Release 3.29 highlights:

- **Handle PTP Clock source in Ingest Scheduler**
  The Ingest Scheduler now supports PTP timecode, ensuring precise synchronization. Users can select PTP from the UI for accurate embedding.

- **Automatic Target Selection Based on Format/Resolution**
  The Ingest Scheduler can now auto-select targets based on source format and resolution, saving time and ensuring accuracy.

- **Brio metrics for external monitoring**
  Brio now exposes key metrics via a JSON endpoint, enabling integration with monitoring apps for efficient alerts and status tracking.

- **Support Windows 11 for Brio Tools**
  All Brio tools now support Windows 11, ensuring seamless transition and consistent functionality from Windows 10.

From previous recent releases:

- Support of new Matrox 10.4 drivers
- NMOS BRIO presentation as single device
- Support of MPEG-Dash base profile
- Improved PTP monitor in Brio Web Portal
- Ingest & Playout of multiple 2110-30 audio streams
- Stop Proxy if High Quality fails
- Support of DSXLE family cards
- Support of MPEG-Dash with 8 audio tracks stereo

Configuration

Reconfigurable models with frame synchronizers on inputs and UHD support	On-board Storage Configurations
SDI • Brio 4 – 4 reconfigurable i/o multi-rate SD/HD/3G/12G SDI • Brio 6 – 6 reconfigurable i/o multi-rate SD/HD/3G/12G SDI (software upgrade to 8 and 12) • Brio 8 – 8 reconfigurable i/o multi-rate SD/HD/3G/12G SDI (software upgrade to 12) • Brio 12 – 12 reconfigurable i/o multi-rate SD/HD/3G SDI **IP** • 8in/8out IP high density for SMPTE ST-2110 (HD/FullHD/QFHD) only • 4in/4out IP high density for SMPTE ST-2110 (HD/FullHD/QFHD) only • Brio IP Flex – Flexible and multi-rate SD/HD/3G with SMPTE-2022-2 and Newtek NDI connectivity	• 3.2TB - 133 hours @50Mb/s • 6.6TB - 266 hours @50Mb/s • 9.8TB - 400 hours @50Mb/s • 13TB - 530 hours @50Mb/s • 19,6TB - 800 hours @50Mb/s Additional local/shared storage available upon request.

Codec/Wrapper

Wrappers	HD (720p50/59.94, 1080i50/59.94, 1080psf23,98, 1080p23,98, 1080p50/59.94)
• MXF Op1a, MXF Op Atom • QuickTime Reference, QuickTime Self-Contained • MP4, AVI, MPG, WMV	• DVCProHD • XDCAM HD - 4:2:0 (18-25-35 Mb/s) - 4:2:2 (50 Mb/s) • Avid DNxHD® 120/145 (8-bit), 185/220 (8-bit), 185x/220x (10-bit) • Apple ProRes 422LT-422-422HQ • AVC-Intra Class 50/100 • Sony XAVC Intra and Long GOP • Panasonic AVC-LongG • MPEG-4 H.264/AVC • MPEG-2@HL - 4:2:0 I-Frame 5-80 Mb/s - 4:2:2 Long GOP 5-300 Mb/s • FFV1 (Ingest only) • Uncompressed
Proxy	
• MP4 H264/AAC - Configurable profile/level/GOP size/bitrate/resolution • WMV • DALET MPEG-2 Proxy • MPEG-DASH	
SD (PAL,NTSC)	**UHD (up to 60p)**
• DV25, DV50, DVCPro25, DVCPro50 • D10 IMX 30-40-50 • MPEG-2@ML - 4:2:0 I-Frame 2-15 Mb/s - 4:2:2 Long GOP 10-50 Mb/s	• Apple ProRes 422LT-422-422HQ • Sony XAVC 4K Intra Class 300 and 480 (CBG and VBR), XAVC Long GOP 200 • Avid DNxHR® (HQX, HQ, SQ, LB)

General Specifications

Video Specifications	Video Over IP specifications	Redundancy
• SD SDI: SMPTE ST-259M, ITU-R601, 525/625-line component, 10-bit • HD-SDI: SMPTE ST-292M, 10-bit • 3G-SDI: SMPTE ST-424M, 10-bit • 75 Ohms BNC • ITU-R BT.601 (data and electrical)	• SMPTE ST-2110 • SMPTE ST-2022-7 • SMPTE ST-2059 for PTP • NEWTEK NDI v5 • RTMP • RTMPS (playback only) • SRT • SMPTE ST-2022-2	• Dual hot swappable power supplies • RAID1 for system drives, RAID50 or RAID6 for data drives • Hot spare drives • Dual 10Gb and Quad 1 Gb Eth network attachment • Dual FC attachment
Dynamic Conversions	**Dimensions**	**Connectivity**
• Output: PAL <-> 1080i50 & PAL <-> 720p50 • Output: NTSC <-> 1080i59.94, NTSC <-> 720p59.94 • Output: 720p59.94 -> 1080p59.94 • Input: PAL -> 1080i50 & NTSC -> 1080i59.94 • Input: SMPTE 2110 720p -> 1080p • Aspect ratio: AFD and WSS support (per channel)	• Width: 44.55 cm (17.54 in.) • Height: 2 RU 8.9 cm (3.5 in.) • Depth: 74.93 cm (29.5 in.) • Weight: 28 kg (60 lbs.) maximum	• Four 100/1000Base-T Ethernet ports and Two 10Gb Ethernet • One USB 3.0 front, two USB 3.0 rear • 4 mini-display ports • 2 fiber optics ports for HBA (optional) • Multi-serial ports board (optional)
Audio Specifications	**Closed Caption specifications**	**File transfer protocols**
• Input: 48 kHz, 16-bit, 20-bit or 24-bits digital audio PCM • Audio clock genlocked to video ref (SMPTE 272M and AES11-1997) • Video clip with supported audio format can be played back-to-back • Dolby-E pass-through.	• Preservation of Captions in ingest and playout (CEA-608/708, OP-42/47) • OP-42/47 insertion from STL	CIFS, FTP, Amazon S3 (or S3 compatible storage), Interplay
Reference Genlock characteristics	**Special Modes**	
• Analog black burst reference (tri-level or bi-level), SDI input as reference or free running mode. • Sub-pixel adjustment at 0.9 ns/step with respect to genlock in SD • Sub-pixel adjustment at 0.7 ns/step with respect to genlock in HD • Flywheel on genlock	• Slow motion • Video + key • 2D Graphics engine on each output channel • Loop recording with extraction and time delay • Ingest Once Write Many	
Embedded audio tracks	**Timecode**	**Power requirements**
• 16 tracks embedded per channel SDI (8AES-EBU) • Supports SDI embedded audio compliant with SMPTE 272M (SD) and SMPTE 299M (HD).	• VITC file reader/writer (ANC-TC) with 1 mini XLR	• Dual redundant Power supply 800W hot swap 50-60 Hz, 100-240 VAC
Control	**Discrete AES/EBU audio tracks**	**Environmental characteristics**
• VDCP over serial and IP • FIMS Capture v1.1 and FIMS Transfer v1.3 - RESTful implementation • Administration, Players, Ingest Scheduler API (RESTful) • AMWA NMOS IS-04 v1.3 (incl. BCP-002-01), IS-05 v1.0.2, IS-08, IS-09 (audio mapping) support	• Brio 4/6/8/12: Pool of 32 tracks (16 for inputs, 16 for outputs)	•Operating temperature: +10°C to +35°C Non-operating temperature (not in use): -30°C to +60°C
Video Preview	**Monitoring**	**Video Playback**
• Customizable text overlay per channel • Streaming multi-viewer for remote preview of multiple Brio channels in a web browser.	• SNMP Brio REST API	Any supported format can be played seamlessly back-to-back