

**TRIA+
UHD**



The Ultimate Production Server

ROSS[®]
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

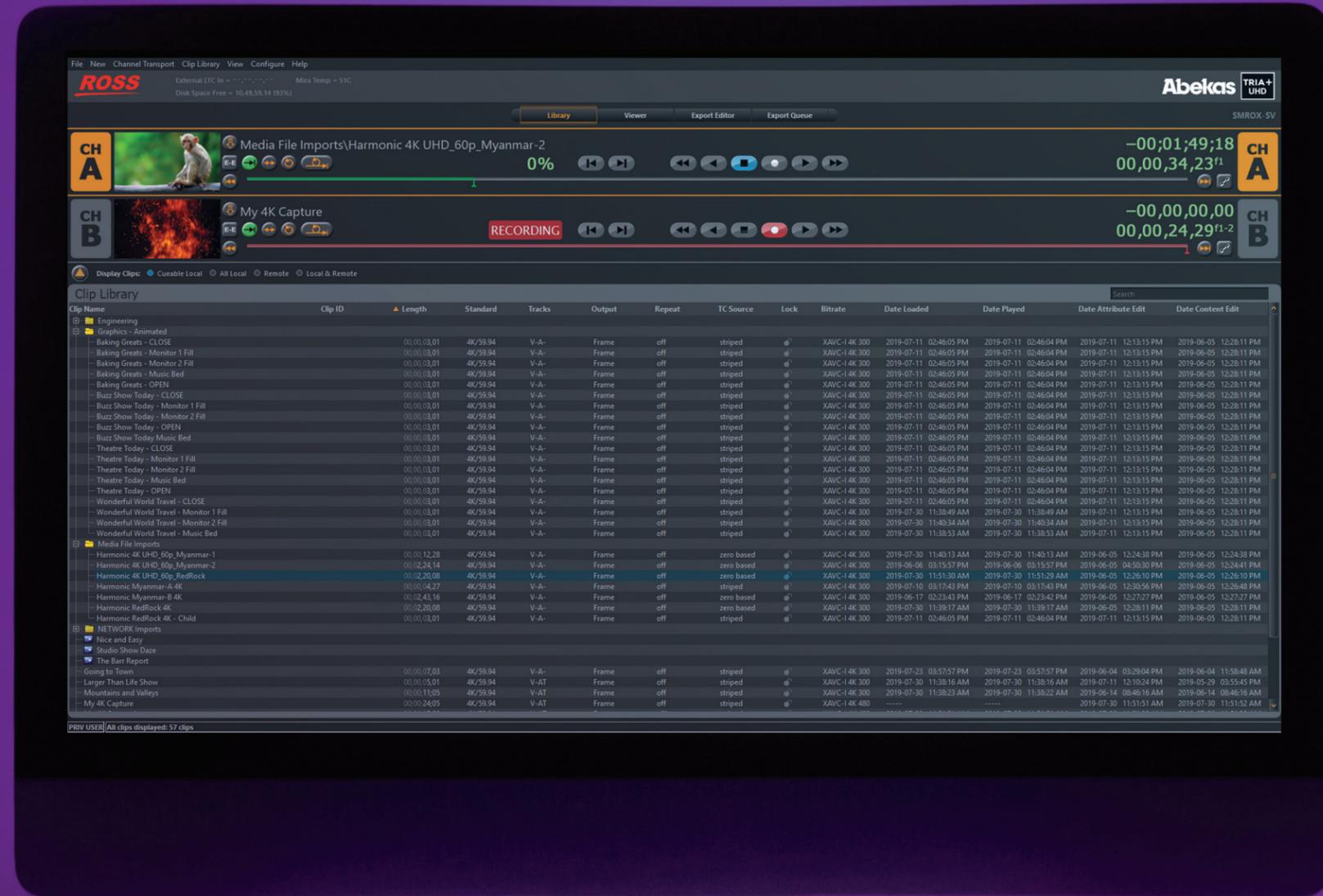
- Enhances live production environments as a networked video production server that contributes clips, finished video segments, and animated transitions
- Includes just the right feature set to support a wide range of live production applications

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



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.

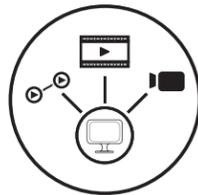
A similar trend is happening with on-air graphics. Highly sophisticated motion graphics, elaborate 3D transitions, and virtual components are standard in many modern on-air productions. Consequently, today’s production environments demand cost-effective playback of video, key and audio (VKA) content—and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



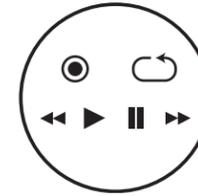
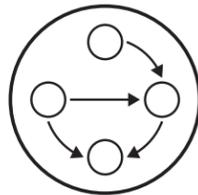
Internal Audio Routing

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.

| 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 |
| WCBB_2204_MonitorLoop_LBCSN_Vert | | 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 | | 00:00:11,05 | 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 |
| My 4K Capture | | 00:00:24,05 | 4K/59.94 | V-AT | Frame | off | striped | | XAVC-I 4K 480 | ---- | ---- |



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 | | |
|---|---------------|------------|
| Native Video Codec: | | |
| • XAVC: Class 300 – 4K UHD Class 480 - 4K UHD | | |
| 4K UHD Video: | • 2160p | /50 /59.94 |
| CHASSIS PHYSICAL & ELECTRICAL | | |
| • Dimensions: 3RU Height/Depth = 25.6 in (65.1 cm) / Rackmount Slides included | | |
| • Maximum Weight: 75 lbs. (34 kg) | | |
| TRIA+ UHD AC POWER SETTINGS | | |
| • Input AC Voltage Range (Auto-Sensing): 100VAC-240VAC / 50Hz-60Hz | | |
| • Input AC Power Consumption: Input AC Power @ 100-127VAC = 12A-9A Input AC Power @ 200-240VAC = 7.2A-6A | | |
| SAFETY & EMISSIONS | | |
| • TUV | • FCC Class A | • CE |
| ANALOG REFERENCE INPUT | | |
| Composite Analog SD; 75Ω Terminating.....(1) Female BNC* | | |
| DIGITAL VIDEO INPUTS | | |
| 4K UHD: | | |
| • UHD-SDI: SMPTE ST-2036-1 ITU-R BT.2020 (10-bit at 12Gb/s).....(2) Female BNC* | | |

* These are "High-Density BNC's"; adapter cable to "Standard Female BNC's" provided.

| DIGITAL VIDEO OUTPUTS | |
|--|--|
| 4K UHD: | |
| • UHD-SDI: SMPTE ST-2036-1 ITU-R BT.2020 (10-bit at 12Gb/s).....(2) Female BNC | |
| DIGITAL AUDIO INPUTS | |
| Embedded in 4K UHD: | |
| • Embedded in all 12G UHD-SDI video inputs: 16-tracks; 48kHz at 24-bits | |
| DIGITAL AUDIO OUTPUTS | |
| Embedded in 4K UHD: | |
| • Embedded in 12G UHD-SDI video outputs: 16-tracks; 48kHz at 24-bits | |

* These are "High-Density BNC's"; adapter cable to "Standard Female BNC's" provided.

| ANALOG LTC INPUT | |
|---|--|
| • LTC input (Time of Day), unbalanced.....(1) Female XLR | |
| DATA / CONTROL | |
| • Mini DisplayPort 1920 x 1080 native resolution display required.....(4) F-mDP | |
| • 10-Gigabit Ethernet (10-T/100-T/1000-T/10K-T) with AMP, VDCP, & TRIA protocols.....(2) F-RJ45 | |
| • USB-2.0 / USB-3.0 / USB-3.1.....F-USB-A | |
| • USB Type-C.....(1) F-Type-A (1) F-Type-C | |
| • QWERTY Keyboard & Mouse set (included with each Tria+ UHD Server).....USB-A | |



Tria+ UHD Server Chassis

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



2RU

4RU

CREATIVE SERVICES

ROCKET SURGERY | Graphics Creation



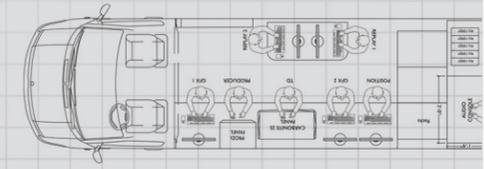
STUDIO IN A BOX

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

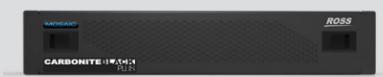
ULTRACHROME HR



* Carbonite Black Chassis with UltraChroma HR Software

MULTI-SCREEN IMAGE PROCESSING

CARBONITE MOSAIC



INFRASTRUCTURE

ULTRIX 12G & IP ROUTER | 16x4 - 144x
NK ROUTER | 16x4 - 144x144
OPENGEAR | Modular Signal Processing, oGx Frame
MASTER CONTROL | MC1 openGear Card, MC1 Panel
NIELSEN | Watermarks Encoder



GATOR | 12G UHD Signal Processor
RAPTOR EDGE | IP Gateway & Processor
NEWT | IP Point of Use Gateway
GEARLITE | Point of Use Signal Processing
ULTRITOUCH | Soft Touch Control Panel
AUDIO MONITORING | MB-651, MB-652
MASTER SYNC & REFERENCE | SRG-2200, SRG-4400, ACO-4400

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



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



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



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; VRO | 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



TRIA+
UHD

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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SOLUTIONS

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

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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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