Lightspeed Live Capture for Tape Capture (Library Digitization)

Bring your archive into modern Content Management systems for distribution and monetization

Telestream Lightspeed Live Capture systems provide a high-volume, automatable tool for audio and video ingest to content management and workflow automation systems. With Lightspeed Live Capture you can easily move content from videotape storage into your media processing systems, like Vantage, to your edit suites, or to Content Management libraries for distribution, licensing, and direct monetization.
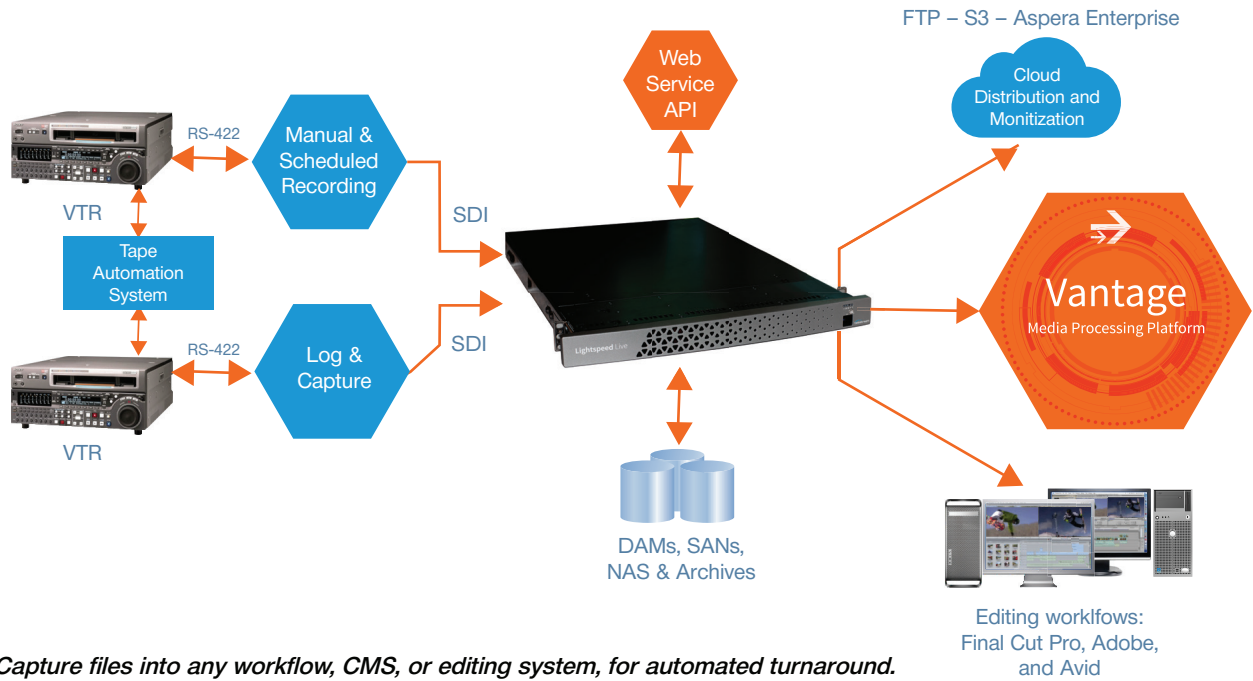
Market challenge:

Video tape served as the broadcast industry's primary low-cost, high-volume storage media for over 50 years, and many organizations have substantial archives of valuable content stored on digital and analog tapes that degrade over time. Digitizing these assets is a clear necessity as magnetic tape decks – and the tapes themselves – reach obsolescence, and their maintenance becomes more expensive.

Capturing tape-based libraries is a real-time process, and as such it can be very time-consuming. Owners of high-value content need to get their materials into long-term archival file formats, such as JPEG2000 or ProRes, to ensure the continuity of those assets. Many videotape assets are already of an age where their continued performance is questionable.

Modern asset-management systems can seamlessly integrate tape-based assets as a storage tier, but the benefits of these systems, like direct monetization, cloud-based delivery, and customizable delivery, all rely on the ability to quickly turn those tape cassettes into mezzanine master files.

In addition to improving physical security, since data files are far more practical to co-locate, this process greatly expands how much usable information can be carried along with the audio and video data. Metadata can be used to feed content searches as well as facilitating editorial re-use of content in numerous ways.

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FTP – S3 – Aspera Enterprise

Web Service API

Cloud Distribution and Monitization

RS-422

VTR

Manual & Scheduled Recording

SDI

Tape Automation System

RS-422

VTR

Log & Capture

SDI

Vantage
Media Processing Platform

DAMs, SANs, NAS & Archives

Editing worklfows: Final Cut Pro, Adobe, and Avid

Capture files into any workflow, CMS, or editing system, for automated turnaround.

The Lightspeed Live solution:

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Using a Lightspeed Live Capture system, an operator can ingest up to 8 sources simultaneously at any HD or SD resolution, with frame-accurate RS422 tape machine control and SMPTE timecode. Operators can capture directly to a wide variety of professional mezzanine formats including Uncompressed, JPEG2000, ProRes, and DnXHD, and generate a wide variety of simultaneous proxy files.The browser-based control software offers automated log & capture as well as bulk-capture options that allow for segmenting and/or stitching files after capture operations.

Metadata entry

VTR Lock status

RS-422 status
Timecode

Audio meters

Playback controls

Incoming SDI signal specs

Clip list

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Clip lists can be built to record specific segments of a tape, and these segments can be saved individually or automatically stitched together. Clip lists can be exported and imported, so for syndicated content, if timecodes are the same for multiple episodes, the same clip list can be used, expediting the ingest process.

Lightspeed Live Capture comes with a full set of APIs for integration with automated tape handling systems.

Files can be captured to the local RAID, or directly to external shared storage, facilitating integration with workflow orchestration systems like Vantage, or automated QC systems like VidChecker.

Features and Benefits:

High-density capture solution: Lightspeed Live Capture is available with up to 8 SDI inputs (depending on model) and 8 RS-422 tape deck controls per server. Multiple server units can be controlled from a single operator console.

Lightspeed Live Capture Servers can be configured with up to 15.4 TB of local RAID storage and includes 4-10 GB ethernet ports. Other connectivity options include FibreChannel and Ethernet over Fibre adaptors for integration with a wide range of SAN systems.

Specifications:

Lightspeed Live Capture C4 - Tape Capture Specifications

SDI Input Sources:
- 8 SD/HD/3G-SDI inputs-Supports up to 1080 50/60p (3G-SDI LEVEL A only)
- Up to 2 Quad-Link Square Division/2 Sample Interleave input – Supports UHD/4K up to 2160 50/60p
- Up to 16 channels embedded SDI audio 48Khz/16/24bit / Uncompressed
- Configurable 3G-SDI loop-throughoutputs

VTR Machine Control for each SDI Input[1]
- RS-422, 9pin Sony Protocol
- Control up to 8 VTRs per Lightspeed Live Capture system

External API Control
- RS-422(BVW/Sony9-pin)[1]

Time code sources
- Source SDI input (VITC/VBI)

- RS-422[1]
- Analog LTC
- Computer Clock
- FreeRun

Primary output file formats
- Uncompressed 10-bit (SD/HD V210)
- JPEG 2000 up to 1080p60
- Apple ProRes2 – 422HQ, 422SQ, 422LT, 422 Proxy, 444
- DNxHD-444,HQX,HQ(220/185Mbps),HQTR (145/120 Mbps), SQ (145/120 Mbps), SQ TR (100 Mbps), LB (45/36 Mbps)
- DNxHR2 – 444, HQX (10 bit), HQ, SQ, LB
- AVC Intra - 50 Mbps 4:2:0, 100 Mbps 4:2:2, 200 MBPS 4:2:2AVC2 Baseline, Main, High. Bit Rate - 50 Mbps
- XDCAM HD - 18 Mbps CBR, 25 Mbps CBR, 35 Mbps VBR
- XDCAMHD422-50MbpsCBR
- XDCAMEX-35MbpsVBR
- IMX–30,40,50Mbps
- HEVC2 (software encoding only) Bit Rate - 50 Mbps
- XAVC Class 100 HD, Class 300/4802 UHD/4K
- DV-DV25Mbps,DVCPRO 25Mbps, DVCPRO50 Mbps, DVCPRO HD
- x264[2] Baseline, Main, High, High 10, High 4:2:2, max Bit Rate 50Mbps
- x265[2] Main, Main 10, Main Intra, max Bit Rate 50Mbps • MPEG-2, max bit rate 50Mbps

Browser based control UI
- Manual Recording options
- 24/7/365Scheduling
- Log and Capture with VTR control via RS-4221
- Web Service API
- Multichannel Gang recording
- DAI (SCTE Trigger)

Container Wrappers
- MXF OP1a including RDD9 and RDD25 variants
- Avid MXF OP Atom
- QuickTime
- MP4 - complies with IEC-14496-14

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- MPEG Transport Stream (with MPEG2 essence) and Manzanita multiplexing (optional purchase)
- Telestream TIFO

Proxy output files

- AVC/H.264-MXFOP1a-High@L3,container conforms to SMPTE RDD25, max Bit Rate 10Mbps
- AVC-MP4-High@L3,container conforms to IEC-14496-14, max Bit Rate 10Mbps
- Apple ProRes Proxy and Avid DNxHD LB

Hardware

- 1RU chassis
- Dual hot swap Power Supplies
- 4x10G Base-T Ethernet ports
- Up to15.4TB of local RAID storage

Software options

- Avid Integration
- Live Edit sub-clipping
- LivePlay playback of files and playlists
- LiveSchedule can schedule capture events

Hardware options

- 8Gb and 16Gb FibreChannel HBA for SAN access
- Myricom 10Gb Ethernet over Fibre for Avid ISIS/ NEXIS connectivity
- Additional 7.7TB option (Four additional enterprise class 1.92TB SSD drives)
- Up to 8 channel RS422 Kit

Environment

- Management console and system monitoring via SNMP
- Size:H 1.7"(43mm) x W 17.2" (437mm) x L 27.8" (707mm)
- Weight:32lbs
- AC Input:100-127 Vac,50-60 Hz; 200-240 Vac,50-60Hz
- Operating Temperature: 5°Cto40°C (41°F to 104°F)

Footnotes

[1] Requires optional RS422 kit

[2] 4K/UHD capable

Lightspeed Live Capture C2 - Technical Specifications

Same as Lightspeed Live Capture C4, except:

SDI Input Sources:

- 2SD/HD/3G-SDIinputs-Supportsupto1080-@ 50/60p (3G-SDI LEVEL A and B)
- 2 SD/HD/3G-SDI outputs for input loop through

Hardware

- Up to 6.2 TB of local RAID storage