

ABEX Post-IBC 2023

ROSS



From Idea



ROSS

let's
make
it real.



to audience



What's our focus today

Ultrix

Signal Processing

Production Switchers

Camera Motion Systems

Video Servers

Transcode & Playout

LED Solutions

Graphics & Virtual

Newsroom

Media Asset Management

Automated Production Control



Hyperconverged

Ultrix Platform



Ultrix *FR12*

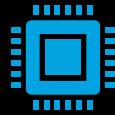


Ports



- Up to 288x288
- 6144x6144 Audio Fabric with Up to 2048x2048 Discrete audio I/O
- Up to 48 Multiviewers, each with 100 PIPs

Proc



- 288 (12G) Audio Embedder/Deembedders
- 288 (12G) Clean/Quiet Switches
- 288 (3G) 256 (12G) Framesyncs
- 128x64 Virtual Audio Mixer

Size



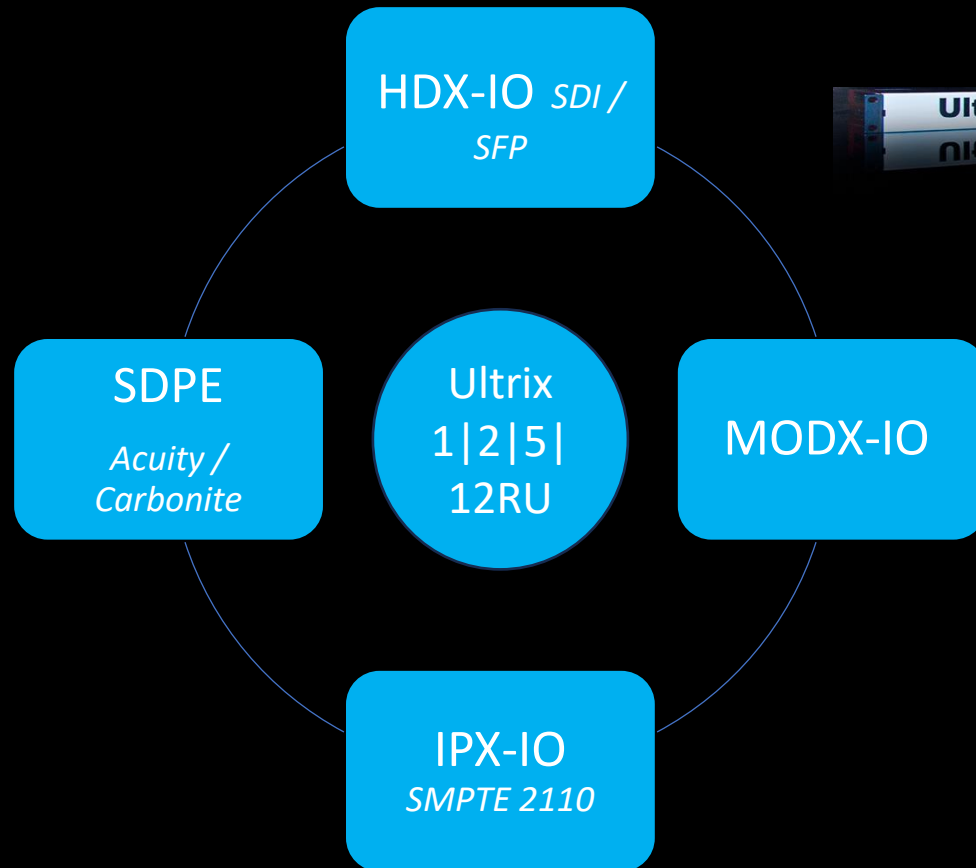
- 12RU chassis
- 2RU External Controller
- 2RU redundant power

System



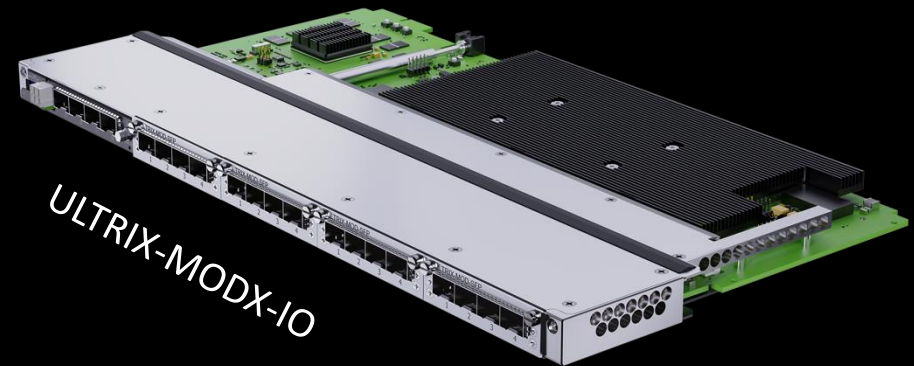
- Up to (1) 8ME Ultrix Acuity Switcher
- Up to (8) Ultrix Carbonite Switchers

Hardware



Ultrix-IPX-IO | Ultrix-MODX-IO

- Latest I/O boards for Ultrix family (HDX-IO released summer 2022)
- Enhanced replacement for ULTRIX-IP-IO & ULTRIX-SFP-IO
- Better signal integrity and performance
- Increased memory for cool future features
- Completion of all base Ultrix boards to the “x” series



Efficiency

Less Wiring	<ul style="list-style-type: none">• Integrated MV• Integrated SW
Quicker Installation	<ul style="list-style-type: none">• Less equipment• Less cabling
Simpler Designs	<ul style="list-style-type: none">• Built in problem solvers• Less Distribution
Pay as you Go	<ul style="list-style-type: none">• Software Defined• Flexible & Adaptable
Latest Technology	<ul style="list-style-type: none">• 12G• SMPTE 2110
Single Manufacture	<ul style="list-style-type: none">• One Phone Call• Seamless Integration
Environment	<ul style="list-style-type: none">• Less power• Less Heat• Less Rack space



Sizing Example

160 x 256 Router

Production Switcher

- 3 ME
- 60 x 40

6x 16 Pip MultiViewers

- 6x 16 PIP MV Heads
- 96 x 6

ST-2110 Gateway

- 16 x 16

Frame sync

- 6x Routable
- 6 x 6

Audio Embedder

- 6x Routable
- 6 x 6

Audio DeEmbedder

- 6x Routable
- 6x Outputs

Fiber Transmitters

- 4x Transmitters
- 4x outputs

Fiber Receivers

- 4x Receivers
- 4x Inputs



90 x 90 Ultrix FR5

Production Switcher

- 3 ME
- 90 x 90

MultiViewers

- Up to 14x MV Heads
- Up to 100 PIP's per Head
- 14x Outputs

ST-2110 Gateway

- 16x16

Frame syncs

- Up to 90 via Software

Audio Embedder

- 90x Outputs All 16 Channels

Audio DeEmbedder

- 90x Inputs All 16 Channels

Fiber Transceivers

- 4x SFP's Using Aux Ports

MADI

- 64x64 Audio Channels Per Aux port



Sizing Example

80 x 160 Router

Production Switcher

- 2 ME Carbonite
- 24 x 14

4x 16 Pip MultiViewers

- 4x 16 PIP MV Heads
- 64 x 4

ST-2110 Gateway

- 16 x 16

Frame sync

- 6x Routable
- 6 x 6

Audio Embedder

- 6x Routable
- 6 x 6

Audio DeEmbedder

- 6x Routable
- 6x Outputs

Fiber Transmitters

- 4x Transmitters
- 4x outputs

Fiber Receivers

- 4x Receivers
- 4x Inputs



54 x 54 Utrix FR2

Production Switcher

- 2 ME Carbonite
- 22 x 22

MultiViewers

- Up to 8x MV Heads
- Up to 100 PIP's per Head
- 8x Outputs

ST-2110 Gateway

- 16x16

Frame syncs

- Up to 54 via Software

Audio Embedder

- 54x Outputs All 16 Channels

Audio DeEmbedder

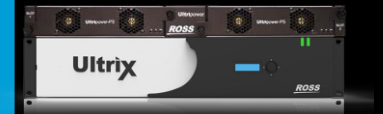
- 54x Inputs All 16 Channels

Fiber Transceivers

- 4x SFP's Using Aux Ports

MADI

- 64x64 Audio Channels Per Aux port



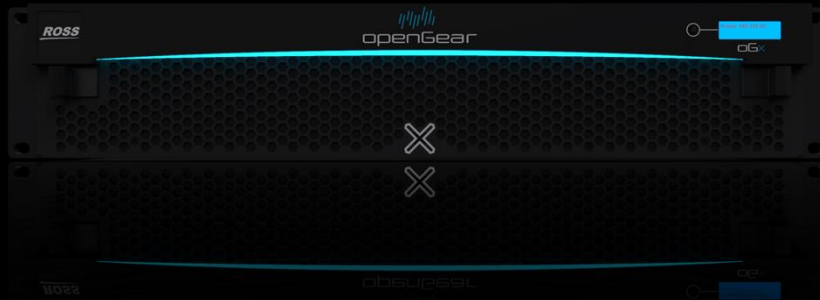
Signal Processing



Ross openGear: Leading the Way in Modular Signal Processing

- Innovation Since 2006: Regularly updated catalog of Ross openGear products with the latest advancements like HDR and 12G SDI.
- Comprehensive Solutions: Vast product selection for end-to-end solutions.
- Unified Control: Seamless integration with DashBoard for streamlined operations.
- Unmatched Value: Professional-grade cards, broadcast quality processing and specs, backed by a 5-year warranty.
- Expansive Ecosystem: Collaborating with nearly 150 partners for unmatched flexibility and smooth workflows.





New 2023

- SHC-8932-F
 - UHD SDI fiber or copper to HDMI
- TES-8943
 - 12G SCTE 104 / VANC data processor
- SFC-6901
 - RX/TX / Bi-directional UHD Fiber up to 4 channels
- SRA-8901-R
 - 12G bypass protection relay w/ distribution



Portfolio



Distribution

SD / HD / UHD SDI – Analog – Audio



Conversion

UDX – FRC – ADC - DAC



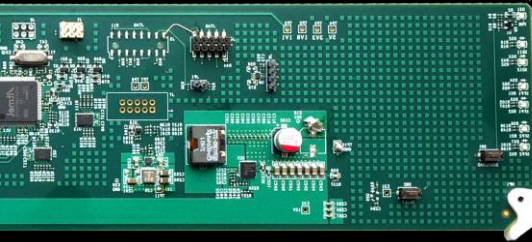
Audio Mux / Demux

Analog – AES – SD / 3G / 12G



Framesync

SD/HD/12G-SDI – Fiber



HDMI

SDI/Fiber to HDMI

Master Control, Keying & Branding

Keying - Clean/Quiet Switch



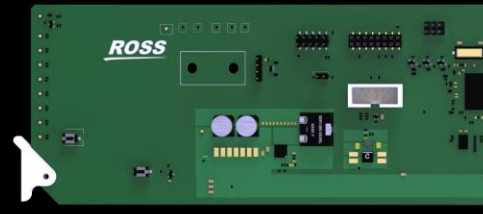
Data Solutions

VANC Insert/Extract



Fiber

SDI – HDMI - CWDM



Audio Processing

Loudness – Upmix – Dolby® Encode/Decode



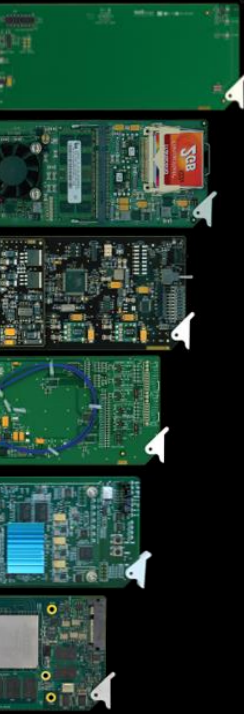
Audience Measurement

Nielsen Watermarking



openGear

ROSS



- Distribution
- Format & Framerate Conversion
- SDR / HDR Processing
- Audio
- Frame Sync
- Fiber
- Bypass protection
- VANC Data Processing
- Master Control & Branding
- SD / HD / 12G-SDI
- Emmy® Award Winning



Products

- Streaming Media Gateway
- Broadcast audio Processor (BAP)
- NWE-IP
- Radio and Streaming Audio Processor (RSAP)

Platform

- CPU / GPU Processing
- Microservices Architecture
- COTS Hardware
- OnPrem / VPC / Cloud



Point of Use
Audio Monitoring
Master Sync Generators



iggy

Point of Use IP

- Iggy = AES-67
 - MADI / AES / Analog <> AES
- Newt = SMPTE 2110
 - ST.2110 <> SDI / ST.2110 > HDMI

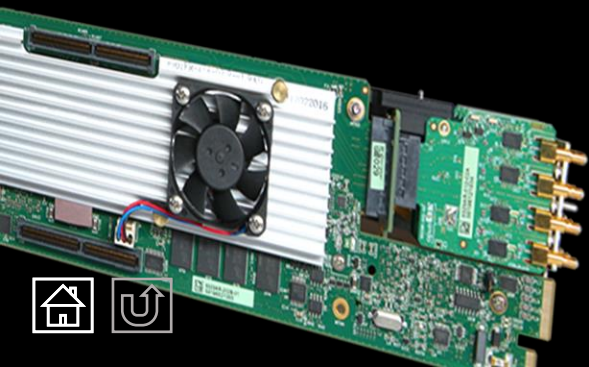


MC1-UHD Master Control & Branding



Key Features

- Modular SDI Master Control solution
- Manual or automated workflow
- End to End UHD!
- 2 External Keyers + 2 Internal Keyers
- 1 DVE for Squeezebacks
- Audio processing and shuffle
- EAS Crawl Insertion
- AES inputs for VO & EAS Tone





Software Updates

- Teams & Zoom Integration
- Video Scaling
- Audio sample rate conversion
- Video frame rate conversion
- Output Key / Fill from NDI
- NDI Cloud discovery
- IP Proxy

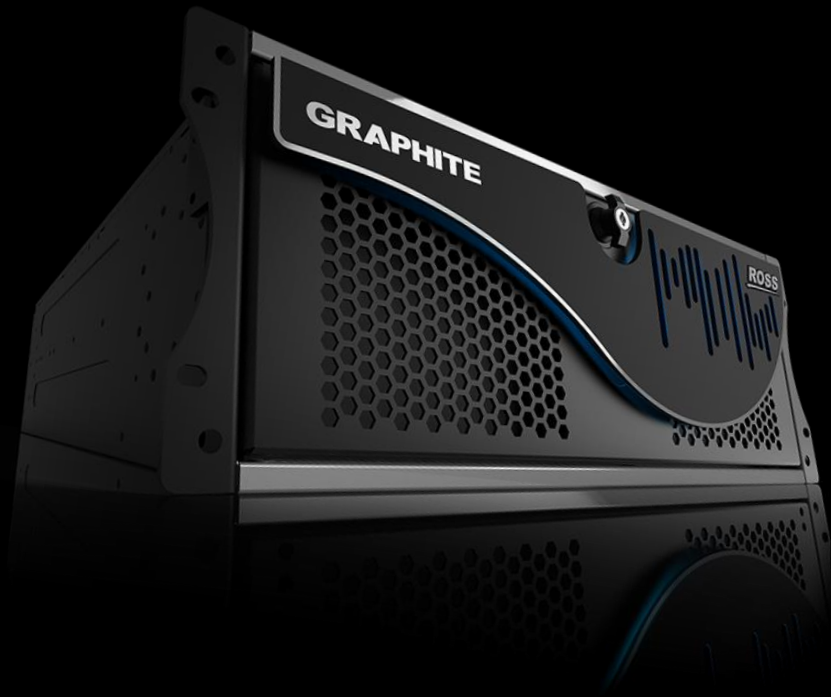
Production Switchers



GRAPHITE

Version 6.2 Software Updates

- Live Assist Sequencers has been Added.
- Mnemonics Line Break
- Device Labels for UI / Menus and Custom Controls
- Custom Views increased from 4 to 10
- RossTalk IN Disable
- Panel Row ME/MiniME assignment in Custom Controls
- Bus Copy – added to Copy Menu and Custom Controls
- DashBoard Menus - Sources Follow Mnemonic Colours



GRAPHITE

Key Features

- Up to 13 inputs & 8 Outputs
- 4x 2D DVE's | 2x Chroma Keyers
- FSFC on first 6 inputs
- 4x Media stores
- Up to 2 ME | 4 MiniME's
- 2 MultiViewer
- Dashboard Controlled
 - Optional External Audio Breakout Unit | Up to 3
- Up to 2 CG Channels (Full XPression Software)
- 2 integrated Clips Channels with alpha
- Rackmount or Portable units available





- **All Graphite CPC versions as standard come with:**
 - 3x 6-Key ME's
 - 1x 16-Window Multiviewer
 - 1x Channel of XPression Graphics
 - 1x Channel of XPression Clips
 - RAVE Audio Mixer
- **CPC 8 | 8 Inputs, 2 Outputs**
 - 8 Stereo Channel Audio Mixer, 2x Audio Aux Mixes
- **CPC 12 | 12 Inputs, 2 Outputs,**
 - 12 Stereo Channel Audio Mixer, 4x Audio Aux Mixes
- **CPC 18 | 18 Inputs, 4 Outputs,**
 - 18 Stereo Channel Audio Mixer, 6x Audio Aux Mixes

Key Features

- Software Virtualized Carbonite Production Switcher
 - 8 / 12 / 18 Inputs
 - 2 Outputs = 1xMV + 1x PGM (8/12) | 4 Outputs = 1xMv + 1xPGM (18)
 - 3ME's / 6 Keyers
- Software Virtualized Rave Audio Mixer
- XPression Graphics and Clips
- Part of Full production tools in AWS
- Carbonite Control
 - Softpanel / Viewcontrol / Touchdrive panels
- Dynamic Input router



Ultrix CARBONITE

- 3 ME Mode (no MiniME's)
- SDPE Flipping between Acuity ME's & Ultrix Carbonite

CARBONITE Ultra

- Output Rotators (up to 3)
- Audio Ducking & Talkback
- Noise gate



Software Version 7.0 & 7.1

- Sequencer
- Ultra Scene (HD)
- TSL Names Ripple through DB Menus
- TSL 5.0!
- Media Store Cache Manager
- Timer Clocks in MV, Up to 5 Timers!
- Bus Source Substitution
- RPM "Working Set" push / pull
- Role Based Access
- MV Fixed Labels
- Multiple Shift Buttons
- Menu Group access for Multi Panel Configs
- Output labels
- Custom Control bank naming

CARBONITE Ultra60

Building on the Industry
Leading and Award-Winning
Carbonite Ultra. Mid-Size
power with up to 60 Inputs.



CARBONITE Ultra 60 | Quick Specs

- 3 MEs with 6 Keyers + Trans Key
- 4 miniMEs with 2 Keyers
- UltraScene with up to 8 Layers (HD Only)
- Up To 60 Inputs
- Up To 25 Outputs
- Up To 6 MultiViewers
- Up To 48 Channels / 14 Mix RAVE Audio with MADI SFP I/O
- 12 Channels of DVE (6 UHD)
- 6 Video + Alpha Media Stores, combined 12 GB of MediaCache (4 UHD)
- Up To 60 Frame Sync Format Converters with Audio SRC (30 UHD)
- Internal 1TB SSD Storage



Carbonite Hyperconverged with **Ultrix**

Ultrix CARBONITE



Carbonite SDPE Blade



HDX-IO

Up to 2 Carbonite SDPE blades will fit in a FR2.



HDX-IO

IPX-IO

MODX-IO

SDPE
Blades

12G IP

Up to 4 Carbonite SDPE blades will fit in a FR5.



GRAPHITE

A · C · U · I · T · Y

CARBONITE Ultra

TD | TOUCH DRIVE



TouchDrive™ redefines the relationship between a Technical Director/Vision Mixer and their switcher with touch technology...



Camera Motion Systems



CamBot

PT Heads

520PT | 600 PT | 700PT

520 = 70lb | 600 = 125lb | 700 = 200lb

DashBoard Control Included

Elevation systems

BlackBird 600 PTL w/ 2-stage lift

XY Pedestals

600XY-S2 | 600XY-S3 | 700XY

Tracking Data

Local Control Options

Analog & Digital Lens support

SmartShell Control Software



FURIO

PT Heads

X300 | X350 | VR 600

X300/350 = 15lb | VR600 = 125lb

Dashboard Control

Elevation systems

BlackBird - VR600 PTL

Floor Dolly | Sky Dolly

X350-DLY | VR600-DLY

2 or 3 Stage lift [2 stage only on
SkyDolly]

Tracking Data on All Furio lines except
X300

SmartShell Control Software

Copyright Ross Video © 2023 | Confidential



Camera Motion Systems - General

Furio+ with StableTrac Technology

- Unique technology that provides superior stability and traction, even in the presence of uneven track surfaces



Vision[Ai]ry Ft V1.3

- Support for multi-camera workflows and improved performance and robustness



SmartShell 6.0

- Flexible camera management with Camera Groups
- Enhanced user feedback from new notification window and limit bars
- Increased flexibility and robustness in MotionDirector





spidercam

These cutting-edge camera systems are used to create unique shots for sports events, concerts, esports, and TV shows around the globe.





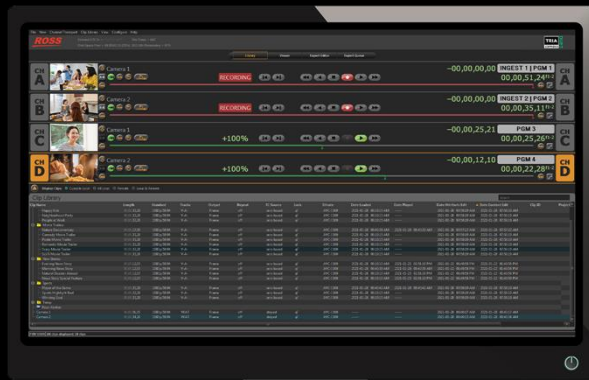
spidercam X Dolly

Compact, lower speed system specifically designed for indoor applications



Video Servers

Production



TRIA

Presentation



KIVA

Replay



MIRA

Replay Systems



- Multi-Camera Record / Clipping / Tagging / Highlights Play Lists / Export
- (4R+2P) 1.5G 720p/1080i Channels (*Mira Express*) / (8)|(12) Bi-Directional 3G 1080p Channels (*Mira+*)
 - DVCPRO-HD Native Codec (*Mira Express*) / AVC-Intra Class 100 Native Codec • WCG & HDR (*Mira+*)
- Feature Rich!
 - Flexible Video Channel Configurations
 - Built-In Media File Import with huge range of Codecs support
 - VANC preserved on Recordings & File Import (*Mira+*)
 - Playlists & Timecode Chase
 - 24/7/365 continuous Pipeline Time Delay & Time-Slip
 - Fill+Key & Multi-Camera ISO with 'single media file' workflow
 - Dual-User Operations: Simply add 2nd Mira Control Surface (*Mira+*)
- Growing File Export of active recordings to external NAS via 10G Ethernet (*Mira+*)
- Multi-Server clip playback Via 1G Ethernet (*Mira Express*) • Via 10G Ethernet (*Mira+*)
- Desktop Multi-Viewer | Quad Viewer HD-SDI outputs
- Tight integration with Ross **Piero** Sports Analysis Graphics system
- Flexible Remote Control: AMP • VDCP • BVW-75 • RossTalk • Ross DashBoard Integration



LED Solutions

D³ Integrated LED Experiences



D³ / PERFORM 600x337.5mm [16:9]

- Indoor / Rental
- Ground stack / Fly / Wall mount
- 1.56mm | Mini LED & 1.8, 2.5 and 3.7 | SMD
- Built for Broadcast

D³ / TRUECONTROL



- Web-based processor control software
- Adjust display settings, schedule content, and determine the status of components
- Monitor and control one display at a time or the entire network all at once.



D³ / STAGE 500x1000mm

- Indoor / Rental
- Ground stack / Fly / Wall mount
- 2.9mm | More to come...
- SMD



D³ / AEP

- LED Processor
- IP Based
- Up to 40 Million Pixels
- Redundant Configurations



D³ / TRUEPOWER 56

- Rackmount DC Power solution
- Provides 97% efficiency vs 86% AC efficiency
- Connect panels via 10-gauge plenum speaker wire
- 56V



Motion Graphics & VR



XPression | New for IBC 2023

Purchasing Options

- Ross Video welcomes customers to purchase XPression as either a perpetual (CapEx) or Subscription (OpEx) model
- Customers should exercise their choice in the purchase model, and not feel pressured to choose one way over another
- There are subscription prices in SFDC for customers who are ready to switch from CapEx to OpEx spending models
- We are not in the business of renting XPression (although RPS is)



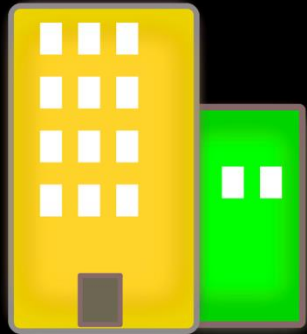
XPression Maps | New for IBC 2023

XPression Maps **Version 3.4**

- Real-time language changes for Duopoly Stations with two languages in one building
- Customer defined map styles for Inset Maps
- Shape Style Shadows for highlighting
- Disputed Borders
- DataLinq™ integration
 - Use for elections data visualization
- Title Bar Graphics can now be added onto the XPression Map flight templates
- LDAP integration for MOS users
- Control access to MOS client folders by user groups
- Combine with the Maps MOS Client Download option, to create content for Pre-Production workflows



XPression | New for IBC 2023



On-prem

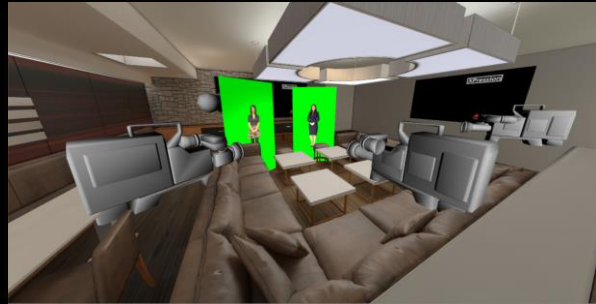


In the cloud



Remi / distro

Fully supported



Trackless



Augmented Reality



Virtual Set



Virtual LED

Tracking

Keying

Rendering

Control

Production

LED

Creative

News and Social Media



The screenshot displays the Inception News software interface. At the top, there is a navigation bar with icons for Content, Feeds, Tasks, Tools, Help, and Logout. The main area is divided into several sections:

- Story Browser:** A table listing stories with columns for Icon, Slug, Segment, Type, Account, Video, and Assignees. The first row shows a story titled "Zebra bites, injures owner's arm..." with a segment of "hello" and a type of "Broadcast".
- Story Preview:** A detailed view of the selected story, showing the title "Zebra bites, injures owner's arm before it's fatally shot" and the source "The Associated Press". The main text describes an incident in Circleville, Ohio, where a zebra attacked its owner.
- Production Cut Menu:** A vertical list of options for generating different versions of the story, such as "SLUGA TOSS", "10P FIRST FORECAST", and "MY SUPER COOL GROUP".



Story Grouping

- One of our most requested features ever was the ability to manage stories as groups in the rundown. Now available with Inception v16.

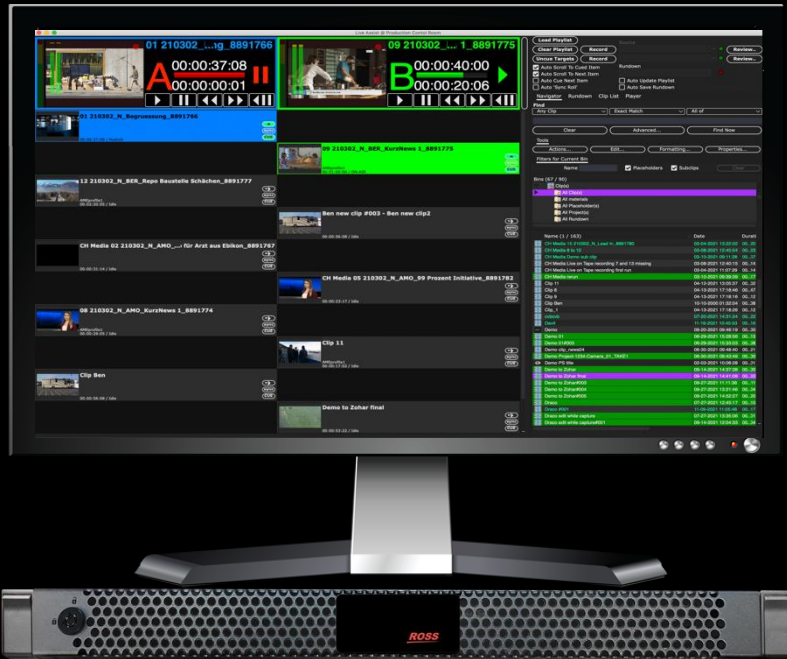
AI Technology Preview

- We are showing off a technology preview of a new AI integration, and what's possible when integrating an editorial environment into an AI like ChatGPT from OpenAI.
- Use cases in this edition will primarily be to summarize wire content and assist with tasks such as rewriting copy for social media.



Transcode & Playout

Media I/O



- New Quoting & Pricing Model!
 - Unlimited **Concurrent Users**
 - **MOS** Interface to NRCS
 - **All Codecs** Supported by the Product (see below for codec list)
 - Control Interfaces over VDCP and AMP
 - Router Control for Switching Upstream Signals
 - Supporting **Ingest and Playout on Every Channel** at runtime (rather than choosing between the two at purchase time)
 - Use of Channels for **Transcode Operations** (instead of separate transcode licensing)
 - LiveAssist for Playout on Every Channel
- Additional Transport Methods
 - SDI, 2110, NDI, RTMP, SRT, MPEG-DASH, HLS
- New Simplified turnkey Hardware Solutions





Media I/O



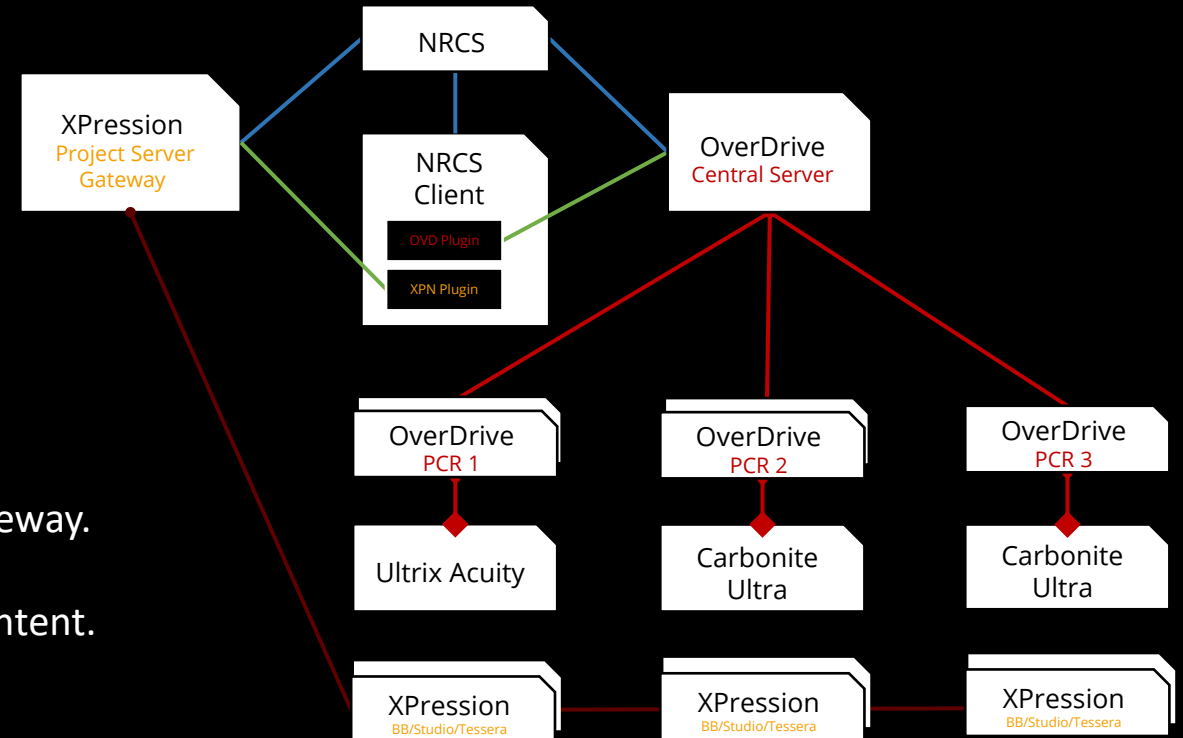
- Ingest & Playout platform
 - SDI | SMPTE 2110 | NDI | HLS | MPEG DASH | RTSP
 - Flexible file formats | ProRes / XDCAM / DNxHD / AVC-Intra / H.264
 - Schedule ingest with routing support
 - Playlist management
- Preview live recordings inside your browser
 - H.264 Proxy of live recorded content
 - Growing file capture and edit in Adobe Premiere Pro & Final Cut Pro
- Seamless integration with Streamline Media Asset Management
- Software defined platform
- On-Premise hardware or cloud



Automated Production Control

overdrive CentralServer

- **Available add-on to OverDrive Version 22**
- Eliminate downtime for the newsroom.
- Increase flexibility and organization.
- Build a show in one room – produce in another.
- Sync template/shot databases across multiple systems.
- Sync users and settings.
- Manage versions of projects.
- Reduce technical complexity and cost with a central MOS gateway.
- Central access point for NRCS plugin.
- Single action to Publish or Deploy OverDrive and Switcher content.



overdrive



OverDrive is the most advanced APC system on the planet, enabling the most sophisticated productions to be executed cleanly and consistently, while delivering substantial savings in operational costs.

- With over 600 systems on-air, OverDrive is the **world leader**.
- Consistent Productions
- **Efficient** Operations
- Control Flexible
- **Configurable** Interface
- Adapt Quickly
- **No Mistakes!**
- Control of **Over 275 Devices**
- Stable & Reliable

DashBoard

- Free Software for PC / Mac / Linux
- Control and Monitoring
 - Ross Devices
 - 3rd Party Devices
- Custom Panel Builder
 - User-defined control and monitoring
 - Custom User interfaces
 - Visual scripting
 - Native Ross Device integration
- Ultritouch 2 & 4





Tech Support

At Ross, we take pride in the quality of our products, but if problems occur, help is as close as the nearest telephone. Our 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.

- Free 24/7/365
- Global Tech support offices
- North American Toll Free
 - 1.833.859.0499
- International Toll Free
 - 800.3540.3545
- Techsupport@RossVideo.com
- Support.Rossvideo.com



Thank you

