# mDECK Densu tl

Overview

Boost your team's performance with mDECK Densu tl, a professional dual-node media deck that can combine operations of record and playback content in FHD and NDI from XDCAM and P2 structures directly to HDD or SSD removable drives.

mDECK Densu tl supports combinations of media operations and guarantees a universe of distinct arrangements to suit the different activities of each day.

Additionally, it comes with PSU redundancy, an OS drive, and can be pre-configured to support IP Live workflows.
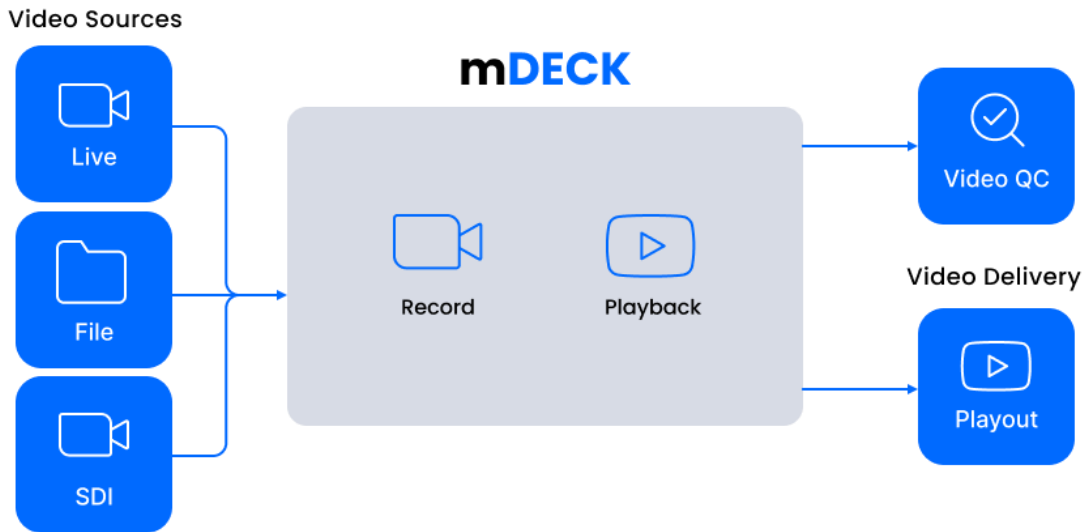
Highlights

- Live to file - multiple simultaneous records
- File playback - multiple simultaneous plays
- All media operations can simultaneously use the local hard drives
- Metadata preservation, enhancement, and enrichment

- Flexible file naming and renaming engine
- Playlist management
- Supports spanned clips
- Proxy generation

Specially Designed For

- Educational/Government
- Live Entertainment/Worship
- Corporate
- Sports

- Film/TV Studio/Scripted
- Digital News
- Mobile Studios/OB Vans
- Television/Broadcasting

Features

Features
Timecode support
LTC (SMPTE 12M)
VITC (SMPTE RP188)
Time of Day
From VTR (BVW) - Serial
Multiple LIVE and simultaneous records
Crash Record operations
Gang Capture operations
Independent workflow selection in Gang Captures
Unique workflow for gang captures while using clipnaming with counters
Hide unused Capture Instances
Synchronized gang captures
Ability to choose which channels are present in the gang
Unlimited capture duration support
Loop record support
Extend playlist maximum duration in Loop Record workflows
Perform Loop record captures through automatic jobs
Growing file support for Grass valley Edius Workgroup v.9 and X
Growing XDCAM MXF OP1a file support on Avid Media Composer **required Nablet AMA Plugin**
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
Generation of MP4 files as fragmented MP4 with DCP packager
Perform "Run after completion" scripts
Live Probing option
Stream Closed Captions
Edit a Workflow directly from the Player
Option to start timecode recording from 00:00:00:00
Export MOG playlist (.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
Contribution Web Video Player - Aspect marker, Safe Area Marker, and Center marker
Player Overlay - Center Dot and Cross
Support for Active Format Description (AFD)
Operation modes
Automatic
Manual
Scheduled
Clipnaming
Flexible file renaming engine
Create multiple and diverse Clipnaming templates
Clipnaming based under metadata profiles
Use of common labels (Id, label, Counter, Date, Original Source Name, Weekday, User)
Field numeric representation of the day of the week
Folder Structure creation
Drag and Drop support
Restore auto numbering on capture abort in naming templates
Time Zone Support when the "CreationDate" field is selected
Support to append "_p" to proxy clip names
Multi-Configuration metadata management and enrichment
Internal asset management
Quickly search for assets metadata
Metadata management
Metadata generation on capture operations
Metadata fields - prevent overwrite
Protection of metadata fields
Delete custom metadata
Edit group clip metadata
Edit source metadata based on a metadata profile
"Description" field editable in metadata widget
"Description" field as a column in the asset explorer list view
Send metadata to Gang Captures
Favorite metadata fields
Create custom metadata fields
Rating metadata field
Metadata source update directly in the metadata widget
Add asset tags insertion in preset list
Support re-using lists of possible values
Update Metadata in Media Central/Interplay using AMT-3 library
Ability to rename media in Interplay after capture began
Take field (counter)
Support for "Reel" metadata field using Apple ProRes Wrapper

Features

    Preserve Arri specific fields

Find immediately and learn everything about any asset
    Asset Browser - Show/hide proxies
    Asset Browser - Sort, order, and search
    Asset Explorer - Resizable thumbnails
    Asset Explorer - Support asset availability
    Asset Explorer - Search all
    Asset Explorer - Extraction of thumbnails and posters while indexing
    Asset Explorer - Playable thumbnails
    Asset Explorer - Pop-up player
    Asset Explorer - View the exact duration of files with more than 24 hours
    Asset Selection - Configurable asset 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)
    PCM 96KHz support
    Independent audio encoder for hires and proxy
    Individual audio mapping by output target
    Record audio only streams
    Playout audio only streams
    Loudness normalization (EBU R128)
    Audio downmixing & upmixing
    External audio files support (.WAV)
    MPEG-4 Audio (M4A) audio format as output
    Mute proxy option in output

Close captions
    CEA/EIA - 608
    Scenarist (SCC)
    Add sidecar - SubRip (SRT)
    Add sidecar - Fragmented WebVTT
    Add sidecar - ISMT/CMFT subtitles
    DCP subtitle burn-in (.SCC)
    Digital Cinema Package (DCP) open captioning
    Support DVB-S captions in streams
    Support captioning for OTT (CMFT, SubRip, and WebVTT)
    Stream Closed Captions

Locators
    Create locators with shortcut keys
    Edit and delete locators
    Edit locators description
    Insertion and viewing
    Action fields creation and customization
    Comments insertion in a markers widget tab
    Locators source in markers widget
    Multiple subcategories for a locator
    Order asset locators by timecode
    Absolute timecode for source locators
    Enter Timecode without the need of entering colons
    Eject locators using the player eject button
    Locators merge
    Support for locators with AMT captures
    Send locators to gang captures
    Preserve Metadata Enhancement locators created by an Automatic Job

Scheduler (Calendar View)
    Scheduled Record
    Scheduled Automatic Jobs via Scheduler
    Edit individual events
    Allow editing of settings for each occurrence/repetition
    Configure the number of events repetitions
    Check collision between events with repetitions
    Ability to Ignore files before a start date
    Placeholder when editing an occurrence name
    Enable field event name as AVID Interplay clipname by default
    Pre-set naming templates
    Independent targets and multiple outputs support
    Capability to set a maximum capture duration
    Configurable number of iterations when using maximum capture duration

Features
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
Possibility to use the calendar notion option in order to adjust for daylight saving time automatically
Ability to edit 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
Signal error detection and related recovery actions
Signal error detection
Drop frame detection
Timecode breaks support
Configurable capture resume methodology
Automatic streaming (headless) - Restart capture after stopping/crashing or rebooting
Checksum media
MD5 hash file
MDL - Media hash list
Live to Live
Delete artifacts on abort
Support Live Stream from sCapture as rPlayout input
NDI
Native NDI output
NDI HX Support
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
WebRTC
h.264 Support
VP8 Support
VP9 Support
File ingest
Disable Clip File Naming generation
Growing files ingest
Automatic drag and drop ingest
Drag and drop from social networks
Directly select the storage on the dashboard instead of accessing workflow profiles
Copy assets
Group Assets - Group the resulting outputs into a single asset
Copy - Transfer sidecars if available
Encode the contents according to the destination format
Decode the contents according to the destination format
Move assets
Edit while ingest
Use locators on growing files
Frame rate conversion
Variable Frame Rate Input
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)
Ability to perform "Run after completion" scripts
Audio only OPAtom as output
Do not overwrite files option
Enable "growing" support on EDL ingest workflow
Merge as EDL independent of input format
Merge Trimmed files
Merge files with different framerates
Merge P2 with different audio channels
Merge operations for Devices sources
Allow merge of more than 200 assets
Support for spanned Panasonic P2 structure
Preserve original time code breaks in Panasonic P2 Format
Mute proxy option in output (requires proxy option)
Edit decision lists with cut points
Display the total duration of sub-clips on Edit Decision List widget
Digital Cinema Package (DCP) support
DCP Packager - Possibility to force fragmented MP4 while uploading to S3 buckets
Generation of MP4 files as fragmented MP4 with DCP packager
Digital Picture Exchange (DPX) support
IMF (Netflix Compliant) output metadata

Features
HDR (PQ, HLG) conversion to SDR as output
Support for image files ingest
Support for spanned clips
XDCAM support for spanned & merge clips in network locations/network devices
Add black bars to respect aspect ratio
Delete Output on Job Abort
Ingest and/or transcode the contents according to the destination format
Support for Vizzi collections as input files
Browse Avid Interplay folder structure from within the "Workflow selection window"
Avid Sub Clip export referencing Growing Master Clip
Generate Avid OPAtom assets to an FTP server
Update Metadata in Media Central/Interplay using AMT-3 library
Live Ingest Operations
Live sources available in asset browser/explorer
Override start timecode

Burn-In Video options

Graphic burn-in while recording
Graphic burn-in while ingesting
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

Automated ingest

Dynamic workflows using metadata fields
Dynamic workflows with support for metadata without sidecars
Delete Assets in Dynamic Jobs
Support different input types on dynamic configurations
Ignore files before a start date
Support metadata enhancement workflows
Vizzi Collections support

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
Playback - 8K UHD
Embedded VITC output support
Step multiple frames forward and backwards on SDI/gang playback
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

PAM - Production Asset Management

Flexible metadata management

mTALK

Audio communication between users
QR code implementation
WebApp (requires Android smartphone)
Toggle Mode

Analytics

Google Analytics and Tag Manager integration
Option to enable and disable Analytics
Track menu events
Video metrics
Track job control widget events
Track asset explorer widget 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
"Keep me signed in" login option
User Verification through email
Configurable password visibility in logs

Transfer acceleration protocols
- Aspera FASP transport technology - Transfer acceleration protocol
- FileCatalyst direct - Transfer acceleration protocol

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
- 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
- Control XPRESS display panel with peripheral API
- 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
- SMTP E-mail Notifications
- 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 custom dashboard templates
- Import and export of users Dashboards
- Associate same dashboards 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
- View which servers in a group are running Capture and Ingest Operations in a Group activity widget
- Possibility to remove quick edit button from Job Control widget
- Permissions to activate or deactivate settings of Gang Capture widget

Multiviewer
- Configurable 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
- Factory data reset
- Erase all data and reset the system

Features
Force clear cache

Technical Specifications

Supported File Inputs

	Inputs
OnPrem	**Plain Files or Structures**
	Panasonic P2
	AJ-PCD 2 / AJ-PCD 20/30/35 / AJ-MPD1
	AU-XPD1E / AU-XPD3EJ
	XDCAM EX:
	Sony SxS (SBAC-UT100, SBAC-US10/20/30)
	XDCAM HD
	Sony XDCAM HD: Disc (PDW-U1, PDW-U2, PDW-U4)
	XAVC Structures
	DJI (Camera Drones)
	Network
	XDCAM Network
	P2 Network
	ARRI RAW Network
	Ikegami Network
Cloud	**Social Media**
	Facebook
	X (Twitter)
	Vimeo
	YouTube
	Professional Cloud Storages
	Adobe Creative Cloud
	Amazon S3 Glacier
	Microsoft Azure Storage
	Tencent
	Lucidlink Cloud NAS
	Google Cloud Storage
	IBM Cloud Object Storage
	Generic S3 storages
	Consumer Cloud Storages
	Apple I Cloud Drive
	Dropbox
	Google Drive
	Microsoft One Drive

Supported File Outputs

	Outputs
OnPrem	**Removable Disks**
	HDD 2.5"
	SSD 2.5"

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
	Social Media
	Facebook
	Twitch

Inputs	
Live	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
	Vizzi
	Live Output
	IP Live *Optional
	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 LGOP 25 / 35 / 50 Mbps
DVCPRO 25/50 Mbps / DVCPRO HD 100 Mbps
AVC-Intra 50/100 Mbps
MPEG-5 EVC Baseline Profile
MPEG-5 EVC Main Profile
MPEG VVC/H266 Main Profile

Output Formats

Output Video 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 LGOP 25 / 35 / 50 Mbps
DVCPRO 25/50 Mbps / DVCPRO HD 100 Mbps
AVC-Intra 50/100 Mbps
AVC-Intra 200 Mbps
MPEG-5 EVC Baseline Profile
MPEG-5 EVC Main Profile
MPEG VVC/H266 Main Profile

Proxy Formats

Output 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
Avid MPEG-2 (SIF @ 2Mbps)
H.264 MOG 1Mbps
H.264 Interplay Web (SD, 800 Kbps, and 2 Mbps)
Sony Proxy AV (MPEG-4 Part-2) @1.5 Mbps

Product Integrations

Editing Sytems	Card Readers	Cameras
Adobe Premiere Pro	Panasonic P2 AJ PCD 2	Canon (DSLR5D, DSLR 7D, DSLR C300, DSLR C100)
AVID Media Composer	Panasonic P2 AJ PCD 20/30/35	ARRI Alexa XT (ARRIRAW)
AVID Media Central UX	Panasonic P2 AJ MPD1)	Panasonic AU-EVA1
AVID Media Central Cloud UX	Panasonic P2 AU-XPD1E	Panasonic GH5 Cameras
Apple Final Cut Pro X	Panasonic P2 AU-XPD3EJ	Panasonic CX350 HEVC
Edius: Pro 8, Workgroup 9	Panasonic P2 AG HPG 20	Panasonic PTZ Cameras
BlackMagic: DaVinci Resolve Studio	Sony XDCAM EX (SxS Cards): SBAC-US10/20/30	Ikegami Gfpack
Autodesk: Flame	Sony XDCAM EX (SxS Cards): SBAC-UT100	JVC AVC HD camera models
Stream	Sony XDCAM EX (SxS Cards): MRW E-80	LUMIX DC-S1H
Newtek NDI	Sony XDCAM EX (SxS Cards): MRW E-90	NewTek PTZ3 UHD Camera
Haivision SRT	Sony Disc Reader: PDW-U1	NewTek PTZ3 Camera
VTR Decks	Sony Disc Reader: PDW-U2	RED Digital Cinema
XDCAM HD: Disc PDW 1500	**Social Media**	GOPRO
XDCAM HD: Disc PDW HD1500	Facebook	**Peripheral Devices**
XDCAM HD: Disc PDW F70	Twitch	Countour Shuttle Pro V2
XDCAM Station (XDS1000)	X (Twitter)	Elgato Stream Deck
Structures	YouTube	
XAVC Structures	Vimeo	

Server Options

Features		Specs
System	**Platform**	Densu 2U
	Video IO	2x DeckLink miniDuo2
	Operating System Drive	480GB
	Operating System	Windows 10 Enterprise (LTSC)
	Drive Bay	4x Trayless Bay 2,5" 7mm
Connectivity	**Networking** — **1Gb Ethernet Port**	4
	Video — **Display Port**	2
	Video — **HDMI**	2
	USB — **2.0**	4
	USB — **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	Dual 300W
	Breakout Cable — **RS422**	8
	Breakout Cable — **GPO branch with 4 outputs**	2
	Breakout Cable — **GPI branch with 4 inputs**	2
Other	**Dimensions & Weight**	2RU, 245x484x89mm (D, W, H), ~13Kg
	Delivery Packaging	580x380x250mm (D, W, H), ~14Kg
	Temperature — **Continuous Operation**	10°C to 32°C (50°F to 89.6°F)
	What is Included — **Power Cable**	2x C13 to C14
	What is Included — **Other**	4x rack mount screws

Concurrent Media Operations

With mDECK Densu tl, 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 recording, playback, and file preview.

mDECK Densu tl supports up to 3 media operations per node at the same time. Within this margin, you can combine the operations shown in the table below:

Concurrent Media Operations		
Record	**Playback**	**File Preview**
Up to 2 live channels per node	Up to 1 playback files per node	Up to 5 files preview

Product

Part Number	Product	Description
mddntl	mDECK Densu tl	Compact dual-node deck appliance with support for XDCAM and P2 structures of up to 3 combined media operations per node

Available Options

Choose from the products below to customize the mDECK Densu tl according to your business rules.

Add-ons

Output option 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 to find out how to purchase or in case you need more information.