



# Capture **all** your live feeds & quickly play them out.

Media I/O is a highly flexible software solution for professional and broadcast quality ingest, playout, and transcode applications. Scaling to the biggest production demands, it supports almost any video format and transport, can run on-premises, virtualized, or in the cloud, and integrates seamlessly into your production workflow – allowing your team to focus on creating compelling content and less about the technical details knowing that it all just works.

Media I/O provides comprehensive support for a wide range of codecs, flexible wrapper selection, versatile deployment options, robust I/O capabilities, hardware compatibility, and integration with leading systems.

Ingest and playout is available for a wide range of the top industry codecs, including XDCAM, AVC-Intra, ProRes, DNxHD, DVCPRO HD, XAVC, and H.264 and wrapper formats, such as MXF Op1A, MOV, MP4 and AVI. Media I/O ensures compatibility with the most popular and widely used codecs in the industry, allowing you to work with diverse media formats effortlessly. With support for Baseband SDI and IP I/O, Media I/O enables you to leverage both traditional and IP-based workflows. It supports industry-standard protocols such as 2110, NDI, HLS, and SRT, ensuring compatibility with a variety of input and output formats.

Media I/O is designed to run on commercial off-the-shelf (COTS) hardware, including servers and video boards. This provides cost-effective and readily available hardware options, allowing you to leverage existing infrastructure or choose the hardware that suits your requirements. Available to deploy on-premise | virtualized | or in the cloud for both ingest and playout channels.

Fully compatible with AMP (Automation and Media Protocol) and VDCP (Video Disk Control Protocol) protocols. This enables seamless integration and control of your ingest and playout workflows from external systems.

When working with growing files, Media I/O allows direct access to the content in popular non-linear editing (NLE) tools such as Adobe Premiere Pro and Final Cut Pro. This means you can start editing your content while it is still being ingested, saving valuable time and ensuring efficient workflows. Additionally, our software supports live ingesting feeds for playout, giving you real-time access to incoming content.



## Speed

Media I/O gives you instant access to live ingesting content 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.

| Codecs   |   |
|--|---|
| <b>SD</b><br>MPEG<br>DV<br>ProRes  | IMX/D10 625i50 30/40/50 Mb or IMX/D10 525i60 30/40/50 Mb<br>DV 25, DVCPRO25, DVCPRO50<br>25-50 Mbps I-frame 422 and LT modes  |
| <b>HD 1.5 G (1080i 50/60, 720p 50/60)</b><br>MPEG-2<br>DV<br>XDCAM HD<br>AVC-Intra<br><br>XAVC-I (Sony)<br>XAVC-Long GOP<br><br>AVC/H264<br>VC-3 (DNxHD)<br>ProRes<br>Ross XPression Codec | 18-85 Mbps LGOP; 50-100 Mbps I-frame DVCPRO HD<br>DVCPRO HD<br>18, 25, 35, 50 Mbps<br>Class 50, Class 100 and Class 200<br>1080i @ 25, 29.97 fps<br>720p @ 50, 59.94 fps<br><br>Class 50, Class 100 and Class 200<br>HD Profile for M4 Style (MP4)<br>HD Profile for XD Style (MXF)<br><br>Main (ISO/IEC 13818-1/2)<br>Profile LB, SQ and HQ<br>I-frame 422, Proxy, LT and HQ modes<br>I-frame 422 with 8 bit Alpha |
| <b>HD 3G (1080p 50/60)</b><br>AVC-Intra<br><br>XAVC-I (Sony)<br>XAVC-Long GOP<br>AVC/H264<br>VC-3 (DNxHD)<br>ProRes<br>Ross XPression Codec  | Class 50, Class 100 and Class 200<br>1080p @ 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 fps<br><br>Class 50, Class 100 and Class 200<br>HD Profile for M4 / XD Style (MP4/MXF)<br>Main (ISO/IEC 13818-1/2)<br>Profile LB, SQ and HQ<br>I-frame 422, Proxy, LT and HQ modes<br>I-frame 422 with 8 bit Alpha   |
| <b>UHD</b><br>XAVC-I (Sony)<br>XAVC-Long GOP<br><br>AVC/H264<br>VC-3 (DNxHR)<br>ProRes<br>Ross XPression Codec   | Class 100, Class 300 and Class 480<br>4K Profile for M4 and XD (MP4 and MXF)<br>4K 4:2:2 10-bit (MXF)<br>Main (ISO/IEC 13818-1/2)<br>Profile LB, SQ, HQ and HQX<br>I-frame 422, LT and HQ modes<br>I-frame 422 with 8 bit Alpha   |

| Raster               |   |
|----------------------|---|
| SD                   | 525i @ 29.97 fps or 625i @ 25 fps   |
| HD 1.5G              | 1080i @ 25, 29.97 fps or 720p @ 50, 59.94 fps   |
| HD 3G                | 1080p @ 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 fps   |
| UHD 12G              | 2160p @ 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 fps   |
| Remote Control       |   |
| Automation Control   | Clip playback & record via VDCP (over IP or RS-422)<br>Clip management/playback via AMP-over-IP   |
| Connectivity         |   |
| SDI Input            | Up to four SD/HD channels, one UHD channel (X1)*<br>Up to eight SD/HD channels, two UHD channel (X2)*                                   |
| SDI Output           | Up to four SD/HD channels, one UHD channel (X1)*<br>Up to eight SD/HD channels, two UHD channel (X2)*                                   |
| IP I/O               | Optional dual 10GE ports for NDI® I/O<br>Optional dual 10/25G SFP ports for NDI® I/O<br>Optional dual 25GE ports for UHD/HD 2110 IP I/O |
| Connectors           | AES and LTC<br>Two 1GE ports to connect to the server   |
| Support Video Board  |   |
| AJA                  | AJA Corvid 88<br>AJA KONA 5   |
| MATROX               | MATROX ® DSX LE4<br>MATROX ® DSX LE5 D25 (2110)   |
| Audio Processing     |   |
| Channels             | SMPTE 299M/272M, up to 16 embedded per video channel  |
| Formats              | Uncompressed PCM 16bit, 24bit @ 48 kHz)<br>MPEG4-Audio (AAC)  |
| Supported IP Streams |   |
| SRT                  | Secure Reliable Transport (MPEG TS) - record only   |
| HLS (.m3u8)          | HTTP(S) (MPEG TS & Fragmented MP4)  |
| RTSP                 | Real Time Streaming Protocol (Elementary Media Essence)   |
| MPEG TS              | TCP/UDP   |
| NDI                  | Newtek NDI®   |

**Edit While Capture**

|                          |   |
|--------------------------|---|
| <b>Final Cut X</b>       | ProRes, AVC-Intra and XDCAM in MOV wrapper  |
| <b>Adobe Premier Pro</b> | IMX 30/40/50 in MXF wrapper<br>AVC-Intra Class 50/100 in MXF wrapper<br>XDCAM HD 18, 25, 35, 50 Mbps in MXF wrapper |

**Data**

|                                    |   |
|------------------------------------|---|
| <b>Closed, Open, Live Captions</b> | EIA-608, EIA-708                              |
| <b>Ancillary Data</b>              | VBI, VANC                                     |
| <b>Reference</b>                   | Analog black with color burst, PTP for IP I/O |

**Media Storage Options**

|   |  |
|---|--|
| Ross EVO Signature Series 8-Bay Storage - 15 TB SSD |  |
| Ross EVO Signature Series 16-Bay Storage - 64 TB    |  |
| Ross EVO Signature Series 16-Bay Storage - 128 TB   |  |
| <b>NAS via Ethernet</b>                             | SNS, MediaGrid, Isilon, IBM GPFS, Jellyfish, Promise |
| <b>SAN via Fiber Channel</b>                        | Quantum, DDN, Hitachi                                |

**Minimum Required Hardware**

|                               |   |
|-------------------------------|---|
| <b>Up to 1 UHD or 4 HD</b>    | Windows Server 2019 64-bit<br>Dual Intel Silver 2.4GHz, 16 Cores<br>64 GB RAM<br>2x480GB SSD SATA |
| <b>Up to 2 UHD or 8 HD</b>    | Windows Server 2019 64-bit<br>Dual Intel Xeon 2.2GHz, 26 Cores<br>64 GB RAM<br>2x480GB SSD SATA   |
| <b>Management and Control</b> | Windows Server 2019 64-bit<br>Intel Core i5 4.3 Ghz<br>16 GB RAM<br>512GB SATA SSD                |

**AWS VM Specs**

|                   |  |
|-------------------|--|
| <b>Up to 1 HD</b> | AWS EC2: Instance type: c5a.2xlarge<br>Dedicated EBS for Media or FSx ONTAP<br>64 GB RAM<br>2x480GB SSD SATA |
|-------------------|--|

## Video Router Protocol Support

### API V1

SLX-161  
 Sony - Analog  
 Sony - DVS  
 Sony - PVS  
 GvG - Performer  
 GvG - Native  
 Leitch - ASCII  
 PESA  
 VikinX

### API V2

Leitch - Pass Through  
 Leitch - Terminal  
 Pro-Bel - General Switcher Protocol  
 Pro-Bel - General Router Protocol  
 Pro-Bel - TX500 Series Mixer  
 Pro-Bel - Master Control Switcher Protocol  
 B4M - MultiCam Router  
 Quartz  
 Kramer - Protocol 2000  
 Kramer - SD7308  
 Kramer - ASCII  
 Vortex  
 BTS - ASCII  
 Klotz - ASCII  
 Thomson - Saturn Master Control Switcher  
 Grass Valley - Router Control Language  
 Grass Valley - Acappella (T/Ci)  
 NetWork - VikinX  
 Sony - CART  
 Sony - CART +  
 Sony - CART ++  
 Sony - DFS 700  
 Sigma  
 Crystal Vision SW0808  
 PESA - CPU Link Protocol  
 Datavideo - SE800  
 nVision - NV9000 (TCP/IP)  
 BlackMagic - VideoHub (TCP/IP)  
 AJA - KUMO (HTTP)  
 PESA - P1N (TCP/IP)  
 Evertz QMC  
 BTS - ES Switch  
 Oresmaster  
 Utah Scientific RCP-3A  
 SW-P-08  
 Oxtel Protocol  
 Imagine LRC