



## MD Professional H.264 AV Encoder

Live D1 Encoding , Main Profile, Level 3  
Digital TV and IPTV applications

### WHY H.264 / AAC Encoding ?

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H.264 (MPEG4-AVC or part.10) is considered the greatest achievement in video compression technology in the past 10 years. Accompanied by AAC Audio compression it raises the bar considerably compared to MPEG4-ASP and yields better picture quality while significantly lowering the bit rate. This allows lowering transmission costs and enables new video applications. The new H.264 video compression standard is the first ratified by both the ISO/IEC and ITU-T and is already finding its way into many mainstream video applications.



### APPLICATIONS:

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- Live Digital TV broadcast via Satellite, Terrestrial or Cable DVB-S/T/C, ATSC
- Mobile TV broadcast DVB-H and DMB
- IPTV (e.g. via xDSL links), 3GPP Video Streaming
- Transmitting TV signal for further distribution - satellite, IP networks, E1 lines
- High Video Quality eLearning, Distance Education

### KEY BENEFITS:

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- H.264 Video quality is better  
Comparing to MPEG-2, MPEG-4 ASP
- H.264 provides 40-60 % Lower Bitrates  
compared to MPEG-2
- HW based Compression - DSP

### KEY FEATURES:

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H.264 Baseline and Main Profiles, Level 3  
Full D1 Live Video Compression  
Professional hardware DSP processing  
Long duration 24/7 encoding  
SDI and analog video BNC inputs  
AAC - HE v.2 Audio Compression  
Two stereo audio inputs, AES/SBU, S/PDIF, analog,  
or SDI embedded  
MPEG-2 and IPTV outputs  
Demonstrated interoperability with Set-Top Boxes

MAINDATA

[www.maindata.info](http://www.maindata.info)  
[www.mpeg4encoders.com](http://www.mpeg4encoders.com)



## VIDEO COMPRESSION

H.264 (ISO/IEC 14496-10)  
 Baseline and Main Profiles, up to Level 3  
 Full D1 resolution, DSP based HW compression  
 CBR, VBR mode, Accurate output VBR (min, max)  
 Bitrate from 20 kbps to 4 Mbps  
 Slice I, P, B configurable GOP (I-Frames frequency)  
 Scene change detection with I-Frame insertion  
 Multi B-frame support  
 Interlaced or progressive encoding, with MBAFF, PAFF  
 Macro block/sub block partitioning:  
     16x16, 16x8, 8x16, 8x8, 4x4  
 All intra prediction modes  
     4x4 integer transform  
 Pixel, 1/2 and 1/4 pixel motion estimation  
 In-loop deblocking filter  
 DCT 8x8 (High Profile)

## VIDEO PRE-PROCESSING

De-interlacing, noise filtering,  
 3:2 pulldown (inverse telecine)  
 Frame rate subsampling

## VIDEO INPUTS

SDI digital input - SMPTE 259M  
 Analog video input: Composite CVBS or S-Video Y/c  
 BNC connectors for all video inputs, PAL, NTSC  
 Image crop, resize

Resolutions:	PAL	NTSC
FD1	720x576	720x480
	704x480	640x480
	640x576	704x576
3/4 D1	528x480	544x480
	528x576	544x576
2/3 D1	480x576	480x480
1/2 D1	320x480	352x480
	352x576	384x576
2CIF	704x240	720x240
	720x288	640x240
	640x288	704x288
SIF/CIF	352x288	352x240
		320x240
QSIF/QCIF	176x112	160x120
	192x144	160x112
	160x120	176x144

All resolutions at full frame rate, any resolution multiple of 8 pixels

## AUDIO COMPRESSION

AAC - HE v.2, MPEG-1 layer I / II, AMR  
 Channels (Modes): stereo or two mono  
 Bit rates (per channel): 8 to 384 kbps  
 CBR mode

## AUDIO INPUTS

Embedded SDI Audio input – 2 channels  
 2 digital AES 110 ohms input (balanced)  
 2 digital SPDIF 75 ohms input (balanced)  
 Digital 16, 20, 24 bits,  
 Resampling: 44.1kHz, 48 kHz  
 2 analog inputs  
 Sampling kHz: 8(AMR),16,22.05,24,32,44.1,48 kHz  
 Gain control: -34 to +12 dB  
 Full hardware Frame-based synchronization

## OUTPUTS

### IP: DVB-H, IPTV, 3GPP

Physical: 2 x GbE  
 Protocols: RTP/RTSP streaming over IP  
 Unicast, Multicast streaming

### MPEG-2: DMB, DVB-S/T/C, ATSC

Physical: DVB-ASI (S1400, S1500)  
 Protocols: MPEG-2 TS multiplexing

### File Recording

Local HDD, Network disk

**Dimensions:** 19" RU 2U, depth 785 mm  
 85.9\*482.6\*785(mm);(HxWxD)

**Weight:** 25 kg

**Power:** 100-240 W

### Ordering info:

MDH.264AV Encoder AVC 1200	RTP output, Analog Inputs
MDH.264AV Encoder AVC 1300	RTP output, Digital Inputs
MDH.264AV Encoder AVC 1400	DVB-ASI out, Analog Inputs
MDH.264AV Encoder AVC 1500	DVB-ASI out, Digital Inputs

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