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34 CONTROL SYSTEMS
- DaVinci
- Blackmagic
- NewTek
- Grass Valley
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- Adobe
- Final Cut
- Media Express

50 ACQUISITIONS, TRANSCODE & PLAYOUT
- Sony
- Panasonic
- Blackmagic

66 CAMERA MOTION SYSTEMS
- ARRI
- Red
- Cooke
- Zeiss

80 MOTION GRAPHICS
- Adobe After Effects
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86 VIDEO SERVERS & PROTECTION DELAY
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- Panasonic
- TriCaster

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130 MULTI-SCREEN IMAGE PROCESSING
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- Grass Valley
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140 ECOSYSTEM PARTNERSHIPS
- Sony
- Panasonic

144 SERVICES
- Grass Valley
- NewTek
### Software Defined Platform

- **PTP** or **Black Burst Timing**
- **ULTRIMIX**
- Open Control, including NMOS
- **SDI / IP Gateway**
  - Only supported in 5RU Frame
- **IP MultiViewer**
  - **XPression Graphics Available with IP I/O**
- **Hyper Converged with Acuity & Carbonite**
  - Dashboard and Ultritouch control
  - Up to 4 ME
  - Supported in All Ultrix Frames
- **SDI / IP Gateway**
  - 4 x 3G
  - Supported in All Ultrix Frames
  - Supports mix of Baseband & IP sources
  - Add I/O by trading ME
- **SMPTE ST 2022**
- **ULTRISYNC**
- **OpenGear IP to SDI Gateway**
- **1 x UHD HDMI 2.0**
- **Ultricore**
  - Up to 4 ME
  - Supported in All Ultrix Frames
  - Supports all Ultrix Software and hardware options
- **SMPTE ST 2110 & ST 2022**
- **ULTRICLEAN**
- **AES <> AES**
  - AES-67 / SMPTE 2110
- **XPRESSION**
  - Compact IP to SDI and HDMI
  - 3rd Party MADI Audio Console
  - SDI in and out
  - Supports mix of Baseband & IP sources
- **Ultrix Core Software Defined Features**
  - AES-67 & IS (IP or AES)
  - Access to all I/O

### ROSS IP / SDI HYBRID SOLUTION

- **Xpression Graphics Available with IP I/O**
- All XPression versions
  - Supported
  - SMPTE ST 2110 & ST 2022
  - Routing and control
  - Supports mix of Baseband & IP sources
  - Add I/O by trading ME
- **XPression**
  - 6 Keyers Per ME
  - Supports NMOS IS
- **1RU | 2RU | 5RU**
  - Software Defined Platform
  - **PTP or Black Burst Timing**
  - **6 x 3G**
  - Supports all Ultrix Software and hardware options
  - Access to all I/O
  - **Xpression**
  - **IP, SDI & HYBRID SYSTEMS AND SOFTWARE-DEFINED PRODUCTION**

FLEXIBILITY, AGILITY AND SCALABILITY

There is much excitement around the potential of IP connected systems to create more flexible, agile and scalable production environments.

Ross is at the forefront as a leader in IP connectivity with house core technology development for key popular technology standards including SMPTE ST 2110 and AES67 technology, while continuing to push forward with SDI connected environments at the same time. Hybrid IP/SDI environments will be the norm for the foreseeable future in live production as system engineers leverage the best that each technology has to offer.

Whether IP or SDI, agility comes from flexible processing engines and the notion of Software-Defined Production – Ross' term for agile, multi-function processing hardware that can add functionality through software licenses. The benefits are a flexible and scalable pool of resources that can grow as your needs change.

**IP, SDI & HYBRID SYSTEMS AND SOFTWARE-DEFINED PRODUCTION**

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4K UHD PRODUCTION SOLUTIONS

4K UHD is rapidly becoming an in-demand production format as the worlds televisions manufacturers cease production of High Definition displays in favor of 4K UHD displays with support for High Dynamic Range (HDR) and Wide Color Gamut (WCG) and as live web streaming and broadcasting begin to transition to 4K UHD. Ross has a growing 4K UHD portfolio that will have you producing impressive results for these new large format displays.

The next generation of Serial Digital Interconnect (SDI), 12G extends SDI into 4K UHD applications with the plug & play ease-of-use and reliability that we know and love from SDI. Ross has been a pioneer in 12G SDI which has now been broadly adopted with a large ecosystem of products and vendors supporting the standard.
THE POWER OF VIDEO

CORPORATE

Modern corporations leverage video to connect with new and existing customers, employees, partners, and shareholders. Ross can help you take advantage of this opportunity with tailored solutions that fit a wide range of budgets.

LIVE EVENTS
Remove the stress from hosting live events with broadcast quality and reliable technology. The tailored easy to use solutions make your staff more efficient and supports a wide variety of web, social platforms, screen sizes and more.

INTERNAL COMMUNICATION
Adopt the video network to produce more effective communication within your organization, bring people together from anywhere in the world, and utilize your facilities to its maximum capability with the best technology.

EXTERNAL COMMUNICATION
Share your organization's awareness and promote industry experts to differentiate your company's brand. Leverage collaborative live streams, real-time presentations, and integrated social media outreach to get your message viewed around the globe.

E LEARNING
Train employees and educate customers in person and/or remotely to reduce costs, lessen your carbon footprint and reach a wider audience. Utilize cutting edge technology to promote creativity for more-visual learning experience while maintaining interaction.
Ross solutions are a great fit for selecting both traditional and modern workflows. Technology has enabled whole new ways of producing and delivering television and Ross can help modernize your curriculum to ground students in traditional methods while expanding their knowledge into new areas like automated production, augmented reality and social media.

INVEST IN FLEXIBILITY
Easily transform a control room to suit different types of productions - from news to sports to live auditorium productions and everything in between. This gives students exposure to a broad range of production experiences and a path to potential job opportunities.

SCALE YOUR SOLUTION
Ross has a deep portfolio of products, enabling you to start small and add equipment as the educational program grows. Easily add licenses / users, link chassis together, unlock features and swap out hardware when it’s time to expand.

ROSS EDUCATION SOLUTION

EDUCATION
Training the next generation of video production professionals doesn’t have to come with compromise. Teaching with industry-leading tools from Ross provides students with the foundation needed to become top industry operators.

TEACH PRODUCTION WORKFLOW
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PRIMESTREAM pg 44
- Organize assets for video productions
- Search, download and edit assets with Ross Media I/O
- Virtualize the full platform or host in a private cloud

INCEPTION pg 46
- Newscast Computer System
- Yosemite Computer System
- Manage workflow and tasks with MOS collaboration
- Organize and manage content with MOS collaboration
- Search for user generated content
- Search and manage media

OVERDRIVE pg 42
- Automated Production Control
- WorldPac Control System
- FieldPak Control System
- Fully integrated with OverDrive

XPRESSION pg 80
- Graphics Systems
- Newsroom Computer System
- SideShot/SideSlide/SideStick
- OverDrive
- Live Quick Turn for create
- Publish ready content

ACCODION (FURIO) + PTZ CANTON pg 104, 107, 108
- Camera Motion Systems
- Virtualization Ready
- Playout with MOS rundowns
- Schedule ingest of feeds
- VDCP control support
- Full MOS integration
- Virtualization Ready

MOS Tools
- Easy to learn and operate
- Fully integrated into OverDrive
- Control all Devices for flawless production
- Built for speed and News Production

INSTRUCTION STUDENTS FOR INDUSTRY JOBS
UTILIZING INDUSTRY-STANDARD ROSS SOLUTIONS FOR EDUCATION

RETURN TO INDEX
ESPORTS

The esports world has exploded, as have the scale and demands of productions supporting this major industry. Working closely with leading esports companies, Ross is pioneering the development of unique esports oriented production solutions. Whether online battles, small venues, or full arenas, Ross offers esports solutions to fit them all.

BRING THE SIZZLE

Deliver the excitement and experience of the game to your viewers with a world class production. Captivate fans with game characters and environments brought to life through augmented reality and virtual sets. Ross brings the best of live sports and broadcast production technology to the task of putting on an amazing esports event.

UNIFY THE PRODUCTION

Bring the operation all together with a tightly integrated workflow. Ross solutions provide more efficient use of equipment and simplified operation supporting the key elements you need including Shoutcaster, Player Pods, Observer Rooms, Player Streams, Front of House screens, and Broadcast & Streaming outputs. Our esports-optimized Dashboard control panels, automate workflow, offering simplified customized operation in the exact places you need.

CHOOSE A GREAT PARTNER

Ross technology has a proven track record of product performance in the most demanding live production applications gained from over 45 years of experience. Well known for top-notch technical support, you can count on Ross to be there when you need it most.

ROSS ESPORTS SOLUTION

**LEAGUE OF THEIR OWN**

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GOVERNMENT

Broadcast technology is increasingly being used by national agencies, state governments, and local communities to make information more accessible to constituents. City, state, and national governments require different levels of scalability. Ross has a cost-effective solution for every size.

PRODUCE EFFICIENTLY, ACCURATELY AND FLEXIBLY
Make training staff and getting on air quick and easy with a seamlessly integrated solution from Ross. Control cameras, graphics, and switching all from a responsive and intuitive user interface. Keep the production flexible and engaging by quickly changing camera angles, shots, and graphical content with no added complexity.

MAXIMIZE BUDGET
Single user workflows allow for coverage of more committee meetings and assemblies making sure nothing gets missed because of operational budgets or staffing limitations.

CHOOSE A PROVEN SOLUTION
By choosing Ross you’ll be in good company. Ross provides the technology that legislatures all over the world rely on.

ROSS GOVERNMENT PRODUCTION SOLUTION

REALIZE OPEN GOVERNMENT
WORSHIP PRODUCTION

The modern world of worship effectively leverages the use of technology for spiritual purposes. Large and small venues are incorporating IAMG, online, and multi-campus productions to reach a broader believer-base cost effectively.

AMPLIFY YOUR SPIRITUAL MESSAGE

glossary of terms including passages and hymns in real-time, or bring in remote guest speakers from across the globe. Using video production and social media tools, combined with broadcast-quality, dynamic graphics and interactive content, you will be able to create the ultimate worshiper experience.

REACH A WIDER CONGREGATION

Reach local and remote believers including satellite campuses easily and effectively. Reach overflow viewers in adorning rooms with live broadcast of main sanctuary proceedings.

MAKE IT EASY

The Ross Worship Production solution with unified device control is easy to set up and intuitive to use. Realize expert productions from your volunteer community.
MOBILE

The amount of content being captured has only increased, from large national and international events to regional and local events. Ross has been on the forefront of redesigning the mobile market in a cost-efficient way that doesn’t compromise quality. You can achieve that big-budget production look at a fraction of the price.

A NEW STANDARD IN MOBILE PRODUCTIONS

This open trunk trailer from Ross has paved the way for new ideas and workflows. Using partnerships with equipment manufacturers, system integrators, truck-builders, mobile producers, and freelance operators, Ross has redefined truck production capability. This blueprint enables full-featured mobile productions with network-quality output, ensuring consistent performance and results—every time, all the time.

BIG PRODUCTIONS ON-THE-GO

A suite of best-in-class production tools from Ross include production switching, real-time motion graphics, flexible control, content management, versatile signal processing, and compact routing solutions. These solutions are well suited to the special needs of the mobile production environment, with compact sizes, low power consumption, flexibility of use, and ease of set-up and configuration.

BUILT FOR LIFE ON THE ROAD

Planning mobile space for future expansion, extra operator stations, and rental equipment can be a compromise. When space is limited, equipment designed for high-density is important. Ross products are not only built to be compact and highly-efficient, but also robust, and up to the challenges of life on the road.

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ROSS NEWS SOLUTION

STAY ON TOP OF THE NEWS

PRIMESTREAM pg 14
- Original assets for video production
- Search, download and edit assets with NLEs
- Organize assets for video production
- Access live ingest feeds from MAM
- Ingest feeds directly into a web browser with Rough Cuts
- Quickly create sequences in a web browser with Rough Cuts
- Save Rough Cuts as a template in Media I/O

INCEPTION pg 32
- Virtualize the full platform or host in a private cloud
- Search for user generated content
- Messaging and alert notifications with multi-user collaboration
- Built for speed and News execution
- Includes Facial Recognition
- Provides the most functionality with OverDrive

INCEPTION pg 60
- Virtualize the full platform or host in a private cloud
- Full Fill Inception placeholders
- Search, download and edit assets with NLEs
- Organize assets for video production
- Messaging and alert notifications
- Local and cloud hosted options

INCEPTION pg 80
- Virtualization Ready
- Playout with MOS rundowns
- Schedule ingests of feeds
- VDCP control support
- Highly flexible broadcast codec support
- 30 Real time Graphics Designer Friendly ready building
customized capabilities

OVERDRIVE pg 30
- Built for speed and News Production
- Highly flexible broadcast codec support
- Overdrive Integration with SDI, NDI and SRT support
- SDI, NDI and SRT support
- Virtualization Ready
- Local and cloud hosted options

CAMERA MOTION SYSTEMS pg 40
- Built for speed and News Production
- Highly flexible broadcast codec support
- Overdrive Integration with SDI, NDI and SRT support
- Local and cloud hosted options
- Virtualization Ready

XPRESSION pg 50
- SDI, NDI and SRT support
- Overdrive Integration with SDI, NDI and SRT support
- Local and cloud hosted options
- Virtualization Ready

MOSAIC pg 70
- Virtualization Ready
- Playout with MOS rundowns
- Schedule ingests of feeds
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- 30 Real time Graphics Designer Friendly ready building
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XPRESSION pg 80
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customized capabilities

MEDIA I/O pg 50
- Full MOS Support
- Chose from the range of panel options
- Chose from the range of panel options
- Robust Hardware with multiple panel and switch options
- Provides the most functionality with OverDrive

PRODUCTION SWITCHERS pg 104
- Chose from the range of panel options
- Full MOS Support
- Chose from the range of panel options
- Robust Hardware with multiple panel and switch options
- Provides the most functionality with OverDrive

NEVER MISS A STORY
Because news never stops, an efficient newsroom is vital. To reduce the time it takes to get a story to your audience, an integrated workflow paired with the most cutting-edge production technology will ensure your newsroom is running at top speed.

ENGAGE MORE VIEWERS
Ross applies a unique story-based approach to easily create and package content for cross-platform distribution. Create and monetize more news content streams and produce new types of unique programming.

BUILT FOR BREAKING NEWS
News is typically scripted workflows, but, when breaking news happens it is important to have a system flexible enough to jump in and out of breaking stories. Don’t sacrifice the quality of a newscast when the big stories hit.

ROSS NEWS SOLUTION

NEWS
Ross delivers news production solutions for the 24/7 digital era. Viewers expect engaging and unique content delivered faster across a myriad of screens and channels including social media networks. Improve newsroom quality and reduce your newsroom footprint with virtual sets, augmented reality (AR), automated production control (APC), streamlined content creation and distribution, 3rd party device integration and control.

ENGAGE MORE VIEWERS
The newsroom is running at top speed. An integrated workflow paired with the most cutting-edge production technology will ensure your audience is engaged.

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SPORT AND LIVE EVENTS

Today’s fans and sponsors expect more, and Ross has deep venue experience that can get you where you want to go. With a range of specialized technology as well as collaborating with you on creative content, we have the solutions to help you create memorable moments for your fans while delighting your sponsors.

UP YOUR CREATIVE GAME

Realize a grander vision with new and innovative game day productions that are guaranteed to captivate and inform your audience. Go beyond simple graphics, animations, and statistics displays, to fully 3D environments driven by real-time data and even fan interactive games. Tie in mechanical and electrical devices like IP TV, water cannons, neon signs, and stadium lighting for complete venue control. Ross gives you access to technology and experts with the knowledge to make it all happen.

GO BIG

Modern venues are incorporating massive screen sizes at higher pixel resolutions to integrate scoring, stats, social media, closed captioning, and more. The Ross LED Content Management Solution meets this challenge with the ability to feed infruts screen sizes across multiple screen formats of various sizes and custom shapes - pixel-accurate.

DAZZLE FANS, DRIVE REVENUE

Increase engagement, increase attendance, increase sponsorship. Keep your fans’ eyes on your screens and coming back for more with a top-notch game day production, made easy with the Ross Unified Venue Solution. Deliver unrivaled impact for your sponsors with Moments of exclusivity - branding the entire venue with the touch of a button!

CREATE THE ULTIMATE FAN EXPERIENCE
VIRTUAL PRODUCTION

Virtual production allows for a higher level of ROI. Deploy virtual solutions in small spaces which require fewer physical set pieces and less storage. Utilize “blended” environments that combine the best of traditional physical design and virtual design to eliminate the need for video walls and on-set monitors.

DO MORE FOR LESS

Virtual production enables for a higher level of ROI. Deploy virtual solutions in small spaces which require fewer physical set pieces and less storage. Utilize “blended” environments that combine the best of traditional physical design and virtual design to eliminate the need for video walls and on-set monitors.

INCREASE FLEXIBILITY

Quickly change a set, deploy a new look or share studio space with no downtime for construction, moving set pieces and less storage. Utilize “blended” environments that combine the best of traditional physical design and virtual design to eliminate the need for video walls and on-set monitors.

TELL BETTER STORIES

Wow your viewers by overcoming the limitations of traditional studio environments. Get viewers to tune in longer by showing segments with captivating content like an augmented reality tornado. Create stories with multiple virtual monitors, floating augmented reality elements, and customizable virtual sets to enhance your weather, sports, news, elections, and talk/variety shows.

VIRTUAL STUDIO

Today’s technology can produce a hyper-realistic virtual environment. To obtain best results a compelling 3D design is needed that is produced by specialized designers and artists. Today’s technology can produce a hyper-realistic virtual environment. To obtain best results a compelling 3D design is needed that is produced by specialized designers and artists.

TELL BETTER STORIES

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DO MORE FOR LESS

Virtual production enables for a higher level of ROI. Deploy virtual solutions in small spaces which require fewer physical set pieces and less storage. Utilize “blended” environments that combine the best of traditional physical design and virtual design to eliminate the need for video walls and on-set monitors.

INCREASE FLEXIBILITY

Quickly change a set, deploy a new look or share studio space with no downtime for construction, moving set pieces or competition for physical set space. Create flexible production teams that execute a variety of tasks contributing to a high-quality, lower-cost production.
Ross Video offers complete XR Virtual LED studio solutions that combine LED backdrops, set extensions, AR foreground elements, best-in-class studio control and proven world-class technology. VoyagerXR is powered by Epic Games Unreal engine and Nvdia’s professional Quadro series graphics cards providing unprecedented rendering quality and performance. Coupled with xOvid Studio, Ross’ virtual production control software, everything you need to to produce state-of-the-art virtual productions is at your fingertips.

**XR Virtual LED Studio**

- Ross Video offers complete end-to-end XR Virtual LED Studio solutions including Ross Video's new D3 LED DISPLAYS
- XR Virtual LED Studio solutions can result in significant cost savings by reducing the need to maintain physical sets and to shoot on location.

**Complete End-to-End Solution**

Ross Video is the only provider of complete end-to-end XR Virtual LED Studio solutions including Ross Video’s new D3 line of LED volumes and processors. Our solution integrates with Furio and CamBot robotic camera systems, XPression graphics systems, production switchers, Ultra routers, and more.

**Immediate Production**

Ross Video’s XR Virtual LED Studio solutions enable on-set talent to see the virtual environment they are performing in. This improves talent performance and confidence while reducing the time needed for rehearsals.

**Cost Savings and Flexibility**

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**On-Site Virtual Productions**

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ROSS MASTER CONTROL SOLUTION

Master your channel playout with Ross Master Control solutions. Ross provides a comprehensive set of tools that integrate into a seamless workflow, offering reliability, flexibility, and scalability. This allows you to deliver content to your audience without compromise. Ross provides tools to define your brand, and protect your revenue stream, from content creation and playout to securing your content and regulatory compliance.

INTEGRATED SOLUTION
Ross provides a comprehensive suite of Master Control solutions to allow media distributors to deliver their content to their audience. This ranges from content playout and graphics creation to the underlying plumbing that allows the connectivity and signaling.

CONTROL
Ross solutions work under a unified Dashboard control system and a common remote API (RossTalk). Not only does this provide a single GUI umbrella for individual products, but also enables customized workflows that link multiple products together into task-focused user experiences.

SOLID INVESTMENT
Invest in a solution that protects your channel brand and revenue. Maximize your channel’s monetary potential with world-class graphics and branding. Keep your channel on-air with proven, reliable solutions.

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D3 LED

Leading technology innovator in indoor and outdoor LED displays as well as LED Processing, Content Management and Playback systems which can generate, process, and distribute video to epic scales.

ONE HAND TO SHARE

Experience the technical advantages, time savings, ease of procurement, and future update compatibility while working with Ross for your entire solution, including creative, content management, signal processing, display and control chain!

DYNAMIC DISPLAYS

D3 product portfolio offers indoor and outdoor displays with our patented technology optimized to capture eyeballs. Custom fabrication for unique shapes and mounting systems are all 100% in house.

DIVERSE CONTENT WORKFLOW

No matter the application with multiple options from Ross we solve your content management needs, with media playback, scaling & mixing, graphics and virtual LED. Additionally, offering IP based LED Display Distribution and 3rd party interfacing to Audio, Lighting and more.

EXTENSIVE SOFTWARE SOLUTIONS

TrueControl, a web-based software, makes it easy to adjust display settings, schedule content, and determine the status of components that power your viewers’ visual engagement. It’s completely configurable to monitor and control one display at a time or the entire network all at once. With playlist flexibility, program managers can customize, craft, and schedule their brand components that power your viewers’ visual engagement. It’s completely configurable to monitor and control one display at a time or the entire network all at once. With playlist flexibility, program managers can customize, craft, and schedule their brand.

ROSS LED SOLUTIONS

Interactive Switcher Solutions

AEP

- Hosted up to 180 million Pixels per unit
- Hardware Driver up to 8K
- VSP120: 120fps
- 10 Gbps Link

AEPIMs

- 20 - 40 Million pixels per unit
- Hardware Driver up to 8K
- VSP120: 120fps
- 10 Gbps Link

TRUE POWER

- Rack Mount Power solution
- Customer & Rack Power units
- Redundant power solution
- 97% efficiency
- 15kW / 30kW Options
- 10 gauge plenum Speaker Wire
- 24v & 48v versions

TRUE CONTROL

- Host D3 Eplayer
- Content management and scheduling
- Local and Enterprise solutions
- Full display control & monitoring
- Dynamic graphics
- Real time rendering

XPression Tessera

- Pairs with Carbonite Mosaic
- HDR capable
- Rosstalk and Native API integration to
- Dynamic graphics
- Real time rendering
- System / System
- Large canvas Live production graphics

Xpression & On Set

- Scenario & On Set
- Studio & Production
- 10 Gig IP Link
- 16 Bit color Depth
- FPS 60 / 120
-Framebuffer up to 4096x2160
- All Features of AEP / AEP Pro
- Fill / Key for live keying
- Dynamic graphics
- Large canvas Live production graphics

Enterprise Control

- Engineering
- Light pixel mapping through Art
- Host D3 Eplayer
- Content management and scheduling
- Local and Enterprise solutions
- Full display control & monitoring
- Dynamic graphics
- Real time rendering

Signage

- Industrial
- LED controller
- Signage
- 10 Gig IP Link
- 16 Bit color Depth
- FPS 60 / 120
-Framebuffer up to 4096x2160
- All Features of AEP / AEP Pro
- Fill / Key for live keying
- Dynamic graphics
- Large canvas Live production graphics

SDI

- Signal conversion required
- 10 Gig IP Link
- 16 Bit color Depth
- FPS 60 / 120
-Framebuffer up to 4096x2160
- All Features of AEP / AEP Pro
- Fill / Key for live keying
- Dynamic graphics
- Large canvas Live production graphics
DashBoard is an open software platform from Ross for facility control and monitoring that enables users to quickly build unique, tailored CustomPanels that make complex operations simple. DashBoard is a software application that provides control and monitoring to hundreds of products from more than 80 partners within the openGear and DashBoard Connect ecosystem, and of course, most Ross products. Its ability to craft application specific solutions across this breadth of products is what makes DashBoard so special.

CUSTOM
DashBoard PanelBuilder is a powerful tool used for creating custom interfaces for products from Ross, and partner companies. CustomPanels built with PanelBuilder are used by major broadcasters and large sports venues around the world.

OPEN
The Emmy®-award winning openGear platform is designed to work with DashBoard as the front end UI for the more than 80 openGear partners using OGP (openGear Protocol).

FREE
Download DashBoard for free to start building panels and monitoring your openGear devices. Training and professional services are available to help you get the most out of DashBoard and your production equipment.

OPEN. CUSTOM. CONTROL.
ULTRITOUCH TOUCHSCREEN CONTROL SYSTEM

Ultritouch is a no-compromise, 2RU or 4RU touchscreen-based facility control panel powered by DashBoard and guaranteed to fit your workflow.

TOUCHSCREEN OPERATION
SmartTouch™ functionality provides traditional control with modern workflows.

SYSTEM-WIDE CONTROL
Control your Ross solutions from a single hardware based panel. Open control with DashBoard provides full customization based on user need.

ROBUST
Redundant power, redundant control ports, HDMI output, USB 2.0 connectivity, audio speakers and a tough gorilla glass touch surface combine to provide a complete control and monitoring solution.

THE NEXT WAVE IN CONTROL PANELS

EASY SYSTEMIZATION
Basic DashBoard connectivity and custom panels bring the ability to control Ross products the way you do now. Optional software licenses allow for more advanced and targeted control of specific devices and workflows.

ADAPTS TO YOUR WORKFLOW
Ultritouch adapts to your needs. It can be set up quickly to perform traditional applications like router, multiviewer, and signal processing control. But its real power is the ability to do virtually anything you want, the way you want to do it. Your panel, your workflow, own it.

INTEGRATED DESIGN
Any device that supports OGP protocol and can be discovered in the DashBoard menu tree can be configured to be controlled with Ultritouch.

Have you ever wished you could build a control panel to fit your workflow without compromising? So did we. That’s why we created Ultritouch - allowing easy creation of custom control panels designed around your needs.
Lightning was designed to make the task of producing meeting and assembly proceedings much easier, fully controlling cameras, production switchers and graphics from a simple graphical user interface. It is ideal for single-operator use.

**ROOM FLEXIBILITY**
Adjust to changes that happen quickly and easily. Lightning is able to easily accommodate changes, such as switching seating arrangements, without costly service contracts or fees.

**OPERATOR EFFICIENCY**
Simplified control of broadcast equipment and automation means one operator can effectively produce an entire high-quality broadcast, without compromising unique workflow aspects of the location.

**EMPLOYEE GROWTH**
Produce more meetings with available staff enabling shorter shifts, reduced operator fatigue, and ability to accomplish other important tasks with an improved overall work/life balance.

**SIMPLIFIED MEETING BROADCASTS**

**TAILORED TO YOUR FACILITY**
Load your room background and position representatives relative to where they are actually seated.

**INTUITIVE GUI**
Just touch a representative and cameras move to prepare the next shot.

**MULTIPLE CAMERA OPTIONS**
Three preview cameras, each with three quick shot recalls, are available to best capture next speaker.
PowerPlay is an Event Control System that allows users to centralize device control to a single server and simplify playback and scheduling of production and environmental devices for any live event—venue, corporate, faith-based, or broadcast.

**With PowerPlay, event playback can be fully automated based on a time-of-day schedule. The system is perfect for any scenario where timed and scheduled events need to be automatically triggered before, during, or after a live event. PowerPlay is the ideal solution for pre-event and post-event content, digital signage, advertisements, and more.**

**CENTRALIZED DEVICE CONTROL SOLUTION**

PowerPlay is built using the DashBoard framework and offers device control that is centralized on powerful enterprise-class servers.

**RENOVISED DEVICE CONTROL LIBRARY**

Out of the box, PowerPlay can integrate with XPression Graphics, XPression Clips, Abekas video servers and DashBoard custom panels. You can also add an optional CustomControl engine to access and control hundreds of 3rd party devices.

**FULLY SCHEDULED AUTOMATION**

With the ability to schedule digital signage, advertisements, and time-of-day events, PowerPlay provides you with the power to monetize your production and engage audiences more efficiently.

**SIMPLIFYING LIVE EVENTS**

Using the Scheduler feature, you can trigger events at specific times and designate them as one-time or recurring events. You can also easily import and export schedules and view scheduled events in a simple ‘outlook-like’ format.

Each device output is browsable, searchable, and can be manually triggered in a common interface.

The Device Manager allows you to easily define, manage, and configure main and backup devices.
OverDrive is the most advanced Automated Production Control System on the planet, enabling the most sophisticated productions to be executed cleanly and consistently, while delivering substantial savings in operational costs.

Control Everything
OverDrive provides dynamic control of Audio Mixers, Routers, Graphics Systems, Robotic cameras and more. APC makes it possible to produce sophisticated sequences frame accurately - to a level of complexity not easily achieved in manual environments.

Flexible Control
Perform manual, semi-automated or fully automated productions at any time from the same control room, using the same equipment. Powerful features allow for quick changes and variable options to present content. Everything is always at the operator’s fingertips whether from OverDrive’s customizable UI or a dedicated panel.

Wise Investment
OverDrive is available with flexible licensing including perpetual and subscription options to fit your budgetary needs. Automated Production Control with OverDrive is one of the only solutions in the industry that can provide immediate ROI.


Control Systems
OverDrive’s QuickTurn allows you to repurpose content for multiple platforms. You can and easily record any segment ready to be published or for future use. OverDrive and Primestream work together to fulfill a media placeholder to be reused without editing or manual intervention.

Deliver Content
OverDrive’s QuickTurn allows you to repurpose content for multiple platforms. You can and easily record any segment ready to be published or for future use. OverDrive and Primestream work together to fulfill a media placeholder to be reused without editing or manual intervention.

Sidebox Modules
SideBox modules are control panels for those who prefer a dedicated control surface. They work in conjunction with OverDrive’s touch screen interface, keyboard and mouse allowing multiple ways for the operator to interact with the system. With the included in-desk / on-desk mounting kit, multiple combinations of SideBoxes can be ordered to fit your production needs.

Device Integration
OverDrive has the most extensive library of supported 3rd party devices and MOS tools, permitting you to choose from the best in putting your APC system together. Ross Interface Engineering and Quality Assurance Teams are continually adding new devices, along with advancing and releasing currently available interfaces.
Streamline Graphics combines the entire asset management process into a single platform, providing everyone from graphic artists to journalists easy access to existing assets and collaborate on new content.

**Streamline Graphics is designed to pair with the XPression motion graphics workflow to make finding the right image or video faster and easier than ever. Increase graphics usage and improve accuracy using Streamline Graphics to create a searchable database of assets and (optional) approval workflows.**

**IMPROVE COMMUNICATION**
Utilize the built-in work order management system and user messaging capabilities to increase communication between newsroom staff and your graphics team. Users can upload requests, track progress and provide feedback without leaving the user interface.

**ACCESS AND ARCHITECTURE**
Streamline Graphics requires no software installs on client machines. This increases the flexibility of devices that can be used to create content and decreases the amount of time it takes to perform upgrades. Streamline Graphics can be accessed from Mac and PC platforms on a variety of web browsers. It is also accessible directly inside the XPression MOS plugin.

**FLEXIBILITY AND SCALE**
From Streamline Graphics to Streamline Enterprise, there is a feature set and configuration model for the smallest newsrooms to the world’s largest broadcasters. With a scalable feature set and both purchase and subscription models available, Streamline can empower any newsroom regardless of size.

**ORGANIZING CREATIVITY & OPTIMIZING ABILITIES**
Because Streamline Graphics is integrated into the XPression MOS plugin, users can browse, download and select images from third party libraries like MGN Online and AP GraphicsBank directly from the plugin.

**WORK ORDER MANAGEMENT**
Streamline Graphics includes a powerful Work Order Management system that allows newsroom staff to request, track and provide feedback on required assets. Requests can include notes and supporting documents to help the graphic team understand exactly what is needed. Work orders can be assigned to a graphic artist and deadlines can be tracked with a customizable dashboard.

**INTEGRATED IMAGE LIBRARIES**
Streamline allows each customer to define what attributes they want to assign to their asset, and embed that data into common image files’ XMP metadata space. This data is accessible in XPression to manipulate the look and text in a graphic beyond the image itself.

**USER DEFINED METADATA**
Streamline allows each customer to define what attributes they want to assign to their asset, and embed that data into common image files’ XMP metadata space. This data is accessible in XPression to manipulate the look and text in a graphic beyond the image itself.
Streamline Production is designed to bridge the gap between the newsroom computer system (NRCS) and playout server. Create placeholders, search customizable metadata and select the clip needed to tell the story with a rules-based workflow designed to move content between locations and servers.

**INCREASE EFFICIENCY**
Use customizable metadata fields to search for existing clips and view a proxy preview of the clip from a web browser or plugin in the NRCS. If the clip doesn’t exist yet, add a placeholder to the story and receive status updates on each placeholder.

**ACCESS AND ARCHITECTURE**
Streamline Production requires no software installs on client machines and is available as an HTML MOS plugin or in a web browser. This increases the flexibility of devices that can be used to create content and decreases the amount of time it takes to perform upgrades. Streamline Production can be accessed from Mac and PC platforms on a variety of web browsers.

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From Streamline Production to Streamline Enterprise, there is a feature set and configuration model to meet the needs of small newsrooms to the world’s largest broadcasters. With a scalable feature set and both purchase and subscription models available, Streamline can empower any newsroom regardless of size.

**ORGANIZING CONTENT & CONNECTING WORKFLOWS**
Content can be ingested, copied or moved based on rules set up in Streamline Production. Index content from a variety of file storage systems including on premise and cloud options. Move content between servers and file storage locations with automated rules. Delete content using lifecycle rules for playout servers.

**AUTOMATED ORGANIZATION**
Streamline Production pairs with Streamline Play to form an end-to-end playout workflow. Select videos or create placeholders in Streamline Production > Target a storage location or playout device such as Media I/O > Streamline Play receives clip playlist from the real-time NRCS (updated in real-time as changes are made) > Streamline Play triggers clip playout.

**INTEGRATED WORKFLOWS**
Streamline.cloud offers the ability to add Streamline functionality to your workflow without the need to maintain on premise servers and software. Streamline cloud is hosted in the cloud and maintained by Ross. Choose from monthly and annual subscriptions.
Primestream supports a comprehensive range of workflows for live feeds and file-based content, enabling users to streamline editing, newsroom metadata logging, control room playout, and seamlessly share, edit, review and approve content prior to either broadcasting live, automate on-demand play-out, or publish to a wide range of OTT platforms.

DISCOVER YOUR ASSETS
Access all of your production assets and associated metadata in and out of your facility from a single, unified UI, with powerful search capabilities and real-time playback.

TAG IT FOR LATER
Add markers with descriptive comments and sub-clip video or live feeds to facilitate easy search and retrieval of relevant content.

ADD FLEXIBILITY
Archive and restore content to local and cloud-based archive solutions from any location and across multiple storage tiers.

OPTIMIZE YOUR MEDIA CREATIVITY

CREATIVE INTEGRATIONS
Improve productivity by seamlessly connecting your video, graphics, and visual FX teams with tools to locate, manage, and import assets and projects without ever needing to leave creative tools such as Adobe Creative Cloud and Apple Final Cut Pro.

ROUGH CUT EDITING
Easily gather videos into an organized rough cut while setting in and out points to prepare a creative story for exporting to playback systems or for creative finishing in Adobe Premiere Pro directly from a web interface.

TIME-BASED LOGGING
Primestream MAM provides powerful metadata-tagging tools that allow for logging live or pre-recorded video. These tools contain configurable user interfaces that enable content loggers to easily tag video with defined metadata - making assets easier to manage, automate and ultimately monetize.
Media I/O streamlines today's demanding HD, UHD workflows so you can easily get content on air quickly. The platform offers support for a greater number of input sources, workflows, and formats than any other live recording solution on the market.

**SPEED**
Media I/O gives you instant access to live ingest and allows for edit-while-ingest to accelerate the production process for both logging and editing workflows.

**SCALABILITY**
Media I/O gives you and your engineering department a highly flexible and scalable software solution that can grow with your business goals and workflow needs.

**DYNAMIC**
Media I/O is built completely on a software-based framework that allows for both on-premises and cloud-based architectures to give you the ultimate flexibility in hosting your solution.

**CAPTURE ALL YOUR LIVE FEEDS & QUICKLY PLAY THEM OUT**

**LIVE CAPTURE**
Capture SDI, web, camera, and broadcast sources such as HLS, MPEG Dash, and RTSP streams in single or multiple self-contained file formats.

**EDITING INTEGRATION**
Preview live recordings inside your Web browser and edit while capturing streams in Adobe Premiere Pro and Apple Final Cut Pro.

**IP-READY**
Supports software-driven IP workflows using NewTek NDI and SMPTE IP streams with compatible hardware together with Bonded Cellular devices and encoders.
Inviting a contributor to a production shouldn’t be difficult in the world of multiple video chat tools with different workarounds to get high quality video from each one. Interstellar clears the path to work with your production. Letting contributors of all skill levels contribute without having to worry about the technology.

**FOCUS ON THE CONTENT**
Interstellar provides a simple user interface by using an invitation sent from your production. Any contributor can join a real broadcast production without technical knowledge or specialist equipment, freeing up staff and time and allowing you to focus on content.

**FOCUS ON INTEGRATION**
Interstellar takes advantage of the latest web transports to provide high quality SDI outputs directly to your production system. Using familiar, integrated tools like talkback and IFB Interstellar offers production integrations that are missing from other platforms.

**FOCUS ON CONTINUITY**
Interstellar can be deployed on your own network or in the cloud by your organisation. This brings an enormous business continuity to this sort of product. This gives you peace of mind in an uncertain world where contribution services can change their operating model overnight leaving production unable to bring in vital contributors to your production.

**SIMPPLIFYING CONTRIBUTION**
Contributors only see what they absolutely have to so they can focus on the topic and conversation not the technology. Only clear relevant buttons for essential functions are shown.

**INTEGRATION WITH INTERCOM**
Interstellar can integrate with existing intercom systems to provide remote intercom direct to the web browsers without extra hardware to give the full production experience to broadcast professionals and contributors remotely.

**SECURE LOGIN**
Interstellar can be integrated with existing LDAP systems to support same sign-on or use a local system. This allows users to access Interstellar easily and centrally control their permissions.
SOFTGEAR VIRTUALIZED MEDIA PROCESSING PLATFORM

softGear™ is the future-facing software technology platform that creates new ways to acquire, process, manage and distribute content. softGear utilizes microservices that can be chained together in custom configurations to build scalable workflows while preserving high-quality performance and reliability.

As the demand for new content grows, you need more versatile ways to create new workflows with more efficiencies to reduce your initial investment. With the goal of increasing flexibility, cost reduction, and investment protection, our team created the softGear platform based on a microservices architecture that empowers media processing applications with reliable real-time performance in audio and video processing environments.

EASY TO USE INTERFACE
The Dashboard interface can be deployed across numerous product applications to simplify operational command and control. Get consistency in your multi-channel distribution through a centralized control interface.

COTS BASED
Since softGear™ based solutions do not require specialized hardware, products using the platform are faster and easier to provision and deploy. The platform also enables solutions to be more scalable, flexible, and easy to upgrade in the field.

SOFTWARE BASED PROCESSING
In the softGear architecture, algorithms are implemented in software encapsulated Docker containers, targeting x86 or GPU rather than FPGA or DSP. In addition, media processing services are deployed as microservices, instead of proprietary physical cards.

ACQUISITIONS, TRANSCODE & PLAYOUT

As requirements change, softGear allows you to repurpose existing systems by creating new workflows via a single user interface.

COMMON UI

SOFTWARE MEDIA PROCESSING
Since softGear™ solutions are based on software SDKs and do not require specialized hardware, the platform can enable these solutions more quickly and they become easier to provision and deploy.

FIELD UPGRADEABLE
softGear’s media processing units are based on software, so their processing algorithms can be updated with new software releases in the field. This model allows updated systems to be created without hardware redesign.

EASY TO USE INTERFACE

COTS BASED

SOFTWARE BASED PROCESSING

ACQUISITIONS, TRANSCODE & PLAYOUT
Remote production (REMI) and remote content contribution continue to offer opportunities for broadcasters, however the challenges of ensuring efficient, reliable, lossless, and affordable media transfer across public networks still presents itself. The SoftGear Streaming Gateway resolves the challenges of media transfer across public networks and provides gateway and transport functionality between remote broadcast locations or venues, on-premises locations, and cloud providers, allowing for new business opportunities for broadcasters.

A SOLUTION FOR EVERY STREAM
Navigating the myriad of compression codecs and protocols for effective streaming is made simple and efficient using intuitive UIs to access a complete suite of capabilities. Easily solve for connectivity challenges and optimizations using the DashBoard interface. Get consistency in your multi-site deployments.

COTS AND CLOUD DEPLOYMENT
Deploying the same product on COTS hardware and deployed in a public cloud provider ensures that bi-directional encoding and decoding is optimized for transfer and minimized packet loss. Deploying a real-time compressed media stream within your network and to a public cloud provider provides for the ingress and egress necessary, enabling remote contribution and remote production capabilities.

COMMON PLATFORM
The SoftGear Streaming Gateway is built on softGear, which gives flexibility to the rapidly changing needs of today’s broadcasters, providing simultaneous encoding and decoding but a scalable microservice platform ideal for on-premise or cloud deployment. Leverage the usability, configurability, and robustness of the softGear platform.

A GATEWAY TO CLOUD PRODUCTION
Take advantage of remote talent, remote production crew, and cloud processing easily. Whether on-premise NDI content needs to be transferred to a public or private cloud, or SDI baseband converted to CDI streams in a cloud, the Streaming Gateway provides a reliable solution.

BROAD SET OF COMPRESSION OPTIONS
The Streaming Gateway is fluent in many codecs and transport protocols, efficiently handling multiple bi-directional streams of SDI, NDI, H.264, SRT, WebRTC, and AWS CDI.

SDI AND CLOUD DIGITAL INTERFACE
Send SDI feeds from on-premise directly into AWS and use Cloud Digital Interface (CDI) signals for high reliability and sub-frame network latency. Access similar workloads across compute instances and services in the AWS Cloud.
We partnered with legendary algorithm providers to deliver state-of-the-art solutions for both television and radio transmission. Leveraging the flexibility of softGear, we offer best-of-breed signal processing solutions in a flexible platform, which is easy to deploy, manage and scale in both IP and baseband environments. With integrated Dashboard control, it is easy to monitor and control all your channels from any location.

**FLEXIBILITY**
softGear leverages best-of-breed audio processing for radio and television from providers such as Orban, Nielsen and Dolby. The softGear microservice platform enables multiple solutions to be married into a cohesive workflow that matches your transmission and distribution environment.

**COMMON HARDWARE**
All product applications are hosted on commercial off-the-shelf (COTS) hardware, offering superior solution density while simplifying system deployment and maintenance. softGear solutions allow for easy integration into Audio-over-IP or SDI installations.

**SCALABILITY**
The microservice architecture lets you scale up multiple instances of Nielsen watermark encoders, Dolby processing or Orban radio processors on the same platform. This is ideal for centralized network operations (NOC), playout, and distribution centers to save on costs and complexity.

**ACQUISITIONS, TRANSCODE & PLAYOUT**

**BROADCAST AUDIO PROCESSOR**
The Broadcast Audio Processor is your versatile playout application combining Dolby Real-Time Loudness Levelling, Nielsen Watermarks and Dolby Digital encoding, with support for up to 8 independent audio programs.

**NWE-IP**
Ideal for native IP installations, the Nielsen Watermark Encoder IP (NWE-IP) offers multi-program audio watermarking for Nielsen and Numeris audience measurement with robust ST 2110-30 and AES67, including ST 2022-7 redundant networking.

**RADIO & STREAMING AUDIO PROCESSOR**
Powered by legendary Orban® radio processing, the Radio and Streaming Audio Processor (RSAP) offers an unmatched set of audio processing algorithms for FM, HD and streaming applications for up to 8 radio services.
INCEPTION NEWS
NRCS AND SOCIAL MEDIA MANAGEMENT

An innovative newsroom computer system and social media management tool all in one. Inception News makes it easy to discover and publish stories as they happen.

INCREASE COMMUNICATION

By centralizing web, social media and broadcast workflows into a single platform, teams can easily share content and information using Inception’s built-in messaging and contextual discussions.

SOCIAL & WEB ENGAGEMENT

Create interactive polls and search social media in real-time while building playlists based on comments, photos and other content which feeds directly into on-air graphics.

FLEXIBILITY AND SCALE

From the smallest newsrooms to the world’s largest broadcasters, Inception scales to meet any size operation and workflow with both subscription and purchase models available.

YOUR MULTI-PLATFORM NEWSROOM

NEWS & SOCIAL MEDIA

Create multi-platform content based on specific user permissions, optional approval workflows, and publishing schedules. Quickly reformat a traditional broadcast story for social media or web in just a few clicks, or, break a story on the web and use that information to write your broadcast script.

MULTIPLE SYSTEMS

Horizon manages communication and user permissions between each Inception system. Users are able to browse and share broadcast, social and web stories in addition to run-downs, assignments and contacts.

INCEPTION.CLOUD

Inception cloud offers the ability to add Inception News functionality to your workflow without the need to maintain on-premise servers and software. Inception cloud will be hosted in the cloud and maintained by Ross.
INCEPTION SOCIAL
SOCIAL MEDIA MANAGEMENT

A complete social media management solution for media and entertainment applications. Inception Social is your toolset to discover and curate social media content for use in productions and live events.

INCEPTION SOCIAL allows your team to create multi-platform content based on their specific user permissions. Manage moderating and approving content from social media channels for your production playback on-the-fly.

INCREASE AUDIENCE ENGAGEMENT
Connect with your audience through social media polling and real-time results, curating comments, photos and videos posted to social media. Seamlessly feed the content to an on-screen graphic through drag-and-drop workflows with broadcast graphic solutions like Xpression from Ross.

OVERSIGHT AND ACCOUNTABILITY
Give your team the freedom to create and discover social media content while still maintaining oversight of the final product through granular user permissions and optional approval workflows.

FLEXIBILITY AND SCALE
Inception Social is available for purchase or as a subscription service offering monthly or annual billing. The Inception platform can be hosted on a traditional on-premise server, a virtualized environment, or in the cloud.

INCEPTION.CLOUD
Inception cloud offers the ability to add Inception Social functionality to your workflow without the need to maintain on-premise servers and software. Inception cloud will be hosted in the cloud and maintained by Ross.

WHERE BROADCAST MEETS SOCIAL

MULTI-PLATFORM PUBLISHING
A single piece of content can be published across platforms in just a few clicks. Whether it’s one user or a team of content creators, this story-centric workflow allows for social and web stories to easily be repurposed and tailored for each destination.

SOCIAL CONTENT TO ON-AIR GRAPHICS
Get content from your audience onto the screen, fast. Create keyword, hashtag or geolocation searches to discover content on Twitter, Facebook and Instagram. Drag and drop comments, photos and videos directly from social media searches into a graphics playlist. Use word filters and an optional approval process to keep inappropriate content off the screen.

NEWS & SOCIAL MEDIA
INCEPTION LIVE
LIVE EVENT AND SOCIAL MEDIA MANAGER

Manage game day or live event rundowns from anywhere with a collaborative tool to plan, write and publish content for live event rundowns, social media and the web.

INCREASE COMMUNICATION
By centralizing web, social media and broadcast workflows into a single platform, everyone from marketing to production teams can contribute and have visibility of the event rundown. Built-in messaging tools allow everyone to communicate easily whether working in the same building or around the world.

EASY ACCESS
Eliminate printed materials by storing everything in a shared workspace accessible from anywhere. Inception Live can be accessed using a variety of web browsers on Macs, PCs, tablets and mobile devices. Special views are offered for tablet workflows including the ability to swipe between scripts or track timing of the show.

INCREASE ACCURACY AND EFFICIENCY
Use templates and drag-and-drop workflows to easily reuse and share content between rundowns. With real-time updates, all users see the same information at the same time which cuts down on mistakes and redundant work. Approval workflows and content history allow you to control quality and track changes.

OPTIMIZED FOR LIVE
Tailor the user interface to your production with user-definable columns to track everything from ribbon boards to sponsor messages. Each user can select the information they see and how they see it while still receiving updates as changes are made.

INCEPTION.LIVE/INCEPTION.CLOUD

Whether your team is in the same building or spread across the world, Inception Live presents a collaborative and tailored platform to plan, write and publish content for live event rundowns, social media and the web.

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INCEPTION.CLOUD
Inception cloud offers the ability to add Inception functionality to your workflow without the need to maintain on premise servers and software. Inception cloud is hosted in the cloud and maintained by Ross. Choose from monthly and annual subscriptions.

AUDIENCE ENGAGEMENT
Get content from your audience onto the screen. Fast. Create keyword searches and geolocated searches to discover content on Twitter, Facebook and Instagram. Drag and drop comments, photos and videos directly from social media searches into a graphics playlist. Use word filters and an optional approval process to keep inappropriate content off the screen.

CUSTOMIZABLE INTERFACE
Get content from your audience onto the screen. Fast. Create keyword searches and geolocated searches to discover content on Twitter, Facebook and Instagram. Drag and drop comments, photos and videos directly from social media searches into a graphics playlist. Use word filters and an optional approval process to keep inappropriate content off the screen.

INCEPTION.CLOUD/INCEPTION-LIVE
ACIDCAM FULL CHROMINANCE BROADCAST VIDEO CAMERAS

Studio production cameras with best-in-class resolution, sensitivity and signal to noise ratio, plus, unique, patented UltrachromeHR outputs offering full 4:4:4 data for chroma keying and live virtual applications.

GO VIRTUAL
ACIDCam integrates seamlessly into Ross Virtual Solutions. When combined with Ross’ next-generation UltrachromeHR chroma keyer, ACIDCam delivers stunning images for live virtual broadcasts.

MULTIPLE OPTIONS
Maximize your budget with two ACID camera options. The H200 is an excellent high-end performer that offers 1080p, CMOS sensors and HDR capabilities. Also available is the economical Z50 model, which offers Ultrachrome with 1880i resolution and 5:1 compatibility.

COMPACT DESIGN
Compact and lightweight, these rugged cameras can be mounted in a variety of locations, such as on a tripod, jib, or mounted on a robot where placing an operator is not possible.

A HEIGHTENED VISUAL EXPERIENCE

OWN EVERY PIXEL
Create beautiful, clean, true high-resolution keys using the patented 0:4:4 UltrachromeHR output, a signal that contains full bandwidth color information for complete 4:4:4 data into the UltrachromeHR Chroma Keying System.

BE CREATIVE
ACIDCam incorporates the latest developments in HDR technology through Hybrid Log Gamma (HLG) and Perceptual Quantization (PQ) to capture the full breadth of colors and contrast in any scene.

CAPTURE THE DETAILS
Obtain high quality images in lower light, with Dynamic Noise Reduction from the H200-UCHR providing a signal-to-noise ratio beyond 64 dB, and the budget friendly Z50-UCHR achieving a 58 dB signal-to-noise ratio.
As a modular system, Furio is available in a wide variety of configurations, with multiple platforms, lifts, and heads to choose from. Select the towering height and range of the SE 3-stage lift, the more economical S2 2-stage lift, or a fixed column – or mount the head directly on the dolly. Integrate the rails into the floor or suspend them from the ceiling to free up space in the studio. The system can then be paired with either a X350, VR100 or VR600 pan and tilt head, depending on payload requirements.

VISUAL IMPACT
Our MotionDirector technology allows operators to create distinctive shots with more fluid and dramatic visuals that make productions come to life, capturing and holding the audience’s attention. Furio’s eye-catching aesthetics provide a cutting-edge look to programs, not only behind the camera, but also in front of it.

ALWAYS ON TRACK
Furio’s absolute rail encoder technology provides reliable, accurate tracking data regardless of traction or accumulation of dust and dirt, without the need for homing or recalibration – perfect for virtual and augmented reality.

PRACTICAL PERFORMANCE
Furio SE and SkyDolly deliver much more than just beauty shots. With the payload capacity to support a full-sized prompter, they can also serve as the primary camera in a newsroom production, providing maximum flexibility and practicality.

THE SMART EVOLUTION
OF CAMERA ROBOTICS
FURIO LIVE
LIVE EVENT CAMERA DOLLY SYSTEM

Furio Live is the ultimate next-generation remote control camera system for live productions. Combining a high speed dolly, silky-smooth lift, and ultra-fast pan & tilt head with two intuitive and responsive control systems, Furio Live delivers a unique combination of speed, fluidity, and responsiveness in a compact and modular package – perfect for capturing all the action at live events.

GET CREATIVE
Make shots you only dreamed of previously, thanks to Furio’s speed, smoothness, and range.

SETUP QUICKLY
Specifically designed for rapid setup and tear down, with fewer cables, built-in power bar and cable management features, and integrated camera balancing plate with tool-less quick lock adjustments.

BUDGET FRIENDLY
Benefit from lowest total cost of ownership with the safest, most robust and reliable dolly system, coupled with the best support in the industry.

NEXT GENERATION REMOTE CONTROL CAMERA SYSTEMS

Save time and money with a system designed from the ground up to be fast and easy to setup and configure. Furio Live can be located in places that were previously impossible, discreetly delivering stunning visual perspectives at your command.

OUTPERFORM
High speed Furio SE dolly travels at speeds up to 3 m/s (straight track), with a range of nearly 100 m. Ultra-fast pan & tilt head (up to 180 degrees/ sec) covers all the action, from any angle.

WORRY-FREE
Two lift options to choose from: The SE Lift featuring 3-stage Carbon fiber construction that delivers over 2.2 m (7’ 2”) of height and 85 cm (33”) of extension, or the more cost-effective 2-stage S2 Lift.

STAY IN CONTROL
Choose from two responsive and intuitive control platforms: modular joystick console, or remote pan bar.

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CAMBOT
FREE ROAMING PEDESTALS

With three distinct models, the mid-sized 600XY-S2 and 600XY-S3, to the extra high-payload 700XY, the CamBot series of free-roaming pedestals have been designed to suit a wide variety of studio applications and capital budgets.

UNBEATABLE FLEXIBILITY
CamBot XY pedestals provide the ultimate in flexibility, allowing the camera to be positioned anywhere around the studio floor, while providing remote control/programming of all camera axes, including pan, tilt, zoom, focus, elevation, and floor position.

UNIQUE DESIGN
The CamBot’s unique two-wheeled design eliminates the wheel-scrubbing that results in the rapid accumulation of floor error that plagues caster-based designs. And when re-targeting is periodically required (typically just once a day), millimeter accuracy is quickly restored by optical pattern recognition technology that takes less than a second to complete.

PERFECT AUTOMATION PARTNER
Consistent preset recalls combined with an open API and networked control architecture make CamBot Pedestals the perfect robotic camera system for Automated Production Control solutions, including Ross OverDrive, and all major 3rd Party solutions.

RELIABLY ACCURATE
ROBOTIC PEDESTALS

CamBot’s pedestal-base features the industry’s best accuracy and floor repeatability, fast and easy targeting, and a straightforward design that provides years of reliable, low-maintenance operation.

POWER LIFTER
With a payload capacity that can reach 200 lbs / 90 kg, CamBot pedestals can support some of the largest box lenses and studio cameras still in use today.

VIRTUALLY UNBEATABLE
All CamBot XY pedestals offer high resolution virtual tracking data on all seven axes which, combined with their unbeatable floor accuracy, makes them ideal for augmented reality or virtual sets.

BLACKBIRD C2
Our entry-level system is based on the 2-stage C2 lift with integrated electronics that comes from the original CamBot 600PTZ. Dubbed the C2 lift to reflect its CamBot heritage, it is paired with the 600PTZ to create our most cost-effective robotic elevation solution.
With a wide range of pan and tilt heads, Ross Robotics has a model suitable for just about any application, from extremely large payloads of up to 90 kg (200 lbs) to ultra-quiet, compact heads that are perfect for mounting in hard-to-reach places where space is at a premium; all with industry-leading pan and tilt speeds. In addition to fully robotic heads, Ross also offers the VRzero encoder interface module packaged with Cartoni manual fluid heads to provide accurate virtual tracking data for manually operated cameras.

Ross pan and tilt heads are based on decades of industry experience, combining proven mechanical design with advanced motion control algorithms to produce superior smoothness, accuracy and robustness across the range.

STRONGER, FASTER
Both fast and accurate, Ross pan and tilt heads can quickly position the camera for the next shot, without requiring manual touch-ups, so that it is immediately ready when needed. This is accomplished even with class-leading payload capacities that provide the flexibility to mount just about any camera, lens, and prompter configuration.

TRACKER
The X350 and VR series heads (including the VR0 and manual encoded heads) provide accurate tracking data on pan, tilt, zoom and focus position, making them perfect for virtual sets or augmented reality. And tracking data is always included for free, making them perfectly affordable.

IN CONTROL
All our PT heads can be controlled from Ross Video’s Dashboard control system at no extra charge. Combine this with a Monogram Creative Console modular joystick package to create the ultimate low-cost control system.

Ross heads are available with a variety of mounting options that allow them to be placed on top of tripods or pedestals, hung upside down from the ceiling or trusses, or bolted to a wall, desktop or alcove. VR-series heads and the X350 can also be mounted on any Furio Lift, Dolly or BlackBird.

X-Series, 500, 600 and 700 series heads feature special gearboxes that eliminate backlash, as well as high-resolution servos to produce smooth and highly repeatable movements.

PT series heads offer an optional Local Control module that provides a local interface for relaxing robotic control of the head and permitting it to be positioned using manual pan bars. Returning to remote robotic control is as easy as flipping a switch and does not require homing to re-establish accuracy of presets.

MOUNT UP
NO BACKLASH
LOCALLY CONTROLLED
The PTZ-12G and the PTZ-NDI are broadcast-ready 4K UHD PTZ cameras that are ideal for a wide variety of applications including houses of worship, live broadcast, corporate board rooms, auditoriums and TV studios. Perfect addition to any video production with the choice of 12G or NDI video, the PTZs are quiet, fast, accurate and have 30x zoom for those close-up shots.

SUPERIOR QUALITY
The PTZ's 9.17 megapixel 1/1.8" CMOS sensor captures full 4K UHD and 1080p HD video up to 60fps, combined with fast, smooth movement. The addition of the 30x optical and 12x digital zoom allows creative, exceptional shots in all environments.

VISCA PROTOCOLS
The PTZ uses the VISCA over IP protocol, allowing it to easily plug into existing production systems.

EFFORTLESS CONTROL
Users can create their own PTZ custom panels and choose to store and recall presets either on-camera or locally on the control system. No hardware required.

These high-performance PTZs are fully integrated into the Ross eco-system, where our SmartShell and (free) DashBoard control systems allow for unlimited presets, enabling a single operator to control any combination of Ross robotic products and any number of cameras.
CONTROL SYSTEMS FOR STUDIO ROBOTICS
SMARTSHELL, VISION[Ai]RY FACIAL TRACKING, AND MOTIONDIRECTOR

Ross Video offers a range of robotic control options that can be scaled and combined to create the perfect control solution for any market application. From our free DashBoard plugin for controlling core functions to our Enterprise-level SmartShell control platform, we can create a workflow solution that is perfect for your environment — including a hands-free automated workflow using our AI-based framing software, Vision[Ai]ry, in combination with Ross OverDrive APC.

All Ross Studio Robotic systems can be directly controlled from a wide range of control platforms using an open API that allows complete control of every feature of the robots. Whether you have Furio dollies, free-roaming CamBot pedestals, BlackBird PTL pedestals, PT heads, or even PTZ cameras, all your Ross robotic systems can be controlled by a common control system using a centralized Ethernet-based architecture. Our graphical user interfaces (GUI) provide simple, easy-to-use interfaces for creating, managing, and recalling shots on all your Ross Robotic cameras, helping deliver consistent, high-quality productions without sacrificing creativity.

UNLIMITED CREATIVITY
Operators are free to create a virtually unlimited library of shots, each of which can be instantly recalled from any control system with a TCP connection to the robot. With our MotionDirector technology, they also have the ability to create signature beauty shots by simply dragging and dropping keyframes into a timeline — or recording manual movements that can then be perfectly reproduced time after time, at the press of a button.

PERSONALIZATION
SmartShell offers user settings that can be saved and uploaded from a file, allowing each operator to tailor the interface to their specific preferences, from joystick configuration to the layout of shots in the matrix for a particular show. With our Dashboard plugin, we can go even further, creating custom UIs that combine control of much more than just the robotic camera, but also graphics, switching, routing, audio, and so much more.

SCALABLE
Our control solutions scale easily from a simple two-camera studio to an entire country network of studios and control rooms, where any robot can be controlled from any control room, including home-based remote terminals hosted in the cloud. Combine SmartShell with other Ross applications, such as Vision[Ai]ry Facial tracking, Dashboard, OverDrive (APC) and Lucid Studio (VS/AR) to create a complete robotic camera control solution for manual and automated workflows.

IP-BASED CONTROL
Each SmartShell control station communicates with the robots over an Ethernet infrastructure using an Open API, simplifying integration into new or existing facilities. Presets and moves are stored on the robots. This distributed network architecture is not only more robust, but also enables remote and automated production.

ALWAYS IN-FRAME
As real-life productions can be unpredictable, MotionDirector gives the operator the precision and predictability of a pre-programmed trajectory, combined with the flexibility to make in-flight joystick and time corrections while a programmed movement is in progress.

FLEXIBLE CREATIVITY
IP-BASED CONTROL
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XPression has changed the real-time production graphics game - a 3D motion graphics system that is powerful, yet easy to use.

MAXIMIZE CREATIVE OUTPUT
XPression is a joy to create and operate graphics on employing a clean user interface, logical menus, and controls. XPression shortens your learning curve, fosters creative flow and maximizes productive output.

OPTIMIZE WORKFLOW
XPression offers workflow tools and integration options that generate significant efficiencies for News, Sports and Entertainment environments. Implement a journalist self-serve graphics workflow for news with a centralized art department, easily tie in Twitter, Instagram and other feeds for text, images and polls, drive and entire stadium with a single button push. Solutions like these are all available with XPression.

BUY ONCE, ENJOY FOREVER
Always enjoy state-of-the-art graphics. Once you buy XPression and keep software maintenance current, you never have to buy it again. As a Windows product that runs on standard off-the-shelf computer hardware, XPression licenses can migrate from machine to machine, taking advantage of accelerated CPU and GPU performance over time.

IMAGINATION REALIZED
XPression supports multiple broadcast video I/O formats in HD-SDI, 12G and SMPTE IP Standards, using hardware from a wide selection of I/O card vendors. Rendering is done in the GPU, which allows XPression to work with various hardware frame buffer vendor solutions, rather than just one. XPression supports I/O hardware from Matrox®, AJA®, Blackmagic Design®, and Bluefish444 and NDI™.

OPEN HARDWARE
HDR and Wide Color Gamut are more important to many of our customers, than UHD, but the latest XPression Video Codec provides both. Add that to existing support for 48-bit and 64-bit image formats for stunning HDR content in HD or UHD.

SCALABLE
Ross Video offers XPression systems in a variety of form factors to assure there is a perfect fit for your requirements. XPression is sold as software licensing and supported by either your hardware or a variety of hardware configurations.
Xpression Tessera has created a new way to tell stories in large format video displays. Tessera is an entire workflow for displaying large canvases across an almost limitless output display size.

Xpression Tessera allows designers to work in canvases much larger than traditional broadcast formats. The improvements in technology have brought down the cost of expansive video displays at the same pace that the facilities have increased their desire to fill the walls with pixels. Ross Video's Xpression allows users to remain pixel-accurate in displays up to one billion pixels by one billion pixels.

CAPITALIZE ON WHAT YOU KNOW HOW TO USE

Xpression Tessera is based on the same core workflows of Xpression Studio. Scenes with Infinite layering, Transition Logic, and Take IDs are the core of Xpression Tessera. Utilize a simple region mapping workflow to define what content plays on what region of the overall displays and span your canvas across regions of the final output to fill the wall.

SCALABLE SOLUTIONS

Available in three configuration formats, Xpression Tessera can properly fit into your workflows and budgets. From huge mega stadium displays to small gymnasiums and TV studios, Ross Video can offer a solution for your needs. Control Xpression Tessera using the traditional tools of Ross Video. The Xpression Sequencer, the Xpression Remote Sequencer, DashBoard, Carbonite, Acuity, OverDrive, or any system that can use RossTalk. Utilize these control surfaces together to unleash the amazing power of Xpression Tessera.

MOS WORKFLOWS

Not only is Xpression Tessera the most powerful solution for driving video displays, but if you are working with a MOS newsroom, Xpression Tessera can be populated by your newsroom team the same way they build a traditional over-the-shoulder graphic. Create Xpression Tessera scenes with replaceable objects and drag-and-drop content into the templates to quickly create topical monitor wall solutions at the last second.
PIERO SPORTS GRAPHICS ANALYSIS

PIERO is an award-winning sports analysis tool from Ross Video. PIERO’s systems use image recognition or encoded camera heads to overlay tactical graphics on sports content. PIERO brings new angles to every game, on the screen and in the studio, with visually engaging and informative effects.

STATE-OF-THE-ART ANALYSIS

PIERO improves storytelling and maximizes the communication efficiency to its targeted audience. PIERO offers a wide range of effects across its solutions, including data visualization, speed and distance, 3D replays, and many more.

STATE-OF-THE-ART SPORTS GRAPHICS AND ANALYSIS

PIERO Broadcast is a real-time 3D sports graphics and analysis system created for broadcasters. The system is built upon a proprietary line and texture tracking algorithm co-developed by BBC Research. This algorithm creates a seamless blend of graphics and video which maintains proper perspective and keeps graphics tied to the pitch as the camera moves.

PIERO Live is a powerful real time graphic solution. Designed for live use cases, the system supports a wide array of encoded camera heads and can connect to live data feeds for NFL, Soccer, and Baseball. PIERO Live is used to create studio augmented reality and mobile truck (outside broadcast) graphics such as Badges and scores, advertisement, offside line and 1st & 10 line.

PIERO Club is a 3D graphics system designed for professional sports clubs. The perfect interface between coaching staff and players, it maximizes communication efficiency and engages players using pre-made clips and live presentations. It has been designed with the user in mind and helps to add visual support when reviewing and preparing games.

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Kiva Presentation Server

Our Kiva+ Presentation Server delivers a reliable and responsive operator-driven digital media playout solution for live sports & entertainment venues as well as live media production studios.

With Kiva, all your live productions are instantly simplified. Incoming media assets are quickly ingested, efficiently organized, and easily presented on demand during live events at sports & entertainment venues and media production studios. The Kiva Presenter user interface features a familiar, quick, and very visual ‘shot-box style’ operational paradigm—so operators can confidently present a wide variety of media into any live production.

**Intuitive**
With a simple click, the highly intuitive operator-driven Kiva Presenter user interface presents a variety of digital media into live productions with unparalleled flexibility and ease. These media include motion video clips, fill/matte stills and animations, surround sound audio, and sponsored adverts.

**Rock-Solid**
Kiva is built upon reliable Ross designed media processing engines, ensuring your live productions never suffer from video playout stutters, audio dropouts, user interface freezes, or unexpected hang-ups.

**One-, Two-, or Three-Channel Models**
Kiva is available in either one-, two-, or three-channel models, so you can choose the option that best fits your production needs and budget. The One-Channel model features one baseband audio+video recording input, one Video+Key PVW Player output, and one Video+Key PGM Player output. The Kiva Two-Channel model simply doubles these video channel resources, while the Three-Channel model triples them.

Present Live Media with Confidence

**Video Servers & Protection Delay**
Sound is equally as important as the visuals in your live productions, and Kiva cleanly handles the complex audio needs required by live event presentations. That’s why digital audio captured, stored, and presented by Kiva is handled with 48kHz, 24-bit professional quality—with an AES and embedded audio router built right into Kiva.

**Audio Agility**
Kiva is designed with modern 10-Gigabit USB and Ethernet connectivity to handle every possible media file ingested scenario. No matter the format, digital media files can be quickly ingested and transcoded into Kiva from a wide range of external sources—including from portable USB drives, memory sticks, and fast internet downloads.

**Connectivity Galore**
Kiva features all the RS422 and Ethernet protocols required for external control from remote production switchers, third-party control panels and user-defined Ross DashBoard panels. These devices can all trigger playout operations in the PVW and PGM players across multiple Kiva servers connected on a local control network.

**Remote Control**
Kiva features all the RS422 and Ethernet protocols required for external control from remote production switchers, third-party control panels, and user-defined Ross DashBoard panels. These devices can all trigger playout operations in the PVW and PGM players across multiple Kiva servers connected on a local control network.
MIRA REPLAY SYSTEMS

Achieve impressive slow-motion instant replays for all your live events and sports broadcasts with an extremely flexible and very powerful multi-channel replay system.

DRIVEN FROM A UNIQUE, ERGONOMICALLY-DESIGNED CONTROL SURFACE AND PURPOSE-BUILT REPLAY APPLICATION, YOU ARE ABLE TO EXECUTE LIVELY SLOW-MOTION INSTANT REPLAYS WITH THE GREATEST OF EASE, QUICKLY CLIP AND TAG CONTENT, INGEST AND EXPORT MEDIA FILES, AND CREATE ENGAGING GAME BREAK HIGHLIGHTS THAT WILL CAPTIVATE YOUR AUDIENCE.

SINGLE OR DUAL-USER WORKFLOW

Share the load with Mira+ by splitting / sharing server resources—so two operators can work independently on two replay events or work in collaboration on the same replay event.

RELIABLE PROTECTED MEDIA

Ensure maximum reliability with standard dual-redundant, hot-swappable power supplies. For ease of maintenance, all premium Mira+ servers feature hot-swappable chassis fans and media disk drives.

FILE-BASED OPERATIONS

Integrated media file import and export tools reduce cost and simplify your workflows.

CLIP NETWORKING

Multiple Mira+ servers can be interconnected with 10G Ethernet or multiple Mira Express servers can be interconnected with 1G Ethernet, with clips played between the same model of server to provide even more angles of slow-motion replay.

PIERO INTEGRATION

Tight integration between Piero Broadcast and Mira replay gets sports graphics analysis on-air much faster than any other replay system in the world!

THE ULTIMATE REPLAY SYSTEM

Mira Control Surface features a "wide and slim" ergonomic design, for ease of use and smooth replay operations. All buttons on the control surface are logically grouped and color-coded to function, with generous spacing around every button. The Mira Replay graphical user interface complements the Control Surface with a single "heads-up display" for monitoring, clip/playlist management, and media export.

Mira+ is a premium 8- or 12-channel replay system with 280 or 560 hours of storage. The impressive Mira+ feature set provides all the resources you need to handle larger events, including symmetric video channels, dual-user workflows, content sharing between multiple Mira+ servers, and background growing file export to NAS via 10G Ethernet.

Mira Express transfers the core Mira+ feature set onto an SSD hardware platform for a professional four-camera / two-playout replay system. The "Clips" SSD stores media used all season long, while the "Events" SSD stores the four-camera recordings. Mira Express is available at an incredible value that makes it a great choice for low- and mid-market sports.
TRIA PRODUCTION VIDEO SERVERS

Today’s live production environments demand cost-effective playback of video, key and audio content. Tria is the ultimate production server that provides the flexibility, feature-rich, multi-channel capability you need to deliver compelling live programming.

SIMPLE FILE MANAGEMENT

Integrated media file import and export dramatically simplifies file-based workflows. Files are automatically matched to the production video standard on import, and the exporter quickly gets captured media into external craft editing systems and other downstream equipment.

FILE & FORMAT DIVERSITY

Compatible with the spectrum of resolutions and formats, including UHD-4K and 1080p Full HD. A wide variety of the most popular self-contained media files can be ingested and exported with ease.

CLIP NETWORKING

Quickly and easily share media clips between any number of Tria production servers interconnected via 1G or 10G Ethernet, depending upon Tria model. No matter where a given clip is stored—any clip can be played back in real-time across the network.

THE ULTIMATE PRODUCTION SERVER

The incredibly flexible architecture of a Tria production servers ensures seamless integration into a wide variety of live production workflows including animated switcher transitions, on-set display feeds, live video ingest and content recording and playback during live shows.

TRIA+ UHD

This Tria+ model provides two symmetrical UHD-4K video channels featuring single-link 12G SDI I/O connectivity. Tria+ UHD can also operate in 1080p video standards with 3G SDI I/O connectivity.

TRIA EXPRESS DUET

The cost-effective Tria Express Duet production video server provides broadcast-level quality and reliability at an unbeatable price. With 2-channel and 4-channel models to choose from, Tria Express Duet is a versatile system that fits perfectly into a wide range of live production applications.
The simple setup, personalization, and operation of AirCleaner-2 ensures all undesirable video and audio content are confidently and effectively concealed from your live audience.

TWO-BUTTON CONTROL

Straightforward to control with two large panic buttons; one for audio (red); and one for video (yellow). Simply press & hold to clean up your broadcast.

REACTION TIME COMPENSATION

Compensates for the reaction time of human operators to an observed visual or sound event, ensuring all unwanted content is cleanly concealed in its entirety.

CONCEAL CONTENT SMOOTHLY

The audience experience is minimally interrupted with subtle yet effective video and audio concealment techniques.

DUAL-USER OPTION

Ensure complete concealment with unique Dual User control that easily divides delay time between two Users; if the first User misses a concealment, the second User can make the concealment.

DASHBOARD PANELS

AirCleaner-2 comes standard with two Dashboard panels: the Configuration Panel for remote system setup, and the Control Panel for remote User control that duplicates the functionality of the AirCleaner hardware control panel.

KEEP IT CLEAN

VIDEO SERVERS & PROTECTION DELAY

Simple configuration and programming of AirCleaner-2 are managed via the LCD panel on the front of the chassis or from a remote custom Dashboard panel. Delay settings and other setup parameters are saved in up to three non-volatile memories.

SIMPLE SETUP

Simple configuration and programming of AirCleaner-2 are managed via the LCD panel on the front of the chassis or from a remote custom Dashboard panel. Delay settings and other setup parameters are saved in up to three non-volatile memories.

CONTROL PANEL

The control panel has one button for audio and one for video. After setting up the delay time and operator reaction times, make concealments by pressing & holding the button for as long as the offence takes place. AirCleaner-2 can conceal audio and video separately or simultaneously.

CONCEALMENT CHOICES

AirCleaner-2 conceals offensive live content by using an integrated effects engine to blur out visual obscenities with variable video defocus. The unique audio jumble feature scrambles audio to make speech unintelligible—while maintaining audio levels and spoken continuity.
pro-xi® WORKSTATION INTEGRATOR
KVM SYSTEMS

Provide computer operators a better way to organize, monitor, and control critical information from multiple, disparate computer systems in a way that enhances their performance and output.

Revolutionize the way control rooms are engineered, designed, and operated. Designed to conquer control room chaos, the pro-xi Workstation Integrator is a unique, revolutionary, and disruptive technology improving workflow efficiencies and effectiveness.

IMPROVE CONTROL
Empower control room operators to be more effective at their core responsibilities; they work faster and analyze better. They make fewer mistakes, by placing the right information, in the right place, at the right time, right in front of the operator’s primary field of view.

STREAMLINE DECISION-MAKING
Improve the critical, decision-making process in control rooms; identify and analyze important information more quickly with real-time, high-quality, scalable thumbnails and sub-windows.

SUPERCHARGE YOUR MATRIX
Catapult your KVM functionality into the pro-xi dimension by combining the powerful Workstation Integration technology with existing KVM matrices. Provide unique and patented workstation integration control to any workstation on the network. Solve the problems caused by the increasing proliferation of control systems and information overload in control rooms and operations centers.

CONQUER CHAOS™

SIMULTANEOUS MONITOR & CONTROL
Simultaneously monitor and control multiple, disparate, computer systems, in real-time, on a single, display canvas — One mouse, One keyboard, One operator.

REDUCE COST & OVERHEAD
Manage overhead more effectively by integrating multiple computer systems onto a single display — less workstations, fewer staff, better results.

CONTROL HUNDREDS OF INPUTS
Increase operators’ productivity, connect computer inputs directly to the Workstation Integrator or combine the pro-xi and KVM technologies. Control up to hundreds of inputs when connected to a matrix.
Ultrix is a powerful, state-of-the-art software-defined routing platform that lets you realize significant cost, space, and power efficiently with unprecedented flexibility and agility. As well, Ultrix provides you with the peace of mind that comes with an extremely reliable system designed for future requirements.

SOFTWARE-DEFINED
Easily add new features through additional software licenses. No additional hardware required.

INTEGRATED DESIGN
The Ultrix 12G Router is infrastructure in a box. Video/audio routing, multiviewers, audio processing, frame synchronizers, clean/quiet switching, LHD gearboxing and more all unified in one single chassis.

SAVE MONEY
Because of its size, base feature set, and software capabilities, owners save significant money on upfront capital costs. Additionally, the advanced architecture provides significant ROI in terms of power, cooling, shipping, and space costs.

THE NEXT WAVE IN ROUTING

RICH MULTIVIEWER CAPABILITIES
Up to 27 independent multiviewer heads in a single 5RU chassis. Each head supports up to 100 PIPs. Completely independent and individually controllable providing superior flexibility.

AUDIO PROCESSING & ROUTING FABRIC
Up to 3kx3k audio routing and processing fabric comes standard with Ultrix. Up to 2kx2k embedded, and 1kx1k discrete audio supported. Route, process, and configure down to a mono channel, regardless of I/O.

TRANSPORT FLEXIBILITY
Ultrix allows for routing and processing signals through a wide variety of transport topologies. Use any combination of Coax, SFP, or IP I/O cards to deploy complete broadcast solutions for SDI, hybrid, or even pure-IP topologies.

ULTRIX SOFTWARE-DEFINED ROUTING PLATFORM
Ultrix 12G Router is the ultimate routing, multiviewer, and signal processing platform for studios, OB vans, and flypacks.
Ultricore is a fully featured connectivity control system that goes beyond traditional routing configuration and control. Ultricore makes it quick and easy to configure a system and gives staff an intuitive and powerful set of controls to make operations run smoothly.

FEATURE RICH
System discovery, database creation, and hardware and software panel configuration are all included with Ultricore and accessible from one UI.

EASY SYSTEMIZATION
To ensure interoperability and easy interfacing to other third-party control and automation devices within your facility, Ultricore supports industry standard protocols including Prorel SW-P-08, GVG Native, NV9000, Ember+, and TSL 3.1., and 5.0 for multiviewer tally.

INTEGRATED DESIGN
Ultricore’s integrated control system design provides router, multiviewer, and processing configuration and control all from one system.

INTEGRATED, POWERFUL CONTROL

Ultricore BCS

SIMPLE OPERATION
Use Ultricore to quickly route hundreds of video signals and thousands of audio channels anywhere by name. This creates a simple easy to use interface that allows operators to do their jobs quickly.

QUICK SETUP
Discover and create system views quickly with the Walkabout system tool, and generate logical databases efficiently with the system fill tool. Configuration changes are pushed to system clients with no downtime.

EXTENSIBLE CONTROL
Ultricore-BCS is a powerful external control system for both traditional and modern workflows. Software licenses can be added to provide powerful feature enhancements to enable users the same workflows in single frame, IP, or distributed topology environments.
ULTRISCAPE SOFTWARE-DEFINED MULTIVIEWER PLATFORM

Ultriscape is the ultimate multiviewer platform for Studios, OB Vans, and Flypacks. As the world’s first software-defined multiviewer, customers realize significant cost, space, and power efficiencies with unparalleled flexibility and agility.

Incorporating software-defined technology,

- **FLEXIBLE**: Each multiviewer head is completely independent, offering tremendous flexibility for layouts and control.
- **INTEGRATED DESIGN**: Ultriscape is an integrated multiviewer within the Ultrix platform. Therefore, it can be added to extensive routing, audio processing, and synchronization capabilities to create a completely integrated solution.
- **PAY AS YOU GO**: This software-defined architecture means you simply buy what you need, when you need it. No need to make critical design decisions upfront, simply add appropriate multiviewer outputs when they are required.

**WORLD’S FIRST SCALABLE, SOFTWARE ENABLED MULTIVIEWER**

- **CONNECTIVITY & MULTIVIEWERS**: Add multiviewer heads by purchasing software licenses. Up to 6 outputs in a 1RU, 12 outputs in a 2RU, and 27 outputs in a 5RU.
- **SOFTWARE-DEFINED**: Each multiviewer head supports up to 100 PIPs. Completely independent and individually controllable providing superior flexibility.
- **RICH MULTIVIEWER CAPABILITIES**: Each multiviewer head supports up to 100 PIPs. Completely independent and individually controllable providing superior flexibility.
- **INDUSTRY LEADING QUALITY**: Pristine image quality, and low latency make Ultriscape ideal for the most demanding applications and venues.
The NK Series routing family is a cost-effective, high-performance routing platform for studios, OB vans, and flypacks. NK Series is compact, robust, and simple to use.

With a variety of frame sizes and format choices, NK routers excel in providing high-quality routing in a cost-effective manner.

**CONTROL FRIENDLY**

NK Series are based on DashBoard control and can be configured to seamlessly fit within the Ross Ecosystem, as well as be a part of an Ultrix routing system.

**MODULAR**

Some NK Series frames have the ability to expand with additional I/O modules.

**BUDGET FRIENDLY**

Comprehensive range of sizes and formats to meet any budget.

**COST EFFECTIVE HIGH-PERFORMANCE ROUTING PLATFORM**

**CONNECTIVITY & MULTIVIEWERS**

From analog audio to 3G SDI, NK Series supports a wide range of signal types.

**COMPREHENSIVE FORMAT SUPPORT**

With matrix sizes from 16x4 up to 72x72, NK Series can scale appropriately for the workflow that is required.

**SIZE FLEXIBILITY**

Industry standard routing control means easy integration into automation systems as well as third-party router control systems.
TOUCHDRIVE
TOUCH-ENABLED SWITCHER PANEL SERIES

TouchDrive™ redefines the relationship between a Technical Director/Vision Mixer and their switcher by bringing the same touch technology you know and love from your smartphone to video production switchers—even gestures. Every display on the control panel is touch-enabled. All of them. This allows features to be dropped right under the fingertips of the operator.

Control with confidence
High-resolution, rich color touch displays provide clear visual cues to make source and device control faster. Whether you are configuring bus maps, assigning button functions, delegating key buses or selecting your next transition type, TouchDrive™ allows you to operate with absolute confidence.

Production powerhouse
The built-in DashBoard computer provides tight integration between TouchDrive and all of your other devices so you can control an entire production. Playout Xpression graphics, trigger Tria+ clips or switch Ultrix crosspoints through this incredibly powerful surface.

Secure investment
TouchDrive™ works with Carbonite Ultra, Carbonite Black and Graphite systems, making it a sound investment for today and tomorrow.

Feel the difference

TouchDrive™ is another step in the success story that is Carbonite. As production requirements have grown, Carbonite has evolved to keep pace. TouchDrive™, the latest step in this evolution, is a tribute to the feedback from thousands of Technical Directors and Vision Mixers around the world.

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The power of Ross Video’s flagship production switcher and the game-changing feature set of its flexible hybrid routing platform have been merged to create a complete, future-proof production solution that is truly greater than the sum of its parts.

**COMFORTABLY FAMILIAR**

As game-changing as Ultrix Acuity is, operators might not even notice because they’ll continue to work as they always have, using the same control surfaces they’ve become accustomed to.

**SIZE MATTERS**

Incredibly, the massive routing and audio processing capabilities of Ultrix along with the dazzling effects repertoire of Acuity are integrated seamlessly into a single 5RU chassis, making it ideal for applications where space is at a premium, such as OB vans and mobile units. Add 2RU of rack-mounted redundant power and the result is a complete system that can outperform packages requiring multiple racks and complex cabling.

**FUTURE CONFIDENT**

Ross developed the concept of the Software-Defined Production Engine – SDPE. The idea is to avoid costly “forklift” upgrades by providing base hardware that can grow with simple, cost-effective software licenses. Ultrix Acuity was designed and engineered using an SDPE platform so new functionality or enhanced features can be easily added.

**GREATER THAN THE SUM OF ITS PARTS**

Ultrix Acuity replaces racks of standalone equipment, such as a facility router, audio processors, mixers, embedders, de-embedders, and multiviewers with a single 5RU frame and 2RU power chassis.

**INTEGRATED PRODUCTION PLATFORM**

Acuity video switcher boards have been re-engineered to tightly integrate into the Ultrix router audio/video processing platform. This allows Acuity to access and feed Ultrix inputs and outputs and leverage Ultrix features such as Frame Syncs, MultiViewers, and audio processing. This offers the best of all worlds, within a frame that is much easier and simpler to install and maintain.

**MULTIPLE I/O OPTIONS**

The Software-Defined Production Engine at the heart of Ultrix Acuity allows easy upgrades and feature additions. Enable 12G operation, add user-configurable MultiViewers, Frame Syncs, 3D DVEs, or Ultrimix-MXR quickly and easily with available software licenses. Ultrix Acuity can even be merged into an enterprise-wide hybrid routing network using Ultricore-TLX.

**FIELD-UPGRADABLE**

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ACUITY LARGE PRODUCTION SWITCHER

Acuity is our top-of-the-line large production switcher - designed to handle the world's most challenging live events. This switcher easily adapts to evolving technology in the video production industry and is built with the biggest creative feature set – for the biggest productions.

FUTURE-READY WITH UHD & IP CAPABILITY
Built with the future in mind, Acuity addresses the latest video formats and transport methods, while enabling a gradual transition from your existing equipment.

POWERFUL PROCESSING
Acuity frames can be outfitted with specialized I/O cards for total input & output processing power, hybrid 3G quad & 12G single-link connectivity, or hybrid SDI/IP connectivity.

CREATIVE TOOLS FOR CREATIVE PEOPLE
Acuity makes it personal, allowing you to arrange things the way you want them. Independently map inputs to any button in any order on any ME. Set up individual source mnemonic names, font sizes and colors. Use the Acuity RGB buttons to design your own color scheme, background panel glow and on-air indicators to fit the way you work. Choose from a selection of system control display themes. Get Acuity in your zone and make things happen.

ACUITY

POWERFUL PRODUCTION ENGINES
Two production engines implemented in 4RU (6.5 ME) and 8RU (8 ME) frames, enable Acuity to eliminate I/O limitations and add new levels of internal processing power and signal management capability. SD, HD, 3G and 4K UHD production are all easy to achieve within these two processing engines.

MULTIFEED CONFIGURABLE OUTPUTS
MultiFeed equips each ME with 8 programmable outputs (6 program and 2 preview). Select any combination of keys on any of the 6 program outputs to create multiple uniquely-keyed outputs for multi-channel productions. No other switcher offers the flexibility to separately brand any ME output, and selectively preview keys and backgrounds.

FACILITY-GRADE MULTIVIEWERS
With flexible ME / MultiViewer resources, and input MultiViewers on optional MultiProcessing input cards, Acuity can be the single monitoring hub for your entire facility. Benefit from huge reductions in wiring, external routing, and signal distribution systems – for a cost-effective monitoring workflow.

CREATIVITY UNLEASHED

With Acuity, we not only provided support for new video standards, but also took everything we learned from past big switchers and made a system that was better, faster, and even more user-friendly than before.
The Ultrix Carbonite Production Platform combines the routing and processing capabilities of Ultrix with the sophisticated creative capabilities of Carbonite, the world’s most popular mid-size production switcher. This hyperconverged system creates a new standard in performance, flexibility and value, unmatched by any standalone system available today.

The Ultrix Carbonite platform is based on the concept of the Software-Defined Production Engine (SDPE). As production requirements change, the SDPE backbone enables users to add new features and functionality through simple cost-effective software licenses rather than through costly hardware upgrades.

**COMFORTABLY FAMILIAR**
Ultrix Carbonite is fully compatible with the TouchDrive family of control surfaces as well as Dashboard, Ross Video’s powerful command and configuration software application. Operators already familiar with Carbonite’s intuitive auto-delegation and menu system will feel right at home.

**MIX AND MATCH FEARLESSLY**
Ultrix Carbonite is the ideal solution for mid-size facilities confronted with mixed or changing signal formats or connectivity schemes. Any of the three available Ultrix I/O boards (SDI, IP or SFP) can be installed in available slots and mixed as needed, providing maximum flexibility and convenience both now and in the future.

**ROI & TCO**
This compact, single-chassis solution consumes less power, takes up less space, and requires less cooling compared to equivalent racks of equipment it can replace. This vastly simplifies system design and equipment installation. Combining the routing platform with the production switcher shrinks the number of inter-rack failure points and reduces maintenance requirements.

**HYPERCONVERGED PRODUCTION**

Ulrix Carbonite is a comprehensive signal processing toolbox housed in the Ultrix frame. Input Frame Synchronisers and Format Converters (FSFC) can be used to adjust incoming signal formats while Processing Amplifiers and Colour Correctors can be applied to any input.

Comprehensive multiviewer capability has always been part of Carbonite and this continues in Ultrix Carbonite. In addition to Ultrix MultiViewers, the Carbonite SDPE blade provides 2 Production MultiViewers in HD (1 in UHD) that can access the full range of Carbonite-derived signals.
The most successful production switcher ever just got better. Carbonite Black's processing engine offers an I/O count of 36 inputs and 22 outputs. The Carbonite Black Plus and Carbonite Black Plus 12G have 36 inputs and 25 outputs making Carbonite production horsepower available to larger scale productions.

**BACKED BY THOUSANDS OF CUSTOMERS**

Carbonite is the most popular mid-size switcher series in the market. This switcher is proven day after day in a wide variety of production environments. Enjoy a fine-tuned feature set and easy hiring & training of operations staff.

**UHD & IP CAPABILITY**

Carbonite Black addresses the latest video formats and transport methods, while enabling a gradual transition from your existing equipment.

**SIMPLECTY**

Ergonomic control with a dedicated button for every task you need to perform - no searching or stepping through menus.

**PRODUCTION POWERHOUSE**

Carbonite Black packs major effects and keying power in up to 3 MEs. Each ME has four powerful keyers with luma, linear, chroma and DVE key types - along with a 5th background keyer for animated MediaWipe & DVE transitions. There are 4 MiniMEs in the system that "float" and can be used anywhere in the signal path, great for assignment to multiple locations and simultaneous use.

Built with internal signal processing resources to easily manage differing equipment and formats. Carbonite Black cores equipped with 6 frame syncs / format converters.

Carbonite Black Plus models have frame syncs, format converters, color correctors, and proc amps on all inputs and 12 processing outputs.

Two configurable MultiViewers with up to 32 windows are included in the standard Carbonite Black engine. Five MultiViewers are included with Carbonite Black Plus and Carbonite Black Plus 12G with up to 80 windows. These clean, low-latency MultiViewers have access to all internal and external sources and selectable layouts.
Carbonite Ultra is a next-generation switcher built on a software-defined platform which offers new features via software updates and exciting functionality that goes well beyond a traditional production switcher.

PROVEN PLATFORM
Carbonite Ultra is built on the solid foundation of Carbonite - the production switcher series that powers amazing productions for thousands of Ross customers worldwide. Experience the value of a software-defined switcher platform backed by a team with over 45 years of production switcher development and one of the highest-rated customer support teams in the industry.

REDEFINED
Compact and powerful, Carbonite Ultra is a sleek 1RU chassis with 24 inputs and 14 outputs, that improves upon the most popular Carbonite features and adds new format-independent hardware to handle multi-format productions with ease.

VALUE
Carbonite Ultra makes it more affordable than ever to introduce big switcher features into your productions offering up to a stunning 3MEs @ 1080P 50/60 in only 1RU!

THE WORLDS MOST POPULAR SWITCHER - REDEFINED
12G / UHD READY
Add a 12G / UHD license to Carbonite Ultra to enable support for 12G / UHD production. With 18 inputs & 10 outputs in 12G mode, and 1 full ME & 2 MiniMEs during UHD operation – Carbonite Ultra represents unbelievable value for a 12G / UHD switcher.

INSANE HORSEPOWER
Carbonite Ultra offers an insane list of production features: Up to 3 MEs with 5 layers each, 4 MiniMEs, 4 Key / Fill MediaStores with audio, 8 DVEs, 2 UltraChrome Chroma keys, animated media transitions, I/O signal-processing, LiveEDL, powerful macro timelines, Multiscreen mode, up to 4 MultiViewers with 64 windows, and XPression LiveCG software.

FAMILIAR CONTROL
Offering a wide-range of control choices, any of the TouchDrive control panels can be paired with a Carbonite Ultra frame. High-resolution, rich color touch displays provide clear visual cues, boosting your confidence during operation.
CARBONITE BLACK SOLO
COMPACT PRODUCTION SWITCHER

Carbonite Black Solo is our most compact and affordable production switcher. All-metal construction and robust, Solo is serious hardware designed for serious productions.

ELIMINATE ADDITIONAL PURCHASES
If your productions are on the go, at different facilities and events, you want to make it easy to plug-in and get the show rolling. Carbonite Black Solo is built with internal video processing and MultiViewer resources, so no external gear is required.

ONE-BUTTON PLAYOUT
Carbonite Black Solo features fully customizable macros and a memory system with unique smart recall and effect recall functionality unlike feature-based custom controls and memories commonly found in compact switchers.

LIVE PRODUCTION HUB
Engage your audience with graphics, video clips, and animated media effects. Carbonite Black Solo comes equipped with everything you need for a media-rich production including four internal MediaStores, XPression LiveCG graphics software, and a USB media player, unlike anything you’ve ever seen in a production switcher.

NO ORDINARY COMPACT PRODUCTION SWITCHER
Carbonite Black Solo’s main ME has 4 powerful keyers with luma, linear, Chroma and DVE key types - as well as an additional 5th hidden keyer for animated Media Wipe and DVE transitions. The 2 built-in MiniMEs are great for additional dissolves key layers, unique outputs, on-set monitors and multi-screen processors.

POWERFUL PRODUCTION ENGINE
In addition to a refined control panel, Solo is part of the Ross Dashboard Control ecosystem. This network control software allows total control of all switcher functions and makes it easy to create a purpose-built UI for your specific production environment. For truly simple shows, take advantage of the included ViewControl touch screen interface.

SIMPLE CONTROL
Truly unique and innovative, Carbonite Black Solo provides a dedicated single-channel clip player for playback of compressed MPEG-4 AVC media directly from a connected USB media drive. Easily take your clips to air with a dedicated Dashboard interface, Custom Control or AMP command.
GRAPHITE ALL-IN-ONE PRODUCTION SYSTEM

Real Switcher. Real Graphics. Real Audio. Graphite is an all-inclusive system that combines big switcher performance with 3D graphics, instant access clip servers and pristine audio clarity.

FULLY-EQUIPPED SYSTEM

The value of a single all-in-one system with no need for supplemental equipment cannot be overstated. Every aspect of the Graphite system is purpose-built with the reliability of separate hardware system components.

FLEXIBLE WORKFLOW

Crew your show as you see fit. A single operator can run an entire show through all-encompassing control, or roles can be separated for multiple operators during high-intensity events.

INCREMENTAL GROWTH

Switcher resources and graphics power can be upgraded via software licenses – and additional equipment is available through a single vendor for effortless integration and guaranteed support.

PURE PRODUCTION POWER

With a full suite of production tools at your finger tips, Graphite is a reliable, hardware-based alternative to software-based all-in-one production systems. Graphite is the perfect companion for generating live content for streaming, broadcasting, or feeding big screens.
Graphite PPC is an all-in-one production solution that you can take anywhere. This highly portable system can be used for in-venue screens, streaming and broadcast. Best of all, PPC can be set up in minutes and requires a single operator to produce dazzling high-impact productions

**CREATE CONTENT ANYWHERE**

Graphite PPC packs an incredible array of creative production tools and comes in an easy to transport soft-shell carrying case, equipped with a pull-out handle and wheels.

**ULTRA-QUIET OPERATIONS**

Soundless fan cooling means Graphite PPC can be deployed just about anywhere, even in studios with live microphones.

**UNBEATABLE VALUE**

Graphite PPC puts high-end, true hardware-based production power within reach of just about any facility to maximize your investment.
Lucid Studio is a highly flexible and customizable control platform with an easy-to-use intuitive graphical user interface.

**CUSTOMIZABLE INTERFACE**
Highly flexible and customizable UI allows the users to modify the GUI based on the production stage. Saving and recalling layouts reduces reaction time, streamlines the production, and significantly increases the speed of operation.

**PRODUCTION CONTROL**
Lucid was designed to optimize live production operations and increase operator efficiency. Real-time reaction to changing production circumstances and needs was never easier or faster.

**EXTENSIVE INTEGRATION**
Lucid Studio supports most tracking system, tracking protocols, and camera mounts in the industry. Don’t make compromises, work with the right tracking solution for your production.

**THE CONTROL CENTER FOR VIRTUAL SOLUTIONS**

**OPTIMAL 3RD PARTY INTEGRATION**
Lucid Studio includes Streamdeck integration and can communicate with 3rd party devices via a Restful API and GPI commands.

**DIRECT CONTROL**
Lucid Studio allows the operator direct access to objects in the scene, and the ability to move, rotate, scale, save and animate them without going into the editor on the engine. In this way, last second changes can take place easily and effortlessly.

**COLOR CORRECTION**
Lucid Studio’s color correction panel provides color matching between AR and LED content creating seamless extensions beyond the LED volume.

Lucid provides seamless integration with tracking systems and real-time 3D rendering engines such as XPression and Voyager. It is a complete redesign of the legacy UX platforms with significant changes to the underlying code and the graphics interface. Lucid Studio offers unparalleled customizability, flexibility and accessibility to all types of operation and operators. Lucid Studio is used for virtual set camera calibration, scene manipulation, media replacement, event triggering, MOS newsroom integration, animation control, robotic camera movement control and much more.
Voyager enables the creation of even the most complex graphical elements quickly, easily, and accurately, producing unprecedented realism like never before.

SUPERIOR GRAPHICS CAPABILITIES

The Unreal gaming engine utilizes advanced graphics features like collision, particles, dynamic texture, real-time reflections, skeleton animation, cloth animation and real-time shadows.

FLEXIBLE WORKFLOW

With Lucid Studio and Lucid Track, any combination of tracking devices, protocols, camera mounts, and engines is achievable within the same environment.

REAL TIME REACTIVENESS

Voyager enables real-time control over scene elements, in PIE mode, without the need to package the project to go on-air.

HYPER-REALISTIC RENDERING

REAL-TIME DYNAMIC SHADERS

Unreal allows the use of shaders to create realistic looking effects. From dynamic shadows, live lights and light blooms, to reflections and refractions. These shaders and effects are applicable both in Augmented Reality and Virtual Studio environment.

XR VIRTUAL LED

Voyager XR enabled Virtual LED Studios combine LED backdrops, set extensions and foreground elements, creating an immersive virtual environment.

WORKFLOW AND CONTROL

Through the use of Lucid Studio it is possible to control the Unreal engine, control tracking devices and lens data, make last second changes in real-time, connect to external data sources, and integrate the Unreal platform with MOS based newsroom control systems.
Trackless virtual systems are all-in-one engines that require no external action on the part of the camera in order to create movement. They use a stationary physical camera, with all the camera movement being done within the graphics engine. This eliminates the need for physical tracking equipment.

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

**LOOKS REAL**
Combining virtual camera moves and the same high-quality virtual sets as tracked implementations creates excellent productions.

**SHORTENED LEARNING CURVE**
Leverages years of experience with virtual sets and augmented reality to bring quality virtual sets to even the most basic productions.

**SMALL STUDIO, BIG IMPACT.**
All camera moves are done virtually inside of the XPression scene, eliminating the need for a large studio space.

**ALL-IN-ONE VIRTUAL PRODUCTION**

**FULL 3D**
Real 3D virtual sets with full 3D motion capabilities.

**TRANSITIONS**
Transitions between camera positions or between multiple cameras to show movement or changes in the production.

**USE UP TO FOUR CAMERAS**
Multi-camera support (1, 2 or 4 depending on hardware configuration).
Master the black art of chroma keying with UltrachromeHR, a high-performance multi-channel chroma keying system built on the rock-solid Carbonite Black foundation.

**SIMPLE CONTROL**
Part of the DashBoard ecosystem, a network-connected software platform for full control of UltrachromeHR and your entire production solution.

**VERSATILE CHROMA KEY**
Choose the chroma key mode that gets the best results from your unique setup and fine-tune your key with built-in post key processing resources.

**SINGLE VENDOR VIRTUAL**
Beautiful chroma keys with photo-realistic graphics and tracked + trackless virtual set technology – Ross can realize all your virtual set needs.

**HIGH PERFORMANCE CHROMA KEYING**

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For the highest quality virtual productions, UltrachromeHR accepts an additional 0:4:4 video output from Ross ACID cameras. The standard 4:2:2 and 0:4:4 UltrachromeHR outputs are received and internally combined to create a 4:4:4 signal. This signal format is then used to develop beautiful high-resolution key edges.

**CHROMA KEYING ASSISTANCE**
UltrachromeHR’s quality-of-life features help you get the best key possible. Auto background analysis measures the video source to adjust the edge area and re-spill values of your chroma key. Additionally, each chroma key channel contains color correction and color temperature resources, to fine-tune your image.

**MINIME COMPOSITING**
Each of Ultrachrome HR’s 4 MiniMEs provides 3 keyers, which provide great flexibility when building your final output. You can composite your chroma key with the virtual environment, leaving two more layers that can be either between background & chroma key or in front of the subject.
CARBONITE MOSAIC
DYNAMIC VIDEO IMAGE PROCESSOR

Built on the Carbonite Black foundation, Carbonite Mosaic is a dynamic compositing tool that scales your live productions to massive displays. Take advantage of a fully-loaded video-image processing feature set at one of the best price points in the industry.

LEADING SOLUTION
Carbonite Mosaic and Xpression Tessera team up for high-quality upscaled video and beautiful pixel-accurate graphics on your display. Live has never looked this good.

HANDLE ANY SOURCE
A complete set of video processing resources guarantees a uniform look across your display. For ultra-high quality imagery, Carbonite Mosaic supports 10bit HDR formats.

SMART CONTROL
Like all Ross products, Carbonite Mosaic is part of the Dashboard Control Ecosystem. Dashboard makes it easy to control your display layouts or even your entire venue, from a single interface.

MULTI-SCREEN POWER

This powerful system's single frame latency ensures your video content keeps up with the live action, for a smooth viewing experience. Prepare to stun your audience with live productions across a canvas size of over 20 million pixels.

10 CANVAS OUTPUTS
Each independent tile output has up to 5 layers (with 1 background and 4 key layers) along with programmable recall and dynamic animated effects. By weaving the tile outputs into a canvas, you can put together a massive single screen or feed multiple large displays across your venue.

STILL & ANIMATED MEDIA
Any of Carbonite Mosaic’s 36 inputs can be loaded with a still image. This is great for simple branding or as a backup source for your screens. Alternatively, any of the 18 scaler engines that are not in use, can be converted to MediaStores for still or animated playback with key+fill.

VIDEO PROCESSING & HDR
Every one of the 36 inputs have dedicated proc amps, color corrections and format converters. On 12 of the 25 outputs, video proc amps, color correctors and format converters are available.

MULTI-SCREEN IMAGE PROCESSING

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MULTI-Screen IMAGE PROCESSING

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STILL & ANIMATED MEDIA
Any of Carbonite Mosaic’s 36 inputs can be loaded with a still image. This is great for simple branding or as a backup source for your screens. Alternatively, any of the 18 scaler engines that are not in use, can be converted to MediaStores for still or animated playback with key+fill.
MC1 is a cost-effective, modular Master Control Switcher and Branding solution. The MC1 system scales from stand-alone branding to multi-channel master control installations, adapting easily to manual or automated control.

**MIX, KEY, BRAND**
At its core, MC1 is a powerful AV mixer, offering 4 keyers, logo playout, transitions with full preview. You get the tools you need to build your on-air brand in SD, HD or UHD without compromise.

**FLEXIBLE CONTROL**
Manage multiple Master Controls with ease from an intuitive Dashboard touchscreen or tactile hardware control panel. Run in manual or automated or semi-automated, supporting most popular automation systems.

**ROBUST**
It features hardware bypass to keep your channel on air in any situation. MC1 can also be used as great backup to Channel-in-a-box and IP playout systems.

**COST-EFFECTIVE MASTER CONTROL**

**SIGNAL PROCESSING**
MC1 features flexible audio shuffling, ensuring all your audio channels are in order, with adjustable gain and downmix. Each source can be independently configured with multiple presets to handle changing feeds with ease.

**AUDIO CONTROL**
MC1 features a flexible audio mixer, allowing simultaneous mixing of up to 16 audio channels, complete with programmable transition types and rates. At the push of a button, a program audio can be ducked (to a user-selected level) and VO inserted, with fully programmable audio gain level.

**AUDIO MIXING**
An integrated multi-channel audio mixer allows simultaneous mixing of up to 16 audio channels, complete with programmable transition types and rates. As the push of a button, a program audio can be ducked (to a user-selected level) and VO inserted, with fully programmable audio gain level.

**SQUEEZEBACK**
Perform smooth on-air Squeezeback transitions to reveal another video source or graphic with ease. Squeezebacks can be integrated into standard transitions, either with or without keys. Squeezeback size, position and aspect can be stored as presets for clean, repeatable squeezes every time!
openGear® is the industry standard platform of choice for modular signal processing. As the world’s first modular infrastructure platform open to other manufacturers, openGear provides solutions derived from hundreds of individual cards from dozens of companies. This cooperative effort gives users the freedom to choose the best in breed products and budget options all while ensuring common control and monitoring within the DashBoard ecosystem.

We decided that we should create an industry standard for terminal equipment. This fit perfectly with our code of ethics “#1: We will always act in our customers’ best interest”

CONTROL
DashBoard provides one unified control system across openGear products from all manufacturers. This allows for easy setup, monitoring, alarms and management. With the included CustomPanel Panel Builder, it is easy to create custom workflows across multiple products to suit your exact needs.

OPEN
The Emmy®-award winning openGear platform, designed by Ross has been adopted by dozens of manufacturers offering hundreds of signal processing solutions. This provides you with the freedom to choose best in breed solutions to meet your needs and budget.

RELIABLE
The oGx platform has been designed to meet the demands of today’s complex IP and hybrid infrastructures. With lots of power and cooling, and careful consideration to shielding, the most complex processing can be achieved, supporting evolving IP and UHD applications.

THE INDUSTRY STANDARD OF CHOICE

SDI, IP OR HYBRID
The oGx platform has been designed to meet the demands of today’s complex IP and hybrid infrastructures. With lots of power and cooling, and careful consideration to shielding, the most complex processing can be achieved, supporting evolving IP and UHD applications.

DATASAFE
DataSafe dramatically reduces downtime when failed modules are swapped out. All module parameters are stored on the local frame network card and automatically restored when a hot-swap is performed.

SNMP
SNMP is loaded direct to the frame eliminating the need for any external gateways and runs on a separate software port allowing for simultaneous control from both DashBoard and SNMP clients.
Ross openGear is a wide range of modular infrastructure products designed to manage analog, SD, HD, UHD and IP signal types and ranging from signal conversion and processing to signal distribution and keying with solutions for all your audio, video, and metadata needs.

**SOLUTIONS**

Ross openGear offers a variety of solutions for Distribution, Conversion, Keying & Branding, Processing & Monitoring, Fiber, IP Solutions, Timing & Sync, Audio Embedding and Data processing.

**CONTROL**

DashBoard provides unified control across all of our openGear products. This allows for easy configuration and full feature control with monitoring, alarms and management. The included PanelBuilder software makes it easy to create custom workflows across multiple products to suit your exact needs. DashBoard can also be paired with our 2RU rackmount Ultritouch, for the ultimate convenience.

**SERVICEABILITY**

openGear modular infrastructure is built for 24/7 operation. Front-loading modules with passive backplanes (no active components) and DataSafe backup ensure ease of maintenance and maximum reliability.

**THE INDUSTRY STANDARD OF CHOICE**

openGear modular products offer the flexibility of independent rear modules for connectivity to a wide array of interfaces such as BNC, twisted-pair audio, and fiber, supporting analog to UHD and IP. The independent rear modules are available in different I/O configurations for select cards, including high density split rear modules allowing up to 20 independent openGear® cards in the oGx frame.

**SMART MODULAR DESIGN**

Raptor lifts openGear® to new heights by adapting software-defined modular processing to native IP or hybrid IP/SDI infrastructures. Raptor is fluent in many open control protocols such as NMOS, EmBER+, and DashBoard, giving you the freedom to integrate in the IP environment of your choice.

**MODULAR IP PROCESSING**

Gator is the ultimate in adaptation, bringing software-defined UHD media processing functions to baseband infrastructure. Gator is a platform for a new series of UHD capable signal processing products, the first of which are a multichannel frame synchronizer, and a new branding and keying product.
GEARLITE, NEWT AND IGGY
POINT OF USE MODULES

A range of modules designed for point of use conversion and processing of audio and video signals, GearLite, NEWT and IGGY are system problem solvers.

SOLUTION FOR EVERY FORMAT
Solve system connectivity challenges using a wide range of solutions with support for video and audio standards such as AES/EBU, AES67, MADI, HDMI, 12G-SDI, Fiber SDI, ST 2110 IP Video and more.

FITS RIGHT IN
Easy to install with a range of mounting options including wall, rack mount and VESA. Locking signal and power connections let you deploy these modules anywhere with confidence.

HIGH QUALITY
Get quality signal processing with Ross Point of Use Modules developed to the same exacting standards as our openGear modular platform.

SMALL AND POWERFUL

IGGY
Our live audio-over-IP to MADI and AES/EBU converters, offer the most broadly interoperable, flexible and robust AES67 & ST 2110 implementation on the market today.

NEWT
 SMPTE ST 2110 to SDI and HDMI conversion with UHD support. Flexible audio and video mapping along with NMOS and Ember+ control integration.

DETOUR
12G Distribution Amplifier with bypass relay. Great for 12G UHD systems and redundancy applications.
Dependable timing is the heartbeat of a facility. The SRG Series provide an accurate dependable and flexible drumbeat for the rest of the facility to follow with confidence. With flexible timing and signal generation, these master sync generators address the requirements from simple fly packs to large multi-format institutions.

**CHOICE**
Ross offers Master Reference generators for any application. From a small openGear card, ideal for fly-packs and remote locations, up to fully-redundant, PTP capable SRG-Series platforms for large multi-format facilities.

**FLEXIBLE**
The SRG-series Master Sync Generators support a wide range of output signals and formats from composite to UHD. These reference generators can even provide multiple video standards simultaneously. Integrated video pattern generators with idents and motion are great for remote feeds.

**RELIABLE**
Built to last and redundancy in mind, Ross Sync Generators will keep the heartbeat of your facility alive. All units feature redundant power and easy servicing. Automatic changeover units are available to ensure you never skip a beat.

**SYNC PULSE GENERATORS**

**SYNC PULSE GENERATORS**

Synchronize virtually anything in your facility from a wide range of video and audio outputs ensuring the distribution of reference signals from a single source.

**MISSION CRITICAL**
Set up as a master sync system in freerun, locked to GPS, PTP and NTP, or even lock to another Master Generator as a system slave. Ross timing solutions can meet the needs of any system.

**MULTIPLE MODES OF OPERATION**

**SYSTEM WIDE TIMING**

Pair a redundant system with an Automatic Changeover Switch (ACO) to provide superior performance and reliability in the most critical of environments.
The MB-series are compact, integrated audio monitoring solutions for your studio gallery, engineering rack or mobile installation.

**CHOICE**
Offering a choice of 1RU and 2RU monitoring bridges, the MB-series fit your rack or console with ease. Choose the model with embedded SDI or discrete audio inputs to match your installation.

**VERSATILE**
The MB-series feature surround mix-down, channel summing, easy channel selection and loudness measurement - all the tools you need to ensure your audio is in check.

**CONTROL**
Front panels include large, bright displays and intuitive tactile controls to easily tailor your audio monitoring experience. Quickly choose what you want to listen to, the way you like it. Full DashBoard control and GPI interfaces round out a complete control solution.

**AUDIO MONITORING**

**MB-651 AND MB-652 AUDIO MONITORING BRIDGES**
In control room or in engineering, you need to hear your production. Ross Audio Monitors offer great value and provide you with the essential audio monitoring tools.

**EASE OF USE**
Simple, easy to read front panel allows you to quickly choose the audio channels you need to monitor and outputs them in the desired format.

**SELF CONTAINED**
Integrated speakers with a built in amplifier, as well as a front panel mounted headphone jack means no external equipment required to monitor signals.

**RELIABILITY**
Redundant power supplies, as well as control, monitoring, and upgrades enabled via DashBoard means robust, reliable hardware that integrates seamlessly into your facility.
AES67 / ST 2110 and baseband connectivity are moving targets; this technology is difficult, expensive and risky to develop, and worse, these functions do not differentiate your products. Ross OEM Developer Solutions are mission-proven and offer freedom to choose the deployment option that best suits your needs.

OPEN CONTROL
Don’t get handcuffed to a generic controller. Own your customer’s experience and satisfy their needs better than anyone. Ross offers a variety of open control solutions, including DashBoard, to make it easy to create custom workflows and satisfy your target user.

PROVEN ROBUST PLATFORMS
Ross OEM offers a variety of mission-critical solutions with built-in redundancy and guaranteed interoperability designed to support the most demanding workflows.

FASTER TIME TO MARKET
Market ready platforms and proven technology allow you to leverage on years of research and development, getting you to market fast with your own flexible and unique solution.

GUARANTEED INTEROPERABLE

Ross OEM Developer Solutions offer a broad spectrum of market-ready platforms with proven AES67 / ST 2110 and baseband connectivity. Our openGear frames, modules, chips and software enable you to quickly tap into an award-winning ecosystem that enjoys broad adoption across our industry.

OPENGEAR PARTNER ECOSYSTEM
Leverage the power of a broad ecosystem of over 100 partners and the widely deployed openGear frame with DashBoard open control for fast and efficient time to market.

IP AND UHD SOLUTIONS
Take advantage of the latest modular and point of use market ready solutions for AES67 / ST 2110 and UHD applications with OEM versions of NEWT, IGGY and RAPTOR.

BACH AOIP TECHNOLOGY
Quickly give your products the freedom and power to perform across markets with Ross embedded live audio networking AES67 / ST 2110 modules, chips and software solutions.
openTruck™ delivers huge opportunities in the regional sports and live-event market by enabling production companies to build and staff trucks that meet the demanding requirements of today’s sophisticated media delivery networks.

EXPAND COVERAGE
Coverage of local and regional sporting and other live events, including things like political rallies, music concerts and festivals, has traditionally been resource-intensive. openTruck delivers huge opportunities for these applications by enabling production companies to cost-effectively build and staff mobile production implementations that meet the demanding requirements of today’s sophisticated media delivery networks.

A GROUNDBREAKING MOBILE MODEL.
openTruck’s proven blueprints include open protocols, specifications and schematics. Some design models specify a number of Ross products, which must be used for an implementation to qualify as openTruck. Other products are optional and can be selected from leading technology suppliers many of which are participants in the openTruck initiative.

MAXIMIZE PHYSICAL SPACE, MINIMIZE RISK, DELIVER GREAT CONTENT.
Rather than using overly expensive technologies that lack smooth integration, this new construct emphasizes equipment and workflows that complement each other for better efficiencies at lower costs.

BEST-IN-CLASS SYSTEMS, SEAMLESS INTEGRATION
openTruck™ delivers a standardized yet customizable way to design a new generation of cost-effective remote production vehicles that deliver the highest quality video and audio content from sports and other live events.

ECOSYSTEM PARTNERSHIPS
openTruck is versatile and can be deployed in everything from a flight pack to a truck body of your choosing that provides sufficient operator space and payload.

QUALITY AND AFFORDABILITY UNITED
With openTruck™, broadcasters and other producers get reliable and ready access to less-expensive production models while maintaining the high-quality production values, sophisticated graphics packages and consistency of final product that ensure a healthy return on investment.
Today’s graphic systems are more powerful and complex than ever, and having unused functionality destroys competitive advantage - Rocket Surgery can help you get it back. With Ross as our parent company, we have exclusive insight, input, and influence into its advanced systems.

ROCKET SURGERY VIRTUAL PRODUCTIONS (RSVP)
As the industry leader in live event augmented reality, RSVP works with both Ross XPression and Voyager systems and can bring virtual augmented reality to life in your productions. From concept and creation, to on-air implementation and operation, we have the team to make it happen.

CUSTOM DASHBOARD
Graphics are only part of the story; playback control is what makes it all sing, and Rocket Surgery creates scalable DashBoard control systems specific to your needs. As with XPression, the Rocket has access to Ross resources, ensuring the highest-quality control system through proven API development.

UNRIVALED EXPERTISE
Rocket Surgery owns the heavy design jobs and projects others cannot fulfill, and with fast turns that cannot be beat.

UNMATCHED EXPERIENCE

SPORTS IN-VENUE INTEGRATION & GRAPHIC DESIGN
New stadiums are going up and displays are getting bigger and more complex everywhere. Show producers are demanding more and more with every game and performance, and Rocket Surgery has become the go-to place to bring your vision to life using Ross XPression.

BROADCAST DESIGN & INTEGRATION
Using the unmatched real-time 3D power of the Ross XPression render engine, Rocket Surgery optimizes the performance power of the hardware and translates it to some of the most impactful display graphics in use in the world today.

VIRTUAL SET DESIGN & AUGMENTED REALITY
Be it Virtual Set design or Augmented Reality, Rocket Surgery can bring your vision to life in new and exciting ways using either XPression or the power of the Unreal Engine on Voyager.
Ross Production Services (RPS) delivers consistent, high-quality video and audio content from sports and other live events, ensuring a predictable production experience and outstanding results—all the time, every time.

RPS trucks are designed around powerful best-in-class broadcast systems using the Ross OpenTruck design model. Highly-interoperable, these systems combine leading technology from Ross and other vendors designed to fit and work together seamlessly.

**HIGH QUALITY REMOTE & STUDIO BROADCASTS**
- Full HD video transmission over satellite and fiber connectivity.
- HD quality streaming to all popular devices.
- Access to sophisticated graphics packages and other customization services.

**MOBILE FLEXIBILITY**
- Modular architecture combined with custom-configurable workflows, making for efficient productions which can scale to suit any event.

**PROVEN**
- Leverage the most experienced team in mobile production. Customers include ESPN, NBC, Fox, Red Bull, and many others. Ross Production Services delivers results for demanding customers while meeting the reality of today's budgets.

**THE NEXT GENERATION MOBILE PRODUCTION**

**TRUCK, TRAILER OR FLIGHTPACK**
- As the pioneer of mobile productions, RPS provides the ultimate in versatility and agility, allowing rapid deployment between events and locations, 24 hours a day 7 days a week.

**STUDIO PRODUCTION**
- In 2015, RPS began operation of Blackdoor Studios, a complete production facility utilizing the equipment and workflow found in our mobile units, complemented by two green screen rooms paired with Ross ACIDCam.

**CUSTOM ENGINEERING & CONSULTING**
- RPS has a unique partnership with Ross, that lets us scale up or down for each individual production. Not sure which equipment you need? RPS offers dedicated EIC's that can recommend the perfect solution.
SUPPORT & SERVICES

TECHNICAL SUPPORT
No charge for the life of your Ross product. Ross will always take your call, answer your email and point you in the right direction. Ross pride 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.

ROSSCARE+ WARRANTY
Ross products are covered with a full one year transferable 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 quick 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 its 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.

SERVICES
Get the advantage of Ross technical experts to assist you in shaking down your Ross equipment, configuring it and helping you get it up and running. The team has been there/ done that and will save your staff valuable time in bringing your new system online.

Ross technical staff are available to travel to your site to lead your technical staff through the key aspects of configuring, maintaining and troubleshooting your Ross equipment. Technical courses can be tailored to meet the specific needs of your organization.

ROSSCARE+ SOFTWARE MAINTENANCE
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ONSITE COMMISSIONING
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ONSITE OPERATIONAL TRAINING
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ONSITE TECHNICAL TRAINING
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