

# GRAPHITE

SWITCHING | GRAPHICS | AUDIO

GRAPHITE

ROSS

All-in-one Live  
Production Vehicle

# GRAPHITE

Real Horsepower.



## All-in-one Live Production Vehicle.

Imagine an all-inclusive system that combines superb big switcher performance with visually stunning 3D graphics, instant access clip servers and pristine audio clarity – with the reliability of separate system components - that's Graphite.

### REAL SWITCHER. REAL GRAPHICS. REAL AUDIO

- **Real Production Switcher Hardware:** The video switcher is the heart of any live production, reliability and performance are paramount. Graphite includes the pure production power of Carbonite – the world's most popular mid-size production switcher – built into dedicated hardware. Enjoy all of Carbonite's 'big switcher' features and never miss a beat.
- **Real Graphics:** Graphics can make or break a show and Graphite comes equipped with the best. The Ross XPression Motion Graphics system is used by top Hollywood Productions, Sports Teams and Networks. Graphite also includes XPression Clips – fully featured clip server channels.
- **Real Audio Mixing:** Great video needs great audio. Graphite comes with a professional twenty-eight channel hardware-based audio mixing engine with optional Mic and line breakout panel with great specs and low distortion.

### ROCK-SOLID RELIABILITY

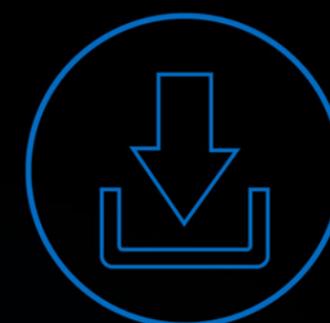
- **Crash-Proof Hardware:** Traditional all-in-one systems can suffer from stability problems – a stutter in the middle of an important production or losing an element due to resource limits is unacceptable. Graphite eliminates these issues with its core processing built on dedicated internal hardware that contains the proven Carbonite engine. It even stays up while the computer reboots – ideal for mission critical applications.
- **Proven System:** Graphite is built on a solid foundation of dedicated components made by Ross, quality assured by a team of specialists to ensure a superior experience.
- **Backed by Ross' Legendary 24/7/365 Support:** When you do need help, it is only a phone call or email away to Ross' round the clock global technical support team.

### SIMPLICITY & SCALABILITY

- **True All-in-One Solution:** No external networking required for inputs and outputs, just plug and play into Graphite's dedicated I/O.
- **Single or Multi-User Operation:** Graphite scales to meet the demands of various productions – run with a single operator or use separate operators for graphics and audio for larger, more complex productions. Supercharge control with event-specific custom DashBoard user interfaces.
- **Growth Path:** Regular firmware updates are downloadable from the Ross website. Easily expand Graphite's capabilities with additional graphics channels, newsroom integration and automated production control.

WHY BUY GRAPHITE?

## | Key Benefits



### **BIG SWITCHER POWER**

Switch with confidence on Carbonite – the hallmark Ross Video product. Decades of production switcher experience have gone into this mid-sized power house, resulting in a truly incredible feature-set.

### **POWERFUL GRAPHICS**

Near limitless layering on a single channel with true 3D objects and animation - XPression Graphite is the motion graphics engine that simply can't be matched by other all-in-one systems.

### **INTEGRATED CLIP SERVER**

Creatively utilize video clips with instant access and frame accurate recall with XPression Clips. Record video or XPression Graphite animations for use in your productions.

### **UNMATCHED AUDIO**

Handle demanding live audio without compromise, with the professional RAVE production engine. Do more than you ever imagined was possible in an all-in-one system with this hardware-based, 28-channel digital audio mixer.

### **ULTRA-RELIABLE**

Rely on a system with consistent performance and immunity to traditional all-in-one issues. The unique design only requires power from the host PC for operation, as Graphite's OS and software are self-contained on a hardware-based PCIe card that is entirely separate from the PC.

### **FLEXIBLE WORKFLOW**

Crew your show as you see fit. A single operator can run an entire show through all-encompassing control, or roles can be separated for multiple operators during high-intensity events. This is the advantage of a tightly-integrated system with an intelligent control platform.

### **INCREMENTAL GROWTH**

Graphite is the complete foundation for live production. XPression Graphite can be upgraded via software-license, and it is simple to add additional devices – like Mira Replay, Tria Production Servers, and robotic cameras – for larger events. All of this can be achieved with a single vendor for effortless integration and guaranteed support.

### **SPACE CONSCIOUS**

Eliminate the rack space requirement of multiple separate boxes, the entire system fits within a single 4RU frame.

### **DURABLE BUILD**

Withstand the rigors of mobile production with carefully engineered physical construction.

### **FIRMWARE UPGRADES**

Downloadable firmware upgrades for the life of the product result in an incredible technology lifespan. Based on user feedback, these upgrades expand features and add functionality to keep up with a constantly-progressing industry.



## Pure Production Power

**EVERYTHING YOU NEED TO CREATE A MAGNIFICENT PRODUCTION**

Experience the exhilaration of a full suite of top-notch production tools at your finger tips. Graphite gives you what you need to create great live content, whether streaming to the web, broadcasting over the air or feeding big screens.

## The Whole is Greater Than the Sum of Its Parts

Graphite is the culmination of time-honored Ross product development, innovative technology, and an unrelenting dedication to enabling first-rate live productions. Graphite is an all-in-one system that contains:

# CARBONITE

### CARBONITE PRODUCTION SWITCHER

Graphite contains Ross Video's most successful product of all time, the Carbonite Production Switcher. Enjoy the high-end production power of the world's most popular mid-sized switcher in a compact all-in-one production system.

### XPression 3D MOTION GRAPHICS

High quality compelling graphics are an everyday essential for any production. An incredibly powerful graphics engine, XPression Graphite is integrated within the system. Scenes and templates are designed, built, and saved for later use, or immediately available for keying over video inputs. An independent user interface allows on-the-fly creation and editing - even during production.

### XPression CLIPS

Video clips and prerecorded animations are another key production element. Graphite includes two channels of XPression Clips, clip servers that add another layer of production sophistication. Users are able to record, manage, and play-out video clips on-the-fly or from within a predetermined sequence or rundown.

### RAVE AUDIO PROCESSING ENGINE

A first for Ross and an essential development for Graphite, RAVE (Ross Audio Video Engine) breaks the mold of uninspired audio capability in all-in-one production systems. RAVE includes internal audio routing and output channel shuffling, together with a hardware-based 28-channel, 24bit, digital audio production mixer. Graphite's audio production capabilities are matched only by independent audio production systems, but adds the benefit of host PC access for additional audio input and monitoring.

Optionally, an audio breakout panel provides professional discrete audio I/O connection for balanced analog mic inputs with high quality pre-amps and phantom power as well as separate analog outputs and AES I/O.

### ADD SOME DashBoard MAGIC

DashBoard allows you to easily build powerful CustomPanels - graphical user interfaces tailored to control virtually anything in your production environment. Build a panel to control graphics for sports like tennis, baseball or hockey, a panel that recalls your robotic camera settings, or a control panel that runs effects on a studio monitor wall. You get the idea - DashBoard CustomPanels take complex production operations and make them simple. DashBoard has a wide range of supported devices, is free and can be downloaded from the Ross Video website.

# XPression

# RAVE

GRAPHITE



Graphite offers the production power of all these components, concentrated into one compact 4RU package.

# Under The Hood.



### PROVEN PERFORMANCE

Graphite contains Ross Video's most successful product of all time, the Carbonite Production Switcher. Enjoy the high-end production power of the world's most popular mid-sized switcher in this compact production system. For those not already familiar with Carbonite, key features include:



GRAPHITE CARBONITE GUI

### 2 POWERFUL MESS

Carbonite packs major effects and keying power into two MESS. Each ME has four powerful keyers with luma, linear, chroma, and DVE key types as well as an additional fifth transition keyer for animated Media Wipes and DVE transitions. Each ME can access the two advanced Ultrachrome chroma keyers. Two advanced pattern generators per ME are available for wipes, pattern masks and color washes. Each ME also provides a clean feed output.

### 4 MiniMESS

Powerful effects modules that include an independent mixer and 2 Keyers: 1 standard Keyer and 1 specifically for DVE boxes. MiniME modules do not reside in a fixed position in the signal flow, they 'float' and can be used anywhere in the signal path. There are 4 MiniMESS in the system, which can be assigned to multiple locations and used simultaneously.

### POWERFUL EFFECTS CONTROL

Create and repeatably control compelling effects with Carbonite Custom Control macros and event memories. Get perfectly timed effects and event recalls from the press of a single button.

### MultiViewer

Two configurable MultiViewers (up to 32 windows) are included in the Carbonite feature set. These clean, low latency MultiViewers have access to all external and internal sources. Source naming and tally assignment automatically follow window routing selections. Each MultiViewer has user selectable layouts with the individual choice of border, tally and source label display for each source.

### GRAPHICS INTEGRATION

XPression Graphite has a direct connection to Carbonite's Media-Stores. Individual still graphics can be transferred and stored for inclusion in the production in addition to the live multi-layered graphics. It is also possible to use switcher media stores as a preview channel for the XPression Graphite application.

### MULTISCREEN AND UHD OUTPUT

Built in MultiScreen processing provides image scaling and keying across multiple displays. This is perfect for multi-projector and large video wall production and is independent of the main MESS. In MultiScreen quad mode, output UHD with automatically upscaled HD content.

### ROBOTIC CAMERA CONTROL

Take complete control of your production with integrated PTZ / Robotic camera control built right in to Graphite. Control Ross PIVOTCam PTZ and CamBot robotic camera systems as well as any PTZ camera product that uses VISCA protocols.

### EFFECTS MEMORY WITH MemoryAI

Carbonite's powerful and truly unique intelligent resource management system permits stored keys and backgrounds to be recalled to preview without disturbing what is currently on-air. This system enables multiple 'scenes' to be stored and recalled in a manner that would normally require a much larger multi-MESS switcher.

### 4 CHANNEL MEDIA-STORE

Four independent media player channels are available switcher-wide. Stills, logos and animated graphics are played out from the on-board 2 GB memory and can be loaded via USB storage devices or XPression. The Media-Store can also be managed directly over Ethernet via Carbonite's browser-based graphic tools.

### MediaWipes WITH AUDIO PLAYBACK

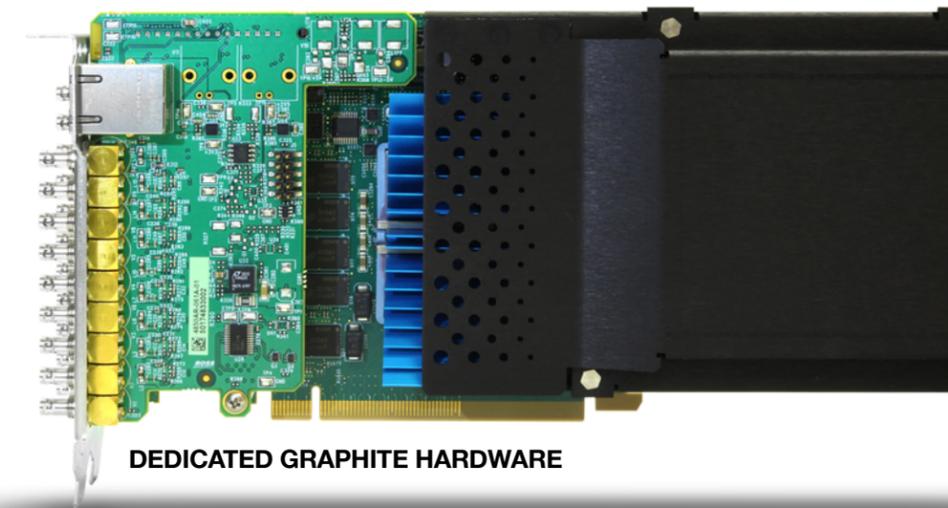
MediaWipes add powerful animated transition capabilities with audio playback from the Carbonite Media-Stores. Create compelling, animated transitions and control them from the dedicated MediaWipe buttons.

### Ultrachrome ADVANCED CHROMA KEYING IN EVERY ME

The Ultrachrome Chroma Keyer uses advanced Ross technology to perform detailed keying in the most demanding of conditions.

### 4 CHANNELS OF DVE

4 high quality 2D DVE channels are available system-wide. The DVEs 'float' within the system architecture, permitting them all to be assigned to a single ME or to be distributed across MESS and MiniMESS as the production demands. These DVEs are also available for ME transitions via the dedicated DVE wipe buttons.



DEDICATED GRAPHITE HARDWARE

## Creating a Great Look

XPression Graphite provides amazing multi-layer true 3D animated graphics and 2-channels of high performance clip servers.



### GET INTO THE GAME EASILY

#### 2D & 3D TEXT

XPression's font engine has the tools to type in any language in any orientation, while toggling between 2D and 3D text for ultimate flexibility. Both TrueType and OpenType fonts are supported with Unicode compliance, making XPression ideal for any kind of text.

#### TEMPLATE BASED SYSTEM

XPression Graphite is template-based to provide efficiency and flexibility. Templates can be simple or complex and consist of text, still images, video clips, primitives and even live web content including Skype. Everything and anything can be animated. It is easy to get started building lower third titles with more advanced users able to leverage a deep graphics tool set.

#### STRAIGHTFORWARD PLAYOUT

Add scenes as take items by dragging them directly into XPression's Sequencer. XPression's template-based workflow replaces text, stills, clips, and modifies data hooks, while playing out to air.

#### XPression CLIPS

The included XPression Clips dual channel server provides a full database to browse, catalog, and play clips. XPression Clips offers instant recall times and back-to-back clip transitions.

### GO DEEP FOR ENHANCED PERFORMANCE

#### VIRTUAL CAMERAS

Achieve even more complex 3D animations by animating Virtual Cameras along with objects in XPression. Both perspective and orthogonal cameras are available. Easy manipulation in the Viewport is possible with mouse camera control that allows you to zoom and orbit objects on a grid that toggles on and off.

#### 3D PRIMITIVES

Build graphics from XPression's 3D primitives. Animate, resize, and re-skin elements for final output. This is a huge improvement over the titling systems that are commonly found in traditional all-in-one systems.

#### VISUAL LOGIC

Automate and add intelligence to XPression scenes with Visual Logic. It is no longer necessary to use complex scripting to create "smart templates". With visual logic, simply drag parameters to the workspace and connect them with functions and other parameters by drawing lines from output to input. Live data can be applied to change the outcome of the logic.

**XPression**

## A Higher Pitch

Graphite features the powerful RAVE Audio Production Mixing and Channel Management Engine that is only matched by dedicated audio mixing devices. Simply put, Graphite's audio capability cannot be matched by other all-in-one production systems.



### HIGH QUALITY 24 BIT PROCESSING

RAVE offers crisp 24-bit audio at a sample rate of 48 kHz.

### AUDIO SOURCES

RAVE provides access to audio from embedded video SDI inputs, from internal sources like XPression and XPression Clips as well as from PC audio sources such as Skype. There is an optional RAVE audio breakout box that adds analog and AES I/O and includes mic pre-amps and phantom power.

### AUDIO MIXER

RAVE includes a full 28-channel audio mixer and utilizes dynamic DashBoard control technology. RAVE offers input management, level monitoring, volume and gain adjustment, pre-fade listen, mix-minus auxiliary outputs and more.

### FLEXIBLE CONTROL

RAVE can be controlled manually as a separate component or as a part of your tightly integrated production with audio-follow-video, pre-programmed recalls, hot buttons and event triggers.

**RAVE**

# Graphite Options



Carbonite Black Panel



Abekas Mira Replay



Rave Audio Breakout



AJA HELO Streaming



PIVOTCam

## RAVE - 1RU AUDIO BREAKOUT PANEL

For users that have more rigorous audio needs, Graphite offers an optional 1RU audio breakout panel that adds discrete Analog and Digital audio I/O, together with microphone pre-amps and phantom power.

- **ANALOG TO DIGITAL CONVERSION** | The RAVE Audio Breakout Panel includes precision analog to digital conversion to allow the inclusion of external analog sources in the production. Output digital to analog conversion provides analog program and aux sends.
- **ANALOG BALANCED MICROPHONE / LINE INPUTS** | The audio breakout panel features 8 analog inputs individually selectable between microphone and line levels.
- **MICROPHONE PRE-AMPS** | RAVE's Audio Breakout Panel provides pristine quality microphone pre-amp gain (0-60dB) and digital pad (-20dB).
- **PHANTOM POWER** | Higher quality microphones often require phantom power. RAVE's Audio Breakout Panel provides individually selectable phantom power to all microphone inputs, in industry-standard 48V format.
- **AUX OUTPUTS** | Any of the breakout panel's five analog outputs can be used as customized AUX outputs. This is an excellent feature for productions that require specific audio feeds, such as multi-lingual productions, shows with multiple hosts or for mix-minus feeds.
- **AES I/O** | To integrate your professional audio gear, RAVE provides a direct 2-channel AES input and output.

## CARBONITE BLACK PANELS

While Graphite can be entirely operated via its graphical user interface, it can also be connected to any of the ergonomically beautiful Carbonite Black panels – the widest range of panels available for any application.

## MIRA REPLAY

Sporting events happen fast, which is why your audience needs a second look at those pivotal moments throughout the game. Replay capability is a must-have during sports productions and thanks to the complete production system that Graphite provides, is the only addition you need to make.

All Mira Replay Systems easily connect with Graphite to form a total sports production solution. Boasting multiple channels for record and play operation, Mira is built with a straightforward user interface and control surface that any operator can master with ease. Enjoy a complete two-piece solution and make sure your audience doesn't miss a second.

## MIRA EXPRESS

Mira Express is the newest iteration of Mira Replay, it is the perfect solution for adding rapid instant replay to fast-paced sport productions, at a remarkable price point. Mira Express is built on a solid platform that won't let you down and is a truly reliable alternative to traditional budget replay systems.

Mira Express is an SSD-based replay system, with the same industry-leading control surface and intuitive user interface as the standard Mira Replay.

## AJA HELO STREAMING OUTPUT

For web applications, the optional AJA HELO offers a simple streaming solution for Graphite. Facebook Live, YouTube, Twitter and other services and Content Delivery Networks (CDN) as well as direct streaming are supported.

## PIVOTCam PTZ Cameras

An excellent choice for quality robotic image capture. PIVOTCam is a high-performance camera with quiet and accurate PTZ functionality, at a fantastic value. Graphite provides recallable preset shot maneuvers and manual on-the-fly control from a Carbonite panel joystick and is tightly integrated with DashBoard for total production control.

# Performance Specifications



Graphite Frame Specifications	
13 External Inputs	12 SD/HD/3G SDI / 1 HDMI
7 Internal Inputs	Single Channel XPression with Multiple Key Layers 2 Channels of XPression Clip Playback 4 Channels of Media Storage (Stills & Animations w/ Audio)
8 Outputs	6 SDI / 2 HDMI

## Carbonite Engine Specifications

Number of MEs	2
Number of MiniMEs	4
Number of MultiViewers with Tally and Source Names	2 (up to 32 windows)
Internal Format Converters / Frame Synchronizers	6
Number of Floating DVEs	4
Reference Input	Black or Tri-Level
Operational Features	
Number of Keys Per ME	5 (4+1 Transition Key)
Number of Keys Per MiniME	2 per MiniME
Ultrachrome Keyers (Floating)	2
Number Of Media-Stores (2 GB Capacity)	4
Supported Media File Types - Stills and Animations	.BMP (no Alpha) .JPG (no Alpha) .TGA (with or without Alpha) .PNG (with or without Alpha) 48k WAV audio
Browser-Based Graphics Management	✓
Pattern Generators	2 per ME
Animated MediaWipes	✓
Direct Media-Store Render Via Ethernet	✓
LiveEDL (Generates an Edit Decision List for use in Post-Production)	✓
Control Interfaces	
Dashboard LiveAssist	✓
ViewControl - Visual Production Control	✓
Robotic Camera Control	✓
Signal Processing Standards	
Standard Definition	480i/59.94, 576i/50
High Definition	720p & 1080i 50/59.94
1080P	25 / 29.97 (1.5Gb) & 50 / 59.94 (3Gb)
UHD Up Conversion for Output	4x Quad Link (MultiScreen Mode)

# Performance Specifications

XPression Graphite Specifications	
Template Designer	✓
Playout Sequencer	✓
2D / 3D Fonts	✓
Arabic, Asian & Scripted Language Support	✓
3D Primitives	✓
Imported 3D Models	✓
Video Clip Support (within a template)	✓
XPression Video Codec License	✓
XPression Video Coder Application	✓
Automated File-based Ingest, Transcoding & Publishing	Optional
Animation Timeline	✓
Graphical Keyframe Editor	✓
Continuous Animations	✓
Stagger Animations	✓
Visual Logic	✓
Virtual Cameras	✓
Seamless Continuous Tickers	✓
TrueD! Anaglyphic Stereoscopic Preview	✓
Render to Disk	✓
Output Framebuffer Layers	Unlimited
Virtual Preview Channels (up next & look-ahead)	2
High Definition Formats (HD)	✓
Standard Definition Formats (SD)	✓
Project Video Format Conversion	✓
Custom Resolution Video Formats (DVI Out)	✓
RossTalk (TCP/IP Strings)	✓
P-bus	✓
Custom Keyboard	Optional

Optional XPression Workflow Tools and Applications
Studio Single Channel Edition (SCE)
Studio Multi-Channel
Project Server
openMAM™ Connectivity
Ross Streamline Asset / Order Management
DataLinq Server
XPression Gateway
MOS Plug-in
NLE Plug-in
Template Builder
CII Gateway
Desktop Preview Server
XPression Clips Features
1 Channel of Baseband Video Ingest
2 Channels of Playout
No Pre-roll
Back-to-back Transitions
Clip Browser with Searching
Clip Trimming and Looping
VDCP, AMP, P-bus, and RossTalk Automation Protocols
P-bus Manager for Intelligent Clip Assignment
Clip Manager Application with User Rights or Database Management and Synchronization Setup



RAVE Audio Mixer	
28-channels	12 Stereo SDI 4 Stereo XPression 2 Stereo Carbonite MediaStores 1 Stereo PC Audio Input 1 Stereo AES input 8 Mono Analog inputs
Output Controls	
Fader Volume	-∞dB to +20dB
Post-Fade Audio Meter	✓
Post-Fade Peak Indicator	✓
Solo Clear	✓
Output Controls	
Fader Volume	-∞dB to +20dB
Pre-Fade Audio Meter	✓
Pre-Fade Peak Indicator	✓
Balance Control on Stereo Inputs	✓
Pan Control on Mono Inputs	✓
Mute	✓
Solo	✓
Pre-Fade Listen	✓

RAVE Audio Breakout Panel	
Analog / Microphone Inputs	8
Analog Outputs	5
AES Digital Audio Inputs	1
AES Digital Audio Outputs	1
Adjustable Pre-Amps Gain on Analog Inputs	0-60dB
Phantom Power on Analog Inputs	48V
Digital Pads on Analog Inputs	-20dB
Digital LCD Front Panel w/ Multi-Function Control Panel Interface	✓
Number of GPI/O	24
Number of Tallies	16

**MOTION GRAPHICS**

**XPRESSION** | Studio, BlueBox, Prime, Go!, Designer, Developer, Quad  
**XPRESSION CLIPS**  
**XPRESSION TESSERA**  
**XPRESSION MAPS**  
**XPRESSION TELESTRATE**  
**XPRESSION TOUCH FACTORY**  
**XPRESSION BRAND IT**  
**XPRESSION TICK IT**



**CREATIVE SERVICES**

**ROCKET SURGERY** | Graphics Creation



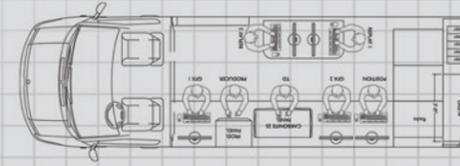
**STUDIO IN A BOX**

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



**OPENTRUCK**

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



**PRODUCTION SERVICES**

**ROSS MOBILE PRODUCTIONS**



ASSET MANAGEMENT



STREAMLINE

**CAMERAS**

**ACID CAMERA** | H200-UCHR, Z50-UCHR  
**PIVOTCAM** | PIVOTCam-20



**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** | Premiere, Prime, Express  
**DASHBOARD**  
**LIGHTNING CONTROL SYSTEM**



**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**

**IP TECHNOLOGY**

**COVELOZ** | OEM Hardware, Virtual Chip, Engineering Services



**VIDEO SERVERS & REPLAY**

**ABEKAS MIRA** | Replay, Production Server  
**MIRA EXPRESS** | Replay Server  
**ABEKAS TRIA** | Production Server  
**ABEKAS AIR CHANNEL** | Profanity Delay



**ROBOTICS**

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



**VIRTUAL & AUGMENTED REALITY**

**TRACKLESS VIRTUAL UX VIRTUAL TRACKING SYSTEM FRONTIER**



# GRAPHITE

Ross Video has a complete range of technical services available to ensure that your Graphite 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 production 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.

Graphite 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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Technical Support  
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[www.rossvideo.com](http://www.rossvideo.com)

## ROSS VIDEO LIVE PRODUCTION EXPERTS

### 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

### SERVICES

Creative Services  
Mobile Production

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LIVING LIVE!