



The AvediaStream e5640 delivers a 4K UHD stream in either HEVC or H.264 at up to 300Mbps. Capable of broadcast quality Ultra High Definition encoding from any of its interfaces, it is also capable of up to four independent 1080p60 HEVC encodes.



## Interfaces

- Two 802.3 100/1000 Ethernet (RJ-45) sockets plus IPMI
- Four 3G-SDI
- HDMI 2.0
- DisplayPort 1.2

## Video Input

- 4x Micro BNC (3G-SDI) Interface
  - 3840x2160p 60Hz / 59.94Hz / 50Hz / 30Hz / 29.97Hz / 25Hz / 24Hz\*
  - 1920x1080p 60Hz / 59.94Hz / 50Hz / 30Hz / 29.97Hz / 25Hz / 24Hz
  - 1920x1080i 60Hz / 59.94Hz / 50Hz
  - 1280x720p 60Hz / 59.94Hz / 50Hz / 30Hz / 29.97Hz / 25Hz / 24Hz
- HDMI 2.0 / DisplayPort 1.2 Interface\*\*
  - 3840x2160p 60Hz / 59.94Hz / 50Hz / 30Hz / 29.97Hz / 25Hz / 24Hz
  - 1920x1080p 60Hz / 59.94Hz / 50Hz / 30Hz / 29.97Hz / 25Hz / 24Hz
  - 1920x1080i 60Hz / 59.94Hz / 50Hz
  - 1280x720p 60Hz / 59.94Hz / 50Hz / 30Hz / 29.97Hz / 25Hz / 24Hz

\* HEVC supports 2 Sample Interleave and Quadrant modes. H.264 supports Quadrant mode only

\*\*Output: Auto scale to 3840x2160p60

## Video Encoding

- MPEG-H part 2 H.265 (HEVC) (ISO/IEC 23008-2)
  - Main 10/Main profile @ Main/High tier
  - Level 1 – 6.2
- MPEG-4 part 10 H.264 (AVC) (ISO/IEC 14496-10)
  - Baseline, Main, Extended, High, Constrained Baseline,
  - Constrained High, Progressive High profile
  - Level 1 - 5.2
- MPEG-2 (ISO/IEC 13818-2)
  - Simple, Main, High profile
  - Low, Main and High levels
- Chroma 4:2:0
- 4K UHD HEVC bitrate 3Mbps – 300Mbps
- 4K UHD H.264 (AVC) 8Mbps – 100Mbps
- Constant or variable bitrate

## Audio Encoding

- AAC
- Bitrate: 64 - 320kbps
- Sample rate: 12kHz, 22.05kHz, 32kHz, 44.1kHz, 48kHz, 64kHz, 96kHz

## Outbound Streams

- Single program MPEG-2 transport streams (ISO/IEC13818-1)
  - UDP
  - RTP
  - IP unicast
  - IP multicast
  - IGMP Join Group for enhanced switch compatibility
  - NewTek® NDI®

## Output Container formats

- MPEG-2 Transport Stream (TS)
- NDI up to 2160p60 (3840x2160) or 4x1080p60

## Outbound Channel Management

- Channel announcement via SAP/SDP
- Multicast/unicast address selection (automatic/manual)
- Configurable name, number and group membership

## Management

- Flexible network port configuration enables streaming and administration interfaces to be on separate networks
- Fully integrated with Exterity management tools:
  - Admin level management using AvediaServer Director and AvediaCare applications
  - HTTP/HTTPS device interface: recommended browser: Chrome®
- SNMP
- SSDP device discovery
- RESTful API
- Serial RS232 Admin Port
- Event logging via Syslog (local and remote)
- Firmware upgrade & configuration backup/restore via TFTP
- Access via VGA monitor and USB keyboard/mouse
- Activity Monitor enables more efficient transcode setup and monitoring and prevents overloading

## Operating System

- Based on CentOS 7

## Scaler

- H.264 (AVC) & MPEG-2 Video
  - User-configurable up/down scaling
  - User-configurable frame rate adjustment

## Video Output Standards

- H.265 (HEVC) up to 2160p60 (3840x2160) or 4x1080p60
- H.264 (AVC) up to 2160p60 (3840x2160) or 4x1080p60
- MPEG-2 up to 1080p60
- NDI up to 2160p60 (3840x2160) or 4x1080p60

### Audio Output Standards

- AAC

### Regulatory

- EMC:
  - EN55022:2010, EN55024:2010
  - EN61000-3-2:2006 + A1:2009 + A2:2009
  - EN61000-3-3:2008
  - IEC 60950-1:2005 (Ed. 2.0) + Am 1:2009 +Am 2:2013
  - EN60950-1 2006 + A11:2009, A1:2010, A12:2011, A2:2013
- FCC/UL/CSA:
  - FCC 47 CFR Part 15 Subpart B: 2008; ANSI C63.4-2003
  - UL60950-1/CSA C22.2 No. 60950-1, Second Edition. Rev. October 14, 2014

### Protocols

- IP (RFC 791), UDP (RFC 768), TCP (RFC 793), ARP (RFC 826), DNS (RFC 1035), DHCP (RFC 2131), ICMP (RFC 792), IGMP (RFC 3376), TFTP (RFC 1350), HTTP (RFC 2616), Syslog (RFC 3164), NTP (RFC 1305), SAP (RFC 2974), SDP (RFC 4566), RTP (RFC 3550), SNMP (v1, v2c -RFC 1901)

### Environment

- Operating temperature range: 5° - 35°C (41° to 95°F)
- Non-operating temperature range: -40° to 60°C (-40° to 140°F)
- Operating humidity range: 8% to 90% (noncondensing)
- Non-operating humidity range: 5% to 95% (non-condensing)

### Physical Format

- Compact 1U rack-mounted standard 19" chassis
- Dimensions: W: 483mm x D: 369mm x H: 43mm

e3830-std    e3830-hdcp-32    e3730-hdcp-pro    e3832-std    e3832-hdcp-32    e3732-hdcp-pro    e3750    e3752    e5640

|             |                   | e3830-std                            | e3830-hdcp-32 | e3730-hdcp-pro | e3832-std | e3832-hdcp-32 | e3732-hdcp-pro | e3750 | e3752 | e5640 |   |
|-------------|-------------------|--------------------------------------|---------------|----------------|-----------|---------------|----------------|-------|-------|-------|---|
| INPUT       | Source            | IR Out (source control)              |               | ✓              |           |               | ✓              |       |       |       |   |
|             |                   | Inputs                               | 1             | 1              | 1         | 2             | 2              | 2     | 1     | 2     | 4 |
|             | Video Input       | Composite                            |               |                |           |               |                |       |       |       |   |
|             |                   | S-Video                              |               |                |           |               |                |       |       |       |   |
|             |                   | SD Component                         |               |                |           |               |                |       |       |       |   |
|             |                   | RGBS                                 |               |                |           |               |                |       |       |       |   |
|             |                   | HDMI                                 | ✓             | ✓              | ✓         | ✓             | ✓              | ✓     |       |       | ✓ |
|             |                   | SDI (SD, HD, 3G)                     |               |                |           |               |                |       | ✓     | ✓     | 4 |
|             |                   | Display Port                         |               |                |           |               |                |       |       |       | ✓ |
|             | SFP Interface     |                                      |               |                |           |               |                | ✓     | ✓     |       |   |
| Audio Input | Line Level Stereo |                                      |               |                |           |               |                |       |       |       |   |
|             | Embedded          | ✓                                    | ✓             | ✓              | ✓         | ✓             | ✓              | ✓     | ✓     | ✓     |   |
| OUTPUT      | Encoding          | UHD 2160p                            |               |                |           |               |                |       |       | ✓     |   |
|             |                   | HD 1080p                             | ✓             | ✓              | ✓         | ✓             | ✓              | ✓     | ✓     | ✓     | ✓ |
|             |                   | HD 1080i/720p                        | ✓             | ✓              | ✓         | ✓             | ✓              | ✓     | ✓     | ✓     | ✓ |
|             |                   | SD                                   | ✓             | ✓              | ✓         | ✓             | ✓              | ✓     | ✓     | ✓     |   |
|             |                   | NDI®                                 |               |                |           |               |                |       |       |       | ✓ |
|             |                   | HEVC                                 |               |                |           |               |                |       |       |       | ✓ |
|             |                   | H.264                                | ✓             | ✓              | ✓         | ✓             | ✓              | ✓     | ✓     | ✓     | ✓ |
|             |                   | MPEG-2                               |               |                |           |               |                |       |       |       | ✓ |
|             |                   | HDCPv2 Content Protection            |               | ✓              |           |               | ✓              |       |       |       |   |
|             |                   | HDCP Professional Content Protection |               |                | ✓         |               |                | ✓     |       |       |   |
|             |                   | Video Scaler                         |               | ✓              | ✓         |               | ✓              | ✓     | ✓     | ✓     | ✓ |
|             |                   | MPEG-1 Layer II Audio                |               |                | ✓         |               |                | ✓     | ✓     | ✓     |   |
|             |                   | Stereo AAC Audio                     | ✓             | ✓              | ✓         | ✓             | ✓              | ✓     | ✓     | ✓     | ✓ |
|             |                   | Streaming                            | UDP Multicast | ✓              | ✓         | ✓             | ✓              | ✓     | ✓     | ✓     | ✓ |

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