

mLIVE Densu io

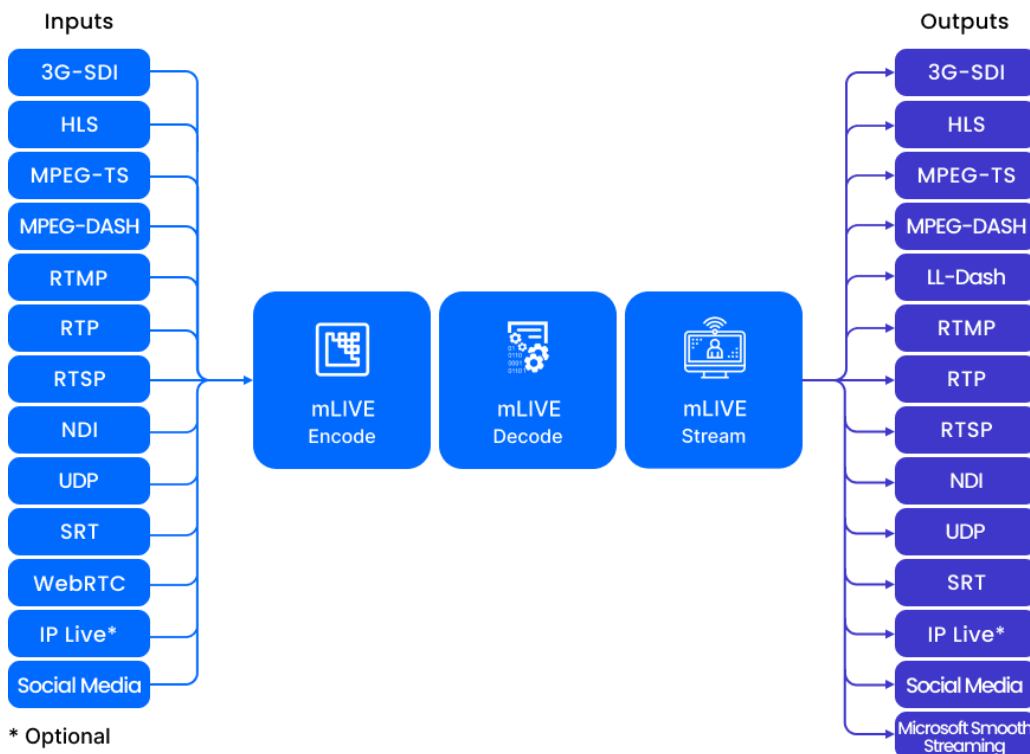


Overview

mLIVE Densu io is a powerful and flexible dual-node compact appliance to manage all your live video streams in an integrated media production ecosystem.

It brings you unparalleled power and proven reliability, no matter the scenario. Broadcast live events, automate 24/7 channels playout, or distribute to OTT and social media effortlessly, no matter the source.

mLIVE Densu io supports simultaneous media operations that can be a combination of live video streams, file previews, live switching, and even intercom between different users.



Highlights

- **mSWITCH** - Remote live switching and compositing
- **mTALK** - Audio communication between users
- Full featured local and remote user interface (includes quick control through touch screen)
- Encodes and/or decodes contents according to the destination format
- Multiple output resolutions for OTT
- Operation modes: manual and scheduled
- Ideal for multiple feeds of video contribution
- Social media sharing

Specially Designed For

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

Features

Features
Timecode support
LTC (SMPTE 12M)
VITC (SMPTE RP188)
Time of Day
Multiple LIVE and simultaneous records
Gang Capture operations
Independent workflow selection in Gang Captures
Flexible Gang Capture channel configurations / Choose which channels are present in the gang
Automatic Stream Control - Detect input streams and start recording automatically
Continuous live stream capture
Generate MP4 files as Fragmented MP4 via DCP Packager
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
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
Operation modes
Manual
Scheduled
Clipnaming
Drag and Drop support
"CreationDate" field can refer to a desired Time Zone
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
Audio downmixing & upmixing
Ability to mute proxy on the output
Close captions
CEA/EIA - 608
Support DVB-S captions in streams
Stream with Closed Captions
Scheduler (Calendar View)
Schedule a Record 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
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
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

Features

Signal error detection and related recovery actions

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

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

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

Features

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
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 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
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
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

Features

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 Live Inputs

Inputs	
Live	SD/HD/FHD-SDI
	SD-SDI (SMPTE 259M)
	3G-SDI (SMPTE 292M, SMPTE296M, SMPTE372M, SMPTE425M)
	Streams
	Video Content Hyperlinks
	HLS
	MPEG-TS
	MPEG-DASH
	RTMP (with support for HEVC / VP9 / AV1)
	RTP
	RTSP
	NewTek NDI
	UDP
	Haivision SRT
	WebRTC
	Zixi
	Audio
	Dante Audio
	Social Media
	Facebook
	Twitch
	X (Twitter)
	YouTube
	IP Live *Optional
	ST2022-6
	ST2022-7
	ST2110-10, ST2110-20, ST2110-21, ST2110-30, ST2110-31
	ST2110-40

Supported Live Outputs

Outputs	
Live	SD/HD/FHD-SDI
	SD-SDI (SMPTE 259M)
	3G-SDI (SMPTE 292M, SMPTE296M, SMPTE372M, SMPTE425M)
	Streams
	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

Outputs

Live	Vizzi
	Live Output
	Social Media
	Facebook
	Twitch
	X (Twitter)
	YouTube
	Vimeo
	Multiple and Adaptive bitrates for the OTT
	IP Live *Optional
	ST2022-7
	ST2110-10, ST2110-20, ST2110-21, ST2110-30, ST2110-31
	ST2110-40

Formats

Output Formats

Output Video Formats

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
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 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 WebRTC Baseline
H.265/HEVC 10 Mbps LGOP
H.265/HEVC 25 Mbps LGOP
H.265/HEVC 50 Mbps LGOP
H.265/HEVC 100 Mbps LGOP
NDI HX H.264 - High Profile
NDI HX H.265 - High Profile

OTT Formats

Output OTT 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 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

Output OTT Formats

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

Product Integrations

Stream	CDN's
Newtek NDI	Lumen
Haivision SRT	Fastly
Zixi	Akamai Technologies
Social Media	Microsoft Azure
Facebook	Cloudflare
Twitch	Limelight Networks
X (Twitter)	Amazon CloudFront
YouTube	BootstrapCDN
Vimeo	StackPath
Hypervisors	KeyCDN
Microsoft HyperV	Rackspace
VMWare ESX	Alibaba Cloud Content Delivery Service
Audio	CacheFly
Dante	Verizon

Server Options

Features		Specs
System	Platform	Densu 1U
	Video IO	2x DeckLink miniDuo2
	Operating System Drive	480GB
	Operating System	Windows 10 Enterprise (LTSC)
Connectivity	Networking	1Gb Ethernet Port 4
	Video	Display Port 2
		HDMI 2
	USB	2.0 4
		3.0 8
	HD BNC I/O	8
	Ref. In	2
	Live IP Port**	2
	LTC Input	2
	Audio Output	2
	Breakout Connector	2
Power Requirements	Single 300W	
Breakout Cable	RS422	8
	GPO branch with 4 outputs	2
	GPI branch with 4 inputs	2
Other	Dimensions & Weight	1RU, 245x484x42.5mm (D, W, H), ~7Kg
	Delivery Packaging	580x380x250mm (D, W, H), ~8Kg
	Temperature	Continuous Operation 10°C to 32°C (50°F to 89.6°F)
	What is Included	Power Cable
Other		4x rack mount screws

** Not included by default

Concurrent Media Operations

With mLIVE Densu io, it is possible to run different media operations simultaneously, thus guaranteeing a universe of distinct arrangements to meet the challenging day-to-day activities of media production companies.

Media operations include live video streams, file preview, live channel switching, and intercom.

mLIVE Densu io supports up to 4 media operations per node at the same time. Within this margin, you can combine the operations shown in the table below:

Concurrent Media Operations			
Live Video Streams	File Preview	Live Switch	Intercom
Up to 2 live channels per node	Up to 10 files preview	Up to 1 operation	Up to 1 operation

Product

Part Number	Product	Description
mldnio	mLIVE Densu io	Compact dual-node encode/decode appliance of up to 2 combined media operations per node

Available Options

Choose from the products below to customize the mLIVE 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.

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.

Contact our sales team at sales@mog-technologies.com to find out how to purchase or in case you need more information.

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