

S731AE

4x 1GbE RJ45, 2x 16Gb Fibre Channel



PHYSICAL

Dimensions (W x H x D)	43.38 cm x 4.29 cm x 92.38 cm 17.08 in x 1.69 in x 36.37 in
Weight	19.44 kg (Unit) 39.79 kg (Gross)
ECCN	5A992
USHTS Code	8471.50.0150

ELECTRICAL

Max Potential Power	1040 Watts (Max)
Heat Dissipation	3548.63 BTU/hr (Max)
Line Frequency	50 - 60 Hz
Input Voltage	100 - 220 VAC
PSU Power Connector	C20



NOTE: Data center specific cabling is not provided, only regional mains power cabling provided.

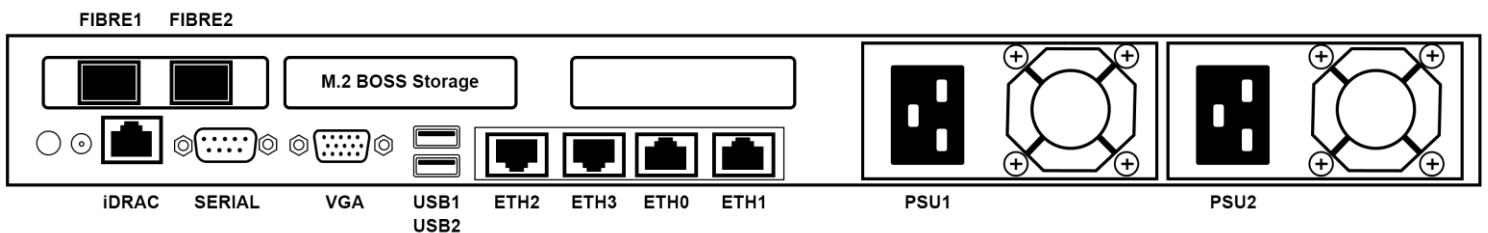
ENVIRONMENTAL

Operating Conditions	10 to 35 °C (50 to 95 °F) 10% to 80% RH (non-condensing)
Storage Conditions	-40 to 65 °C (-40 to 149 °F) 5% to 95% RH (non-condensing)
Noise Level	68 dBA (Max)
Electromagnetic Compliance	Class A marking for All: ACMA, ICES, CNCA, CE, SII, VCCI, GOST, SABS, KC, BSMI, FCC
Safety Compliance	SCC, CE, TUV, IECCE CB, SII, NYCE, GOST, KSA ICCP, NRCS, BSMI, NRTL

SYSTEM

System Management	iDRAC9 Enterprise
Storage Capacity	960GB Redundant Storage
Interfaces	4x 1GbE RJ45 2x 16Gb Fibre Channel

PORT CONFIGURATION



INPUT SUPPO

File Input

- Interoperable Mastering Format (IMF) App #2 and App #2 Extended
- MXF AS-02, OP-1a-c, OP-2a-c, OP-3c
- QuickTime
- MPEG-4
- HLS
- Discrete audio and caption inputs
- Video codecs:
 - Apple® ProRes, Apple® ProRes 4444 XQ
 - AVC Intra 50/100 *
 - DV/DVCPRO HD
 - H.261-H.265 *
 - JPEG-2000 (YUV/RGB 8 bit, 10 bit, 12 bit, and 16 bit)
 - MPEG-1/2/4 part 2
 - XDCAM
 - Panasonic P2
 - DV25, DV50
 - DNxHD
 - MJPEG
 - SonyXDCam
 - SonyXDCam MPEG-4 Proxy
 - Uncompressed .Y4M
 - Canopus HD
- Audio codecs:
 - AC-3 (Dolby Digital)
 - EAC-3 (Dolby Digital Plus) *
 - Dolby E *
 - MPEG-1 L2, MPEG-1 L3, MPEG-2 L2
 - PCM in: Quicktime, MPEG2-TS, M2TS, M2P, .WAV, RF64
 - AIFF
 - AAC
 - AAC in .MP4

Input Features

- Independent video and audio sources
- Audio only processing
- Audio delay offset
- Audio PID tracking
- Audio language tracking
- Audio track selection
- Source file clipping
- Fast seek
- Merge multiple sources to single output
- Independent input and output audio mixer
- Amazon S3 support, with progressive reading or copy to local functionality
- Static image overlays globally and per input

Multichannel Audio Input

- Per clip audio channel assignment
- Unlimited audio tracks
- Multichannel track assignments and gains per input

Time Code	<ul style="list-style-type: none">- Time code source embedded- Time code source use local system clock- Override time code data- Start encoding at specified timecode
Captions	<ul style="list-style-type: none">- Ancillary, ARIB, DVB-Sub, Embedded, SCTE-20, SCTE-27, null, SCC, SMI, SRT, STL, Teletext, TTML- Source CC channel- 608 to 708 upconvert
Ad Avail	<ul style="list-style-type: none">- ESAM- ESAM Direct XML- SCTE-104/35 splice insert- SCTE-104/35 time signal with APOS- Ad avail offset in milliseconds- Ad avail priority- Ad avail user data
Nielsen	<ul style="list-style-type: none">- Nielsen ID3 certification
Notifications	<ul style="list-style-type: none">- Web callback- Email- Message on specific status
Scripting	<ul style="list-style-type: none">- Pre and post processing scripts- Blank output during ad avail
608 Extended Data Services	<ul style="list-style-type: none">- Line 21 passthrough, rewrite, strip, insert
Copy and Redistribution Control Packets	<ul style="list-style-type: none">- Line 21 passthrough, rewrite, strip, insert

OUTPUT FORMATS

Video	<ul style="list-style-type: none">- H.264 (Baseline, Main, High up to 4:2:2), 4:2:2 High Profile Intra 10 bit *- H.265 (Main, Main10 up to 4:2:2) including HDR10 and HLG *- Frame capture to JPEG (thumbnail creation)- MPEG-2- Uncompressed- Apple® ProRes (up to 4:2:2 10 bit)- SonyXDCam IMX- SonyXDCam HD- SonyXDCam HD 422- SonyXDCam HDV- SonyXDCam EX
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Audio	<ul style="list-style-type: none">- AAC-LC, AAC-HEV1, AAC-HEV2 (MPEG-2, MPEG-4, LATM/LOAS)- Uncompressed WAV, AIFF- AC-3 (Dolby Digital) *, AC-3 passthrough- EAC-3 (Dolby Digital Plus) *, EAC-3 passthrough- Dolby E (passthrough)- PCM in RF64- DTS Express *- MPEG-1 L2- Audio only support- 16 channel audio router with mix controls
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Multichannel Audio Output	<ul style="list-style-type: none">- Per clip audio channel assignment- Unlimited audio tracks
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Multilanguage Support	<ul style="list-style-type: none">- Follow input type (ISO 639)- Insert audio type (ISO 639)- Follow language code- Insert language code
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OUTPUT CONTAINER

Streaming Output Formats	<ul style="list-style-type: none">- Microsoft Smooth Streaming (ISMV)- Common Media Application Format (CMAF)- Apple HTTP Adaptive Streaming (HLS)- MPEG DASH (ISO/BMFF)- Single and Multiple Program Transport Streams (SPTS, MPTS)- MPEG-2 Part 1, Systems, CableLabs compliant (EBIF passthrough, EBP, PSI, RAI segmentation marker) (MPEG-TS)
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File Outputs	<ul style="list-style-type: none">- Apple QuickTime and ProRes (MOV)- Sony XDCAM MXF (XDCAM)- RAW YUV formats (Uncompressed)- MPEG-4 Part 10 (MP4)- Fragmented MP4 (fMP4)- MPEG Transport Stream (TS)
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File Output Features	<ul style="list-style-type: none">- Progressive download flag
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Apple HTTP Adaptive Streaming (HLS)

- Byte range offset
- Single file / multiple segments
- Segment length
- Minimum segment length
- Auto upload to CDN
- Content base URL
- Manifest base URL
- Use subdirectories
- Disable caching
- Floating point manifests
- Resolution tag
- Compressed manifests
- Use Pantos 7 CODEC identifiers
- Program-Date-Time flag
- Closed-caption tag
- Ad markers - Adobe
- Ad markers - Simple
- Ad markers - SCTE-35 enhanced
- Alternate manifest destination
- File transfer protocols (HTTP push, Akamai, Webdav)

Encryption

- AES CBC, CTR, EBC
- Key providers - 1Mainstream, Conax, Inside Secure, Irdeto, Píksel, PlayReady, Secure media, Cisco, Verimatrix
- Adobe pHLS
- Flash Access

MPEG DASH (ISOBMFF)

- Single file / multiple segments
- Fragment length
- Segment length
- HbbTV support
- Base URL
- Minimum buffer time

Encryption

- DASH-CENC
- Key providers - Widevine, Píksel

Microsoft Smooth Streaming (ISMV)

- Manifest level encoding (UTF-8, UTF-16)
- Collapse identical audio streams

Encryption

- AES CTR
- PlayReady support
- Key providers - Conax, Inside Secure, Seachange, Píksel, Irdeto

SYSTEM CONTR

Human Interface	- HTML-based user interface
Automation	- REST XML API
CDN	- Integrated CDN support: Basic PUT, WebDav, and Akamai
Load Balancing	- Manual or automated load balancing options - Notifications and alerts
Monitoring	- System resource and statistics monitoring
User Authentication	- Multiple authentication tiers, Amazon S3 public and private keys, IAM Roles support
Elemental Conductor File	- Separate management system for control, monitoring and failure recovery in a multi-system configuration - Job queue management with priority
Network Management	- SNMP version 2c

IMAGE ENHANCEM

Linear Scaling	- Specify pixel width and height
Anti-aliasing Scaling	- Reduce distortion artifacts when downscaling
Lanczos Scaling	- Multivariate interpolation
Deblocking	- Remove common video artifacts
Deinterlacing	- Motion adaptive interpolation - Motion adaptive blend - Motion adaptive interpolation w/ticker
Inverse Telecine	- Removes 2-3 frame format, restores original 24 fps frame rate
Adaptive Quantization	- Intraframe QP variation
Scene Change	- Scene change detection
Look Ahead	- Look ahead rate control
Noise Reduction	- Noise filtering capability (Bilateral, Mean, Gaussian, Lanczos, Sharpen, Conserve)
Static Logo Insertion	- Up to 99 static image overlays (BMP, PNG or TGA format), SDR or HDR - Apply image overlay to a single input, a single output, or globally - Specify z-order and opacity

Motion Logo Insertion	<ul style="list-style-type: none">- Motion graphic overlay (MOV, PNG sequence or SWF format), SDR or HDR- Using SWF and Adobe® ActionScript® code, manipulate the video for effects such as squeezeback
Thumbnail Creation	<ul style="list-style-type: none">- Create thumbnail JPEG images for any single frame or at custom intervals
Color Correction	<ul style="list-style-type: none">- Brightness, contrast, hue, saturation- Full swing range or passthrough- 601, 709 color space conversion
MPEG-2 Error Concealment	<ul style="list-style-type: none">- Temporal pixel substitution
Elemental Video Engine	<ul style="list-style-type: none">- 4th generation richer textures, sharper details, reduced ringing and noise
Cropping	<ul style="list-style-type: none">- Select pixel locations to crop
Watermarking	<ul style="list-style-type: none">- Civolution forensic watermarking- NexGuard PayTV-C
Timecode Burn In	<ul style="list-style-type: none">- Text, font size, position

AUDIO ENHANCEMENT

Level Adjustment	<ul style="list-style-type: none">- Volume control
Audio Loudness Management	<ul style="list-style-type: none">- Audio loudness monitoring and correction; results stored to file (CALM compliant) *
Channel Mixing and Mapping	<ul style="list-style-type: none">- Supported
Rate Conversion	<ul style="list-style-type: none">- Adjust audio sample rate and frequency
Formats	<ul style="list-style-type: none">- Encode multiple formats simultaneously
Multiple Audio Tracks	<ul style="list-style-type: none">- Support for multiple audio streams for each video stream (SAP)

OTHER FEATURES

- Metadata**
- VBI passthrough (V-Chip, CGMS-A)
 - KLV Data
 - Nielsen support, ID3 creation and inaudible tone passthrough

- Caption Extraction and Passthrough**
- Inputs:
 - Embedded
 - SCC
 - Teletext
 - Transcription Outputs:
 - SRT
 - SMI
 - SMPTE-TT
 - TTML
 - CFF-TT
 - SCC
 - WebVTT
 - Embedded
 - SCTE-20+Embedded
 - Embedded+SCTE-20
 - DVB-sub
 - Teletext
 - Open caption support
 - Caption burn in
 - Language flag insertion
 - Custom language codes (ISO-639-3)

- Processing**
- Audio only encoding
 - Two pass encoding
 - Insert / respond to AFD
 - QVBR (Quality-Defined Variable Bitrate) encoding
 - VBR encoding
 - CBR encoding
 - CQ encoding
 - ABR encoding
 - Scene change detect
 - Minimum I-frame interval
 - Force interlace mode
 - Variable GOP support
 - HDR10 support (ST.2084, ST.2086, MaxFALL, MaxCLL)
 - HLG (Hybrid Log Gamma) BT.2020 support
 - Conversion between SDR, HDR10, and HLG
 - Rec.2020 color support
 - CPU only support

- Platform**
- KVM and VMWare ESXi 6.5

** Available with Optional License*