Production Technology & Services







Ross Video

Passionate about live production, Ross Video designs, manufactures and delivers dependable systems, solutions, and services that power exceptional video productions seen by billions of viewers around the world every day. The goal of Ross Video is to make it easy for media facilities to create compelling content, increase business efficiencies, and benefit from working with a technology partner that understands their goals. Ross Video provides production solutions for news, weather and sports studio broadcasts, sports venue presentations, legislative assembly coverage, corporate communications, education production, entertainment show and rock concert IMAG, and inspiring faith based messaging.

Relentlessly innovating, the vision of Ross Video is to lead the world in video production solutions by delivering the world's widest range of products and services for augmented reality and virtual sets, mobile and live-events, real-time motion graphics, cameras, camera tracking, and camera robotics, workflow management for news, assets and social media, production switchers, routers, signal processing systems and more.

Ross products and services are designed to offer best-inclass system integration and unmatched customer choice by both working together seamlessly and integrating tightly with third-party solutions.

Ross Video includes telephone and email support for the life of the product with offices around the world staffed by technical experts 24 hours a day, 365 days a year-even for products bought on eBay. Recognizing the time-critical nature of the media and entertainment industry, all Ross employees are empowered to provide "whatever it takes" customer service, even down to renting helicopters when necessary to deliver needed parts and service.

- **06** | PRODUCTION SWITCHERS Acuity Carbonite Carbonite Black
- 12 CAMERAS ACID Camera PIVOTCam UltraChromeHR
- **18** | MOTION GRAPHICS XPression XPression Clips XPression Tessera XPression Workflow Tools
- **26** | ROBOTICS Furio RC Furio Robo CamBot SmartShell
- **34** AUTOMATED PRODUCTION CONTROL DashBoard OverDrive
- 38 NEWS & SOCIAL MEDIA Inception News Inception Live Inception Social Horizon
- 46 | ASSET MANAGEMENT Streamline
- 48 | INFRASTRUCTURE Ultrix NK openGear GearLite MB-652 & MB-651 SRG-4400 & SRG-2200 MC1
- 58 VIRTUAL SOLUTIONS Virtual Set & Augmented Reality Solutions SolidTrack Ross Trackless Studio
- 64 | SOLUTIONS Sports and Live Events Solutions Assembly Production Solutions
- 68 | SERVICES Rocket Surgery
- **70** | MOBILE PRODUCTIONS Ross Mobile Productions openTruck

Support & Services



ACUITY Large Production Switchers

OVERVIEW

Top of the line, large production switchers designed to handle the world's most challenging live events.

Provides a new level of operational efficiency for an enterprise broadcasting system or large multi-camera production environment, with the ability to support all video production formats including UHD (4K) without expensive options, to make it a wise capital investment.

BENEFITS

Do more with a big creative feature set optimized for enterprise and mobile productions, an ergonomic design that is fast and easy, and a system that can handle 1080P and 4K productions without requiring expensive upgrades.

Exceptional production value including lifetime technical advice, and continuous feature improvements via no charge software updates.

As a solution from the largest provider of production switchers in 2 ME and up sizes – this popularity makes it easier to hire and retain operations staff.



17

KEY FEATURES

8 keyers per full ME - even in 1080p 50/60

16 channels 2D DVE per ME

ME stores available system wide

All ME's have 4 input busses 16 key busses and 8 outputs

MultiFeed[™] configurable ME outputs- 6 configurable PGM outs with 2 background / utility bus selections and 2 configurable preview outputs and Split ME function

UHD ME creation with just two standard ME's - up to 4 UHD MEs in an 8RU frame

3D DVE KeyCombiner for 2 box in a single keyer plus warps

Color Correction and Video Processing on outputs

Optional MultiProcessing Input Card with Video Processing and Color Correction on all inputs, 8 x Frame Syncs, 3G Level B to A convertors on all inputs, variable input frame delay, and 20 Window input MultiViewer

Optional Acuity IPBlade with 12 SFP+ Ports and 21 SDI Connectors supporting ASPEN Protocol and SMPTE 2022-6

Optional Double Down Panel Modules with twice as many Key/Aux select buttons

Production engines in 4RU and 8RU frames for internal processing power and signal management capabilities enabling SD, HD, 3G and 4K production

Dual display menu and touch-screen system share the same design, ease of operation, and enhanced operational speed

AuxKeys[™] mixing and keying capabilities for Aux Bus outputs on productions requiring multiple produced outputs

Custom Control Macros create programmed events with the power of timelines but more features and efficiency

DashBoard PanelBuilder[™] tool to intelligently integrate multiple devices from Ross Video and a variety of other suppliers with the production switcher

Carbonite, Carbonite eXtreme, & Carbonite Black

Mid-Sized Production Switchers

KEY FEATURES

1, 2, 2.5, and 3 ME configurations in 2RU frames

18, 24, or 36 inputs / 10 or 22 outputs

3G and UHD operation

Multi-panel support

Four MiniME effects modules include an independent mixer and 2 keyers: 1 standard keyer and 1 specifically for DVE boxes

Two configurable MultiViewers (up to 32 windows) MultiScreen function delivers content for up to 4 projectors on a single screen with edge blending with linked control to MiniMEs

eXtreme integrated signal routing and management configuration

2.5 mode- full Program / Preset bus with dissolves and MediaWipe transitions and two Downstream Keyers (DSKs)

Media Transitions that combine animated media with Wipes, Dissolves, Cuts, and DVE moves

Six internal frame synchronizers and format converters

4 or 8 high quality 2D DVE channels available system-wide

Black Plus frame adds 3 more MultiViewers, frame sync, format converters, color correction and processing on all inputs, and processing. Color correction, and conversion on 12 outputs

LiveAssist[™] control interface and MediaManager[™] browser combines to provide intuitive control over switcher settings, along with Media Store graphics and animations

ViewControl to create entire productions from a simple interface

MemoryAl[™] intelligent resource management system for stored keys and backgrounds to be recalled to preview without disturbing what is currently on-air

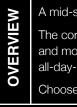
MultiMedia version has special input groups for analog and HDMI inputs

LiveEDL[™] generates an industry standard Edit Decision List

Four Media-Store[™] channels are available for stills, logos and animated graphics. MediaWipes[™] add animated transition capabilities with audio playback from Media-Stores[™]

Direct control of external devices such servers, robotic cameras, audio mixers and XPression motion graphics systems

XPression Live CG included





A mid-size switcher line that delivers high-end production power in very affordable packages.

The core element of a complete production ecosystem. When combined with the downloadable DashBoard control and monitoring solution- the systems provide highly efficient, repeatable and cost effective productions to be performed all-day-everyday.

Choose from 6 different processing engines and 6 control panels to match a broad range of requirements.

Do more with a big creative feature set, ergonomic design that is fast and easy, and a system that can handle 1080P productions without requiring expensive upgrades.

Exceptional production value including lifetime technical advice, and continuous feature improvements via no charge software updates.

As a solution from the largest provider of production switchers in 2ME and up sizes – this popularity makes it easier to hire and retain operations staff.



Carbonite Black Solo

Compact Production Switchers

BENEFITS

OVERVIEW An affordable and compact switcher, packed full of features Carbonite owners love and utilize to produce high quality productions. Offers the same tough components, and comprehensive design philosophy, features, and operations from the well proven Carbonite line of production switchers. Different configurations are available to suit a variety of production needs and budgets including a compact all in one unit, and a space conscious 1 RU frame.

Dynamic and creative capabilities include DVE functions, media stores, MiniME's, 8 keyers including an UltraChrome chroma keyer, assignable frame sync and format convertors, integrated MultiViewer, and device control make even the smallest productions look big.

Intuitive and proven panel ergonomics with ViewControl and DashBoard operations provides a significant level of production efficiency, control, and accuracy that results in shorter learning curves, and fewer production errors.

Different configurations including an all in one device, or a 1 RU frame that can be controlled from soft or hard panels provides flexibility for a wide variety of environments.



KEY FEATURES

- 9 Inputs
- 6 Outpu
- 1 Digit
- 1 ME v
- 2 Minil
- 10-bit
- Black
- 6 assi
- Up/d
- Multi-D
- 16 inpu
- Two ch

ts (6 SDI and 3 HDMI)	4 Ethernet connected media stores for still and animation play-out
outs (5 SDI and 1 HDMI)	Memory recalls with MemoryAl [™] recall to preview
al Audio Output	Parallel and Serial Tally, and GPIO
vith 4 + 1 keyers	ViewControl interface operation
ME with 2 keyers	DashBoard panel operation
image processing	Pression graphics integration
Burst or Tri Level sync reference input	Full preview of transitions with any combination of layers
nable Frame synchronizers/format converters	UltraChrome™ Advanced Chroma Keying
own conversion	Device control: RossTalk, Camera Robotics & Yamaha Mixers
efinition architecture providing support for all popular SD & HD formats	All in one electronics and panel, or 1 RU electronics to be controlled by separate
ut multi-viewer	soft or hard panel
nannels of 2D DVEs	XPression Live CG included

ACID Camera

Cameras

High spec cameras for a heightened visual experience.
 Outstanding performance with high resolution visuals including advanced patent pending technology to improve chroma key performance.
 A perfect match with Ross Robotics or traditional manual operation with studio accessories.
 Total production control via DashBoard with all setup and paint controls available.

 Produce spectacular video images in your studio productions.

 Dramatically improve chroma key quality for weather and virtual set production.

 Make it easy with a total solution from Ross including cameras, robotics, lens and teleprompters.

KEY FEATURES | ACID Z50-UCHR

A modestly priced 1080i camera for less demanding applications

3 sensor 2/3" 1.1M Pixel CCD

0:4:4 full bandwidth chroma output

SD / HD 1080i (interlace formats)

Great Performer for a mid-range camera

All the features of a full 'Hard Body' studio camera

KEY FEATURES | ACID H200-UCHR

A fully progressive top of the line performer

3 sensor 2/3" 2.6M Pixel UAIT MOS

0:4:4 full bandwidth chroma output

720P/1080I/1080P

Highest sensitivity & resolution

Highest signal to noise

All the features of a full 'Hard Body' studio camera







PIVOTCam

Camera

N	Robotic PTZ cameras with outstanding accuracy and performance. 3G 1080P and HD visuals with low noise and high sensitivity, combined with 20 x optical zoom via high quality Olympus optics.
OVERVIEW	Total production control via DashBoard software panels with preset store and recall of shots, along with live joystick control via production switcher control panels.
6	A perfect match with Ross Video assembly control production systems and production switchers for a variety of well integrated live event solutions.
ITS	Produce spectacular video images under a wide range of lighting conditions.
BENEFI	Extremely cost effective image capture including fast and efficient Pan/Tilt/Zoom and Focus control with preset recall.
BE	Make it easy with total solutions from Ross Video including cameras, switchers, graphics, control, and more.

KEY FEATURES

3G 1080P 50 or 59.94 outputs

720P/1080i/1080P

Leading edge CMOS ultra low noise sensor (74dB)

Best in class sensitivity

Brilliant images with quiet and accurate shot recall

Small form factor including wall or ceiling mounting

UltraChromeHR

Chroma Keyer







ROSS

KEY FEATURES

2 to 4 channels of Standard 4:2:2 carr

UltrachromeHR 0:4:

3 keyers + backgro

8 x Media Stores (4

Up to 16 frames of

Color Correction an

2 x MultiViewers

Full DashBoard par

CARBONITE: TAGA

A stand alone multi-channel chroma keying system based on the Carbonite Black processing engine that meets the challenging key requirements of multi-camera virtual environments.

Uses standard 4:2:2 camera inputs, and outputs standard HD-SDI 4:2:2 signals.

Also takes 4:2:2 and 0:4:4 camera signals from ACID Cameras and internally combines them to generate full bandwidth key edges.

Produces spectacular results even from standard HD-SDI video inputs.

4:4:4 chroma keying for superior virtual sets when used with ACID Cameras.

Enjoy a complete solution. Each UltraChromeHR system includes up to 4 chroma keyers, each with control of delay management, fill color temperature for scene matching, foreground key and fill, and internal storage for animated graphics.

f UltraChromeHR chroma keying
amera inputs
:4:4 inputs
round per channel
(4 Key/Fill)
of variable input delay
and Processing for fill channels
anel-less operation



XPression

Motion Graphics System

XPression is Ross Video's premier line of real-time graphics systems, virtual reality rendering engines, production servers, and comprehensive workflow tools.

There is virtually no graphics task that XPression solutions cannot handle for you. With multiple hardware platforms, software applications, and workflow tools, along with connectivity to many other products, XPression fits into almost any environment you can imagine.

Empower operators and designers to create audience-grabbing graphics with supremely user-friendly systems.

Benefit from an IT based, hardware-independent software platform, with a development curve that brings new products and features to users year after year.

Check all of the boxes with a host of features and functionality that satisfy the most demanding applications, including 4K, multi-channel 1080p, virtual sets / augmented reality, and digital platform production for delivery of graphics to all sorts of productions and all sorts of screens.

A scalable architecture supports everything from headless graphics engines to full virtual sets, purpose-built workflow tools, and tight integration with other products for high value along with low cost of ownership.

KEY FEATURES

text quality in 2D and 3D with limitless font choices	Intelligent transition logic based on production conditions
layer and combine textures, images, and reflection maps	Real-time vector based chroma keyer for creating virtual studio productions
creation for NRCS and NLE environments using templates	Automated ticker and branding applications
build, and animate 3D models	Automation and traffic integration
n of time based key frame motion path animations	Automated production control integration with OverDrive
on design with virtual cameras and live input sources	Virtual Set and Augmented Reality functions for camera configuration and tracking data
ased timeline editing to visually schedule, composite and reuse elements	Specialized presentation, telestration, and mapping applications
production operations with instant recalls, custom keyboard, and macros	Support for news workflows with MOS compliant gateway and plug-ins to newsroom systems such as Inception
for Adobe XMP Metadata, File-based ingest, transcoding, and	
rget publishing	Multi-channel HD-SDI or Quad-link 4K outputs with key

XPression Clips

Production Server

OVERVIEW Built on the industry-leading XPression real-time graphics platform, the clip server offers instant recall times and back-to-back clip transitions from an intuitive user interface or via automation triggers from other devices like Ross Video production switchers.

Has the ability to simultaneously ingest multiple channels of baseband video and output multiple channels of clips to air.

Server functionality can be added to the basic clip handling of XPression Studio.

BENEFITS

Unparalleled recall speed, pre-roll elimination, and back-to-back clip transitions offers efficient production.

The intuitive UI provides a guality user experience for manual operations, while robust automation support guarantees easy integration into any control room or gallery.

Satisfies production requirements for integrated graphics and clips from a single platform.

Works seamlessly in MOS enabled workflows for news production.

KEY FEATURES

Iti-channel ingest and playout	
2 or 4 channels of baseband video ingest	
or 3+1 (3 fill + 1 key) channels of playout	
pre-roll / back-to-back transitions	
ay multiple clips on the same output	
tabase management and synchronization with search and user rights	
p trimming and looping	
CP, AMP, P-bus, and RossTalk control	
NAS and SAN attached storage (Scale Logic or SNS) in addition to ample local hard drive space	
Playlist capability with XPression Sequencer	
sually browse the ClipStore database from the MOS Plug-in	
ag and drop clips into XPression templates or run them full-screen	







XPression Tessera

Multi-Display Graphics

Multi-display real-time graphics designer and controller for sports venues and studio video walls.

Links together multiple XPression engines to create a scalable matrix of channels for seamless output of scenes across large or irregularly assembled display panels.

Perfect for sports scoreboards, ribbon boards, and studio video walls, the resolution scales just by adding more XPression engines or "Tessera nodes".

Enables frame-accurate, non-tearing scene recalls across all or any render node(s) with XPression Multi-Engine Sync technology.

Supports preservation of multiple scene layering across the full range of output nodes for incredibly dynamic animations and transitions.

Handles automatic one-click publishing of scene updates and resources to all nodes for ultimate efficiency

Uses a Tessera Designer/Controller workstation, Project Server, and multiple XPression Studio or BlueBox engines with Tessera client licenses

A Tessera Design and Control workstation is used to drive everything

Project Server distributes content to all nodes in the background

Large XPression scenes are divided up into regions by the Tessera Region Manager

Multiple XPression systems are controlled with the Tessera Node Manager

Once the regions and nodes (engines) are defined, it runs just like XPression Studio or Designer for short learning curves

Supports displays of irregular sizes even across gaps with scaling to more than 2 billion pixels

XPression Tools

Workflow Tools





XPression Touch Factory

XPression Maps is a high-quality map creation tool with an optional Maps Server which adds MOS NRCS client workflows using the XPression MOS Plug-in. Covering the full spectrum of mapping needs for media, XPression Maps is used by your artists to do multi-point animations for complex storytelling and also by your journalists using pre-defined templates to do basic maps.

As a stand-alone application, your designers or operators build any type of map using the full toolset. If self-serve maps are the goal, XPression Maps can also be set up in a client-server configuration, acting as a central engine for client plug-ins.

ERVIEW 2

OVERVIEW

XPression Telestrate is an easy-to-use electronic drawing tool for sports analysis and other types of on-screen storytelling. Telestrate permits your commentators to draw directly on a video output and optionally control a replay server. Unlike other systems, Telestrate has no expensive dedicated hardware and can output through a single layer or channel of an existing XPression Real-Time Motion Graphics system for ultimate affordability. It also works with XPression GO! laptops for easier connectivity to remote talent.

OVERVIEW

XPression Touch Factory is touchscreen control software for live presentations using scenes from the XPression Real-Time Motion Graphics System. Your talent who are on-camera or in front of an audience can interactively navigate graphical content, videos, and animations through the use of any touchscreen-enabled monitor. Touch Factory is also designed to be simple for your artists and operators to program without needing dedicated IT resources or expensive outside services.

OVERVIEW

XPression Tick-it is an automated, multi-channel, multi-zone, multi-function, collaborative workflow server for tickers and informational channels. Designed to take the complexity out of data-rich graphics, Tick-it combines live data sources with manually entered content for a unified presentation that you can schedule to appear as a video overlay or as a stand-alone information channel.

ВШ OVERVII

XPression Brand-it is an automated, multi-channel, collaborative branding workflow server, designed to simplify your complex channel branding requirements. Brand-it takes a different approach to facility integration by eliminating complicated automation protocols and instead leverages traffic system connectivity with browser-based client entry to create a plug and play system that fits almost any situation.



Combines a motorized dolly, a telescopic lift, a pan/tilt camera head and a set of operator controls. With fully digital and network controlled servomotors, the system permits a single operator the capability to control track, lift, zoom, focus, pan and tilt — even from a remote distance from up to 50 m (164 Ft) away.

Meets the need for a fresh style and distinctive visuals. The high speed dolly, silky-smooth lift, and ultra-fast pan/tilt head with two intuitive and responsive control systems, delivers a unique combination of speed, fluidity, and responsiveness in a compact and discrete package.

Delivers unparalleled flexibility and responsiveness for your live events or unscripted studio productions.

Updates your visual style with a robotic camera system that delivers breathtaking shots.

Enhances your competitive edge with better productivity, visual quality, and production efficiency.

Available as a standalone pan/tilt head

The pan/tilt head can be mounted on a tripod, suspended from a ceiling, or mounted directly on the dolly

The 3-stage robotic lift can be added to provide elevation in combination with the dolly movements to create dramatic moving shots from a variety of angles

The tracks are also modular, available in a variety of lengths of straight or curved sections

The head and lift are quickly assembled onto the dolly in a manner of minutes

The operator can be up and running with the control system in minutes

The rails feature cone-shaped plastic couplers designed for rapid setup and teardown

The Joystick option is for experienced robotics professionals accustomed to the sensitivity and precise control of a well-tuned joystick

A highly responsive 3-axis precision joystick for pan/tilt operation, with a large rocker and roller combination provides excellent tactile control of zoom and focus

The panbar option is for seasoned manual camera operators, that combines the feel of a manual camera with the flexibility and speed of a remote,

Based on an actual fluid head with adjustable drag, the panbar offers a number of flexible features, including the ability to dial up or down the sensitivity, such that the same gentle swing of the arms can produce a slow pan, or a rapid sweep

Footpedal controls are used for track (dolly) and telescopic lift

Touchscreen Control Console combines on-screen menus with tactile knobs for quick configuration of system settings

Furio Robo

Robotic Camera Systems

VIEW	A product portfolio that starts from cost-effective Pan/Tilt heads, to optional robotic elevation columns, and up to full-fledge rail based dolly systems with telescopic lift and a sophisticated IP based control system.
/ER/	Offers unparalleled smoothness, accuracy and flexibility as the ultimate tool for creating stunning visuals, higher quality productions, and more efficient workflows.

o These track-based systems provide cinema-quality on-air movements that produce dramatic, signature shots that capture and hold viewer attention.

Offers superior performance through more flexibility, better workflows, and more consistent productions.

Improves the look and feel of productions by providing more precise and dynamic control over camera movements.

Makes installation and operation easy for virtual sets and augmented reality with absolute encoders that instantly provide accurate, real-time tracking data for the lift and track position.

Ensures the flexibility to fit precisely into each studio design with straight and curved section rails custom built to exact specifications.

KEY FEATURES

BENEFITS

High precision ball bearings permit the inner and outer surfaces of the wheel to rotate	VR1 and VR600 heads provide options for different payload ranges.	
independently, eliminating wheel squeal through curves	Wiredraw encoders provide absolute positioning data for the dolly	
The custom laminated wheels feature smooth, shock-absorbing rubber surfaces that deliver excellent traction, and whisper-quiet movement	Rails are available in straight & curved sections that are custom built to specification	
The lift, dolly, & VR1 head feature absolute encoders that instantly provide real-time, accurate tracking data for the lift and track position – with no homing required	With narrow 36 cm (14") track width, rails are perfect for small sets where space is at a premium, and there simply is not enough room for a camera operator	
Continuous absolute positioning an all axes	A low profile and matte black finish means the rails can be tightly integrated into the studio floor	
Tracking output over RS232, RS422 and IP (UDP)	Highest NET payload of any track system in the industry	
Unbeatable power and performance in a compact and quiet footprint	 Optional Collision Avoidance modules enable two dollies to share a common track 	
Capacity to support modern cameras and prompters	Create signature shots not possible with conventional robotic systems or manual cameras	
Speed and smoothness to produce shots formerly restricted to jibs	Sequences created using joystick controls can be recorded and replayed	
Machine-to-machine protocol with simple ASCII syntax	Available with either Joystick controls, or a highly intuitive Panbar control system	



CamBot Robotic Camera Systems

A complete line of robotic camera systems, that includes standalone pan-tilt heads, Pan-Tilt-Z-elevation (PTZ) systems, and free-roaming XY-pedestals with telescopic lift and a sophisticated IP based control system.

The robust, durable, and precise 500 series, 600 series and 700 series are high capacity robotic camera systems- with the ability to accept payloads of up to 200 pounds (90 kg) of cameras, lenses, prompters and fixtures on the 700 Series pedestals.

The 700XY delivers best-in-class positional accuracy and repeatability through a unique Differential Steering design that eliminates wheel scrub, and optical pattern recognition technology guarantees fast and accurate re-targeting.

Precise and repeatable movements are produced by special gearboxes that eliminate backlash, while high-resolution servos provide smoothness and control minimizing manual adjustments.

Systems are networkable using distributed Ethernet architecture, which guarantees redundancy, flexibility, and expandability.

KEY FEATURES

OVERVIEW

EFITS

BEN

Replace existing manual camera systems and even mount onto tripods and pedestals already present

The 700XY provides tracking data as standard for Virtual and Augmented Reality – even when in local mode

Interfaces are included on all Ross Robotics for all major brands of automated production control including OverDrive

Uses the same SmartShell 4 Control System as the Furio line, with the legacy CamBot UI still available

The CamBot series is controlled over IP/Ethernet, facilitating commissioning and cabling

Optical pattern recognition technology guarantees fast and accurate re-targeting, and eliminates floor error

The 700XY offers an optional Local Control module to release remote control and permit a camera operator to operate it manually. Returning to remote control is a matter of throwing a switch, without requiring homing or targeting – even if the pedestal has been moved around the floor

Local control partially releases the motors on the head, so the operator can position camera using conventional panbars

The electric motors provide an adjustable drag in local mode that closely simulates the feel of a traditional fluid head

A joystick mounted on the panbars enables the operator to control the lift and drive the pedestal around the studio floor from behind the camera

The simple, but elegant design of the 700XY pedestal is 100% robotic, with fewer moving parts, fewer belts and gears, and no need for pressurization

A wide range of pan/tilt heads for all applications and payloads, from a simple box camera and lens, to a full-size studio camera and box lens





SmartShell

Robotic Control Systems

OVERVIEW With SmartShell 4, all Ross Robotic solutions can be controlled from a flexible, intuitive user interface that can be scaled to suit both large and small installations.

The unified IP-based control system combines a flexible touchscreen GUI with an ergonomic joystick control panel to control all Ross Robotics using a flexible Ethernet-based architecture that is easy to deploy and feature rich.

Provides a unified control system for the various types of Ross studio robotic systems

Centralized IP-Based architecture provides storage and management for thumbnails, communications with the robotic BENEFITS systems, and router control, while supporting every control station within a facility

Offers operators an easy and efficient interface to create and manage camera moves

In addition to manual joystick movements, frequently used actions can be accessed directly from the control panel, including selecting cameras, triggering shots, setting the duration of presets, and controlling the lens Iris.

KEY FEATURES

Touchscreen Controller with motion path control to set up, recall, and control shots

Custom tailor each control axis to suit personal preferences, by adjusting the speed, damping, and limits

Organize Presets and Moves in Categories, grouping them by show, scene, operator or any other parameter or characteristic

Recall Presets or Moves from the Actions Matrix, which provides a configurable matrix of shots from any camera that can be triggered by simply touching a thumbnail

The control system includes a quiet, high performance all-in-one touchscreen PC that eliminates the need for space hungry towers, and reduces the overall noise level in the control room

11 camera selection buttons for the operator to select the active camera / robot directly from the control panel

A definitive, tactile interface for the initiation of robotic movements using Cue, Cut or Run buttons

Change the duration of timed presets directly from the control panel using a 'time' knob

'Iris' knob provides direct control of the lens iris from the robotic control panel (CamBot only - Furio coming soon)

Sony ELC, Grass Valley Ignite support via RCCP

XY Floor limits for 700XY

Quick Focus feature automatically zooms in for fine-tuning focus, then returns to original pan/tilt/zoom position at the press of a button



DashBoard

Facility Control Systems

	As an open platform for facility control and monitoring, DashBoard enables users to craft application specific solutions by quickly building unique, tailored custom
ЕX	control interfaces that make complex operations simple.

OVERVI DashBoard is the central hub for easily monitoring and managing devices within a network, whether they are part of the openGear platform (including Ross Video products and over 90 partners), or by sending IP signals and controlling the device directly.

Available as a download from Ross Video at no charge, users can leverage DashBoard to create custom interfaces to optimize a user's workflow, both in terms of how things are laid out as well as what information is available on the screen.

Create custom interfaces with PanelBuilder™ to enable control and monitoring parameters, and provide user layouts for function specific control.

BENEFITS	Create custom DashBoard panels using Visual Logic where API controls and function command blocks are dropped into a task which writes the JavaScript code automatically.
	Programming is easy as Ross products and openGear partner devices serve their API commands directly to the interface.
	Connect commands to create order of operation and link them together to create powerful and flexible interfaces.

Connect commands to create order of operation and link them together to create powerful and flexible interfaces.

Simplify workflow creation and make debugging easier and faster.

KEY FEATURES

OS independent: Windows, Mac OS X, Linux	VISUAL LOGIC INTEGRATION:
Automatic discovery of frames and devices	Create fully functional DashBoard panels without ever writing a single line of JavaScript code
Practical real-time control	Drag and drop command blocks in the task editor, draw connections for order of operations and it writes the code
Alarm reporting	
Multiple frames on a single control network	Add openGear devices to access a list of their APIs
Multiple DashBoard applications on a single control network	Accordion folders with Control and OGScript commands
TCP / IP based communication	
In-field upgradeability of devices	
No need to upload custom GUIs	



OverDrive **Automated Production Control**



OVERVIEW BENEFITS

KEY FEATURES

MOS Connectivity

NRCS Interfaces w

NRCS Plug-in for e

Advanced MOS dev

Quickturn multi-pla support of Anvato

Rundown workflow

Drag and Drop quid

SmartQuickRecalls that automatically u ful for, breaking new on-set-monitor con

OverDrive offers a highly flexible production control systems that enables easy control over the devices used in a live production environment for news, sports, entertainment, and faith-based programs.

With a low initial capital investment, quick installation and commissioning, and fewer training days to on-air launch, OverDrive has the lowest cost of ownership in the industry with a return on investment in as little as 12 months.

OverDrive is available in Premiere, Prime, and Express editions to fit the requirements of various environments. Express is a scalable entry level edition that can work with or without a Carbonite switcher and includes device interfaces for video servers, graphics, audio servers, and monitor walls.

Productions are cleaner and more consistent than with any other similar system with fewer on-air mistakes for all levels of operator to cleanly bring even the fastest-paced productions to air every day, every time.

Integration is flexible through manual or automated control of more than 220 production devices, including production switchers, servers, audio mixers, robotic camera systems, and graphics systems, and the use of customized software interface panels to manage complex tasks.

An advanced MOS newsroom workflow is provided with integration directly into a variety of newsroom systems and automation of MOS enabled devices to reduce entry errors and streamline the production workflow from creation to playout.

y – Livelink with NRCS for show building and on-the-fly changes	Interface with more than 220 individual device controls, including multiple production switchers
with Inception, iNews, Qnews, Annova, Octopus, Dalet, and ENPS	SNMP Monitoring
r easy and fast show building	QuickAudio add more flexibility in audio templates and coding
levice workflow integration with popular CG and video server systems	Tactile Sidebox Panels – Shot box, Audio Faders and Joystick
olatform content creation and publishing with Inception News/Social with o AutoCut Web Encoder, Digital Rapids Encoders, and StreamTheWorld	Tactile SideStick control for robotic cameras to adjust cameras and save shot information
	 Multiple Operating Methods – Touch Screen, Mouse / Keyboard, Hot Keys, Sidebox Panels, "Reverse" Automation with switcher controls
ow that emulates NRCS	
uick recalls for late breaking changes	Scalable redundancy that protects your production from computer, network and device failure
Ills based on user created filters from the content of the loaded show y update and can be generated as the show changes. These are use- news, interview and talking head type shows and can be used to group ontent, look for coding errors, or run CGs	Synchronous rolling back up video server channel protection
	Client Server Architecture
	Control interfaces for Carbonite, and select Sony, Grass Valley, and SAM production switchers

Inception News

Newsroom Computer Systems

Inception incorporates the traditional rundown workflows of a newsroom computer system, while seamlessly integrating social media, planning and communication tools. By delivering a truly multi-platform content creation tool, it encourages collaboration and creates efficiencies.

Inception supports a traditional rundown-centric workflow with timing and device integration, while also offering a story-centric workflow to create and publish content as needed. Use the innovative Assignment Manager to track ideas and stories while social media search and polling creates an interactive experience for audiences.

Choose among a range of flexible workflows for teams to collaborate, to organize work with assignments that attach metadata and research materials, and to bind conversations to production elements with instant messaging.

Publish content to a variety of online platforms, implement direct user engagement through social search and moderated playlists, and engage audiences using social media polling.

Use a variety of Web browsers and devices including support for Mac OS, Windows and iPads.

KEY FEATURES

OVERVIEW

BENEFITS

Browser based	Social media polling and user engagement MOS enabled with rich device support Support for MOS status, placeholders, and media awareness		
Supports multiple platforms (including iPad)			
Assignments and planning tools			
Running order and product grid	Support for ActiveX and HTML5 plugins		
Messaging and conversations	Enterprise options enable scalability and redundancy to support hundreds of users		
Customizable grids and user defined columns	simultaneously		
Contacts and groups	Includes teleprompter software		
Support for News Wires	Rich user rights and management controls		
Federated archive search	Fully Unicode compliant		
Social media feeds and content discovery	Localization of the language in the UI including buttons and column names		
Social media management and publishing	Optional LDAP and ActiveDirectory		
Social media content curation and playlists	Supports multiple database engines		
	API and SDK to customize Inception by building unique plug-ins		



		🗄 🔜 🕷					<u> </u>	10 -	* /		2 3	<u> </u>					-	<u>KOSS</u> 7 X
ete Story 0	Sart Playout	🗿 Remove 🛛 🛃 Lie	approva	🧠 P4	man 🔒	rise 🕴	Decuss	V Monitor	Alde Children	21 Renumber	Refresh							
	Segment	Туре	Child	Coded	Submitted	Approved	Published 8		d Video	Anchor	Target Time	Estimated Time	Media Time	Total Time	Forward Time			Actual Time
		Broadcast Broadcast						* *							00:00:00	23:54:00 23:54:00	00:00:00	
	vo	Broadcast		1	~	1				Jenn	00:00:15	00:00:21		00:00:21	00:00:21	23:54:00	00:00:21	
	ANIM	Broadcast		~	× .	1			PKGOPEN		00:00:05		00:00:15	00:00:15	00:00:36	23:54:21	00:00:36	
	vo	Broadcast		*	*	~				Jenn	00:00:25	00:00:09		00:00:09	00:00:45	23:54:38	00:00:45	
		YouTube	*												00:00:45	23:54:38 23:54:38	00:00:45	
	VO	Fickr	*	1						Amanda	00:00:20	00:00:17		00:00:17	00:00:45	23:54:35	00:00:45	
	SOT	Broadcast			1	1			TRIALSEN	Jenn	00:01:00	00:00:54		00:00:54	00:01:56	23:55:02	00:01:56	
																		I
	VO	Broadcast Broadcast		~	~	4		1		Amanda	00:00:05	00:00:01		00:00:01	00:01:57	23:55:58	00:01:57	
1	ANIM	Broadcast		1	~	1	1		WLDOPEN				00:00:10	00:00:10	00:02:07	23:55:57	00:02:07	
	vo	Broadcast								Amanda	00:00:45	00:00:39		00:00:39	00:02:46	23:56:07	00:02:46	
				*	1	*												
		Twitter	1				1								00:02:46	23:56:07	00:02:46	
	SOT	Facebook Broadcast	*		*	*			LANDSLIDE	Jenn	00:00:20	00:00:20		00:00:20	00:02:46	23:58:07 23:58:46	00:02:46	
	SOT	Broadcast		*	· ·	*			MATTACK	Amanda	00:00:15	00:00:17						
		Twitter	1	*	1	*									∢ ▶ m	et .		
		Twitter Facebook	1													Ross Inception	5	
		YouTube	~												50		Content	
		Broadcast								Jenn	00:00:05	00:00:03		9	Lincept	ion 🛄	= III	1 🗄 🖬
ł	vo	Broadcast								Paul	00:00:15	00:00:11		4	Series at Six	nel 📀 Overs 10	ury 💿 Start Playse	at 🙆 Romone 📗
	w 2015 00:00:00	Duration: 00:00:00	Target Tim	e: 00:05:5	5 Select	ed Target T	ime: 00:00:25	Total Time:	00.06.00 Selected	Total Time: 00:00:09					Icon Page Sta	0	Segment	Type
	isages in queue															INS AT SIX		Broedcast Broedcast
į																P STORIES OW OPEN	VO	Broadcast Broadcast
																WK ROBBERY	vo	Broadcast
į										_						BANK ROBBERY		VouTube
															E	BANK ROBBERY ARK ATTACK	10	Fickr
																ANK ATTACK	50T	Broedcast
															4 Shart Date: 19 Mar 201	5 00:00:00 End 0	Dedic: 13 May 2015 00:00:0	0 Duration: 00.001
															BANK ROBBERN			
															🖬 Save 🙄 Ad	ad Format 📑 Og		eta Format 😕 Dari
															B / U	st Format 📑 Co	6 8 3 c	P. 14
																St Formet C	SEL MODICINE CEL	
															B / U C A	RY TODAY IN DOU	6 8 3 c	
															B / U C A	RY TODAY IN DOU		
		6													A BANK ROBBEL DRAMATIC GET. AMANDA BLLIND	RY TODAY IN DOU	NE PROSTORIO	IN LEAD TO A

Wolves @ Wombats	Conset. → 11 1 1 → 10 → 10 → 10 → 10 → 10 → 10	 Li
Settings 📮 Pint	Type Start Clock End Clock Sponse	
	NIBLITS GAME USU PPONEIT: BROCK IILLE VIOLIES Brokk INI Brokk IVI	
	11.MAR-1.30.PM BookCMI modE00 000803 BULSTOOLS	
	DOORS OPEN / WARNUP Broadcast 0005/00 WWWW	
	CULEUN COLORIN DEFERTI	
	PLAYERS CLEAR FLOOM Broadcast DUNATE DODES BODS WREESS	
	Producent Coloris	
	CLOUN REALESS	
	Pateoun Patholas	
<u>i</u>	TIMOT MOSTS AND GARCON Y	
	L GAME PROMO BRONCH	
	NOBLE APP UPGRADE Paredok autoritation and the state of the GANE Target model and the state of the GANE Target model and the state of t	
	NOBLE LAP UPORVOLL YALK NOBLE DOUBLE LAP UPORVOLL YALK NOBLE DOUBLE	THE BEE
	CRADE C. Martin War	Min V
	L USANDE OF THE BOARD OF THE DOUBLE AND SAME OF THE DOUBLE AND	
	DARKING PACKAGES BORNAN Marken	/
	ROND BURN DOWN TOWN	
N N	FROMO 127150000	
	PROMO PROMO monution monution product The 2015 (2015)	
	100000	
	See Date: 71 Mar 2015 DUDIOD Bernander Same	
	Start Dete: 21 Mar - 4 & 9 Minour and	
	Unset in Adventure 1	
	Lagert	

iception Live e Event Management Systems



TS	Hig any
ENEFIT	Cre of r
BE	Bui one

KEY FEATURES

Browser based

Live event prod

Messaging and

Highly custom

Contacts and

Paperless work

Social media r

Curation and s

Inception Live is a toolset for game day and live event production with a customizable game day or event lineup grid, scripting and timing capabilities, and social media tools that include publishing and content discovery for fan interaction.

Collaborative tools like instant messaging and live updates create efficiency. Fan participation through interactive polls and social media photos and videos can be curated and fed directly to a graphics system for use on scoreboards and digital signage.

ghly customizable production views to script and organize game day or event lineups including custom columns and metadata, with browser-based access for nyone in the production to view the most recent information.

eate and monitor social media to gather content to integrate into digital signage and scoreboards, engage audiences through Twitter polling with real time display results, and provide protection by only allowing approved social media content to go on-air.

uilt-in instant messaging provides a simple but powerful way to notify production teams of changes to the plan in a moment's notice. With real-time updates, everyne sees changes made to the lineup, and there are no more printed scripts to manage.

ed accessibility	Social media polling and user engagement Rich scripting and story creation		
roduction grid			
ind conversations	Script and playout timing capabilities		
mizable grids and user defined columns	iPad interface Word and content filtering		
d groups			
orkflows	User rights and management		
a management	Unicode compliant		
d social media playlists	LDAP and ActiveDirectory support		

Inception Social

Social Media Management Systems

-





KEY FEATURES

- Web publishi
- Content disc
- Curated play
- Social media
- MOS uplink
- Integration w

Inception Social creates a collaborative space to manage a variety of Web and social media platforms from a single user interface.

Use Inception Social to discover and curate social media content for use in productions, bring text and image content from social media into graphics playout. Rich permission settings permit the entire team to be involved in content creation and publishing while providing oversight and accountability. The ability to easily repurpose content across platforms increases speed and efficiency.

Powerful search tools and social media polling provides a truly interactive experience. Find and display results in real-time with the option to filter and moderate to ensure only appropriate content makes it to air.

Provide a managed and controlled process for creating and approving all content destined for the Web and social media in one unified interface, links to newsroom systems for source material and publication, and can automate publishing social media content via scheduling.

Use rich search tools to discover content on a variety of social media platforms, respond and interact with your audience and engage them through social media polling.

Easily search, curate and approve social media content for use on screen when Inception Social feeds photos, videos and text directly into your live graphics using RSS feeds.

hing	E-mail notifications and approvals			
scovery and geotargeting	iPad interface			
aylists with integration to on-air graphics	Word and content filtering			
ia polling and user engagement	User rights and management			
to newsroom systems	Unicode compliant			
with OverDrive Quick Turn	LDAP and ActiveDirectory support			



Horizon is an interconnection system that provides the tools for users to explore, search, and reuse content from other Inception systems throughout their network without ever having to leave their home environment. Designed to connect and integrate multiple Inception systems into one comprehensive network, users are no longer constrained to sharing projects and workloads within a single newsroom.

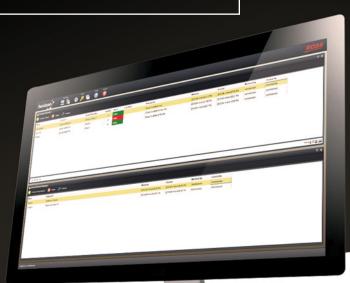
Multiple Inception systems from anywhere in the world can be linked to share, copy, search, and discover content. This capability is a great addition for broadcast networks, station groups, and other environments.

Horizon is fully rights managed, permitting content to be shared or excluded based on the origin and destination locations and their affiliations. Users can discover assignment information, planning notes, social media, web stories, and traditional broadcast rundowns and stories. Horizon makes repurposing content from across networks fast and easy.

Provides a managed and controlled process for creating and approving all content destined for the web and social media in one unified interface, links to multiple newsroom systems for source material and publication, and automates publishing of social media content via scheduling.

Uses rich search tools to discover content across networks and on a variety of social media platforms, enabling functions such as responding and interacting with audiences, and engaging with them through social media polling.

Easily searches, curates, and approves social media content for use on screen when Inception News and Inception Social feeds photos, videos, and text directly into live graphics using RSS feeds.









KEY FEATURES

Browser based Work order mar Asset organizati Detailed reportir Extensive metad Proxy support a Asset lifecycle n MOS enabled w Watch folders w Ability to import Instant messagir

46

Streamline is a media asset management system that integrates closely with XPression to complete news graphics workflows.

Acting as a central hub for productions, Streamline provides a complete system for indexing and cataloging vast collections of graphics, video, and other assets.

Streamline offers time and money saving workflow tools to create efficiency and leverage existing content in new productions, while promoting a clearly defined processes for work order requests and management.

Ingest and catalog media content with metadata fields and tags, search and create asset filters to discover material, request and prioritize graphics creation through work order management, and preview video and graphics with automatic proxy and thumbnail creation.

Utilize the reporting engine to discover and eliminate wasteful processes and manage routine graphics creation

A flexible user interface works with Windows and Mac OS and is embedded in the XPression MOS plugin to integrate into an NRCS workflow.

ed accessibility	Unicode compliant			
anagement	Embedded workflow in the XPression MOS plugin Automatic ingest and transcode into XPression codec for NRCS workflow with XPression Clips			
ation and searching				
rting and analytics	Support for playout with XPression remote sequencer or OverDrive			
tadata tagging	Placeholder support			
t and generation	User rights and management			
e management	LDAP and ActiveDirectory support			
with Uplink to Newsroom	Support for multiple database engines			
with implicit metadata and custom metadata fields	Support for file based transfers			
ort XMP metadata with customizable mapping	Sourcing of graphics and video for social media with Ross Inception			
aging in Standard Edition				



Ultrix is a compact but incredibly powerful routing switcher platform capable of switching video signals from 270 Mb/s to 12 Gb/s. The unique design permits users to software license additional capabilities such as advanced audio processing, integrated multi-viewers, and 12 Gb/s signal-switching. No additional hardware is required to enable or add any of these features.

The small and mid-sized, compact form factor routers, offer performance and feature sets typically associated with large and costly systems.

BENEFITS

48 00/

OVERVIEW

The modular architecture provides easy expansion of base I/O, incremental addition of UHD signals, and integration of multi-viewer and complex audio processing capabilities with just software licensing.

Route 270 Mb/s, 1.5 Gb/s, 3 Gb/s, and 12 Gb/s video signals, choose embedded or discrete audio, and connect with a variety of video interfaces to maximize flexibility.

Save rack space with high density, compact one and two rack unit frames, and easy deployment and maintenance from an integrated control system that provides configuration, soft panels, discovery, and interoperability.



KEY FEATURES

Two compact frame options - 1RU up to 36 x 36 / 2RU up to 72 x 72

Compact routing connectivity including optional SFP modules

270Mb/s to Single-Link 12 Gb/s signals

3 Gb/s standard, up to 12 Gb/s with Ultrispeed software license

software license

Audio: 576x576 in 1RU, 1152x1152 in 2RU

MADI: 512x512 in 1RU, 1024x1024 in 2RU

Audio processing and transitions: Level Adjust, Swap, Sum, Fade, Cut, Mute, Transition, Cut...

2RU frame

Integrated control system with configuration tool, discovery, soft panels, and interoperability interfaces

1 Terabit switching capacity per RU

Supports both multi-link and single-link 12G SDI with Ultrispeed

Full 16 channels of de-embed and re-embed with Ultrimix software license

Up to 6 multi-viewer heads in 1RU frame, 12 multi-viewer heads in





OVERVIEW

Ross provides cost effective, mission critical solutions for broadcast media infrastructure. NK offers a range of audio, video, and data routing solutions. As a comprehensive series of routing solutions, NK offers a wide variety of matrix sizes and types, flexible control panels, and a powerful control system to tie everything together.

μ	Whether the need is for a small utility router or a large mission critical facility system, NK Series routing switchers offer the flexibility of building systems with any combination of NK matrices and being expandable in groups of 8.
NEFIT	A wide range of signal types are supported including 3G / HD / SD SDI, Analog Video, AES / EBU Digital Audio, Stereo Analog Audio along with RS-422 Machine Control.
BE	DashBoard NK Control and Monitoring offers flexible control, configuration and monitoring featuring a distributed control architecture with no single point of failure, a range of highly flexible control panels, and serial and GPI automation interfaces.

KEY FEATURES

 Full range, from utility to facility solutions

 16x4 to 144x144 sizes

 Wide range of matrix types

 Modular 64x, 72x, and 144x designs

 144x features redundant crosspoint matrices, power, and control





Signal Processing Systems

\geq	Ross provides cost effective, mission critical solutions for broadcast media infrastructure. openGear modular frames and cards provide signal
3VIE	processing and conversion, and are based on an open standard.

These open architecture signal processing solutions offer a wide range of analog and digital products to cover A/V distribution, conversion and interface needs that are applicable everywhere, including 24/7 and live production deployments.

openGear is the industry standard platform of choice that offers a selection of products from a wide range of suppliers, all in one platform under one control system.

The modular 2 RU frame has independent rear modules, frame-wide reference distribution, integrated cooling, instant hot-swap, and optional redundant power to provide guaranteed 24/7 operation.

Gigabit Ethernet access to every card slot, and built in Ethernet switch to the frame's network control card assures connectivity.

Control and monitoring is standardized with Ethernet connectivity, an optional SNMP interface, and DashBoard operational panels.

KEY FEATURES

OVEI

EFITS

BENE

Robust 450 watt power supply with integral cooling

Standard Ethernet connectivity

Optional advanced Ethernet based frame controller with GigE to every slot

Optional SNMP control and monitoring

2RU frame houses up to 20 openGear cards

Supports any mix of analog, digital, video and audio modules in the same frame

Modular I/O panels for connector flexibility

Removable front door for easy fan servicing

Frames come standard with cooling

Front LCD display for name, IP and fault identification

2 independent looping references with connection to each card slot

Optional redundant power supply, hot-swappable for 24/7 operation

openGear Solutions from Ross Video

Audio Processing
Audio Conversion
Audio Distribution
Audio Embedding / De-Embedding
Closed Captions
Data
Fiber
IP Transport
Keying and Branding

Master Sync and Reference Quad Split Monitoring Switching Synchronization and Delay Transport Stream Conversion Up / Down / Cross, ARC Conversion Video Conversion Video Distribution

openGear 3.

GearLite

OVERVIEW

OVERVIEW

OVERVIEW

Portable Signal Processing

GearLite products are small and portable modules that offer the same excellent technical and operational specifications as Ross frame-based products, but are used where the module can be conveniently located at the source or destination of a signal.

GearLite modules are zero rack-space modules, include a universal power supply, and come ready to mount to the back of a rack, or wherever convenient with the included velcro and rubber feet. Ross GearLite modules offer a wide range of distribution, monitoring, fiber, conversion, and processing functions.

MB-652 & MB-651

3G / HD / SD SDI Embedded Audio Monitoring Bridge

The MB-652 and MB-651 are compact audio monitoring bridges for embedded audio. They are capable of de-embedding up to 16 channels of audio from an incoming SDI signal. The audio monitoring bridges provide both visual and aural monitoring with built-in front panel display and speakers. 16 digital VU/PPM meters monitor all 16 channels of embedded audio, while a control surface provides channel source and mode selection.

High quality, full-range speakers, along with a high performance class D stereo amplifier, offers excellent sound quality suitable for any monitoring environment.

SRG-4400 & SRG-2200

Master Reference and Test Signal Generator

The SRG-4400 and SRG-2200 are 1RU master reference and 3G / HD / SD SDI test signal generators with optional ACO, automatic change over capability. They provide all the reference (Color Black, Tri-Level Sync), timing and test signals, including LTC and VITC, together with analog audio, AES audio and Wordclock / DARS, needed to satisfy any application in mixed standard installations.

They can run as a master in standalone or under an external reference input. The systems come with DashBoard advanced networking control, and also has NTP (Network Time Protocol) and GPS time synchronization options





Robust, simple, and affordable master control solution.

Built to meet the demands of 24/7 operation, the MC-1 is a very affordable, modular, dedicated master control solution that includes lifetime support and a 5-year warranty to provide outstanding value.

The modular, dedicated card-based system is uniquely extensible as it occupies only 4 out of 20 frame processing slots, leaving the remaining slots for additional channels or other functions.

Channel output is highly protected with complete program path protection using input bypass relays, and a hot-swap implementation where any on-air channel card can be changed and all of the channel's parameters are automatically recalled to the replacement card.

Advanced features such as adding an additional channel SqueezeBack transitions and Voice Over control augments system functionality to meet the requirements of a variety of environments.

logo insertion	Programmable PGM / PST transitions		
	4 branding keyers with internal storage and playout		
	External key / fill graphics input		
with 4 presets	Embedded audio processing		
over mixing	Fade to black / silence		
control	PGM audio level control		
control surface	Audio confidence monitoring		
nanual control	Automation interface		
tion	8 assignable GPI/O		
preview	PGM protection relay		
of 10 inputs, 20 with shift	4 assignable outputs, PGM, PST, CLEAN		
K, Ultrix, and Third Party Routing Systems	Integration of multi-viewers and MADI / embedded audio routing with Ultrix		

Virtual Set and Augmented Reality Solutions



Ross Video offers Virtual Solutions that enable media production organizations to tell better stories, gain viewership, increase revenue, and reduce OVERVIEW costs through the use of Augmented Reality and Virtual Sets, with a focus on blended environments that combine the best of traditional physical design and virtual design.

Ross can implement virtual solutions for limited budgets as well as for the most demanding of production applications that include the most complete product portfolio in the industry, diverse third party component integration, and comprehensive Virtual Design services.

of tasks

BENEFITS	Virtual solutions enable telling better stories, which helps to retain existing viewers and attract new ones.						
	The costs of set design, staffing, space, and operation are reduced with virtual solutions.						
	New income sources become possible through sponsorship of specific virtual elements.						
	Elexibility and adility of staff resources is increased with easy to use integrated systems and the ability to efficiently handle a variety						

KEY FEATURES

Ross products include real-time motion graphics, robotic pedestals and dollies, control and operation software, news and social media systems, productions switchers, signal processing, and automated production control

Ross either resells or works with key third parties to deliver lenses, green screens, lighting, jibs and manual heads

Talent Driven Virtual Studio Control leverages DashBoard customized touch screen panels to enable talent to run the show from a tablet controlling every part of the Virtual Studio System

User Xperience (UX) software integrates the technical components required for keying, tracking, and rendering to insure the illusion of the integration of the real and virtual worlds

As a preproduction tool, UX Track manages camera tracking, sending to graphics renderers, and enables full control of virtual elements

UX Events combines complex virtual moves and camera moves into one button events that can be triggered by OverDrive through RossTalk and includes MOS integration

UX Server acts as a software camera router that enables UX to be configured to work with various XPression render engines for multiple uses.

UX Virtual Camera Control (UX VCC), is a version of UX designed to enable the virtual camera control and tracking capabilities for use in applications not requiring the full UX User Xperience control and operation by providing virtual camera control for non-Ross graphics engines & user environments

Ross Virtual Design services brings the best virtual designers in the world to deliver top quality augmented reality and virtual set designs





KEY FEATURES

The sensor module can be mounted anywhere on the camera rig, so there is no issue with it being obstructed by other parts of the rig, such as teleprompters, clocks or tally lights.

The sensor module can also be mounted in any orientation, to ensure the highest quality and quantity of optical reference points. In some cases this may mean pointing at the ceiling, in others it may be facing the opposite direction to the video camera.

Collects and integrates the zoom and focus data from Canon or Fujinon encoded lenses.

Just a single cable connects the camera to the interface module, while all data, including the video stream, is transmitted back to the server over a single Cat6 Ethernet cable.

Sensor module and interface box feature Picatinny rails for solid, repeatable mounting.

Mounting hardware for mounting the Sensor module to the camera is included.

Communication protocol compatible with Free-D and plug-ins with major virtual sets

Output includes camera position (X, Y, Z), orientation (pan, tilt angles) and lens zoom and focus

A unique, camera tracking system that uses optical tracking technology to deliver accurate real-time tracking data for various camera mounting options.

Based on a patented optical tracking technology that has been in use for several years now in the film industry, it can function without the need for fixed markers or other complex and bulky infrastructure.

SolidTrack opens up a wide array of new opportunities for adding virtual and augmented reality to broadcast and live event productions.

The system is quick to install, requiring just a compact sensor module mounted on the camera, some cabling, an interface module, and a computer. Calibration is also easy so everything can be up and running in 15 minutes or less.

The system does not require the installation of any visible markers to use as fixed reference points, it can be used in many environments including both indoor and outdoor venues, and large or small studios.

The compact sensor module, which includes both a video camera and a gyroscope, is small and light, so it can be easily fixed to various types of camera mounts.

Plug-ins for: Ross XPression, Autodesk Motion Builder 2014 & 2015, Autodesk Maya 2014, Unity 5, Unreal Engine 4

Ross Trackless Studio

Virtual Set Production

All-in-one, purpose Built on the XPressi augmented reality to Opens up new opp

All-in-one, purpose-built software for cost-effective virtual production without camera tracking.

Built on the XPression Real-Time Motion Graphics System with an intuitive purpose-built interface, that leverages years of experience with virtual sets and augmented reality to bring quality virtual sets to even the most basic productions.

Opens up new opportunities for virtual sets by enabling a different approach to production that accommodates both tight budgets and studio real estate size.

BENEFITS

Uses just stationary physical cameras – instead of robotic camera systems, encoded camera heads/lenses, or optical tracking hardware to lower costs.

All camera moves are done virtually inside of the XPression scene, making it suitable for small studios or even portable green screens.

Simple and intuitive one-box solution: multiple virtual cameras, internal chroma key, live inputs, clips, stills, and 3D graphics in one system.

KEY FEATURES

Uses stationary physical cameras	Position talent in different parts of the set for different show segments			
Multiple virtual cameras	without them ever moving off of their marks			
Dramatic virtual camera moves possible (i.e. – crane/jib)	On-demand composited preview Runs on XPression BlueBox or Studio Available as software-only or bundled with hardware Ships with 6 stock virtual sets, more available on the Ross e-commerce			
Internal chroma keyer				
Program, store, and recall camera presets				
Select live inputs, clips, & stills for use in the scene or virtual monitors				
Recall real-time 3D graphics	Integrated with other Ross products			
Select basic transitions	Several methods of remote control: Touchscreen, Keyboard shortcuts, optional X-Keys controller, virtual came			
Create events to do multiple functions	control and camera preset recall from Carbonite, as a device in DashBo			
Position talent in different parts of the set for different show segments without them ever moving off of their marks	for a basic operator position, built-in web server for control from any bro- er on the network			
On-demand composited preview				



Sport and Live Event Solutions

OVERVIEW

Ross solutions are used extensively by top stadium, live event, and mobile production organizations all around the world. Products developed for these applications by Ross have long considered their unique needs. Customized, tailored solutions are created to make those big moments possible in live, mobile and multi-screen environments.

This is a solution focus area for Ross, and the expertise, experience, systems, and services have been developed to meet the specialized needs of live venues and productions.

BENEFITS	By creating a more compelling fan and viewer experience, the right solutions also bring in new revenue opportunities.	
	Workflow enhancements and tight integration of control room products make operations simple and repeatable.	
	Ross Creative Services help to deploy successful solutions with capabilities such as creating XPression projects that output fully functioning dynamic content.	

KEY FEATURES

Combining production switcher Aux Keys and Mini ME's with sponsorship logos and branded Social Media together creates distinct revenue opportunities

With a wide product offering, sports solutions can include Acuity and Carbonite production switchers, XPression motion graphics and augmented reality, Inception social media workflow tools, openGear signal processing, Ultrix routing, and DashBoard control with custom panels

Integration of large screen video walls, scoreboards, and ribbon boards driven by XPression Tessera graphics with signal processing in all formats including 4K

Control of a wide variety of devices including Spyder displays, and Carbonite switchers for screen processing

Ross equipment in these solutions are designed to play well with others, integrating with technology that is also needed or already being used





Assembly Production Solutions

OVERVIEW

Ross offers a comprehensive solution for efficiently controlling and producing assembly meeting broadcasts.

Assemblies of any type, whether city, state, national, international, educational, and corporate benefit from decades of live production product experience from Ross Video and apply it to their proceedings. What sets the solutions apart from anything else available is the combination of products and services that comprise the whole package. This reduces the risk of implementing a system and supporting it if an issue occurs to get meetings back on air as quickly as possible.

The Ross solution is the world's first and most comprehensive integrated video production system for broadcasting assembly meetings delivering the quality that viewers expect to see in today's world.

BENEFITS	Easy to use design enables control of meetings without the technology of the system getting in the way to reduce operational expenditures and downtime.
	Increased meeting coverage is accomplished through easy re-configuration and representative assignment.
	Systems are optimized so that a single person can manage an entire meeting without requiring extensive training, making the best use of limited staff or producing more meetings with the same number of people.
	Having a single company to contact if there is an issue, and 24/7/365 technical support coverage reduces downtime of the system.
	Robust integration with third party products provides seamless and efficient workflows across various environments.

KEY FEATURES

Simplified customized control interface removes the technical training required while broadcasting high production quality meetings

Integration with Ross ACID Cameras and CamBot robotic heads, along with Sony BRC-series, and Panasonic HE-series PTZ cameras

Production equipment from Ross includes production switcher, graphics system, cameras, robotic camera systems, signal processing, and routing for campus wide distribution

Ability to display any XPression graphics directly from the control interface

Touch screen user interface allows a single operator to manage meetings from a single screen with live video in the GUI, management of camera positions and shots, and preview and automatic updating of graphics

Customizable user controls to accommodate for unique workflows at each assembly

Organize and adapt to changes in meeting rooms and assemblies by loading room set ups for changing chair positions and who is sitting where, and dynamic assignment of participants in meetings without assigned seating

Reduce stress knowing that Ross provides a fully integrated solution with comprehensive technical support available year round

Rocket Surgery

Creative Services

Graphics for television and sports arenas are the specialty of Rocket Surgery, with the expertise for a wide variety of applications. They provide a OVERVIEW comprehensive choice of services from leading-edge design to API development. Rocket Surgery performs the heavy design jobs and projects other organization cannot, including fast turns that cannot be beat.

A range of experts specializes in design authoring for and precision delivery to advanced graphics platforms. Having XPression as a special focus provides exclusive insight into the system with unmatched speed to air.

BENEFITS	Rocket Surgery graphics presents information in new and innovative ways that are guaranteed to captivate and inform audiences.
	From broadcast graphics and animation to dazzling arena displays, dedicated experts can assist in maximizing production value.
	Rocket Surgery helps to realize new visions and bring brands to life.

EXPERTISE

BROADCAST DESIGN AND MOTION GRAPHICS \ Ross Creative Services specializes in graphics for television and arenas. Using the power of the XPression render engine, Adobe Suite, and a host of 3D software and plugins, Rocket Surgery not only has the tools but the creativity to bring any vision to life.

XPRESSION \ Rocket Surgery professionals specialize in authoring for and making delivery to XPression. Having Ross Video as the parent company provides insight into the system like no one else with unmatched speed to air.

DASHBOARD AND API \ Data drives the design, and knowing how to manage it makes for maximum visual impact. Rocket Surgery are experts in API development and with the Ross DashBoard control platform. API's can be designed to do whatever is needed to keep data under control while using DashBoard to simplify production.

PROJECT TYPES	SERVICES		
In-Stadium Graphics	Discovery, Scope, and Proposals	Programming and Scripting	
Broadcast Graphics	Project Planning and Management	Training	
Trade Show Graphics	Creative Graphic Design	Graphics and Virtual Set Packages for Purchase	
Industrial Graphics	Fabrication		
Religious venues	Deployment – Onsite and Remote		



Ross Mobile Productions

Mobile Solutions



With a fleet of cost-effective, full service, technologically advanced mobile production vehicles, Ross Mobile Productions (RMP) delivers consistent, high-quality video and audio content from sports and other live events from around the United States, and ensures a predictable production experience and outstanding results.

As well as providing crew and equipment rentals, RMP also provides a full-service solution, known as "packaging." This means undertaking the responsibilities of producer, and delivering other technologies and services such as streaming content to the web, social media management, creating score bugs, designing graphics packages, recording, and customizing.

Designed around a tightly integrated Ross Video Carbonite Production Switcher and XPression Graphics core, each RMP vehicle delivers fiber and Triax camera capabilities, an advanced communication system, and a dual-user eight-channel replay system.

This incredible production power enables RMP's Sprinter-class vehicles to deliver high-quality, network-level live productions at affordable prices and meet consumer demand for coverage of more local sporting and other live events.

EXPERTISE

ERVIEW

б

PRODUCTION FACILITIES \ As a client you are provided with state of the art mobile production trucks and full logistical support. RMP is equipped to cover events of various sizes and complexity.

LIVE PRODUCTION \ RMP prides itself on internally staffing crews with only the best and most experienced live production teams for you, and maintains an extensive crew directory.

TRANSMISSION \ Full HD video transmission over satellite and fiber connectivity can be provided for your live productions. Proven expertise ensures that the content of your shows is delivered everywhere it needs to be.

ENCODING \ Using the industry's best encoders, HD quality streaming of your live productions to all popular devices can be provided for you - from the web, smart phones, tablets, and to various over-the-top television platforms.

openTruck

Mobile Production

The openTruck production system is both a standardized production platform and a community, bringing together all the technical and operational elements to produce great content.

openTruck is a blueprint for a new breed of modern compact production vehicle (or flight pack) with out sized production capabilities. These designs came out of research and trials conducted with clients over a multi-year period in exploring how to simplify and streamline sophisticated productions.

BENEFITS	openTruck is a proven solution - being used in thousands of events, and chosen by top regional and national networks to use for their productions.	
	Freedom to create a better production comes from having an efficient workflow and advanced technology that your crew knows and has experience working with.	
	Easy deployment is attained by having an off-the-shelf blue print that is put together by experienced openTruck builders and equipment partners that know the system.	

EXPERTISE

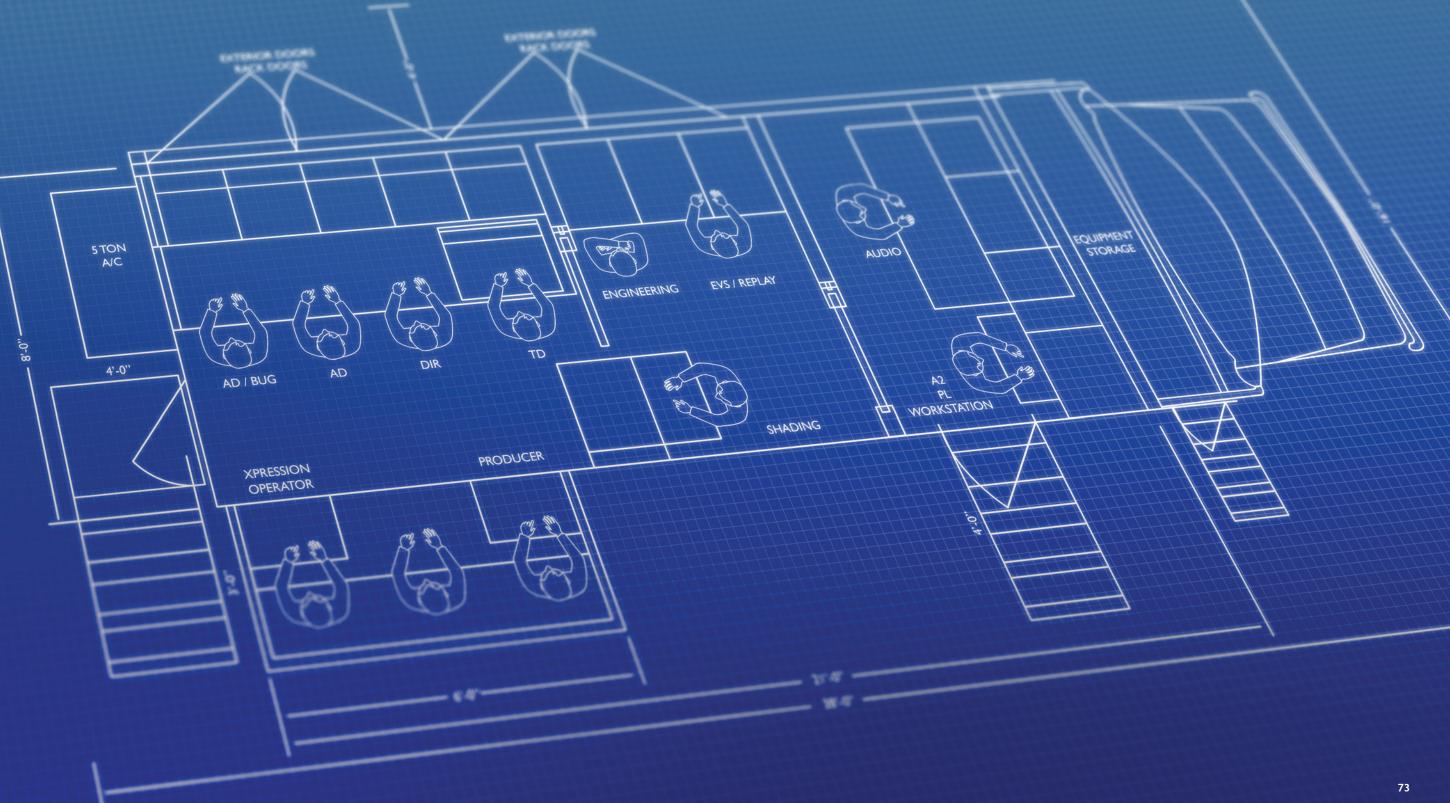
ERVIEW

2

OPENCREW \ openTruck provides a talented pool of operators listed in the openCrew community.

**OPENTRUCK TECHNOLOGY PARTNERS ** There are two types of technology partners - equipment manufactures and truck builders. The equipment manufactures are familiar with the openTruck designs and know which of their products fits best into the openTruck environment. The openTruck builders are the organizations that have the know-how to build an openTruck.

**OPENTRUCK PRODUCTIONS PARTNERS ** Are operators that have chosen to implement the openTruck blueprint and understand openTruck production environments and workflows.



Support & Services

TECHNICAL SUPPORT

No charge for the life of your Ross product.

Ross will always take your call, answer your emails and point you in the right direction. Ross prides itself in the quality of its products, but if problems occur, help is as close as the nearest telephone.

A 24 Hour Hot Line service ensures you have access to technical expertise around the clock. After-sales service and technical support is provided directly by Ross personnel. During business hours (Eastern time), technical support personnel are available by telephone any time. After hours and on weekends, a direct emergency technical support phone line is available. If the technical support personnel who is on call does not answer this line immediately, a voice message can be left and your call will be returned shortly.

www.rossvideo.com/support

WEB RESOURCES

The Ross website offers tips and techniques. Some products have forums that you can join to network and share experiences with other users and Ross staff. The "Ask the Product Manager" feature in each product area on the website permits you to directly connect with Ross Product Management staff to ask a technical question or suggest a new feature or product.

USER MANUALS

Manuals are continually updated. Each Ross product is provided with a comprehensive user guide that covers operation, installation and maintenance of your Ross product. These are updated and available simultaneously with new software releases. These are available for download from the Ross web or ftp site at no additional charge.

PROFESSIONAL SERVICES

Ross offers a range of professional services to help you get up and running and get the most out of your Ross solution.

- · Commissioning both onsite & remote
- Technical Training offered onsite or at Ross locations
- · Operational Training offered onsite or at Ross locations

ROSSCARE+ WARRANTY

Ross products are covered with a full one year transferrable warranty which includes advance replacement service. Ross has a network of strategically located, global logistics hubs to provide prompt local delivery of necessary replacement parts. This guick ship service is available to all customers during their warranty period.

ROSSCARE+ EXTENDED WARRANTY

RossCare+ Extended Warranty for a fixed annual fee extends the warranty period on your Ross hardware, providing total protection against unexpected repair fees. The program also includes our Advanced Exchange Program, to get you back online as quickly as possible.

ROSSCARE+ SOFTWARE MAINTENANCE

RossCare+ Software Maintenance is available for "software centric" products and keeps you current by offering access to ongoing software updates. Ross invests 25% of our annual revenue into research and development. A current Software Maintenance program means you can take advantage of the most current feature set of your product.



*************

....

.....

.....

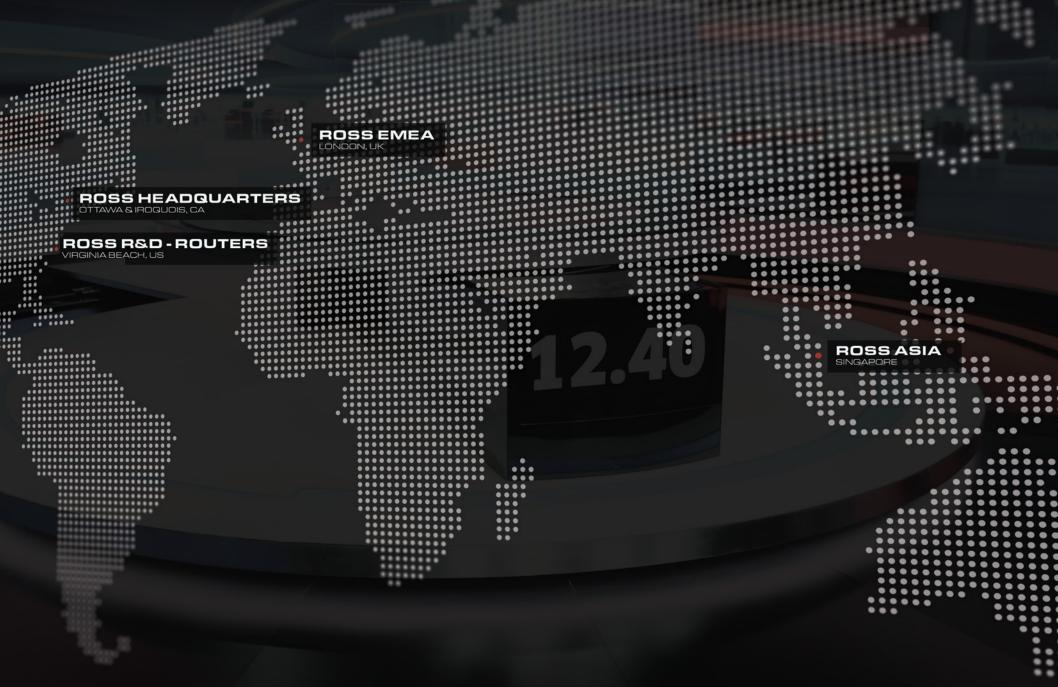
......

****** ***

..........

....

.....



Contact Us

North America: 1-844-652-0645 International: +800 1005 0100 Email: solutions@rossvideo.com

Technical Support

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



© 2016 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.

Visit www.rossvideo.com for the latest information on the complete line of Ross products and services.





Acuity, Carbonite, and CrossOver XPression Motion Graphics & Production Switchers Clip Servers



Acid Cameras Furio & CamBot Robotic Camera Systems



OverDrive & DashBoard Ultrix & NK Routing Infrastructure Control Systems



openGear®

Infrastructure

Signal Processing

Inception News, Live, & Social Streamline

Production

Management



Media Asset

Management



Rocket Surgery Creative Services



