

# CROSSOVER

CrossOver  
Solo, 12 & 16



Live Production Technology

# Compact Production Power.



# CrossOver [krô's'o'vr]

**1** A place at which or the means by which a crossing is made. **2** A characteristic resulting from the exchange of genetic material between homologous chromosomes during meiosis. **3** A compact switcher, built by Ross, that appeals to a wide or diverse audience.

**We created the CrossOver family of switchers for people with big production ambitions and constrained budgets. The CrossOver Series features the same tough components and pristine signal processing technologies as our premiere Vision product line yet in a compact and cost effective package. CrossOver production switchers are ideal for use in space-limited studios and edit suites, mobile production trucks, houses of worship, entertainment and sports venues or even as an emergency back up for a primary production switcher. All CrossOvers provide full multi-definition signal management and processing with uncompromised picture quality.**

**CrossOver enables the creation of sophisticated, professional productions in a compact package.**

**Solid. Powerful. Compact. Go Live with CrossOver!**

## MEET THE CROSSOVER FAMILY

### MultiViewer (Built-In)

All CrossOver switchers come loaded with a high-quality 10 input MultiViewer™.

### CrossOver 12



### CrossOver SOLO



A big production from a compact switcher? You bet! CrossOver has what it takes to get the job done professionally.

## Power Packed Feature Set

At Ross Video we understand the demands of a live production environment and have equipped CrossOver to respond - with big switcher operating style, features and durability in a compact and affordable package. CrossOver easily out performs other production switchers in its class and represents a great choice for those with space or wallet constraints.

### UltraChrome™ Advanced Chroma Keying

Our UltraChrome™ chroma keyer uses new Ross technology to perform detailed keying in the most demanding conditions.

### 4 Channel Media-Store™

4 media player channels are available switcher-wide. These channels can be configured as independent video channels or as key and fill pairs. Stills, logos and animated graphics can be played out from the on-board memory loaded via USB thumb drives or FTP clients. The Media-Store™ can also be directly accessed by our award winning XPression graphics packages.

### 2 Channels of DVE

2 high quality 2D DVE channels are available system-wide. These DVEs 'float' within the system architecture allowing them to be assigned to any keyer as the production demands. These DVEs are also available for MLE DVE transitions and have dedicated selection in the MLE transition area.

### MediaWipes™

MediaWipes™ add powerful animated transition capabilities in conjunction with the CrossOver Media-Store™. Create compelling, animated graphic transitions and control them simply from the MLE transition area.

### Built-in MultiViewer

A 10 input MultiViewer is included in CrossOver's standard feature set. This clean, low latency MultiViewer has access to all external and internal sources. Source naming and tally assignment automatically follow window routing selections.

### Multi-Format Production

CrossOver's video processing engine can be set for standard or high-definition production. In addition, this powerful system includes 4 internal frame synchronizers and format converters which allow mixed SD and HD formats to be seamlessly incorporated into your production.

### MemoryAI™

MemoryAI is CrossOver's powerful and unique ability to recall stored MLE "scenes" safely to preview.

Typically, complex scene transitions are preset and stored by the switcher operator prior to the live production. On a Multi-MLE switcher these would be recalled to an MLE that is not currently in use to allow safe preview. On 1 MLE switchers, safe recalls to preview are normally impossible; MemoryAI overcomes this limitation by intelligently managing MLE resources to recall settings to unassigned keyers in preview - regardless of original keyer assignment - while also ensuring that program output is fully protected. Effectively adding Multi-MLE workflow - **It's yet another first from Ross Video.**

### Custom Control Macros (CrossOver 16 only)

Powerful, editable macros that can do almost anything. Record events, recalls, pauses, holds and control devices. Executable from a single button press.

### Device Control

Direct control of external devices is simple with CrossOver. Control protocols for certain Servers and Robotic Cameras are included, as is comprehensive GPO management for other third party devices.

## CrossOver 16



# CROSSOVER SOLO

CrossOver Solo is a full Multi-Definition (MD) production switcher  
□ Produce in Standard Definition (SD), High Definition (HD) or include  
your existing SD sources in your HD productions.

## HIGHLY VISIBLE MENU

- Intuitive auto-follow menu.

## DIRECT ACCESS TO MEMORIES

- MemoryAI™ Recalls make for impressive productions.

## PATTERN SELECT BUTTONS

- Quickly select popular transitions and navigate the intuitive menu system.

## PANEL GLOW

- User-adjustable for various lighting environments.





#### USB 2.0

- Thumb drive port for saves, recalls and Media-Store graphics.

#### DURABLE METAL JOYSTICK

- Position wipes, patterns and washes as well as control Pan and Tilt for robotic cameras.

#### FLEXIBLE KNOBS

- Continuously rotatable push button multi-purpose knobs.

#### TRUE NEXT TRANSITION AREA

- Rapid selection of all keys with full preview.

#### LEGENDARY ROSS FADER

- Robust and guaranteed for life.

#### DEDICATED TRANSITION BUTTONS

- Buttons for rapid live keyer control.

### Big Switcher Power and Quality - Unbeatable Pricing!

**Solo - The powerful, all-in-one production switcher that fits small spaces and budgets.** Introducing the new CrossOver Solo, 1 MLE production switcher, with 12 HD / SD Inputs, Internal MultiViewer, 2 Channels of 2D DVE, Synchronization and Up / Down Conversion, and 4 Internal Channels of Media Store for instant stills, keys and media wipes. Based on the highly successful CrossOver 12 panel, Solo has the same features and specifications, however the main electronics and signal I/O are combined within the panel as a single unit - reducing cost and size. Providing unmatched performance, CrossOver Solo is perfect for space restricted applications and producers with limited budgets.

#### Key Features

- 12 External Inputs
- 10 Input Multi-Viewer for cost-effective monitoring of sources
- 6 Internally Generated Sources
- 3 Keys
- 2 2D DVEs
- 4 Frame Syncs with Up / Down Conversion
- 4 Media-Stores for Still and Animations
- MediaWipes™
- Superb UltraChrome™ Chroma Keyer
- Sync Generator with 3 Independent Outputs
- 100 Event Memory System with MemoryAI™

# CROSSOVER 12

**CrossOver 12 is a full Multi-Definition (MD) production switcher**  
□ Produce in Standard Definition (SD), High Definition (HD) or include your existing SD sources in your HD productions.

## HIGHLY VISIBLE MENU

- Intuitive auto-follow menu.

## DIRECT ACCESS TO MEMORIES

- MemoryAI™ Recalls make for impressive productions.

## PATTERN SELECT BUTTONS

- Quickly select popular transitions and navigate the intuitive menu system.

## PANEL GLOW

- User-adjustable for various lighting environments.







#### DURABLE METAL JOYSTICK

- Position wipes, patterns and washes as well as control Pan and Tilt for robotic cameras.

#### FLEXIBLE KNOBS

- Continuously rotatable push button multi-purpose knobs.

#### TRUE NEXT TRANSITION AREA

- Rapid selection of all keyers with full preview.

#### LEGENDARY ROSS FADER

- Robust and guaranteed for life.

#### DEDICATED TRANSITION BUTTONS

- Buttons for rapid live keyer control.

### Compact, Tough, and Powerful

**CrossOver 12** - Ideal for use in space-limited studios and edit suites, mobile production trucks, houses of worship, entertainment and sports venues or even as an emergency back up for a primary production switcher. Ruggedly built to ensure flawless operation, CrossOver switchers are perfect for mobile production and equally at home when built into a production console. Reliable, professional production – guaranteed with a Ross CrossOver.

#### Key Features

- **12 External Inputs**
- **10 Input Multi-Viewer** for cost-effective monitoring of sources
- **6 Internally Generated Sources**
- **3 Keyers**
- **2 2D DVEs**
- **4 Frame Syncs with Up / Down Conversion**
- **4 Media-Stores for Still and Animations**
- **MediaWipes™**
- **Superb UltraChrome™ Chroma Keyer**
- **Sync Generator with 3 Independent Outputs**
- **100 Event Memory System with MemoryAI™**

# CROSSOVER 16

CrossOver 16 is a full Multi-Definition (MD) production switcher  
 Produce in Standard Definition (SD), High Definition (HD) or include your existing SD sources in your HD productions.

**POWERFUL MACRO EDITING**

- Easy to create, amazing to use.

**MULTI-PURPOSE BUTTONS**

- Quickly select patterns, DVE effects, memories, media, or menu functions.

**TOP BUS DELEGATION**

- Reassign the top bus to keyer, aux bus, or macro recall control.

**KEY TYPE SELECTIONS**

- Choose between self-keying, linear keying, chroma keying, and DVE picture in picture keying.

**SOURCE MNEMONICS**

- Name sources, select text size, choose color and even invert.

**MACRO NAMES**

- Give macros names for worry-free recall during live productions.

**PANEL GLOW**

- User-adjustable for various lighting environments.

**16-WIDE SHIFT-FREE BUS**

- Direct access to every external and internal source in the switcher.

**MENU CONTROL**

- Extremely straightforward access to sophisticated capabilities.

**DIRECT ACCESS TO MEMORIES**

- MemoryAI™ Recalls make for impressive productions.



### HIGHLY VISIBLE MENU

- Intuitive auto-follow menu.

### MADE BY ROSS

- Designed to an exceptionally high-standard of performance and quality.



### HIGH END 3-AXIS JOYSTICK

- Position wipes, patterns and washes as well as control Pan and Tilt for robotic cameras.

### TRUE NEXT TRANSITION AREA

- Rapid selection of all keys with full preview.

### SOURCE MNEMONICS

- Show current source names for every keyer.

### DEDICATED CUT AND AUTO TRANS

- Buttons for rapid live keyer control.

### LEGENDARY ROSS FADER

- Robust and guaranteed for life.

### ADVANCED TRANSITION TYPE SELECTION

- Choose from dissolve, wipe, DVE, and MediaWipes™.

### Compact, Tough, and Powerful

**CrossOver 16** - With the level of functional sophistication offered by CrossOver, there is no need to compromise on production functionality and quality.

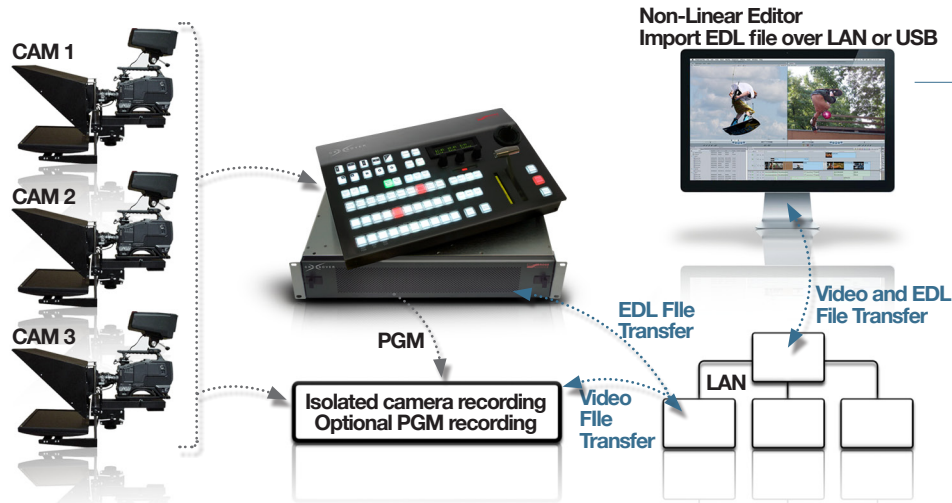
### Key Features

- 12 External Inputs
- 10 Input Multi-Viewer for cost-effective monitoring of sources
- 6 Internally Generated Sources
- 3 Keyers
- 2 2D DVEs
- 4 Frame Syncs with Up / Down Conversion
- 4 Media-Stores for Still and Animations
- MediaWipes™
- Superb UltraChrome™ Chroma Keyer
- Sync Generator with 3 Independent Outputs
- 100 Event Memory System with MemoryAI™



# CROSSOVER OPTIONS

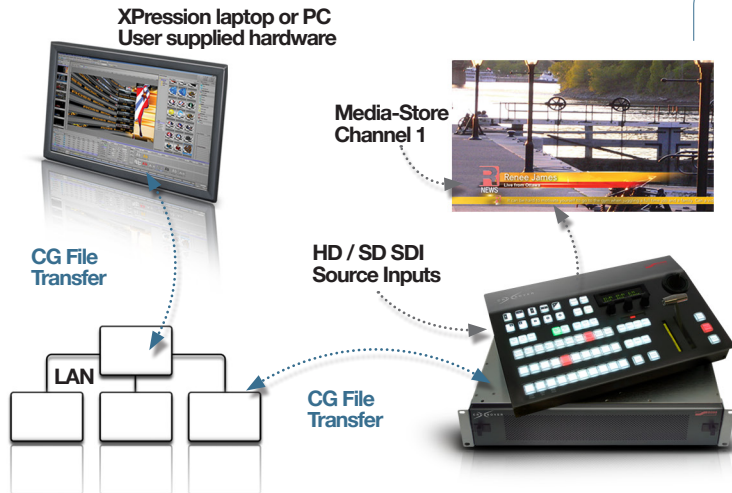
## CROSSOVER LIVE EDL



LiveEDL is a technology available as an option in the CrossOver Series of compact production switchers that tracks the actions taken by the operator during a live production. LiveEDL then allows the user to export an Edit Decision List text file that can be opened in editing systems like Apple's Final Cut Studio. The editor then has the ability to quickly access and adjust the live edit points, enabling a much smoother and faster workflow on the post side of these types of productions.

LiveEDL is a unique capability exclusive to the CrossOver Series and is available in software version 2.5 or later. With CrossOver, getting an as-run edit into post is as simple as a few clicks on a mouse!

## CROSSOVER XPRESSION LIVE CG



Xpression is Ross' industry-leading high end 3D HD Character Generator. This special package with CrossOver combines a full version of Xpression Designer software with CrossOver to create an exceptionally low cost still graphics solution.

In this implementation, Xpression renders still graphics on a laptop or PC running Nvidia Graphics and sends the stills, with alpha, over a network directly into the CrossOver Media Store Channels. Stills are typically selected, rendered, transferred, and on air in less than two seconds. Xpression Designer has a very user-friendly playlist system that makes bringing the next still to air as easy as pressing the space bar. Skipping elements and random access to elements is fully supported as well.

The Xpression Designer software can be upgraded at any time to a full system that incorporates real-time motion graphics playout over HD / SD SDI. This full system is fully compatible with all of the files and templates created with the stills package using CrossOver Media Store integration.

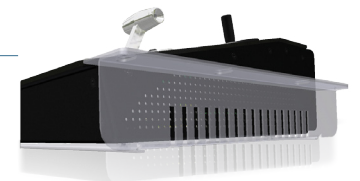
## REDUNDANT POWER SUPPLIES

Redundant PSU's for both Control Panel and Processing Engine can be easily added either at the time of purchase or later when required.



## IN-DESK MOUNTING KITS

Mounting brackets allow CrossOver panels to be easily and securely flush mounted in control room consoles.



# CROSSOVER STUDIO SYSTEMS



## CROSSOVER STUDIO ELITE

The Ultimate Studio System - a CrossOver 16 switcher combined with a SoftMetal video server, and a full XPression Studio SCE Character Generator and Motion Graphics System.

XPression Studio SCE is a complete hardware / software package providing an SDI input and 2 SDI outputs for direct video connection to CrossOver. Play animated graphics directly from XPression, leaving CrossOver's Media-Stores and SoftMetal's channels free to provide other video sources, stills and animated transitions.

In addition, the XPression CG can also render graphics directly to the SoftMetal server, providing almost limitless stills, animations and key layering power.

## CROSSOVER STUDIO

A CrossOver 16 switcher combined with XPression LiveCG and a robust SoftMetal video server.

The SoftMetal server has 1 input and 2 outputs of digital video and can record and playback simultaneously. In addition, each video channel supports up to 16 channels of digital audio. Just like CrossOver and XPression, the server has full multi-definition support, and handles all of the typical industry file formats.

In addition, the XPression CG can also render graphics directly to the SoftMetal server for playback of graphic animations.



## CROSSOVER SOLO GFX

CrossOver Solo GFX is the combination of a CrossOver Solo switcher with XPression Live CG software.

This is a terrific compact and economical system for educational, corporate and house of worship productions. In fact, it's perfect for anyone who wants to produce the best quality multi-definition video on a constrained budget or in a tight space. CrossOver Solo GFX - a production solution from Ross to fit your needs.



**Pick a panel. Pick a package.** A 'Studio System' is essentially a pre-integrated package of the core production tools required for any live production. Ross Video is in the unique position of being the only manufacturer to have production switchers, graphics and video servers, together, in our product portfolio. This unique strength has led to the creation of these systems.

# CROSSOVER FRAME

## OPTIONAL REDUNDANT POWER

With solidly locking connectors for maximum reliability.

## GPI/O, TALLY, and EDITOR INTERFACES

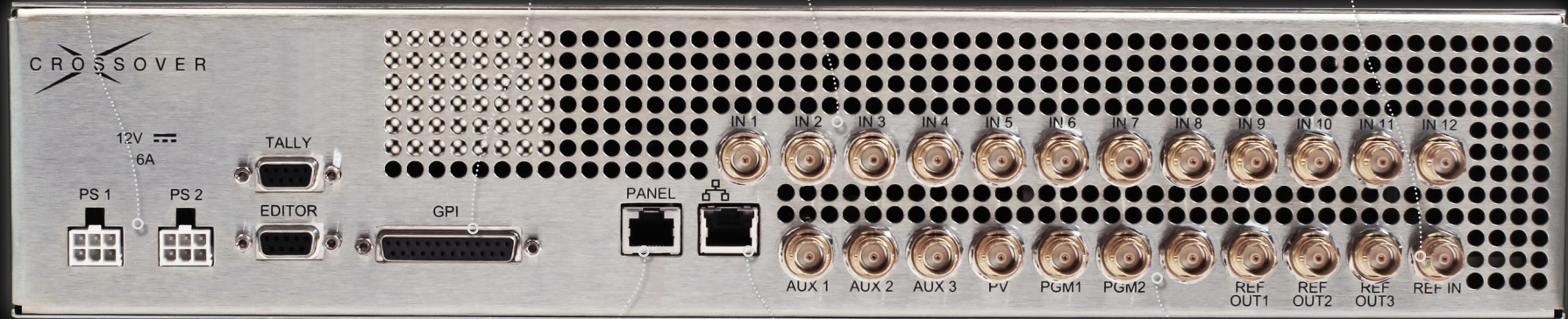
For professional installations.

## 12 HD / SD INPUTS

Supporting all popular video formats.

## BUILT-IN SYNC GENERATOR

To simplify system timing.



CrossOver 12 and 16 Chassis

## CONTROL PANEL CONNECTION

Standard CAT-5 shielded cable.

## ETHERNET CONNECTIVITY

For LiveEDL, XPression Live CG, FTP, Device Control and Diagnostics.

## 3 AUX, 2 PROGRAM, 1 PREVIEW

Multiple outputs essential for multi-screen and live-to-tape applications.

## OPTIONAL REDUNDANT POWER

With solidly locking connectors for maximum reliability.

## GPI/O, TALLY, and EDITOR INTERFACES

For professional installations.

## 12 HD / SD INPUTS

Supporting all popular video formats.

## BUILT-IN SYNC GENERATOR

To simplify system timing.



CrossOver Solo - Rear

## ETHERNET CONNECTIVITY

For LiveEDL, XPression Live CG, FTP, Device Control and Diagnostics.

## 3 AUX, 2 PROGRAM, 1 PREVIEW

Multiple outputs essential for multi-screen and live-to-tape applications.

# CROSSOVER - SPECIFICATIONS AT A GLANCE

**CrossOver - Big features. Small footprint.** Powerful, efficient design, CrossOver delivers professional performance in a remarkably cost-effective package.

KEY FEATURES	SOLO	CROSSOVER 12	CROSSOVER 16
<b>Control Panel</b>			
Physical Dimensions (Width x Depth x Height)	16" x 11" x 3"	16" x 11" x 3"	22" x 11" x 4"
Panel Glow RGB LED Buttons	Yes	Yes	Yes
Source Selection Buttons	10	10	16
Color Mnemonics	No	No	Yes
Dedicated Keyer Transition Buttons	Cut or Auto (User Defined)	Cut or Auto (User Defined)	Cut and Auto
Keyer Source Mnemonics	No	No	Yes
Joystick Positioner	2-Axis	2-Axis	3-Axis
Custom Control Macro Buttons	No	No	4 Banks of 16
Roll Clip - Server Playback Control	Yes (AMP or GPI/O)	Yes (AMP or GPI/O)	Yes (AMP or GPI/O)
<b>Processing Engine</b>			
Physical Dimensions (Width x Depth x Height)	Built-in to Control Panel	19" x 3.5" (2RU) x 16"	19" x 3.5" (2RU) x 16"
Multi-Definition Inputs	12	12	12
Multi-Definition Outputs	6	6	6
Number of Keyers	3	3	3
UltraChrome™ Chroma Keyer (assignable to any keyer)	1	1	1
2D DVEs	2	2	2
Media-Store™ Channels (4Gb Memory)	4	4	4
10 Input MultiViewer with Automatic Tally and Source Names	Yes	Yes	Yes
Internal Frame Synchronizers / Format Converters*	4	4	4
Number of GPI/O	24	24	24
Number of Tallies	8	8	8
Pattern Generators	2	2	2
MemoryAI™	Yes	Yes	Yes
Animated MediaWipes™	Yes	Yes	Yes
Direct Media-Store™ Render via Ethernet	Yes	Yes	Yes
Removable Storage Media	USB Thumb Drive	USB Thumb Drive	USB Thumb Drive
Reference Input	Black or Tri-Level	Black or Tri-Level	Black or Tri-Level
Internal Reference Generator	Yes	Yes	Yes
Independently Configurable Reference Outputs	3	3	3
Editor Port	1	1	1
Robotic Camera Control	Yes	Yes	Yes

\* Conversion and frame synchronization can be set to 'Bus Mode', allowing all inputs to be converted and synchronized.

## CrossOver Care

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

**Operational Training** is available either at Ross headquarters or on-site at your location. 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 CrossOver properly configured and installed. This service is performed by factory trained Ross technical staff.

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

CrossOver comes standard with a 1 year comprehensive warranty. **Extended Warranties** on the CrossOver production switcher are available for an annual fee.

Technical advice is available simply by telephone, fax or email to Ross Video - **free for the life of your system.**

# CROSSOVER

### Ross Video Limited

8 John Street  
Iroquois, ON, Canada K0E 1K0

Telephone: +1 613 652-4886

Fax: +1 613 652-4425

Email: solutions@rossvideo.com

Website: www.rossvideo.com

Technical Support

Emergency: +1 613 349-0006

Email: techsupport@rossvideo.com

### Ross Video Incorporated

P.O. Box 880

Ogdensburg, NY, USA 13669 0880

### Ross Europe BV.

Media Park, Gateway D  
Sumatrалаan 45,  
Hilversum, 1217GP  
Netherlands

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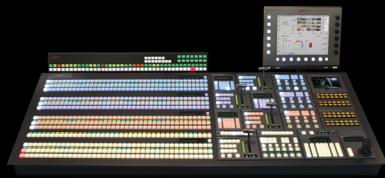
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## Live Production Technology

Visit [www.rossvideo.com](http://www.rossvideo.com) for the latest information on the complete line of Ross products and services.



**Vision QMD / Octane,  
Carbonite, and CrossOver**  
Production Switchers



**XPression**  
3D HD CG &  
Motion Graphics



**openGear**  
Terminal Equipment



**SoftMetal**  
Video Servers



**OverDrive**  
Automated Production  
Control System



**NK Series**  
Routing Systems