

# mPORT Grand av

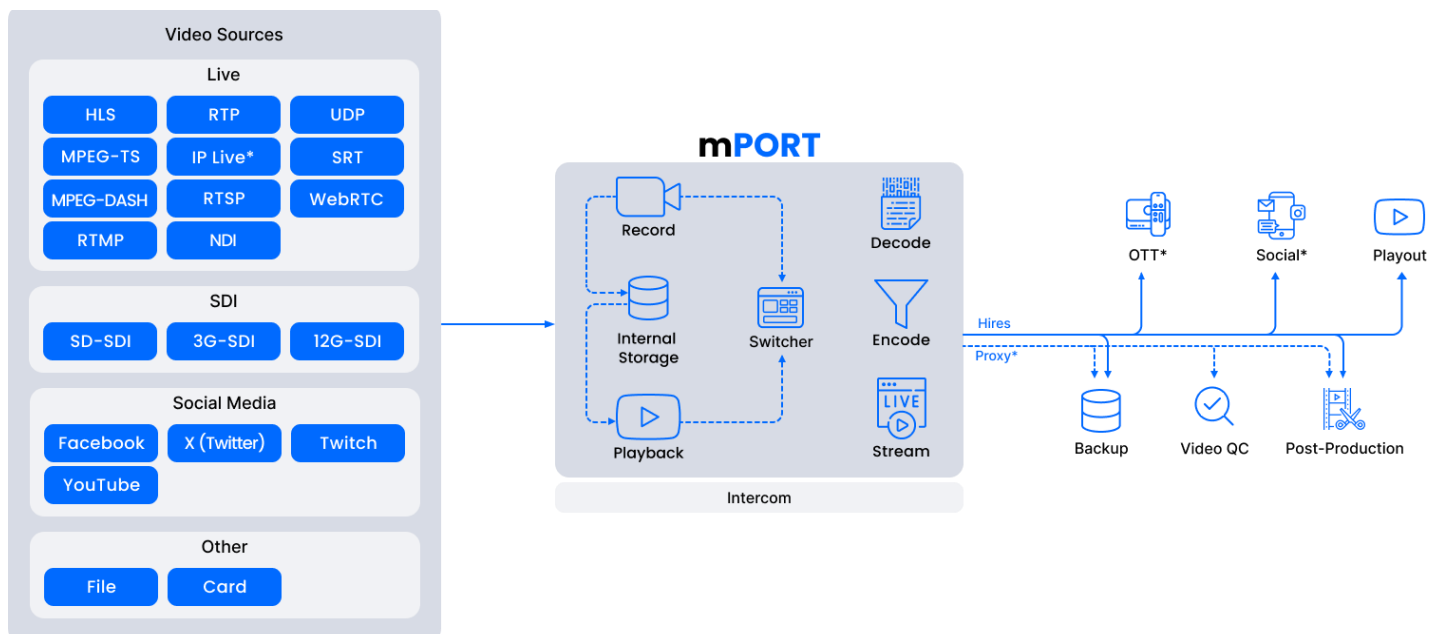


## Overview

Elevate your content production with mPORT Grand av, a robust and versatile multi-format appliance with additional XAVC & AVC-Ultra hardware encoder accelerator optimized for live ingest and playout within an integrated media production ecosystem. This professional solution integrates seamlessly into your existing workflows, offering comprehensive support for 4K/UHD, FHD, IP Live, and NDI workflows to elevate the quality and impact of your content.

Experience a state-of-the-art solution that enhances your media production processes, delivering unmatched flexibility, reliability, and efficiency. mPORT Grand av streamlines your operations, ushering in a new era of multimedia excellence and transforming your content creation workflows.

It supports multiple simultaneous media operations such as recording, playout, live video streams, file previews, live switching, and intercom communication among users, enabling a dynamic and collaborative production environment.



\* Optional

## Highlights

- **mSWITCH:** Remote live switching and compositing
- Baseband ingest - multiple simultaneous recordings: multicamera recording, loop recording, crash recording, schedule recording, batch recording;
- Video server for multiple destinations of any storage, NAS, or SAN
- **Burnt-in options:** text, timecode, overlays (images and videos), and LUT
- **File playback:** multiple simultaneous operations: composition play, loop playback, instant play, schedule play, remote preview
- Encodes and/or decodes contents according to the destination format
- **Playlist management:** add clips, remove clips, reorder clips, export playlist, loop play
- Full featured local and remote user interface (includes quick control through touch screen)
- **mTALK:** Audio communication between users
- **Overlays:** clip-name and port-name
- Ideal for multiple feeds of video contribution
- Multi-configuration metadata management
- Flexible file naming engine
- Enable edit while ingest
- **Operation modes:** manual, scheduled, and automatic

## Specially Designed For

- Educational/Government
- Live Entertainment/Worship
- Corporate
- Sports
- Film/TV Studio/Scripted
- Digitalization
- Post-Production
- Broadcast/Digital News
- OTT & Streaming
- System Integrators/Rentals

## Features

| Features   |
|--|
| <b>Timecode support</b>  |
| LTC (SMPTE 12M)  |
| VITC (SMPTE RP188)   |
| Time of Day  |
| From VTR (BVW) - Serial  |
| <b>Multiple LIVE and simultaneous records</b>  |
| Crash Record operations  |
| Gang Capture operations  |
| Independent workflow selection in Gang Captures  |
| Unique workflow for gang captures while using clipnaming with counters                                       |
| Conceal/Hide option for unused Capture Instances   |
| Synchronize (different) Gang Captures  |
| Flexible Gang Capture channel configurations / Choose which channels are present in the gang                 |
| Frame Chase editing  |
| Unlimited capture duration support   |
| Loop record support  |
| Extend a playlist's maximum duration in a Loop Record workflow   |
| Perform Loop record captures through automatic jobs  |
| Growing files support  |
| Growing file support for Grass valley Edius Workgroup v.9 and X  |
| Growing XDCAM MXF OP1a file support on Avid Media Composer <b>*required Nablet AMA Plugin</b>                |
| Automatic Stream Control - Detect input streams and start recording automatically                            |
| Continuous recording support   |
| Continuous live stream capture   |
| Recording timer for captures   |
| Abort or force stop a capture or a stream  |
| Frame rate conversion option on Capture workflows  |
| High Dynamic Range (HDR) support - HLG (arib std-b67) / PQ (SMPTE 2084)                                      |
| High Frame Rate (HFR) up to 120fps (ST2081-10, ST2081-11, ST2082-10, ST2082-11 and ST2082-30)                |
| Generate MP4 files as Fragmented MP4 via DCP Packager  |
| Add XML sidecars with WAV file as output while recording   |
| Perform "Run after completion" scripts   |
| Live Probing option  |
| Stream with Closed Captions  |
| Edit a Workflow directly from the Player   |
| Input selection made directly from a dropdown list on the player   |
| Option to start timecode recording from 00:00:00:00  |
| Export in "MOG playlist" format (.XML Sidecar containing information about the chunks of the recorded media) |
| Batch record support   |
| Deck control through Serial Ports  |
| Pre-roll and post-roll options   |
| LiveU NewsML batch capture   |
| LiveU NewsML metadata import   |
| LiveU NewsML - support XML from devices (Live U, Android and iPhone)   |
| LiveU include subfolder browse   |
| Contribution Web Video Player - Aspect marker, Safe Area Marker, and Center marker                           |
| Player Overlay - Center Dot and Cross  |
| Support for Active Format Description (AFD)  |
| Medialoopster Integration in Capture operations  |
| Medialoopster Integration in Batch Capture operations  |
| <b>Operation modes</b>   |
| Automatic  |
| Manual   |
| Scheduled  |
| <b>Clipnaming</b>  |
| Clipnaming based on Metadata Profiles  |
| Field numeric representation of the day of the week  |
| Drag and Drop support  |
| Restore auto numbering on capture abort in naming templates  |
| "CreationDate" field can refer to a desired Time Zone  |

Features

Add the label "\_p" to proxy clips' names

**Multi-Configuration metadata management and enrichment**

- Directly manage your assets metadata
- Generate metadata directly through capture operations
- Prevent the overwrite of metadata fields
- Protect metadata fields
- Delete custom metadata
- Edit group clips metadata
- Edit a file's source metadata based on a configured metadata profile
- "Description" field editable in metadata widget
- Set "Description" field as a column in the Asset Explorer list view
- Forward metadata to Gang Captures
- Favorite metadata fields
- Create custom metadata fields
- Add a "Rating" metadata field
- Update the source metadata directly through the metadata widget
- Add asset tags insertion in preset list
- Re-use lists of possible values
- Update Metadata in Media Central/Interplay using AMT-3 library
- Rename media in Interplay after a capture has begun
- Take field (counter)
- Support for "Reel" metadata field using Apple ProRes Wrapper
- Read metadata from pre-configured cloud storages (Amazon S3 / Google Cloud Storage / Tencent / IBM Cloud Object Storage)
- Preserve specific Arri fields
- Support IMF (Netflix Compliant) output metadata

**Find immediately and learn everything about any asset**

- Show or hide proxies on Asset Browser
- Sort, order and search for files on Asset Browser
- Asset Explorer - Resizable thumbnails
- Asset Explorer - Support asset availability
- Search for all assets on Asset Explorer
- Extract thumbnails and posters while indexing on Asset Explorer
- Asset Explorer - Playable thumbnails
- Preview media with interactive Pop-up Players
- Asset Explorer - View the exact duration of files with more than 24 hours
- Asset Selection -View the total duration of the selected assets
- Configure the asset's preview duration
- Asset Selection - Add Numeric Input

**Asset management Check-in**

- AVID AAF
- AVID interplay
- XML support
- XSLT transformation - XML sidecar
- Edit share flow
- Vizzi OTT check in
- Support for update on Vizzi OTT check-in

**Audio support**

- PCM input and output support
- Dolby E-AC-3, Dolby TrueHD, and DTS input support
- Dolby-E Input and output support
- DTS Coherent Acoustics (DCA)
- Integration with Dante Audio Capture
- PCM 96KHz support
- Independent audio encoder for hires and proxy
- Individually map your audio by output target
- Record audio only streams
- Playout audio only streams
- Audio downmixing & upmixing
- External audio files support (.WAV)
- MPEG-4 Audio (M4A) audio format as output
- Ability to mute proxy on the output

## Features

### Close captions

- CEA/EIA - 608
- Add sidecar - SubRip (SRT)
- Add sidecar - Fragmented WebVTT
- Add sidecar - ISMT/CMFT subtitles
- Support DVB-S captions in streams
- Support captioning for OTT (CMFT, SubRip, and WebVTT)
- Stream with Closed Captions

### Locators

- Create locators with shortcut keys
- Edit the locators' description
- Insertion and viewing
- Create and freely customize action fields
- Insert comments in a marker's widget tab
- Locators source in markers widget
- Select multiple subcategories for a single locator
- Order asset locators by timecode
- Establish Absolute or Relative timecode for source locators
- Enter Timecode without the need of entering colons
- Eject locators using the player eject button
- Support for locators with AMT captures
- Send locators directly to Gang Captures
- Send locators instantly to Playout
- Preserve Metadata Enhancement locators created by an Automatic Job

### Scheduler (Calendar View)

- Schedule a Record operation
- Schedule a Playout operation
- Edit individual events
- Allow editing of settings for each occurrence/repetition
- Set the number of an event's repetitions
- Check for collisions between events and repetitions
- Placeholder when editing an occurrence name
- Enable field event name as AVID Interplay clipname by default
- Use pre-set naming templates
- Send the assets to independent targets and multiple outputs
- Establish a maximum capture duration
- Configurable number of iterations when using maximum capture duration
- Use AVID Interplay clip name as event name on crash record events
- Pre-roll and post-roll options for scheduled events
- Define events to be triggered on any day, on working days only or only on weekends
- Set the Calendar Notion option to automatically adjust to daylight time
- Edit the Start Time field after the first recording
- Visualize scheduled events in a List View
- Export activity events
- Perform captures from a MOG S1000
- Perform captures from an Airspeed 5000
- Perform captures from a Softron Movie Recorder

### Scheduler (Playout Grid View) - Unifies in a single rollout view all Playout activities \*Optional

- Grid View for Playout
- Crash Playout directly from the Grid View
- Loop a playlist
- Schedule Clip Lists to be Played out
- Adjust to a desired Time Zone
- Ability to set a pre-determined number of repetitions
- Trigger Playout events (Any day, On Working Days or only on Weekends)

### Signal error detection and related recovery actions

- Detect possible signal errors
- Detect possible drop frames
- Support for timecode breaks
- Configurable capture resume methodology
- Automatic streaming (headless) - Restart capture after stopping/crashing or rebooting

## Features

### Checksum media

- MD5 hash file
- MDL - Media hash list

### Live to Live

- Delete artifacts on abort
- Vizzi OTT Live Output
- Multiple resolutions check-in
- Support Time of Day in input streams (RTMP, MPEG-TS, RTP, SRT, RTSP, HLS, LLDASH, MSS, MPEG-DASH, CMAF)
- Variable Frame Rate Input
- Support IGMPv3 multicast
- Add possibility to change the transport stream segments duration

### MPEG-TS Support

- Capture of MPEG-Transport Streams
- Support of MPEG-TS program IDs

### NDI

- Native NDI output
- NDI audio and video synchronized mechanism
- NDI discovery mechanism
- Capture multiple NDI sources
- Time of day and embedded timecode options in NDI input

### RTMP

- RTMP recording with absolute timecode
- RTMP Push Mode in input and output
- RTMP Pull Mode in input and output
- Native RTMP listener capability
- Multiple audio channels in RTMP Output
- HEVC, VP9 and AV1 codec in enhanced RTMP/FLV

### SRT

- Input modes: Caller, Listener, and Rendezvous
- SRT listener mode as stream output
- Output modes: Caller and Rendezvous
- Stream ID support
- Configurable latency settings
- Configurable overhead bandwidth
- Configurable passphrase
- Monitoring input metrics

### WebRTC

- h.264 Support
- VP8 Support
- VP9 Support

### Burn-In Video options

- Graphic burn-in while recording
- Text (Position, Text color, Box Color, Font Size)
- Timecode (Position, Text color, Box Color, Font Size)
- Overlays support (images and videos positioning)
- LUT (Look-Up Table) - Save particular color grades as a template

### File playback

- Simultaneous playback
- Composition play
- Instant play
- Gang Play
- Replay a group or an individual asset
- Loop playback
- Group Loop Playback
- Gridline (3x5) Overlay
- Remote preview
- Support for 10bit
- Synchronous SDI playback of multiple files
- Closed captions
- Cue mode
- Monitor - support HDR
- Option to add locators

## Features

- Play assets from cloud storages
- Playback - 8K UHD
- Embedded VITC output support
- Step multiple frames forward and backwards on SDI/gang playback
- Timecode and metadata overlaying on SDI out
- Support for growing assets in player
- Support for spanned assets in player
- Timecode only monitoring
- Use of a contour shuttle to control an asset during playback
- Playback duration showing the remaining time of the clip
- Remove clips
- Reorder clips
- Export playlist
- High Dynamic Range (HDR) support - HLG (arib std-b67) / PQ (SMPTE 2084)
- High Frame Rate (HFR) up to 120fps (ST2081-10, ST2081-11, ST2082-10, ST2082-11 and ST2082-30)
- Preview - Possibility to change the playback speed by multiplier factors
- Read Metadata Timecode Package (Auto / Material Package / Source Package)

### Playout

#### Playout Preparation

- Build playlists in a Playlist Builder widget
- Create multiple Playlists
- Allow configuring playout clip action while preparing the playlist
- Support visual separators for rPlayout playlists
- Drag and Drop clips to the player for media preparation
- Support insertion of Timecodes without separators ":" in the playlist builder
- Use both types of TC (Relative and Absolute) for Mark-ins and mark-out at playlist builder
- Trim clips to be included in the Playlist
- Editable timecodes of the in and out points
- Re-arrange clips order
- Duplicate Edit Decision Lists
- Export Edit Decision Lists

#### Playout Control

- Edit playlist on the fly and while playing
- Playlist countdown and clip countdown
- File and clip list progress bars
- Playout Capture streams through SDI and native window
- Print to tape
- Queue clip on the playlist
- Queue on first frame and last frame
- Queue on first frame the first clip of the playlist
- Bypass action for playout clips
- Pause Playlist
- Playout to stream
- Thumbnail preview of the current clip on the playlist and its remaining time until Playout of the next clip
- On Air - current loaded playlist name
- Loop a playlist
- Loop one or more assets in the playlist
- Drag and Drop Clip List entries in Playout Control
- Multi-channel playout capability
- Schedule Playout
- Choose between Playout Services available - rPlayerSDI or CasparCG
- Mini control bar for use with Playout Control
- Keyboard shortcuts for playout control and associated WEB player
- Autoplay option
- As Run Log's containing Date, Time, Clip name, Time Code In, and Time Code Out
- Prepare the Playout clip actions while preparing the playlist

### Input/output social media \*Optional

- Google Chrome Social-m Plugin
- Social-m - Add support for live stream capture
- Metadata in Chrome Social-m Plugin
- Capture to Facebook Live
- Stream to Facebook Live

## Features

- Stream to Twitch Live
- Capture to YouTube Live
- File based YouTube Upload
- Capture X (Twitter) Live
- Stream to X (Twitter) Live
- Upload to Vimeo
- Metadata social annotation and enhancement

### **mTALK**

- Communicate via audio between two or more users
- QR code implementation
- WebApp (requires Android smartphone)
- Toggle Mode

### **Analytics**

- Integrate with Google Analytics and Tag Manager
- Enable or disable Analytics
- Keep track of menu events
- Receive video metrics
- Keep track of Job Control widget's events
- Keep track of Asset Explorer widget's events

### **Improved security**

- Support for Windows UAC
- Support for HTTP/HTTPS Ingress
- HTTPS (Hypertext Transfer Protocol Secure) for REST API
- Secure login
- User Impersonation
- Token based authentication
- Two-factor authentication
- Remote services, system restart, and settings recovery features
- Opt to "Keep me signed in"
- Send a User Verification through email
- Configurable password visibility in logs

### **Hardware acceleration** \*If Hardware is installed or available

- Intel QSV
- Sony XAVC
- Panasonic AVC-Ultra
- Nvidia Nvenc

### **General Purpose IN/OUT**

- GPI triggers supported
- GPO triggers supported

### **Additional Highlights**

- REST API - allows interaction with RESTful web services
- Change Aspect Ratio (4:3 / 16:9 / 1.9:1 / 2:1 or use same as source)
- Active Format Description (Option to Preserve, Discard or Override)
- Notify user upon connection lost with the Server
- Manage via web interface or REST APIs for integration with automation system
- Configurable quality and target latency of the preview stream
- Logging - Human readable information on Services logs
- Logging - Add user information on flow actions
- Logging - Structured Logging
- Receive SMTP notifications via e-mail
- Support an external Database
- Microsoft Edge / Firefox and Chrome Support

### **Unified Interface User Experience**

- Configurable web interface access port
- Embeddable Dashboards/Widgets
- Web-Based Interface with video preview
- Dashboards based experience where users can create their own personalized view
- Dashboards presets for ease-of-use deployment
- Create your own custom dashboard templates
- Import and Export Users' Dashboards
- Associate a single dashboard to multiple users
- LDAP user authentication

### Features

|   |
|---|
| User profile management   |
| Users permissions control   |
| Widget based modular interface  |
| Lock/Unlock widgets permission  |
| High contrast theme   |
| Touch screen mode   |
| Monitoring - Advanced metrics   |
| Multi Language Support  |
| User tour   |
| Show/Hide player overlays   |
| Notifications of required actions needed to resume a workflow                                 |
| Monitor Grouped Servers' activity in a Group Activity Widget                                  |
| Remove the "quick edit" button from the Job Control Widget                                    |
| (Set Permissions to) Activate or Deactivate Settings of a Gang Capture widget                 |
| <b>Multiviewer</b>  |
| Define the quality and target latency of the preview stream                                   |
| Ability to control to up to 4 players in a single dashboard                                   |
| <b>Maintenance</b>  |
| <b>Scheduler</b>  |
| Reboot host or group  |
| Export database (backup) as a scheduled task  |
| Export logs as a scheduled task   |
| <b>Activity</b>   |
| Export last activity  |
| Export all activity   |
| Export activity from a date range   |
| Clear all activity  |
| <b>Logs</b>   |
| Export logs   |
| <b>Backup</b>   |
| Export full backup - A full backup will create an archive of all the files and configurations |
| Import full backup  |
| <b>Dashboards</b>   |
| Export dashboards from one user or all users  |
| Import dashboards   |
| <b>Data</b>   |
| Clean data usage  |
| Clean assets, flows and notifications   |
| Perform a Factory Data Reset  |
| Erase all data and reset the system   |
| Force clear cache   |

## Technical Specifications

### Supported File Inputs

#### Inputs

|                                   |  |
|-----------------------------------|--|
| <b>OnPrem</b>                     | <b>Plain Files or Structures</b>                     |
|                                   | ARRI ALEXA Cameras                                   |
|                                   | BlackMagic Cameras                                   |
|                                   | RED Digital Cinema                                   |
|                                   | Avid Files   |
|                                   | Avid Media Files (standalone or Nexis/ISIS)          |
|                                   | Avid Sequences (master clips and rendered sequences) |
|                                   | CANON DSLR 5D, 7D, C300, C100                        |
|                                   | Generic File Shares                                  |
|                                   | GoPro Cards  |
|                                   | IKEGAMI GFPK   |
|                                   | JVC (AVC HD models)                                  |
|                                   | NextoDI NSB-25                                       |
|                                   | Panasonic CX350 HEVC                                 |
| Panasonic AU-EVA1 and GH5 Cameras |  |



**Inputs**

|                                 |  |
|---------------------------------|--|
| <b>OnPrem</b>                   | Multi Clip/Spanned XDCAM/XAVC/XDCAM-EX Structure |
|                                 | DJI (Camera Drones)                              |
|                                 | HLS Structures                                   |
|                                 | MPEG-TS Structures                               |
|                                 | XAVC Structures                                  |
|                                 | <b>XDCAM EX:</b>                                 |
|                                 | Sony SxS (SBAC-UT100, SBAC-US10/20/30)           |
|                                 | Sony XQD (MRW E-80, MRW E-90)                    |
|                                 | <b>XDCAM HD</b>                                  |
|                                 | Sony XDCAM HD: Disc (PDW-U1, PDW-U2, PDW-U4)     |
|                                 | <b>Panasonic P2</b>                              |
|                                 | AJ-PCD 2 / AJ-PCD 20/30/35 / AJ-MPD1             |
|                                 | AU-XPD1E / AU-XPD3EJ                             |
|                                 | <b>Network</b>                                   |
|                                 | XDCAM Network                                    |
|                                 | P2 Network                                       |
|                                 | ARRI RAW Network                                 |
|                                 | Ikegami Network                                  |
|                                 | <b>Storage</b>                                   |
|                                 | Avid ISIS / Nexis                                |
|                                 | Avid Unity™ MediaNetwork                         |
|                                 | DDP – Dynamic Drive Pool                         |
|                                 | Facilis TerraBlock                               |
|                                 | Harmonic MediaGrid                               |
|                                 | Editshare EFS                                    |
| NAS / SAS (SMB 2.0 and 3.0)     |  |
| Quantum StorNext                |  |
| ScaleLogic NX2 & ZX NAS Storage |  |
| EMC Isilon                      |  |
| QNAP                            |  |
| Studio Network Solutions EVO    |  |
| Oracle Storage                  |  |
| Netapp                          |  |
| <b>Cloud</b>                    | <b>Social Media</b>                              |
|                                 | Facebook   |
|                                 | X (Twitter)                                      |
|                                 | Vimeo  |
|                                 | YouTube  |
|                                 | <b>Professional Cloud Storages</b>               |
|                                 | Adobe Creative Cloud                             |
|                                 | Amazon S3 Glacier                                |
|                                 | Microsoft Azure Storage                          |
|                                 | Tencent  |
|                                 | Lucidlink Cloud NAS                              |
|                                 | Google Cloud Storage                             |
|                                 | IBM Cloud Object Storage                         |
|                                 | Generic S3 storages                              |
|                                 | <b>Consumer Cloud Storages</b>                   |
|                                 | Apple I Cloud Drive                              |
|                                 | Dropbox  |
| Google Drive                    |  |
| Microsoft One Drive             |  |

**Supported File Outputs**

**Outputs**

|               |                                 |
|---------------|---------------------------------|
| <b>OnPrem</b> | Avid ISIS / Nexis               |
|               | Avid Unity™ MediaNetwork        |
|               | DDP – Dynamic Drive Pool        |
|               | Facilis TerraBlock              |
|               | Harmonic MediaGrid              |
|               | Editshare EFS                   |
|               | NAS / SAS (SMB 2.0 and 3.0)     |
|               | Quantum StorNext                |
|               | ScaleLogic NX2 & ZX NAS Storage |

### Outputs

|               |   |
|---------------|---|
| <b>OnPrem</b> | EMC Isilon  |
|               | QNAP  |
|               | Studio Network Solutions EVO                                |
|               | Oracle Storage  |
|               | Netapp  |
|               | FTP Servers (List on request)                               |
|               | Generic File Shares   |
| <b>Cloud</b>  | <b>Consumer Cloud Storages</b>                              |
|               | Apple I Cloud Drive   |
|               | Dropbox   |
|               | Google Drive  |
|               | Microsoft One Drive   |
|               | <b>Multiple and Adaptive bitrates for the OTT *Optional</b> |
|               | <b>Professional Cloud Storages</b>                          |
|               | Adobe Creative Cloud  |
|               | Amazon S3 Glacier   |
|               | Microsoft Azure Storage                                     |
|               | Tencent   |
|               | Lucidlink Cloud NAS   |
|               | Google Cloud Storage  |
|               | IBM Cloud Object Storage                                    |
|               | Generic S3 storages   |
|               | <b>Social Media *Optional</b>                               |
|               | Facebook  |
|               | X (Twitter)   |
|               | Vimeo   |
|               | YouTube   |

### Supported Live Inputs

#### Inputs

|             |   |
|-------------|---|
| <b>Live</b> | <b>SDI</b>  |
|             | SD-SDI (SMPTE 259M)                                   |
|             | 3G-SDI (SMPTE 292M, SMPTE296M, SMPTE372M, SMPTE425M)  |
|             | 12G-SDI (SMPTE ST-2081/SMPTE ST-2082, SMPTE/2108-1)   |
|             | 12G-SDI (Quad-Link 3G-SDI)                            |
|             | <b>Streams</b>  |
|             | Video Content Hyperlinks                              |
|             | HLS   |
|             | MPEG-TS   |
|             | MPEG-DASH   |
|             | RTMP (with support for HEVC / VP9 / AV1)              |
|             | RTP   |
|             | RTSP  |
|             | NewTek NDI  |
|             | UDP   |
|             | Haivision SRT   |
|             | WebRTC  |
|             | Zixi  |
|             | <b>Audio</b>  |
|             | Dante audio   |
|             | <b>Social Media</b>                                   |
|             | Facebook  |
|             | Twitch  |
|             | X (Twitter)   |
|             | YouTube   |
|             | <b>IP Live *Optional</b>                              |
|             | ST2022-6  |
|             | ST2022-7  |
|             | ST2110-10, ST2110-20, ST2110-21, ST2110-30, ST2110-31 |
|             | ST2110-40   |

## Supported Live Outputs

| Outputs   |   |
|-----------|---|
| Live      | <b>SDI</b>  |
|           | SD-SDI (SMPTE 259M)   |
|           | 3G-SDI (SMPTE 292M, SMPTE296M, SMPTE372M, SMPTE425M)        |
|           | 12G-SDI UHD-SDI (SMPTE ST-2081/SMPTE ST-2082)               |
|           | 12G-SDI (Quad-Link 3G-SDI)                                  |
|           | <b>Streams</b>  |
|           | HLS   |
|           | Microsoft Smooth Streaming                                  |
|           | MPEG-DASH   |
|           | Low Latency Dash - LL-Dash                                  |
|           | NewTek NDI  |
|           | MPEG-TS   |
|           | RTMP (with support for HEVC / VP9 / AV1)                    |
|           | RTP   |
|           | RTSP  |
|           | UDP   |
|           | Haivision SRT   |
|           | WebRTC  |
|           | <b>Vizzi</b>  |
|           | Live Output   |
|           | <b>Social Media *Optional</b>                               |
|           | Facebook  |
|           | Twitch  |
|           | X (Twitter)   |
|           | YouTube   |
|           | Vimeo   |
|           | <b>Multiple and Adaptive bitrates for the OTT *Optional</b> |
|           | <b>IP Live *Optional</b>                                    |
|           | ST2022-7  |
|           | ST2110-10, ST2110-20, ST2110-21, ST2110-30, ST2110-31       |
| ST2110-40 |   |

## Formats

### Input Formats

| Input Video Formats                           |
|---|
| ARRI ARRIRAW                                  |
| Blackmagic RAW                                |
| Digital Cinema Packages (DCP)                 |
| RED Digital Cinema                            |
| IMX 30/40/50 Mbps                             |
| MPEG2 LGOP 18/25/35 Mbps 4:2:0                |
| MPEG2 LGOP 50/70 Mbps 4:2:2                   |
| MPEG2 LGOP 422 50 Mbps                        |
| MPEG2 LGOP 420 1440x1080 35 Mbps              |
| MPEG2 LGOP 420 (FULL) 35 Mbps                 |
| DVCAM 25 Mbps                                 |
| XAVC Intra 50 / 100 Mbps                      |
| XAVC Intra 300 / 300 VBR / 480 / 480 VBR Mbps |
| XAVC LGOP 25 / 35 / 50 Mbps                   |
| XAVC LGOP 60 / 100 / 140 / 150 / 200 Mbps     |
| DVCPRO 25/50 Mbps / DVCPRO HD 100 Mbps        |
| AVC-Intra 50/100 Mbps                         |
| AVC-Intra 200 Mbps                            |
| AVC-Intra 2K422                               |
| AVC-Intra 4K422                               |
| AVC Ultra (LGOP 6/12/25/50 Mbps)              |
| DNxHD (SQ/HQ/HQX/LB)                          |
| DNxHR (SQ/HQ/HQX/LB)                          |
| H.264 2160p 35 - 68 Mbps High Profile         |
| H.264 1440p 16 - 24 Mbps High Profile         |

### Input Video Formats

|   |
|---|
| H.264 1080p 8 - 12 Mbps High Profile          |
| H.264 720p 5 - 7.5 Mbps High Profile          |
| H.264 480p 2.5 - 4 Mbps High Profile          |
| H.264 360p 1 - 1.5 Mbps High Profile          |
| H.264 2160p 13 - 51 Mbps High Profile (Live)  |
| H.264 1440p 6 - 18 Mbps High Profile (Live)   |
| H.264 1080p 3 - 9 Mbps High Profile (Live)    |
| H.264 720p 1.5 - 6 Mbps High Profile (Live)   |
| H.264 480p 0.5 - 2.0 Mbps High Profile (Live) |
| H.264 360p 0.4 - 1.0 Mbps High Profile (Live) |
| H.264 240p 0.3 - 0.7 Mbps High Profile (Live) |
| H.264 L10 10 Mbps                             |
| H.264 MOG 1Mbps                               |
| H.265/HEVC 10 Mbps LGOP                       |
| H.265/HEVC 25 Mbps LGOP                       |
| H.265/HEVC 50 Mbps LGOP                       |
| H.265/HEVC 100 Mbps LGOP                      |
| H.265/HEVC 4K 25 Mbps LGOP                    |
| H.265/HEVC 4K 50 Mbps LGOP                    |
| H.265/HEVC 4:2:2 LGOP                         |
| H.265/HEVC 4K 4:2:2 LGOP                      |
| ProRes 422 (SQ/HQ/LT)                         |
| ProRes 4444                                   |
| ProRes 4444XQ                                 |
| JPEG 2000 (Full HD)                           |
| JPEG 2000 (4K)                                |
| Google® VP6 / VP7 / VP8 / VP9 (Full HD)       |
| Google® VP9 (4K)                              |
| Uncompressed UYVY 422 / V210 / RGBA           |
| AOMedia Video 1 (Full HD)                     |
| AOMedia Video 1 (4K)                          |
| IMF (JPEG 2000 @ Full HD)                     |
| IMF (JPEG 2000 @ 4K)                          |

### Output Formats

#### Output Video Formats

|   |
|---|
| IMX 30/40/50 Mbps                             |
| MPEG2 LGOP 18/25/35 Mbps 4:2:0                |
| MPEG2 LGOP 50/70 Mbps 4:2:2                   |
| MPEG2 LGOP 422 50 Mbps                        |
| MPEG2 LGOP 420 1440x1080 35 Mbps              |
| MPEG2 LGOP 420 (FULL) 35 Mbps                 |
| DVCAM 25 Mbps                                 |
| XAVC Intra 50 / 100 Mbps                      |
| XAVC Intra 300 / 300 VBR / 480 / 480 VBR Mbps |
| XAVC LGOP 25 / 35 / 50 Mbps                   |
| XAVC LGOP 60 / 100 / 140 / 150 / 200 Mbps     |
| DVCPRO 25/50 Mbps / DVCPRO HD 100 Mbps        |
| AVC-Intra 50/100 Mbps                         |
| AVC-Intra 200 Mbps                            |
| AVC-Intra 2K422                               |
| AVC-Intra 4K422                               |
| AVC Ultra (LGOP 6/12/25/50 Mbps)              |
| DNxHD (SQ/HQ/HQX/LB)                          |
| DNxHR (SQ/HQ/HQX/LB)                          |
| H.264 2160p 35 - 68 Mbps High Profile         |
| H.264 1440p 16 - 24 Mbps High Profile         |
| H.264 1080p 8 - 12 Mbps High Profile          |
| H.264 720p CBR - 6.5 Mbps High Profile        |
| H.264 720p 5 - 7.5 Mbps High Profile          |
| H.264 480p 2.5 - 4 Mbps High Profile          |

**Output Video Formats**

|   |
|---|
| H.264 360p 1 - 1.5 Mbps High Profile          |
| H.264 2160p 13 - 51 Mbps High Profile (Live)  |
| H.264 1440p 6 - 18 Mbps High Profile (Live)   |
| H.264 1080p 3 - 9 Mbps High Profile (Live)    |
| H.264 720p 1.5 - 6 Mbps High Profile (Live)   |
| H.264 480p 0.5 - 2.0 Mbps High Profile (Live) |
| H.264 360p 0.4 - 1.0 Mbps High Profile (Live) |
| H.264 240p 0.3 - 0.7 Mbps High Profile (Live) |
| H.264 1080p CBR 15 Mbps MAIN Profile          |
| H.264 480p CBR 2.3 Mbps MAIN Profile          |
| H.264 360p CBR MAIN Profile                   |
| H.264 432p CBR MAIN Profile                   |
| H.264 576p CBR MAIN Profile                   |
| H.264 720p CBR MAIN Profile                   |
| H.264 1080p CBR MAIN Profile                  |
| H.264 576p CBR - 3 Mbps MAIN Profile          |
| H.264 720p CBR - 4 Mbps MAIN Profile          |
| H.264 1080p CBR - 5Mbps MAIN Profile          |
| H.264 15-30 Mbps MAIN Profile                 |
| H.264 L10 10 Mbps                             |
| H.264 WebRTC Baseline                         |
| H.265/HEVC LGOP 4:2:2                         |
| H.265/HEVC 10 Mbps LGOP                       |
| H.265/HEVC 25 Mbps LGOP                       |
| H.265/HEVC 50 Mbps LGOP                       |
| H.265/HEVC 100 Mbps LGOP                      |
| H.265/HEVC 4K 25 Mbps LGOP                    |
| H.265/HEVC 4K 50 Mbps LGOP                    |
| NDI HX H.264 - High Profile                   |
| NDI HX H.265 - High Profile                   |
| MPEG-5 EVC Main Profile                       |
| MPEG VVC/H266 Main Profile                    |
| ProRes 422 (SQ/HQ/LT)                         |
| ProRes 4444                                   |
| ProRes 4444XQ                                 |
| JPEG 2000 (Full HD)                           |
| JPEG 2000 (4K)                                |
| Google® VP6 / VP7 / VP8                       |

**Proxy Formats \***

**Output Proxy Formats**

|   |
|---|
| XAVC LGOP 25 / 35 Mbps                              |
| AVC Ultra (LGOP 6/12/25 Mbps)                       |
| H.264 @ 500 Kbps Flash                              |
| H.264 @ 486p 1 / 1.5 Mbps Flash                     |
| H.264 360p @ 1.6 Mbps Flash                         |
| H.264 720 480p @ 8 / 10 Mbps Flash                  |
| H.264 720p @ 8 / 15 / 16 / 20 / 24 / 25 Mbps Flash  |
| H.264 854 480p @ 8 / 10 Mbps Flash                  |
| H.264 960 540p @ 3 Mbps Flash                       |
| H.264 1080p @ 8 / 15 / 16 / 20 / 24 / 25 Mbps Flash |
| H.264 SD @ 4 / 8 / 15 / 20 / 25 Mbps                |
| H.264 480p @ 0.5 - 2 Mbps High Profile (Live)       |
| H.264 360p @ 0.4 - 1 Mbps High Profile (Live)       |
| H.264 240p @ 0.3 - 0.7 Mbps High Profile (Live)     |
| ProRes Proxy 1920x1080                              |
| ProRes Proxy 1280x720                               |
| ProRes Proxy 960x540                                |
| ProRes Proxy SD (16:9 Raster)                       |
| ProRes Proxy SD                                     |
| MPEG-1 (layer 2) @ 1.5 Mbps                         |

**Output Proxy Formats**

- Avid MPEG-2 (SIF @ 2Mbps)
- H.264 Interplay Web (SD, 800 Kbps, and 2 Mbps)
- Sony Proxy AV (MPEG-4 Part-2) @1.5 Mbps

\* Optional output

**OTT Formats \***

**Output OTT Formats**

- H.264 2160p 35 - 68 Mbps High Profile
- H.264 1440p 16 - 24 Mbps High Profile
- H.264 1080p 8 - 12 Mbps High Profile
- H.264 720p 5 - 7.5 Mbps High Profile
- H.264 480p 2.5 - 4 Mbps High Profile
- H.264 360p 1 - 1.5 Mbps High Profile
- H.264 2160p 13 - 51 Mbps High Profile (Live)
- H.264 1440p 6 - 18 Mbps High Profile (Live)
- H.264 1080p 3 - 9 Mbps High Profile (Live)
- H.264 720p 1.5 - 6 Mbps High Profile (Live)
- H.264 480p 0.5 - 2.0 Mbps High Profile (Live)
- H.264 360p 0.4 - 1.0 Mbps High Profile (Live)
- H.264 240p 0.3 - 0.7 Mbps High Profile (Live)
- H.264 360p CBR MAIN Profile
- H.264 432p CBR MAIN Profile
- H.264 576p CBR MAIN Profile
- H.264 720p CBR MAIN Profile
- H.264 1080p CBR MAIN Profile
- H.264 576p CBR - 3 Mbps MAIN Profile
- H.264 720p CBR - 4 Mbps MAIN Profile
- H.264 1080p CBR - 5Mbps MAIN Profile
- H.265/HEVC 10 Mbps LGOP
- H.265/HEVC 25 Mbps LGOP
- H.265/HEVC 50 Mbps LGOP
- H.265/HEVC 100 Mbps LGOP
- H.265/HEVC LGOP 4:2:2
- Google® VP9 (Full HD)
- Google® VP9 (4K)

\* Optional output

## Product Integrations

| Editing Systems                    | MAM / PAM / DAM                    | Stream                         | CDN's                                  |
|------------------------------------|------------------------------------|--------------------------------|--|
| Adobe Premiere Pro                 | CatDV MAM                          | Newtek NDI                     | Lumen                                  |
| AVID Media Composer                | CatDV PAM                          | Haivision SRT                  | Fastly                                 |
| AVID Media Central UX              | CatDV DAM                          | Zixi                           | Akamai Technologies                    |
| AVID Media Central Cloud UX        | eMAM Media Asset Management        | <b>Consumer Cloud Storages</b> | Microsoft Azure                        |
| Apple Final Cut Pro X              | Telestream: Masstech               | Dropbox                        | Cloudflare                             |
| Edius: Pro 8, Workgroup 9          | AVID Interplay                     | Google Drive                   | Limelight Networks                     |
| BlackMagic: DaVinci Resolve Studio | AXLE MAM                           | Microsoft One Drive            | Amazon CloudFront                      |
| Autodesk: Flame                    | Editshare Flow                     | Apple I Cloud Drive            | BootstrapCDN                           |
| <b>Storage</b>                     | MOG Vizzi                          | <b>VTR Decks</b>               | StackPath                              |
| AVID ISIS Storage                  | Medialoopster MAM                  | XDCAM HD: Disc (PDW 1500)      | KeyCDN                                 |
| AVID Nexis Storage                 | <b>Professional Cloud Storages</b> | XDCAM HD: Disc (PDW HD1500)    | Rackspace                              |
| Avid Unity™ MediaNetwork           | Adobe Creative Cloud               | XDCAM HD: Disc (PDW F70)       | Alibaba Cloud Content Delivery Service |
| Dynamic Drive Pool SAN Storage     | Amazon EC2                         | XDCAM Station (XDS1000)        | CacheFly                               |
| Facilis Terrablock                 | Amazon S3                          | <b>Cameras</b>                 | Verizon                                |
| Harmonic MediaGrid                 | Amazon S3 Glacier                  | Canon: DSLR 5D, DSLR 7D        | <b>Hypervisors</b>                     |
| Quantum: Storenext                 | Microsoft Azure Storage            | Canon: DSLR C100, C300         | Microsoft HyperV                       |
| Scalelogic: NX2 & ZX NAS Storage   | Microsoft Azure Virtual Machines   | ARRI: Alexa XT (ARRIRAW)       | VMWare ESX                             |
| Editshare EFS                      | Tencent: Cloud Storage             | Panasonic AU-EVA1, GH5 Cameras | <b>Social Media *Optional</b>          |
| EMC: Isilon                        | Lucidlink Cloud NAS                | Panasonic CX350 HEVC           | Facebook                               |
| QNAP                               | Google Cloud Storage               | Panasonic PTZ Cameras          | Twitch                                 |
| Studio Network Solutions: EVO      | IBM Cloud Object Storage           | Ikegami Gfpack                 | X (Twitter)                            |
| Oracle Storage                     | Generic S3                         | JVC: AVC HD camera models      | YouTube                                |
| Netapp                             | <b>Peripheral Devices</b>          | LUMIX DC-S1H                   | Vimeo                                  |
| <b>Audio</b>                       | Countour Shuttle Pro V2            | NewTek PTZ3, PTZ3 UHD Camera   |  |
| Dante                              | Elgato Stream Deck                 | RED Digital Cinema             |  |
|                                    |                                    | GOPRO                          |  |

## Server Options

| Features                     |                                 | Specs                            |                                       |
|------------------------------|---------------------------------|----------------------------------|---------------------------------------|
| <b>System</b>                | <b>Platform</b>                 | Dell R750                        |                                       |
|                              | <b>GPU</b>                      | 2x Nvidia A2                     |                                       |
|                              | <b>Video IO</b>                 | 4x DeckLink 8K Pro               |                                       |
|                              | <b>AVC Hardware Encoder</b>     | 2x Matrox                        |                                       |
|                              | <b>Operating System Drive</b>   | 480GB RAID 1                     |                                       |
|                              | <b>Operating System</b>         | Windows 10 Enterprise (LTSC)     |                                       |
| <b>Connectivity</b>          | <b>Networking</b>               | <b>1Gb Ethernet Port</b>         | 2                                     |
|                              |                                 | <b>10Gb Ethernet Port SFP+</b>   | 2                                     |
|                              | <b>Video</b>                    | <b>VGA Out</b>                   | 1                                     |
|                              | <b>USB</b>                      | <b>2.0</b>                       | 1                                     |
|                              |                                 | <b>3.0</b>                       | 1                                     |
|                              | <b>BNC 12G In</b>               |                                  | 8                                     |
|                              | <b>Ref. In</b>                  |                                  | 2                                     |
| <b>Power Requirements</b>    |                                 | Dual 1100W                       |                                       |
| <b>Extended Connectivity</b> | <b>Peripheral Module**</b>      | <b>LTC Input</b>                 | 1                                     |
|                              |                                 | <b>Audio Out</b>                 | 1                                     |
|                              |                                 | <b>Breakout Connector</b>        | 1                                     |
|                              | <b>Breakout Cable**</b>         | <b>RS422</b>                     | 4                                     |
|                              |                                 | <b>GPO branch with 4 outputs</b> | 1                                     |
|                              | <b>GPI branch with 4 inputs</b> | 1                                |                                       |
| <b>Other</b>                 | <b>Dimensions &amp; Weight</b>  |                                  | 2RU, 772x482x86.8mm (D, W, H), ~40 kg |
|                              | <b>Delivery Packaging</b>       |                                  | 970x660x310mm (D, W, H), ~45Kg        |
|                              | <b>Temperature</b>              | <b>Storage</b>                   | -40°C to 65°C (-40°F to 149°F)        |
|                              |                                 | <b>Continuous Operation</b>      | 10°C to 35°C (50°F to 95°F)           |
|                              | <b>What is Included</b>         | <b>Power Cable</b>               | 2x C13 to C14                         |
| <b>Other</b>                 |                                 | Static rails for 2/4-post racks  |                                       |

\*\* Not included by default

## Concurrent Media Operations

With mPORT Grand av, it is possible to run different media operations simultaneously, thus guaranteeing a universe of distinct arrangements to meet the challenging media day-to-day activities.

Media operations include recording, ingest, playback, live video streams, file preview, live channel switching, and intercom. It supports up to 16 media operations at the same time. Within this margin, you can combine the operations shown in the table below:

| Concurrent Media Operations |                          |                       |                   |                   |
|-----------------------------|--------------------------|-----------------------|-------------------|-------------------|
| Record / Live Video Stream  | Playback                 | File Preview          | Live Switch       | Intercom          |
| Up to 16 live channels *    | Up to 8 playback files * | Up to 5 files preview | Up to 1 operation | Up to 1 operation |

\* When using operations dependent on SDI video inputs and outputs, the physical limit of the video card ports must be respected. Thus, the sum of these operations cannot be greater than 8, but when using the AVC encoder, the limit is 4 UHD.

## Product

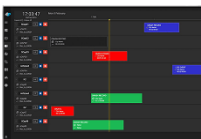
| Part Number | Product        | Description  |
|-------------|----------------|--|
| mtgrav      | mPORT Grand av | Appliance for hybrid workflows of up to 16 combined media operations |

## Available Options

Choose from the products below to customize the mPORT Grand av according to your business rules.

### Production Tool

Tool for asset management and workflow orchestration.



#### mPLAN

Setup scheduled events not only from the standard scheduler but through a unique roll out view interface. mPLAN is a tool that maintains a single rollout view of all scheduled events, allowing the management of the ingests process very efficiently. It manages multiple scheduled events across a variety of recording platforms in a multichannel environment using router control cross-points.

| Part Number | Product | Description                                     |
|-------------|---------|---|
| mpla1c      | mPLAN   | Scheduler & Router Control per licensed channel |

**Note:** Adding optional features might affect the number of simultaneous operations.

### Add-ons

Output options to complement your workflows.

| Part Number | Product              | Description                         |
|-------------|----------------------|-------------------------------------|
| grpa        | Proxy generation     | Simultaneous proxy creation         |
| groa        | OTT live ingest      | Multiple output resolutions for OTT |
| grsa        | Social media sharing | Simultaneous social media shares    |

**Note:** Adding optional features might affect the number of simultaneous operations.

### Plugins

Complement any media production and distribution workflow with turnkey plugins and extensions.



#### Screen-m

Quickly capture and deliver your screen contents to your production environment.

Easily record your screen in its entirety or choose one of the open windows. You can even enable the capture of a microphone and the mouse cursor to make it easier to explain any presentation.

| Part Number | Product         | Description               |
|-------------|-----------------|---------------------------|
| scpi        | Screen-m plugin | Screen capture & Delivery |

**Note:** Adding optional features might affect the number of simultaneous operations.



## Hardware

Customize your solution to your day-to-day media needs.

| Part Number | Product           | Description   |
|-------------|-------------------|---|
| pcbx        | Peripheral module | Optional MOG module to expand I/O available with 1x LTC, 1x audio output, 1x GPI, 1x GPO and 4x RS422 |
| -           | IP live card*     | Add up to 4 UHD IP channels into your media production infrastructure                                 |
| -           | AVC encoder card  | Add an AVC-Ultra hardware encoder accelerator   |

*\* Each Live IP card effectively replaces 8 SDI input/output channels. This offers the flexibility to opt for a hybrid appliance supporting both SDI and IP or, by integrating two Live IP cards, all current SDI inputs/outputs will be seamlessly transformed into IP-based connections.*

**Note:** Adding optional features might affect the number of simultaneous operations.

Contact our sales team at [sales@mog-technologies.com](mailto:sales@mog-technologies.com) to find out how to purchase or in case you need more information.

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