

# e3830 hdcp-pro Encoder

HDMI Encoder



HDMI encoder that delivers HDCP Professional protected premium or sensitive IP video streams to up to 1000 end points. It encodes HD or SD H.264 streams from an HDMI video input over your existing network, including sources such as satellite set top boxes, digital cameras, digital signage systems, PCs and Blu-Ray/DVD Players.

## Interfaces

- Video Input
  - HDMI interface with HDCP (see Content Protection below)
  - DVI signalling support
- Audio Input
  - HDMI (Embedded PCM)
- 802.3 10/100/1000BaseT Ethernet (RJ-45 chassis socket, dual Ethernet features for redundancy purposes require c1210 Chassis)
- Serial RS232 Port for local administration (RJ-45 chassis socket)

## Streaming

- Single program MPEG-2 transport stream (ISO/IEC 13818-1)
- UDP
- RTP
- SRT (licensable feature)
- IP unicast
- IP multicast
- IGMP Join Group for enhanced switch compatibility
- NewTek® NDI® (licensable feature)

## Channel Management

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

## Management

- Configurable using management tools:
  - Admin level management using Avedia Server Site Manager application
  - HTTPS device web interface; recommended browser: Chrome®
- SSDP & mDNS device discovery
- RESTful API
- Serial RS232 Admin Port
- Event logging via Syslog (local and remote)

## Features & Benefits

- Stream HDCP-protected audio-visual streams to up to 1000 end points
- Minimise glass-to-glass latency with full multicast delivery when streaming live video
- Encode HD or SD H.264 streams from an HDMI video input over your existing network
- Send secure and reliable video streams over the internet using the SRT protocol
- Deliver high-quality streams into NDI production environments
- Highly reliable modular blade-into-chassis design allows 'hot swapping' to minimise downtime

## Content Protection

- HDCPv2.2
  - Encryption to protect output stream, enforced on HDCP protected input, optional otherwise
  - Up to 1000 end points supported per channel
- SRT (Secure Reliable Transport)
  - Encryption to protect output stream over the internet from an in-the-clear HDMI source

## Content Protection Requirements

- Requires completed End Customer Agreement
- Installation location must be authorised by DCP and be present on [www.digital-cp.com/HDCP\\_Pro\\_Authorized\\_Locations](http://www.digital-cp.com/HDCP_Pro_Authorized_Locations)
- Cannot be installed in MDUs (Multiple Dwelling Units) such as college dormitories, duplexes, apartment blocks etc
- Requires regular Internet connection to authorise HDCP streaming
- Must have access to a NTP time server

## Video Input

- Automatic detection of resolution and frame rate
- Resolutions supported:
  - 1080p 23.98Hz/24Hz/50Hz/59.94Hz/60Hz
  - 1080i 50Hz/59.94Hz/60Hz
  - 720p 50Hz/59.94Hz/60Hz
  - 480p/525p 59.94Hz & 576p/625p 50Hz
  - 480i/525i 59.94Hz & 576i/625i 50Hz
- HD 16:9 aspect ratio
- SD 16:9 aspect ratio

## Video Encoding

- H.264
  - MPEG-4 part 10 H.264 (ISO/IEC 14496-10)
  - High Profile @ Level 4
  - Video resolution: 525i, 525p, 625i, 625p, 720p, 1080i, 1080p
  - Bit rate: 1Mbps - 30Mbps
  - Frame rate: 23.98Hz/24Hz/50Hz/59.94Hz/60Hz
  - Constant or variable bit rate
- NDI (Licence required)
  - Video resolution up to 1080p60
  - Bit rate up to 160Mbps
  - Frame rate: 23.98Hz/24Hz/50Hz/59.94Hz/60Hz
  - Variable bit rate

## Latency

- H.264: sub 400mS
- NDI: sub 100mS

## Audio Encoding

- AAC
- Encoding bit rate 48kbps – 512kbps
- Audio sampling rate 48kHz

## Enhanced Features

- Test pattern generation
  - Automatic streaming of fixed colour/test pattern on loss of video
- Overlay generation\*
  - Place customisable text, image or clock on top of video or test pattern
- Video scaling
  - User-configurable up/down scaling
  - User-configurable frame rate adjustment

## Network

- Linux IPv4 stack
- DHCP or Static IP addressing
- 1000BASE-T, 100BASE-TX and 10BASE-T (802.3ab, 802.3u and 802.3 respectively)

## Protocols

IP (RFC 791), UDP (RFC 768), TCP (RFC 793), ARP (RFC 826), DNS (RFC 1035), DHCP (RFC 2131), DNS-SD (RFC 6763), ICMP (RFC 792), IGMP (RFC 3376), mDNS (RFC 6762), NTP (RFC 1305), SAP (RFC 2974), SDP (RFC 4566), RTP (RFC 3550), SSDP, SRT, Syslog (RFC 3164)

## Regulatory

- CE
  - IEC 62368-1:2014
  - EN62368-1:2014 + A11:2017
  - EN55032:2012 + corrigenda Aug 2012 & Dec 2012
  - EN55024:2010 + A1:2015
  - EN 61000-3-2:2014
  - EN 61000-3-3:2013
- UL
  - UL62368-1/CSA C22.2 No.62368-1, Rev. February 17, 2012
- FCC
  - 47CFR:2011 Part 15, Sub Part B
  - ANSI C63-4:2014
- ACMA
  - AS/NZS 62368:2018
  - AS/NZS CISPR 32: 2015

## Physical Format

- Modular hot swap blade
- c1101 Chassis (1 input)
- c1103 Chassis (up to 3 inputs)
- c1210 Chassis (up to 10 inputs)

## Environment

- Operating: 0 ...+40°C / +32 ... +104°F
- Storage: -20 ...+70°C / -4 ... +158°F
- Operating and storage Relative Humidity: 10-90% (non-condensing)

## Dimensions

- L: 275mm x W: 130mm x H: 40mm; weight 0.5kg

## Power

- DC 24V: 10W typical, 25W maximum

## MTBF

- Calculated to MIL-HDBK-217F, notice 2: 79421 hours (9.1 years)

## In the Box

- e3830 HDCP Professional encoder blade, single HD HDMI in, up to 1080p out, HDCP Professional out to 1000 end points, enhanced features
- Product Safety Brochure (hard copy)

## Ordering Information (P/N)

- 18358 (avstr-e3830-hdcp-pro) - e3830 hdcp-pro encoder

\*Not supported when using NDI

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