Abekas TRIA+

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, multi-channel production server that delivers the creative freedom you need at a price your budget demands. The incredibly flexible architecture of Tria+ 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.

When Tria+ is fitted with AVC-Intra video hardware, Growing File Export is available. 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
- Available with either 4, 8 or 12 video channels and a choice of media storage capacities

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, in Tria+ servers fitted with JPEG-2000 or AVC-Intra video hardware
- 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. Available in Tria+ servers fitted with AVC-Intra video hardware.

Control the Flow

- Provides maximum flexibility in live television production control rooms, since all video channels can be used as either recorder or player
- Integrated RS-422 serial and 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 every 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+ server; for Tria+ servers fitted with AVC-Intra video hardware, 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, and with a range of storage capacities

Content Sharing
Network clip playback between multiple Tria+ 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 includes built-in MultiViewer and separate “Quad Viewer” HD-SDI outputs

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

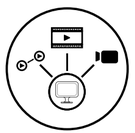
Complex and creative studio sets are constantly evolving as broadcasters look for a competitive edge with an increasingly fragmented viewing audience. Large flat-panel monitors and virtual monitors that display animated visual elements are increasingly commonplace in modern studio sets.

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+ meets these needs.

Ease of Setup and Operational Efficiency

The setup and configuration of Tria+ is an engineer's dream. A simple, intuitive interface provides control over every technical aspect of the server. Tria+ can be purchased with either 4, 8 or 12 symmetric video channels—which means every video channel can instantly switch between record and play operation, providing you maximum operational flexibility. Since all 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.

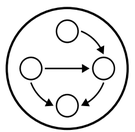
The unified "video+key+audio" (VKA) architecture of Tria+ streamlines your entire production workflow. A single clip contains all three media elements—dramatically simplifying clip management, media file import, and playout control. Single, unified VKA clips are much easier to load, keep synchronized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



Media Format Diversity

Tria+ production servers are truly universal, supporting a wide range of resolutions and formats including UHD-4K, HD and SD. Tria+ servers fitted with AVC-Intra video hardware can operate in 1080p—without reducing channel count. These same servers—when fitted with 4-, 8- or 12-channels—can also be operated respectively as: 1-, 2- or 3-channels in UHD-4K. No other production server offers you this level of format flexibility at a similar price point as does Tria+.

Tria+ also comes standard with both embedded and AES audio I/O. The comprehensive audio routing capability built into Tria+ 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+ production server's primary user interface, Tria Explorer, delivers an uncluttered and intuitive display of transport controls for each of the 4, 8, or 12 video channels. 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.

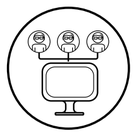
Leveraging the underlying networking capabilities of the Windows®-based operating system, Tria Explorer can be installed on and run from your remote Windows computers on the same local network. Video channels can be "un-assigned" from the main Tria Explorer GUI running on the Tria+ server itself, and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

Enhanced Playback

Because Tria+ 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+ 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.



Multi-Server Content Sharing

The integrated clip networking feature permits operators to quickly and easily share media clips between any number of Tria+ servers interconnected via Gigabit or 10-Gigabit Ethernet. Remote clip content can be played as stand-alone clips, or as clip content within a Playlist with immediate playout. No matter where a given clip is stored—any clip can be played in real-time from a source Tria+ server across the Ethernet network, with playback from the SDI video outputs of any network-connected Tria+ server. In addition, remote clips can be freely trimmed by the operator prior to playout; just as with local clips.

File-Based Operations

Tria+ 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+ 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.

For Tria+ servers fitted with AVC-Intra video hardware, 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+ production servers come standard with dual-redundant, hot-swappable power supplies. For further reliability and ease of maintenance, all Tria+ servers also feature hot-swappable chassis fans and media disk drives.

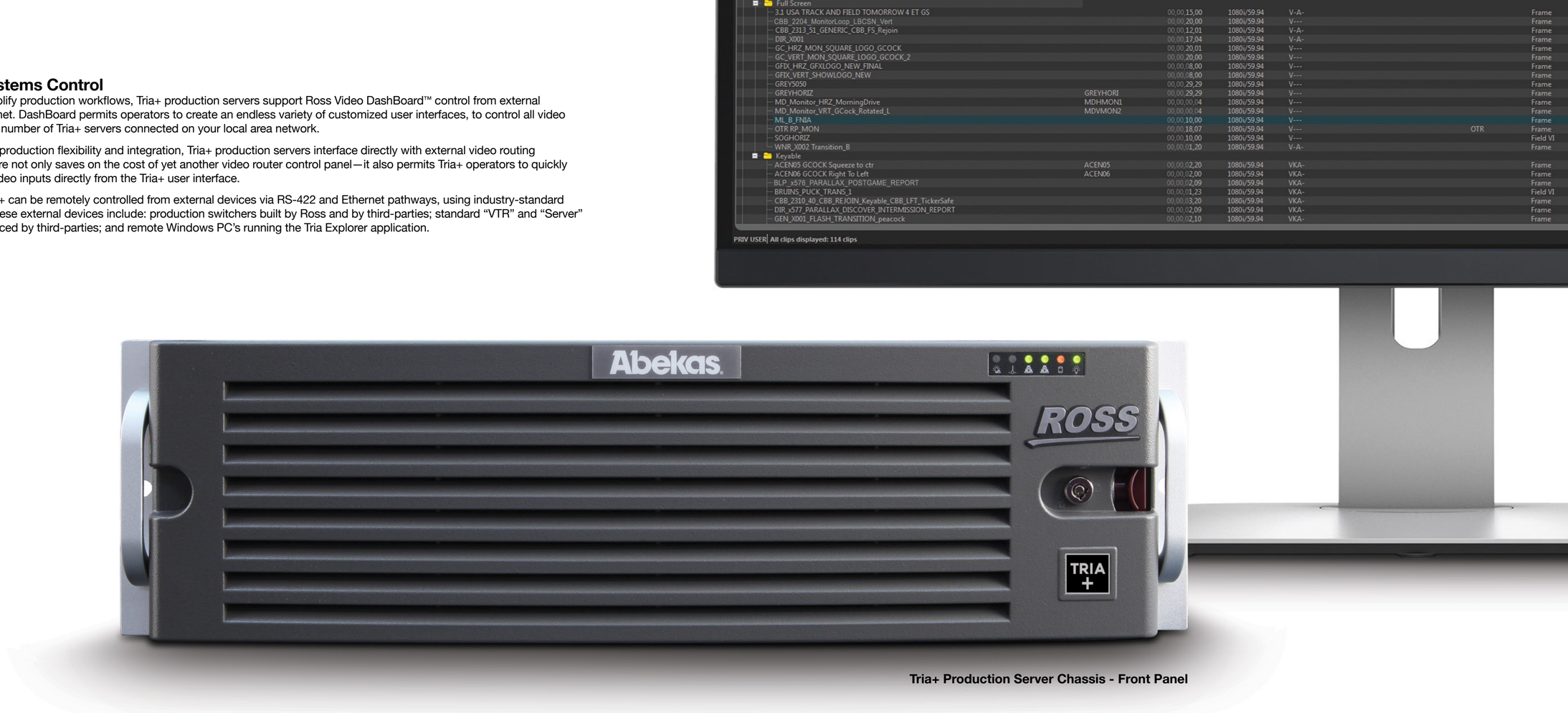
Featuring fault-tolerant RAID-5 or RAID-6 parity protection, Tria+ production servers can withstand the simultaneous failure of one or two media disk drives—with no loss of your valuable content. There is absolutely no interruption to your operations—even while a replacement disk is automatically rebuilding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

Integrated Systems Control

To enhance and simplify production workflows, Tria+ 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+ servers connected on your local area network.

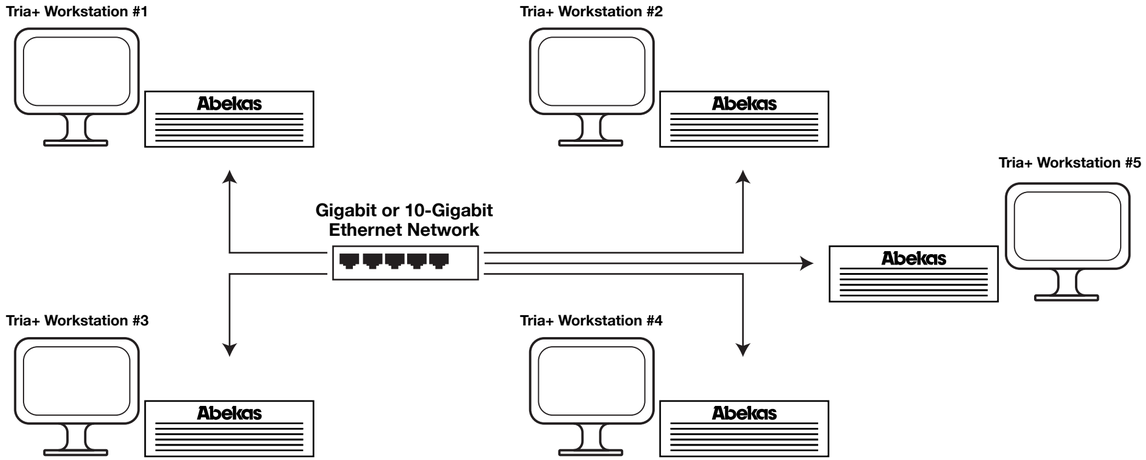
Providing expanded production flexibility and integration, Tria+ production servers interface directly with external video routing switchers. This feature not only saves on the cost of yet another video router control panel—it also permits Tria+ operators to quickly and easily change video inputs directly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

Every channel in Tria+ can be remotely controlled from external devices via RS-422 and Ethernet pathways, using industry-standard control protocols. These external devices include: production switchers built by Ross and by third-parties; standard “VTR” and “Server” control panels produced by third-parties; and remote Windows PC’s running the Tria Explorer application.



Tria+ Production Server Chassis - Front Panel

Tria+ Clip Networking



SPECIFICATIONS

KEY FEATURES

- 4, 8 or 12 symmetrical HD/SD video channels; each can be used as either Recorder or Player
- Tria+ with AVC-Intra video hardware:
  - 1080p 3G I/O with no channel count reduction
  - Up to three UHD-4K channels
  - Growing File Export of MXF files from multiple input capture
  - VANC record & file import preserves timecode & closed-captioning
- 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
- Built-in MultiViewer computer desktop monitoring
- Built-in HD-SDI Quad-Viewer output(s)
- Media disk array with RAID-5 or RAID-6 parity protection and dozens to hundreds of hours of storage at 100Mb/s
- DashBoard and Tria Ethernet API is freely available to program custom control interfaces
- Dual, hot-swap redundant power supplies
- Tria+ production server is housed within a robust, compact 3RU server chassis

SUPPORTED VIDEO FORMATS

Native Video Codec: Choose Tria+ model with one native recording & playout video codec:
- AVC-Intra model: HD@100Mb/s & 200Mb/s | UHD-4K@800Mb/s
- DVCPRO-HD model: SD@50Mb/s | HD@100Mb/s
- JPEG-2000 model: SD & HD @15Mb/s to 2000Mb/s

UHD-4K Video:	• 2160p		/50	/59.94 (AVC-Intra)
HD Video:	• 1080p	/23.98	/24	(JPEG-2000)
	• 1080p		/50	/59.94 (AVC-Intra)
	• 1080i		/50	/59.94 (All models)
	• 720p		/50	/59.94 (All models)
SD Video:	• 625i		/50	(DVCPro)
	• 525i		/59.94	(DVCPro)

CHASSIS PHYSICAL & ELECTRICAL

- Dimensions: 3RU Height/Depth = 25.6 in (65.1 cm) / Rackmount Slides included
- Maximum Weight: 75 lbs. (34 kg)
- Maximum Power: <500 Watts / 100-240 VAC / 50-60Hz (Auto-sensing power input)

SAFETY & EMISSIONS

- TUV
- FCC Class
- CE

ANALOG REFERENCE INPUT

Tri-level HD or Composite Analog SD; 75Ω Terminating.....(1) Female BNC*

DIGITAL VIDEO INPUTS

UHD-4K & 1080p Video (AVC-Intra only):
- HD-SDI SMPTE 424M Level A (10-bit at 3.0 Gb/s).....(4) (8) or (12) Female BNC*

HD Video:
- HD-SDI SMPTE 292M (10-bit at1.5 Gb/s).....(4) (8) or (12) Female BNC*

SD Video:
- SD-SDI SMPTE 259M (10-bit at 270 Mb/s).....(4) (8) or (12) Female BNC*

* For Tria+ servers featuring AVC-Intra video hardware: These are “High-Density BNC’s”; with adapter cable to “Standard Female BNC’s” provided.

DIGITAL VIDEO OUTPUTS

UHD-4K & 1080p add Video (AVC-Intra only):
- HD-SDI SMPTE 424M Level A (10-bit at 3.0 Gb/s).....(4) (8) or (12) Female BNC*

HD Video:
- HD-SDI SMPTE 292M (10-bit at1.5 Gb/s).....(4) (8) or (12) Female BNC*

SD Video:
- SD-SDI SMPTE 259M (10-bit at 270 Mb/s).....(4) (8) or (12) Female BNC*

DIGITAL AUDIO INPUTS

AES Digital Audio:
- 8- or 16-tracks TASCAM/AES-59.....Tria+ 4CH=(1) | Tria+ 8CH/12CH=(2) F-DB25 (TASCAM breakout cable not included)

Embedded in UHD-4K & 1080p Video (AVC-Intra only):
- Embedded in all 3G HD-SDI video inputs: 8-tracks; 48kHz at 24-bits (16-tracks w/software option)

Embedded in HD Video:
- Embedded in all HD-SDI video inputs: 8-tracks; 48kHz at 24-bits (16-tracks w/software option)

Embedded in SD Video:
- Embedded in all SD-SDI video inputs: 4-tracks; 48kHz at 20-bits

DIGITAL AUDIO OUTPUTS

AES Digital Audio:
- 8- or 16-tracks TASCAM/AES-59.....Tria+ 4CH=(1) | Tria+ 8CH/12CH=(2) F-DB25 (TASCAM breakout cable not included)

Embedded in UHD-4K & 1080p Video (AVC-Intra only):
- Embedded in 3G HD-SDI video outputs: 8-tracks; 48kHz at 24-bits (16-tracks w/software option)

Embedded in HD Video:
- Embedded in HD-SDI video outputs: 8-tracks; 48kHz at 24-bits (16-tracks w/software option)

Embedded in SD Video:
- Embedded in SD-SDI video outputs: 4-tracks; 48kHz at 20-bits

* For Tria+ servers featuring AVC-Intra video hardware: These are “High-Density BNC’s”; with adapter cable to “Standard Female BNC’s” provided.

QUAD-VIEWER & MULTI-VIEWER DIGITAL VIDEO OUTPUTS

HD Video (Only):
HD-SDI SMPTE 292M Quad-Viewer.....4CH: (1) | 8CH: (2) | 12CH: (3) Female BNC*

SD and HD Video:
- MultiViewer on desktop Tria Explorer graphical user interface. HDMI, DisplayPort, Mini DisplayPort, and USB-C (1920x1080 native resolution display required)

ANALOG AUDIO OUTPUT

Analog Audio:
- Unbalanced, line-level at: -10 dBV.....Tria+ 4CH: (1) | Tria+ 8CH: (2) | Tria+ 12CH: (3) Female 3.5mm
- 2-Tracks (1 stereo pair / Selectable to monitor any video channel output stereo pair)

ANALOG LTC INPUT

- LTC input (Time of Day), unbalanced.....(1) Female XLR

DATA / CONTROL

- RS-422: Sony; VDCP; & Odetics protocols (M-RJ45 to F-DB9 adapters included).....(4) or (8) M-RJ45
- DisplayPort & Mini DisplayPort 1920 x 1080 native resolution display required.....(1) F-DP / (1) F-mDP
- HDMI Output: 1920×1080 native resolution display required.....(1) F-HDMI
- 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.....F-Type-C
- QWERTY Keyboard & Mouse set (included with each Tria+ Server).....USB-A

Tria+ 8-Channel Production Server Chassis – Rear Panel

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

NEWS & SOCIAL MEDIA

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

CONTROL SYSTEMS

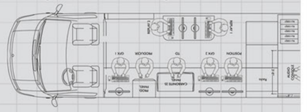
OVERDRIVE | Express, Prime, Premium
OVERDRIVE + GRAPHITE
DASHBOARD
LIGHTNING CONTROL SYSTEM
ULTRITOUCH CONTROL PANEL

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

OPENTRUCK

OPENTRUCK | Flight Case through to 40-foot Truck Designs



ASSET MANAGEMENT

STREAMLINE GRAPHICS
STREAMLINE PRODUCTION
STREAMLINE.CLOUD

CAMERAS

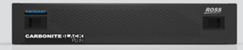
ACID CAMERA | H200-UCHR, Z50-UCHR
PIVOTCAM | PivotCam SE

PRODUCTION SERVICES

ROSS MOBILE PRODUCTIONS

MULTI-SCREEN IMAGE PROCESSING

CARBONITE MOSAIC



CHROMA KEYING

ULTRACHROME HR

** Carbonite Black Chassis with UltraChroma HR Software*

INFRASTRUCTURE

ULTRIX 12G & IP ROUTER | 16x - 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

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 Playout 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; VR0| 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

Abekas TRIA+

Ross Video has a complete range of technical services available to ensure that your Abekas Tria production server 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 Abekas Tria production server system 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.

Abekas Tria production server 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

Global: +800 1005 0100
North America: 1-844-652-0645

Email: solutions@rossvideo.com

Technical Support
Emergency: +1 613 349-0006
Email: techsupport@rossvideo.com

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

Tria+_Brochure_190403_a

ROSS® LIVING LIVE!