

## mPLAY Densu io



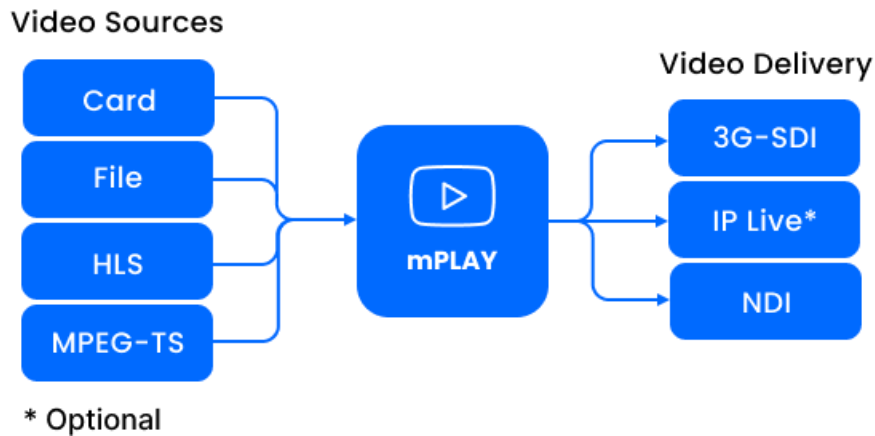
### Overview

mPLAY Densu io is an outstanding IP/SDI monitoring and playout compact appliance that simultaneously supports playing all kinds of media files in FHD, IP Live, and NDI.

It provides you with an agnostic real-time playback system to ensure a straightforward quality control process and allows the user to playback and reviews a wide range of file-based content with broadcast quality across all platforms and channels.

It supports simultaneous media operations that can be a combination of playout, file preview, live switching, and even intercom between different users.

Additionally, mPLAY Densu io comes with a redundant power supply and can be pre-configured to support IP Live workflows. It also offers the possibility of adding local storage for greater flexibility and increased capacity.



### Highlights

- **File playback - multiple simultaneous operations:** composition play, loop playback, instant play, schedule play, remote preview
- **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)
- **Operation modes:** manual, scheduled, and automatic
- **Overlays:** clip-name and port-name
- Local and remote preview of the playing video
- **mSWITCH** - Remote live switching and composing
- **mTALK** - Audio communication between users

### Specially Designed For

- Educational/Government
- Live Entertainment/Worship
- Corporate
- Sports
- Film/TV Studio/Scripted
- Mobile Studios/OB Vans
- Post-Production
- Broadcast/Digital News
- System Integrators/Rentals

## Features

Features
<b>Serial Control Protocols</b>
VTR (VDCP) - Serial
<b>Multiple LIVE and simultaneous records</b>
Stream with Closed Captions
Deck control through Serial Ports
<b>Operation modes</b>
Automatic
Manual
Scheduled
<b>Find immediately and learn everything about any asset</b>
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
<b>Audio support</b>
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)
PCM 96KHz support
Playout audio only streams
MPEG-4 Audio (M4A) audio format as output
Ability to mute proxy on the output
<b>Close captions</b>
CEA/EIA - 608
<b>Locators</b>
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
Send locators instantly to Playout
Preserve Metadata Enhancement locators created by an Automatic Job
<b>Scheduler (Calendar View)</b>
Schedule a Playout operation
Schedule Playouts
Schedule Maintenance Tasks (Reboot, Export Logs, Export Full Backup)
Edit individual events
Export activity events
Allow editing of settings for each occurrence/repetition
Set the number of an event's repetitions
Placeholder when editing an occurrence name
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
Visualize scheduled events in a List View

## Features

### 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)

### 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
- Play assets from cloud storages
- Preview Editing Decision Lists
- Preview Clip Lists
- 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
- Create new playlists with the current assets selection
- 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

## Features

- Playout Capture streams through SDI and native window
- 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

### 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

### Orchestration

- Orchestration View for output workflows
- Services Menu that eases Group and Cluster Configuration while displaying running services per node

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

- Nvidia Nvenc

### General Purpose IN/OUT

- GPI triggers supported
- GPO triggers supported

### Additional Highlights

- REST API - allows interaction with RESTful web services
- 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 - Add user information on flow actions
- Logging - Structured Logging
- Receive SMTP notifications via e-mail
- Support an external Database
- Microsoft Edge / Firefox / Safari and Chrome Support

**Features**

**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
- User profile management
- Users permissions control
- Widget based modular interface
- Lock/Unlock widgets permission
- Choose between multiple interface themes (Midnight, Carbon, Dark or 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

**Multiviewer**

- Define the quality and target latency of the preview stream
- Ability to control to up to 4 players in a single dashboard

**Maintenance**

**Scheduler**

- Reboot host or group
- Export database (backup) as a scheduled task
- Export logs as a scheduled task

**Activity**

- Export last activity
- Export all activity
- Export activity from a date range
- Clear all activity

**Logs**

- Export logs

**Backup**

- Export full backup - A full backup will create an archive of all the files and configurations
- Import full backup

**Dashboards**

- Export dashboards from one user or all users
- Import dashboards

**Data**

- 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>Plain Files or Structures</b>
<b>OnPrem</b>	ARRI ALEXA Cameras
	BlackMagic Cameras
	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

**Inputs**

<b>OnPrem</b>	GoPro Cards
	IKEGAMI GFPAC
	JVC (AVC HD models)
	NextoDI NSB-25
	Panasonic CX350 HEVC
	Panasonic AU-EVA1 and GH5 Cameras
	<b>Panasonic P2</b>
	AJ-PCD 2 / AJ-PCD 20/30/35 / AJ-MPD1
	AU-XPD1E / AU-XPD3EJ
	<b>Multi Clip/Spanned XDCAM/XAVC/XDCAM-EX Structure</b>
	<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)
	XAVC Structures
	DJI (Camera Drones)
	HLS Structures
	MPEG-TS Structures
	MOG Package
	<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 Live Inputs

Inputs	
Live	<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>IP Live *Optional</b>
	ST2022-6
	ST2022-7
	ST2110-10, ST2110-20, ST2110-21, ST2110-30, ST2110-31
	ST2110-40
	ST2110 - NMOS IS-04 and IS-05 support

## Supported Live Outputs

Outputs	
Live	<b>SD/HD/FHD-SDI</b>
	SD-SDI (SMPTE 259M)
	3G-SDI (SMPTE 292M, SMPTE296M, SMPTE372M, SMPTE425M)
	Support for 8, 10 and 12 bits
	<b>Streams</b>
	HLS
	HTTPS Push
	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
	<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)
Digital Picture Exchange (DPX)
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

### Input Video Formats

DVCAM 25 Mbps
XAVC Intra 50 / 100 Mbps
XAVC LGOP 25 / 35 / 50 Mbps
DVCPRO 25/50 Mbps / DVCPRO HD 100 Mbps
AVC-Intra 50/100 Mbps
AVC-Intra 200 Mbps
AVC Ultra (LGOP 6/12/25/50 Mbps)
DNxHD (SQ/HQ/HQX/LB)
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 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
MPEG-5 EVC Baseline Profile
MPEG-5 EVC Main Profile
MPEG VVC/H266 Main Profile
ProRes 422 (SQ/HQ/LT)
JPEG 2000 (Full HD)
Google® VP6 / VP7 / VP8 / VP9 (Full HD)
Uncompressed UYVY 422 / V210 / RGBA
AOMedia Video 1 (Full HD)
IMF (JPEG 2000 @ Full HD)

### Product Integrations

Storage	Professional Cloud Storages	Cameras	Social Media
AVID ISIS Storage	Adobe Creative Cloud	Canon (DSLR5D, DSLR 7D)	Facebook
AVID Nexis Storage	Amazon EC2	Canon (DSLR C300, DSLR C100)	Twitch
Avid Unity™ MediaNetwork	Amazon S3	ARRI Alexa XT (ARRIRAW)	X (Twitter)
Dynamic Drive Pool SAN Storage	Amazon S3 Glacier	Panasonic AU-EVA1	YouTube
Facilis Terrablock	Microsoft Azure Storage	Panasonic GH5 Cameras	Vimeo
Harmonic MediaGrid	Microsoft Azure Virtual Machines	Panasonic CX350 HEVC	Peripheral Devices
Quantum: Storenxt	Tencent: Cloud Storage	Ikegami Gfpack	Countour Shuttle Pro V2
Scalelogic: NX2 & ZX NAS Storage	Lucidlink Cloud NAS	JVC AVC HD camera models	Elgato Stream Deck
Editshare EFS	Google Cloud Storage	LUMIX DC-S1H	Stream
EMC: Isilon	IBM Cloud Object Storage	RED Digital Cinema	Newtek NDI
QNAP	Generic S3	GOPRO	Haivision SRT
Studio Network Solutions: EVO	Hypervisors		
Oracle Storage	Microsoft HyperV		
Netapp	VMWare ESX		



## Server Options

Features		Specs	
System	Platform	Densu 2U	
	Video IO	2x DeckLink miniDuo2	
	Operating System Drive	480GB	
	Operating System	Windows 10 Enterprise (LTSC)	
Connectivity	Networking	1Gb Ethernet Port	2
		2.5Gb Ethernet Port	2
	Video	Display Port	2
		HDMI	2
	USB	2.0	4
		3.0	8
	HD BNC Out		8
	Ref. In		2
	Live IP Port**		2
	LTC Input		2
	Audio Output		2
	Breakout Connector		2
Power Requirements		Dual 300W	
Breakout Cable	RS422	8	
	GPO branch with 4 outputs	2	
	GPI branch with 4 inputs	2	
Other	Dimensions & Weight	2RU, 245x484x89mm (D, W, H), ~14Kg	
	Delivery Packaging	580x380x250mm (D, W, H), ~15Kg	
	Temperature	Storage**	-40°C to 65°C (-40°F to 149°F)
		Continuous Operation	10°C to 32°C (50°F to 89.6°F)
	What is Included	Power Cable	2x C13 to C14
Other		4x rack mount screws	

\*\* Not included by default

## Concurrent Media Operations

With mPLAY Densu io, 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 playback, file preview, live channel switching, and intercom.

mPLAY Densu io supports up to 10 media operations at the same time. Within this margin, you can combine the operations shown in the table below:

Concurrent Media Operations			
Playback	File Preview	Live Switch	Intercom
Up to 8 playback files	Up to 5 files preview	Up to 1 operation	Up to 1 operation

## Product

Part Number	Product	Description
mpio	mPLAY Densu io	Compact file playback appliance of up to 8 combined media operations

## Available Options

Choose from the products below to customize the mPLAY Densu io according to your business rules.

### Production Tools

Tool for 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
mpla8c	mPLAN	Scheduler & Router Control of up to 8 channels

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

### Add-ons

Output options to complement your workflows.

Part Number	Product	Description
s2ioiplk	IP live kit	IP media production infrastructure

**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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