User Guide

8.0

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1 INTRODUCTION

1.1 Purpose

Welcome to the Volicon Media Intelligence Platform (MIP) User Guide 8.0. This document will provide the details and instructions necessary to guide you through MIP operation. It addresses specific MIP functions, including the use of bookmark media clips; proving FCC compliance, advertisement verification and general media management.

1.2 Definitions and Acronyms

8VSB	8-level vestigial sideband modulation - used for ATSC over the air broadcast
AC3	Dolby Digital Audio Codec 3 - compression used by ATSC
AFD	Active Format Description - metadata describing format i.e. 4:3 or 16:9
ARL	As Run Logs - use customer extracted program schedules
ASI	Asynchronous Serial Interface - used to carry MPEG-TS
ATSC	Advanced Television System Committee – set of standards for US digital television
Bookmark	Short program segments marked on the MIP server to facilitate auditing and sharing
CALM Act	Commercial Advertisement Loudness Mitigation – FCC requirement for audio loudness
CEM	Content Export Module – optional software package to export program clips to social media sites.
Clear QAM	Clear Quadrature Amplitude Modulation – non encrypted Cable video distribution
CC/TT	Closed Captioning/ SMPTE Timed Text - Protocols used to add text description of the audio
Component video	Analog video with separate Red, Green, Blue channels using three RCA connections
Composite video	Analog video over a single RCA connection
Dialnorm	AC3 metadata used to control playback gain
DPI	Digital Program Insertion – Metadata that allows downstream insertion of commercial or short programs.
DVB	Digital Video Broadcasting - international suite of digital television standards
Encoder	MIP module that receives and processes media signals
Fault Clips	Portions of audio or video stream that fails to meet MIP quality thresholds
SD/HD-SDI	Uncompressed standard or high definition video serial data interface

GPI	General Purpose Interface Metadata - used for broadcast automation
HDMI	High Definition Multimedia Interface – digital interface used to transport audio and video short distances
Metadata	Additional information carried by the program used to describe program details
MPEG	Motion Picture Expert Group - international organization that sets audio and video compression and transmission standards
MPEG-TS	MPEG Transport Stream - a standard container for audio, video and Program and System Information Protocol (PSIP)
Multiview	MIP feature that allows you to configure multiple channels and monitoring widgets into a single display screen
NAVE	Nielsen audio video encoder – psychoacoustic symbols inserted in programs to facilitate automatic viewer tracking
NTP	Network Time Protocol – Internet standard used to synchronize computer real time clocks.
IP	Internet Protocol – the method used to send data from one computer to another
Probe	Ingest server housing one or more encoders
PSIP	Program and System Information Protocol – method used to transport program metadata such as: sub channels, program guide, and content ratings.
S-Video	Separate Video – Variation of composite video that separates luminance (black and white) from chrominance (color) to enhance video quality
Services	A/V program content with the associated metadata
SMPTE	Society of Motion Picture and Television Engineers – creates numerous technical standards
Storyboard	Sequence of video frames to assist visualization
W3C	World Wide Web Consortium - sets standards to advance use of the world wide web
XDS	Extended Data Services – analog NTSC metadata

2 VOLICON MIP OVERVIEW

A firm understanding of Volicon MIP will help you with your work flow as you use it. Core MIP features:

- **Record and store** broadcast content (multiple interface/qualities). Support a variety of input broadcast signals, with storage built to scale, different encoding qualities and proxies.
- **Collaborative platform** to exchange content between colleagues.
- **Professional Multi player** easy access to channels and groups of channels, with dynamic searches, PIP, full screen and split screen features.
- **Enhanced player** professional frame by frame (even with live content) and various and fast forward and rewind speeds to allow for maximal efficiency.
- **On screen Metadata** display with multi language, various metadata and visuals of alerts.
- **Content Exporting** with client based and/or centralized servers.
- **Error Alarms** MIP constantly monitors each stream and generates an alarm if it does not meet programed quality metrics.
- **Web-based** user access with multi browser and multi OS support.
- **Enterprise scale** Easy to configure and maintain system with access control and auditing, design for high availability, tools to ease administration and built to scale.

MIP has the ability to log content from multiple video sources in the post production, transmission, delivery, and reception video distribution chain. You can log content at any stage of the video production or delivery process: the amount of content you can log is limited only by your storage space.

MIP logs video content down to the individual frame level, at the same standard frame rate as the source. MIP allows you to log content from many different input types such as HD/SD-SDI, ASI, IP, DVB-(S, S2, T, T2), 8VSB, Clear QAM, Component, Composite, S-Video, and HDMI.

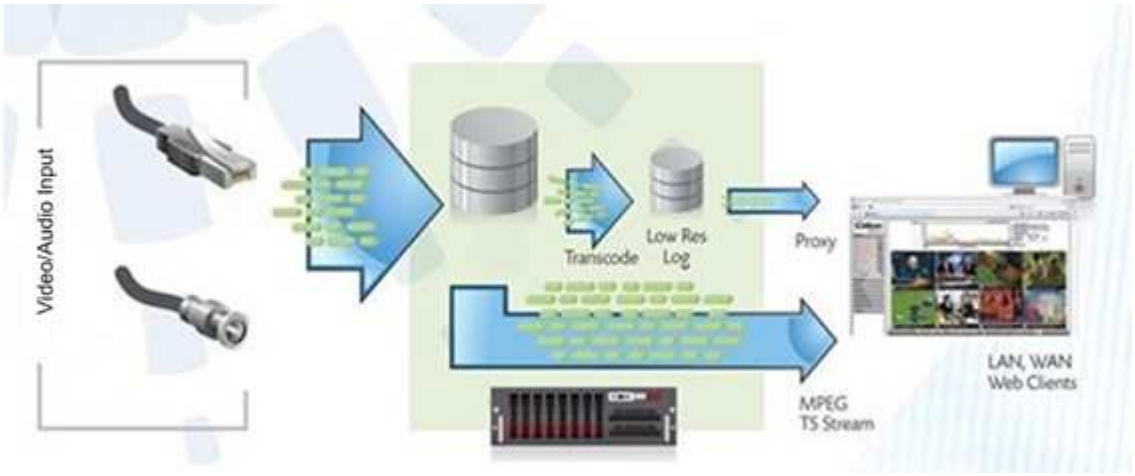


Fig: MIP Data Flow

MIP constantly ingests and stores each video and audio stream in native resolution and bit rate. The Low Bit Rate Proxy (LBRP) is used to create lower resolution copies of the original stream. There are several reasons for creating a low bit rate proxy of all incoming video content:

- It allows multiple users to access the Volicon solution simultaneously without interfering with one another
- It minimizes impact on network resources
- It allows the MIP to store content on each server for much longer periods of time

2.1 Using Your Stored Content

Your stored content serves multiple purposes.

Compliance: In the event that the FCC inquiries about any video segment you aired with noncompliance, you can use your stored content to investigate the charge and to either a) prove compliance with FCC regulations; or b) establish precisely which frames of the video were out of compliance.

Customer Complaint Resolution: You can use your stored content for business purposes, especially as a historical record to support resolving customer complaints about whether or not a commercial played during the contractual time frame. MIP's frame-by-frame record allows you to investigate not merely whether or not the commercial played, but whether

or not the commercial played in its entirety, and at what specific time it played.

For playing back your broadcast clips on your website. MIP allows you to bookmark the start and end of each clip you want to display and export the content. You then can post that content to your website. You can use this feature not only for current clips, but for older clips as well – as far back as you have stored content.

For monitoring what you and your competitors are doing. MIP can pick up any public signal, and not merely the signals you generate.

For assessing the Nielsen Ratings on a particular program or set of programs MIP can import the Nielsen Ratings and tie them to the video with which they are associated.

2.2 Stored Content Parameters

By default, Volicon MIP stores every frame of transmitted content:

- From every active input
- Locally on each MIP server
- In the same High Definition/Standard Definition format native to that input

2.2.1 Customization of Age of Storage

The number of days each video stream is stored on the MIP system is customized based on preconfigured parameters requested by each customer. Please inquire with your local MIP administrator about the storage days configured for your specific system.

3 INITIAL CONNECTION

3.1 PC Client Minimum Requirements checklist

Before you install the MIP Media Player, check that your computer meets or exceeds the PC Client Minimum Requirements, listed below:

- Windows 7, or Windows 10
- 3.5 GB of RAM or greater
- Microsoft Internet Explorer (IE) 10 or above
  - Alternatively, Silverlight support if you are using a non-IE browser
- Minimum network bandwidth
  - You will need bandwidth greater than or equal to 1.2-1.5x the sum of the bandwidth of the streams you are viewing. For example, to view two 512 Kbps streams smoothly, you need between 1.2 Mbps and 1.5 Mbps of available bandwidth.

In addition to the physical requirements listed above, you must also:

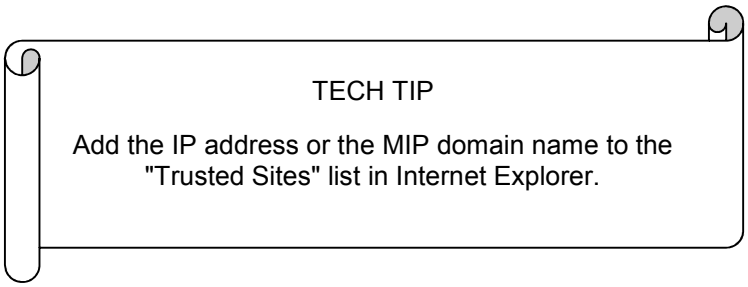
- Place the URL or IP address of the Web server in your browser's **"Trusted Sites"** zone
- Be a user with local administrative privileges on your machine, to install the signed ActiveX control

3.2 Graphical User Interface (GUI): Initial Login

3.2.1 Steps to Log In

1. At the top of your Browser search bar, enter the IP address or URL provided by your MIP System Administrator.

2. You will then be prompted for your log in credentials (Username/Password). This will also be provided to you by your MIP System Administrator.



3.2.2 Your Initial Log in Screen

MIP greets you with a log in screen. Enter your user name and password and Press **<Sign In>.**

The browser asks if you want it to remember your password. If this is the computer you always use and trust, allowing the browser to remember your password is convenient. If you are not sure what to do, click on the **X** and the browser will ask again the next time you log in.

Figure: Browser Password Storage

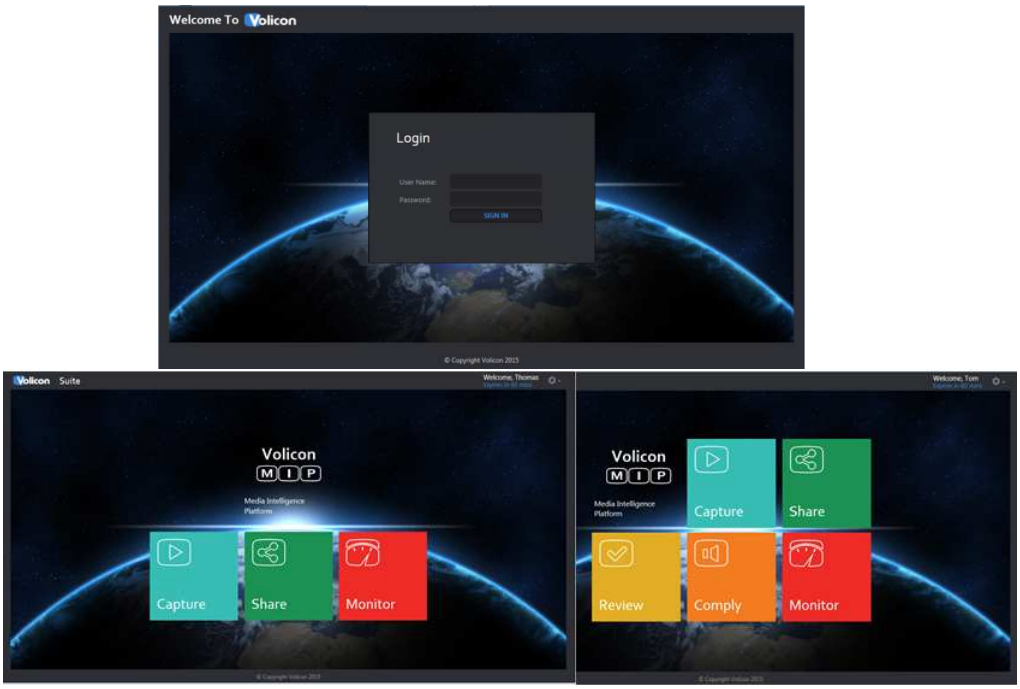


Figure: MIP Home Page

Assuming you entered your account credentials correctly you will be greeted with the MIP home page. The specific icons displayed depend on your account settings and the installed MIP options.

3.2.3 Logging Out

To log out, click the **<Gear>** icon at the upper right corner of any MIP page. The **<Gear>** icon appears on all pages so you don't have to go back

to the home page to log out. This opens another menu, click on **<Log Out>** at the bottom. MIP asks you to confirm that you really want to log out. As with the home page the specific options you will see is dependent on your account settings.

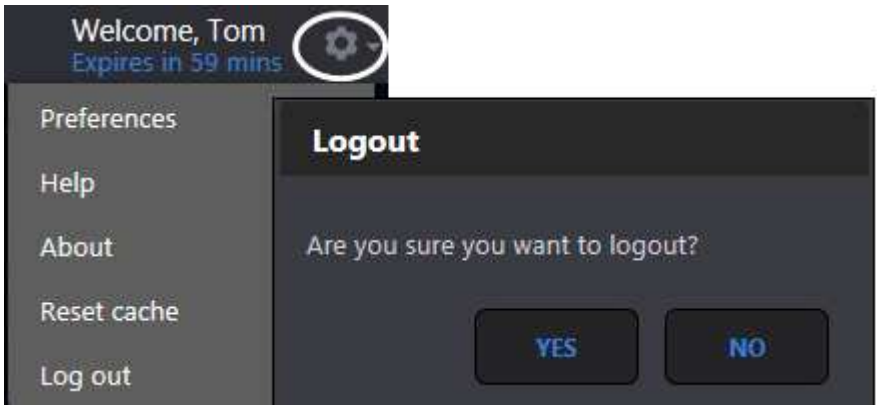


Figure: MIP Log out

3.2.3.1 MIP Internet Explorer Settings

For full functionality, the Volicon MIP currently supports Internet Explorer versions 10 and higher in 64-bit. When using Internet Explorer for the first time you must set "Compatibility mode".

1. After you log into MIP left click the **<Gear>** symbol at the upper right of IE and then choose **<Compatibility View Settings>.** Note: this is the IE tools icon, not the lower tool icon for MIP.
2. The URL or IP address of the MIP server should automatically populate under "**Add this website:**" Click on **<Add>** to set IE to access the MIP web site in compatibility mode.

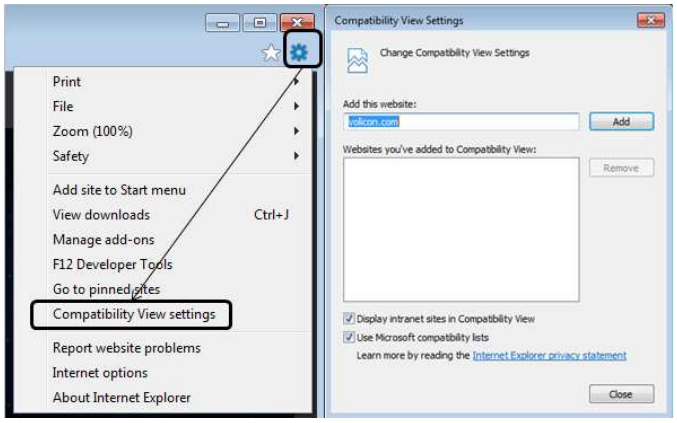


Figure: Setting IE Compatibility View

3. Next set the location of the MIP server as a trusted site. This allows you to restrict ActiveX (used by the Volicon player) when browsing the Internet while still allowing its use when logged into MIP.
4. From the same **<Tool>** icon used to set compatibility mode select **<Internet Options>**. Select the **Security** Tab and click on **<Trusted Sites>**. Then click the **<Sites>** button. The MIP web site URL should be showing under "**Add this website to the zone:"** The IE default policy to allow placing a server in trusted zone is that it must use SSL/TLS security (HTTPS). If the MIP server does not use SSL/TLS you need to uncheck the "**Require server verification**" check box. Press **<Add>** to update the trusted site list then **<Close>**.
5. To verify you successfully added MIP click **<Trusted Sites>** again then **<Sites>**. The MIP server URL should show in the **<Websites:>** box.

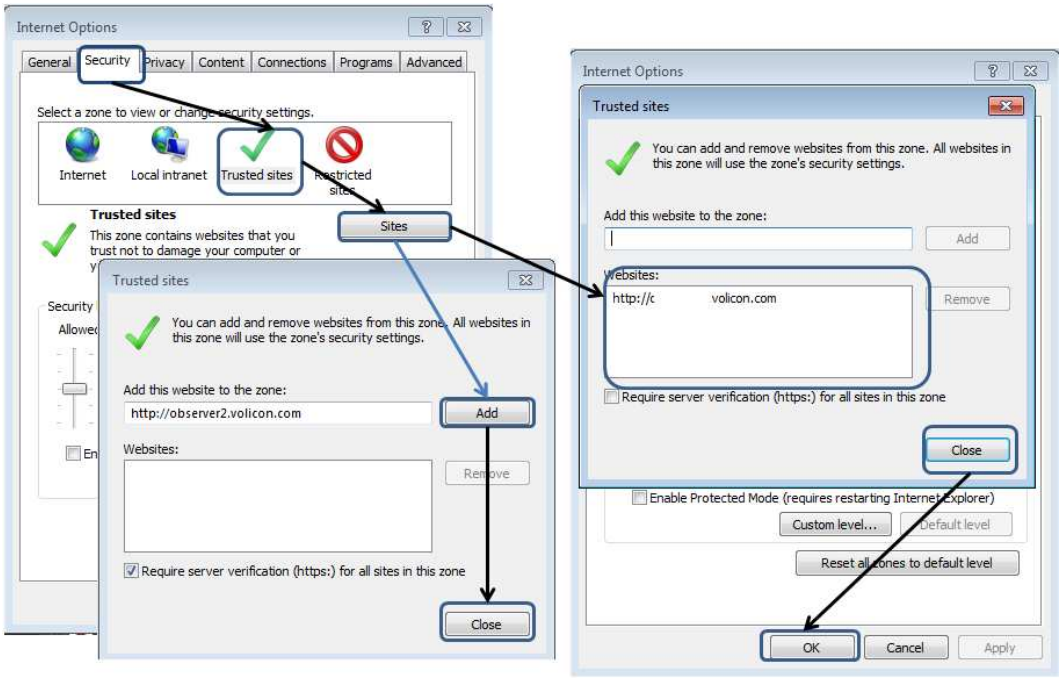


Figure: Add MIP to IE Trusted Sites

3.2.3.2 Multiple Browsers Support, Clientless Mode – Silverlight Player

The Volicon MIP supports a clientless mode for use with Chrome, Firefox, and Safari browsers. Clientless mode allows you to avoid installing the Active-X player. MIP automatically uses the Silverlight player when you use a non-IE browser. Note that the MIP offers Silverlight support for the Safari

browser only when you are using Safari on the MAC OS. The MIP does not support Safari on Windows.

For more on Silverlight compatibility, visit:

http://www.microsoft.com/getsilverlight/Get-Started/Install/Default.aspx

To use clientless mode, please contact Volicon support.

3.3 Installing the Media Intelligence Player

When you log into MIP for the first time using Internet Explorer, you are prompted to install the Volicon media player.

Figure: Initial Connection

TECH TIP

Media Player installation requires Administrator Rights on your PC

If your Volicon MIP Administrator has not previously installed the Volicon media player on your PC/laptop, you must have administrative rights, (the ability to install software on your PC) for the initial install of the player software. Any subsequent logins will require only the permissions you currently have on your PC/laptop. The first time you connect to the Volicon solution, IE will take approximately 30 seconds to load the Media Intelligence Player install software.

Accept the warning by clicking **<Allow>.** MIP will launch the Observer Media Player Setup Wizard.

Figure: Observer Media Player Setup Wizard

If an older version of Volicon media player has been installed it will be removed automatically. Click **<Next>** to continue. Accept the terms of the License Agreement and click **<Next>** to continue.

Figure: License Agreement

You have the option of choosing into which folder MIP will install the Media Player. Unless Volicon Support has instructed you otherwise, accept the default folder and click **<Install>**.

Internet Explorer must be shut down to install Volicon Media Player. Shut IE down and click **<OK>** to proceed.

TECH TIP

The option of creating an MIP Shortcut button has been added to the Internet Explorer tool bar.

3.3.1 Optional Settings

Observer will present you with the Optional Settings window.

Figure: Optional Settings Window

Optional Setting/Selection: Internet Explorer shortcut

If you want to add a quick connect button to your Internet Explorer tool bar, enter the URL or the IP address for your Volicon MIP in the field provided. Leave the field empty if you do not want MIP on your tool bar.

Optional Setting/Selection: Intel video adapter workaround

Volicon recommends that if your computer has an Intel video card, or a video card with an Intel chipset, that you enable the Intel “flickering video” workaround checkbox as a precaution. Enabling the checkbox will not affect the performance of the Intel chip sets that do not have issues with multiple video streams, and will protect you in the event that your chipset is one of those with known issues.

Optional Settings/Selection: Favor Quantity over Quality

Volicon also recommends that you check the **Enable “Favor Quantity over Quality”** checkbox for the best experience using Internet Explorer to run multiple players.

Make your choices, and click **<Next>**.

Observer presents you with the “Completing the Observer Media Player Setup Wizard” window.

Figure: Completing the Observer Media Setup Wizard Window

Click <**Finish>** to exit setup.

3.3.2 Updating the Volicon Player

From time to time you may receive notification there is a new version of the player available. Follow the prompts and install the upgrade. You will be prompted to shutdown IE to perform the install.

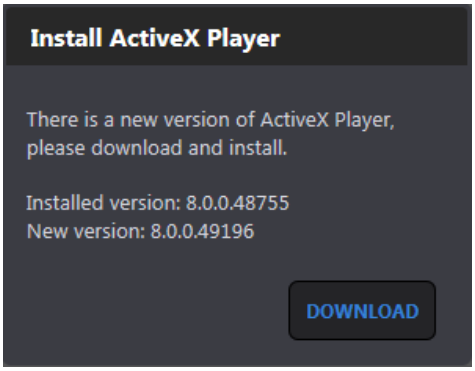


Figure: Update Volicon Media Player

TECH TIP

Upgrading the player requires Administrator Rights, just like the initial installation.

4 MIP HOME PAGE

The main action buttons are in the center of the screen. Your account name is displayed in the upper right corner along with the session expiration time. If MIP detects an idle session in it will eventually close the session. Click on the gear icon in the upper right to log out or access MIP management features.

Figure: Main Menu

The Main Menu gives you access to Volicon Media Intelligence Platform function. Depending on the installed options and your account permissions not all icons may be visible.

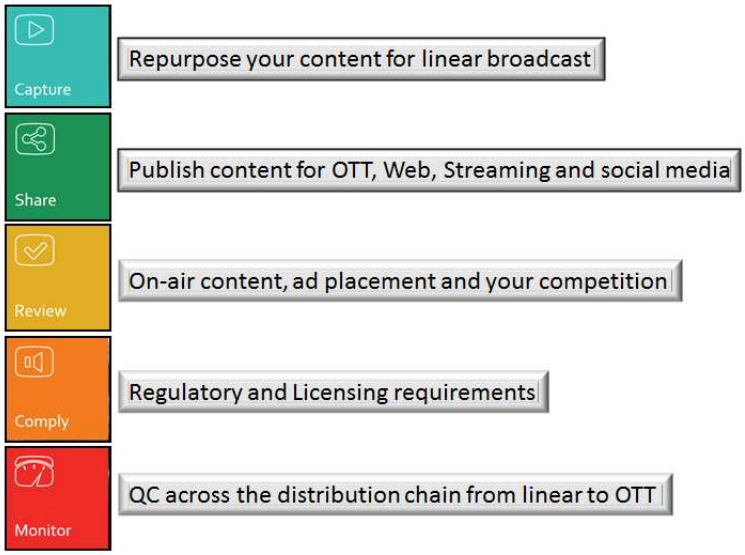


Figure: MIP Feature Buttons

5 COMMON MIP FUNCTIONS

Each of the home page icons takes you to a page optimized for a specific task. At the left side of each page is a ribbon with a varying number of icons optimized for the task at hand and color coded to the home page icons. Six icons are common to all pages. The remaining icons are unique to the high level feature. Depending on your permissions and installed optional components not all icons may be visible.

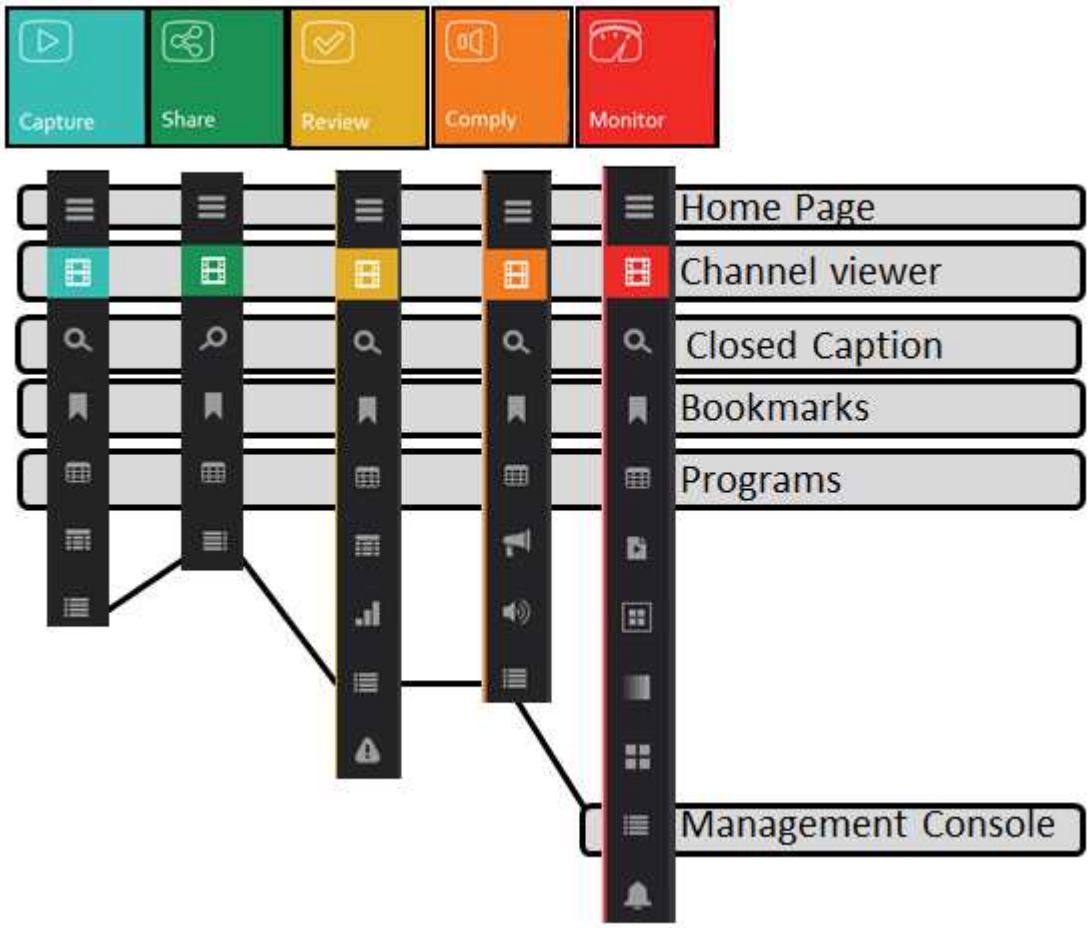


Figure: Common Icons

We will be using the **Capture** function to illustrate how to use common MIP functions and then delve into the detailed differences of each function.

Pressing the **<Capture>** icon on the home page opens the Capture page. Then press the Viewer icon.

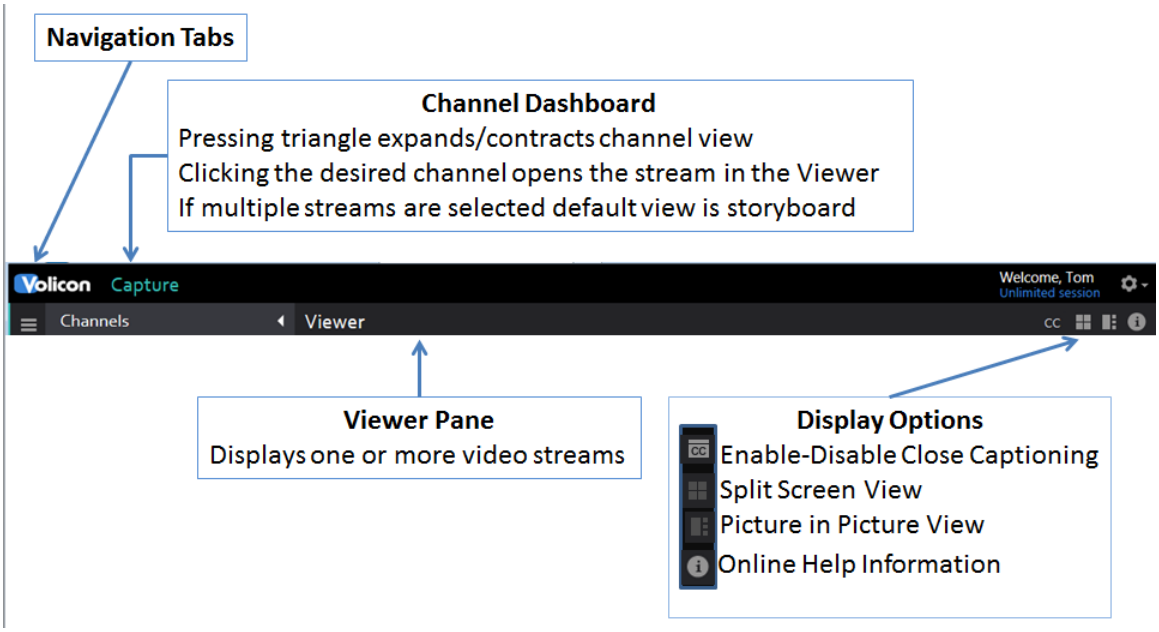


Figure: Capture Page Ribbon

As channels are selected they appear in the viewer. If more than one channel is selected the audio of subsequent channels is inhibited. To activate audio on another channel hover over that player and left click. The channel name turns blue indicating it is the active audio channel.

At the bottom of each channel player are various controls. If the channel is available in more than one bit rate or resolution the options are displayed in a pulldown to the left of the **Live** icon.

If MIP does not have enough space to display all the controls they are collapsed; hovering over the control ribbon expands to display any hidden icons.

If multiple channels are selected the channel viewers are shrunk to fit the available space. Optionally channels may be displayed in split screen or picture in picture by using the controls at the top of the screen. To return from split screen or picture in picture press ESC.

The number of video streams you can watch simultaneously depends on the hardware configuration of your computer and the speed of your network connection. A 64 bit player should be able to display 24 SD channels or 12 HD.

Figure: Multiple Channel Viewers

Figure: Split Screen View

Figure: Picture in Picture View

5.1 Storyboard View

The Storyboard feature works when viewing a single channel. Open the player and click on the **<Storyboard>** icon at the upper right of the player. The player will reduce in size and move to the left. The right hand side of the screen is then populated with storyboard thumbnails. Use the icons at the top of the storyboard to select the storyboard duration.

5.2 Navigation Tabs

The tabs along the left side of the page allow you to navigate through the various Capture functions.

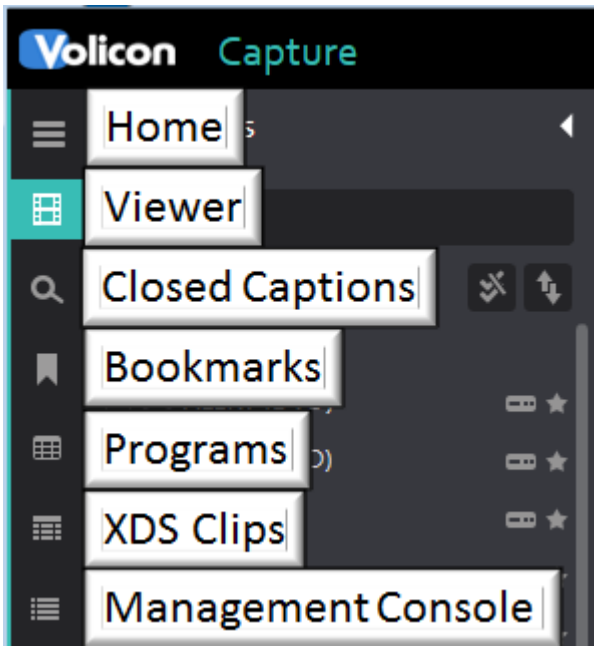


Figure: Navigation Tabs

- **Home** – brings you to the MIP home page, which allows you to launch any of the MIP functions (common to all functions)
- **Viewer** – gives you access to your player window and the Channel Dashboard, which allows you to choose which streams you wish to view (common to all functions)
- **Closed Captions** – Displays clips of closed caption programs
- **Bookmarks** – gives you access to the Bookmarks window, which allows you to see your clips and those created other users and shared with you (common to all functions)
- **Programs** – displays list display of recorded programs. Programs can be automatically recorded or imported via hot-folder. (common to all functions)
- **XDS Clips** – displays metadata for analog NTSC channels
- **Management Console** – provides a list of all jobs that were exported using the optional Content Export Manager (CEM) server (common to all functions)

Depending on your permissions some of these options may not be displayed.

5.3 Channel Viewer Tab

The viewer tab gives you access to the Channel Dashboard, which lists all the video channel(s) to which you have been allowed access by the local MIP administrator. Clicking the triangle to the right of the Channels heading expands/contracts the channel pane. For quick access to a particular video channel, click the checkbox beside the desired channel. MIP will open that stream in the Player Window.

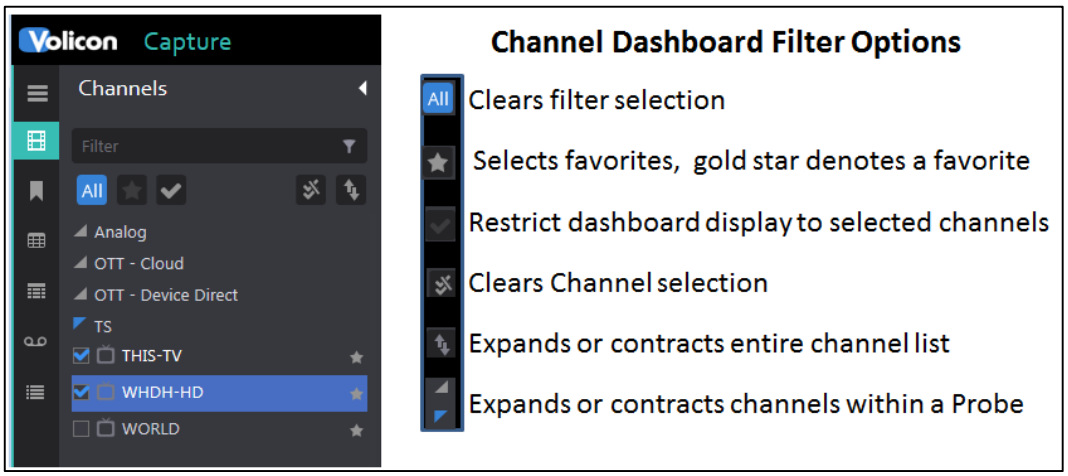


Figure: Channel Dashboard

The **Filter** feature at the top of the Dashboard provides a quick way to restrict the channel display by typing in the desired channel name into the **Filter** text box. MIP then displays channels that match the typed string. You do not need to enter the entire channel name.

To define a channel favorite hover over the favorite icon to the right of the desired channel and left click to turn it gold . Left clicking toggles it back to grey.

Figure: Choosing a Stream

The Player Window, which initially shows up as a large gray space, is the frame where video is displayed after selecting channels from the dashboard section. When you view video in the Player Window, MIP automatically displays that video in the correct aspect. Any subsequent video streams you open will automatically adjust and resize within the Media Intelligence Player window while always maintaining the correct aspect ratio.

5.3.1 Using the Player Window

The Channel Dashboard displays all the Video Streams available to you. To display a Video Stream in the Player Window click the check(s) by the Video Stream names you wish to display. The MIP will display your Video Streams in the player window.

Figure: Player Window

Note that if you are using the clientless interface, MIP will only display a subset of the features shown.

MIP automatically adjusts for different aspect ratios and resizes player windows if multiple streams are selected. Audio is enabled on the first stream selected and disabled on subsequent streams. To enable audio on a different video stream, click on the desired player window. The stream with active audio is indicated with a blue background in the Channel Dashboard and the channel name changes from white to blue in the player.

To close a stream click the **<X>** in the upper right hand side of the stream or click the **<stream name>** in the Channel Dashboard.

Each window will display the date of the Video Stream you are observing at the top of the Video Stream window.

5.3.2 Seeking Back in Time

The time and date is displayed at the top of the program.

Figure: Individual Name of Stream

Click on the **<calendar icon>,** to the right of the date/time display, to change the historical feed.

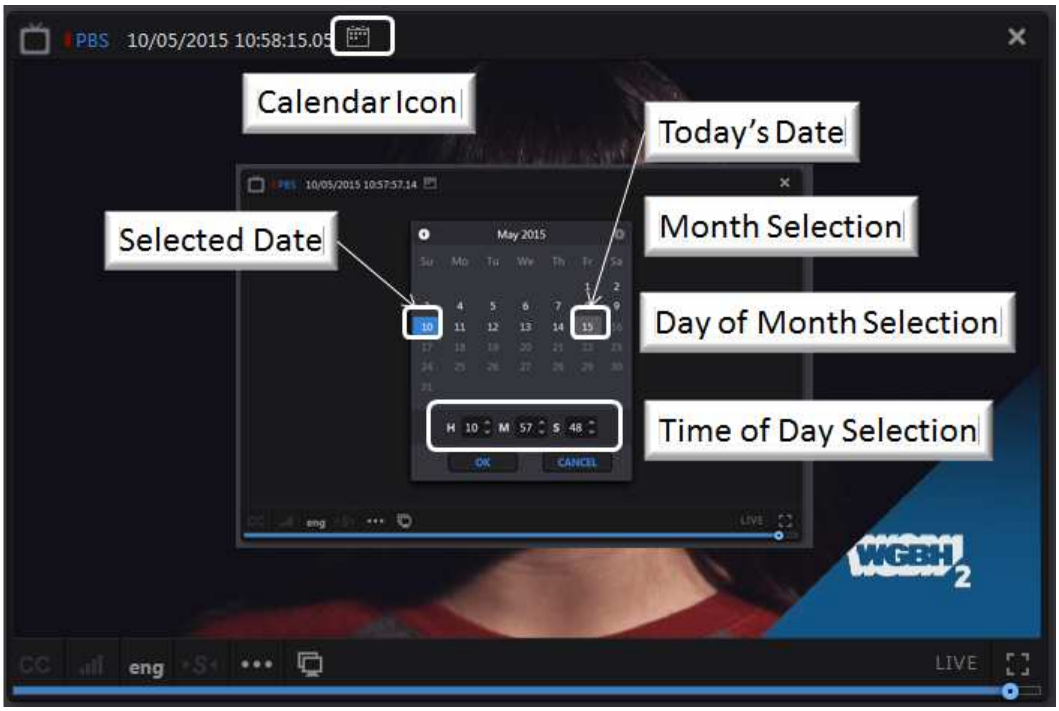


Figure: Time of Feed

When playing a recorded content the **LIVE** icon at the bottom of the player window is greyed out. The Calendar Function allows you to access your historical feeds by date and time. The Calendar function is sticky, if you close the stream and reopen it the player resumes from where it left off. Pressing the **<LIVE>** button on the right of the Media Player Bar switches to live stream and resets the calendar to the current time.

INFO TIP

Note: you can only view historic video back to the date either when the system was initially installed or back to the time configured for video storage duration, which ever time is most recent.

If you select a video that is no longer available an error message is displayed at the top of the Viewer frame.

Figure: Video No Longer Available

5.3.3 Controlling Your Video Stream/Streams

After you select a video stream(s) for display, a Media Player Bar opens along the bottom of the display frame. The Media Player Bar controls all the Video Stream(s) in your window simultaneously.

Figure: Media Player Bar

The player buttons allow you to rapidly scan through historical programs. From left to right, the buttons perform the following functions:

- **1F**rame Rewind – rewinds one frame each time the button is pressed
- **X1/2** Half Speed Rewind – rewinds at half the normal frame rate

- **Fast Rewind** – rewinds at twice the normal frame rate, or click again for 8x
- **Rewind** – rewinds at the normal frame rate
- **Pause** – stops playback
- **Play** – moves forward at the normal frame rate
- **Fast Forward** –moves forward at 2x the normal frame rate, click again for 8x
- **X1/2** –half speed forward playback
- **1F**rame Forward –advances one frame each time button is pressed
- **LIVE**: synchs up all the Video Streams in the Player Window with the most recent content. There are two visual ways to ensure you are viewing the most recent content: 1) The **LIVE** indicator on the player turns green when playing a live feed and is greyed out when playing a historical program and 2) by the Date/Time identification at the top of the player.

Note: The power of the Volicon Media Intelligence Platform is in its ability to support many sessions or users simultaneously without affecting other users. For example, **what you do in the Player Window only affects your Player Window. It has no effect on other users.** MIP is the only program of its kind that provides you with the complete freedom to perform your job functions when and as you need to perform them.

In the example below, both video streams were paused. Clicking on the **LIVE** button caused the MIP to simultaneously retrieve the current live content for both streams.

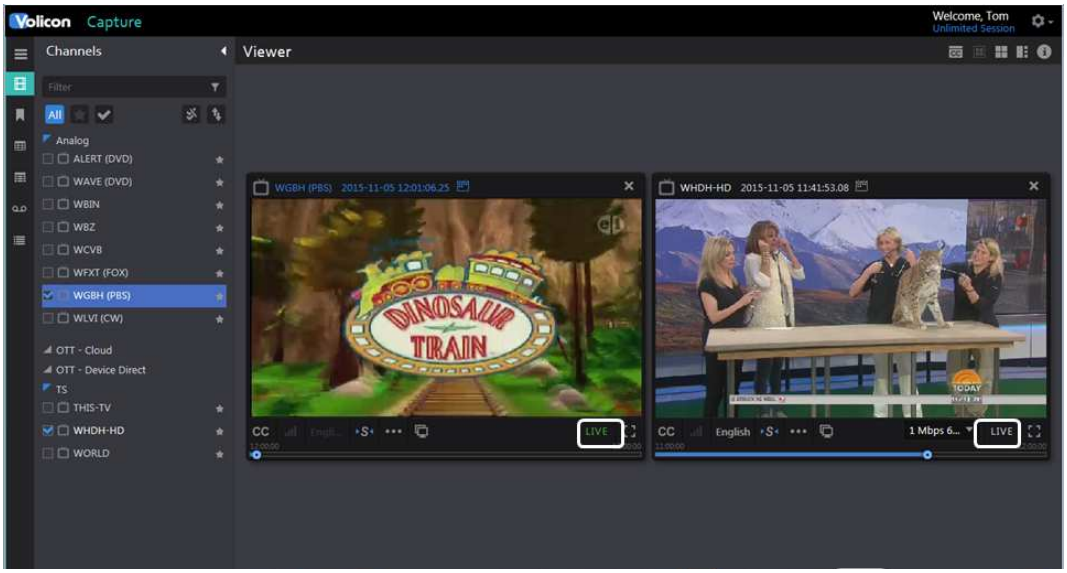


Figure: Simultaneous Control

5.3.3.1 Volume Control

The master volume control, located in the lower right hand corner of the page, controls the volume whichever stream is active. Note that if you have multiple video streams open, you will only receive audio from one of the streams. Left clicking inside any open video stream enables audio for that stream and disables the others. The Channel name turns blue to indicate the active channel.

Mute – Clicking the Speaker icon toggles Audio on and off.

Volume Adjustment – Clicking the Speaker Icon pops up the volume slider. Use this to set MIP volume.

Figure: Volume Control

5.3.3.2 Controlling Individual Video Streams

You can control your Video Streams individually by clicking anywhere on the seek bar within the Video Stream itself.

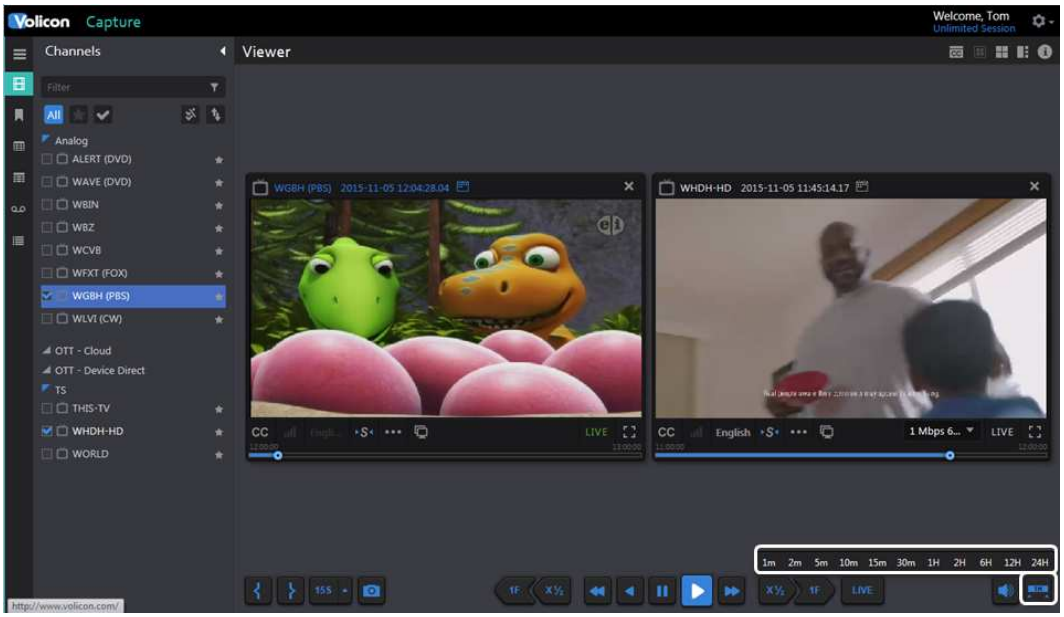


Figure: Individual Video Stream Control

The MIP Media Player Seek bar is unlike any seek bar you see in other streaming video applications. The MIP Media Player video feeds do not have a finite end to the video stream like other internet based video streams. Therefore, we cannot count down to the end of currently playing video. Instead the seek bar is used to select a duration time. Once selected the value is displayed in the Seek bar as a reminder.

Figure: Program Time and Date

Once you click the **<Seek>** bar, the video stream will instantly begin to stream video from that point in time. Time info is displayed at the top of the player. To return to the most recent content, simply click the live button and all open video streams will begin to stream live content again. Each open window can be individually controlled in the same manner.

5.3.3.3 Time Identification

Note that in this context "live" means "real time to the MIP." MIP ingests live video, transcodes it, stores it, and streams it out to you as an end user. This process takes from 6-8 seconds. Thus, the "live" feed will be about 8 seconds behind real time.

Due to the time it takes MIP to ingest the video stream and the accuracy of your PC real time clock, the time displayed on the live video stream will lag the current time on your PC/laptop by several seconds. The size of the difference of these two displays is a combination of the time it takes MIP to ingest the video stream and how accurately and often your PC is synchronized to an NTP server.

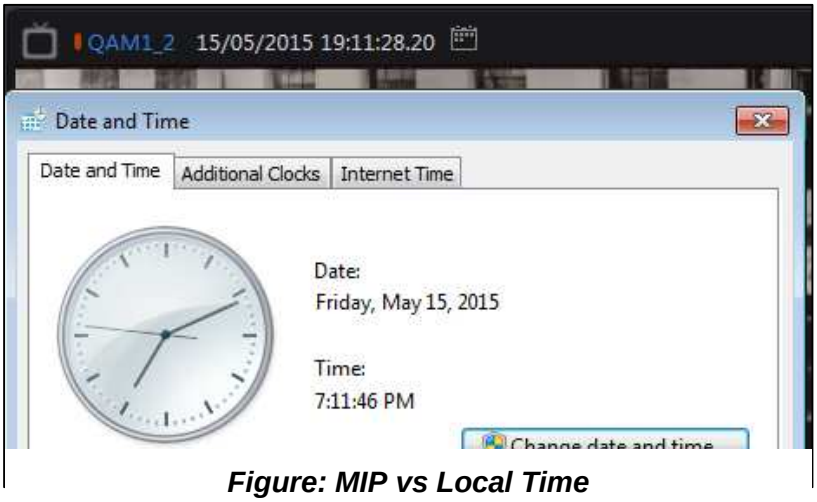


Figure: MIP vs Local Time

5.3.4 Player Thumbnails

A few moments after the video beings playing you may see it resize and thumbnails populated below the video. Thumbnails are only displayed when viewing a single channel and if the service has been enabled by your MIP administrator. The **Thumbnail** button at the lower right hand corner of the **Viewer** sets thumbnail time frame. With a recorded program you can use Storyboard to quickly move forward and backward in time. With a live program, obviously, you are only able to move backward.

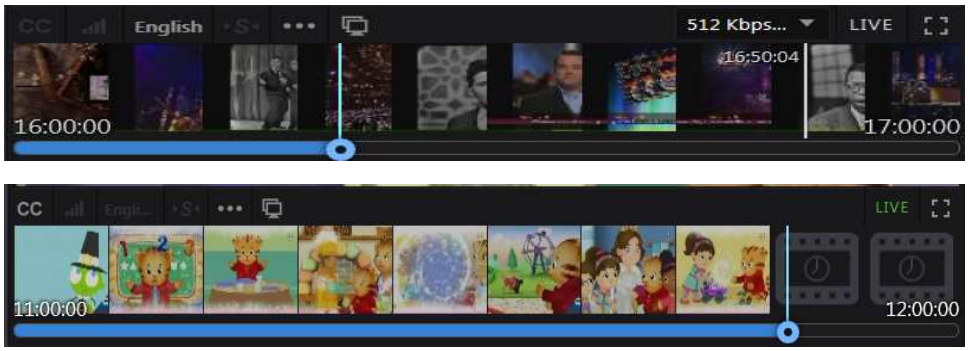


Figure: Recorded and Live Thumbnails

At the end thumbnails are automatically updated with the next time increment.

5.3.5 Snapshot

Clicking the camera icon (located lower left side of the screen) creates a JPG. Storage location defaults to your browser settings and MIP automatically creates a numeric file name. You can override the default location and the file name by using the **Save As** pulldown.

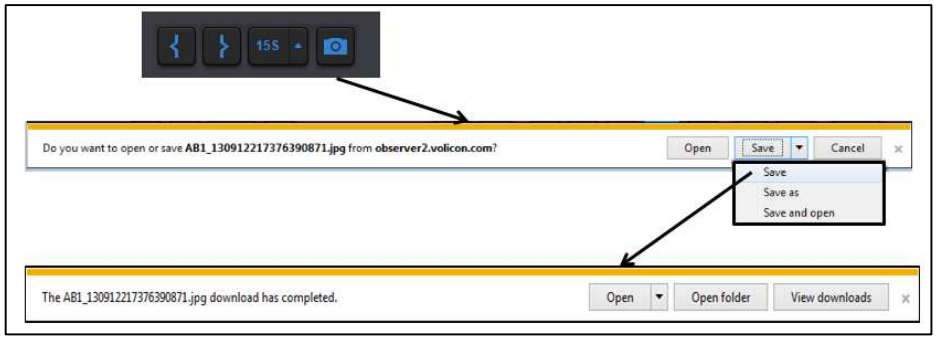


Figure: Create a Program Snapshot

5.3.6 Video Stream Management Advanced Actions Bar

Figure: Advanced Actions Bar

MIP provides you with several tools for managing individual Video Streams within the Video Stream window itself. Located below each individual video stream is the advanced actions bar. From right to left these actions are:

- **Closed Captions** – Display closed caption text
- **Audio Loudness Meter** – Displays audio level bar chart
- **Eng** – Selects audio track
- **Synch to Me** – Forces other players to the same time as this one
- **Metadata** – Displays various metadata about the program
- **Clone** – Open another viewer with the same program
- **LIVE** – Greyed out when playing a recorded program, green when live. Clicking this icon will change the player to Live.
- **Full Screen** – Plays to selected program in full screen

5.3.6.1 Closed Captioning

You can turn Closed Captioning on or off for individual Video Streams by using the **<CC>** button in the lower left portion of the viewer window. If the stream is not configured for Closed Captioning the **CC** button is greyed out. Options enable or disable Closed Captioning display and if supported language selection.

CC may be turned on or off by each MIP user without affecting other users. MIP always captures the CC data if the admin has configured it to do so, which allows you to go to any point in time and view it. When MIP displays the Closed Caption text, it conforms to the SMPTE profile of W3C Time Text Markup Language which preserves the: position, transparency, font, color, and timing of the data.

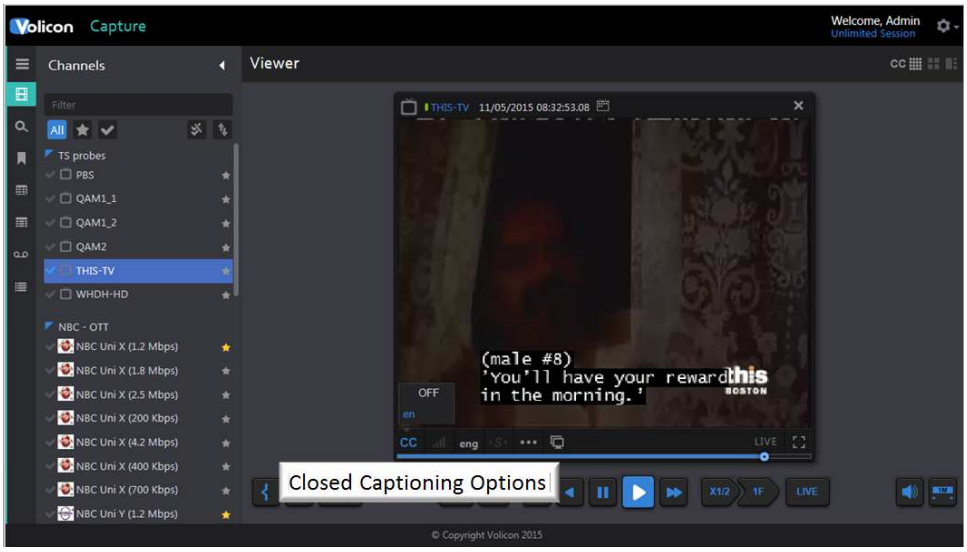


Figure: Closed Captioning

5.3.6.2 Loudness Meter

Displays real time audio loudness in bar graph format. Height fluctuates indicating instantaneous loudness.

5.3.6.3 Audio Language (English)

If the stream supports multiple audio versions use this button to select the desired version.

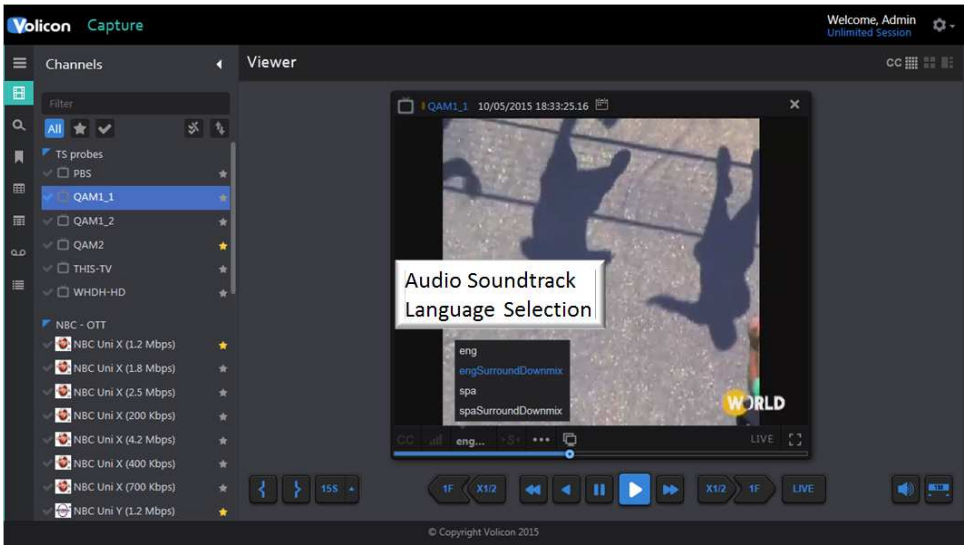


Figure: Audio Soundtrack Selection

5.3.6.4 Sync to Me

If you have several Video Streams open and need to know what each Video Stream was displaying at a specific date and time, you can move a single Video Stream to a specific date and time and then click the **<Sync to me>** button. MIP will set all your open Video Streams to match the date and time of your selected window.

Figure: Sync to Me Button

This feature is not supported in clientless mode.

5.3.6.5 Metadata

The data stream contains additional information about the program: this is called metadata, data about the data. Clicking the Metadata icon allows you to select one or more metadata sets associated with the video stream.

Metadata information may be displayed left or right justified by selecting the left or right arrow adjacent to the Metadata OFF option.

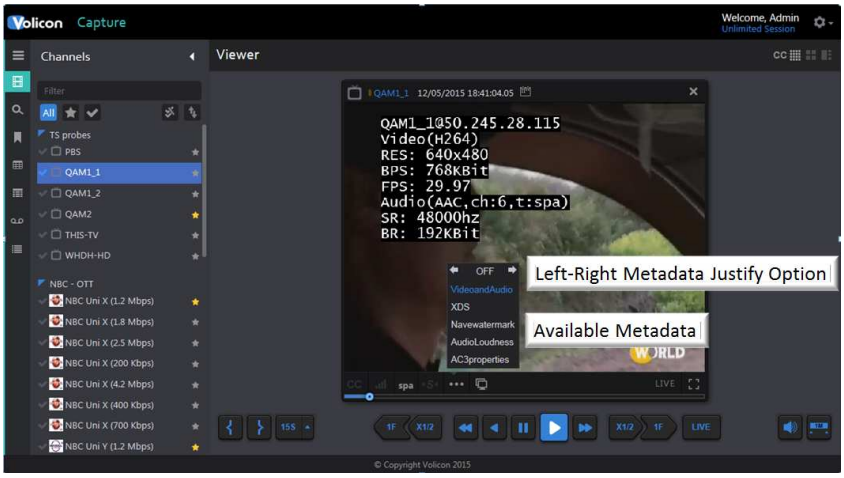


Figure: Metadata Options

Video and Audio Metadata displays the parameters of how your Volicon MIP is configured to capture and store video and audio content. Parameters include video codec, the pixel resolution, the bits per second, frames per second and audio sampling frequency of each Video Stream.

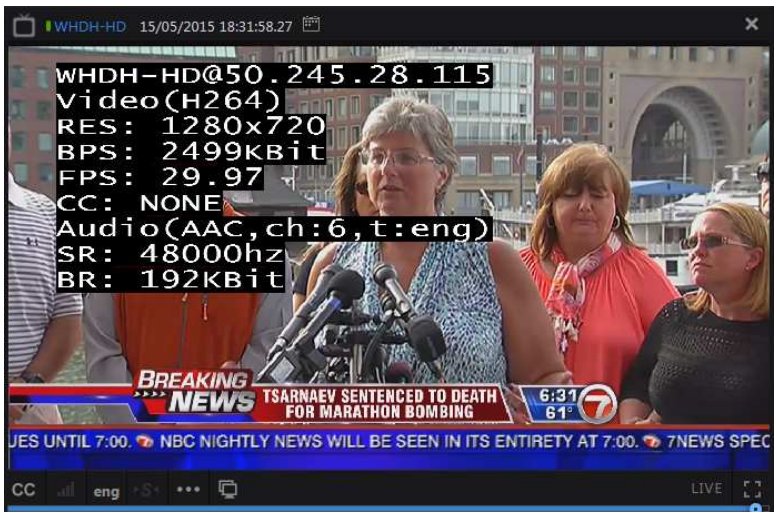


Figure: Video and Audio Metadata

XDS Metadata If present in the Video Stream, you may display the source, title, and program rating of your Video Stream.

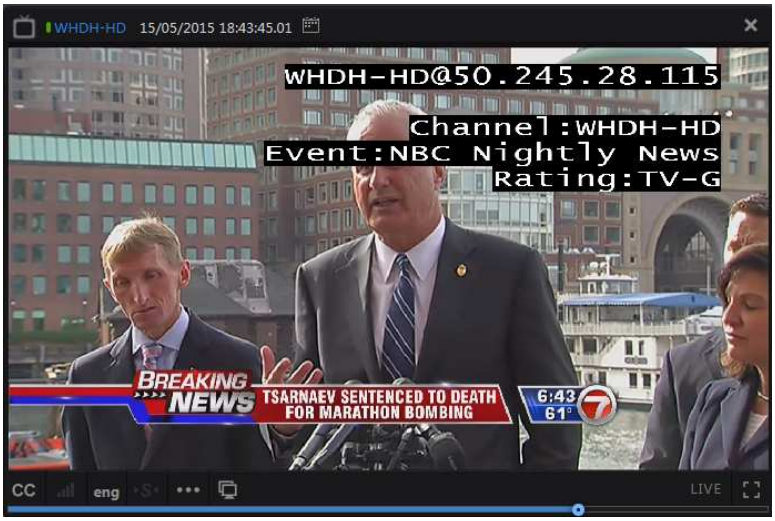


Figure: XDS Metadata

NAVE (Nielsen Audio Video Encoder) is a Nielsen encoder that adds data to audio and/or video to track the distribution of content through a variety of local and national distribution systems. If the Video Stream you are watching carries a NAVE watermark, choosing this option will display that metadata.

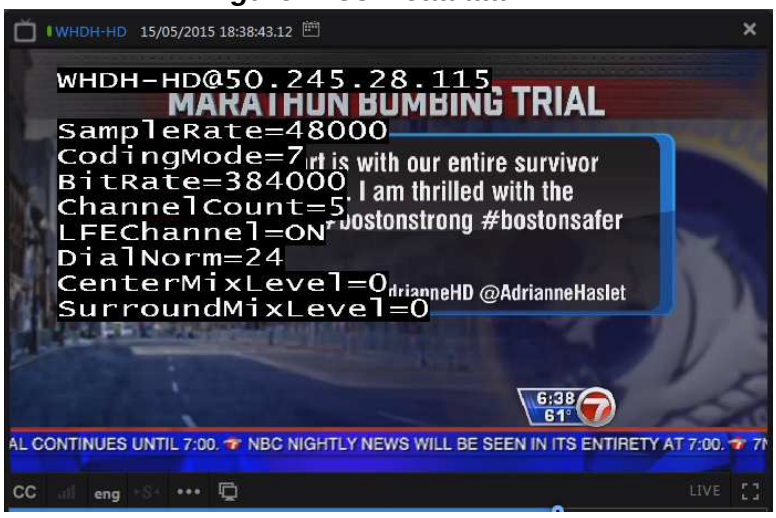
Figure: NAVE Watermark Metadata

Audio Loudness Metadata displays the audio regulatory environment from which the Video Stream originated: in the capture below, English language from the United States.

Figure: Audio Loudness Metadata

AC3 Metadata is the technical name for Dolby Digital Audio Compression. It has been standardized by the Advanced Television Systems Committee (ATSC), and is used for the efficient encoding of surround sound. If your Video Stream is carrying AC3 information to create surround sound, choosing AC3 will display that metadata.

Figure: AC3 Metadata



AFD (Active Format Description) is a standard set of codes for television or set-top-box decoders. AFD displays that metadata on your Video Stream. The AFD information instructs the MIP as to what specific format is being sent, either 4:3 or 16:9. Since programs can vary in format in a given stream, the MIP will use the AFD to adjust the format dynamically for display.

Figure: AFD Metadata

DPI or Digital Program Insertion allows cable headends and broadcast affiliates to insert locally-generated commercials and short programs into remotely distributed regional programs before they are delivered to home users. If your Video Stream is displaying locally generated programming, you can see its parameters by observing the DPI metadata.

Figure: DPI Metadata

Input Name Metadata (Analog Only) displays the name of the analog input used to ingest the stream.

Figure: Analog Channel Type Metadata

5.3.6.6 Clone

The Clone function allows you to open multiple viewers displaying the same video stream. Once playing each stream may be set to display different metadata or time.

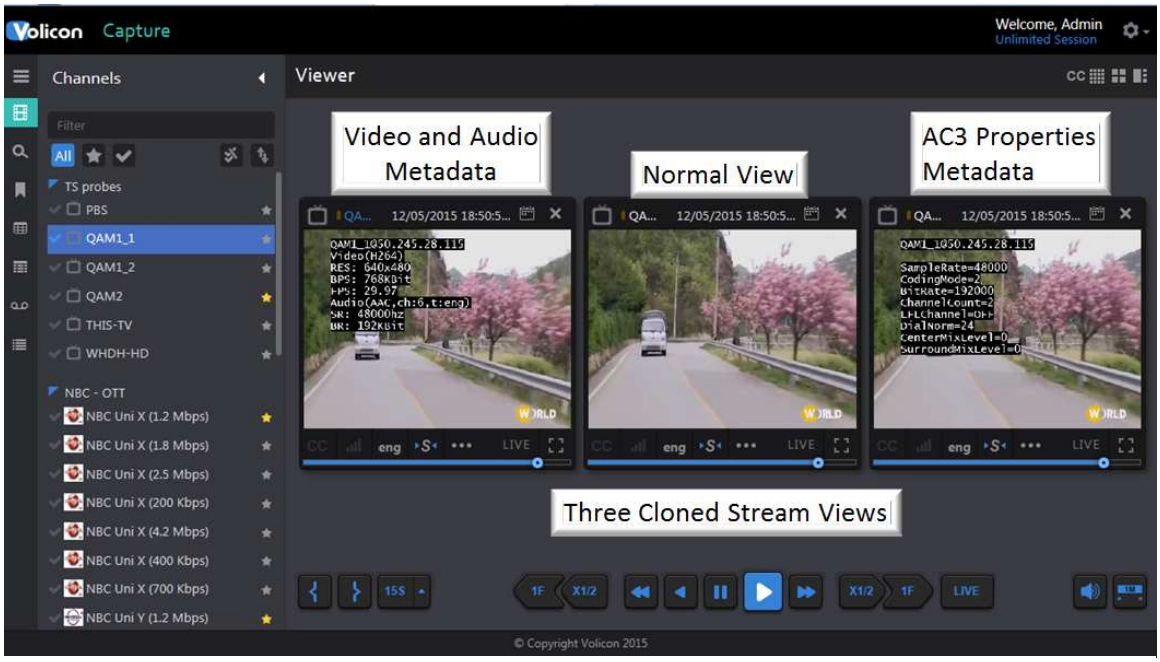


Figure: Playing Cloning

5.3.6.7 LIVE

The LIVE icon indicates if a program is recorded or live. The icon is greyed out LIVE when playing recorded material and switches to green LIVE when playing a live program. Use the calendar feature at the top of the screen to select a recorded program. To change to a live feed press the **Live** button at the bottom of the page.

5.3.6.8 Full Screen

The full Screen icon expands the viewer to full screen. If multiple viewers are active only the viewer selected for full screen is expanded: the others are unaffected. Pressing the ESC key reverts back to normal view.

5.3.7 Viewer Keyboard Hotkeys

In addition to the on screen icons many viewer functions can be controlled via keyboard hotkeys. This is often more convenient than using the mouse for common operations. Pressing the information bottom at the top of the player window opens the hotkey info page.

Figure: Viewer Keyboard Shortcuts

5.4 Closed Caption Tab

This page displays clips of program that include Closed Caption text. When this tab is first clicked the page displays all Closed Captioned programs. The clips can be displayed in either **Grid View** or **List View** by pressing the appropriate icons at the top of the program list. **Grid View** displays a thumbnail of each clip, Closed Captioned text and the time and channel. In **<List View>** the icon is smaller and information about the clip is displayed in columnar format. The **<Customize Columns>** icon to the right of the **<List View>** icon is used to specify which columns to display.

In a typical system there will be a large number of Closed Captioned clips. Use the dashboard to restrict what is displayed.

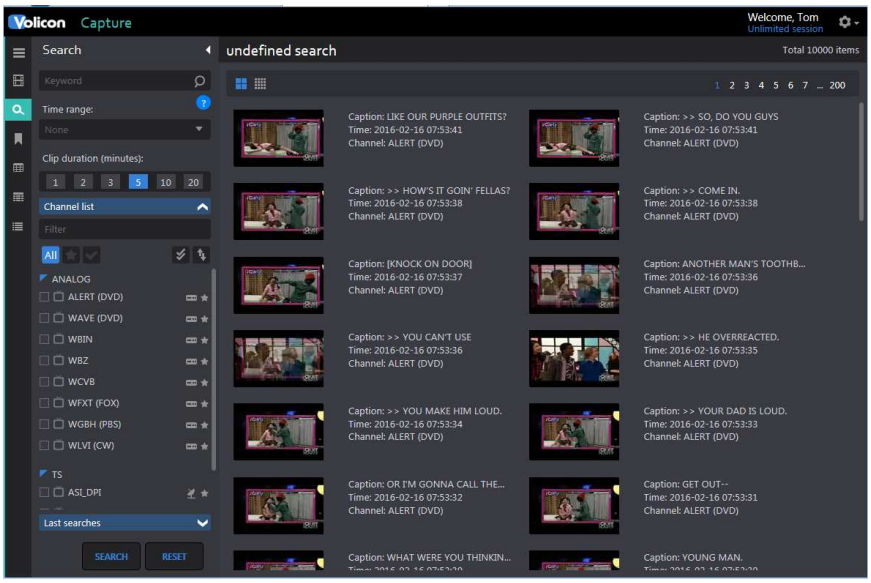


Figure: Closed Caption Search Result

Left click in the desired clip opens up the player and displays the Closed Captioning text to the left with a movable highlight bar synchronized to the video. The clip name is displayed above the player.

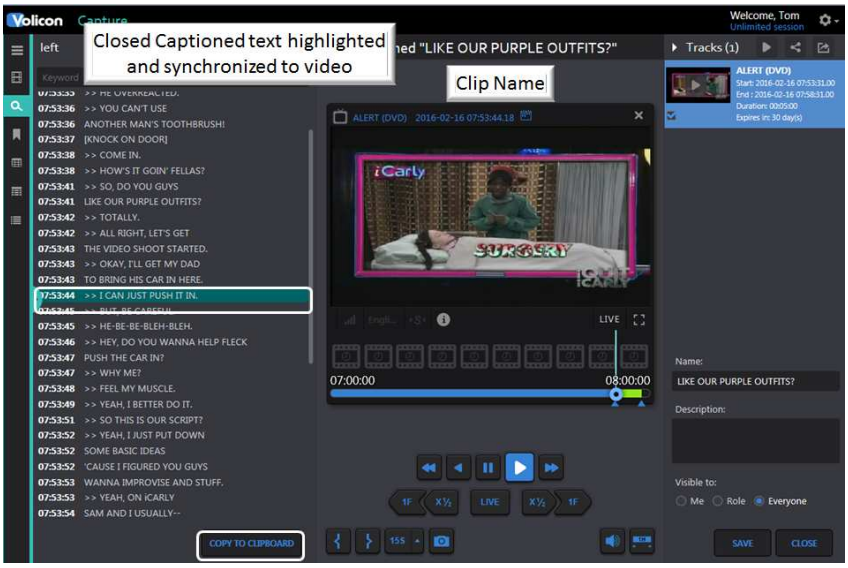


Figure: Playing Closed Captioned Clip

5.4.1 Copying Closed Caption text

At the bottom of the Closed Caption text is a **<Copy to Clipboard>** button. Pressing the button copies the Closed Captioned text from the clip into the clipboard on your computer. From there you can paste it in a document.

If this feature has not been enabled you will receive the following error message:

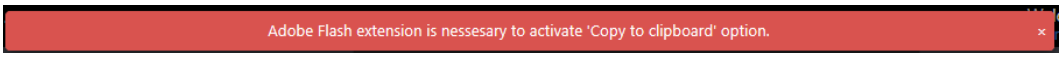


Figure: Closed Caption Paste Error

5.5 Bookmark Tab

Volicon MIP allows you to identify portions of your video streams, called Bookmarks, and stores those identifications for future use. Creating a Bookmark does not create a unique copy of the video; it simply marks a portion of a video stream and is available for as long at that particular channel stream is archived within MIP.

The term “clip” can be misleading, as it implies that when you create a clip you are choosing content, cutting it out of the stream (or perhaps making a copy of it), and storing it somewhere else. MIP does **not** use this process for clip generation. Instead, MIP creates a “clip” by inserting bookmarks at the start and at the end of your chosen content. It stores those bookmarks along with the streams themselves in your main storage folder. When you call up a clip, MIP uses those bookmarks to rapidly search your stored content to play the stream you are looking for.

This process provides many benefits.

- Rapid retrieval of content you have identified and clipped
- Because the clips are actually bookmarks inserted in the main stream, you can create as many clips as you like without consuming any of your storage space. This allows you to save metadata along with segments of video
- Allows you to export a permanent copy of content from MIP to your PC/laptop

MIP stores clips for the same amount of days as the video is stored. After that time period, the clip and any associated video will be deleted. For example:

You create a clip from live logged content. If content is logged on MIP for 90 days, clips will be stored for 90 days. If you created the clip from 60 day

old historic content, the clip will be stored for the next 30 days. The clip will be saved on the system based on the origination of when the video was logged, not from when the clip was created.

5.5.1 Creating Bookmarked Clips

MIP allows you to search manually for the content you wish to bookmark. You can create individual clips by marking the video stream. You can also create multiple clips at once by opening multiple streams. For example, if you **<Mark In>** and **<Mark Out>** with four streams open, MIP will create four clips.

Consider a circumstance in which a customer wishes assurance that their commercial did, in fact, play at 3:45 PM on THIS-TV. Start by calling up the THIS-TV stream. Use the calendar function to select to desired date and time.

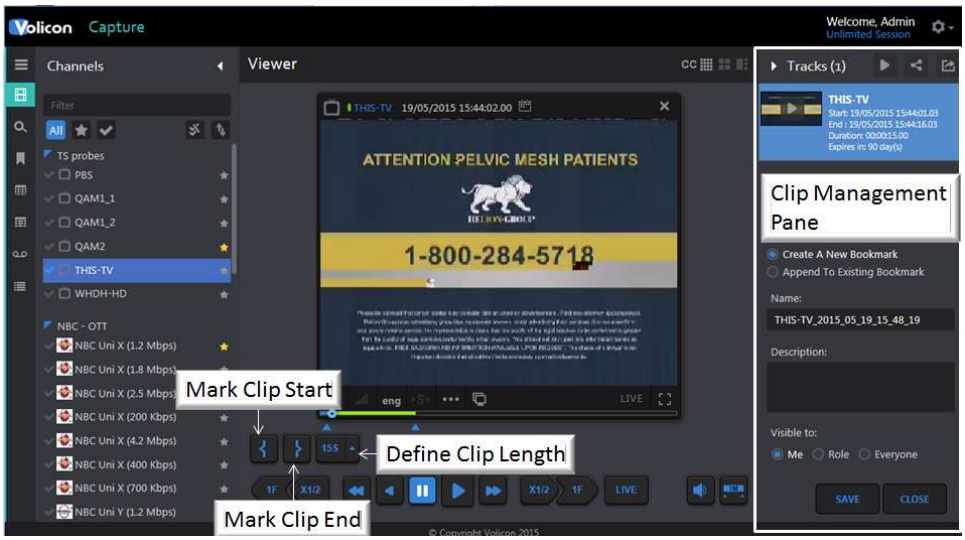


Figure THIS-TV Clip

Press the **<Mark In>** button to initiate the clip creation process. To mark the end of the clip you have two options. Pressing the **<Mark Out>** button manually terminates the clip. The other option uses the **<Quick Clip>** button to the right of the **<Mark Out>** button. Pressing **<Quick Clip>** will automatically create a clip of the specified length. The player timeline will highlight the duration of the clip. To define clip length press the **<up>** triangle, this displays a list of preset clip lengths. Once you select a length it is displayed on the face of the **<Quick Clip>** button.

The player control buttons allow stepping forward and backward on a frame by frame basis enabling you to precisely mark the section of interest.

5.5.1.1 Bookmark Clip Management Pane

When the **<Mark In>** button is pressed the Viewer automatically opens the Clip management pane on the right hand side of the screen.

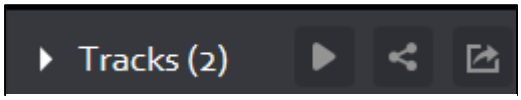


Figure: Track Pane Controls

From left to right the controls are as follows.

Triangle –collapses and expands the management pane

Tracks (x) –denotes number of bookmarked tracks in the pane.

Play – plays the track if there is only one or plays the next track if there is more than one, when the last track is played goes back to the first. Each time the button is pressed the next clip is played.

The next two buttons allow you to concatenate multiple clips. This feature only works if all clips are from the same channel.

Figure: Joining Multiple Clips

Share all tracks as one –If there are multiple clips combines them into a single group. Except for grouping the **Sharing** feature is the same as under the individual clip.

Export All Tracks as one –If there are multiple clips combines them into a single group. Except for grouping the **Export** feature is the same as under the individual clip.

5.5.1.2 Individual Bookmark Clip Controls

There are several controls that apply to individual clips. Position the mouse cursor over the clip preview frame to activate the additional controls.

From left to right the controls are as follows.

Play – plays the individual clip

Share Track – publish clip to external sites. The sharing options are set via: **Tools**→ **Settings** option

Export Track – This feature allows you to copy the clip to your PC.

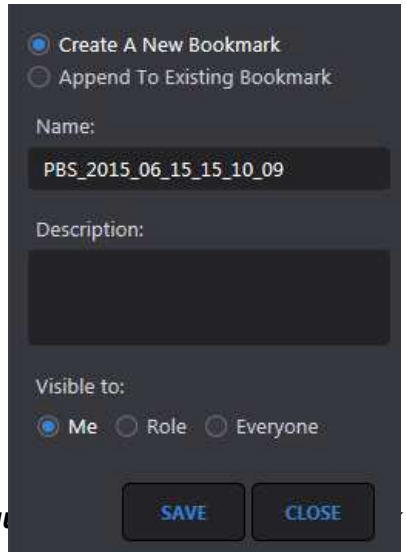
Trash Can – delete the bookmark

Figure: Individual Clip Controls

5.5.1.3 Saving and Naming Bookmark Clips

The lower portion of the Tracks Pane lets you name the clip and determine who has access to it.

Immediately below the thumbnail(s) are two radio buttons, **<Create a New Bookmark>** and **<Append to Existing Bookmark>.** Create is the default. When you save the clip(s) a new bookmark will be created, if the Append option is selected the new clip(s) will be appended to an existing bookmark. Begin typing the name of an existing clip in the **<Name>** field. As you type MIP will display a list of exiting clips. Keep typing until the desired clip is displayed or use the mouse to highlight the one you want.



Figu

Name – defaults to the channel name with date and time appended. If multiple clips are created **Name:** is that of the first clip. To change the name hover the mouse over the text string and left click. An **X** will appear to the right of the name. Click on the **X** to delete the text and type the new name. To edit the name position the mouse over the location you want to change and insert the new text.

Description – enter text to further identify the purpose of the clips.

Visible to – defaults to **Me** limiting access to you. Press the **Role** or **Everyone** radio buttons to expand who has access to the Bookmark.

Save – saves the clip(s). To view the clip(s) press the **Bookmark** button at the left of the screen.

Close – closes the clip Bookmark management pane, any unsaved bookmarks will be lost.

5.5.1.4 Publishing and Exporting Clips

The Share and Export options are used to publish clips to a third party or save them on your PC. There are two slightly different versions of the buttons. At the top of the clip management pane The Share All and Export All buttons combine multiple tracks and publish them as a single entity. The feature requires the combined clips are all derived from the same channel.

Sharing Clips

Pressing the **<Share>** icon opens another window allowing you to select how the clip is shared and select and modify the thumbnail. The feature requires the Volicon CEM export module.

Selecting and Cropping the Thumbnail.

By default the thumbnail is the first frame of the clip. If you want to use a different frame press the **<Select Thumbnail>** button below the player. This expands the player and allows you to move the frame curser. When you have selected the desired frame press the **<Capture>** buttom to replace the default thumbnail. MIP allows you to crop the thumbnail. Press the **<Crop>** button and adjust the borders of the crop outline. At the bottom of the crop box press the checkmark to save the thumbnail or the X to exit without saving.

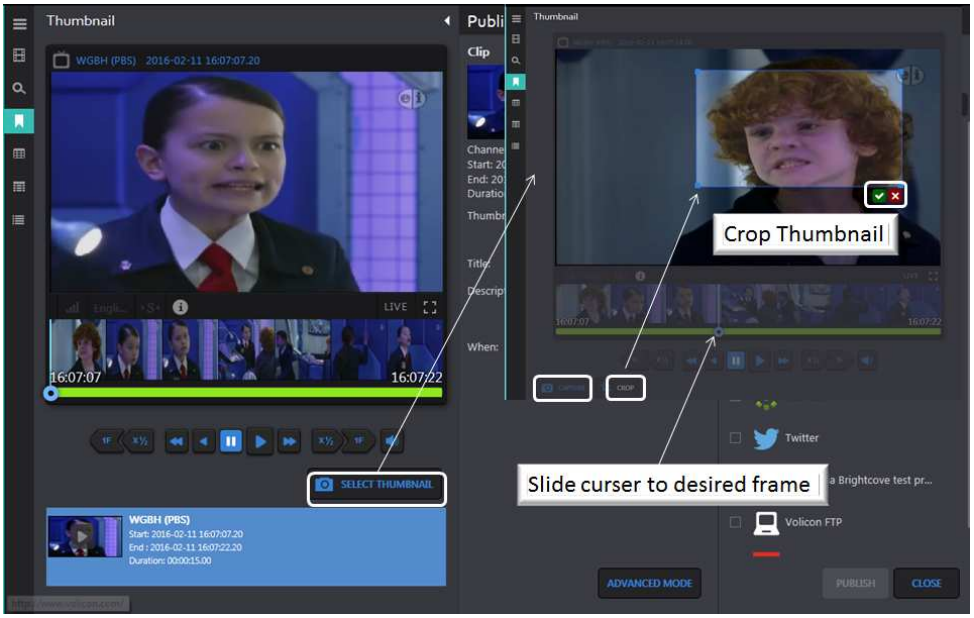


Figure: Changing and Cropping Thumbnail

Saving a thumbnail to your PC

The **<Download>** and **<Upload>** buttons allow you to download the thumbnail image to your workstation, modify it, and then upload it back to MIP. This enables you to do things like incorporate a corporate logo or add annotation as shown in the example above.

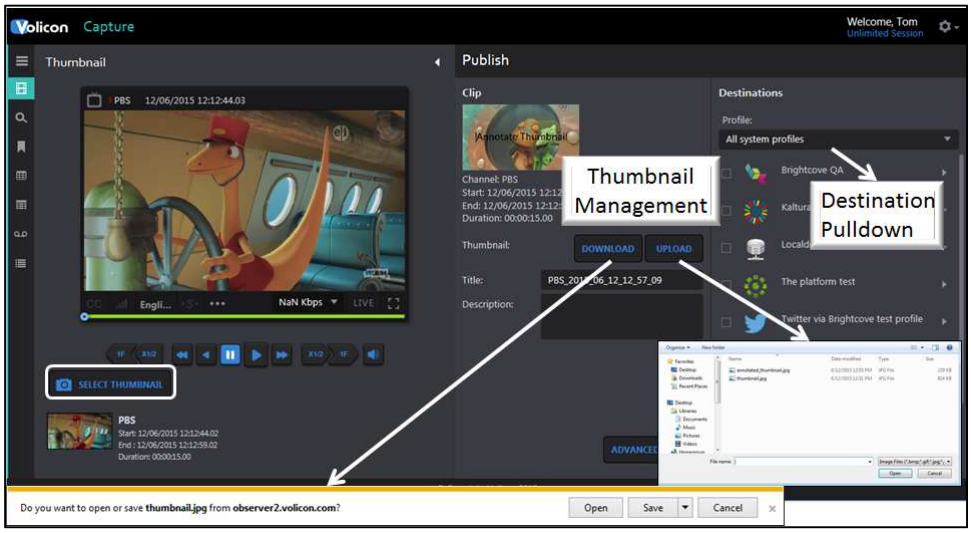


Figure: Thumbnails

Destinations

Use the **Destinations** frame at the far right to select the destinations to publish the clip. The pulldown menu immediately under the **Profile** defaults to "**All system profiles.**" To select a subset of available destinations open the pulldown. **Destinations** are configured by your MIP administrator.

Advanced Mode

Clicking the **<Advanced Mode>** button at the bottom of the center panel opens another pane and allows you to override the default export profile for this publish profile. Clicking **<Simple Mode>** resets the center pane to the previous state and will not use any of the advanced parameters.

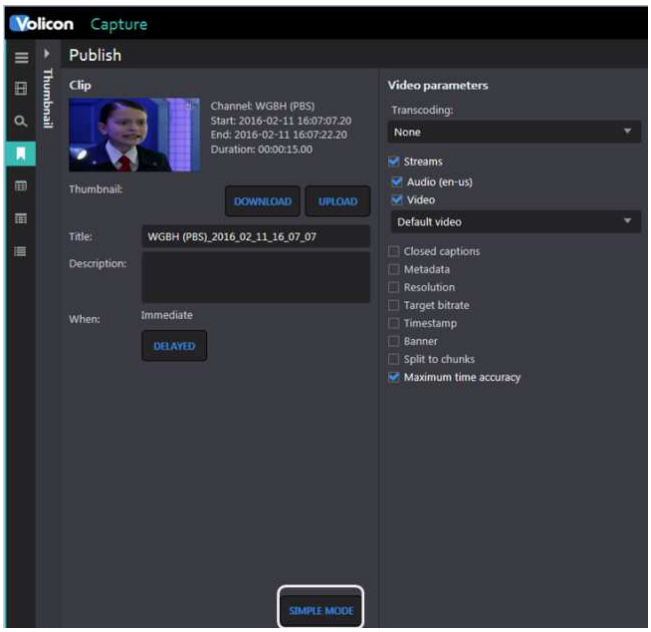


Figure: Advanced Mode

- **Transcoding** – Use the pulldown to save clip in a different video format.
- **Streams** – Defaults to both audio and video. Unchecking audio or video deletes that from the clip.
- **Default Video** – If there are sub encoders configured for this channel use this option to select different resolution/bandwidth.
- **Closed Captions** – include closed captions with the clip. If stream is not captioned an error message appear if this option is selected.
- **Metadata** – selects metadata to include with the clip.
- **Resolution** – pulldown to select the desired resolution.
- **Target Bitrate** – pulldown to select the desired bitrate. This option is useful to down sample the clip to reduce size.

- **Timestamp** – Allows you to burn timestamp to the video and select a different time zone.
- **Banner** – Uploads a file. Use the Alignment arrows to position the banner and the Transparency option to select transparency. The Width: and Height: option let you control how much of the screen is occupied by the banner.
- **Split To Chunks** – divides large clips into predetermined length.
- **Maximum Time Accuracy** – Gives accurate frame by frame time in the export file.

Publish Clip

Select the desired destination and press **<Publish>** or **<Close>** to go back to the previous screen. Some profiles allow the entry of additional information. If there is a triangle to the right of the name clicking it opens another dialog box. Enter the relevant information and click **<Save>** or **<Cancel>.**

Status messages appear at the top of the screen announcing **Publish** has started and whether it not it was successful. These announcements will close after a short period. Publish destinations are typically configured by your MIP administrator rather than individual users.

At the top of the left hand pane are the **Export duration** and **File Name** tags. Duration information is read only. The bookmark name defaults to channel name and time stamp. If desired you can change it to something more descriptive.

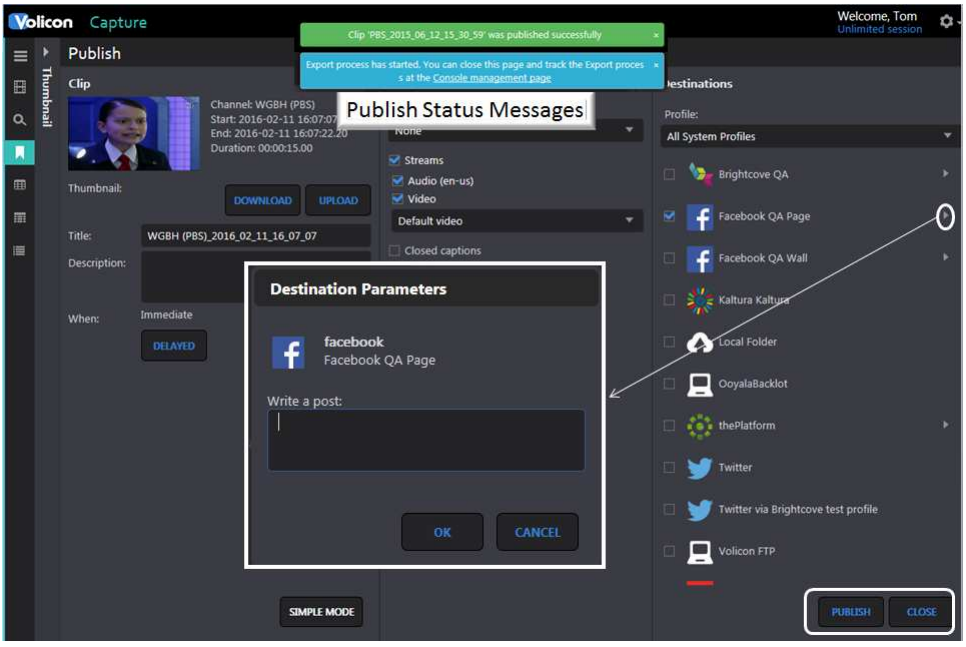


Figure: Publish Clip

Export Clip – using Internet Explorer

This feature works much the same way as publishing but allows you to save the clip to your PC. When using IE pressing Export opens a dialog box allowing you to select the location and specify how the clip is encoded. A completion message is displayed once the clip has been saved.

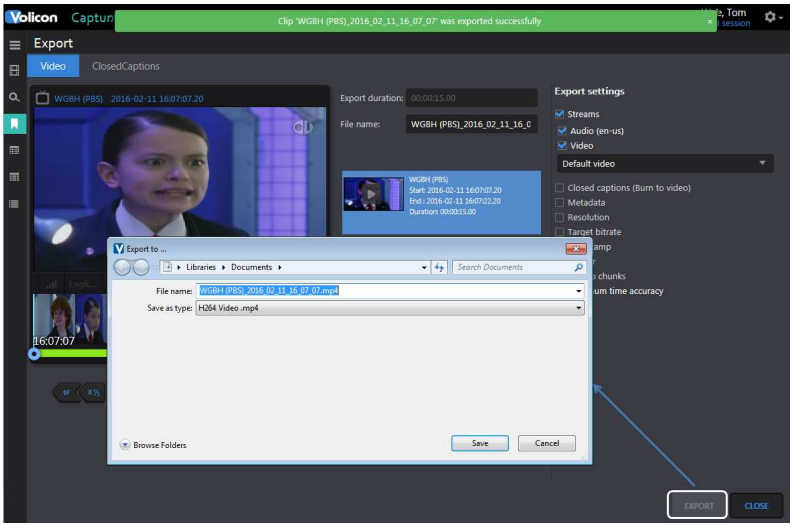


Figure: IE Clip Export

Export Clip – using Volicon CEM

When using CEM the process is slightly different, the clip is saved on the CEM server. The server generates a link allowing the user to access the clip.

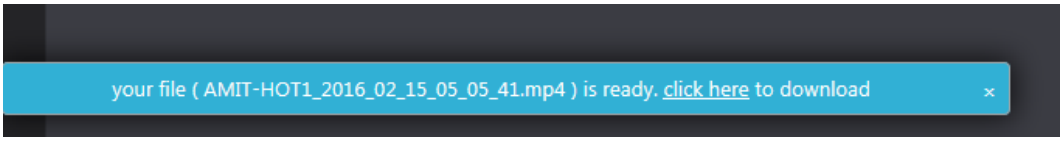


Figure: CEM link to Saved Clip

5.5.2 Managing Bookmarks

To access your bookmarks click on the **<Bookmarks>** icon in the left hand pane.

This will display not only your bookmarks but also any bookmarks that others have chosen to share with you.

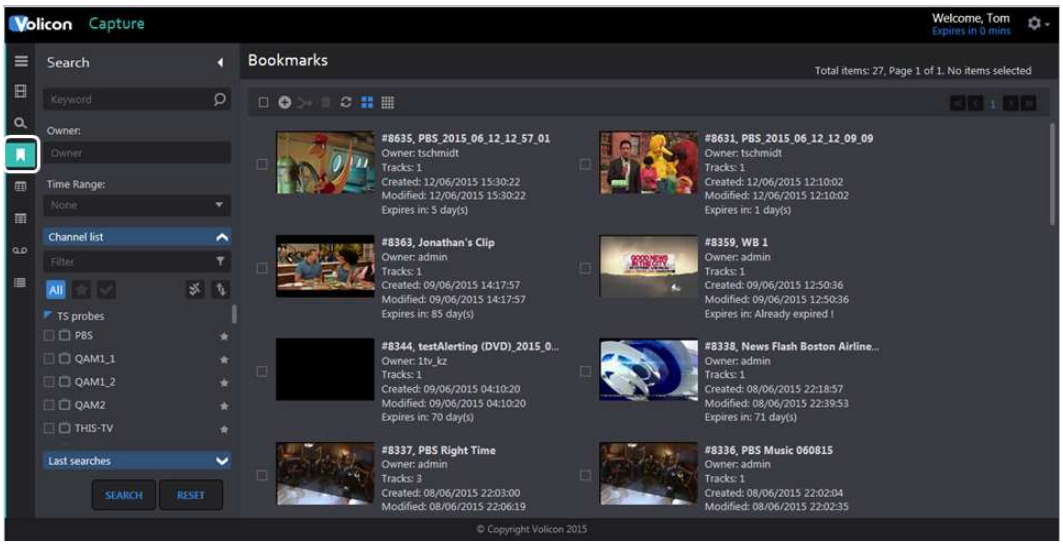


Figure: Accessing Bookmarks

5.5.2.1 Searching Bookmarks

The left hand search pane allows you to select only those bookmarks of interest. Search criteria include:

Keyword – Searches words in the bookmark description.

Owner – Account name of the person who created the bookmark. MIP does smart matching as you type the account name so you don't have to type the entire name.

Time Range – limit search to date bookmark was created or modified or video time range.

Channel List – restricts search to specific channels. The feature may be expanded or collapsed by pressing the chevron on the right. Typing all or part of a channel name into the **Filter** text box limits the display to matching channels.

Last Searches – remembers the last 5 searches, this feature may also be expanded or collapsed by pressing the chevron on the right.

Once you have entered your search criteria press **<Search>** at the bottom of the pane. The page will be refreshed with only bookmarks that match the search criteria. The clear search parameters press **<Reset>**.

Let's say you want to review all the bookmarks for the PBS channel. Expand the channel list, expand the TS probe encoder if not already expanded and select PBS. Press Search, the page is refreshed but now it only shows bookmarks that match the search criteria, in this case PBS.

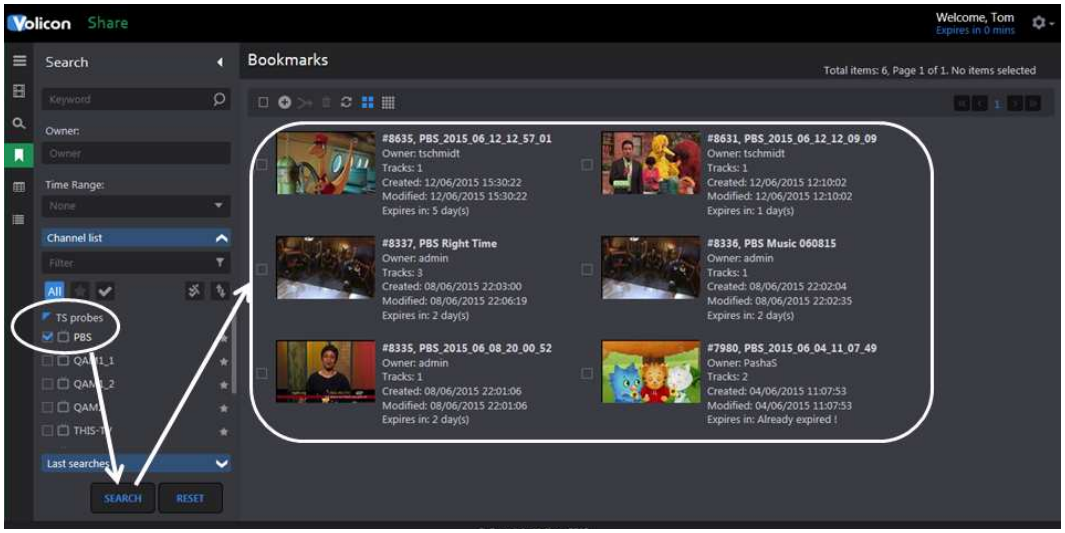


Figure: Bookmark Search Result

Note: since we searched by channel the displayed clips have multiple owners. Whether or not a particular bookmark is visible depends on how the bookmark owner set sharing policy.

Figure: Bookmark Tool Ribbon

The ribbon above the bookmarks provides tools to manage and combine bookmarks. Icons description from left to right:

Select/Deselect all – this is useful if you need to merge bookmarks, rather than individually selecting each one.

Add Clip – displays channel list allowing you to select a channel, time, date to create a new bookmark.

Merge – combines multiple clips into one. This edit feature operates the same as when the clip was first created.

Delete – deletes all selected bookmarks.

Auto Refresh – automatically updates the page every 30 seconds.

Grid view – displays thumbnail and description of the bookmark.

List View –shrinks the thumbnail and display more information about the bookmark.

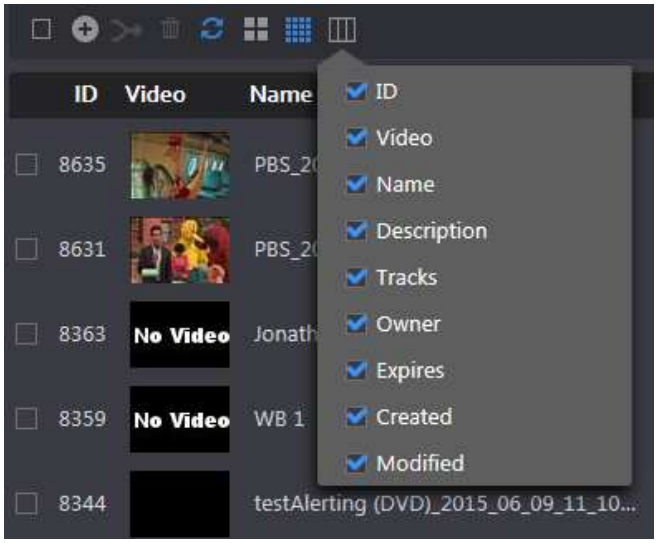


Figure: Customize Bookmark Columns

Customize Columns –only displayed in List view. Check or uncheck desired columns.

More **More –** There are two options under **<More:> <Deselect all>** and **<Export list>**. If any bookmarks are selected **<Deselect all>** unchecks them. Pressing **<Export List>** opens an Excel spreadsheet showing the details of the filtering result. The spreadsheet has the same list as appears on screen.

Page Buttons and Scrolling – If there is a lengthy bookmark list you can use these icons to go to a specific page or scroll up and down the page.

5.5.2.2 Editing and Playing Bookmarks

Hover over the desired bookmark, the area surrounding the bookmark turns blue. Clicking anywhere on the highlighted bookmark (or on the pencil icon) allows you to edit the bookmark. Clicking on the trashcan deletes it.

Figure: Select Bookmark

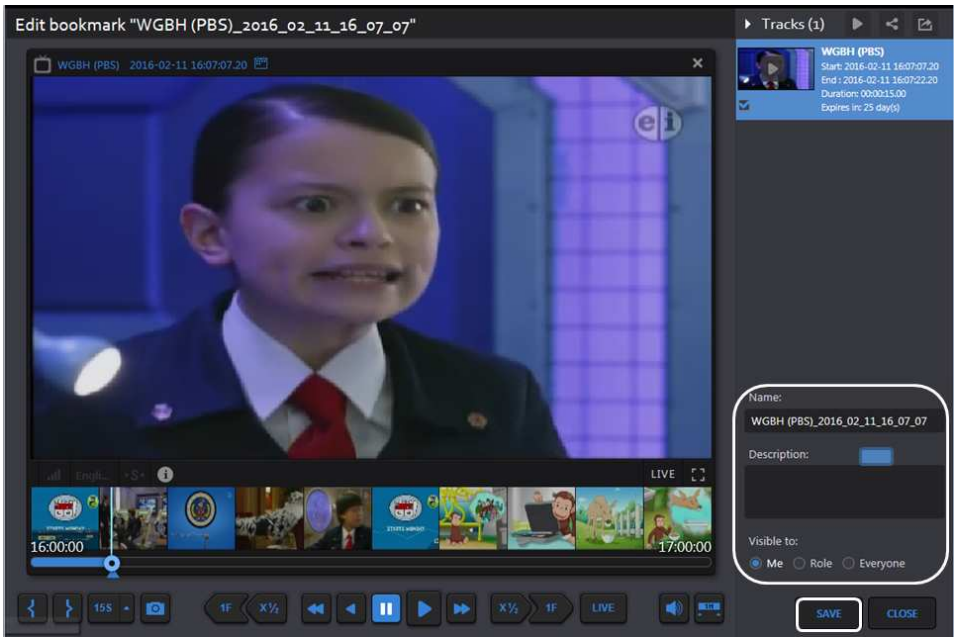


Figure: Bookmark Edit Window

The Edit window allows you the rename the bookmark enter a description and change who is able to access the bookmark. Press **<Save>** to update your changes.

Once the edit window is open you are able to play the clip by either pressing the **<Play>** button or clicking on the bookmark thumbnail at the extreme right of the page.

While in the edit bookmark window hovering of the thumbnail at the extreme right displays the following icons: **Share**, **Export,** and **Delete track**, these icons operate identically as when the bookmark was first created.

5.5.2.3 Sharing and Exporting Your Bookmarks

Sharing and Export works the same way in the edit window as it does when first creating the bookmark.

5.6 Programs Tab

Program is typically a one track clip normally used to save broadcast assets, such as commercials.

Program is usually set up the MIP administrator in the form of as-run files. This will automatically insert programs into the system using the hot folder.

5.7 Management Console Tab

This tab will only appear if the CEM server is installed. It displays jobs that were exported using the optional CEM server.

The **Column Selector** is used to specify what information to display.

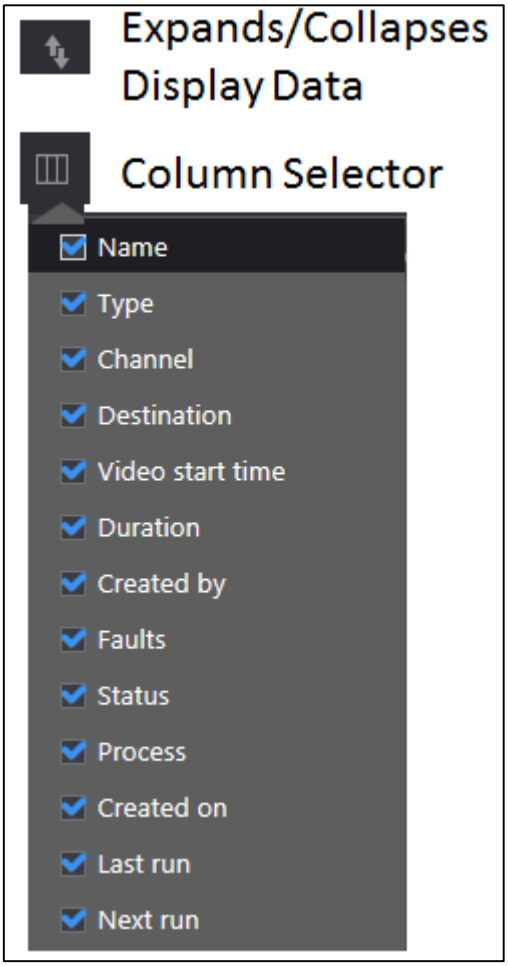


Figure: Management Console Column Selection

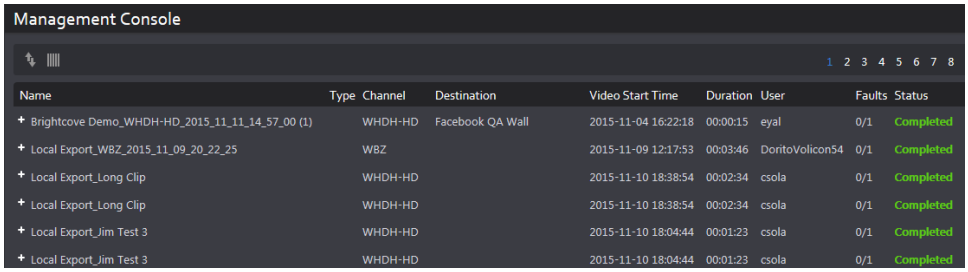


Figure: Collapsed View

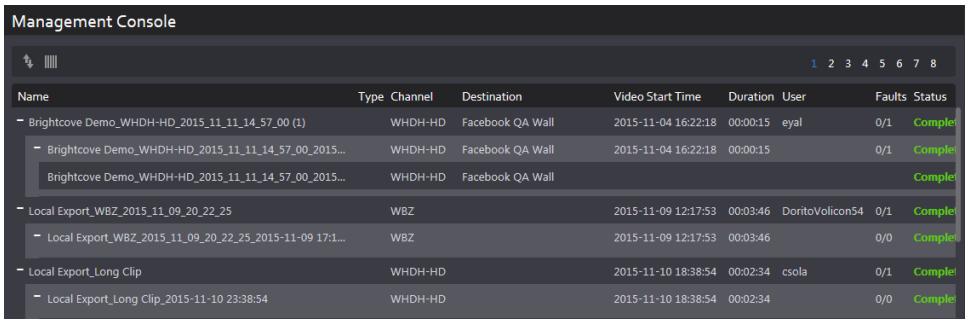


Figure: Expanded View

5.7.1 Management Console Search

The search feature enables you to home in on a specific event rather than needing to scroll through the entire list. At the bottom of the search pane are two buttons: **<Search>** and **<Reset>**. Search refreshes the page with new search results; **<Reset>** clears search parameters back to defaults for next search.

Keyword – accept matching text string. The search is not case sensitive.

Status - Limits search to the selected completion Status message.

Destination – Limits search to selected export destinations.

Time Range – Limits search to specific beginning and end times.

User – Limits search to specific user account.

Channel List – This search feature may be expanded or collapsed. It allows you to limit search to a specific channel. Entering text into **Filter** restricts channels to those that match the text.

Last Search – Displays recent search criteria. Clicking on the search refreshes the view with that search result.

6 USING CAPTURE

Capture is an easy to use live or linear acquisition solution that works across the diversity of sources: baseband, MPEG-TS or post-STB. Capture is able to encode live, network contribution, and cable/satellite/IPTV feeds for fast easy clipping into an editing workflow. Users can review content as it is captured, immediately clip high-value content, and push it directly to editing and media asset management speeding their time to air.

This section provides information about unique Capture features. Functionality common to all MIP sections has is documented in the previous section.

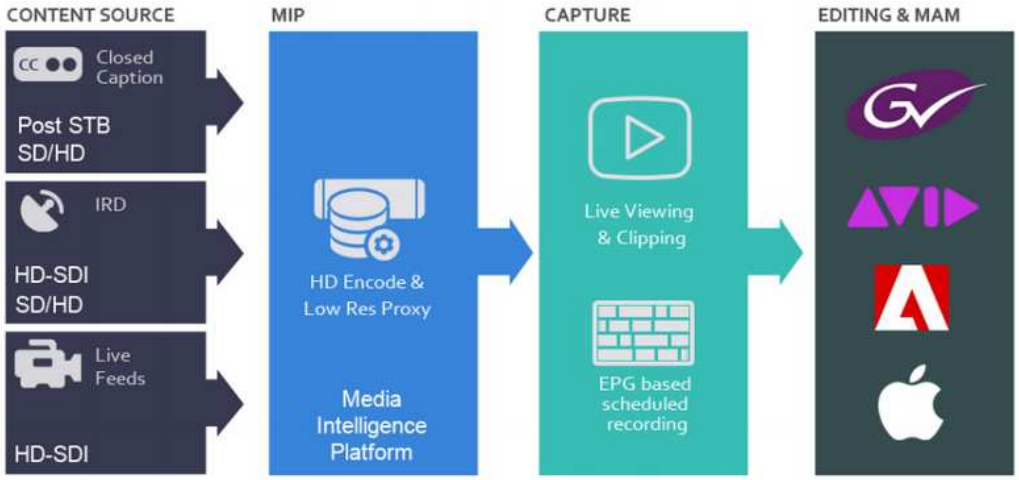


Fig: Capture Workflow

6.1 XDS Clips Tab

The section enables you to search for Extended Data Services metadata. Note XDS is limited to NTSC analog video streams. This tab is also in Review: XDS Clips Tab

If any of the video channels include XDS metadata use this feature to display relevant bookmarks. The search feature works like other MIP searches. When the page first opens all search constraints are wild carded so the page will show all bookmarks that include some XDS metadata. If there are a lot use the search function to narrow down the list.

7 USING SHARE

Share provides convenient workflow for dissemination of captured assets to multiple distribution channels. The broadcaster can clip and export segments of existing content or repurposed content complete with accurate captions. One-button publishing profiles facilitate rapid processing of content to meet appropriate container and encoding requirements for an array of platforms, including target websites, YouTube, Twitter, and Facebook. Observer Share also makes use of existing closed captioning text to publish content that is compliant with government regulations.

Share features are common to the other MIP sections and have been documented previously.

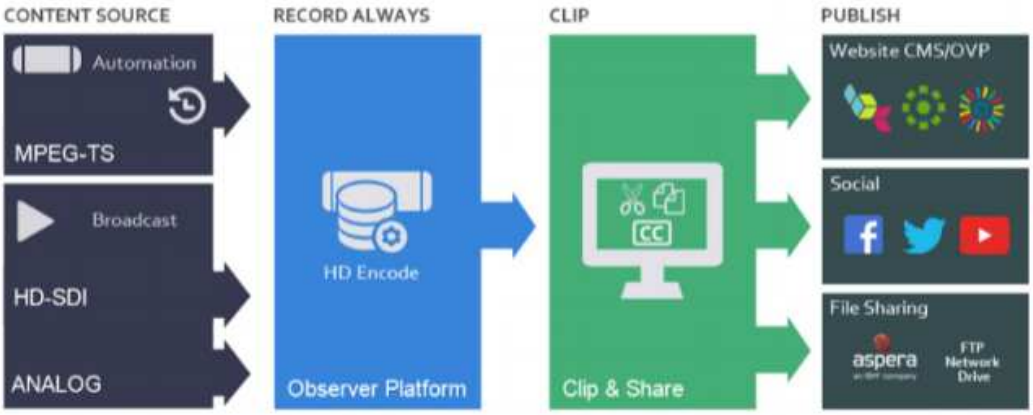


Fig: Share Workflow

8 USING REVIEW

Review provides the tools needed to create winning content strategies for increased ratings, insightful competitive analysis, and improved strategies for escalating advertising revenues.

Review gives you the power to monitor what other channels are doing, review ratings, and analyze content is essential, especially in the world of competitive news and sports. In the newsroom, where time is always of the essence, broadcasters want the ability to compare, review, and analyze program content of other channels, or multiple channels, within a particular area or across networks.

This section provides information about unique Review features. Functionality common to all MIP sections has been documented in the previous section.

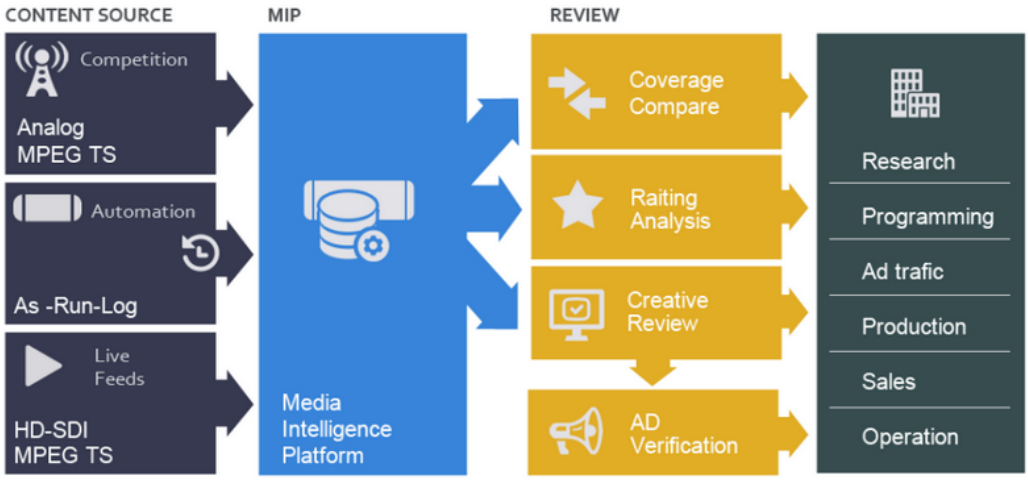


Fig: Review Workflow

8.1 XDS Clips Tab

Extended Data Services (XDS) is analog metadata embedded into NTSC streams. XDS includes such things as source, title, and program rating. Operation of this feature as covered in the **Capture** section XDS Clips Tab.

8.2 Ratings Graph Tab

The ratings graph tab allows you to display rating information for one or more channels. The feature extracts data from the customer's rating file.

Figure: Ratings Graph

8.2.1 Selecting Ratings

The **Settings** section on the left side of the screen selects: chart type, specific demographics and the ratings time period. If more than one channel is selected the graph is color coded by channel. Hovering over the graph displays instantaneous channel ratings.

The icons at the top right of the page control the chart time frame and channel color. The chart may be displayed with the associated channel playing in the viewer or just the chart by itself.

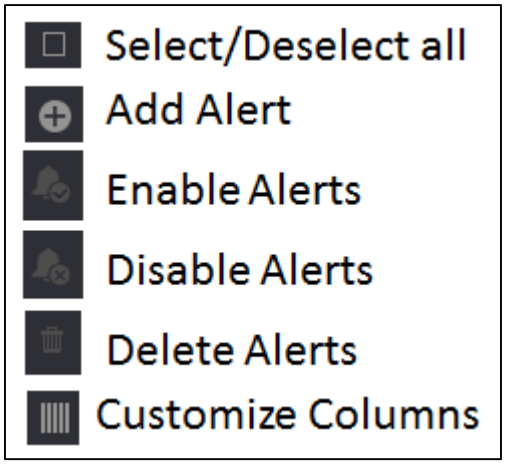
8.3 Keyword Alerts Tab

Use this section to have MIP monitor Closed Captioning for specific words and generated a notification email. The channel dashboard works much like other MIP section to restrict the display to specific alerts.

8.3.1 Search

The search field works much the same as in other MIP applications. You are able to search by keyword, Alert type, time, email recipients and channel.

8.3.2 Alert Controls



The ribbon at the top of the page gives you control over the alert feature. Pressing **<Add>** opens another page giving you complete control over how MIP treats a fault condition and who is notified. The **<Enable>** and **<Disable>** buttons allows you to selectively enable or disable each alert. Lastly the **<Customize>** button controls which alert fields are displayed. Use the pulldown to select which alert columns you want MIP to display.

8.3.3 Create a Keyword Alert

Pressing the new alert icon opens a new page composed of three sections.

The left hand pane allows you to set which email addresses MIP uses to send out the alert and define the alert name and email subject line.

Below that are options to limit how often and when to send the alert.

The middle pane is used to specify keywords. Each time you enter a keyword the system automatically generates another text box to enter an additional keyword. If you enter multiple keywords MIP will return an alert if any match the closed captioned text.

Lastly the right hand pane allows you to select the channel or channels you want to monitor. Typing all or part of the channel name into the **Filter** text box at the top of the display list restricts the display to matching channels.

Press **<Save Changes>** at the bottom of the page to add an alert.

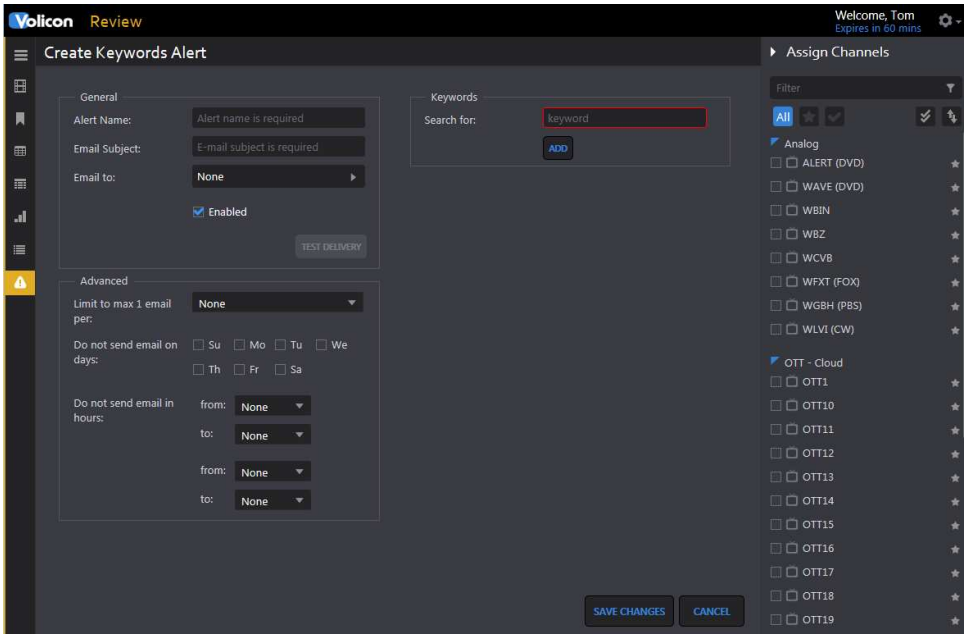


Figure: Closed Captioning Alert

8.3.4 Editing a Keyword Alert

To edit an Alert hover over the alert, MIP will display the edit icon on the right hand side if the alert. Pressing the icon to opens the same page you used to create the alert, except now it is filled in. Press **<Save Changes>** when you are finished editing the alert.

9 USING COMPLY

Comply continually and automatically captures, stores, and streams on-air feeds, offering simultaneous users 24/7 access to live and recorded broadcast content from desktop computers or smart devices. The intuitive, streamlined user interface gives authorized users the ability to access, play, pause, and search recorded content conveniently and with ease.

By automatically recording broadcasts, Comply greatly simplifies the ability to respond to inquiries regarding loudness, closed captioning, and decency and comply with the regulations for content archiving.

This section provides information about unique Comply features. Functionality common to all MIP sections has been documented in the previous section.

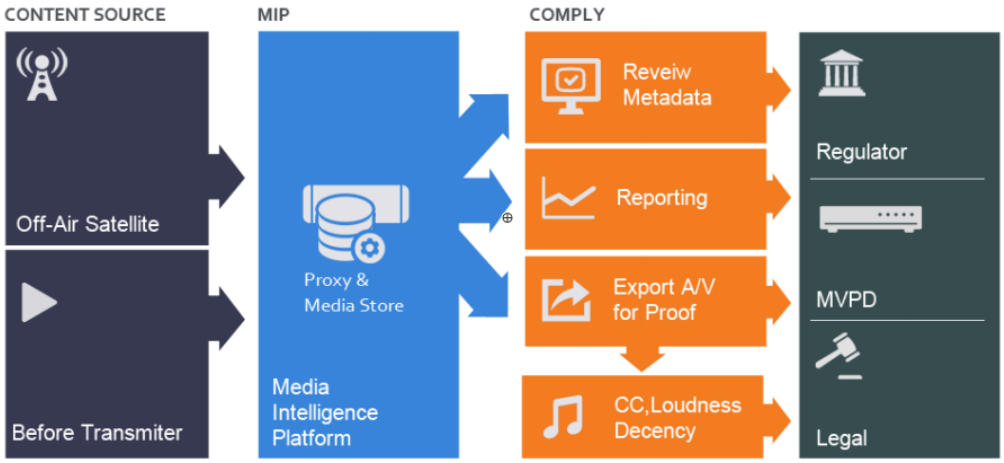


Fig: Comply Work Flow

9.1 Program Loudness Report

The program loudness report tab is used to display audio levels of digital content. MIP compares the program to a user defined reference value. If a violation occurs MIP turns that portion of the graph red. The info icon provides more information about each of the reporting options.

Use the **Search** feature to select the channel/program of interest, loudness settings and report timeframe. MIP supports several loudness monitoring methods. Once the method is selected additional fields are displayed.

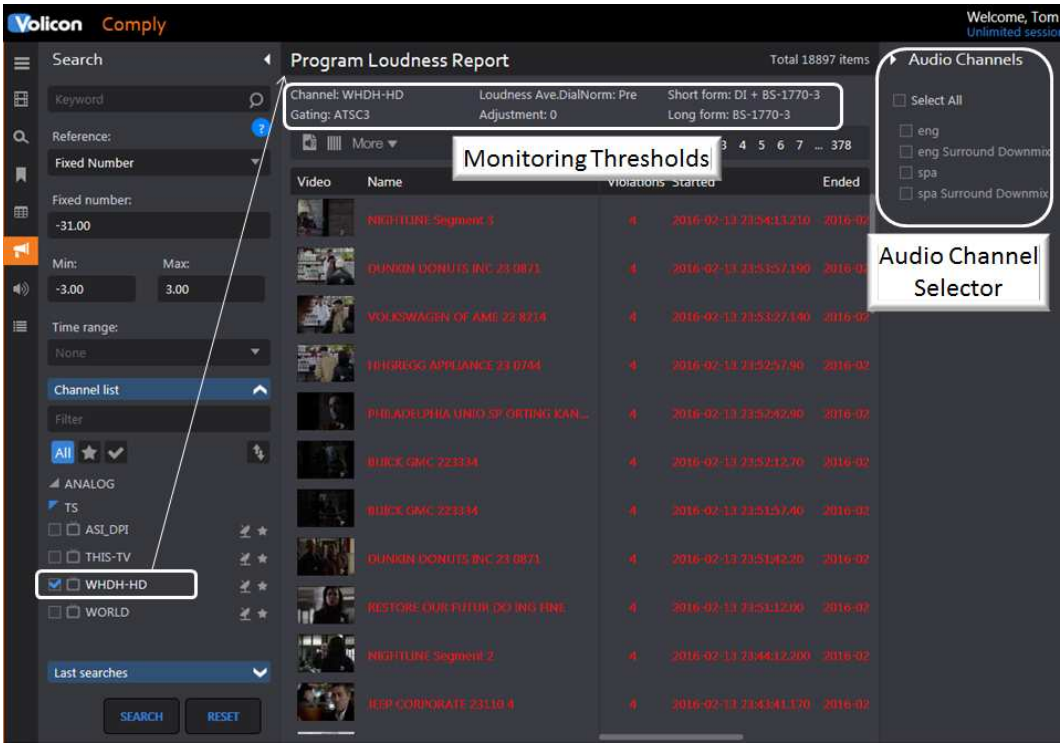


Figure: Channel Loudness Report

Dialnorm	(Dialogue normalization level) - Metadata received from the digital AC3 stream used to control playback gain. Integer value with a range of 1 – 31 corresponding to a playback gain of 0 – -30dB (unity). The loudness graph is displayed as Loudness K-weighted relative to full scale (LKFS) to comply with FCC CALM requirements.
Long IPL	Weighted average selectable for the last hour or last 24 hours.
Fixed Number	Use this setting to override the default Dialnorm value of -31.
Min/Max	Use these values to set the loudness window. If loudness is lower than or higher than set point MIP turns that section of the graph red indicating a loudness violation.

9.2 Loudness Graph

The Loudness graph feature is used to display channel volume. Click the **<Speaker>** icon to access the feature. At the bottom of the **<Settings>** pane select a channel. This opens the media player and populates the bottom of the **Settings** pane with another icon title **Metrics**. Clicking the **<Chevron>** displays the name of the audio subsystem used to ingest the stream. Hovering over the subsystem displays a plus icon. Press it to display a list of available graphs. In some cases the system allows you to display multiple graphs, in other cases only a single graph.

Figure: Loudness Graph

In the **Setting** pane specify a **Date** and **time** for the program. You can adjust the date/time by using the calendar feature of the player. If this option is left blank the player is opened in the mode specified in user preferences in the Tools menu. The example shown is live which is why the loudness graph does not extend all the way to the end. The **History** pulldown sets the maximum duration of the graph.

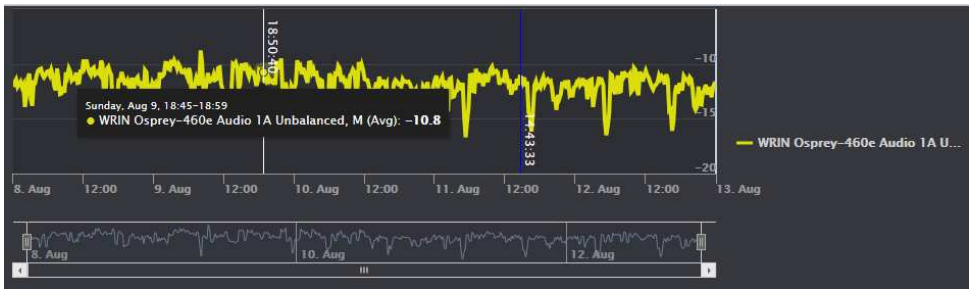


Figure: Loudness Detail

Positioning the cursor in the graph lets you zoom in on an area of interest and display the instantaneous loudness level. To examine the graph in more detail slide the bars at either end of the lower graph image to expand the upper graph. Once the graph is expanded use the left and right arrow keys of the lower graph to step through the entire range.

The graphs are color coded. Hovering over the graph identifies each color and the instantaneous value at the cursor position.

9.2.1 Graphing Options

M measurement	Momentary sliding rectangular (.4s) integrated window - sampling every 100 milliseconds, calculating its average every 400 msec. These values are not configurable.
S measurement	Short term sliding rectangular (3s) integration window - sampling every 100 milliseconds, calculating the average every 3 seconds. These values are not configurable.
SI measurement	Short Integrated sampling every 100 milliseconds. MIP calculates the average every X seconds within up to 6 defined durations (usually left at the default value 10 seconds).
Speech_Exists	
Speech_Level	
Min	Graph Minimum loudness level
Avg	Graph Average loudness level
Max	Graph Maximum loudness level
Range	Shades the area between min and max graph

10 USING MONITOR

With 24/7 monitoring and notification capabilities, you are able to monitor broadcast quality, report faults, respond to and fix issues, and use full recording to instantly review the impact of detected errors. Monitor measures loudness and DPI; alarm and record quality impairments such as black screen.

A unique MIP Monitor feature is “Multiview;” this allows you to configure a single screen to display the various items you are tracking.

This section provides information about unique Monitor features. Functionality common to all MIP sections has been documented in the previous section.

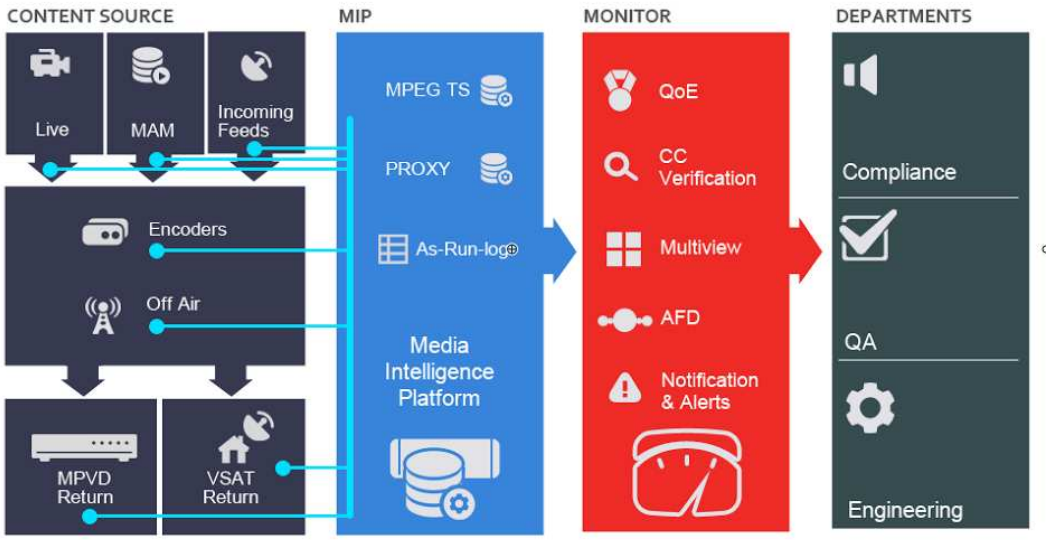


Fig: Monitor Workflow

10.1 GPI Clips Tab

If any of the video channels include broadcast automation General Purpose Interface (GPI) metadata use this feature to display relevant bookmarks.

The search feature works much like other MIP sections allowing you to search by Keyword, time and channel.

10.1.1 GPI Search

The search feature works like other MIP searches. When the page first opens all search constraints are wild carded so the page will show all clips that include some GPI metadata. If there are a lot of GPI clips the search function allows you to narrow down the list.

10.1.2 GPI Clip Display Options

The ribbon at the top of the GPI Clips pane allows you to manage and modify captured clips.

Select/deselect all GPI Clips.

Merge multiple DPI Clips. Unlike **Bookmark** merge there are no restrictions on merging clips from different sources. Except for that GPI merge works just like **Bookmark** merge.

When icon is blue the page is automatically refreshed every few seconds. When the icon is white page does not change once it is opened. Clicking the **Auto Refresh** icon toggles between the two modes.

Grid and List view, similar to other MIP settings. Grid displays large thumbnail and limited descriptive detail about the clip. In List view the thumbnail is smaller and the selection of descriptive detail is much greater.

Opens Excel spreadsheet listing details of each clip.

10.2 DPI Clips Tab

Digital Program Insertion (DPI) metadata allows cable headends and broadcast affiliates to insert locally-generated commercials and short programs into remotely distributed regional programs before they are delivered to customers. If this feature is enabled in the encoder MIP automatically creates a clip each time it detects DPI metadata.

If any of the video channels include DPI metadata and the feature is enabled in the associated encoder use this feature to display relevant bookmarks.

10.2.1 DPI Search

The search feature works like other MIP searches. When the page first opens all search constraints are wild carded so the page will show all clips that include some DPI metadata. If there are a lot of DPI clips the search function allows you to narrow down the list.

10.2.2 DPI Clip Display Options

The ribbon at the top of the DPI Clips pane allows you to manage and modify captured clips.

Select/deselect all DPI Clips.

Merge multiple DPI Clips.

Delete one or more DPI Clips.

When icon is blue the page is automatically refreshed every few seconds. When the icon is white page does not change once it is opened. Clicking the **Auto Refresh** icon toggles between the two modes.

Grid and List view, similar to other MIP settings. Grid displays large thumbnail and limited descriptive detail about the clip. In List view the thumbnail is smaller and the selection of descriptive detail is much greater.

Opens Excel spreadsheet listing details of each clip.

10.3 Fault Clips Tab

Clicking this icon displays video clips flagged as meeting one or more MIP automatic monitoring fault conditions. When the page first opens all search constraints are wild carded so the page will show all bookmarks that include a MIP flagged fault. If there are a lot of faults the search function allows you to narrow down the list.

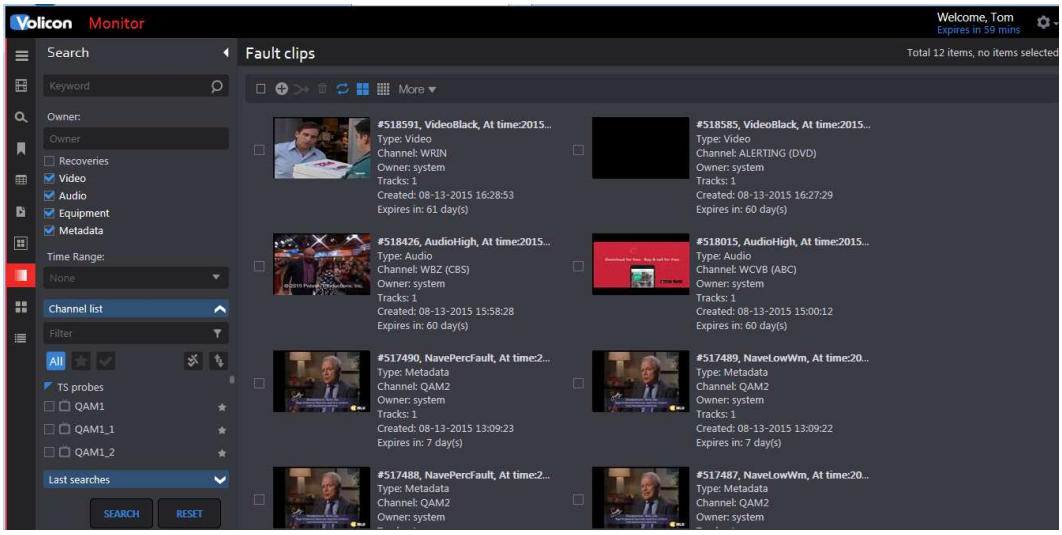


Figure: Fault Clips

10.3.1 Fault Search

The Search dashboard lets you display only those faults of interest.

Keyword	Free form text search
Owner	Owner the clip is assigned
Fault Type	Recoveries, video, audio, equipment and metadata
Time/Date	Restrict time and date range
Channel	Select channels
Filter	Enter all or part of a channel name to limit display to matching channels
Last Searches	MIP caches recent searches allow you to quickly redo an existing search

To reuse a previous search expand the **<Last Search>** icon at the bottom of the search pane and press **<Search>**. To manage search history delete any unnecessary old searches by hovering over the search name and press the **<X>** to the right. Pressing <**Reset>** clears the search criteria back to default.

10.3.2 Fault Clip Display Options

The ribbon at the top of the Fault Clips pane allows you to manage and modify captured faults.

Select/deselect all Fault Clips.

Manually create a new Fault Clip.

Merge multiple Fault Clips. Allow you to combine multiple reported faults into a single combined clip. The new composite clip shows up in the Bookmarks tab.

When icon is blue the page is automatically refreshed every few seconds. When the icon is white page does not change once it is opened. Clicking the **<Auto Refresh>** icon toggles between the two modes.

Grid and List view, similar to other MIP settings. Grid displays large thumbnail and limited descriptive detail about the fault. In List view the thumbnail is smaller and the selection of descriptive detail is much greater.

Opens Excel spreadsheet listing details of each clip.

10.3.3 Manual Fault Clip Creation

The System allows you to manually create a fault clip. This works much the same way as creating a Bookmark. Press the Add Clip icon at the top of the page. This opens a new page with the channel list on the left. Select a channel, mark the clip, name the clip, optionally include descriptive text for more information and use the **Fault Type** radio button to specify the type of fault. Press **<Save>** at the bottom to create the clip.

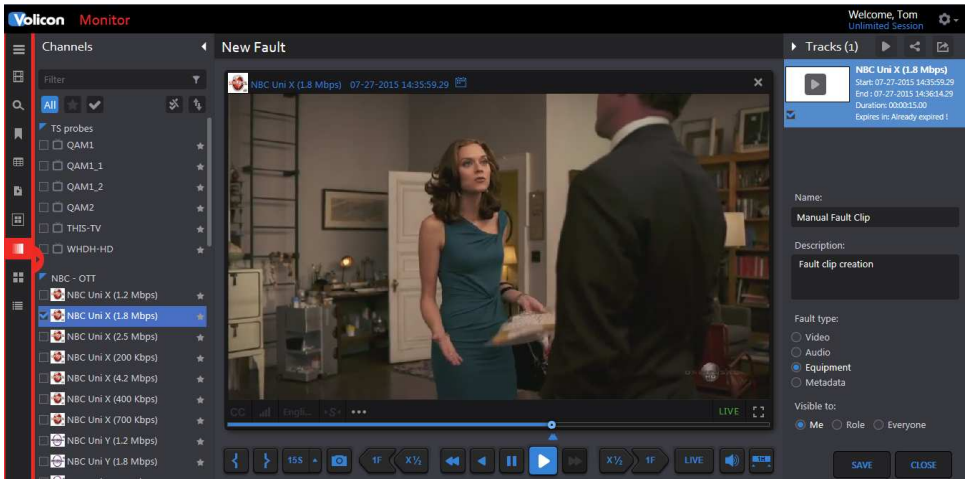


Figure: Manual Fault Clip Creation

10.4 Multiview Tab

Multiview allows you to set up customized screens displaying multiple video channels along with other relevant information.

Once a room or screen has been configured MIP allows you to create a duplicate copy. For example, let's say you need to monitor two channels. You could locate all the information in a single screen or once you have set up a screen displaying relevant information use the duplicate command to clone the screen and change the relevant cells within the new screen.

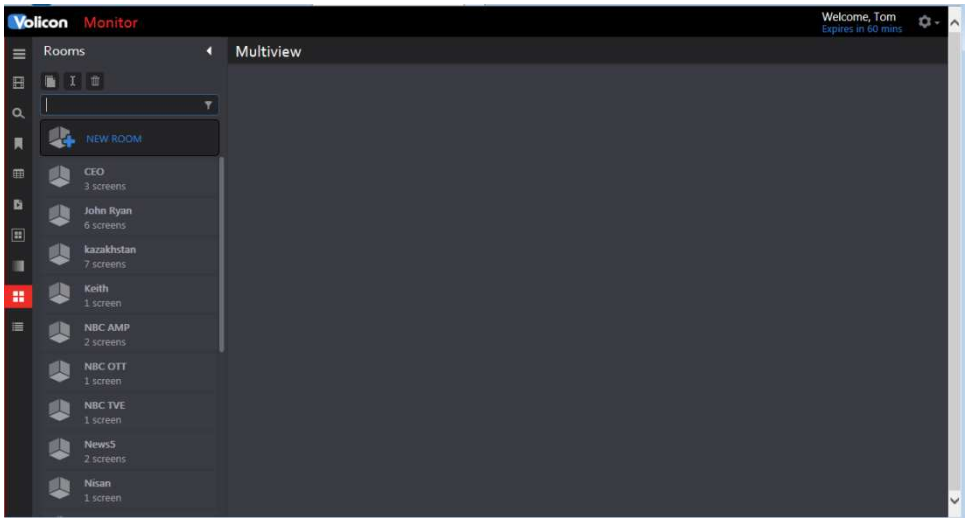


Figure: Multiview Home

10.4.1 Using Multiview

From the **Monitor** page click on the **<Multiview>** icon on the left side of the screen. Scroll down to the desired room in the **Rooms** management pane. If there are a large number of rooms use the search feature to find the desired room. Each room is assigned a unique name.

Click the desired room to display all the screens associated with that room. As an example in this manual we are going to click **News5**. Note the area around the word **News5** turns blue as a reminder that is the room being displayed. Under each room name the number of configured screens is displayed. **News5** has two screens: one called **test1** the other just the number **1**. For the moment ignore the one called **Add Screen.**

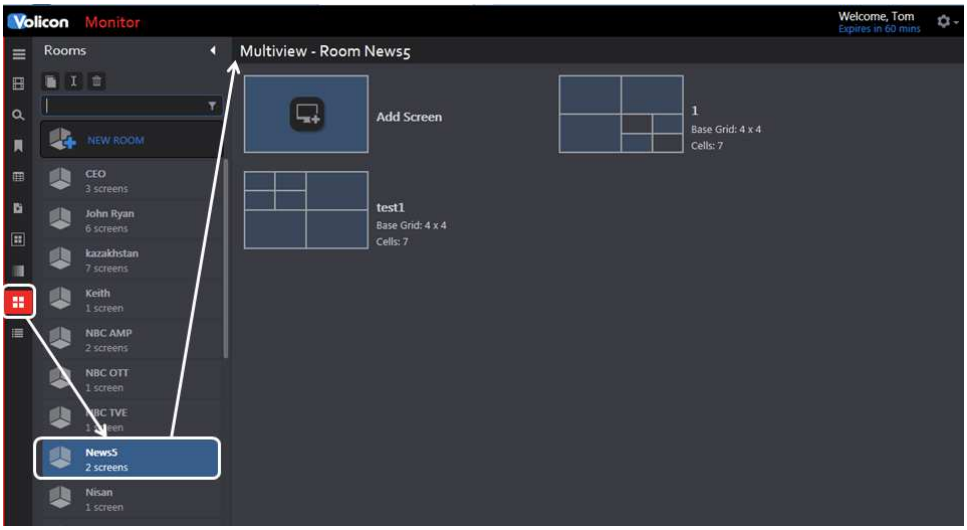


Figure: Select Multiview Room

10.4.1.1 Displaying a Screen

Hover over the desired screen, in this case we are selecting the one called **test1** and left click on the **<eyeball>** icon. This opens the screen in a new tab on your browser. **News5** has two screens if you Click **<Screen 1>** it also opens it in its own browser tab.

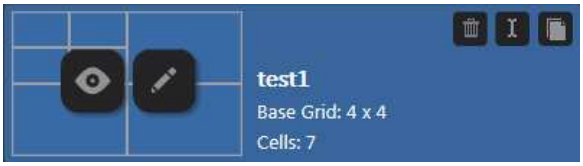


Figure: Activate Multiview Screen

The **Test1** screen is configured to display four video thumbnail streams and a couple of other widgets. It is also configured with the Volicon Quarantine Player. Clicking **<Inspect>** at the top of any video thumbnail opens the Quarantine Player. The Volicon media viewer operates in a similar manner as it does in other windows. It supports most of the same features as the regular viewer.

Figure: News 5 Multiview Screen

10.4.1.2 Using the Quarantine Player to Create a Bookmark

To create a bookmark in one of the Room Screens the screen must be configured with the Quarantine Player.

Click **<Inspect>** on the desired video thumbnail to open the player. Creating bookmarks with the Quarantine Player is similar to using the player in other MIP sections. Mark the start and end time to create a new bookmark. This automatically creates a new bookmark in the Bookmark section. As status bar at the top if the screen lets you know if the bookmark was created successfully. The bookmark is automatically titled: Quarantine_ [Channel Name] [Date] [Time].

Once a bookmark is created you are able to view it under the **Bookmark** icon in any MIP screen. From there you can edit the bookmark and if desired change the name.

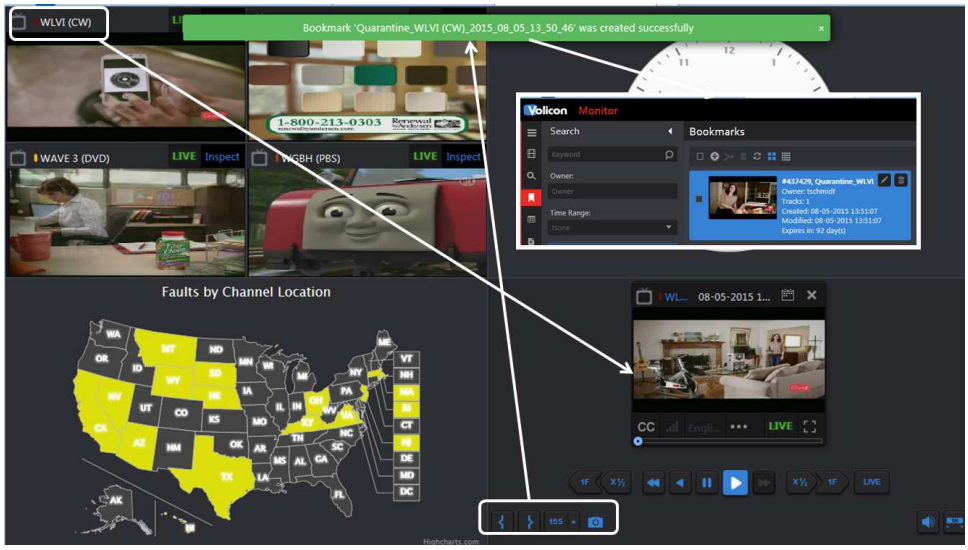


Figure: Quarantine Player Bookmark

To manage bookmarks created by the Quarantine Player use the bookmark tab.

10.4.2 Configure Multiview Rooms

To create a new room you have two choices: create one from scratch or copy an existing room and rename it.

10.4.2.1 Copy an Existing Room

Let's start by copying an existing room. In the Rooms pane above the search filter are three icons. From left to right they are: **Duplicate**, **Rename** and **Delete**. As an example we left clicked the **<News5>** room to select it. Then click the **<Duplicate>** icon. A dialog box opens with the name of the room prefixed by duplicate. If you click **<OK>** now that will be the name of the new room. At any time you can rename a room by selecting it and using the **<Rename>** icon. To create a new room with the desired name simply enter the name in the Duplicate text box and hit **<OK>**.

The new Room is automatically added to the Rooms list.

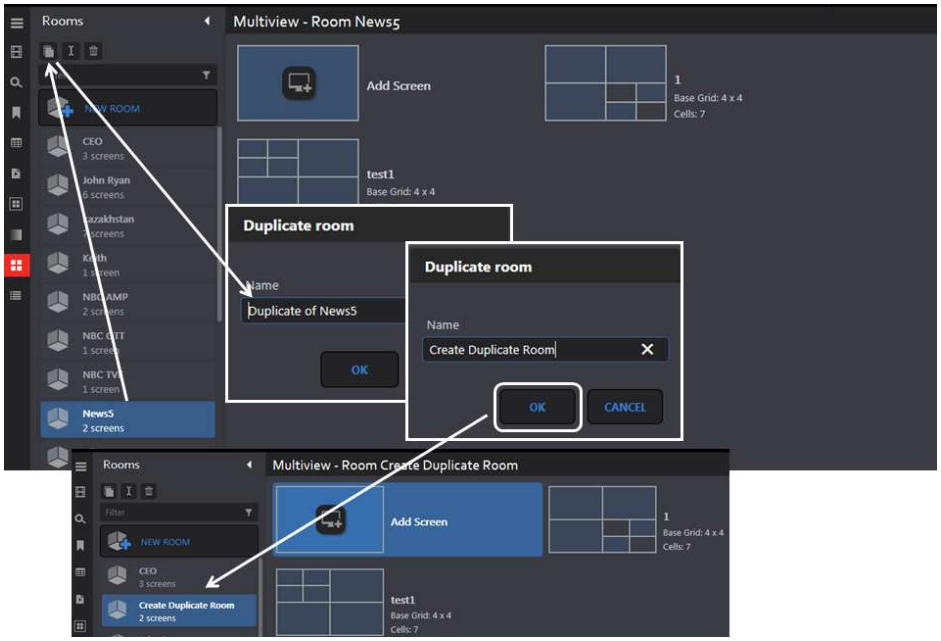


Figure: Duplicating a Multiview Room

10.4.2.2 Creating a New Room from Scratch

To create a new room from scratch click the **<New Room>** button towards the top of the Rooms pane. This opens a dialog box, type in the desired name and press **<OK>**. The new room is automatically populated in the Rooms pane. Note the new room is flagged as empty.

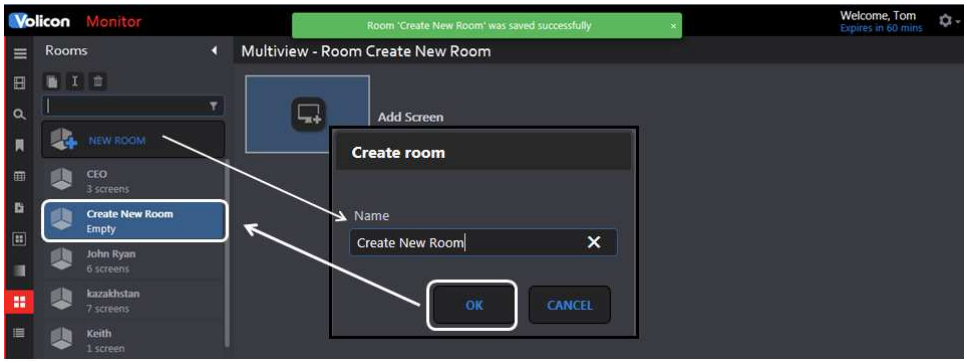


Figure: Create New Multiview Room

10.4.3 Create Multiview Screen

A room consists of one or more screens. Screens may be created from scratch or cloned and then edited to customize each one.

To create a new screen use the **<Add Screen>** icon at the top of the page. This opens a dialog box, enter the name of the screen and press **<OK>**. At the top of the new page select the number of the cells you want. These may be either 4:3 or widescreen 16:9 with different cell matrix sizes. Select the matrix type and size and click **<Save Changes>**. The new screen will be added to the room.

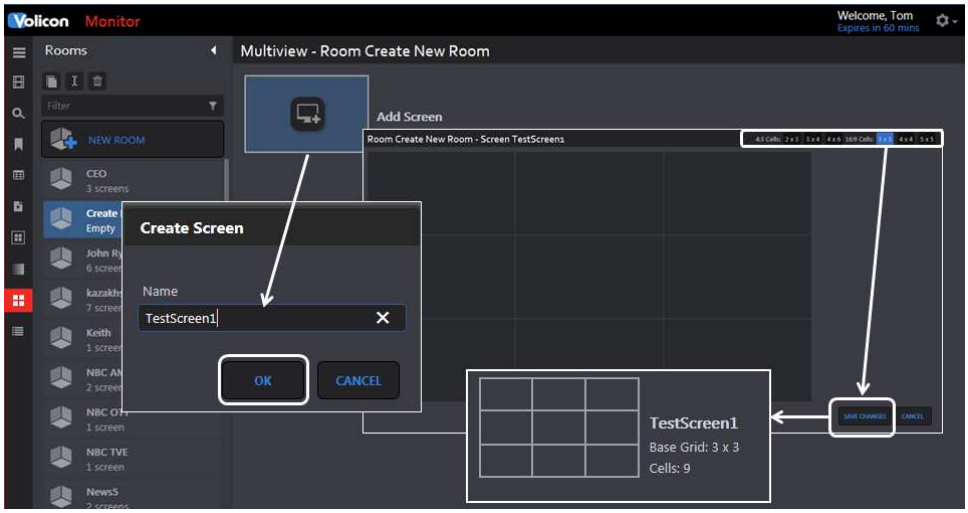


Figure: Create Multiview Screen

INFO TIP

Note: Cells may be merged to create a larger cell but not subdivided. When creating a new Screen be sure to create one with enough cells.

10.4.4 Configure Multiview Screen

Once the new screen matrix is created it needs to be configured. Position the cursor at any cell. Left click to open the **<widget list>.** Depending on which cell you selected the blue icon may have one or more inward or outward facing arrows in each corner. Clicking an outward facing arrow expands the cell by a factor of 4 while maintaining the same aspect ratio.

Clicking an inward facing arrow reduces size by a factor of four. Arrows are only populated if the expand/reduce operation is permissible. For example in the figure below note there are no inward facing arrows showing in the upper blue box. That indicates the box cannot be shrunk. Likewise the larger box at the bottom of the figure has only a single outward facing arrow, bottom right. That is the only direction with cells it is able to expand into.

Once you create a widget you are not able to reposition it directly. If you need to move a widget, **<Delete>** (right click on the widget) it and recreate a new widget.

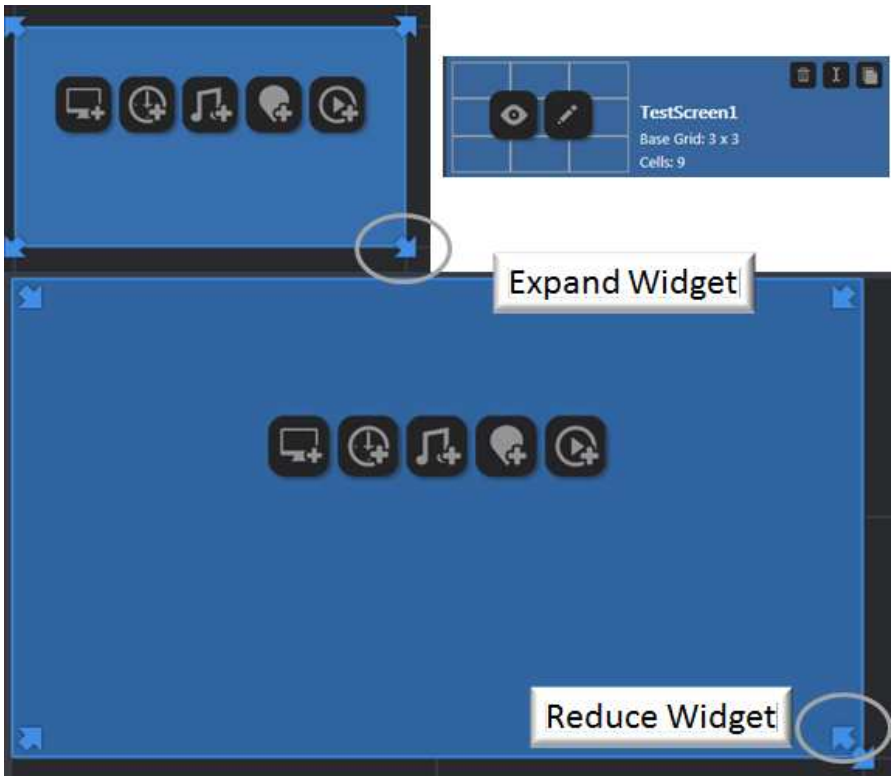


Figure: Widget Sizing

Screen Widgets

There are five widget icons.

Player widget allows you to select a channel. When the icon is pressed use the right hand pane to select the desired channel and metadata. In Multiview the player is always live.

Clock widget is able to display time anywhere in the world based on offset from GMT. Right hand pane to select the time zone.

Loudness widget displays loudness chart.

Map widget allows you to display fault by region.

Quarantine widget is a modified streaming viewer. Unlike the other widgets only one instance is supported. The viewer is similar to the viewer in other MIP windows. **TestScreen1** is configured with: two channel thumbnails, a fault map, audio graph, clock and Quarantine player.

Figure: Configured TestScreen

10.4.5 Copy Multiview Screen

It is also possible to create a new screen by copying an existing one. If you hover over the screen a **Duplicate** icon appears in the upper right corner. Use that to create a copy of one of your screens. Once the new screen is created use the edit feature to rename, delete and change the various cells.

10.5 QoE Alerts

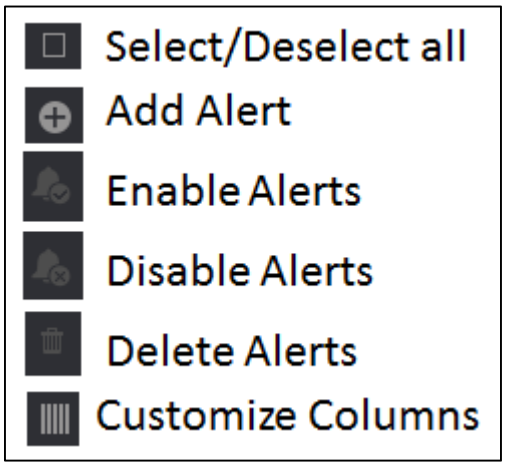
This section list fault notifications and allows you to create notification lists for various faults. Alert may be triggered on:

- Black screen
- Static screen
- No Video
- Audio Level
- Closed Captioning

10.5.1 Search

The search field works much the same as in other MIP applications. You are able to search by keyword, Alert type, time, email recipients and channel.

10.5.2 Alert Controls



The ribbon at the top of the page gives you control over the alert feature. Pressing **<Add>** opens another page giving you complete control over how MIP treats a fault condition and who is notified. The **<Enable>** and **<Disable>** buttons allows you to selectively enable or disable each alert. Lastly the **<Customize>** button controls which alert fields are displayed. Use the pulldown to select which alert columns you want MIP to display.

10.5.2.1 Create a QoE Alert

Pressing the **<Add>** button opens a new page composed of three sections.

The left hand pane allows you to set which email addresses MIP uses to send out the alert and define the alert name and email subject line.

Below that are options to limit how often and when to send the alert.

The middle pane consists of check boxes to select the fault conditions that generate the alert. The checkboxes are organized so you are able to select a generic fault, say **Video** or a specific fault within video say: **Black Screen**.

Lastly the right hand pane allows you to select the channel or channels you want to monitor. Typing all or part of the channel name into the **Filter** text box at the top of the display list restricts the display to matching channels.

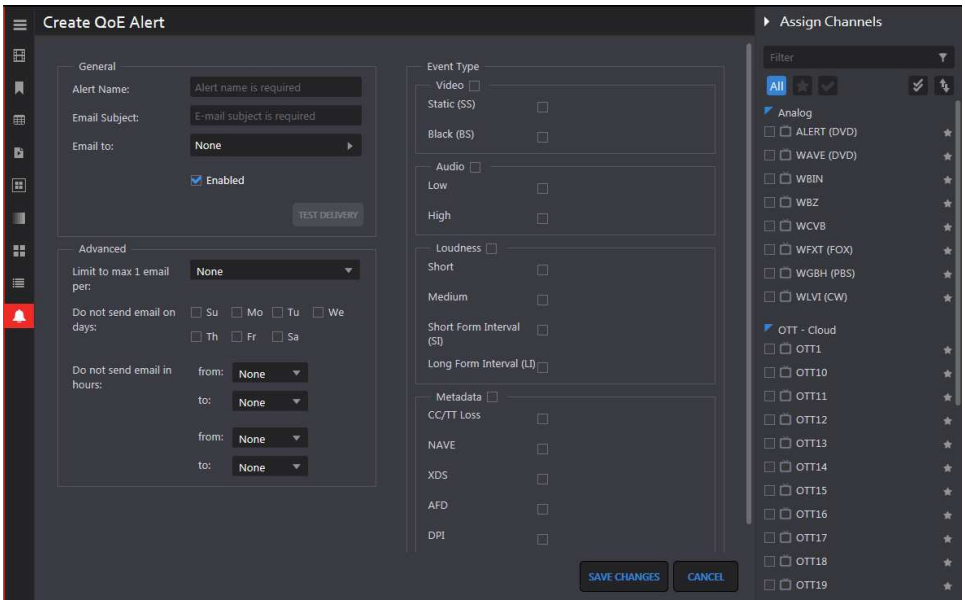


Figure: Create a New Alert

Once you have created the alert press the **Save Changes** button at the bottom of the page.

10.5.2.2 Editing an Alert

To edit an Alert hover over the alert, MIP will display the edit icon on the right hand side if the alert. Pressing the icon to opens the same page you used to create the alert, except now it is filled in. Press **<Save Changes>** when you are finished editing the alert.

11 MIP TOOLS

Pressing the gear icon, located at the upper right corner of each page opens the tools menu. Access to these features is controlled by your account permissions.

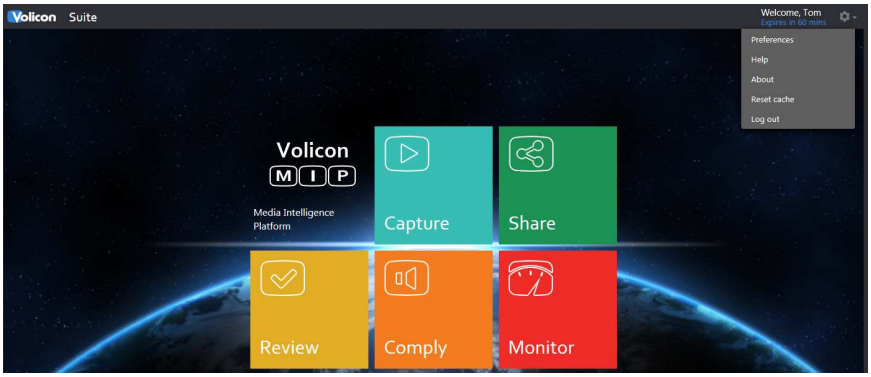


Figure: MIP Tools

Preferences – user specific setting and time zone
Help – customer support page
About – displays MIP and Volicon player versions
Reset Cache – clears all applications cache, such as selected channels
Log Out – terminate user session

11.1 Preferences

This section allows you to customize the way MIP displays information for your account.

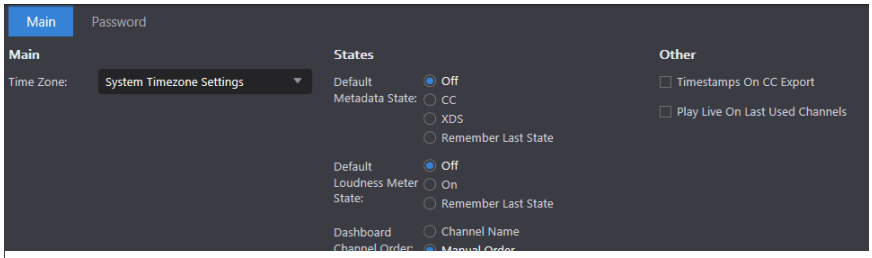


Figure: Preferences

11.1.1 Main

If you make any changes in the Main section press the SAVE CHANGES icon at the bottom of the page. If MIP is able to successfully save your changes it displays a banner at the top of the page.

Figure: Preferences Successfully Updated

11.1.1.1 Time Zone

MIP defaults to the same time zone as your computer. If you want to override that setting and select a different time zone use the Time Zone pulldown.

11.1.1.2 States

The **Default Metadata State** and **Default Loudness Meter State** controls viewer behavior. For example: if CC (Closed Captioning) is selected and the channel is Closed Captioned, it will be displayed by default whenever the channel is opened. To override the default behaviors turn off closed captioning.

Dashboard Channel Order allows you to customize how channels are displayed (not yet implemented).

11.1.1.3 Other

When **Play Live On Last Used Channel** is checked automatically opens the channel in real time.

When **Send Email notification when export is finished** checked sends an email to the address associated with your login.

11.1.2 Password

MIP allows users to change their own passwords. The system requires the new password to be entered twice. If they do not match MIP displays an error message and your old password continues to be in force.

11.2 Help

Pressing **<Help>** displays the URL for Volicon Customer Service and the user name and password to submit a request.

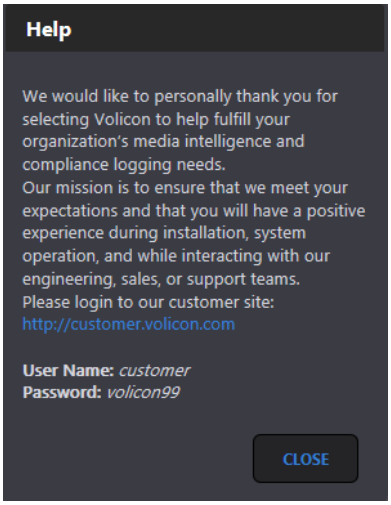


Figure: Customer Support Help Request

11.3 About

Press **About** to view MIP and Volicon Player software versions.

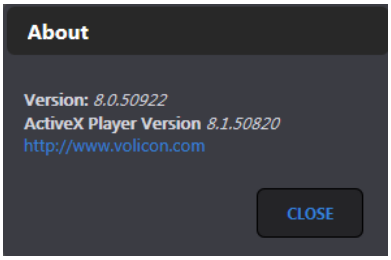


Figure: MIP Software Version

11.4 Reset Cache

Clears all applications cached, such as the selected channels.

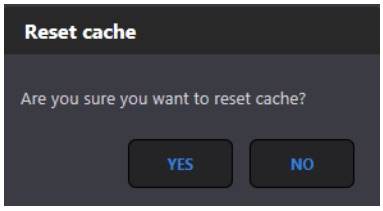


Figure: Reset Cache

11.5 Log Out

When you attempt to log out will be prompted to confirm the request as shown in the Log in section.

12 APPENDIX

12.1 Revision history

12.1.1 MIP releases

Version	Build number	Date	Description
7.0 QB1	7.0.35351	02/11/13	New features: PLR, Mobile, Bug fixes
7.0 QB2	7.0.36068	04/01/13	City Time Zone
7.0 QB3	7.0.36871	05/02/13	FE Architecture, new PHP version, bug fixes, enhancements, IE10 in compatibility view (see the release notes for more details)
7.1	7.1.39589		Ability to search for content by program
7.2	7.2.39589		Wall of Monitors mode

12.1.2 Revision change history

Date	Description
5/14/13	7.0 QB3 Initial release, revision history
6/14/13	Updated enhancements
06/25/13	Remove internal references… related section; add lineup display sync issues
12/16/13	Update User Guide to Release 7.1. Revamp User Guide to target end users.
2/3/2014	Update User Guide to Release 7.2.

About Volicon

Volicon's Enterprise Media Intelligence Platform streams live and logged video, complemented by valuable metadata, to any device at any time. With this innovative solution, media companies can leverage video, audio, and data for critical applications in areas ranging from engineering to the executive suite.

Providing a window on content delivered via satellite, cable, or over-the-air signal, as well as Internet-based over-the-top (OTT) services, the Enterprise Media Intelligence Platform offers portals tailored to the many different departments at broadcasting facilities. Volicon's Enterprise Media Intelligence Platform provides functionality appropriate not only for engineering and operations, but also for production and promotions, new media, news, sales and traffic, media relations, and executive and legal departments.

The Enterprise Media Intelligence Platform supports applications including compliance logging, content archiving, content repurposing for new media outlets, competitive analysis, producer and talent evaluation, ad verification and media sales, and executive review of content. Streams may be viewed singly or side by side on desktop and laptop computers, tablets and smartphones, multiviewers, and television monitors (via multicast).

Volicon's patented Virtual Media Network (VMN), which supports both MIP systems and the Enterprise Media Intelligence Platform, comprises a multichannel video streaming engine, interactive search, content analytics, and service monitoring and alarm capabilities.