edje® 4000

Real-Time Streaming AVC Encoder

Supporting IPTV platforms, the edje-4000 provides unmatched value and provides the amenities of encoders costing five times its price and measuring four times its size - finally an IPTV AVC encoder for the masses!

The edje4000 is a real-time streaming MPEG 4 Part 10 (AVC) encoder. AVC/H.264 supports many profiles and layers making it useful across markets including Satellite and Cable distribution, Telco and Broadband TV, high quality security, surveillance and Mobile applications.

mediaControl™

ADTEC Digital

applications

- **Internet Protocol TV (IPTV)**
- **Broadband TV (BBTV)**
- **Satellite Direct To Home Distribution**
- **Next generation Cable Distribution**
- **Terrestrial ATSC (US), DVB-T (Europe)**
- **Terrestrial DMB (China)**
- **Backhaul**
    - **Distribution**
    - **Contribution**
- **High Quality Surveillance**

availability

edje 4000 is available as a 1/4 RU Streaming Encoder with mediaControl application.

benefits

- **Real Time high quality AVC Video Encoding:** Encode and deliver the highest quality AVC video and AAC-LC for delivery over IPTV, Satellite, Cable, and Terrestrial networks.

- **Professional video and audio inputs:** Like all previous Adtec encoders, the edje4000 provides broadcast quality video and audio inputs including Composite and SDI with pre-processing balanced analog and embedded audio via SDI.

- **Next Generation Pre-Processing:** Composite and optional SDI inputs are routed through a time base correcting video pre-processing block that removes spatial noise, temporal (motion) noise and generally improves encoding efficiency. Analog Audio levels from analog and SDI embedded audio can be adjusted via software.

- **AAC- Low Complexity (ACC-LC) audio:** The AAC-LC CODEC is significantly more efficient than MPEG 1 Layer 2 (Musicam) or Layer 3 (MP3)audio. Deliver the highest fidelity stereo audio with AAC.

- **Reliable Operation:** Adtec has delivered over sixty thousand embedded media devices globally. The edje4000 continues that legacy offering value and performance unmatched in the industry.

- **Embedded Performance:** With a boot time and transport egress of less than 5-seconds, large computer based encoders simply can not match the high availability Adtec devices offer.

- **RS422 Device Control:** IIndustry standard RS422 (9 Pin) device control supporting Sony protocol. Optional

- **Live capture:** Add an optional hard drive and capture live video and audio. Optional

- **Encapsulated UDP and RTP Streaming:** The edje4000 supports raw UDP or Real Time Protocol (RTP) unicast and multicast transmission utilizing encapsulated MPEG2 transport stream format containing AVC Video and AAC Audio payloads.

- **MPEG 2 Transport, AVC and AAC CODECs:** The edje4000 provides a stable MPEG 2 Transport Stream with AVC video and AAC-LC audio payloads. MPEG 2 Transport is universally compliant with distribution and storage requirements used by MPEG, SCTE, DVB, ATSC and DMB standards. Very stable Jitter, rock solid AV Sync, CODEC payloads, ancillary data and tables are delivered via an industry standard Ethernet interface.

- **Manage Content:** The included mediaControl application allows you to configure, encode and deliver the highest quality video and audio for your application.

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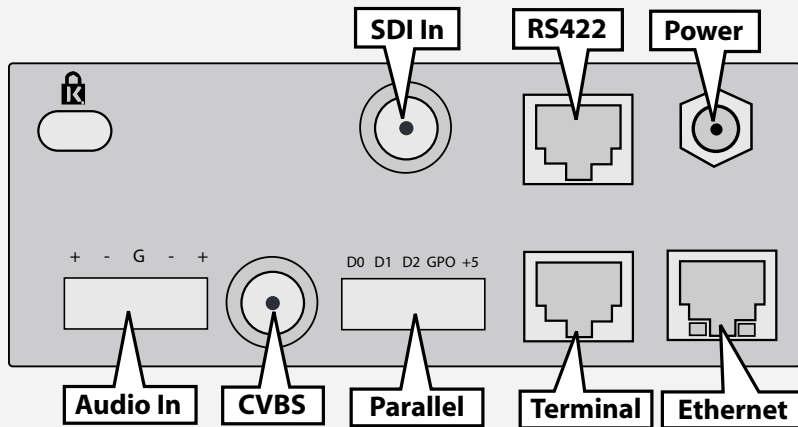
What is AVC?

H.264, MPEG-4 Part 10, or AVC (for Advanced Video Coding), is a digital video codec standard that is noted for achieving very high data compression. It was written by the ITU-T Video Coding Experts Group (VCEG) together with the ISO/IEC Moving Picture Experts Group (MPEG) as the product of a collective partnership effort known as the Joint Video Team (JVT). The ITU-T H.264 standard and the ISO/IEC MPEG-4 Part 10 standard (formally, ISO/IEC 14496-10) are jointly maintained so that they have identical technical content. The final drafting work on the first version of the standard was completed in May 2003.[1]

Connector labels (front panel diagram): SDI In, RS422, Power, Audio In, CVBS, Parallel, Terminal, Ethernet. Parallel pins: D0 D1 D2 GPO +5. Audio In pins: + - G - +

specifications

Video Input
Composite (BNC)

Optional Video Input
SDI (BNC)
 - (SMPTE 259M)
Embedded Audio
 - (SMPTE 272M)

Pre Processing
Provides exception low bit rate performance
MCTF
Median Filter
Time Base Corrector
Edge Sharpening Filter

VBI Support
Line 21-Closed Captioning
ATSC A53/D
Teletext WSS PAL

Video Encoding Profile
ISO/IEC 14496-10
 - (MPEG 4 Part 10 or AVC)
Progressive Base Line profile L3
Interlaced Main Profile L3
 - (no B frames or CABAC in Main)
CBR/VBR
Quarter-Pel Motion Estimation
 - (4x4 mode)
Deblocking Filter

Video Encoding bit rates
300 kbps -5 Mbs

Video Resolutions
176 x 120 to 720 x 480 NTSC
176 x 120 to 720 x 576 PAL

Multiplexing Formats
ISO/IEC13818-1 MPEG 2 Transport Stream

Streaming Format
ETSI TS 102034

Audio Inputs
24 Bit A-D Conversion
Audio Level Control
 - (Analog and SDI Input)
Two channels Balanced
 - (RST-5 Pin)
SMPTE 272M
 - (Embedded with SDI Option)

Audio Encoding Profiles
AAC-Low Complexity

Audio Sampling
32, 44.1 and 48 KHz

Audio Bit Rates
8-384 Kbs AAC-LC

Ethernet
10/100 (RJ-45)
Half Duplex
Full Duplex
Auto Negotiate

Ethernet Protocols
Telnet
FTP
UDP
RTP/UDP
SDP and SAP support

MPEG Table Compliance
PAT and PMT

DVB Table Compliance
SDT, NIT, TDT (TOT)

User defined Program Identifier (PID)
PMT
Video (PCR on video)
PCR (Separate if desired)
Audio
SI and PSI Tables

Serial Communications
Terminal RS232
 - (38400-115,200K, 8, 1 N)
Com2 RS232/RS422/RS485
 - (9600-115200 K, 8, 1 N)

Parallel Control and Tally
5 Pin Removable Screw Terminal
3 Data Inputs
 - (User definable)
1 Data Output
 - (User definable)
Ad Insertion Cueing
SCTE 35
SCTE-104

Power
12 VDC less than 24 watts (2.5 MM locking)

Physical
4" wide, 10" deep, 1.70" tall

what's included

• edje4000 Real-Time Streaming AVC Encoder (PN: edje4000)

• 12 VDC external power supply and power cable (USA) (PN: EXTPS24WATTKIT)

• mediaControl application control & configuration software for Windows 2000/XP or Macintosh OS X (10.2 or greater).

• Connection Kit: Ethernet cable and serial 9 pin adapter (PN:TERMINALKIT2)

• Two Audio Plugs (PN: AUDIO5PINPLUG-S)

• Manual (PN: CAT-017)

options

RackShelf w/Hardware: Holds 4 edje 4000 encoders, power supplies and provides cable ties slots (PN: 200-024-1AKIT)

edje4010: Adds optional SDI video with embedded audio (PN: edje4010)

Note: Specifications subject to change without written notice

[1] From Wikipedia http://en.wikipedia.org/wiki/H.264