

# TRIA+ UHD



## The Ultimate Production Server

**ROSS**<sup>®</sup>  
LIVING LIVE!

# Present Uniquely Creative Content

Engage your audiences with more compelling live programming by using the flexible, feature-rich, dual-channel production server that delivers the creative freedom you need at a price your budget demands. The incredibly flexible architecture of Tria+ UHD production server ensures seamless integration into a wide variety of live production workflows that includes playout of animated switcher transitions, feeding on-set displays, playout of video clips, and capturing live video sources.

Server configuration flexibility, combined with intuitive engineering controls, dramatically simplifies installation and daily operation, while the integrated media file import/export tools—which support an extensive range of codecs—enables a streamlined and very efficient media file workflow.

Tria+ UHD supports growing file export. This powerful feature can be deployed while capturing one or more live video sources. It works by writing a continuously growing MXF media file for each live stream onto external network attached storage (NAS)—including the affordable Ross EVO Signature Series storage solution. From there, edit systems capable of editing with growing source files can begin using these files, even while live capture is still underway. This streamlined editing workflow saves time and money, and gets your finished productions to air much faster than ever possible before!

## Create More Interest

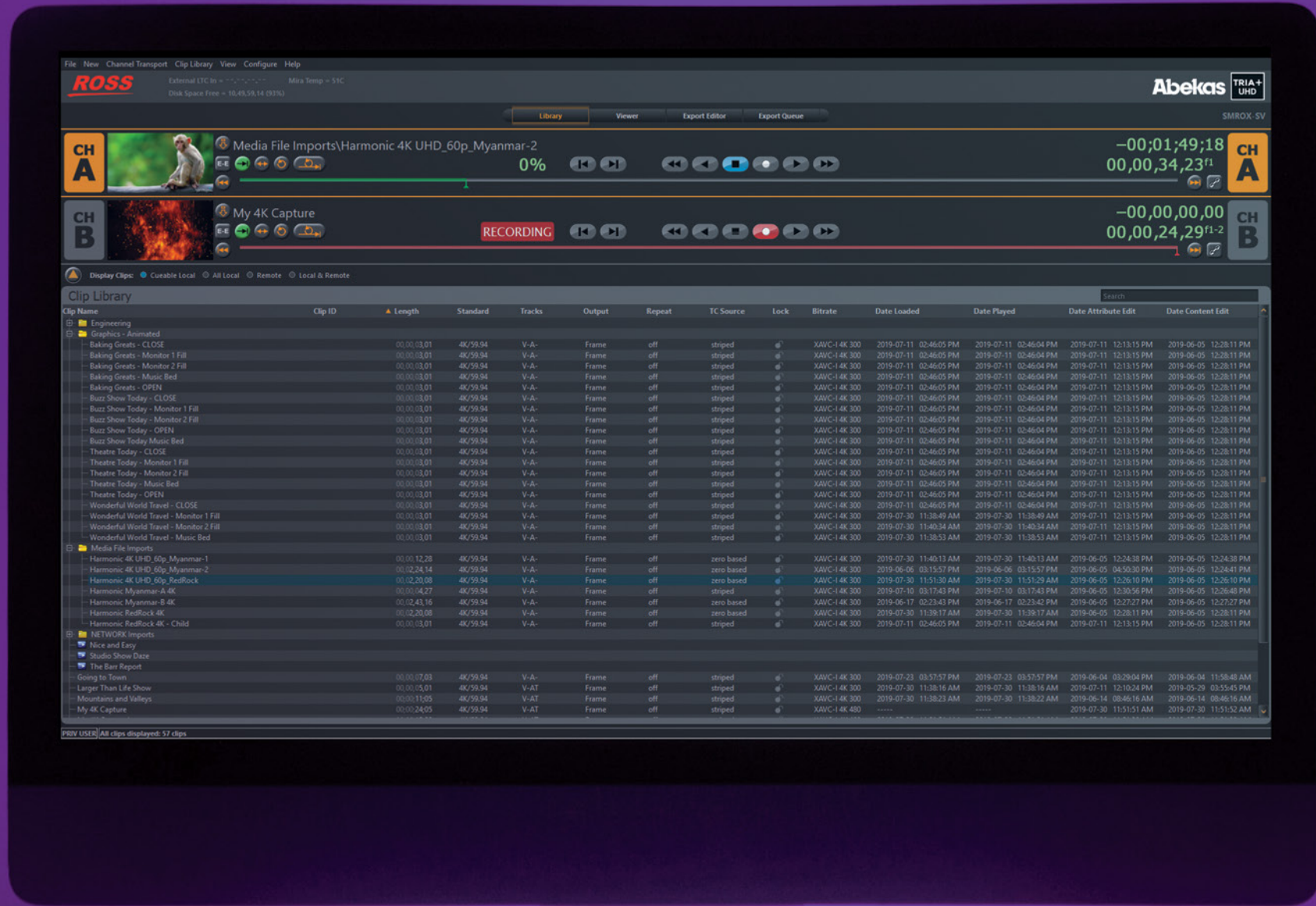
- Enhances live production environments as a networked video production server that contributes clips, finished video segments, and animated transitions
- Includes just the right feature set to support a wide range of live production applications

## File it Fast

- Streamlines media file workflows with built-in Media File Import and Export tools
- Imports a wide variety of media file codecs and wrappers
- Handles Video+Key clips as a single clip asset, rather than two—dramatically streamlining production workflows
- Software Transcoder imports media files without using a video channel
- Growing File Export writes multiple growing MXF media files from live captures onto external NAS—seconds after capture begins—so craft edit systems can begin editing faster than ever before

## Control the Flow

- Provides maximum flexibility in live television production control rooms, since both video channels can be used as either recorder or player
- Integrated Ethernet control over every video channel, with support for all industry standard protocols
- Delivers predictable and precise frame-accurate operations during live productions



“Tria Explorer” graphical user interface with built-in MultiViewer

# KEY BENEFITS

- **Flexibility of Channels**  
Multiple configurations with instant change-over between record and play operation on each video channel
- **Production Integration**  
Contribute clips, finished video segments, and animated transitions for use with switchers and on-set displays
- **File-Based Operations**  
Media file ingest and multi-destination media file export in every Tria+ UHD server, Growing File Export writes an MXF media file onto external NAS for each live input being captured to support live editing workflows
- **Protected Media Storage**  
High reliability with RAID-5 and RAID-6 parity protected media disk array; available with SSD or HDD
- **Content Sharing**  
Network clip playback between multiple Tria+ UHD servers via Gigabit and 10-Gigabit Ethernet networking
- **Comprehensive Capabilities**  
Advanced video server solution that includes clip ingest, trimming and management—with built-in Playlist and Timecode Chase playout functionality
- **Efficient Operations**  
A clean and uncluttered user interface shortens operator response times
- **Advanced Playlist and Timecode Chase**  
Create switcher-triggered Playlist with programmable flags to have items pause on first/last frame, loop playback, and to advance items with transition effects; also create Timecode Chase clip lists—with precise playout dictated by incoming LTC





### Visual Creativity

Complex and creative studio sets are constantly evolving as broadcasters look for a competitive edge with an increasingly fragmented viewing audience. Large flat-panel monitors and virtual monitors that display animated visual elements are increasingly commonplace in modern studio sets.

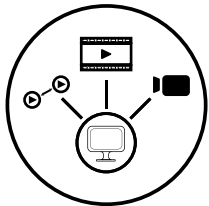
A similar trend is happening with on-air graphics. Highly sophisticated motion graphics, elaborate 3D transitions, and virtual components are standard in many modern on-air productions. Consequently, today’s production environments demand cost-effective playback of video, key and audio (VKA) content—and Tria+ UHD meets these needs.



### Ease of Setup and Operational Efficiency

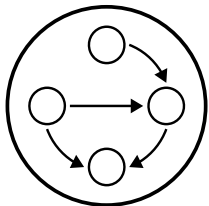
The setup and configuration of Tria+ UHD is an engineer’s dream. A simple, intuitive interface provides control over every technical aspect of the server. Each channel of Tria+ UHD can instantly switch between record and play operation, providing you maximum operational flexibility. Since both video channels have access to the shared clip library, one video channel can be actively recording into a clip while another channel plays out that same clip—even while it continues to grow.

The unified “video+key+audio” (VKA) architecture of Tria+ UHD streamlines your entire production workflow. A single clip contains all three media elements—dramatically simplifying clip management, media file import, and playout control. Single, unified VKA clips are much easier to load, keep synchronized and to control from external devices, since only a single control port is needed to load and play out both video and key elements.



### Internal Audio Routing

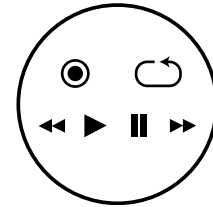
Tria+ UHD comes standard with 16-track embedded audio I/O.. The comprehensive audio routing capability built into Tria+ UHD provides you with the flexibility to associate any audio input/output with any or all video channels, eliminating the need for complex and expensive external routing equipment and cabling.



### Intuitive Operations

Tria+ UHD production server’s primary user interface, Tria Explorer, delivers an uncluttered and intuitive display of transport controls for each video channel. A video window in each transport provides real-time monitoring, so you always know which clips you’re working with. Each clearly indicates the current status of the video channel with play speed, timecode, and clip name prominently displayed.

Leveraging the underlying networking capabilities of the Windows®-based operating system, Tria Explorer can be installed on and run from your remote Windows computers on the same local network. Video channels can be “un-assigned” from the main Tria Explorer GUI running on the Tria+ UHD server itself, and assigned to the remote instance(s) of the Tria Explorer application. With this simple, elegant control flexibility, Tria+ UHD server resources can be assigned throughout a facility, maximizing productivity.

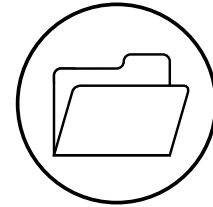


### Enhanced Playback

Because Tria+ UHD handles VKA under a single clip identity, loading and playing such clips—either through Tria Explorer, a production switcher, or an automation system is fast and simple. To quickly and easily seek to multiple “points of interest” within any clip, QWERTY keyboard shortcuts are available for you to mark and save “Cue Points”. Once marked, the mouse and/or keyboard shortcuts can be used to immediately seek to these Cue Points.

Intuitive controls provide you with unmatched Playlist creation and editing. Playlist playout flags permit list items to be “paused” on first and/or last frame, items to be looped, and items to be programmed with either CUT or MIX transitions between them.

Tria+ UHD makes it easy for you to create child clips from longer clips, to name clips with up to 256 characters, and to use advanced clip features such as multi-point loop. The result is more creativity with fewer on-air mistakes.

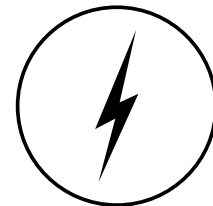


### File-Based Operations

Tria+ UHD production servers come standard with integrated media file import and export tools, which dramatically streamlines your file-based workflows. A wide variety of the most popular self-contained media files with MXF and QuickTime® MOV wrappers can be imported and exported via the built-in USB-2, USB-3, USB Type-C, Gigabit, and 10-Gigabit Ethernet ports. The file import process will automatically resize the video contained within the media file, to match the current video format and frame rate in which the Tria+ UHD server is operating.

Up to nine Export Destinations can be pre-defined by the operator, with each including: file codec and wrapper, export pathway, file naming parameters and “clip handles” inclusion.

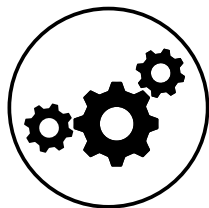
Growing File Export is a standard feature—which allows multiple MXF media files to be written to an external NAS just seconds after live capture begins. This feature allows editors connected to the NAS to begin editing with these growing files while the live capture is still underway—resulting in a much more streamlined and time-efficient editing workflow.



### System Reliability

To provide you complete peace of mind, Tria+ UHD production servers come standard with dual-redundant, hot-swappable power supplies. For further reliability and ease of maintenance, all Tria+ UHD servers also feature hot-swappable chassis fans and media disk drives.

Featuring fault-tolerant RAID-5 or RAID-6 parity protection, Tria+ UHD production servers can withstand the simultaneous failure of one or two media disk drives—with no loss of your valuable content. There is absolutely no interruption to your operations—even while a replacement disk is automatically rebuilding in the background.



### Integrated Systems Control

To enhance and simplify production workflows, Tria+ UHD production servers support Ross Video DashBoard™ control from external computers via Ethernet. DashBoard permits operators to create an endless variety of customized user interfaces, to control all video channels across any number of Tria+ UHD servers connected on your local area network.

Providing expanded production flexibility and integration, Tria+ UHD production servers interface directly with external video routing switchers. This feature not only saves on the cost of yet another video router control panel—it also permits Tria+ UHD operators to quickly and easily change video inputs directly from the Tria+ UHD user interface.

Display Clips: Cueable Local All Local Remote Local & Remote

Clip Library

Clip Name	Clip ID	Length	Standard	Tracks	Output	Repeat	TC Source	Lock	Bitrate	Date Loaded	Date Played
Engineering											
Graphics - Animated											
Baking Greats - CLOSE		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Baking Greats - Monitor 1 Fill		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Baking Greats - Monitor 2 Fill		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Baking Greats - Music Bed		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Baking Greats - OPEN		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Buzz Show Today - CLOSE		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Buzz Show Today - Monitor 1 Fill		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Buzz Show Today - Monitor 2 Fill		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Buzz Show Today - OPEN		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Buzz Show Today Music Bed		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Theatre Today - CLOSE		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Theatre Today - Monitor 1 Fill		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Theatre Today - Monitor 2 Fill		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Theatre Today - Music Bed		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Theatre Today - OPEN		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Wonderful World Travel - CLOSE		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
Wonderful World Travel - Monitor 1 Fill		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-30 11:38:49 AM	2019-07-30 11:38:49 AM
Wonderful World Travel - Monitor 2 Fill		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-30 11:40:34 AM	2019-07-30 11:40:34 AM
WC8B_2204_MonitorLoop_LBCSN_Ver1		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-30 11:38:53 AM	2019-07-30 11:38:53 AM
Media File Imports											
Harmonic 4K UHD_60p_Myanmar-1		00:00:12,28	4K/59.94	V-A-	Frame	off	zero based		XAVC-I 4K 300	2019-07-30 11:40:13 AM	2019-07-30 11:40:13 AM
Harmonic 4K UHD_60p_Myanmar-2		00:02:24,14	4K/59.94	V-A-	Frame	off	zero based		XAVC-I 4K 300	2019-06-06 03:15:57 PM	2019-06-06 03:15:57 PM
Harmonic 4K UHD_60p_RedRock		00:02:20,08	4K/59.94	V-A-	Frame	off	zero based		XAVC-I 4K 300	2019-07-30 11:51:30 AM	2019-07-30 11:51:29 AM
Harmonic Myanmar-A 4K		00:00:04,27	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-10 03:17:43 PM	2019-07-10 03:17:43 PM
Harmonic Myanmar-B 4K		00:02:43,16	4K/59.94	V-A-	Frame	off	zero based		XAVC-I 4K 300	2019-06-17 02:23:43 PM	2019-06-17 02:23:42 PM
Harmonic RedRock 4K		00:02:20,08	4K/59.94	V-A-	Frame	off	zero based		XAVC-I 4K 300	2019-07-30 11:39:17 AM	2019-07-30 11:39:17 AM
Harmonic RedRock 4K - Child		00:00:03,01	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-11 02:46:05 PM	2019-07-11 02:46:04 PM
NETWORK Imports											
Nice and Easy											
Studio Show Daze											
The Barr Report											
Going to Town		00:00:07,03	4K/59.94	V-A-	Frame	off	striped		XAVC-I 4K 300	2019-07-23 03:57:57 PM	2019-07-23 03:57:57 PM
BLP_x576_PARALLAX_POSTGAME_REPORT		00:00:05,01	4K/59.94	V-AT	Frame	off	striped		XAVC-I 4K 300	2019-07-30 11:38:16 AM	2019-07-30 11:38:16 AM
Larger than Life show		00:00:11,05	4K/59.94	V-AT	Frame	off	striped		XAVC-I 4K 300	2019-07-30 11:38:23 AM	2019-07-30 11:38:22 AM
Mountains and Valleys		00:00:24,05	4K/59.94	V-AT	Frame	off	striped		XAVC-I 4K 480	-----	-----
My 4K Capture											



Tria+ UHD Production Server Chassis - Front Panel

# SPECIFICATIONS

## KEY FEATURES

- 2 symmetrical 4K UHD video channels; each can be used as either Recorder or Player
- Growing File Export of MXF files from multiple input capture
- Integrated Media File Import and Export tools
- Sophisticated Playlists with advanced playout features
- Timecode Chase clip lists, with precise playout dictated by incoming LTC
- Real-time clip sharing via Gigabit and 10-Gigabit Ethernet networks
- Built-in Input/Output Audio Router
- Built-in control over external Video Routers
- Media disk array with RAID-5 or RAID-6 parity protection
- DashBoard and Tria Ethernet API is freely available to program custom control interfaces
- Dual, hot-swap redundant power supplies
- Tria+ UHD production server is housed within a robust, compact 3RU server chassis

SUPPORTED VIDEO FORMATS
<b>Native Video Codec:</b> <ul style="list-style-type: none"><li>• XAVC: Class 300 – 4K UHD   Class 480 - 4K UHD</li></ul>
<b>4K UHD Video:</b> <ul style="list-style-type: none"><li>• 2160p /50 /59.94</li></ul>
CHASSIS PHYSICAL & ELECTRICAL
<ul style="list-style-type: none"><li>• Dimensions: 3RU Height/Depth = 25.6 in (65.1 cm) / Rackmount Slides included</li><li>• Maximum Weight: 75 lbs. (34 kg)</li><li>• Maximum Power: &lt;500 Watts / 100-240 VAC / 50-60Hz (Auto-sensing power input)</li></ul>
SAFETY & EMISSIONS
<ul style="list-style-type: none"><li>• TUV</li><li>• FCC Class A</li><li>• CE</li></ul>
ANALOG REFERENCE INPUT
Composite Analog SD; 75Ω Terminating.....(1) Female BNC*
DIGITAL VIDEO INPUTS
<b>4K UHD:</b> <ul style="list-style-type: none"><li>• UHD-SDI: SMPTE ST-2036-1   ITU-R BT.2020 (10-bit at 12Gb/s).....(2) Female BNC*</li></ul>

\* These are “High-Density BNC’s”; adapter cable to “Standard Female BNC’s” provided.

DIGITAL VIDEO OUTPUTS
<b>4K UHD:</b> <ul style="list-style-type: none"><li>• UHD-SDI: SMPTE ST-2036-1   ITU-R BT.2020 (10-bit at 12Gb/s).....(2) Female BNC</li></ul>
DIGITAL AUDIO INPUTS
<b>Embedded in 4K UHD:</b> <ul style="list-style-type: none"><li>• Embedded in all 12G UHD-SDI video inputs: 16-tracks; 48kHz at 24-bits</li></ul>
DIGITAL AUDIO OUTPUTS
<b>Embedded in 4K UHD:</b> <ul style="list-style-type: none"><li>• Embedded in 12G UHD-SDI video outputs: 16-tracks; 48kHz at 24-bits</li></ul>

\* These are “High-Density BNC’s”; adapter cable to “Standard Female BNC’s” provided.

ANALOG LTC INPUT
<ul style="list-style-type: none"><li>• LTC input (Time of Day), unbalanced.....(1) Female XLR</li></ul>
DATA / CONTROL
<ul style="list-style-type: none"><li>• Mini DisplayPort 1920 x 1080 native resolution display required.....(4) F-mDP</li><li>• 10-Gigabit Ethernet (10-T/100-T/1000-T/10K-T) with AMP, VDCP, &amp; TRIA protocols.....(2) F-RJ45</li><li>• USB-2.0 / USB-3.0 / USB-3.1.....F-USB-A</li><li>• USB Type-C.....(1) F-Type-A   (1) F-Type-C</li><li>• QWERTY Keyboard &amp; Mouse set (included with each Tria+ UHD Server).....USB-A</li></ul>



Tria+ UHD Server Chassis

# ROSS VIDEO

## Production Technology and Services

### MOTION GRAPHICS

**XPRESSION** | Single, Triple, UHD Flex, Prime, Go!, Designer, Developer  
**XPRESSION CLIPS**  
**XPRESSION TESSERA**  
**XPRESSION MAPS**  
**XPRESSION TELESTRATE**  
**XPRESSION TOUCH FACTORY**  
**XPRESSION TICK IT**



### CREATIVE SERVICES

**ROCKET SURGERY** | Graphics Creation



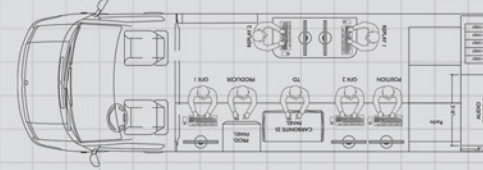
### STUDIO IN A BOX

**GRAPHITE** | All-in-One Live Production Vehicle



### OPENTRUCK

**OPENTRUCK** | Flight Case through to 40-foot Truck Designs



### PRODUCTION SERVICES

**ROSS MOBILE PRODUCTIONS**



### ASSET MANAGEMENT

**STREAMLINE GRAPHICS**  
**STREAMLINE PRODUCTION**  
**STREAMLINE.CLOUD**



### CAMERAS

**ACID CAMERA** | H200-UCHR, Z50-UCHR  
**PIVOTCAM** | PivotCam SE



### CHROMA KEYING

**ULTRACHROME HR**



\* Carbonite Black Chassis with UltraChroma HR Software

### NEWS & SOCIAL MEDIA

**INCEPTION NEWS** | Academic, Express, Standard, Enterprise  
**INCEPTION LIVE**  
**INCEPTION SOCIAL**  
**INCEPTION.CLOUD**  
**HORIZON**



### CONTROL SYSTEMS

**OVERDRIVE** | Express, Prime, Premium  
**OVERDRIVE + GRAPHITE**  
**DASHBOARD**  
**LIGHTNING CONTROL SYSTEM**  
**ULTRITOUCH CONTROL PANEL**



### PRODUCTION SWITCHERS

**ACUITY** | Panel: A1s, A2m, A2x, A3m, A3, A4 Frame: 4RU, 8RU  
**CARBONITE BLACK** | Panel: C1, C1s, C2, C2s, C3s, C3x Frame: 2RU  
**CARBONITE BLACK PLUS**  
**CARBONITE BLACK PLUS 12G**  
**CARBONITE BLACK SOLO**  
**CARBONITE BLACK SOLO 13**  
**CARBONITE ULTRA**  
**ACUITY & CARBONITE IP SOLUTION**



### IP TECHNOLOGY

**OEM PRODUCTS** | Market Ready Modules & System-on-Chip



### VIDEO SERVERS, REPLAY & DELAY

**ABEKAS MIRA+** | Replay System  
**ABEKAS MIRA EXPRESS** | Replay Server  
**ABEKAS TRIA+** | Production Server  
**ABEKAS TRIA EXPRESS** | Video Clip Server

**ABEKAS TRIA NEWS** | News Playback Server  
**ABEKAS AIRCLEANER** | Live Event Delay



### ROBOTICS

**FURIO SE LIVE** | Live Head, SE Dolly and SE Lift; PanBar and Joystick Controls  
**FURIO SE STUDIO** | VR100, VR600 Heads; SE & S2 Lifts; SE BlackBird; VROJ Manual Fluid Head with Tracking  
**CAMBOT** | 520PT, 600PT, 700PT Heads; 600 BlackBird; 600XY & 700XY Free-Roaming Peds  
**SMARTSHELL** | Robotic Camera Control System



### VIRTUAL & AUGMENTED REALITY

**TRACKLESS VIRTUAL**  
**UX VIRTUAL TRACKING SYSTEM**  
**UNREAL ENGINE**





Ross Video has a complete range of technical services available to ensure that your Tria+ UHD installation is a success.

**Operational Training** can be provided at Ross Video, on-site or on the web. Experienced Ross operators will teach your staff to get the most out of your new system, and enhance your productions.

**Commissioning** is a service to help get your server properly configured, connected and installed. This service is performed by factory trained Ross technical staff.

**Technical Training** can be provided at Ross Video, on-site or over the web. Technical training will teach your engineering staff the technical details of the system you have purchased. System configuration, interfaces, databases, and routine maintenance procedures are some of the topics covered.

Tria+ UHD comes standard with a 1 year comprehensive warranty. **Extended Warranties** on hardware and software maintenance are available for an annual fee.

Technical advice is available on-line, by telephone, or email to Ross Video – **Included for the life of your system.**

#### Contact Us

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North America: 1-844-652-0645

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Technical Support

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Email: [techsupport@rossvideo.com](mailto:techsupport@rossvideo.com)



[www.rossvideo.com](http://www.rossvideo.com)

## ROSS VIDEO LIVING LIVE!

### SOLUTIONS

Broadcast & Production  
Augmented Reality & Virtual Sets  
Sport & Live Events  
Legislative  
Mobile Production  
House of Worship  
Education  
Corporate

### PRODUCTS

Production Switchers  
Motion Graphics & Clip Servers  
Replay & Production Servers  
Robotic & Camera Systems  
Control Systems  
Routing Infrastructure  
Signal Processing Infrastructure  
News, Live & Social Production Management  
Media Asset Management & Storage

### SERVICES

Creative Services  
Mobile Production

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