Tria+ UHD
User Manual

v9.0

ROSS

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Thank You For Choosing Ross

You've made a great choice. We expect you will be very happy with your purchase of Ross Technology.

Our mission is to:

1. Provide a Superior Customer Experience
   - offer the best product quality and support
2. Make Cool Practical Technology
   - develop great products that customers love

Ross has become well known for the Ross Video Code of Ethics. It guides our interactions and empowers our employees. I hope you enjoy reading it below.

If anything at all with your Ross experience does not live up to your expectations be sure to reach out to us at *solutions@rossvideo.com*.

David Ross

CEO, Ross Video

dross@rossvideo.com

Ross Video Code of Ethics

Any company is the sum total of the people that make things happen. At Ross, our employees are a special group. Our employees truly care about doing a great job and delivering a high quality customer experience every day. This code of ethics hangs on the wall of all Ross Video locations to guide our behavior:

1. We will always act in our customers' best interest.
2. We will do our best to understand our customers' requirements.
3. We will not ship crap.
4. We will be great to work with.
5. We will do something extra for our customers, as an apology, when something big goes wrong and it's our fault.
6. We will keep our promises.
7. We will treat the competition with respect.
8. We will cooperate with and help other friendly companies.
9. We will go above and beyond in times of crisis. *If there's no one to authorize the required action in times of company or customer crisis - do what you know in your heart is right.* (*You may rent helicopters if necessary.*)

Document Information

- Ross Part Number: **4607DR-120-09**
- Release Date: May, 2024.

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FCC Compliance and User Information

The following information has been provided to clarify FCC requirements for operation of this device. These requirements are found in the FCC rules for radio frequency devices, Part 15.

Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

Important - Modifications & Shielded Cables

Changes or modifications to this product not authorized by Ross® Video Limited could void the FCC Compliance and negate authority to operate the product.

This product was tested for FCC compliance under conditions that included the use of Ross® peripheral devices and Ross® shielded cables and connectors between system components. It is important that Ross® peripheral devices are used, and shielded cables and connectors are used between system components to reduce the possibility of causing interference to radios, television sets, and other electronic devices. Ross® peripheral devices and the properly shielded cables and connectors can be obtained directly from Ross®, or through a Ross® authorized dealer.

EMC Notices

Canada

This Class “ A ” digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe “ A ” est conforme a la norme NMB-003 du Canada.

Korea — Class A Statement

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

This device has been evaluated for conformity for use in a business environment. When used in a home environment, there is a danger of interference.

Europe

This equipment is in compliance with the essential requirements and other relevant provisions of **CE Directive 93/68/EEC**.

Important: *This equipment is compliant with Class A of CISPR32. In a residential environment this equipment may cause radio interference.*

Australia

This equipment has been tested to **AS/NZS CISPR 22:2009 +A1:2010** and found to comply with the limits for a Class A Digital device.

International

This equipment has been tested to **CISPR 22:2008** and found to comply with the limits for a Class A Digital device.

Important: *This is a Class A product. In domestic environments, this product may cause radio interference, in which case the user may have to take adequate measures.*

Safety and First Aid

Ross® Abekas® equipment is designed to the highest standards of quality and reliability. However, no matter how these systems are designed, operators and maintenance personnel can be exposed to electrical shock hazard when protective covers are removed for maintenance or the installation of options. With this caution in mind, each operator and engineer must observe all safety regulations, and have a clear understanding of first aid procedures related to electrical hazards.

Safety and Compliance Certifications

Power Information

To ensure safe operation and to guard against potential shock or risk of fire, ensure your AC power source for the system is within the required voltage range and frequency.

Operating Environment

The optimum operating environment is within the following ranges:

- Recommended Operating Temperature:
- Recommended Operating Humidity: 20% to 80% non-condensing

Note: *High temperature/humidity should be avoided at all times.*

Safety Information

Important Safety Notices

This system complies with safety standard . To ensure safe option and to guard against potential shock hazard or risk of fire, the following must be fulfilled:

- This system features auto-ranging power supplies. Ensure that your power source is within the correct range of voltage and frequency, as required by the system.

- Each chassis in this system must be electrically grounded by connecting the input power cord(s) to a correctly wired and grounded power outlet.

Warning: *Completely disconnect all input AC power cords from the chassis before removing the top cover from the chassis. Failure to do so will expose dangerous electric currents and voltages. Physical contact with these electric currents and voltages is extremely dangerous and may result in severe physical injury or death! Only qualified service personnel should remove the top cover from the chassis.*

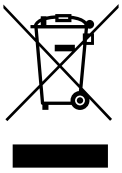
Warning Hazardous Voltages: *Modules marked with this symbol may be removed while the system is operating (powered). After removing a module, beware of dangerous electric currents and voltages that are exposed on the module receptacle connector inside the chassis. Please keep fingers, tools, and foreign metal objects away from the exposed receptacle connector while the chassis has input AC power applied. Physical contact with these electric currents and voltages is extremely dangerous and may result in severe physical injury or death! Only qualified service personnel should remove these modules.*

Environmental Information

The equipment that you purchased required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment.

To avoid the potential release of those substances into the environment and to diminish the need for the extraction of natural resources, Ross Video encourages you to use the appropriate take-back systems. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

The crossed-out wheeled bin symbol invites you to use these systems.



If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration.

You can also contact Ross Video for more information on the environmental performances of our products.

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Website	*www.rossvideo.com*

Technical Support

At Ross Video, we take pride in the quality of our products, but if a problem does occur, help is as close as the nearest telephone.

Our 24-Hour Hot Line service ensures you have access to technical expertise around the clock. After-sales service and technical support are provided directly by Ross Video personnel. During business hours (eastern standard time), technical support personnel are available by telephone. Outside of normal business hours and on weekends, a direct emergency technical support phone line is available. If the technical support personnel who is on call does not answer this line immediately, a voice message can be left and the call will be returned shortly. Our Technical support staff are available to react to any problem and to do whatever is necessary to ensure customer satisfaction.

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Required Equipment

To set up and operate your server you will need the following equipment:

- Computer monitor with minimum 1920×1080 resolution.

A standard USB keyboard (QWERTY) and mouse are provided with your server.

Getting Started

The server consists of a 3RU computer with advanced video processing, storage, and streaming capabilities. The server runs a standard Microsoft® Windows® operating system with the pre-installed Abekas® software applications for interacting with the video processing hardware.

Power On/Off

The system powers on with the single power button located at the front of the chassis. When the power button is pressed the system will boot up and launch Windows®.

To power the system off, perform the standard Windows® Shutdown procedure or press and hold the power button for 10 seconds.

Warning: *Even with the system powered off, hazardous voltages are present inside the chassis. Disconnect both the primary and secondary power supplied before opening up the chassis.*

Windows® Login

The server comes with the Microsoft® Windows® operating system and all the required software pre-installed.

Refer to the Windows® help system for information on changing the password.

Note: *Once you have logged in to the system, the video channels and serial control are all active. If you are using an external serial controller, that controller can now be used to control the video channels (including loading and playing clips).*

Software

The server comes pre-installed with all the software needed for operation and setup.

- **Tria Explorer** — provides a graphical interface to the operation of the server.
- **Tria Import** — allows you to import media files into the server.
- **Tria Config** — allows you to configure the hardware of the server.
- **AsRun Log Report Creator** — generates a file of the AsRun Log that contains all media playout from all video channels of the video server.

Important: *Do not install any additional third party software applications onto the video server. Third party software applications that did not come pre-installed on your video server can place demands on system resources that may negatively impact real-time audio/video processing resulting in performance degradation in recording and/or playback. Install third party application at your own risk.*

Server Configuration

The **Tria Config** application allows you to configure various aspects of the hardware in your server. The number of channels and inputs and outputs you have depend on the hardware installed in your server.

Important: *Not all settings are available on all servers or require a option to be purchased or installed.*

Channel Setup

The hardware channels can be set up in a number of ways, depending on the task you need the server to perform.

Table 1: Video-Only / Video+Key Modes

Mode	Description
Two VA Channels	Two (2) background channel transports with audio.
One VKA Channel	One (1) keyer channel transport (video+alpha) with audio.
One ISO-2 Channel	Two (2) record channels (cameras or angles).

To Configure the Hardware Channels

The number of hardware channels on your server depends on the configuration you purchased.

1. Launch the **Tria Config** application.

   You may be prompted to allow the program to make changes on the computer, click **Yes**.

2. Click the **Channels** tab.

Note: *Your selections may appear different, depending on the number of channels you have.*

3. Select the video processing mode and how you want the channels grouped.
4. Click **Apply**.

Video Formats

Select the video format that the server is operating in, and the source of the reference signal.

To Configure the Video Format

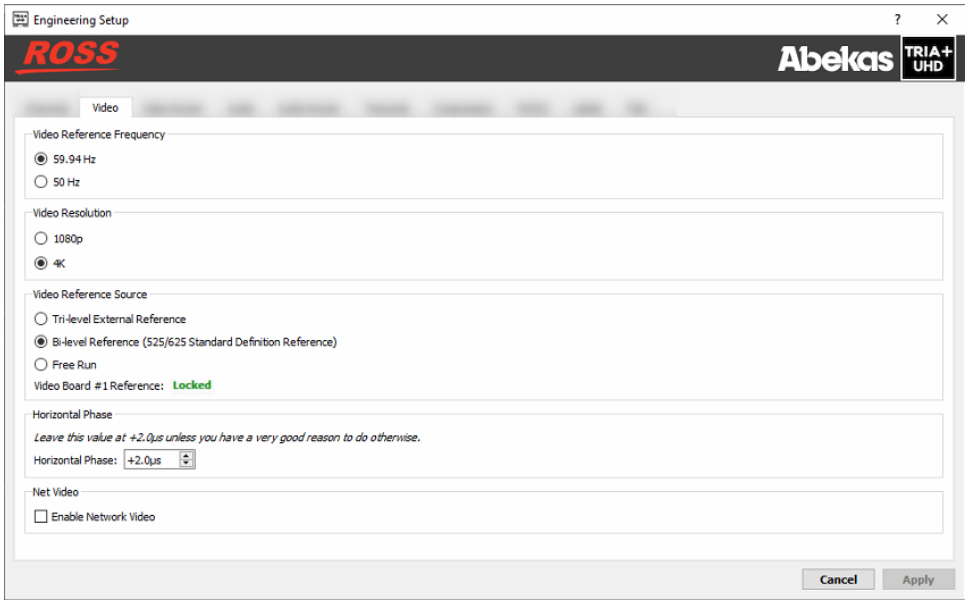
The server can only operate in one video format at a time. All channel transports will play and record in the same format.

Note: *Not all video resolutions and frequencies are compatible. Some selections will be grayed out if they are not compatible.*

1. Launch the **Tria Config** application.

   You may be prompted to allow the program to make changes on the computer, click **Yes**.

2. Click the **Video** tab.



3. In the **Video Reference Frequency** area, select the frequency you want the server to operate in.
4. In the **Video Resolution** area, select the video resolution you want the server to operate in.

> ***Note:*** *The available resolutions depend on the frequency you have selected.*

5. In the **Video Reference Source** area, select the type of input reference signal that the server is using. This is the video signal that is connected to the **REF IN** HD-BNC on the back of the server.

> ***Note:*** *You should only use **Free Run** when the server is not receiving video from, or outputting video to, another device.*

> ***Important:*** *If you select **Tri-Level External Reference** or **Bi-Level External Reference** with no valid reference signal coming into the server, you will get corrupt video on all outputs.*

6. In the **Horizontal Phase** area, select a timing offset for the video output relative to the reference timing.
7. In the **Net Video** area, select whether the server can share clips with another servers on the same network (**Enable Network Video**). All servers must have the same hardware and be operating in the same video format.

> ***Tip:*** *Clips from another server can be loaded and included in a local Play List. Clips are not copied between servers. The clip is played across the network between servers. The network connection must be maintained to use the clip on a remote server.*

8. Click **Restart Tria**. A confirmation dialog box is displayed.
9. Click **Restart Tria** to restart the server application and services with the new setting.
10. Click **OK** when the restart has completed to dismiss the window.

Video Router Setup

You can connect the server to an external router and control the sources feeding the server.

> ***Note:*** *The router must support the Evertz® Quartz or Probel SW-P-08 protocol.*

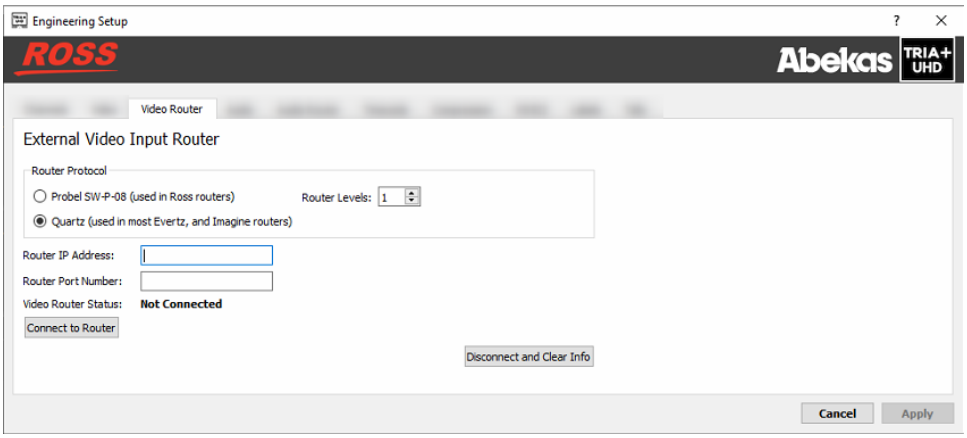
To Connect to a Video Router

You can change which destinations are coming into the server from the router, as well as which sources on the router are routed to those destinations.

1. Launch the **Tria Config** application.

You may be prompted to allow the program to make changes on the computer, click **Yes**.

2. Click the **Video Router** tab.



3. In the **Router Protocol** area, select the protocol you want to use to communicate with the router.
   - **Probel SW-P-08** — select this option of your router uses the Snell Advanced Media® SW-P-08 protocol.
   - **Quartz** — select this option if your router uses the Evertz® Quartz protocol.
4. In the **Router Levels** field, select the number of levels that the router is using.
5. In the **Router IP Address** field, enter the IP address of the router you want to control.
6. In the **Router Port Number** field, enter the port on the router you want to connect to.
7. Click **Connect to Router** to connect to the router.
8. In the **Video Router Destinations** area, select which destinations on the router are connected to each video channel input on the server. This is the physical connection from one BNC to the other.
9. In the **Change Router Sources** area you can change which sources are being routed to the destinations that are assigned to each video channel input on the server.
10. Click **Apply**.

Audio Setup

You can select the number of audio tracks to record, which sources audio will use, and how audio is muted.

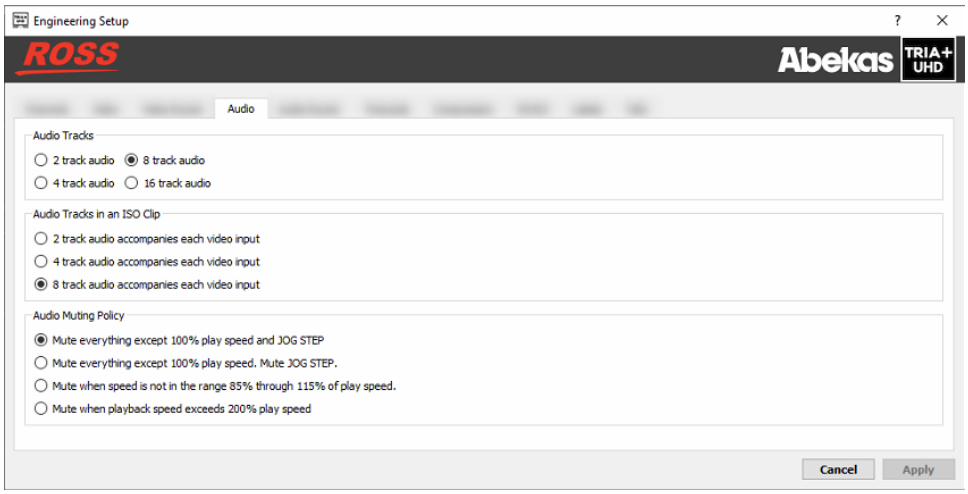
To Configure the Audio Setup

Select the number of channels to record and which channels are sent to the headphones jacks.

1. Launch the **Tria Config** application.

   You may be prompted to allow the program to make changes on the computer, click **Yes**.

2. Click the **Audio** tab.



3. In the **Audio Tracks** area, select the number of audio channels to record.
   - **2 track audio** — record two channels of audio.
   - **4 track audio** — record four channels of audio.
   - **8 track audio** — record eight channels of audio.
   - **14 track audio** — (software option) record fourteen channels of audio.
4. In the **Audio Tracks in an ISO Clip** area, select the number of audio channels to record per input channel when recording in ISO mode.
5. In the **Audio Muting Policy** area, select how the audio output (AES, embedded, and analog audio out) is muted during playback.
   - **Mute everything except 100% play speed and JOG STEP** — audio is muted at all play speeds except 1× (100%) and during single-frame jogging.
   - **Mute everything except 100% play speed. Mute JOG STEP** — audio is muted at all play speeds except 1× (100%).
   - **Mute when speed is not in the range 85% through 115% of play speed** — audio is muted at all play speeds except in the range of 85% to 115% play speed.
   - **Mute when playback speed exceeds 200% play speed.** — audio is muted only when play speed exceeds 2× (200%).
6. Click **Apply**.

Audio Router Setup

There are two integrated audio routers built into the server. An input router that sends audio from an audio input to any channel transport, and an output router that sends the audio from a channel transport to any audio output. The number of audio inputs and outputs depends on the options you have installed in your server.

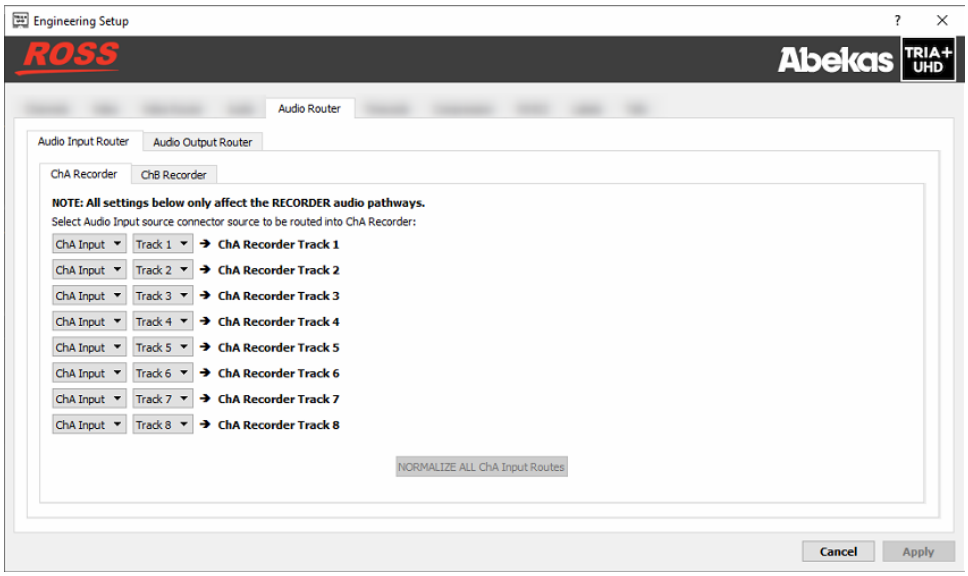
To Configure the Audio Router

The Audio Input Router tab allows you to set the audio channel that get recorded on the server and the Audio Output Router tab allows you to set which audio channels are played from the server.

1. Launch the **Tria Config** application.

   You may be prompted to allow the program to make changes on the computer, click **Yes**.
2. Click the **Audio Router** tab.

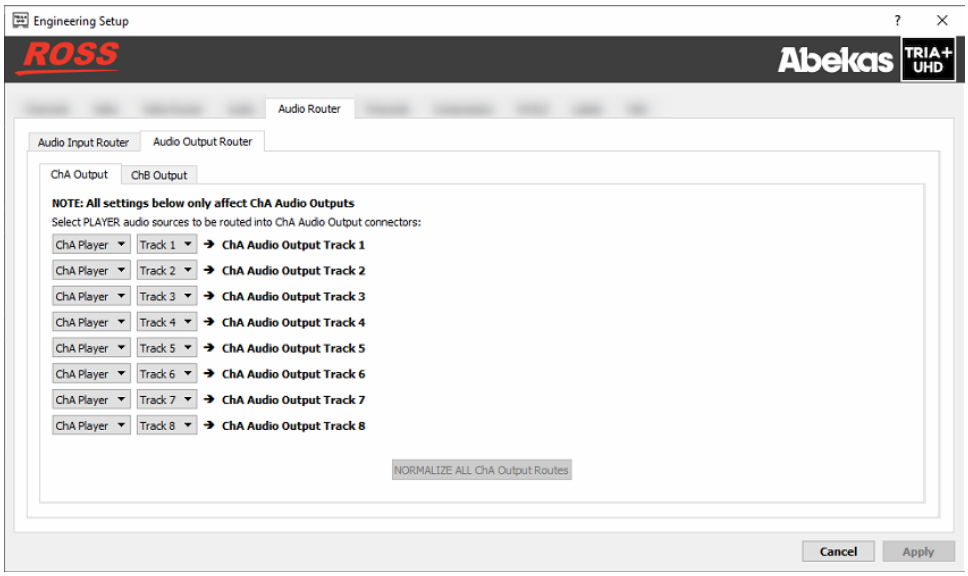
   Tip: If the audio routing on an input or output has been changed, a dot is shown next to the name on the tab.
3. Click the **Audio Input Router** tab.



4. Click on the tab for the record channel that you want to route audio channel to.
5. In the **Ch*X* Recorder Track 1** row, select the source channel input (**Ch*X* Input** or **TASCAM AES Input**) and the audio channel (**Track #**) from the input that you want to record on channel 1 of the clip.
6. Repeat this step for all of the remaining recorder channels.

> *Tip: Click **NORMANIZE ALL ChX Input Routes** to reset all the input audio channels to their default recorder channel assignment.*

7. Click the **Audio Output Router** tab.



8. Click on the tab for the channel output into which you want to route audio channels.
9. In the **Ch*X* Audio Output Track 1** row, select the source channel player (**Ch*X* Player**) and the audio channel (**Track #**) from the player that you want to route to channel 1 of the output video stream.
10. Repeat this step for all of the remaining output audio channels you want to assign a source to.

> *Tip: Click **NORMANIZE ALL ChX Output Routes** to reset all the player audio track to their default output track assignment.*

11. Click **Apply**.

Timecode Setup

The selected timecode information that is recorded with the video can be overlaid on the output video stream of the server. This can be time of day linear timecode (LTC) coming into the server, or the embedded ancillary timecode (ATC) in the video stream being recorded.

Important: *When you turn the timecode overlay on, it is shown over the image on the video output.*

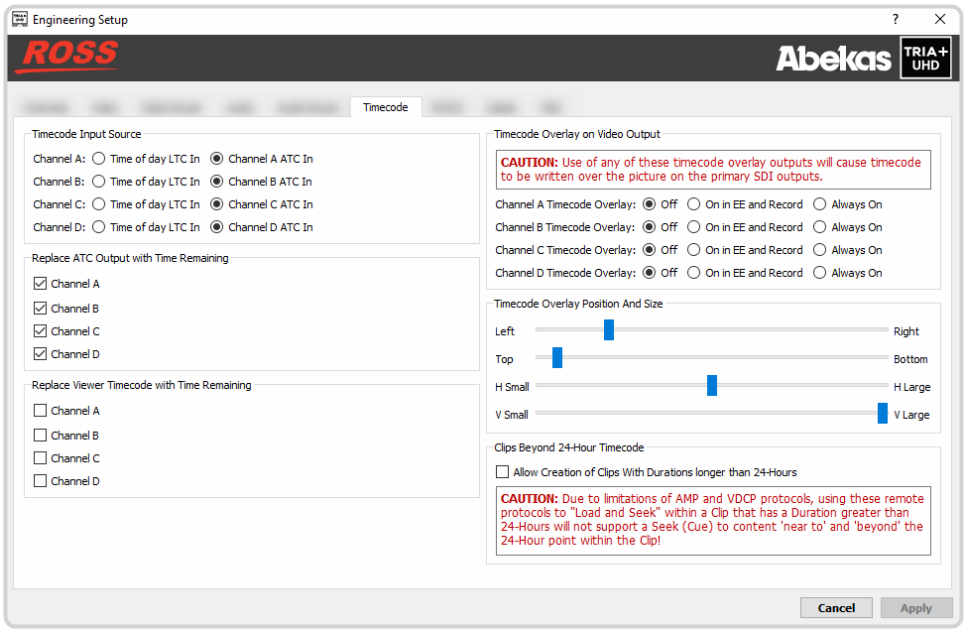
To Configure the Timecode

The selected timecode information that is recorded with the video can be overlayed on the output video stream of the server.

1. Launch the **Tria Config** application.

   You may be prompted to allow the program to make changes on the computer, click **Yes**.

2. Click the **Timecode** tab.



3. In the **Timecode Input Source** area, select the timecode source for each channel.
   - **Time of Day LTC In** — the LTC signal coming into the server.
   - **ATC In** — the embedded digital timecode in the video source.
4. In the **Replace ATC Output with Timecode Remain** area, select the video channels that you want the normal count-up ATC timecode to be replaced with the count-down (time-remaining) ATC timecode.

   Tip: *This is useful when you want to display count-down timecode in downstream devices that can decode and display ATC timecode.*

5. In the **Replace Viewer Timecode with Time Reaming** area, select the video channels that you want the normal timecode to be replaced with the count-down (time-remaining) timecode.
6. In the **Timecode Overlay on Video Output** area, select whether the timecode is displayed on the video output for each channel.
   - **Off** — the timecode is not shown on the video output stream.
7. In the **Timecode Overlay Position And Size** area, use the **Left/Right** and **Top/Bottom** sliders to position the timecode overlay on the background video source, and use the **H Small/H Large** and **V Small/ V Large** sliders to adjust the size of the timecode text.

8. In the **Clips Beyond 24-Hour Timecode** area, select whether the server can record a clip that is longer than 24 hours in length.

   Note: External devices controlling the server over VDCP or AMP will not support timecode over 24 hours. You will not be able to seek beyond the 24 hour point as the timecode restarts again.

9. Click **Apply**.

Channel Label Setup

You can assign a custom name to each channel transport to help identify the server it is on or what it is used for.

Labels are shown at the far right of each channel transport in **Tria Explorer**.

*Note: The **Quad Viewer Label Overlay** option must be enabled for the labels to be visible on the Quad Viewer output.*

To Assign Labels to Channels

Labels can be shown on the channel transport to help identify each channel.

1. Launch the **Tria Config** application.

   You may be prompted to allow the program to make changes on the computer, click **Yes**.

2. Click the **Labels** tab.

3. Enter a new label name for each channel transport as required.
4. Click **Apply**.

TSL Tally Setup

The server can receive TSL messages from a downstream device to tally the channels on the server.

For example, when a production switcher takes the Channel A source from the server on-air, the switcher sends a signal back to the server telling it that Channel A is on-air and should be tallied.

The tally status is shown using the color of the background of the Channel Label.

- **Gray** — the channel is not on program or preview.
- **Red** — the channel is on program.
- **Green** — the channel is on preview.
- **Amber** — the channel is being recorded by a downstream device.

Note: TSL tally colors are set by how the protocol was implemented in the source device and may not be as listed above. Check with the device that is sending the TSL information to the server for information on how the protocol was implemented.

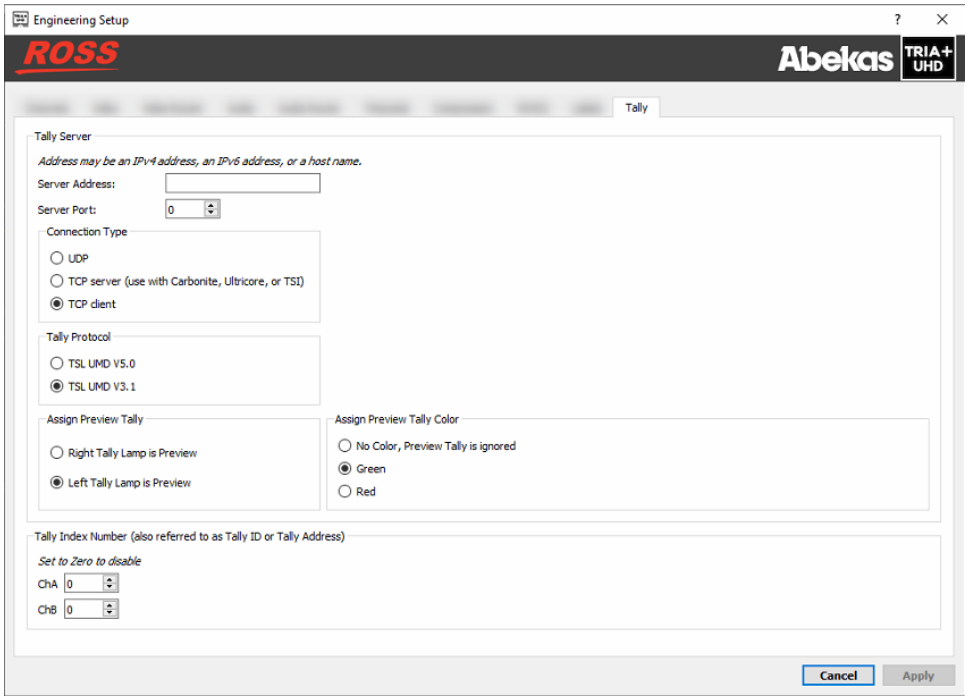
To Configure the TSL Tally Input

Tally information sent to the server over ethernet using the TSL protocol is used to show red and green tallies (as well as gray and amber) on the channel labels. You will need the IP address and port of the device sending the tally information, as well as the screen mapping.

1. Launch the **Tria Config** application.

   You may be prompted to allow the program to make changes on the computer, click **Yes**.

2. Click the **Tally** tab.



3. In the **Server Address** field enter the IP address of the device that is sending the TSL tally information.
4. In the **Server Port** field enter the port number on the device that the server is listening to.
5. In the **Server Connection Type** area, select the type of ethernet communication you want to use.
   - **UDP** — select if you connect to the tally system using the UDP protocol.
   - **TCP Server** — select if you connect to the tally system as a server using the TCP protocol.
   - **TCP Client** — select if the connect to the tally system as a client using the TCP protocol.
6. In the **Tally Protocol** area, select the TSL protocol the tally system is using.
   - **TSL UMD V5.0** — select if the tally server is using the TSL tally protocol v5.0.
   - **TSL UMD V3.1** — select if the tally server is using the TSL tally protocol v3.1.
7. Set up the tally interface as required:

Protocol	Settings
TSL v5.0	
Tally Screen Number	Select which tally screen you want to assign to each channel transport.
Tally Index Number	Select a tally id for each channel transport.
TSL v3.1	
Assign Preview Tally	Select which indicator is lit when a channel transport is tallied on preview.
Assign Preview Tally Color	Select the color to use when a channel transport is tallied on preview.
Tally Index Number	Enter the tally ID that is assigned on the tally server to the input on the server. ***Tip:*** *Refer to the device that you are receiving the tally information from for the ID that is assigned to the video input that is connected to the output of each channel on the server.*

8. Click **Apply**.

Import

The **Tria Import** file import utility converts all imported media files to the current video output format that the server is operating in.

Supported Media Files for Hardware Import

Note: *Some file formats require a third-party codec to be installed on the server.*

Note: *Ancillary data is preserved from the import of MXF files in systems with JPEG 2000 or AVC-Intra native recording formats.*

File Type	Codec	Plug-in
DV	(DV25) DVCPRO	none needed
MOV	(DV25) DVCPRO	none needed
	Animation	none needed
	H.264	none needed
	JPEG	none needed
	JPEG 2000	none needed
	MPEG-E Video	none needed
	NONE (No Compression)	none needed
	ProRes	none needed
	PNG	none needed
	Avid® DNxHD	Avid® DNxHD[1]

- [1] This codec from Avid® enables import of DNxHD essence within MOV files. *AvidCodecsLESetup.zip*

To Import Media Files

Transcode a media file of a different format to a clip that can be played in the server.

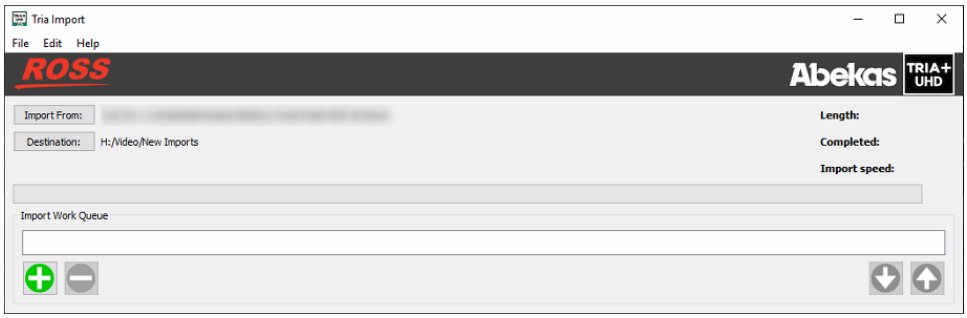
Note: *Ensure that **Tria Import** is properly configured for the type of import you want to perform. For example, if you are importing a Multi-Screen image, you must configure the import for the size of the canvas and codec you are using.*

Tip: *You can close the **Tria Import** application at any point during an import to stop the process. When you start the **Tria Import** application again, it will detect the import queue and prompt you to resume.*

1. Launch the **Tria Import** application.
2. In the **Import Method** list, select the how you want to import the media file.
   - **Software Transcode** — use the software based transcoder to import the media file that is in a different media format than your hardware.
   - **Native Import Only: No Transcoding** — import the media file that is in the native media format for your hardware.

   Tip: *Select **Native Import Only** if the file you are importing is **XAVC 300/480** or use the **Software Transcoder** for any published codec. No channels are consumed for either of these operations.*

   The **Tria Import** window is shown.



3. Click **Import From** and select the folder that the media files you want to import are located in.

> ***Tip:*** *If you want to point the import application to a network drive, you must map that drive in Windows® before you can select it as a source.*

4. Click **Choose**.
5. Click **Destination** and select the `H:\Video` folder, or a folder below this one, on the media drive.

> ***Note:*** *The destination must be under the* `H:\Video` *folder on the media drive or the imported files will not be available to the server.*

6. Click the green add files (**+**) button and select the media files that you want to import.
7. Click **Add Files**.

> ***Tip:*** *If you want to remove files from the import list, select the files and click the red remove files (-) button. The files are not deleted, only removed from the import queue.*

> ***Tip:*** *You can change the order that the files are imported by selecting the file(s) you want to move and click the up or down arrow buttons on the right of the window. The file(s) are moved up or down in the list. You can also drag and drop the files to order the files.*

To Add a Watch Folder

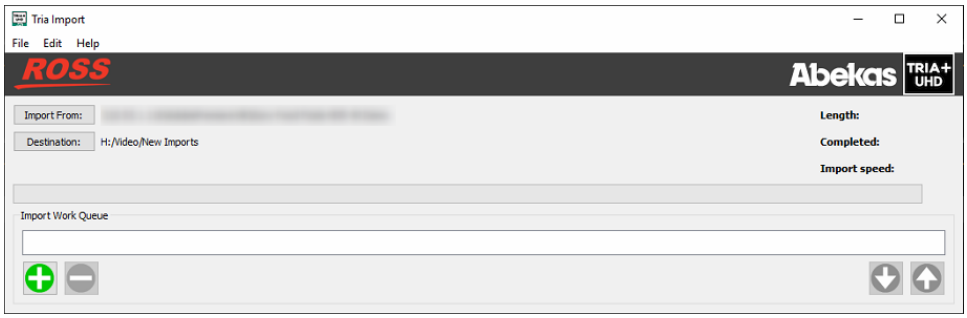
You can create multiple watch folders that the import utility will monitor and automatically import any media files that are modified or copied into the watch folder(s).

> ***Note:*** *The* ***Tria Import*** *application must be running for the watch folder functionality to work. You can set up the application to automatically launch and start the watch folder function when the server is powered on.*

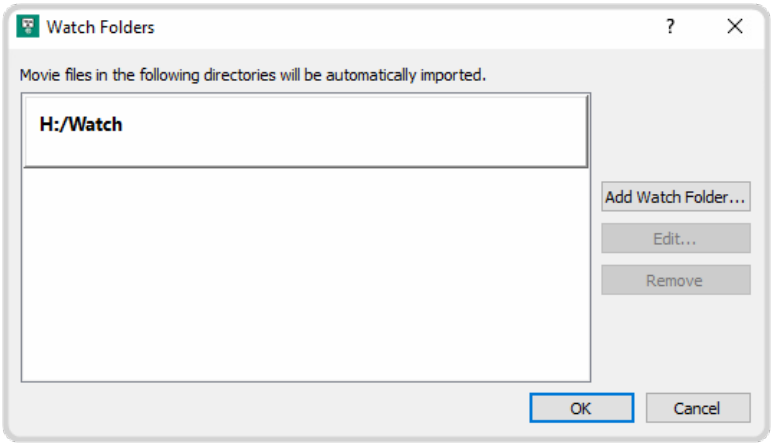
1. Launch the **Tria Import** application.
2. In the **Import Method** list, select the how you want to import the media file.
   - **Software Transcode** — use the software based transcoder to import the media file that is in a different media format than your hardware.
   - **Native Import Only: No Transcoding** — import the media file that is in the native media format for your hardware.

> ***Tip:*** *Select* ***Native Import Only*** *if the file you are importing is* ***XAVC 300/480*** *or use the* ***Software Transcoder*** *for any published codec. No channels are consumed for either of these operations.*

The **Tria Import** window is shown.



3. Click **File** > **Watch Folders...**.
4. Click **Add Watch Folder...** and select the folder that you want **Tria Import** to watch.



The folder can be on the local media drive or a network drive.

5. Click **Select Folder** to add the folder to the watch list. Repeat for any additional folders you want **Tria Import** to watch.

> *Tip: You can remove a folder from the watch list by selecting it and clicking **Remove Watch Folder**.*

6. Click **OK**.
7. Select **Enable Watch Folder** to start importing from the watch folders.

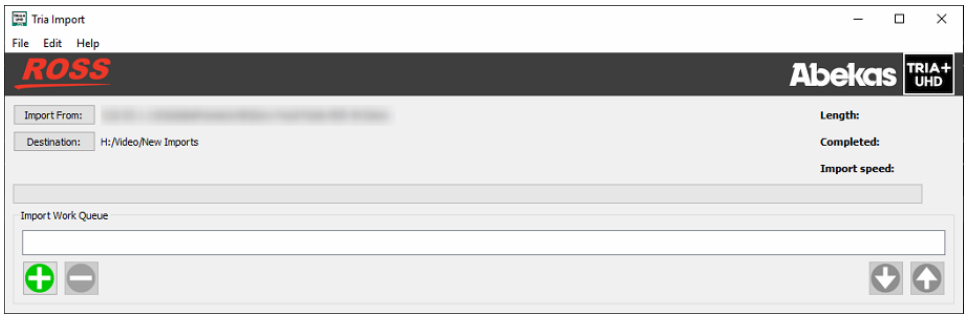
To Configure Tria Import

The **Tria Import** configuration menus allow you to change the destination folder, set how the RGB color space is interpreted, the raster size of the imported video, set up a watch folder, and to set an auto start behavior.

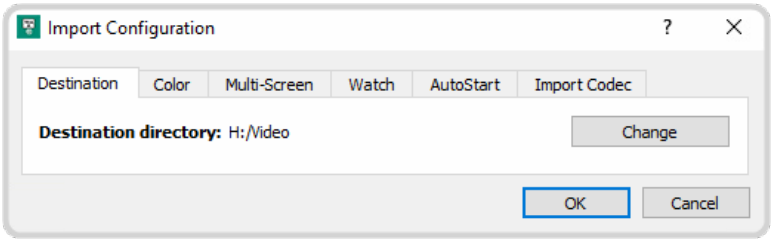
1. Launch the **Tria Import** application.
2. In the **Import Method** list, select the how you want to import the media file.
   - **Software Transcode** — use the software based transcoder to import the media file that is in a different media format than your hardware.
   - **Native Import Only: No Transcoding** — import the media file that is in the native media format for your hardware.

> *Tip: Select **Native Import Only** if the file you are importing is **XAVC 300/480** or use the **Software Transcoder** for any published codec. No channels are consumed for either of these operations.*

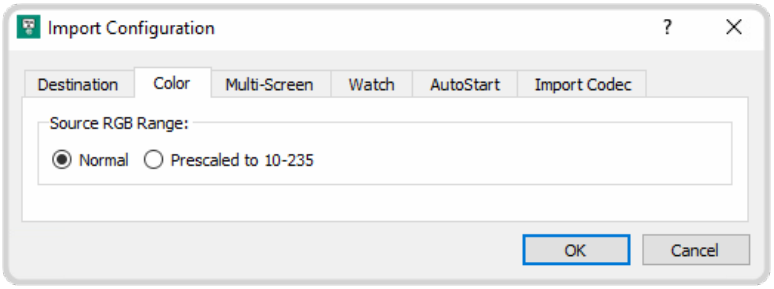
The **Tria Import** window is shown.



3. Click **Edit** > **Configure**.
4. Click the **Destination** tab and click **Change** and select a new destination folder for import.



5. Click the **Color** tab and select how the RGB luminance color range is interpreted when a file is imported.

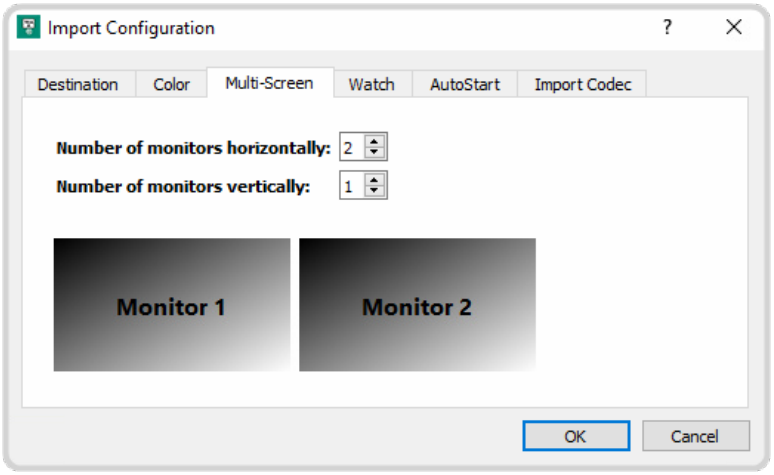


- **Normal** — color luminance range is scaled from 0 to 255.
- **Prescaled to 10-235** — color luminance range is scaled from 10 to 235.

Tip: If the blacks of your imported media files appear crushed or the whites do not appear as bright as expected, try selecting the opposite mode.

*Tip: Select **Normal** if you are importing a media file with alpha (key). The alpha may not import properly otherwise.*

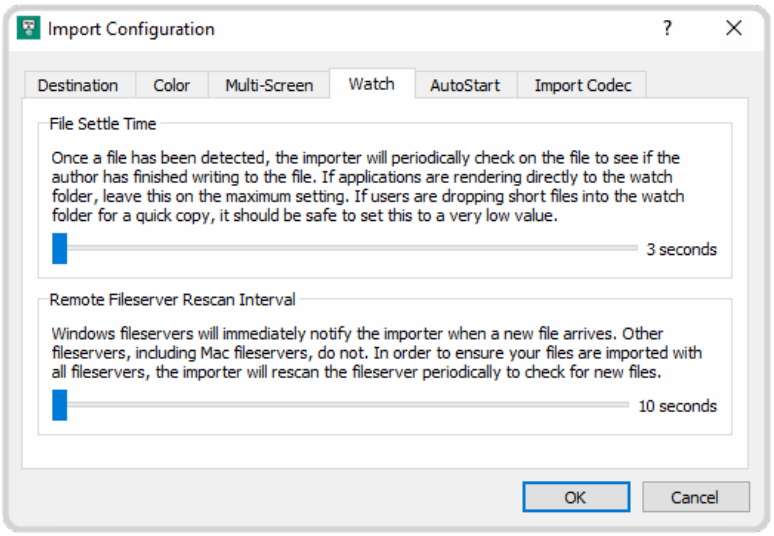
6. Click the **Multi-Screen** tab to allow the import of media file rasters with a resolution larger than 1920×1080.



- **Number of monitors horizontally** — select the number of full rasters you want horizontally.
- **Number of monitors vertically** — select the number of full rasters you want vertically.

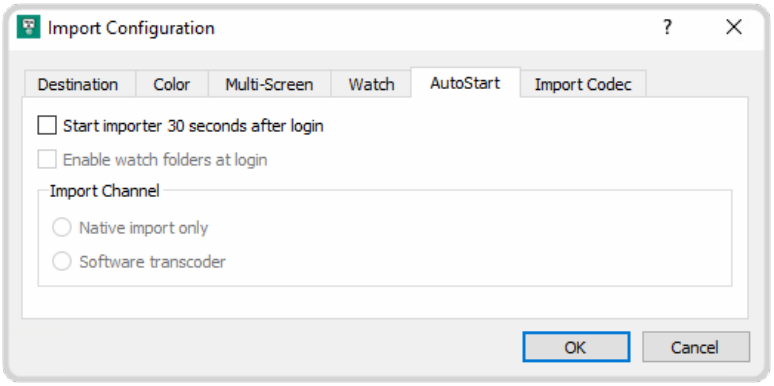
*Tip: To import a Multi-Screen media file, click **File** > **Open Multi-Screen...** on **Tria Import** and select the Multi-Screen media file you want to import.*

7. Click the **Watch** tab and set the amount of time the system will wait after it has detected a new file in the watch folder and how often it polls remote file servers. These settings are used in conjunction with the **AutoStart** configurations and the watch folder selection.



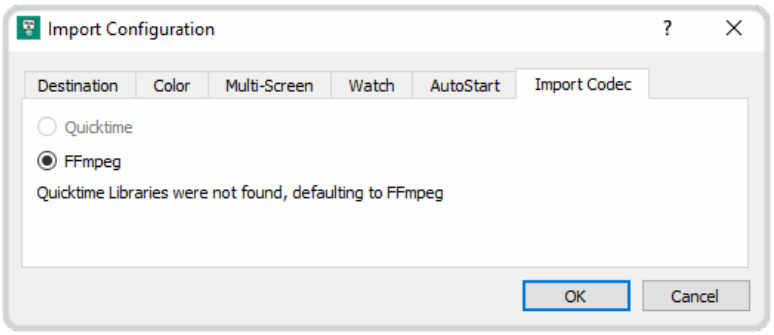
- **File Settle Time** — the length of time the import application will wait after a file has been modified before starting to import it. If the media files are being rendered directly into the watch folder, set a long wait time. If the watch folder is being used for drag and drop, set a short wait time.
- **Remote Fileserver Rescan Interval** — the length of time the import application waits to poll an external server for changes. This setting is ignored if the external server is running a Windows® operating system.

8. Click the **AutoStart** tab and select whether the **Tria Import** application is started automatically, and whether the selected folders are watched.



- **Start importer 30 seconds after login** — the **Tria Import** application will be started 30 seconds after you log into Windows®.
- **Enable watch folders at login** — the watch folder functionality will start automatically with **Tria Import**.
- **Import Channel** — select the channel transport to be used for import when the import application starts automatically.

9. Click the **Import Codec** tab and select codec you want to use when a file is imported.



- **QuickTime** — the Apple® QuickTime® codec is not supported at this time.
- **FFmpeg** — use the FFmpeg™ codec.

Tria Explorer

Tria Explorer is a Windows® application that provides a graphical interface to the operation of the server. Although this application allows you to control the operation of the server, it does not need to be running for the server to operate.

You can quit **Tria Explorer** at any time without affecting any of the active real-time video and audio recording and playback operations.

*Tip: The **Library**, **Viewer**, **Export Editor**, and **Export Queue** buttons at the top of the window allow you to quickly switch between the Clip Library, the Multi-Viewer, and the export modes.*

Tip: A yellow bar will appear at the bottom of the window to provide status updates on various services running on the server.

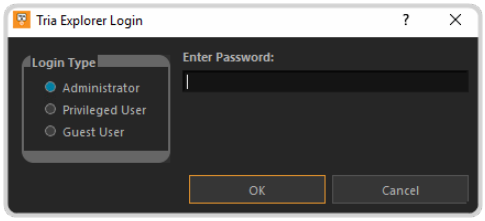
Tria Explorer Login

When you launch **Tria Explorer** you have the option of logging in as an administrator, privileged user, or guest user. Each of these types have specific privileges that are assigned by the administrator account.

- **Administrator** — full access to all features of the application and can set the privileges for the other account types. This account is password protected by default.
- **Privileged User** — the default account type for using the application. This account is not password protected by default.
- **Guest User** — a secondary user account if you want to give limited access to the application. This account is not password protected by default.

To Log In to Tria Explorer

1. Open the **Tria Explorer** application.



2. In the **Login Type** box select the type of account you want to log in as.
   - **Administrator**
   - **Privileged User**
   - **Guest User**
3. If required, enter a password in the **Enter Password** field.
   - **Administrator** — default password is `multiflex`
   - **Privileged User** — no password by default
   - **Guest User** — no password by default
4. Click **OK**.

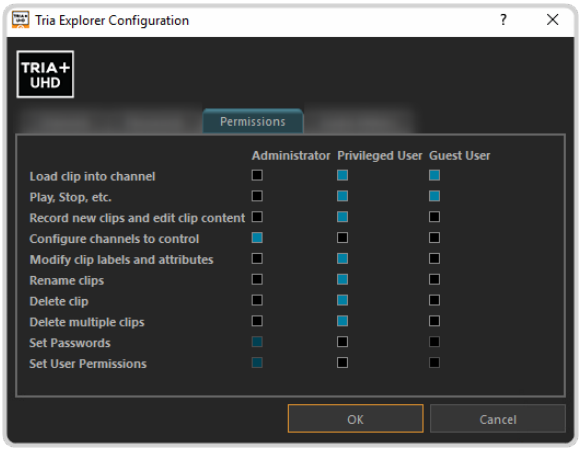
Managing Accounts

The administrator account has access to all of the features of the server, as well as the ability to assign privileges to the other accounts.

To Set Account Permissions

The different types of accounts can have different permissions. Only the Administrator account must have permission to set the permissions for other types of accounts.

1. Log into **Tria Explorer** as the Administrator.
2. Click **Configure** > **General Configuration** and click the **Permissions** tab.



3. Select those permissions you want assigned to each account.

   The Guest User account cannot have permission to set passwords or set user permissions.
4. Click **OK**.

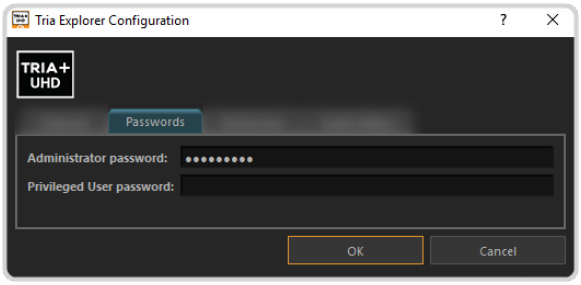
To Set Account Passwords

Only the Administrator and Privileged User accounts can have a password.

1. Log into **Tria Explorer** as the Administrator.

Tip: The default password is `multiflex`.

2. Click **Configure** > **General Configuration** and click the **Passwords** tab.



3. Enter the new password for the account you want to set the password for. Passwords can use letters, numbers, and special characters, and are case-sensitive.

*Tip: If the **Privileged User password** field is left blank, you will not be prompted to enter a password when logging in with that account.*

4. Click **OK**.

Physical Channel Setup

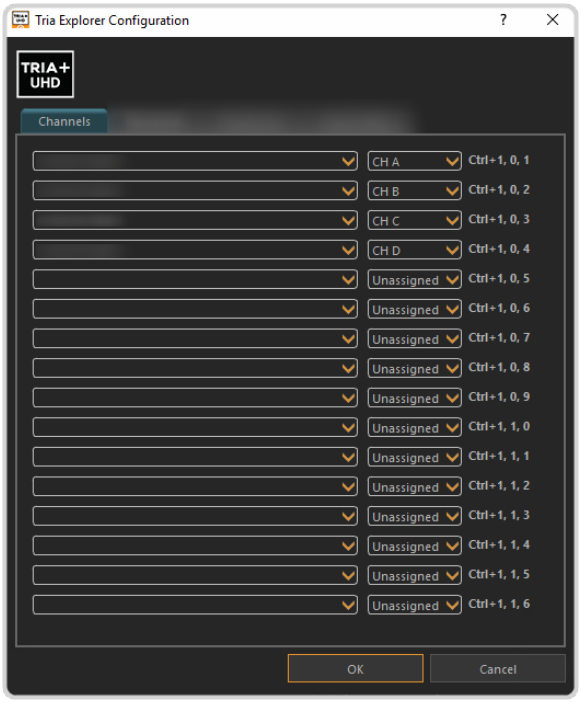
The server comes pre-configured with the channel transports assigned to physical channels on the same server. You can also assign physical channels from other servers to the channel transports on this server.

To Assign Channel Transports to Physical Channels

Channel transports are assigned to the server. This is already configured from the factory.

1. Click **Configure** > **General Configuration** and click the **Channels** tab.

   You may have to log in with a different account if your current account does not have permissions.



2. On the left side of the window use the drop-down list to select the server that you want to assign a channel transport to. The number of channel transports that are available depends on the server model you have.

3. On the right side of the window use the drop-down list to select the channel transport that you want to assign to the server.

Audio Meter Setup

Audio meters can be shown as an overlay on the Multi-Viewer. You can adjust the position and transparency of the audio meters all at once, or individually.

*Note: The number of channels shown in the audio meter depends on the number of audio channel in the clip. The number of audio channel in a clip is applied when the clip is recorded or imported and is based on the **Audio Tracks** settings from the **Engineering Setup**.*

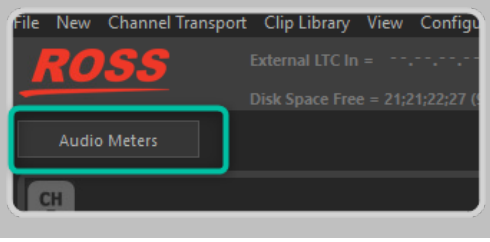
To Configure the Audio Meter for a Channel Transport

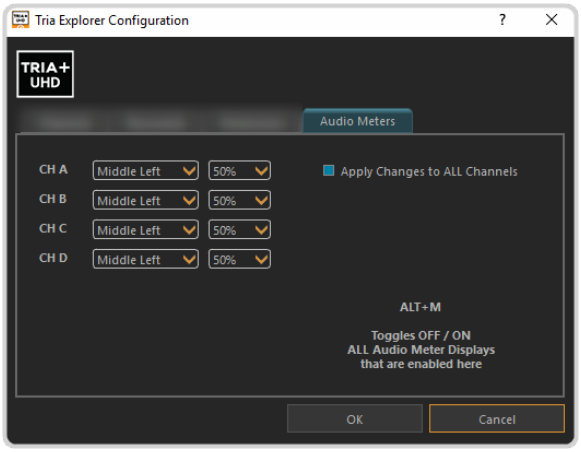
Each channel transport has an audio meter overlay on the Multi-Viewer output.

1. Click **Configure** > **General Configuration** and click the **Audio Meters** tab.

   You may have to log in with a different account if your current account does not have permissions.

*Tip: You can also click **Audio Meters** on the top left corner of the Multi-Viewer. This does not require you to log in as an administrator.*





2. Select **Apply Changes to ALL Channels** to have your selections applies to all channel transports.
3. Click the **Middle Left** field and select where you want the audio meters to be positioned.
4. Click the **50%** field and select the opacity of the audio meters.

*Tip: Select **Off** to have the audio meter not visible for that channel transport.*

*Tip: Press **ALT+M** while on the Multi-Viewer to turn all audio meters off or on.*

Installing Tria Explorer on a Remote PC

You can install the **Tria Explorer** application on a remote PC and connect to the server over ethernet to control channel transports.

You can download the installer file from *www.rossvideo.com/support/software-downloads/*.

Keep the following in mind when setting up and using a remote pc to control a server:

- **Tria Explorer** only runs on the Microsoft® Windows® 7 or 10 operating systems.

- The **Phoenix** application needs access through the firewall on the server and remote PC. This will include the Windows® firewall, as well as any other network security applications operation on your PC or network.
- A physical channel can only be assigned to one virtual channel. If you want to assign a channel transport on a remote PC to a physical channel on a server, you must unassign the physical channel from the server first and then assign a virtual channel on the remote PC to it.
- Physical channels are identified by the server they are located on. The name of a server is shown in the upper-right corner of the **Tria Explorer** window.

To Install Tria Explorer on a Remote PC

Installing the software on a remote PC and the server itself are the same and use the same executable file.

*Note: **Tria Explorer** only runs on the Microsoft® Windows® 7 or 10 operating systems.*

1. Download the latest installation file from the Ross Video website (*www.rossvideo.com/support/software-downloads/*).
2. Run the downloaded installer on your computer and follow the onscreen instructions. You may be prompted to restart your computer to complete the installation.

The **Tria Explorer** application will launch automatically when the computer boots up.

To Disable Abekas® Services

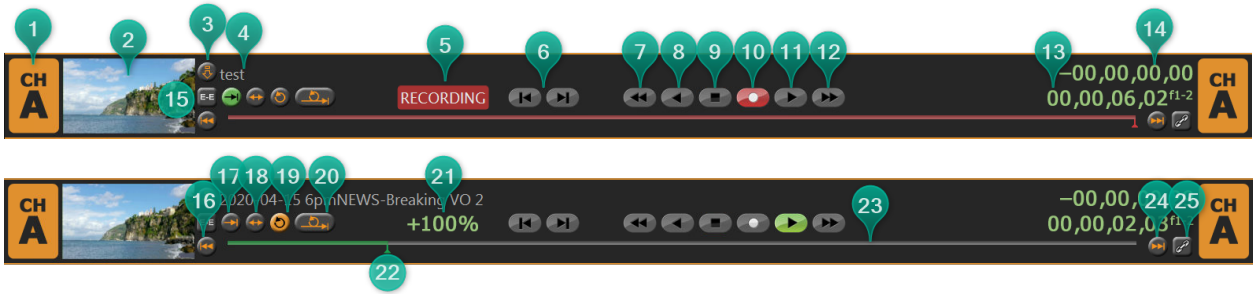
There are a number of services that are used by the server that are not needed on a remote PC and should be stopped and disabled.

1. Launch the Windows® **Services** application. This can be found under **Computer Management** or as a separate application, depending on the version of Windows® you are using.
2. Set the **Startup Type** for the following services to **Disable**.
   - Abekas Chassis Controller
   - Abekas Comms Server
   - Abekas Growing File Exporter
   - Abekas OGP Gateway
   - Abekas Quad Viewer
   - Abekas Replay Gateway
   - Abekas SE
   - Abekas Tally Gateway
   - Abekas Timecode In

   *Note: Leave the **Abekas IP Monitor** service running.*

Channel Transport Control

Each channel in the server has a dedicated channel transport in **Tria Explorer** that is used to load, play, record, and seek within clips. Clips are loaded into the channel transport from the Clip Library.



1. **Active Channel** — The channel transport that is currently selected. Keyboard commands and clip selections are applied to this channel.
2. **Video Window** — Shows the full-motion video output of the channel. This can be the clip that is currently playing or the live video input to the channel when EE is on.
3. **Load Clip** ( ) — Load the selected clip in the Clip Library into this channel. Press and hold the **Shift** button and press to eject the clip.
4. **Clip Name** — The name of the clip currently loaded into the channel transport.
5. **Activity Indicator** — Shows the current activity of the channel transport. **RECORDING** when the channel transport is actively recording, and **EXPORTING** when the channel transport is actively exporting.
6. **Jog** ( ) — Jog forward ( ) or reverse ( ) by one frame/field in the active clip.
7. **Rewind** ( ) — Rewind the current clip at 30-times normal speed.
8. **Play Reverse** ( ) — Play the current clip in reverse at 1-times normal speed.
9. **Stop** ( ) — Stops playback or recording on the current channel transport.
10. **Record** ( ) — Opens the **Record Setup** dialog to assist in recording a clip.
11. **Play Forward** ( ) — Play the current clip forward at 1-times normal speed.
12. **Fast Forward** ( ) — Fast-Forward the current clip at 30-times normal speed.
13. **Timecode** — Shows the timecode value of the current position in the clip. An **f1** or **f2** at the end of the timecode indicates Field playback (interlaced), and an **f1-2** indicates Frame playback (progressive).

    *Tip: Double-click on the timecode to enter a new timecode value manually. The channel transport immediately seeks to that timecode in the clip once you press **Enter**.*

14. **Count-Down Timer** — Shows the time remaining in the current clip. When the clip reaches the end the timer will show `00.00.00.00`.
15. **EE** ( ) — Turns EE (Electronic to Electronic) mode On/Off for the selected channel transport. Also called bypass mode where the video signal coming into the video channel is routed directly to the output without being stored and read from disk.
16. **Seek to Start** ( ) — Seek to the first frame of the clip.
17. **Play Repeat Normal** ( ) — Normal play mode where the clip plays to the end and stops. Only one play repeat mode can be active at one time.
18. **Play Repeat Ping-Pong** ( ) — Ping-pong repeat mode where the clip plays back and forth between the in and out points stored in the clip.
19. **Play Repeat Loop** ( ) — Loop repeat mode where the clip starts playing again from the in point after it reaches the out point.

    Note: If the channel transport is being controlled externally using the Odetics protocol, this button is disabled.

20. **Play Repeat Loop to Play** ( ) — Multipoint repeat mode (also known as 3-Point Loop mode) where the clip can start playing from a point before the in point but starts playing again from the in point when it reaches the out point. The clip will continue to loop between the in point and out point from then on.

    *Tip: Clicking **Play Repeat Normal** allows the clip to ignore the out point and play through to the end frame of the clip. This does not interrupt the loop play in progress.*

21. **Play Speed** — Shows the current play speed of the clip.

    *Tip: Double-click on the play speed to enter a new play speed manually as a percentage. The clip will start playing at the new speed once you press **Enter**.*

22. **Clip Position Slider Handle** — Indicates the current point in the clip that is being played. You can drag the handle back and forth to select a different point in the clip. Playback stops if you move the slider handle.
23. **Clip Position Slider Bar** — A graphical representation of the current clip. When the clip is playing or recording, the slider handle moves along the slider bar showing real-time progress through the clip. The slider handle and bar are green when playing and red when recording.
24. **Seek to End** ( ) — Seek to the last frame of the clip.
25. **Chain** ( ) — Selects whether a channel transport is ganged with other channel transports. When **Chain** is turned on for a channel transport, that channel transport becomes linked to the other channel transports in the chain in **Tria Explorer**. Within **Tria Explorer**, any transport commands run on one channel transport in the chain are frame-accurately duplicated on all the other channel transports in the same chain. Commands sent to a channel transport from an external device over serial/ethernet control are not chained to the other channels.

    Note: Record and Load/Eject Clip are not support as chained commands and will only be performed on the channel transport that you run them on.

To Load a Clip

The clip can start to play as soon as it is loaded into a channel transport. Ensure that you are using the right channel configuration for the clip you want to load.

1. Select the channel transport you want to load a clip into.

    Note: If you are loading a VK (video + alpha) clip, ensure that the channel transport has been configured as VK as well.

2. Double-click the clip you want to load into the transport control. The clip must be in the same video format that the server is operating in.

    Tip: You can also drag and drop the clip onto the channel transport area, or click the load clip button ( ) next to the clip name in the transport control area.

    *Tip: Click the up arrow next to the **Clip Library** title to expand the listing. Only the selected channel transport is shown with the expanded library list. Click the same button again to return the list to normal.*

The clip is loaded into the channel transport and the transport control buttons become active. The first frame of the clip is shown in the preview window in the transport control area. If you are using a remote **Tria Explorer** client, the preview window is not available.

*Note: If the Auto Play feature is enabled (**Channel Transport** > **Enable Auto Play**), the clip will start to play as soon as it is loaded.*

To Play a Clip

Clips can play automatically once loaded, loop, or play at faster or slower speeds.

*Note: If the Auto Play feature is enabled (**Channel Transport** > **Enable Auto Play**), a clip will start to play as soon as it is loaded into a channel. This feature applies to all channels and cannot be turned on or off for a particular channel transport.*

1. Load the clip or playlist you want to play into the channel transport you want to play it out on.
2. Click the play button ( ).

*Tip: You can add Cue Points to a clip that allow you to quickly seek to different points in the clip. Seek to the point in the clip that you want to add a cue point to and click **Channel Transport** > **Mark Cue Point**. Press **Ctrl** and use the left or right arrows to seek to the cue points before or after the current point in the clip. You can press **Ctrl+'** to delete the selected cue point, or click **Channel Transport** > **Clear All Cue Points** to clear all of the cue points in the clip.*

The clip starts to play on the selected channel transport. If the selected channel transport is configured as V+K (Video+Alpha) and the loaded clip contains an alpha track, both video and alpha tracks from the clip are load and played simultaneously.

To Unload a Clip

Remove a clip from the current channel transport.

1. Select the channel transport you want to eject a clip from.
2. Click **Channel Transport** > **UnLoad**.

*Tip: Press and hold the **Shift** button and press **F1** to unload the clip.*

The clip is unloaded from the channel transport and color bars are loaded into the preview window and video output of the selected channel.

Clip Repeat Modes

There are a number of ways to have a clip continuously loop when playing out. These modes can be set in the metadata of a clip so that the clip always loads in this mode. They can also be set manually from the channel transport controls, or they can be set remotely from an external device.

Only one play repeat mode can be active at a time.

Tip: Repeat modes use Play Repeat IN and Play Repeat OUT points to determine what video to repeat. The default values for these points are stored in the metadata of the clip.

Normal (Off)

This is the normal play mode ( ) where the clip plays to the end and stops. This mode is automatically set if you are controlling the channel transport from an external device, such as a switcher.

Loop

The repeat mode ( ) where the clip starts playing again from the in point again after it reaches the out point. When the clip starts playing, it immediately seeks to the **Play Repeat IN** point and plays until it reaches the **Play Repeat OUT** point. When it reaches the **Play Repeat OUT** point it seeks back to the **Play Repeat IN** point and plays again. The clip will continue to play like this until stopped.

Ping-Pong

The repeat mode ( ) where the clip plays back and forth between the in and out points. When the clip starts playing, it immediately seeks to the **Play Repeat IN** point and plays until it reaches the **Play Repeat OUT** point. When it reaches the **Play Repeat OUT** point it starts playing in reverse until it reaches the **Play Repeat IN** point again. The clip will continue to play like this until stopped.

Loop to Play

The Multipoint (3-Point Loop) repeat mode ( ) where the clip can start playing from a point before the in point but starts playing again from the in point when it reaches the out point. The clip starts playing from the beginning passing through the **Play Repeat IN** point and continues playing until it reaches the **Play Repeat OUT** point. When it reaches the **Play Repeat OUT** point it seeks back to the **Play Repeat IN** point and plays again. The clip will continue to play like this until stopped.

The portion of the clip before the **Play Repeat IN** point is only played the first time. This can be used if the repeating portion of the clip has a lead-in at the beginning. The lead-out portion of the clip can be played by switching the clip to the normal ( ) mode after the last repeat has started. The clip will then play to the end.

Recording a Clip

When recording a clip you can record a new clip, append to the end of an existing clip, or overwrite an existing clip. Clips can be recorded to the root, or a sub-folder in the Clip Library.

*Tip: If you want to quickly record a clip using the same settings as the last time you recorded, press and hold the **Shift** button and click the record button ( ).*

To Record a New Clip

Use a channel transport to record the video signal coming into the server.

1. Select the channel transport that you want to record a clip to. This is the channel for the BNC on the back of the server that the audio/video you want to record is coming in on.
2. Eject any clip that may already be loaded into the channel transport.
3. Click the record button ( ).

   The **Clip Record Setup** dialog box is shown.

4. In the **Record Type** area, select the type of recording you want to do.
   - **New Clip (Record After Arming)** — arms the channel transport for recording a new clip.
5. In the **Record Tracks** area, select which tracks you want to record.

   *Note: Audio is recorded depending on how the Audio Input Source is set in **Tria Config**.*

   - **Video** — record the video and any embedded audio coming into the Video In BNC, depending on the audio source.
   - **Key** — record the alpha signal coming into the associated Video In BNC.
   - **Audio** — record the digital audio coming into the the embedded audio on the Video In BNC, depending on the audio source.
6. In the **New Clip** area, enter a name for the clip in the **Clip Name** field.

Tip: If you want to record the clip into a sub-folder on the media drive you must include the folder path with the new. For example, `1080p Clips\Downtown-Fire` *records the clip* `Downtown-Fire` *in the* `1080p Clips` *folder. The folder must already exist in the Clip Library to be able to record to it.*

7. Enter an 8-charater id for the clip in the **Clip ID** field.

   If you are controlling the server from an external device, the clip id is used on the external device to load a clip. If you do not assign a clip id to the clip, the first 8 characters of the clip name can be used.

8. Turn **Auto Name** on if you want to create a series of clips with the same name plus an identifier.
   - **Off** — overwrite any existing clip of the same name.
   - **Numeric Append** — add a numeric digit to the end of the new clip name and increment it by one with each new clip of the same name.
   - **Time of Day** — add the current date and time to the end of the clip name.
   - **LTC In** — add a timecode stamp from the embedded timecode in the video signal being recorded.

9. Select a **Timecode** source for the new clip.
   - **Striped** — use the internally generated timecode data. The starting point for the timecode is set in the **Starting at** field.
   - **External TC** — use the timecode data embedded in the video signal being recorded.

10. Click **OK**.

    The channel transport is now armed to record. The video window shows live video coming into the channel, the **EE** button is on, and the record button ( ) is flashing.

11. Click the flashing record button ( ) when you are ready to record.

    The server starts recording, the **EE** button goes off, and name of the new clip is shown at the top of the channel transport area, and the **RECORDING** indicator appears.

12. Click the stop ( ) button to stop recording.

To Overwrite/Append to a Clip

Add to the end of an existing clip, or overwrite the clip entirely.

1. Select the channel transport that you want to record a clip to. This is the channel for the BNC on the back of the server that the audio/video you want to record is coming in on.
2. Prepare the channel transport for the type of recording you want to do.
   - **Append** — load the clip that you want to append the new recording to.
   - **Overwrite** — load the clip that you want to overwrite and seek to the point in the clip that you want to start the new recording.
3. Click the record button ( ).

   The **Clip Record Setup** dialog box is shown.

4. In the **Record Type** area, select the type of recording you want to do.
   - **Append** — arms the channel transport to start recording at the end of the current clip.
   - **Overwrite** — arms the channel transport to start recording at the currently selected point in the exiting clip. Everything after this point in the clip will be overwritten.
5. In the **Record Tracks** area, select which tracks you want to record.

   *Note: Audio is recorded depending on how the Audio Input Source is set in **Tria Config**.*

   - **Video** — record the video and any embedded audio coming into the Video In BNC, depending on the audio source.
   - **Key** — record the alpha signal coming into the associated Video In BNC.
   - **Audio** — record the embedded audio on the Video In BNC, depending on the audio source.
6. Click **OK**.

   The channel transport is now armed to record. The video window shows live video coming into the channel, the **EE** button is on, and the record button ( ) is flashing.
7. Click the flashing record button ( ) when you are ready to record.

   The server starts recording, the **EE** button goes off, the name of the new clip is shown at the top of the channel transport area, and the **RECORDING** indicator appears.
8. Click the stop ( ) button to stop recording.

Locking Channel Transport Control

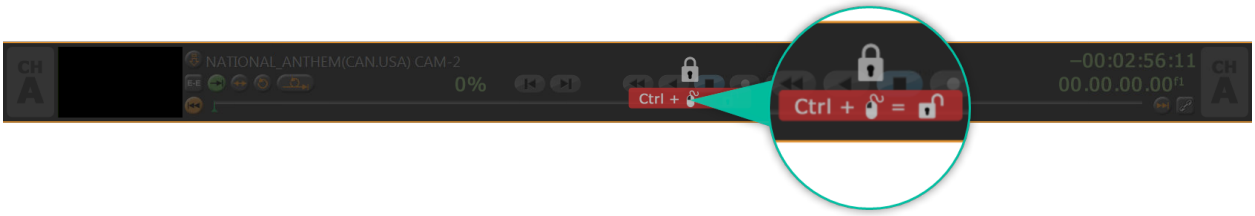
You can lock any channel transport control in **Tria Explorer**. This prevents someone from accidentally loading or ejecting a clip, or using any of the transport controls.

Note: Locking a channel transport does not prevent the external control of that channel.

To Lock/Unlock a Channel Transport

Lock a channel so that it can't be accidentally changed directly. Chained, or ganged, channels are not affected by the lock.

Press and hold the **Ctrl** button and click on the channel transport that you want to lock/unlock.



The channel transport controls are grayed out and a lock symbol is shown over the controls when the channel transport is locked.

Keyboard Shortcuts

These keyboard shortcuts work on the currently selected video channel transport in the **Tria Explorer** window.

Tip: Two or more video channel transports can be linked together (Chained) so that commands sent to one channel are also sent to the others. Not all the keyboard shortcuts support Chain control.

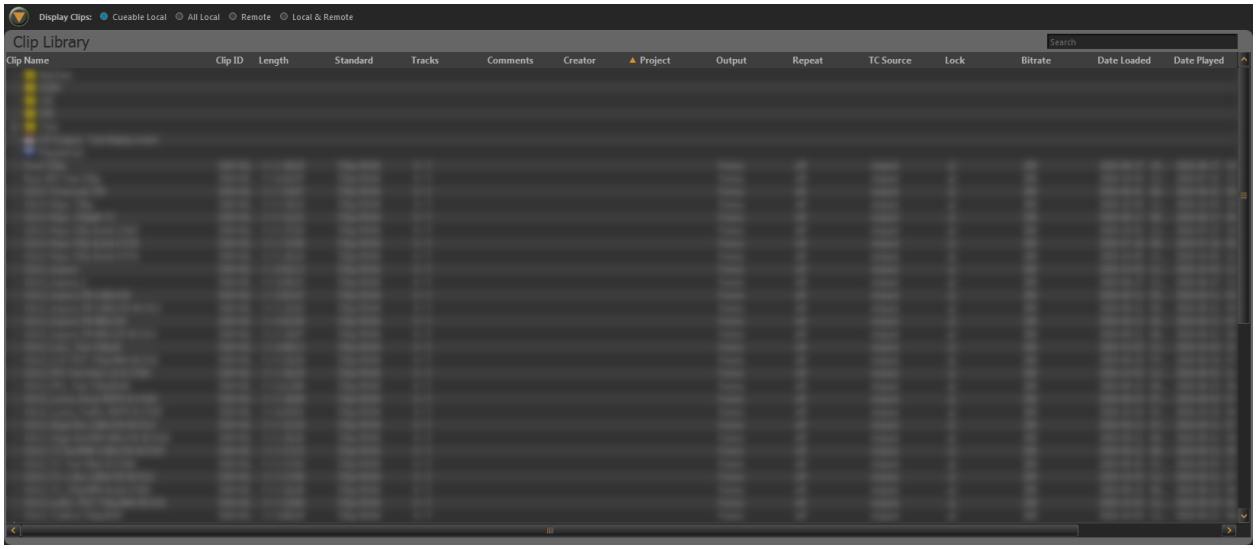
Function	Shortcut	Description	Chain
Full Screen	**F11**	(Windows® shortcut) Sets the **Tria Explorer** window to full screen mode, or back to windowed mode.	No
Change Application	**Alt+Tab**	(Windows® shortcut) Switch between Windows® applications.	No
Select Channel A	**Ctrl+1 1 A**	Selects channel A as the active channel transport.	No
Select Channel B	**Ctrl+1 1 B**	Selects channel B as the active channel transport.	No
Chain Channel Transport Control	**Ctrl+1 C C**	**Clear all Channels** — set all channel chain controls to Off.	No
	Ctrl+1 C Y	**Chain Current Channel** — turn channel chain control On for the selected channel transport.	No
	Ctrl+1 C N	**Unchain Current Channel** — turn channel chain control Off for the selected channel transport.	No
	Ctrl+1 C T	**Toggle Chain Current Channel** — toggles the chain control On or Off for the selected channel transport.	No
Stop/Play	**(spacebar)**	Stop or Play on the selected channel transport.	Yes
EE	**Ctrl+E Y**	**EE On** — turn EE (Electronic to Electronic) mode On for the selected channel transport. Also called bypass mode where the video signal coming into the server is routed directly to the output without being stored and read from disk.	No
	Ctrl+E N	**EE Off** — turn EE mode Off for the selected channel transport. The video output comes from the disk.	No
	Ctrl+E T	**EE Toggle** — toggles EE mode On or Off for the selected channel transport.	No
Load	**F1**	Load the highlighted clip in the **Clip Library** into the selected channel transport.	No
Unload	**Shift+F1**	Unloads the clip from the selected channel transport and loads a color-bar test pattern.	No
Jog Reverse	**F3**	Reverse the clip in the selected channel transport by one frame/field. Press and hold the button to play the clip in reverse at 33% speed.	Yes
Jog Forward	**F4**	Advance the clip in the selected channel transport forward by one frame/field. Press and hold the button to play the clip forward at 33% speed.	Yes

Function	Shortcut	Description	Chain
Rewind	**F6**	Rewind the clip in the selected channel transport.	Yes
Play Reverse	**F7**	Play the clip in the selected channel transport in reverse.	Yes
Stop	**F8**	Stop playing or recording the clip in the selected channel transport.	Yes
Play	**F9**	Play the clip in the selected channel transport.	Yes
Fast Forward	**F10**	Fast-forward the clip in the selected channel transport.	Yes
Seek to Start of Clip	**Ctrl**+**F6**	Seek to the first frame of the clip in the selected channel transport and stop.	Yes
Seek to End of Clip	**Ctrl**+**F10**	Seek to the last frame of the clip in the selected channel transport and stop.	Yes
Cue Points	**Ctrl**+**'**	Mark a cue point in the selected channel transport, or remove the current cue point.	No
	Ctrl+**Left**	Seek backwards to the next cue point in the selected channel transport.	No
	Ctrl+**Right**	Seek forwards to the next cue point in the selected channel transport.	No
Variable Play	**F12**	**1× Forward** — play the clip in the selected channel transport forward at 1 times speed.	Yes
	F13	**3× Forward** — play the clip in the selected channel transport forward at 3 times speed.	Yes
	F14	**4× Forward** — play the clip in the selected channel transport forward at 4 times speed.	Yes
	F15	**8× Forward** — play the clip in the selected channel transport forward at 8 times speed.	Yes
	F16	**16× Forward** — play the clip in the selected channel transport forward at 16 times speed.	Yes
	F17	**30× Forward** — play the clip in the selected channel transport forward at 30 times speed.	Yes
	F18	**0.33× Forward** — play the clip in the selected channel transport forward at 33% of 1 times speed.	Yes
	Ctrl+**F11**	**0.33× Reverse** — play the clip in the selected channel transport backwards at 33% of 1 times speed.	Yes
	Ctrl+**F12**	**1× Reverse** — play the clip in the selected channel transport backwards at 1 times speed.	Yes
	Ctrl+**F13**	**3× Reverse** — play the clip in the selected channel transport backwards at 3 times speed.	Yes
	Ctrl+**F14**	**4× Reverse** — play the clip in the selected channel transport backwards at 4 times speed.	Yes
	Ctrl+**F15**	**8× Reverse** — play the clip in the selected channel transport backwards at 8 times speed.	Yes
	Ctrl+**F16**	**16× Reverse** — play the clip in the selected channel transport backwards at 16 times speed.	Yes
	Ctrl+**F17**	**30× Reverse** — play the clip in the selected channel transport backwards at 30 times speed.	Yes
Trim	**Ctrl**+**T H**	**Head** — trim head from the clip in the selected channel transport.	No
	Ctrl+**T T**	**Tail** — trim tail from the clip in the selected channel transport.	No

Function	Shortcut	Description	Chain
Gang All	**Ctrl**+**G P**	**Gang Play** — play all clips loaded in all channel transports.	Yes
	Ctrl+**G S**	**Gang Stop** — stop all clips loaded in all channel transports.	Yes
	Ctrl+**G R**	**Gang Re-cue** — re-cue all clips loaded in all channel transports.	Yes
Record	**Ctrl**+**2 N**	**New Clip Record** — creates a new clip in the Clip Library, loads it into Channel A Transport, selects LIVE EE mode, and starts recording to that clip.	No
	Ctrl+**2 C**	**Create and Load New Clip** — creates a new clip in the Channel A Transport with a 1-frame duration and parks on the first frame. It does not start recording.	No
	Ctrl+**2 A**	**Append Record** — seeks to the end of the clip loaded in Channel A Transport, selects LIVE EE mode, and starts recording to that clip. A clip must be loaded into the Channel A Transport before running this command.	No
	Ctrl+**2 O**	**Overwrite Record** — selects LIVE EE mode and starts recording over the clip loading in Channel A Transport. The server starts recording over the current clip at the location Channel A Transport is parked.	No
List Play	**Ctrl**+**L A**	**Move Cursor to On-Air Item** — selects the item that is currently airing on the on-air playlist.	No
	Ctrl+**L B**	**Move Cursor to Next On-Air Item** — selects the preview item on the on-air playlist.	No
	Ctrl+**L 1** to **L 9**	**Move Cursor to On-Air Item *X*** — selects item *X* (1 to 9) on the on-air playlist.	No
	Ctrl+**L L Y**	**List Play Loop Mode ON** — turns looping on for the on-air playlist. The entire contents of the playlist is looped.	No
	Ctrl+**L L N**	**List Play Loop Mode OFF** — turns looping off for the on-air playlist.	No
	Ctrl+**L L T**	**List Play Loop Mode Toggle** — toggles looping on or off for the on-air playlist.	No
	Enter	**Take** — takes the next item on the on-air playlist. The **Enter** button found with the numeric keypad of your keyboard does not work for this command.	No

Clip Library

The Clip Library appears on the bottom half of the **Tria Explorer** window and shows all the media file clips that are currently available to the server. These clips can be located on the internal media drive of the Tria+ UHD or on the media drive of a separate Tria+ UHD. The list can be filtered using the **Display Clips** selection at the top of the list.



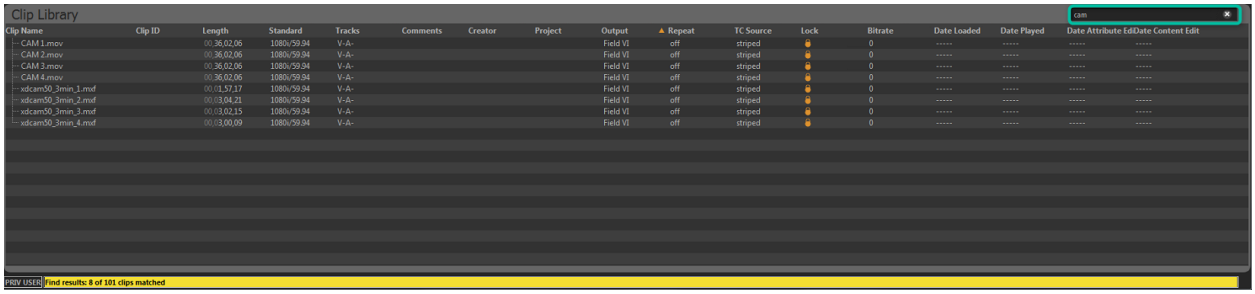
*Tip: You can change the width and position of each column in the list, as well as sort the list based on the information in any column. You can select which columns are shown from the **Clip Library** > **Select Columns**.*

- **Cueable Local** — show only those clips that are in the same video format that the server is operating in and are stored on the local media drive.
- **All Local** — show all clips that are stored on the local media drive. Clips that are not in the same video format that the server is operating in are displayed, but cannot be loaded.
- **Remote** — show only those clips that are located on a remote server. You can only load the clips from a remote server that is on the same network and operating in the same video format. Remote servers appear as folders in the Clip Library.
- **Local & Remote** — show all clips that are stored on the local media drive and on remote servers. See above for restrictions on remote servers.

Search

You can search the Clip Library for clip names that contain a specific word.

Enter the name of a clip you want to find in the **search** field located to the right of the Clip Library title bar. The Clip Library will only show those clips that match your search criteria and the number of clips shown is indicated in yellow at the bottom.



Play Lists

A Play List is a collection of clips that are sorted into the order you want them played. Play Lists are created and edited within the Clip Library.

To Create/Edit a Play List

Create the Play List and add the clips. Arrange the clips in the order you want them to play and set how you want to transition between clips and the speed you want the clip to play out when the Play List is played.

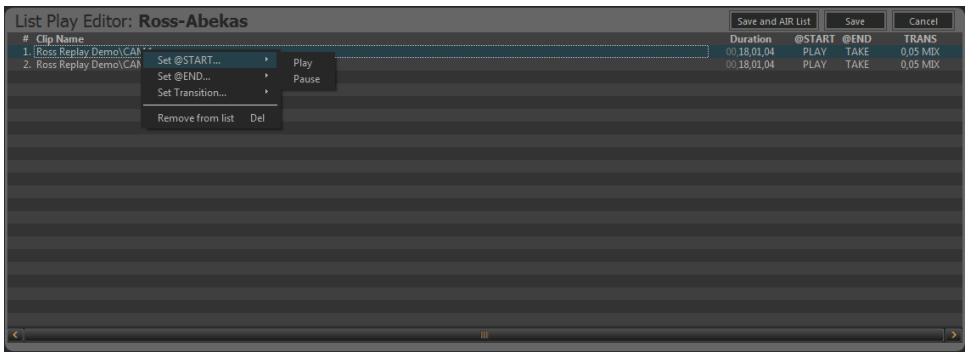
1. If you are creating a new Play List, click **New** > **New Playlist** and enter a name for the new Play List. If you are editing a Play List, proceed to the next step.
2. Double-click on the name of the Play List you just created.

   The **Playlist Editor** opens to the right of the Clip Library.

3. Drag and drop clips from the Clip Library to your Play List.

   *Tip: Right-click on a clip and click **Remove from list** to remove the clip from the Play List.*

4. Drag and drop clips within the Play List to order them how you want them to play out.
5. Set a different behaviour for the start (**@START**) of a clip by right-clicking on the clip and selecting **Set @START...**.



   - **Play** — the clip plays out automatically when the Play List transitions to this clip in ON-AIR mode. This is the default setting.
   - **Pause** — the clip is paused on the first frame when the Play List transitions to this clip in ON-AIR mode.

6. Set a different behaviour for the end (**@END**) of a clip by right-clicking on the clip and selecting **Set @END...**.
   - **Take** — the Play List transitions to the next clip in ON-AIR mode. This is the default setting.
   - **Pause** — the clip is paused on the last frame when it reaches the end of the clip in ON-AIR mode. You must click **TAKE** to transition to the next clip.

*Tip: You can press **Enter** on the keyboard to transition to the next clip, instead of clicking **TAKE**.*

- **Loop** — the clip is looped when it reaches the end of the clip in ON-AIR mode. You must click **TAKE** to transition to the next clip.

7. Click **Save** to save the changes to the playlist.

*Tip: Click **Save and AIR List** to save the changes to the Play List and load the Play List into the selected channel transport.*

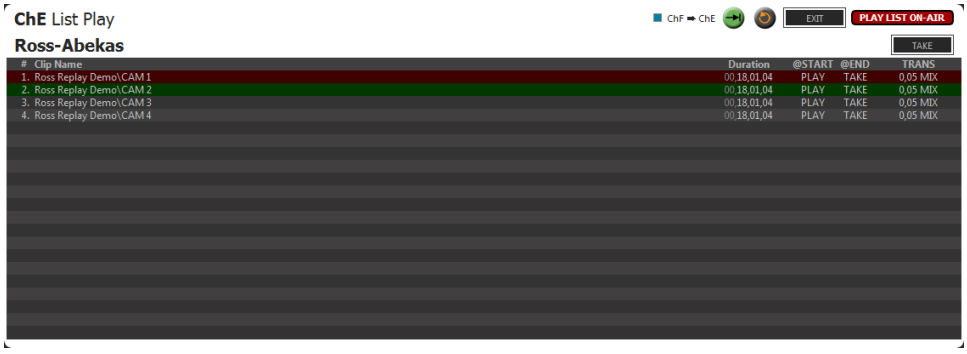
To Air a Play List

Take the Play List on-air to play each clip in order with the set transitions.

Note: If you want to use mix transitions between the clips in the Play List you must use two channel transports. Depending on the channel transport you select, the following channel transport is used for preview.

1. Double-click on the playlist you want to air in the Clip Library.
2. Select the channel transport that you want to play the Play List on.
3. Click **AIR List** on the **Playlist Editor** window.

   The **Playlist Editor** window changes to the **PLAYLIST ON-AIR** window, and the first clip in the Play List is highlight red and is loaded into the selected channel transport.



4. Click play ( ) to start playing the Play List.

*Tip: Click the loop button ( ) to have the Play List start again at the beginning when it finishes the last clip. It is recommended that you set **@START** to **PLAY** and **@END** to **TAKE** to fully automate the loop.*

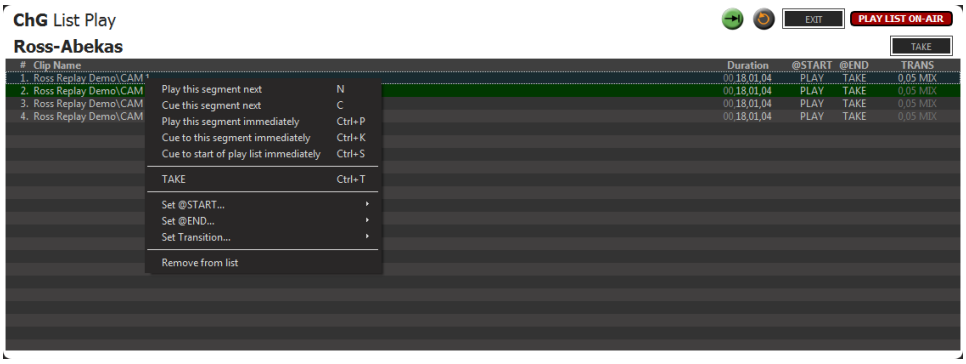
The first clip starts to play out and execute the @Start, @End, and transition tags of the current clip. When the clip is close to the end (3 seconds) the next clip highlights yellow, indicating that the PVW channel is about to go on-air as part of the transition.

*Tip: When you are finished using the playlist feature, click **EXIT** to take the playlist off-air and free up the channel transports for other uses.*

Play List Commands

As a Play List is playing out you can skip items in the Play List, cue up segments with manual or immediate playout, or re-cue to the start of the Play List. When you jump to a new location in the Play List, the server continues to play the clips in the Play List from the new location.

To access the list of commands, right-click on the clip you want to cue or play.



- **Play this segment next** — play the selected clip after the currently playing clip finishes on the PGM channel. The clip is highlighted green and is played next.
- **Cue this segment next** — cue the selected clip after the currently playing clip finishes on the PGM channel. The clip is highlighted green and is cued next. The clip pauses at the first frame and must be played manually.

> *Tip: You can manually play the clip by pressing the **Spacebar** on the keyboard.*

- **Play this segment immediately** — immediately load and play the selected clip on the PGM channel.
- **Cue this segment immediately** — immediately load and cue the selected clip on the PGM channel. The clip pauses at the first frame and must be played manually.
- **Cue to start of playlist immediately** — immediately load and cue the first clip in the Play List on the PGM channel. The clip pauses at the first frame and must be played manually.

> *Tip: You can quickly take a different clip in the list by selecting the new clip and clicking the **TAKE** button or pressing **Enter** on the keyboard.*

Folders

Clips are stored on the media drive in the server, or on external servers connected to the server you are using. You can organise the clips into folders on the media drive either from Windows® Explorer or from the Clip Library.

> *Important: You cannot delete a folder from the Clip Library. You can only delete a folder from Windows®.*

- To create a folder, right-click on an empty line in the Clip Library and click **New Folder**.
- You can type in a name for the new folder and drag and drop clips into it.

Clip Library Columns

You can set up the Clip Library to show or hide specific columns. Any column, with the exception of the clip name column, can be shown or hidden.

- To change the columns, click **Clip Library** > **Select Columns...**.
- Select which columns you want to show, or deselect the columns you want to hide, and click **OK**.

Clip Metadata

Clip metadata includes information like the name of the clip, the repeat mode, timecode source, and trim points. This information is stored with the clip and is copied to other servers with the clip.

> *Note: You cannot edit the metadata of a clip (Abekas® .CLIP) if it is locked. You must unlock the clip before you can edit the metadata.*

> *Tip: Most metadata shown in the Clip Library can be edited directly by double-clicking on the cell in the table and either entering the new data or selecting it from a drop-down list.*

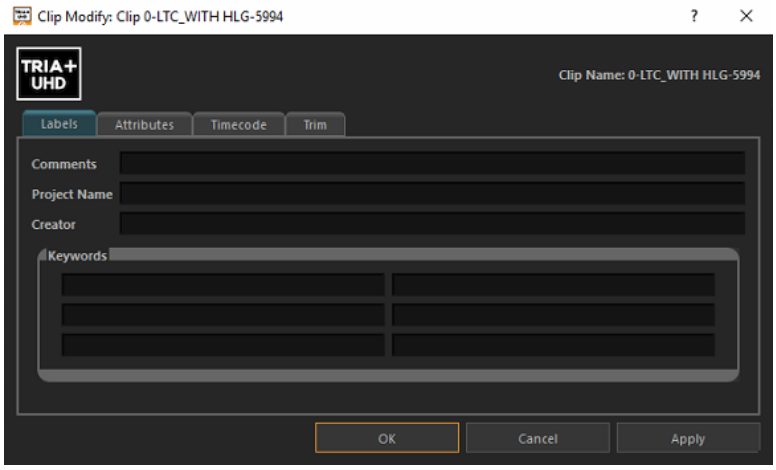
To Edit the Label Metadata of a Clip

The label metadata is shown in the Clip Library and is used to sort and identify clips.

1. Select the clip in the Clip Library you want to edit the metadata for.

   Note: You cannot edit the metadata of a clip if it is locked.

2. Click **Clip Library** > **Modify...**.
3. Click on the **Labels** tab.



4. Edit the metadata item you want to change.
   - **Comments** — a 255-character free form field.
   - **Project Name** — a 255-character free form field.
   - **Creator** — a 255-character free form field.
   - **Keywords** — 6 independent 35-character searchable words. A keyword can only be a single word or conjunction without spaces.
5. Click **OK**.

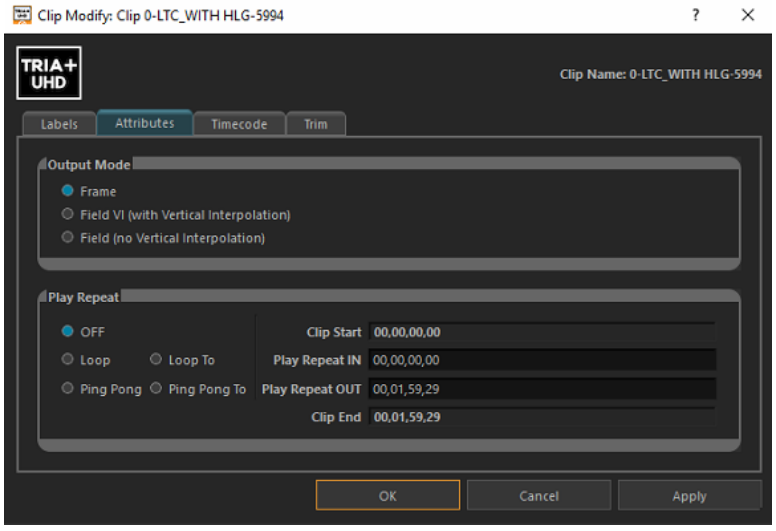
To Edit the Attributes Metadata of a Clip

The attributes metadata sets the default output mode for the clip, as well as the repeat function.

1. Select the clip in the Clip Library you want to edit the metadata for.

   Note: You cannot edit the metadata of a clip if it is locked.

2. Click **Clip Library** > **Modify...**.
3. Click on the **Attributes** tab.



4. In the **Output Mode** area, select the output video mode that you want to clip to play out in.
   - **Frame** — select this option if the clip was shot in a progressive video format.
   - **Field VI** — select this option if the clip was shot in an interlaced video format and you want to apply vertical interpolation (VI) to it. This mode is useful for clips that will be played out in slow motion or will be frequently paused. The VI helps to eliminate vertical hopping during slow motion playback and jagged edges in paused images.
   - **Field** — select this option if the clip was shot in an interlaced video format and you don't want to apply vertical interpolation (VI) to it.

   Note: *The server does not support video format conversion. If a clip is in a different video format than the server is operating in you will not be able to load it into a channel transport.*

5. In the **Play Repeat** area, select the repeat mode you want to use for the clip.
   - **OFF** — play repeat is turned off by default when the clip is loaded.
   - **Loop** — play repeat loop is turned on by default when the clip is loaded. When the clip starts playing, it immediately seeks to the **Play Repeat IN** point and plays until it reaches the **Play Repeat OUT** point. When it reaches the **Play Repeat OUT** point it seeks back to the **Play Repeat IN** point and plays again.
   - **Ping Pong** — play repeat ping-pong is turned on by default when the clip is loaded. When the clip starts playing, it immediately seeks to the **Play Repeat IN** point and plays until it reaches the **Play Repeat OUT** point. When it reaches the **Play Repeat OUT** point it starts playing in reverse until it reaches the **Play Repeat IN** point again.
   - **Loop To** — play repeat loop to play is turned on by default when the clip is loaded. The clip starts playing from the beginning passing through the **Play Repeat IN** point and continues playing until it reaches the **Play Repeat OUT** point. When it reaches the **Play Repeat OUT** point it seeks back to the **Play Repeat IN** point and plays again.
   - **Ping Pong To** — play repeat ping pong is turned on by default when the clip is loaded. When the clip starts playing, it immediately seeks to the **Play Repeat IN** point and plays until it reaches the **Play Repeat OUT** point. When it reaches the **Play Repeat OUT** point it starts playing in reverse until it reaches the **Play Repeat IN** point again..

6. Use the **Play Repeat IN** and **Play Repeat OUT** fields to the set the timecode for the in and out points of the clip.
   - **Play Repeat IN** — the first inclusive field/frame of the repeated portion of the clip. By default this is the first field/frame of the clip.
   - **Play Repeat OUT** — the field/frame before the last field/frame of the repeated portion of the clip. By default this is one field/frame beyond the end of the clip.

7. Click **OK**.

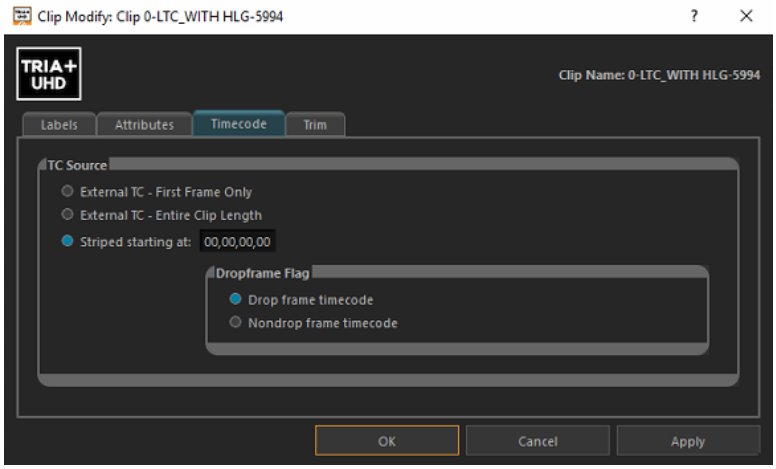
To Edit the Timecode Metadata of a Clip

The timecode metadata sets the source of the timecode information for the clip.

1. Select the clip in the Clip Library you want to edit the metadata for.

   Note: *You cannot edit the metadata of a clip if it is locked.*

2. Click **Clip Library** > **Modify...**.
3. Click on the **Timecode** tab.



4. In the **TC Source** area, select the timecode source.
   - **External TC - First Frame Only** — the clip uses the external timecode data of the first field/frame that was originally recorded with the clip. The timecode for the remainder of the clip is synthesized. This option is useful if there was a break or interruption in timecode data during recording.
   - **External TC - Entire Clip Length** — the clip uses the external timecode data that was originally recorded with the clip. This option is useful if the clip has different segments in it with different timecode ranges that you want to use.
   - **Striped** — the clip uses the internally generated, or synthesised, timecode starting at a defined point. Enter the numeric timecode value that you want to use for the start of the clip.
5. In the **Dropframe Flag** area, select if you want to use **Drop frame timecode** or **Nondrop frame timecode**.

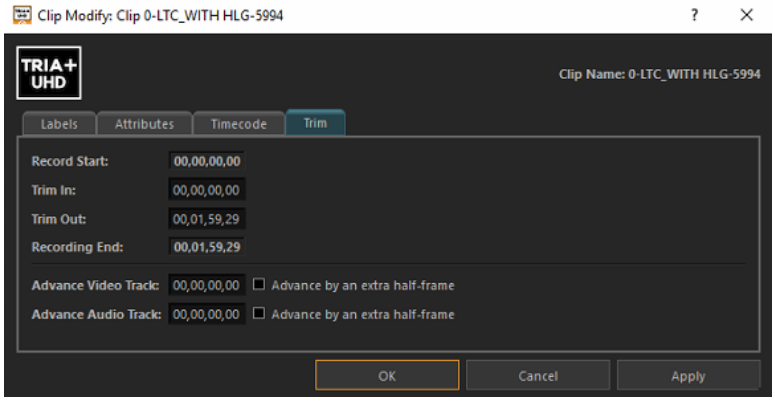
   This option is only available if the clip was recorded in a 59.94Hz video format.
6. Click **OK**.

To Edit the Trim Metadata of a Clip

The trim metadata allows you to trim the head or tail off of the clip, setting a new start and end point for the clip. You can also offset a specific track in the clip.

1. Select the clip in the Clip Library you want to edit the metadata for.

   Note: *You cannot edit the metadata of a clip if it is locked.*
2. Click **Clip Library** > **Modify...**.
3. Click on the **Trim** tab.



4. In the **Trim In** field, enter the new starting timecode value for the clip. The **Record Start** field shows the timecode at the start of the clip.
5. In the **Trim Out** field, enter the new ending timecode value for the clip. The **Recording End** field shows the timecode at the end of the clip.
6. Use the **Advance** fields to slip the video, audio, or timecode track back in relation to the other tracks in the clip. Only those tracks that are present in the clip are shown.

   Any content slipped past the start of the clip will not be present in the output of the clip.

   *Tip: Select **Advance by an extra half-frame** to slip that particular track back half of a field/frame.*

   - **Advance Video Track** — slip the video track back in time relative to all the other tracks.
   - **Advance Key Track** — slip the key track back in time relative to all the other tracks.
   - **Advance Audio Track** — slip the audio track back in time relative to all the other tracks.
   - **Advance Timecode Track** — slip the timecode track back in time relative to all the other tracks.
7. Click **OK**.

Parent/Child Clips

You can create virtual copies of a clip. These child clips are essentially pointers to the parent clip that use an independent set of metadata. This allows you to create a number of child clips that are trimmed differently from their parent and each other without taking up additional space on the media drive.

Once a child clip has been created, you cannot delete the parent clip until all the child clips have been deleted.

To Create a Child Clip

The child clip can have different metadata from the parent clip.

Note: You cannot create a child clip if the parent clip is locked.

1. Right-click on the clip that you want to create a child of.
2. Click **Create Child Clip**.

The child clip appears in the clip list with the same name as the parent clip with `- Child` appended to the end of the clip name.

Deleting a Clip

By default, you can only delete a single clip at a time. The Administrator and Privileged User accounts can be granted permission to delete multiple clips at once.

Note: Only Administrator and Privileged accounts can delete clips from the server.

To Delete a Clip

Remove the clip from the Clip Library and the hard drive of the server.

Note: You cannot delete a clip if it is locked. Unlock the clip first and then you can delete it.

1. Select the clip(s) that you want to delete.

   Note: Your account must have permission to delete more than one clip at a time.
2. Click **Clip Library** > **Delete**.

   You are prompted to confirm the deletion. Click **Delete** to delete the clip(s).

Lock/Unlock Clips

Clips can only be locked or unlocked from Windows®. When a clip is locked, an orange lock icon is shown in the Locked column in the Clip Library.

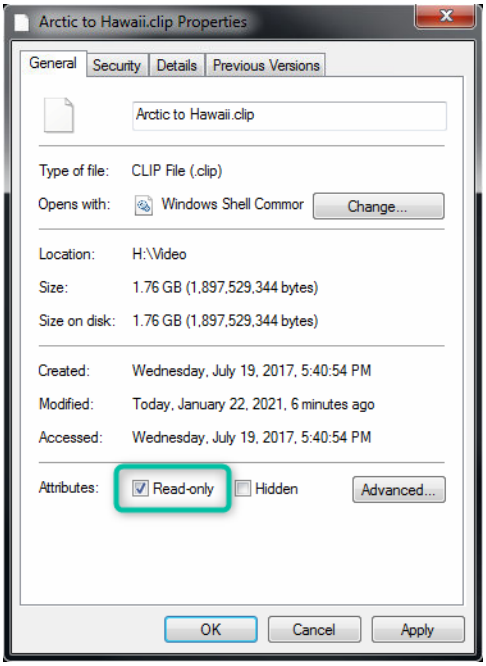
To Lock/Unlock a Clip

A clip can only be locked or unlocked from Windows®.

1. Launch Windows® Explorer and navigate to the media drive on the server (**Media Data (H):**) and open the **Video** folder.
2. Locate the clip that you want to lock or unlock and right-click on it.

> ***Tip:*** *Select multiple files and right-click on one of them to lock/unlock multiple files at once.*

3. Click **Properties**.
4. Click the **General** tab and select (locked) or un-select (unlocked) **Read-only** in the **Attributes** section.



5. Click **OK**.

Timecode Chase

A Timecode Chase (TC Chase List) list allows you create a playlist where each clip in the list can be triggered by a timecode value. For each clip in the list you set the timcode value that you want to clip to start playing. You also have the option of setting a new in point, or offset, for the clip if you don't want the clip to start playing from the beginning.

> ***Note:*** *You must have a valid timecode signal connected to the **LINE IN** port at the back of the server.*

> ***Tip:*** *Because the TC Chase List does not use the LTC IN port, you can still use time of day LTC input separate from TC Chase List.*

To Create a TC Chase List

You can add clips to the TC Chase List in the same way you add clips to a Play List. Once the clips have been added you can set the timecode value for when each clip will start playing, as well as any offset to the input of the clip that you want to jump to.

1. If you are creating a new TC Chase List, click **New** > **New Playlist** and enter a name for the new TC Chase List. If you are editing a TC Chase List, proceed to the next step.

2. Double-click on the name of the TC Chase List you just created.

   The **TC Chase Editor** opens to the right of the Clip Library.

   Note: *If it appears that the Editor window has not opened, it may be shrunk. Resize the right side of the Clip Library to make the Editor window visible.*

   Tip: *The current timecode coming into the server is shown at the top of the TC Chase List window.*

3. Drag and drop clips from the Clip Library to your TC Chase List.

   Tip: *Right-click on a clip and click **Remove from list** to remove the clip from the TC Chase List.*

4. Drag and drop clips within the TC Chase List to order them how you want them to appear visually. The order of the clips in the list does not change the playout order. Clips are played according to their **TC Offset Trigger**.

   Tip: *You can click **Save** at any time to save the current state of the TC Chase List.*

5. Double-click on the time in the **TC Offset Trigger** column for the clip you want to edit and enter the timecode value at which you want this clip to start playing. For example, if you want the clip to start playing at timecode 01,00,30,00, enter `01,00,30,00`.

6. If required, double-click on the time in the **Clip TC Offset** column for the clip and enter the point in the clip at which you want it to start. This is an offset from the in point of the clip. For example, if you want the clip to start playing 5 seconds into the clip, enter `00,00,05,00`.

7. Repeat these steps for every clip in the TC Chase List.
8. Click **Save**.

To Air a TC Chase List

Take the TC Chase List on-air to play each clip in order at the specified timecode values.

Note: *A TC Chase List has no mix transition and only uses a single channel transport.*

1. Double-click on the TC Chase List you want to air in the Clip Library.
2. Select the channel transport that you want to play the TC Chase List on.
3. Click **START TC Chase** on the **TC Chase Editor** window.

   The **TC Chase Editor** window changes to the **TC Chase ON-AIR** window. As the timecode reaches the point for each clip, the clip is highlighted red and plays out on the channel transport. The channel transport outputs black if no clip is scheduled to play during the current timecode.

Desktop Multi-Viewer

The integrated Multi-Viewer allows you to monitor multiple channel transports in a separate window on the server. The layout of the Multi-Viewer depends on how many channels you have and how the channels on the server are configured.

*Tip: Connect a second computer monitor to the server to maximise the Multi-Viewer and the **Tria Explorer** on their own monitors.*

Refer to Windows® documentation for information working with multiple monitors connected to the same computer.

You can launch the Multi-Viewer either in the **Tria Explorer** window or in an independent window.

- **Docked** — Click **Viewer** at the top of the **Tria Explorer** window.
- **Un-Docked** — Click **View** > **Undock Viewer**. The Multi-Viewer opens in a separate window that can be moved to a different screen and maximized.

Export

You can export a clip from the Clip Library to a number of formats for use in an external device. Files are exported in the same video format that the server is operating in.

Supported Media Files for Export

Table 2: Supported Video Codecs

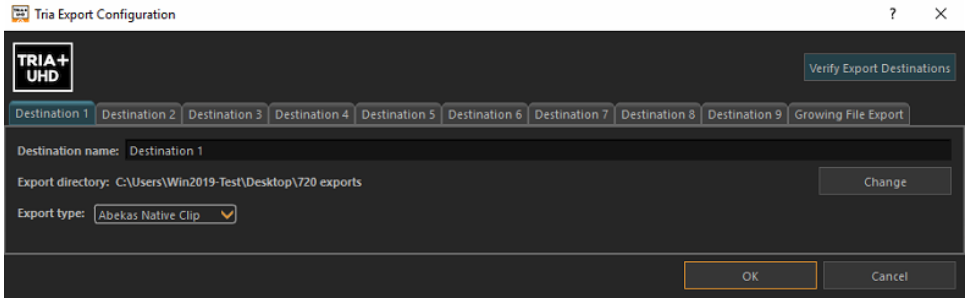
File Type	Codec	Description
MXF	XAVC	XAVC Class 300/480
	D10/IMX	50Mb/s
CLIP	Native	native clip.

To Select an Export Destination

You can set up to nine export destinations, each with a different export format. Destination folders should only be located on network drives or high-speed USB drives (USB 2.0/3.0/3.1) mounted on the server.

Important: *Do not select an export destination on the system (`C:`) or media drive (`H:`) of the server. These drives are reserved for the operating system and media playout and recording. Exporting to either of these drives could cause video errors and system instability.*

1. Click **Configure** > **Export Configuration**.



2. Click the **Destination *X*** tab for the destination you want to set up or edit.
3. Select **Enable this destination** to make this destination available for export.

   Destination 1 is always available for export.
4. In the **Destination Name** field, enter a new name for the destination tab.
5. Click **Export Type** and select the codec you want to use for the export.

   Note: *Only Abekas native `.clip` and AVC-Intra `.mxf` are available when operating in a 1080p video format.*
6. Click **Change** and select the network drive or USB folder that you want to export to.
7. Click **Select Folder**.

   The selected folder is shown in the **Export directory** field.
8. Select additional export destination as required.
9. Click **Verify Export Destinations** to verify that all destination can be found.

   A message is shown next to the button stating that all destination are valid, or that destinations are missing. The destinations that are missing are highlighted in yellow.

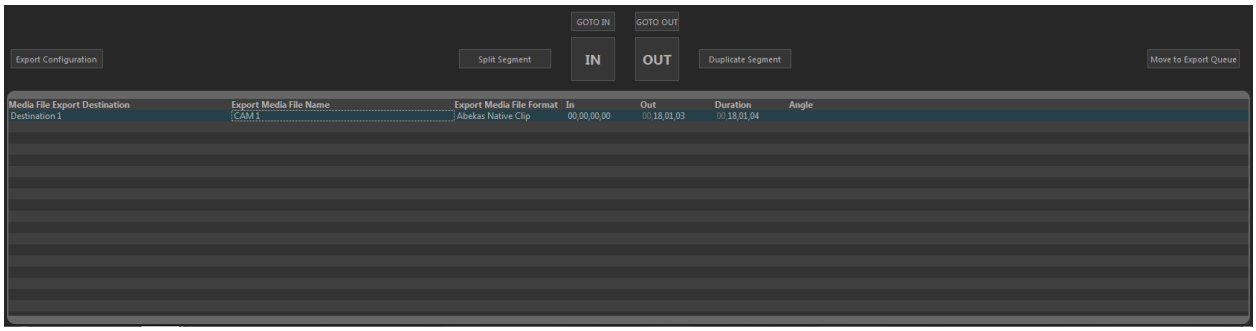
10. Click **OK**.

To Export Media Files

Export media files from the server to another format that can be used by another device.

Note: Some export functions require a channel to export video. Ensure that the channel you want to use for exporting is not being used before you start the export.

1. Launch the **Tria Explorer** application.
2. Click **Clip Library**.
3. Select the clip(s) that you want to export in the Clip Library.
4. Click **Clip Library** > **Export**.



The **Export Editor** opens with the selected clips listed.

5. To select a different destination for a clip, right-click on the clip and click **Set Destination...** and select the new destination.
6. To set a custom in-point and out-point, load the clip into the selected channel transport and use the transport controls to locate the new in-point or out-point and click **IN** or **OUT** to set that point. The timecode for the new in-point and out-point is shown in the table.

*Tip: To split the clip into segments, set the in-point to where you want the segment to end and click **Split Segment**. A new clip of the same name and export destination is created.*

*Tip: To duplicate the segment, set the in-point and end-point to where you want to new clip to start and end and click **Duplicate Segments**. A new clip of the same name and export destination is created.*

7. Select all the clips you want to export and click **Move to Export Queue**.

   The **Export Queue** opens with the selected clips listed.
8. Click **Start Export**.
9. If your export requires transcoding, in the **Channel to take offline** list, select the channel that you want to use for the export and click **OK**.

   The server starts exporting the clips to the destination folders.

*Tip: Click **Abort Export** to stop the export. The current clip is put back into the Export Queue with the remaining clips.*

Growing File Export

You can constantly export any channel that is being recorded, including one or more angles of a replay event, to an export location on network drives or network attached storage (NAS). The growing files can then be imported into a non-linear editor where is can be worked on in near real-time as the file continues to grow. There is some delay (about 40 seconds) in the export process relative to the live record point.

The Growing File Export service needs permissions to access the NAS for the export. Once this is set up you can direct the Growing File Export to that network storage location.

To Set NAS Permissions for Growing File Export

The Growing File Export service in Windows® needs permission to access the NAS where you want to locate the Growing File Export.

1. Launch the **Services** application from Windows®.

   *Tip: Click the **Start** button and search for `services` to quickly find the application.*

2. In the **Services** list, locate **Abekas Growing File Export**.
3. Right click on **Abekas Growing File Exporter** and click **Properties**.
4. Click the **Log On** tab.
5. Select **This account** and click **Browse**.
   The **Select User** dialog opens.
6. Click **Advanced**.
   A new **Select User** dialog opens.
7. Click **Find Now**.
   A list of valid User Accounts is shown.
8. Select the user account of the NAS you want to use for the Growing File Export and click **OK**.
9. Verify that the user account is now listed in the **Enter the object name to select** field and click **OK**.
10. Enter the password for the selected user account in the **Password** and **Confirm password** fields and click **OK**.
11. Click **OK** on the **Services** popup.
12. Select the **Abekas Growing File Exporter** and click **Restart the service**.

To Create Growing Export Files

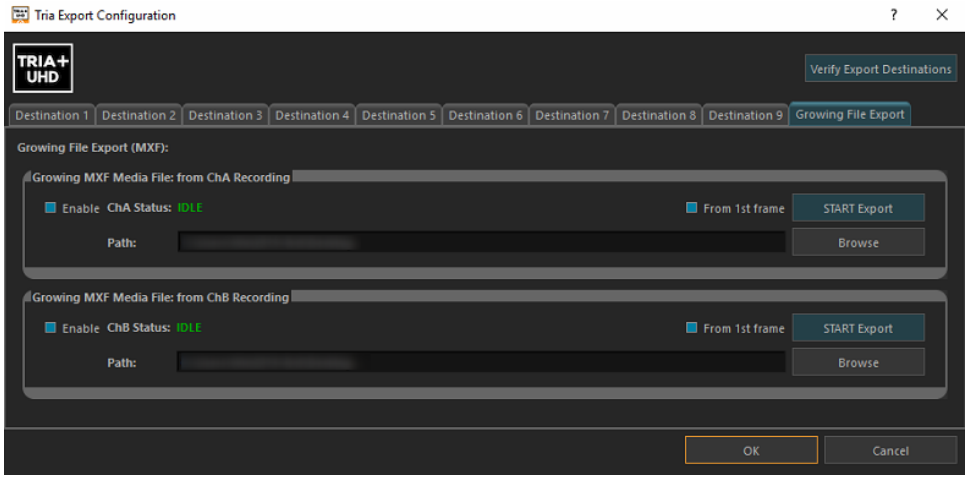
The growing export works in real-time to export clips or replay events as they are being recorded. There is a separate growing file export for each record channel transport on the server.

Note: When exporting to a NAS, the Growing Export File service must have permissions to access the NAS and the NAS must be mapped to a network drive to be able to use the feature. Refer to your Windows® documentation for information on mapping a network drive.

Note: The configuration options that are available for export depend on the channel configuration of the server.

1. Click **Configure** > **Export Configuration** > **Growing File Export**.
2. Select **Enable** for the record channel that you want to set up the growing export for.

   Note: The options available depend on how the server is configured and whether the hardware channel has been set up for single-channel or multi-channel IOS operation.



3. Click **Browse** and select the network drive or USB folder that you want to export to.

4. Click **Select Folder**.

   The selected folder is shown in the **Path** field and the **Ch Status** line shows IDLE in green.

5. Select **From 1st frame** to have the export start with the first frame of the recording.
6. In the **Export Angles** area, select which camera angles you want to include in the export.
7. In the **MXF Filename Field** area, select how you want the export file to be named. An example of how the name will appear is shown below.
8. Select how you want to export different camera angles:
   - **Create ONE MXF file containing Multiple Angles**
   - **Create MANY MXF files; one for each Angle**
9. Click **START Export** to start the growing file export operation.

   The growing file export starts about 40 seconds after the selected record channel starts recording. If the record channel is already recording, the growing file export starts about 40 seconds after you click **START Export**.

10. Click **OK**.

Remote Control Support

Use the information in this section to assist you in setting up an external device to control your server.

Remote Communications (RS-422)

Direct control of each channel transport on the server is available through ethernet communications.

Note: *The BVW-75 and Odetics protocols are not supported over ethernet at this time.*

The procedure for setting up a room for external control depends on the protocol you want to use.

To Configure a Room for the BVW-75 Protocol

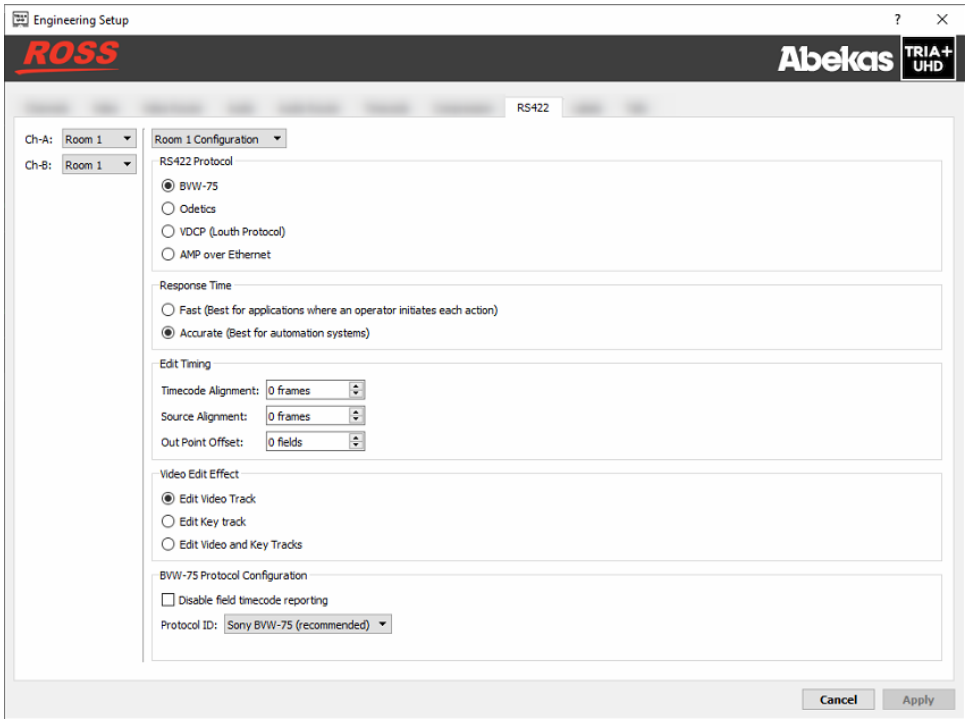
Set up a Room to use the BVW-75 protocol to control server channels.

Note: *The BVW-75 protocol does not support clip library listing or clip loading.*

1. Launch the **Tria Config** application.

   You may be prompted to allow the program to make changes on the computer, click **Yes**.

2. Click the **RS422** tab.



3. Click **Room *X* Configuration** and select the room you want to configure. Later you will assign this room to a channel.
4. In the **RS422 Protocol** area, select **BVW-75**.
5. In the **Response Time** area, select how quickly the server executes the Clip Play command after the Clip Load command.
   - **Fast** — executes the play command immediately after the load command. This is recommended when controlling the server from an external switcher.
   - **Accurate** — executes the play command only after receiving confirmation that the clip has loaded. This is recommended when controlling the server from an automation system.

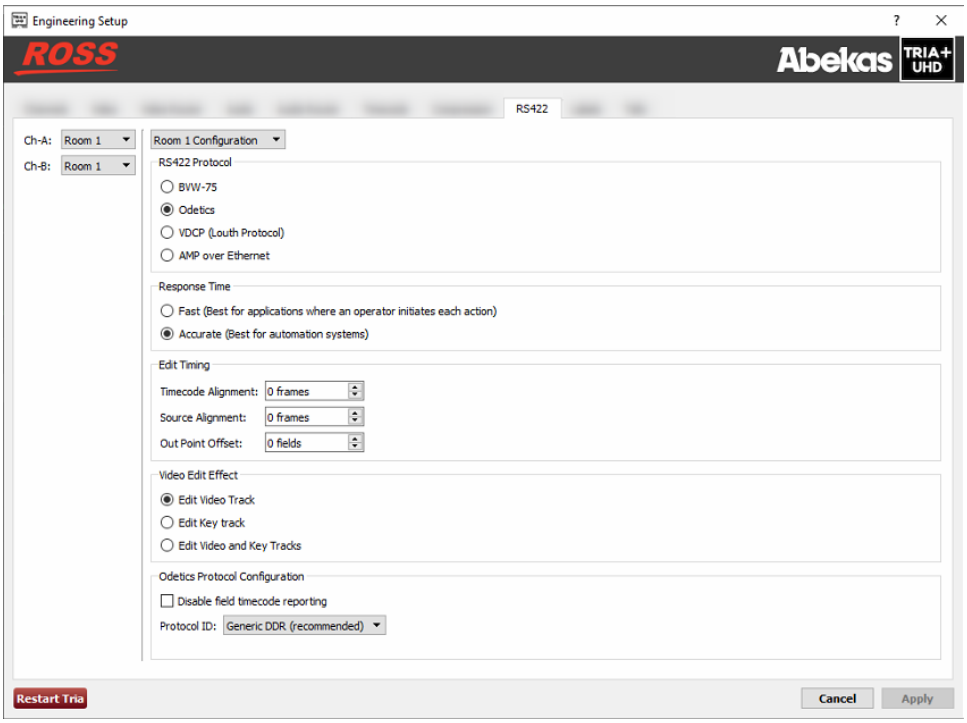
6. In the **Edit Timing** area, select a timing offset for when you are controlling the server from an external editor over serial.
   - **Timecode Alignment** — select the offset, in frames, of the timecode information that is sent to the editor during playout or record.
   - **Source Alignment** — select the offset, in frames, of the timecode information that is sent to the editor during playout.
   - **Out Point Offset** — select the offset, in fields, of the out-point timecode value that is sent to the editor during record.
7. In the **Video Edit Effect** area, select which tracks get recorded when an external editor issues the Video Record command to the server.
   - **Edit Video Track** — only the video track is recorded.
   - **Edit Key Track** — only the alpha (key) track is recorded.
   - **Edit Video and Key Tracks** — both the video and alpha (key) tracks are recorded. The clip loaded into the VKA channel transport must have an alpha track.
8. In the **BVW-75 Protocol Configuration** area, select specific configurations for the protocol you are using.
   - Select **Disable field timecode reporting** to force the server to report timecode only once every video frame. If this option is not selected, the server reports timecode every field.
   - Select the **Protocol ID** that you want to use (**Abekas 6000**, **Sony BVW-75**, or **Generic DDR**).
9. Click on the **Ch-*X*:** list and select the room that you want to assign to the channel.
10. Click **Restart Tria**. A confirmation dialog box is displayed.
11. Click **Restart Tria** to restart the server application and services with the new setting.
12. Click **OK** when the restart has completed to dismiss the window.

To Configure a Room for the Odetics Protocol

Set up a Room to use the Odetics protocol to control server channels.

1. Launch the **Tria Config** application.

   You may be prompted to allow the program to make changes on the computer, click **Yes**.
2. Click the **RS422** tab.



3. Click **Room *X* Configuration** and select the room you want to configure. Later you will assign this room to a channel.
4. In the **RS422 Protocol** area, select **Odetics**.
5. In the **Response Time** area, select how quickly the server executes the Clip Play command after the Clip Load command.
   - **Fast** — executes the play command immediately after the load command. This is recommended when controlling the server from an external switcher.
   - **Accurate** — executes the play command only after receiving confirmation that the clip has loaded. This is recommended when controlling the server from an automation system.
6. In the **Edit Timing** area, select a timing offset for when you are controlling the server from an external editor over serial.
   - **Timecode Alignment** — select the offset, in frames, of the timecode information that is sent to the editor during playout or record.
   - **Source Alignment** — select the offset, in frames, of the timecode information that is sent to the editor during playout.
   - **Out Point Offset** — select the offset, in fields, of the out-point timecode value that is sent to the editor during record.
7. In the **Video Edit Effect** area, select which tracks get recorded when an external editor issues the Video Record command to the server.
   - **Edit Video Track** — only the video track is recorded.
   - **Edit Key Track** — only the alpha (key) track is recorded.
   - **Edit Video and Key Tracks** — both the video and alpha (key) tracks are recorded. The clip loaded into the VKA channel transport must have an alpha track.
8. In the **Odetics Protocol Configuration** area, select specific configurations for the protocol you are using.
   - Select **Disable field timecode reporting** to force the server to report timecode only once every video frame. If this option is not selected, the server reports timecode every field.

- Select the **Protocol ID** that you want to use (**Abekas 6000**, **Sony BVW-75**, or **Generic DDR**).

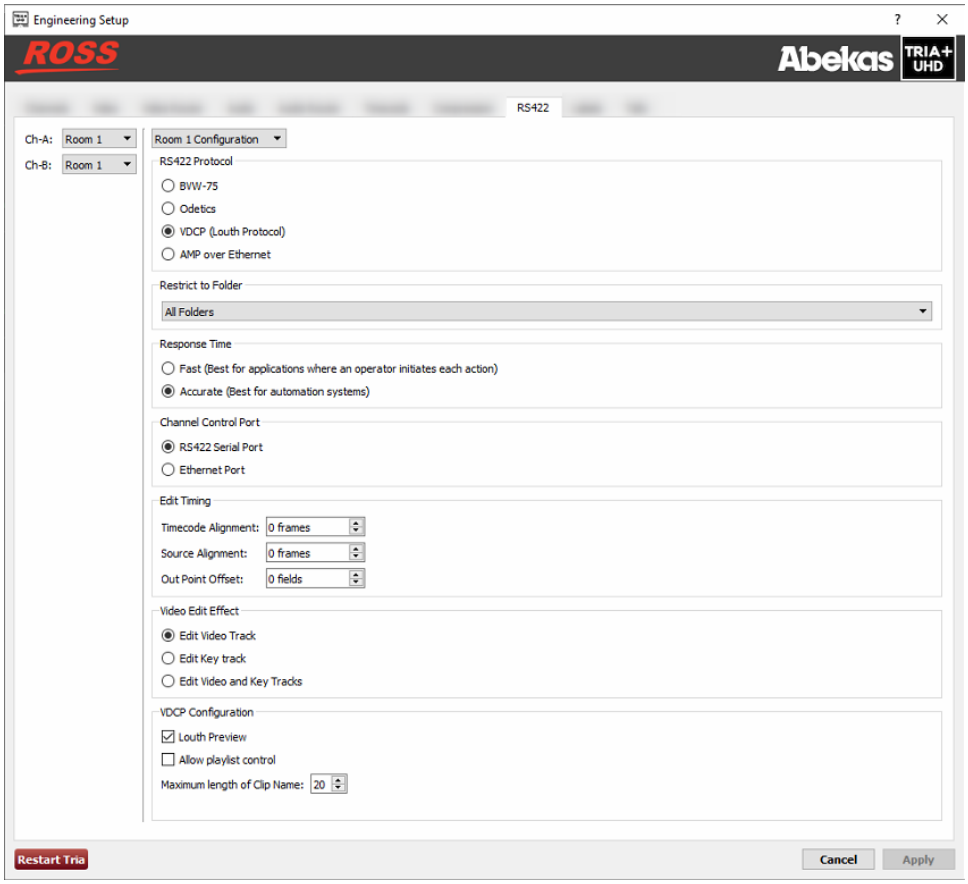
9. Click on the **Ch-*X*:** list and select the room that you want to assign to the channel.
10. Click **Restart Tria**. A confirmation dialog box is displayed.
11. Click **Restart Tria** to restart the server application and services with the new setting.
12. Click **OK** when the restart has completed to dismiss the window.

To Configure a Room for the VDCP Protocol

Set up a Room to use the VDCP (Louth) protocol to control server channels.

Note: *When controlling the server from a remote device over ethernet, you must select the port on the server corresponding to the channel transport you want to send commands to. For example, channel transport A = port 8000, channel transport B = port 8001, and so on.*

1. Launch the **Tria Config** application.
   You may be prompted to allow the program to make changes on the computer, click **Yes**.
2. Click the **RS422** tab.



3. Click **Room *X* Configuration** and select the room you want to configure. Later you will assign this room to a channel.
4. In the **RS422 Protocol** area, select **VDCP**.
5. In the **Restrict to Folder** area, select if you want to restrict remote control of the selected room to only seeing the contents of a specific folder, or all folders (**All Folders**).
6. In the **Response Time** area, select how quickly the server executes the Clip Play command after the Clip Load command.
   - **Fast** — executes the play command immediately after the load command. This is recommended when controlling the server from an external switcher.

- **Accurate** — executes the play command only after receiving confirmation that the clip has loaded. This is recommended when controlling the server from an automation system.

7. In the **Channel Control Port** area, select whether you want to use the serial ports or ethernet connection for the channels assigned to the room.

   *Note: The Tria+ UHD does not have an serial port for device control. You must select **Ethernet**.*

8. In the **Edit Timing** area, select a timing offset for when you are controlling the server from an external editor over serial.
   - **Timecode Alignment** — select the offset, in frames, of the timecode information that is sent to the editor during playout or record.
   - **Source Alignment** — select the offset, in frames, of the timecode information that is sent to the editor during playout.
   - **Out Point Offset** — select the offset, in fields, of the out-point timecode value that is sent to the editor during record.
9. In the **Video Edit Effect** area, select which tracks get recorded when an external editor issues the Video Record command to the server.
   - **Edit Video Track** — only the video track is recorded.
   - **Edit Key Track** — only the alpha (key) track is recorded.
   - **Edit Video and Key Tracks** — both the video and alpha (key) tracks are recorded. The clip loaded into the VKA channel transport must have an alpha track.
10. In the **VDCP Configuration** area, select specific configurations for the protocol you are using.
    - Select **Louth Preview** to allow clips to be pre-cued in the background for seamless back-to-back transitions during playout.
    - Select **Allow playlists control** to allow a playlist to be cued and played from an external device just like a clip.
    - In the **Maximum length of Clip Name** field, select the maximum length of a clip name that is reported to the controlling device.
11. Click on the **Ch-*X*:** list and select the room that you want to assign to the channel.
12. Click **Restart Tria**. A confirmation dialog box is displayed.
13. Click **Restart Tria** to restart the server application and services with the new setting.
14. Click **OK** when the restart has completed to dismiss the window.

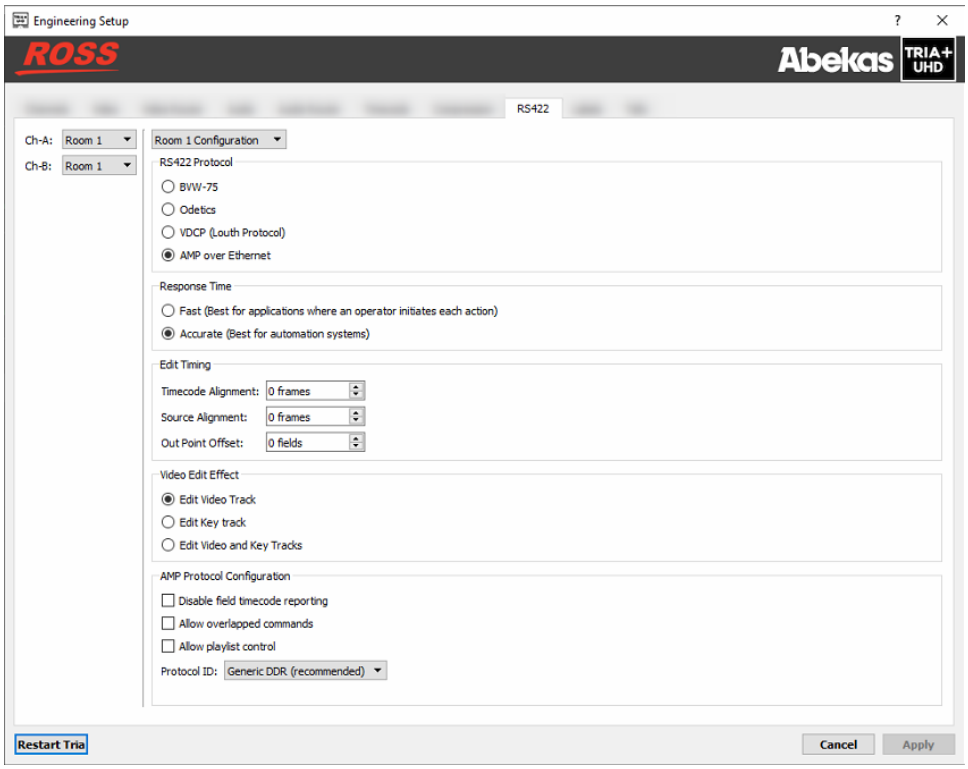
To Configure a Room for the AMP Protocol

Set up a Room to use the AMP protocol to control server channels.

Note: When controlling the server from a remote device over ethernet, you must select the port as 3811 and then select the channel you want to send the commands to.

1. Launch the **Tria Config** application.

   You may be prompted to allow the program to make changes on the computer, click **Yes**.
2. Click the **RS422** tab.



3. Click **Room *X* Configuration** and select the room you want to configure. Later you will assign this room to a channel.
4. In the **RS422 Protocol** area, select **AMP over Ethernet**.
5. In the **Response Time** area, select how quickly the server executes the Clip Play command after the Clip Load command.
   - **Fast** — executes the play command immediately after the load command. This is recommended when controlling the server from an external switcher.
   - **Accurate** — executes the play command only after receiving confirmation that the clip has loaded. This is recommended when controlling the server from an automation system.
6. In the **Edit Timing** area, select a timing offset for when you are controlling the server from an external editor over serial.
   - **Timecode Alignment** — select the offset, in frames, of the timecode information that is sent to the editor during playout or record.
   - **Source Alignment** — select the offset, in frames, of the timecode information that is sent to the editor during playout.
   - **Out Point Offset** — select the offset, in fields, of the out-point timecode value that is sent to the editor during record.
7. In the **Video Edit Effect** area, select which tracks get recorded when an external editor issues the Video Record command to the server.
   - **Edit Video Track** — only the video track is recorded.
   - **Edit Key Track** — only the alpha (key) track is recorded.
   - **Edit Video and Key Tracks** — both the video and alpha (key) tracks are recorded. The clip loaded into the VKA channel transport must have an alpha track.
8. In the **AMP Protocol Configuration** area at the bottom of the window, select specific configurations for the protocol you are using.

- Select **Disable field timecode reporting** to force the server to report timecode only once every video frame. If this option is not selected, the server reports timecode every field.
- Select **Allow overlapped commands** to allow the server to accept overlapping commands.
- Select **Allow playlists control** to allow a playlist to be cued and played from an external device just like a clip.
- Select the **Protocol ID** that you want to use (**Abekas 6000**, **Sony BVW-75**, or **Generic DDR**).

9. Click on the **Ch-*X*:** list and select the room that you want to assign to the channel.
10. Click **Restart Tria**. A confirmation dialog box is displayed.
11. Click **Restart Tria** to restart the server application and services with the new setting.
12. Click **OK** when the restart has completed to dismiss the window.

DashBoard

The DashBoard control system allows remote access to multiple pieces of Ross Video equipment, including openGear® cards, Carbonite production switchers, Ross video servers, and Ross cameras. Download and install the latest version of DashBoard from *www.rossvideo.com/support/software-downloads/*.

Review the documentation that comes with DashBoard for information on installing and launching DashBoard.

To control Tria+ UHD from DashBoard you must create a custom panel in DashBoard using PanelBuilder to send VDCP or Tria+ UHD Ethernet API commands to the server.

Note: *DashBoard can only display active video for a channel transport if DashBoard is running on the same Tria+ UHD server. Active video for a channel transport cannot be shown in DashBoard when DashBoard is running on a separate computer.*

Abekas® DashBoard Service

The Abekas® OGP (openGear® Protocol) Service allows you to connect to your server from DashBoard.

To Install the Abekas® OGP Service

The AbekasOGP application should already be installed on your server. If it is not, you can download and install the application manually.

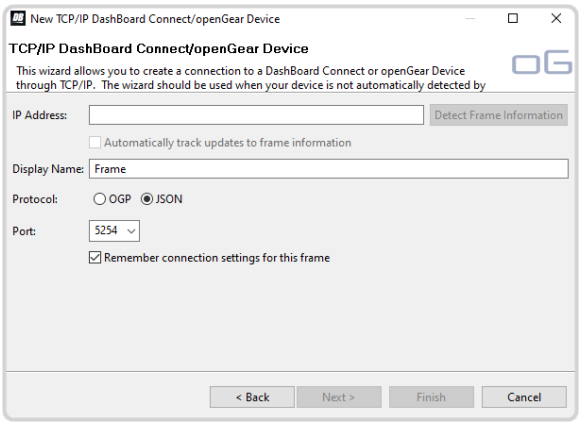
1. Navigate to the **Downloads** section of the Ross® website for your server product and download the Abekas® OGP DashBoard Service.

   Tip: *For example, if you have a Mira server, you would navigate to https://www.rossvideo.com/support/software-downloads/mira/.*

2. Run the `Abekas_#.#.#_setup.exe` application on your server and follow the wizard to install the service.

To Connect to Tria+ UHD from DashBoard

1. Click **File** > **New** > **TCP/IP DashBoard Connect or openGear Device**.



2. In the **IP Address** field, enter the IP address of the Tria+ UHD chassis. The default IP address is 192.168.0.1.
3. In the **Display Name** field, enter the name you want to use to identify the Tria+ UHD chassis in DashBoard. This should be a unique name for the Tria+ UHD you are setting up.
4. Select **JSON**.
5. In the **Port** field, enter `5254`.
6. Click **Finish**.

   The Tria+ UHD you are connecting to appears in the **Tree View**.

DashBoard Interface

The server appears as a node in the DashBoard Basic Tree View. The **Replay** and **Explorer** sub-nodes can be expanded to show the **Operator** and **Explorer** pages.

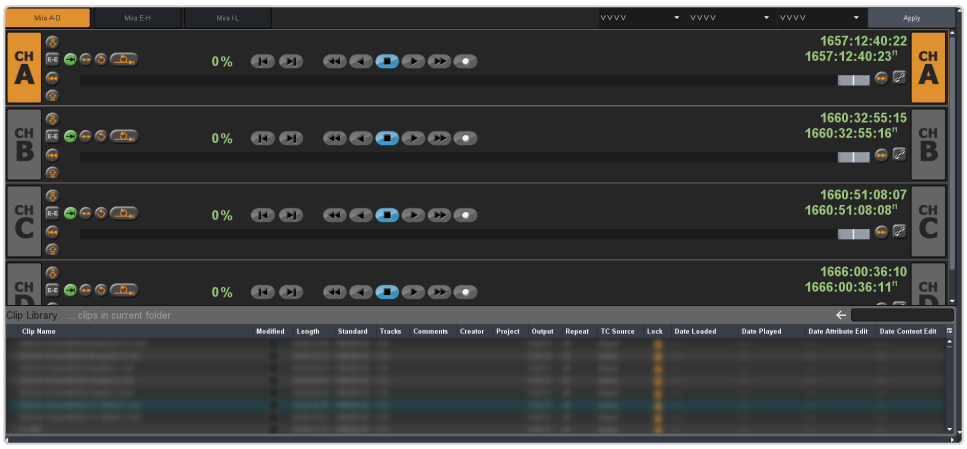
Replay

The **Operator 1** and **Operator 2** pages are also known as **MiraTouch Horse Racing** panels and are intended to be used in a 4-in/2-out replay configuration for horse racing.

Explorer

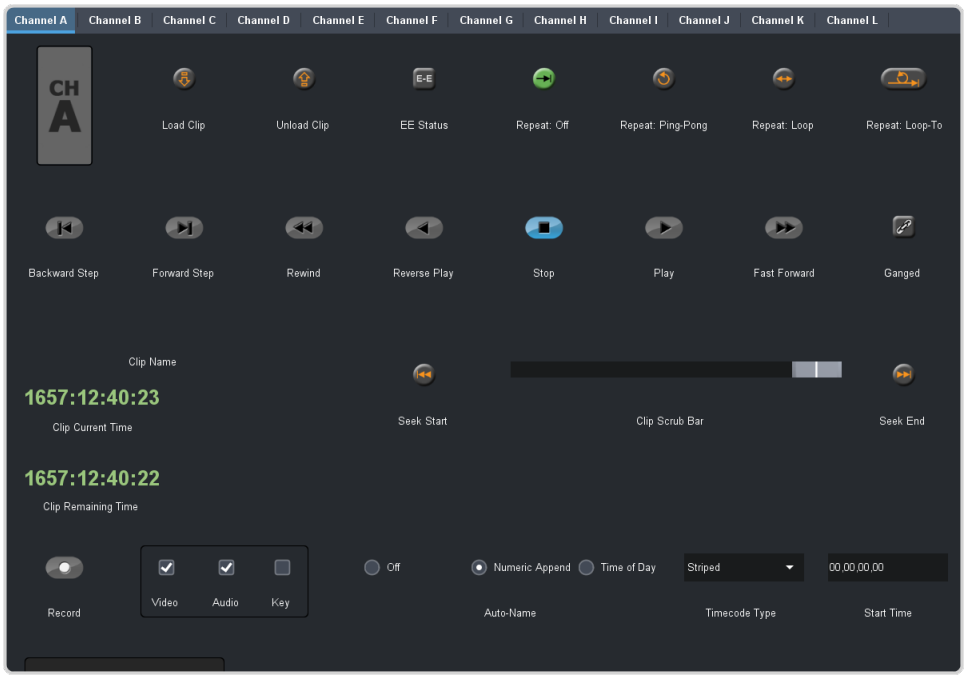
The **Explorer** and **Explorer Touch** pages mirror the operation of the **Explorer** application of your server. The **Explorer Touch** page is smaller version designed to fit into Live Assist.

Tip: Portions of these pages can be dragged onto a custom panel in DashBoard PanelBuilder.



Palette

The **Palette** page provides a number of widgets for use in PanelBuilder.

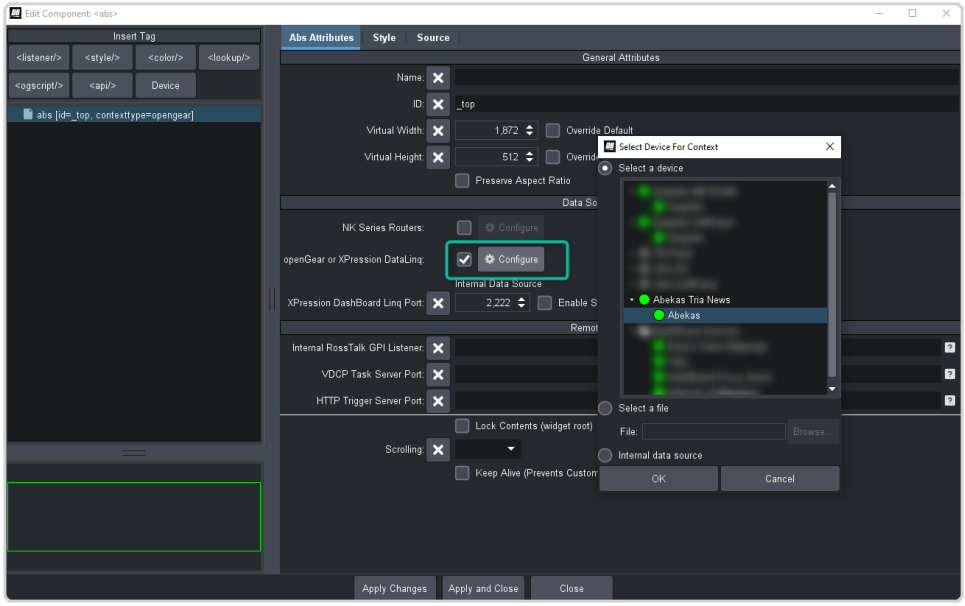


PanelBuilder Custom Panel Attributes

When building a custom panel in DashBoard, you can connect to your server as a data source. This allows you access to numerous powerful commands and parameters native to your server.

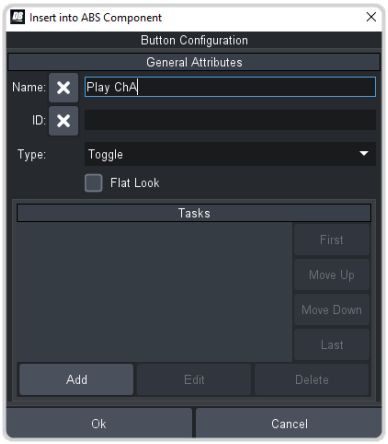
To Add a Server Command to a Custom Panel

1. Double-click on the canvas of your custom panel and click the **openGear or XPression DataLinq Configure** button.



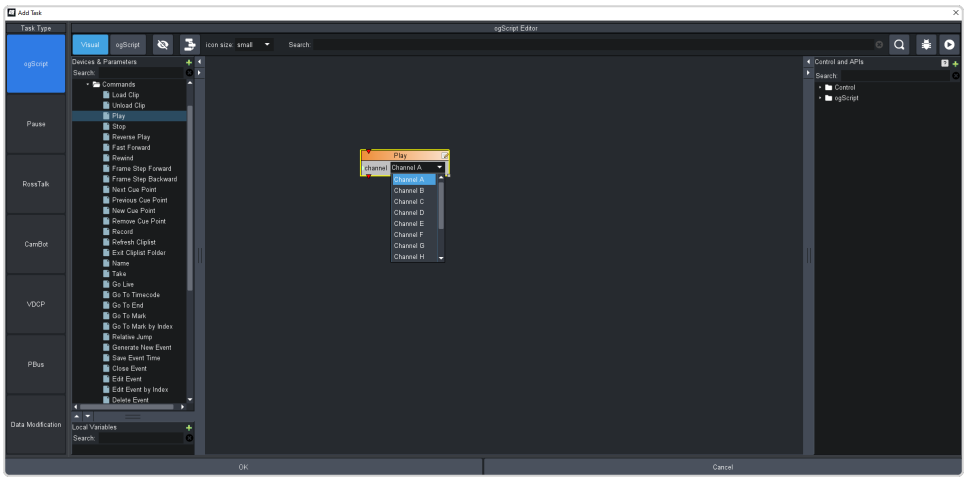
2. Click **Select a device** and select **Abekas**.
3. Click **OK**.

   The **Current** below the button shows the **Abekas** server.
4. Insert a button or other interface element to your custom panel.



5. Edit your interface element as normal and click **Add** in the **Tasks** area.

   You can now drag and drop Abekas® server commands to the script editor to create visual logic chains.



Clip ID Support

Devices using the VDCP or Odetics protocol can use the 8-character clip ID assigned to a clip. By default, the server does not assign a clip ID to the clip when it is recorded. If there is no clip ID, the first 8 characters of the clip name are used instead.

Sony® MVS Series Switcher

Use the following information to set up your Sony® MVS series switcher to control the server as either a **Recorder** or **Player** device.

Table 3: VDCP RS422 Protocol Constants

No.	Item	Setting
1	Video Port	(1-N)*
2	Maximum Open Delay	10
3	Maximum Cueup Delay	0
4	Play After Cueup Delay	0
5	Stop Delay	2
6	Still Delay	6
7	Continue Delay	0
8	Idle Delay	2

* Set this value to the MVS virtual RS422 Port # that is connected to the server.

Maintenance

Refer to the following information for performing maintenance on your server, muting an alarm, restoring factory defaults, or upgrading the software.

Media Drives

The server uses a RAID array of media drives to store all media content.

Disk Space

The amount of free disk space that is available for clips is shown at the top of the **Tria Explorer** window. The free space is shown in time (HH:MM:SS:FF) and percentage of free space on the drive. When the amount of free space goes below 10% the text is highlighted in yellow. If the amount of free disk space goes below 5% the text is highlighted in red.

Tip: *When the amount of free disk space goes below 5% you should consider removing unused content in order to free-up media disk space. To assist you in locating older or unused content, the Clip Library contains* ***Date Loaded*** *and* ***Date Played*** *columns that can be used to sort content.*

AsRun Log Creator

The server keeps a log of stills and clips that have been played in their entirety on all channel of the server. This information can then be filtered and output into either a CSV file or a PDF report.

Note: Clips must be played out in their entirety to be added to the AsRun log.

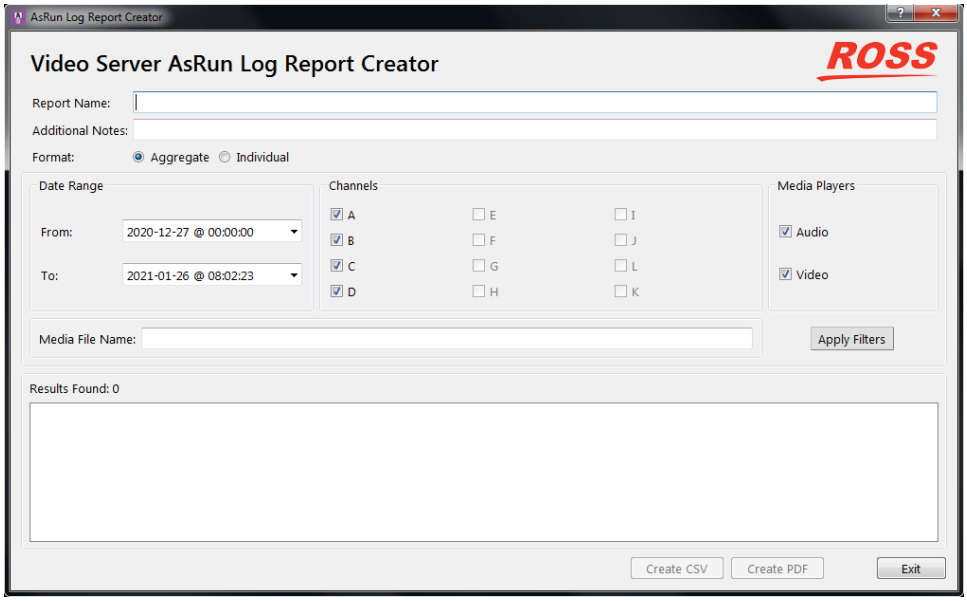
The AsRun log can be filtered for a number of criteria for the media items and when or where they were played.

- **Date Range** — the range of dates that the media items was played in.
- **Channels** — the transport channels that the media items were played on.
- **Media Players** — the type of media item that was played (audio and video).
- **Media File Name** — the name of the media item that was played.

To Run an AsRun Report

Generate a PDF or CSV report of what clips and stills were played on the server.

1. Launch the **AsRunReport** application on your server.



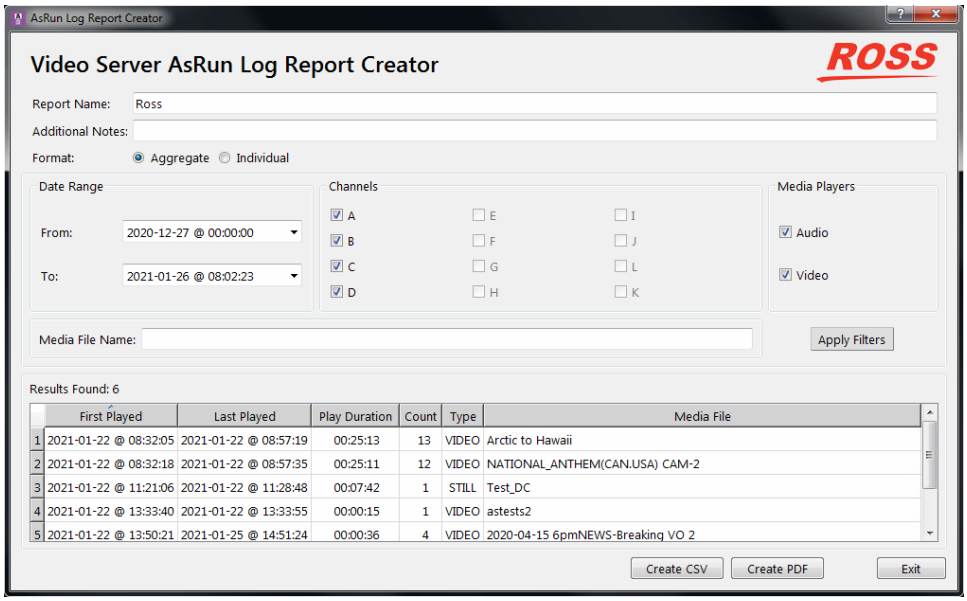
2. Set the parameters and filters you want to apply to the report

Item	Description
Report Name	This is the name that appears on the report.
Additional Notes	Add any additional notes that you want to appear on the report.
Format	Select how you want the report to be formatted. • **Aggregate** — lists how many times each clip was played during the selected date range • **Individual** — lists every instance that a clip was played, including the start and stop times, during the selected date range
Date Range	Set the from and to date range between which you want to generate the report.
Channels	Select which transport channels on the server that you want to generate the report for. Channel that are not present on your server are grayed out.
Media Players	Select whether you want to show only audio clips, only video clips, or both.

Item	Description
Media File Name	Enter a name or part of a name in the field, or leave the field blank. The clips that were played during the date range will be filter to only include those clip names that include the **Media File Name**. If no name is specified the filter will return all clip names.

3. Click **Apply Filter**.

   The table below lists all the results of the filter.



*Tip: You can change the filter settings and click **Apply Filter** again to update the search results.*

4. Click a **Create** button to generate the report file. You are prompted for a location to save the file.
   - **Create CSV** — creates a standard comma segmented value (CSV) file.
   - **Create PDF** — creates a formatted PDF report file.
5. Click **Exit**.

Troubleshooting

Refer to the applicable section below for information on troubleshooting the operation or setup of your server.

Tria Explorer Problems

- Transport control buttons (Play, Stop, etc.) are grayed out.
  - Is a play channel transport selected and active?
  - Is a clip loaded in the selected play channel?
- A play channel is selected, and a clip is loaded, but still can't control anything.
  - Are you logged in as Guest user? Guest user level may not have permission to use all transport controls. Quit **Tria Explorer**, and log back in as either Administrator or as Privileged User.
- There are clips stored on the server but they aren't listed in the Clip Library.
  - Expand the clip listing within the Clip ID column by clicking **+** before the server name.
- I cannot see all of the information for a given column in the Clip Library. There is a **...** symbol at end of the field.
  - Expand the width of the given column.
- I cannot modify any of the clip metadata in **Clip Modify** menu.
  - Is the clip locked? Clip metadata cannot be modified on locked clips.
- I cannot see any other windows or the taskbar because **Tria Explorer** covers the entire computer screen.
  - **Tria Explorer** is in Full Screen mode. Press the **F11** button on the keyboard to exit (or to enter) this mode.
- I cannot delete a clip, or cannot delete any clips.
  - Is the clip locked? Clips cannot be deleted if they are locked.
  - Do you have proper user permissions? You may not have permission to delete clips at your user level.
- I see the **Keywords** field in the **Clip Modify** menu. I can enter a keyword but I can't see the keywords in the Clip Library listing.
  - While it is possible to enter, save and search (find) keywords for all clips, the feature to display the keywords in the Clip Library is not implemented at this time.

Tria Import Problems

- Cannot see any remote directories when choosing the **Import From** directory, or when selecting clips to import.
  - Have you mapped the remote directory as a local disk drive?
- Video on channel is disrupted when importing media files.
  - The processing hardware for a video channel is used during media file import.

General Problems

- Video output is not synchronized with downstream devices.
  - Check that a reference signal is connected to the Reference BNC on the back of the server and that the correct reference format is selected.
- I cannot record external timecode.

    - Check that a valid analog timecode signal is connected to the LTC IN port.
    - Verify that the timecode signal is 1V peak-to-peak minimum.
- I hear a beeping sound from inside the main server chassis.
    - Check to see if two power cords are connected to the AC input on both power supplies. If only one power cord is connected, then the internal alarm will sound. The only way to silence the alarm is to either connect AC power to both modules, or remove the module without power. Although the server can operate with just one power module, it is not recommended.
    - If the two power cords are connected to the two modules of the power supply, and you are sure there is full power on both power cords, then check the small LED on each of the two power supply modules (from the chassis rear). These LEDs should be solid green. If either LED is blinking, or has changed to yellow or red, then you may have a fault in the power supply module. Remove the suspect power supply module immediately (the alarm should then mute). Contact Ross® technical support for assistance.
    - If the power supply checks okay, check the LEDs on the media drives on the front of the server. These LEDs should be BLUE or PURPLE. If any of the LEDs are RED there may be a failed media drive. Eject the drive and re-seat the dive in the bay. If this does not clear the fault after 5-10 seconds the drive may have failed. Contact Ross® technical support for assistance.

Specifications

Resources, video specifications, power rating, and port pinouts.

The information is this section is subject to change without notice.

Resources

The number of resources specific to your server depends on the model.

Resource	2-Ch
Video Inputs	2 12G UHDTV1
Video Outputs	2 12G UHDTV1
Digital Audio Inputs	2 (embedded) × 16-tracks, 48kHz @ 24-bits
Digital Audio Outputs	2 (embedded) × 16-tracks, 48kHz @ 24-bits

Operating Temperature

The system has been qualified at an operational temperature range of **13 to 35°C** (**55** to **95°F**) and a non-condensing humidity range of **20** to **80%**.

Table 4: Safe Operation and Non-operating Environmental Conditions

	Operating	Non-operating
Temperature	5 to 55°C (41 to 131°F)	-40 to 65°C (-40 to 149°F)
Relative Humidity	8 to 90% non-condensing	5 to 95% non-condensing
Max. Wet Bulb Temperature	29.5°C (85°F) non-condensing	35°C (95°F) non-condensing
Max. Temperature Gradient	15°C/hour (59°F/hour)	15°C/hour (59°F/hour)
Altitude Range	-300 to 3,048m (-984 to 10,000ft.)	-300 to 12,200m (-984 to 40,026ft.)

Note: *Operator is responsible for providing sufficient ventilation to maintain surface temperature below 40°C (104°F) at the center of the top cover of the Tria+ UHD chassis.*

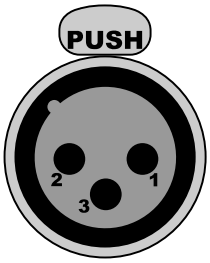
Note: *Non-condensing conditions should be maintained at all times.*

Note: *Maximum storage period inside shipping package is one year.*

Ports

LTC (3-Pin XLR) Port

The EIA Standard RS-297-A describes the use of the XLR3 for balanced audio signal applications.



Pin	Signal
1	Ground (cable shield)
2	LTC+ / Positive (“ hot ”)
3	LTC- / Negative (“ cold ”)

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