, Québec, H4R 2H9 Canada.