

# Abekas MIRA

## The Ultimate Replay System



**ROSS**  
Production Technology Experts

# Instant Replay that Grabs All the Action

Achieve impressive instant replays for all your live events and sports broadcasts with a cost-effective and easy-to-operate—yet extremely powerful and quite flexible—multi-channel replay system.

Driven from a unique, ergonomically-designed control surface and purpose-built replay application, you are able to execute live instant replays with the greatest of ease, quickly clip and tag content, ingest and export media files, and create engaging game-break highlights that will captivate your audiences.

The Mira Control Surface and instant replay application provides you an extensive list of capabilities with a fast learning curve—to get you on the air quickly—and with no mistakes. The flexibility, speed and performance of Mira combines to deliver you outstanding value.

## Do More Now

- Provides the most cost-effective and most comprehensive replay system in the industry, with extensive built-in functionality.
- Adapts to a wide variety of live production workflows thanks to a symmetrical, multi-channel server architecture.
- Reduces costs and substantially streamlines workflows with integrated Media File Import and Export tools.

## Share the Load

- Provides a unique and comprehensive Dual-User capability at a very attractive price-point.
- Splits or shares server resources—so two operators can either work independently on two separate replay events, or work in collaboration on the same replay event.
- Efficiently divides live production tasks such as clip management and live instant replay between two operators.

## Make it Easy

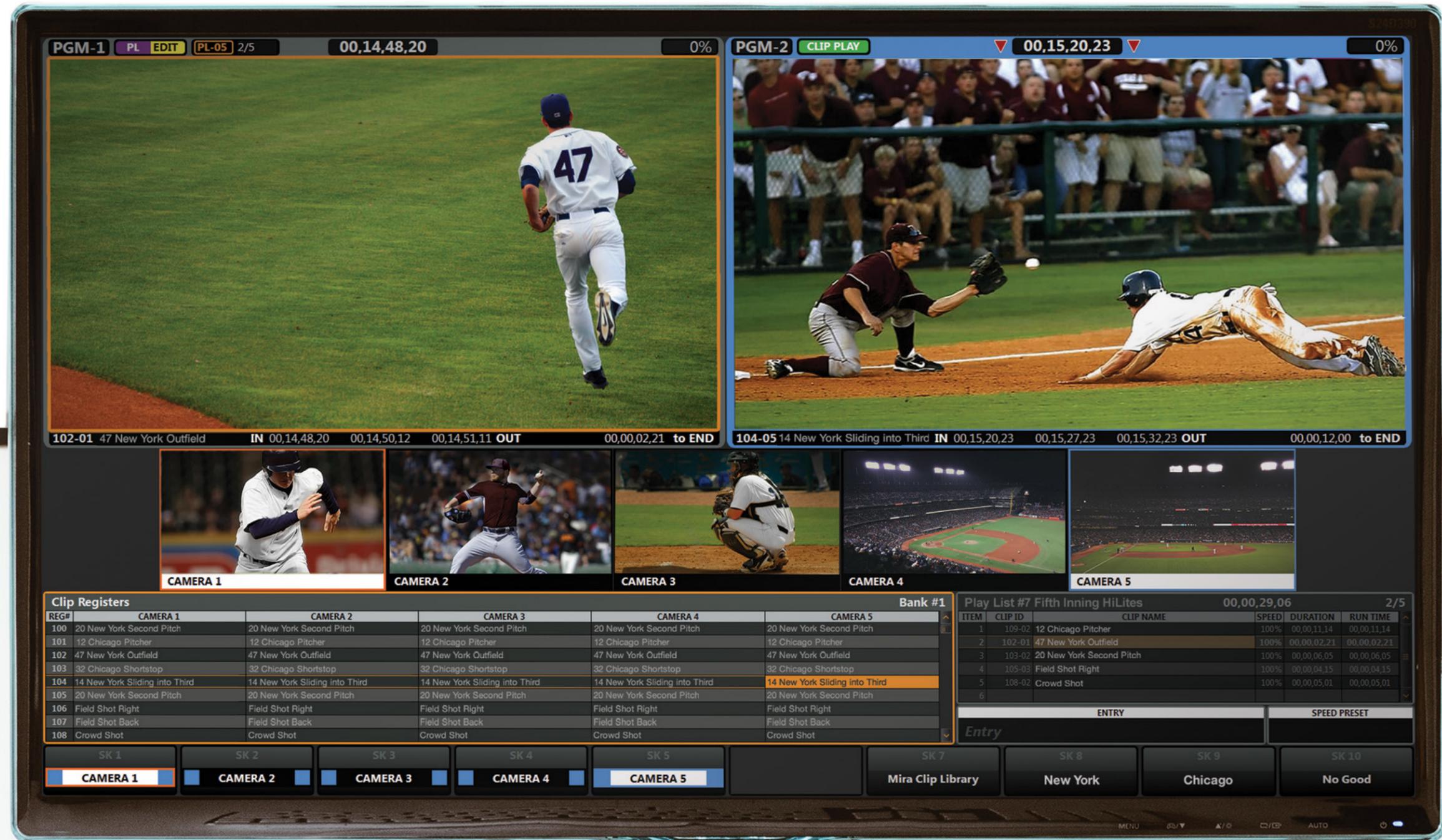
- Delivers remarkably fast learning curves for both novice and experienced replay operators.
- Incorporates a distinctive, ergonomically-designed control surface and highly intuitive single-display “Heads-Up” graphical user interface with incredible ease-of-use.
- Accelerates production workflows, while reducing operator stress and fatigue, by means of an ergonomic replay control surface designed with “one-button” access to a wide range of operational tasks.



# INSTANT REPLAY

# KEY BENEFITS

- Flexibility of Channels**  
 Supports a wide range of operational configurations, with every channel instantly changing between recorder and player
- Support for Dual-Users**  
 Split or share channel resources and live production tasks between two users
- File Based Operations**  
 Media file ingest and multiple-destination export
- Ease of Use**  
 Quick to learn and simple to master for both novice and experienced replay operators
- Content Sharing**  
 Network clip playback between multiple Mira replay servers via Gigabit Ethernet
- Comprehensive Capabilities**  
 Advanced replay solution that includes built-in audio routing and control over external video routers
- Intuitive User Interface**  
 Single-Display “Heads-Up” implementation to easily follow the action
- Ergonomic Control Surface**  
 “Thin and Wide” panel design accommodates QWERTY keyboard at front-and-center, and places T-Bar and Rotary Dial at “shoulder-width” — all at the most comfortable operational locations



Mira Instant Replay Application



### Live Event Coverage Made Easy

Producing instant replay of live televised events is always a fast-paced and demanding endeavor. Reliability, responsiveness, interoperability, and superior image quality are critical requirements for all devices used within live production environments.

Mira has been designed to meet all these operational requirements and deliver unprecedented flexibility and ease-of-use

### Extensible and Flexible Workflows

The architecture of Mira permits server resources to be split or shared, enabling a wide variety of operational scenarios. As just one example: two operators, each with their own Mira Control Surface and with their own program output channels, can split the production tasks—with instant access to shared camera inputs, shared clip registers and shared highlight playlists.

One user can concentrate solely on live instant replay operations from all cameras, while the other creates and tags clips from all camera inputs; imports and exports media files; and builds game-action highlights and promotional playlists. Once finished, these can be immediately aired by the live instant replay operator.

Mira servers can be fitted with either four or eight “symmetric” video channels. This means every video channel can instantly switch between record and play operations, providing maximum operational flexibility. As Mira performs “cut and mix transitions” internally, switcher operations can be freed up, which streamlines your production workflows.

### Multi-Server Content Sharing

The integrated clip networking feature permits operators to quickly and easily share media clips between any number of Mira servers interconnected via inexpensive Gigabit Ethernet. These clips can be either stand-alone clip assets, or can be content clipped from any actively recording Replay Event. Operators can even access content clipped from a previously recorded Replay Event still present on any of the Mira systems. Up to four HD clips can be played simultaneously across the network between Mira servers.

### File-Based Operations

Mira replay systems come standard with integrated media file import and export tools, which dramatically streamlines your file-based workflows. A wide variety of the most commonly used professional file formats can be ingested and exported via the built-in USB-2, USB-3 and Gigabit Ethernet ports.

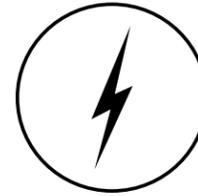
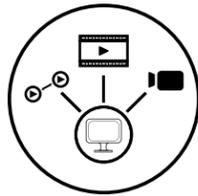
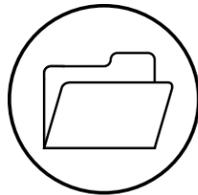
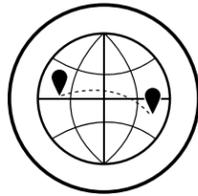
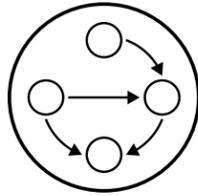
Up to nine Export Destinations can be pre-defined by the operator with each including: file codec and wrapper, export pathway, file naming parameters, handle inclusion, and whether playlist content is exported as “one” or as “many” media files.

Once these Export Destinations are defined, the operator may export to these destinations directly from the Mira Control Surface during a live Replay Event. With a single button tap, the operator can export either a single saved clip—or an entire list of clips contained within any playlist. These export tools efficiently send captured live content as media files into your downstream craft editing systems, web streaming devices and archival storage.

### Media Format Diversity

Mira is truly universal, with support for a wide range of resolutions and formats including Ultra HD 4K, HD and SD. Systems fitted with the AVC-Intra native recording hardware will support 1080p across all channels—without sacrificing channel count. The 8-channel AVC-Intra Mira servers can also be configured as two channels of UHD-4K.

Mira comes standard with both embedded and AES audio I/O. The comprehensive audio routing capability built into Mira 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.



### System Reliability

To ensure maximum reliability, Mira comes standard with dual-redundant, hot-swappable power supplies. For further reliability and ease of maintenance, all Mira servers also feature hot-swappable chassis fans and media disk drives.

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

### Fast Playlist and Highlights Creation

Creating clips with Mira is incredibly easy. Simply tap the SAVE button on the Mira Control Surface to instantly save a complete set of clips for all camera angles; with all clips automatically stored in chronological order. There is no time wasted hunting around for an “open clip slot” while saving your clips! This unique clip-saving concept also makes it quite simple to later choose any camera angle during live replay or during playlist editing—since all camera angles are always saved.

Programmable softkeys on the Mira Control Surface permit you to define commonly used terms—such as team names, type of plays, and more. You are then able to quickly and efficiently title all clip angles with consistent, highly descriptive names—all with just a few button taps.

Other replay systems create “guardbands” for saved clips, which restrict you to a few seconds of additional content before and after each clip. Mira replay server has no guardband restrictions, and therefore gives you the power to trim IN and OUT points on any clip, at any time, and to any point within the entire record stream. This not only gives you much greater creative flexibility, it also saves an incredible amount of time during most clip trimming operations.

One Mira Control Surface can simultaneously play up to four separate playlists from four separate program output channels. Up to 99 playlists per event can be quickly and easily created with Mira. You can add a music bed or voice-over to a playlist using the Aux audio track, and easily import clips containing player headshots, bumpers and interstitials—adding them to the live action replay to generate promos and highlight packages.

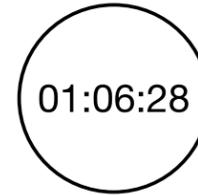
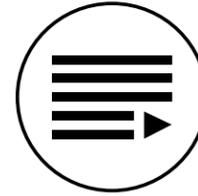
Playlist playout flags permit list items to be “paused” on first and/or last frame, or to designate items to be looped. List items can be programmed with either CUT or MIX transitions between them. With advanced playlist editing features—such as: cut, copy and paste; unique “Goto Trim” function; one-button camera angle changes; and “@Start & @End flags” for each playlist item—you will see Mira is in a class all of its own.

### Count-Down Display

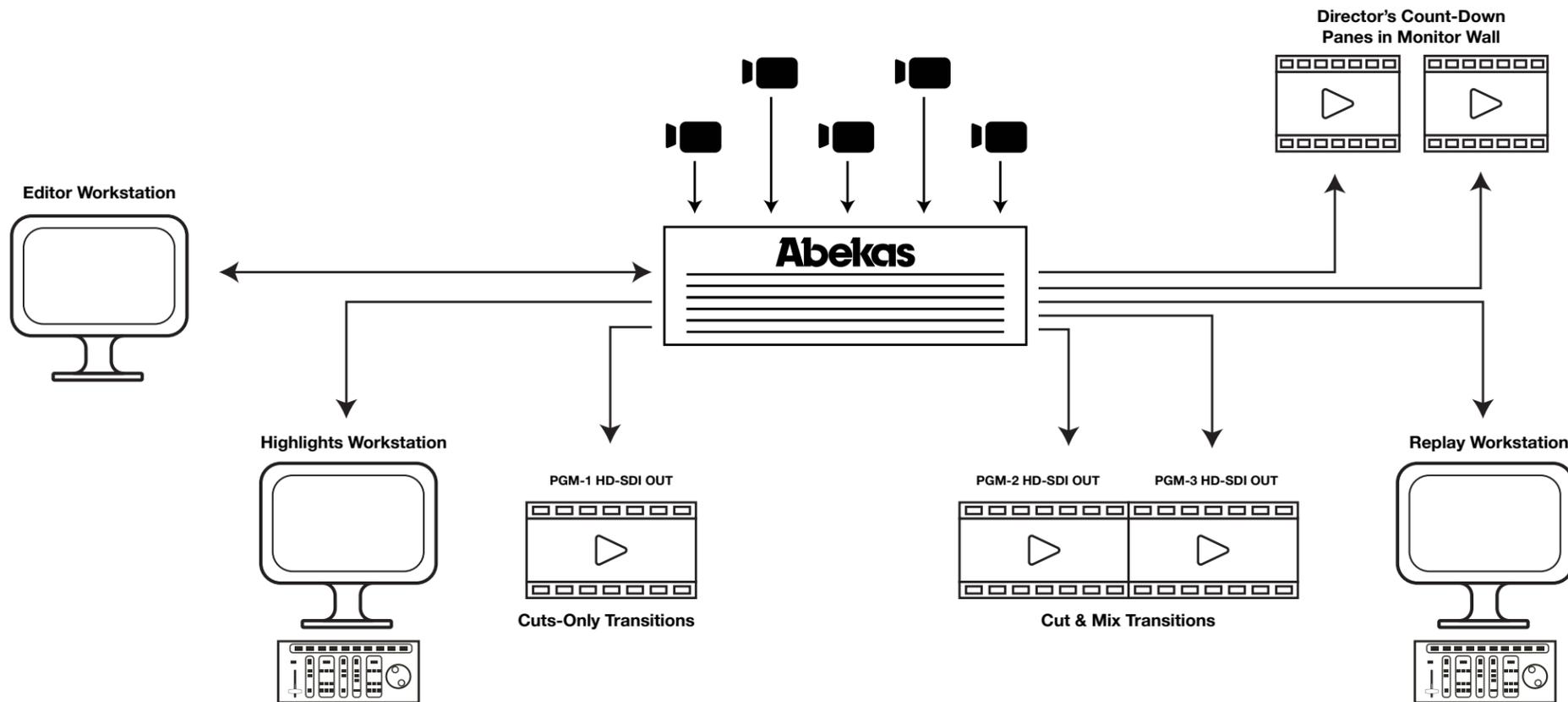
The unique count-down display feature of Mira simplifies monitoring by reducing cost and space, which is particularly important in outside broadcast vehicle applications. Each count-down display provides intuitive, color-coded “time remaining” indication of individual clip and playlist playout—for both preview and program channels. This count-down display is hugely beneficial for the director, during those times when any playout from Mira replay server is “on-air” during your live productions.

### Ross Video openTruck and DashBoard Integration

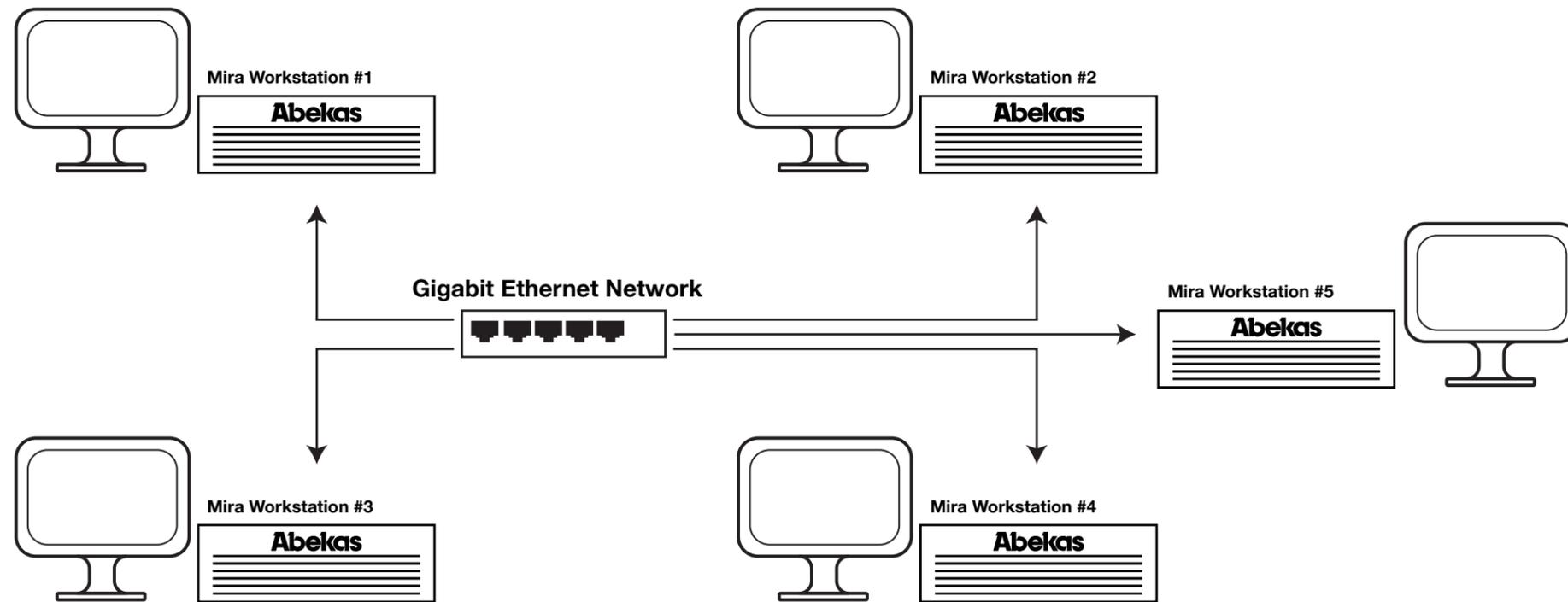
Mira replay systems are an integral component to openTruck™ vehicle designs for live event productions. With the seamless integration between Ross DashBoard™ and Mira, configurations can be set up, saved, and instantly reloaded by DashBoard, making rapid system reconfiguration incredibly easy for you when moving from one event to another.



## Dual-User 5R+3P



## Mira Clip Networking



# Instant Creativity at Your Fingertips

## Fast Learning Curves

All buttons on Mira Control Surface are logically grouped and color-coded according to function, and are laid out with generous spacing around every button—helping to reduce operational errors during your fast-paced live productions. The “wide and slim” ergonomic panel design contributes to greater comfort for your operators, reducing stress and permitting your replay workflows to run much more smoothly.

The ten softkeys located at the top edge of Mira Control Surface are labeled with legends at the bottom of the GUI display. They provide one-button access to all camera views—no matter how many cameras are in use—and provide quick access to other functions, based upon the mode of operation. Having ten softkeys instead of only four means there are far fewer “menu levels” of softkey labels, which translates into much faster learning curves for operators.

The Mira graphical user interface compliments the Control Surface by providing operators with a single “heads-up display” to follow all the action; to manage all clips and playlists; and to easily export media files. Many replay systems force users to frantically glance at up to three separate displays during typical replay operations.

Both novice and experienced replay operators can quickly master the Mira replay application—in most cases, after just a few hours of training.

## More Options for Creative Replay

The two most often-used controls, the T-Bar (for slow-motion speed control) and the Rotary Dial (for searching content) are ergonomically located at “shoulder’s width” on the control surface, for much more comfortable operation.

Unique REVERSE button permits any playback, no matter the speed, to be instantly reversed. Release the button to revert to original play direction. This feature is a huge time-saver when it comes to “swing analysis”, “out of bounds” and “barely in the goal” types of live replays.

Quickly and easily apply two additional user-defined “VAR PLAY” speed ranges to the T-Bar.

A dedicated VAR PLAY button provides instant, on-the-fly speed

changes at any time—including during super slow motion operations. Just type the desired speed, then tap VAR PLAY.

Hold down the DISABLE button, and move the T-Bar to the desired position—with absolutely no disturbance in the live “on-air” playout. This eliminates the common curse for all replay operators finding the T-Bar in the wrong position, and moving it causes a disturbing “motion speed jump” while live on the air.

## Superior Clip Creation and Management

A dedicated clip SEARCH button speeds the recall of specific clips while under pressure during live production.

With every clip SAVE operation, all camera angles are clipped simultaneously, and are saved in chronological order—with no danger of overwriting previously stored clips. Trim only one angle or all angles in stored clips by shifting the SAVE button.

Mira delivers more clip edit control than any other system, including the unique point of interest (POI) button for quickly identifying key plays.

## Clarity in Operations

Intuitive, color-coded program output frames—reflected in the Mira Control Surface transport buttons—greatly assist live replay operations.

Color-coded “mode status” indicators within the video panes of the replay application clearly show the current function of each output channel.

The Mira user interface is packed with time-saving elements such as programmable softkeys that permit assigning common naming terms for fast and consistent clip annotation.

## Integrated Video Router Control

Providing expanded production flexibility and integration, Mira replay systems interface directly with video routing switchers. This functionality not only saves on the cost of yet another video router control panel—it also permits Mira operators to quickly and easily change video inputs directly from the Mira Control Surface “Camera” softkeys while a Replay Event is active.

## Ultimate User Functionality

The Mira playlist management interface is fast and intuitive. Mira operators use well understood CUT, COPY, and PASTE functions for fast playlist item reordering. Import bumpers and interstitials into the playlist to create a complete sponsored highlight break.

Unlike many other replay systems which rely upon softkeys and convoluted menus to control output channels, Mira has dedicated buttons—including GANG control—to greatly simplify live operations. Users can also assign up to four program channels—instead of just two—onto a single Mira Control Surface, for even greater operational flexibility.

The high-mass, precision-balanced and abundantly free-spinning Rotary Dial featured on Mira Control Surface permits operators to smoothly search recently-recorded content with the greatest of ease—and it imparts a unique quality, with an exacting tactile feel.

Exclusive to Mira, the CRUISE function permits operators to sit back and effortlessly shuttle through the record stream. All other instant replay systems force the operator to constantly spin a lightweight rotary dial, just to review content captured in the record stream.

The Mira Control Surface comes with a full-sized QWERTY keyboard that conveniently fits directly in front of the Mira Control Surface. This makes routine functions like clip naming and searching easy and very comfortable for the operator.



Mira Control Surface

# SPECIFICATIONS

## KEY FEATURES

- Four or eight symmetrical HD/SD channels; each can be used as either Recorder or Player
- 1080p 3G video support using AVC-Intra native video hardware
- Up to two Ultra HD-4K channels using AVC-Intra native video hardware
- Slow Motion and optional Super Slow Motion replay
- Support for Dual-User operation
- Integrated Media File Import and Export tools
- Clips and Playlist media files can be exported to multiple destinations before, during and after live production
- Real-time clip networking and sharing via standard Gigabit Ethernet
- Built-in Input/Output Audio Router
- Built-in control over external Video Routers
- Built-in Multi-Viewer computer desktop video monitoring
- Built-in HD-SDI Quad-Viewer output(s) with intuitive Count-Down display
- Media disk array with RAID-6 parity protection and up to 200 hours of storage at 100 Mb/s
- DashBoard and open Mira Ethernet API is freely available to program custom control interfaces
- Dual, hot-swap redundant power supplies
- Mira replay server is housed within a robust, compact 3RU server chassis

SUPPORTED VIDEO FORMATS		
<b>Native Video Codec:</b> — Choice of one native recording video codec —		
	AVC-Intra Compression @ 100Mb/s	
	DVCPro-HD Compression @ 50Mb/s & 100Mb/s	
	JPEG-2000 (J2K) Compression @ 15Mb/s to 200Mb/s	
<b>Ultra HD 4K Video:</b>	2160p /59.94 /50 (AVC-Intra only)	
<b>HD Video:</b>	<ul style="list-style-type: none"> <li>• 1080i /59.94 /50</li> <li>• 1080p /59.94 /50 (AVC-Intra only)</li> <li>• 720p /59.94 /50</li> </ul>	
<b>SD Video:</b>	<ul style="list-style-type: none"> <li>• 525i /59.94 (J2K &amp; DVCPro only)</li> <li>• 625i /50 (J2K &amp; DVCPro only)</li> </ul>	
CHASSIS PHYSICAL & ELECTRICAL		
<ul style="list-style-type: none"> <li>• Dimensions: 3RU Height/Depth = 25.6 in (65.1 cm)</li> <li>• Maximum Weight: 65lbs. (30kg)</li> <li>• Maximum Power: &lt;500 Watts / 100-240 VAC / 50-60Hz (Auto-sensing power input)</li> </ul>		
MIRA CONTROL SURFACE PHYSICAL & ELECTRICAL		
<ul style="list-style-type: none"> <li>• Dimensions: Height at front 2.0 in (5.08cm); Height at rear 3.75in (9.5cm); Width 17.5in (44.5cm) (w/o rack ears) 19 in (48.3cm) w/ rack ears; Depth 5.4 in (13.7cm)</li> <li>• Maximum Weight: 6lbs. (2.7kg)</li> <li>• Data &amp; POE Input Voltage.....56VDC @ 0.536A / 30W (1) F RJ45</li> </ul>		
SAFETY & EMISSIONS		
• TUV	• FCC Class	• CE
ANALOG REFERENCE INPUT.....(1) FEMALE BNC		
Tri-level HD or Composite Analog SD; Terminating		

DIGITAL VIDEO INPUT - MIRA 4CH = (4) OR MIRA 8CH = (8).....FEMALE BNC
<p><b>Ultra HD 4K &amp; 1080p Video (Only with AVC-I):</b></p> <ul style="list-style-type: none"> <li>• HD-SDI SMPTE 424M Level A (10-bit at 3.0Gb/s).....Uses (4) or (8) of these BNC's</li> </ul> <p><b>HD Video:</b></p> <ul style="list-style-type: none"> <li>• HD-SDI SMPTE 292M (10-bit at 1.5Gb/s).....Uses (4) or (8) of these BNC's</li> </ul> <p><b>SD Video:</b></p> <ul style="list-style-type: none"> <li>• SD-SDI SMPTE 259M (10-bit at 270Mb/s).....Uses (4) or (8) of these BNC's</li> </ul>
DIGITAL VIDEO OUTPUT - MIRA 4CH = (4) OR MIRA 8CH = (8).....FEMALE BNC
<p><b>Ultra HD 4K &amp; 1080p Video (Only with AVC-I):</b></p> <ul style="list-style-type: none"> <li>• HD-SDI SMPTE 424M Level A (10-bit at 3.0Gb/s).....Uses (4) or (8) of these BNC's</li> </ul> <p><b>HD Video:</b></p> <ul style="list-style-type: none"> <li>• HD-SDI SMPTE 292M (10-bit at 1.5Gb/s).....Uses (4) or (8) of these BNC's</li> </ul> <p><b>SD Video:</b></p> <ul style="list-style-type: none"> <li>• SD-SDI SMPTE 259M (10-bit at 270Mb/s).....Uses (4) or (8) of these BNC's</li> </ul>
DIGITAL AUDIO INPUTS
<p><b>Embedded in Ultra HD 4K &amp; 1080p Video (Only with AVC-I):</b></p> <ul style="list-style-type: none"> <li>• Embedded in 3G HD-SDI video inputs: 8-tracks; 48kHz at 24-bits</li> </ul> <p><b>Embedded in HD Video:</b></p> <ul style="list-style-type: none"> <li>• Embedded in all HD-SDI video inputs: 8-tracks; 48kHz at 24-bits</li> </ul> <p><b>Embedded in SD Video:</b></p> <ul style="list-style-type: none"> <li>• Embedded in all SD-SDI video inputs: 4-tracks; 48kHz at 20-bits</li> </ul> <p><b>AES Digital Audio:</b></p> <ul style="list-style-type: none"> <li>• 8- or 16-tracks TASCAM/AES59-2012..Mira 4CH = (1) or Mira 8CH = (2) .....F-DB25 (TASCAM breakout cable not included)</li> </ul>
DIGITAL AUDIO OUTPUTS
<p><b>Embedded in Ultra HD 4K &amp; 1080p Video (Only with AVC-I):</b></p> <ul style="list-style-type: none"> <li>• Embedded in 3G HD-SDI video outputs: 8-tracks; 48kHz at 24-bits</li> </ul> <p><b>Embedded in HD Video:</b></p> <ul style="list-style-type: none"> <li>• Embedded in all HD-SDI video outputs: 4-tracks; 48kHz at 20-bits</li> </ul> <p>Embedded in SD Video:</p> <ul style="list-style-type: none"> <li>• Embedded in all SD-SDI video outputs 4-tracks; 48kHz at 20-bits</li> </ul> <p><b>AES Digital Audio:</b></p> <ul style="list-style-type: none"> <li>• 8- or 16-tracks TASCAM Digital/AES59-2012..Mira 4CH = (1) or Mira 8CH = (2) .....F-DB25 (TASCAM breakout cable not included)</li> </ul>

QUAD-VIEWER, COUNT-DOWN & MULTI-VIEWER DIGITAL VIDEO OUTPUTS
<p><b>HD Video (Only):</b></p> <p>HD-SDI SMPTE 292M Quad-Viewer &amp; Count-Down output: .....Mira 4CH = (1) or Mira 8CH = (2) Female BNC</p> <p><b>SD &amp; HD Video:</b></p> <p>Multi-Viewer on desktop Mira Explorer graphical user interface HDMI and DVI-D (1920x1080 or higher native resolution display required)</p>
ANALOG AUDIO OUTPUT - MIRA 4CH = (1) OR MIRA 8CH = (2)..FEMALE 3.5mm
<ul style="list-style-type: none"> <li>• Unbalanced, line-level at: -10 dBV</li> <li>• 2-Tracks (1 stereo pair) / Selectable to monitor any output stereo pair</li> </ul>
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>• RS-422 Serial: Sony, Louth VDCP &amp; Odetics protocols with M-RJ45 to F-DB9 adapters included.....(4) or (8) M-RJ45</li> <li>• Display Port 1920 x 1080 native resolution display required.....(1) F-DP</li> <li>• HDMI Output 1920x1080 native resolution display required.....(1) F-HDMI</li> <li>• Gigabit Ethernet: AMP, Louth VDCP protocols.....(2) F-RJ45</li> <li>• Ethernet with POE (10-T / 100-T) for Mira Control Surface.....F-RJ4</li> <li>• USB-2.0 / USB-3.0 / USB-3.1.....F-USB-A</li> <li>• USB Type-C.....F-Type-C</li> <li>• QWERTY Keyboard &amp; Mouse (included).....F-USB-A</li> </ul>



Mira Server Chassis – Rear Panel

**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



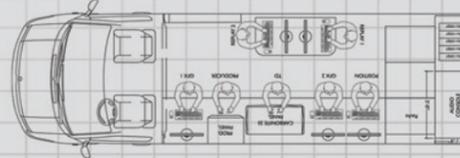
**STUDIO IN A BOX**

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



**OPENTRUCK**

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



**PRODUCTION SERVICES**

**ROSS MOBILE PRODUCTIONS**



ASSET MANAGEMENT



**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** | Express, Prime, Premium  
**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 & DELAY**

**ABEKAS MIRA** | Replay Systems  
**ABEKAS TRIA** | Production Servers  
**ABEKAS AIRCLEANER** | Live Events 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**



# Abekas MIRA

Ross Video has a complete range of technical services available to ensure that your Abekas Mira replay system 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 Mira replay 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 Mira replay system 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

North America: 1-844-652-0645  
Global: +800 1005 0100  
Email: [solutions@rossvideo.com](mailto:solutions@rossvideo.com)

Technical Support  
Emergency: +1 613 349-0006  
Email: [techsupport@rossvideo.com](mailto:techsupport@rossvideo.com)



[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

© 2017 Ross Video Limited

Released in Canada.

No part of this brochure may be reproduced in any form without prior written permission from Ross Video Limited.

This brochure is furnished for informational use only. It is subject to change without notice and should not be construed as commitment by Ross Video Limited. Ross Video Limited assumes no responsibility or liability for errors or inaccuracies that may appear in this brochure.

AM-001-BR

**ROSS**  
Production Technology Experts