HDAV2000
Ultra Low Latency High Definition Video Codec

The HDAV2000 is an ultra low latency, high powered video and audio encoding solution built on established AMP technology. The HDAV2000 encodes video to the H.264/MPEG-4 AVC (Part 10) standard from a wide range of HD and SD video sources connected via HDMI, SDI and composite SD video. The HDAV2000 also features a High performance audio controller with dual stereo inputs and outputs allowing audio to be captured from HDMI, SDI and Line inputs and synchronised with the captured video.

The HDAV2000 also supports hardware decoding allowing previously recorded video and audio to be output via HDMI, SDI, and composite outputs.

The HDAV2000 is a dual card, PCI/104 form factor board set for systems with a PCI/104 bus. The high performance H.264 video compression and efficient bus utilization allows multiple HDAV2000 board sets to be fitted in a PCI/104 system.

The HDAV2000 is supported by comprehensive SDKs for Video Recording and Streaming that minimizes development risk and shortens time to market.

PRELIMINARY INFORMATION (Rev A.00)
Subject to change without notification
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Applications
- Remote moving platforms
- Remotely guided vehicles
- UAVs
- Vehicle cameras
- Remote video surveillance
- Electronic news gathering
- Multi-camera systems
- Traffic monitoring and control
- Solid-state digital video recorder
- Intranet/Internet video streaming

Ideal for - Surveillance, Remote Platform, Electronic News Gathering

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**Features**

- HDMI input/output at up to 1080i60
- SDI input/output at up to 1080i60
- 4x Composite NTSC/PAL video inputs
- Composite NTSC/PAL video output
- PCI audio interface supporting:
  - 2x Stereo outputs
  - 2x Stereo inputs
  - 1x Mic input
- PCI/104 form factor
- Drivers for WinXP-E and Linux

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Analog Video Input
- 4 Composite NTSC/PAL/RS-170 video input channels
- Anti-aliasing filters on inputs
- Supported video standards:
  - CCIR601-NTSC, CCIR-PAL
  - NTSC-M, NTSC-N, NTSC-J, NTSC (4.43), RS-170
  - PAL-B/G/N, PAL-D, PAL-H, PAL-I, PAL-M, PAL-NC, PAL-60

Digital Video input
- HDMI with embedded audio
- SDI with embedded audio
- Flexible capture resolution, 16x16 pixel granularity.
- Standard resolutions supported include:
  - 1080i60, 1080i50, 720p60, 720i60, 720p50, 720i50
  - 480p60, 576p50

Video output ports
- HDMI:
  - Interlaced and progressive resolutions up to 1080i60, 1080i50.
- SDI:
  - Interlaced and progressive resolutions up to 1080i60, 1080i50.
- Composite:
  - NTSC/PAL

Video Input Adjustments (Analog)
- Contrast (or luma gain) adjustable from 0-200% of original
- Saturation (or chroma gain) adjustable from 0-200% of original
- Hue (or chroma phase) adjustable from -180° to +180°
- Brightness (or luma level) can be adjusted from -25 to +25 IRE
- Software adjustable Sharpness, Gamma and noise suppression

Video compression
- H.264 ISO-IEC 14496-10 baseline and Main Profile up to L4.2
- Interlaced and progressive video encoder support
- Real-time multi stream H.264 Ultra Low latency capture
- Less than 40ms encode latency
- Flexible encoding of multiple inputs, e.g.
  - Dual channel encode at up to 1080i60/1080i50
  - Quad channel NTSC D1 (720x480) at 30fps
  - Quad channel PAL D1 (720x576) at 25fps

Bit rate control
- Constant bit rate (CBR)
- Variable bit rate (VBR)

Configuration support per stream
- Frame rate
- Resolution
- Bit rate control
- Key frame interval
- Intra-refresh mode

Audio
- AC97 2.2 audio codec
- 18-bit resolution on each channel
- Sampling rate up to 48KHz
- Digital audio capture from HDMI / SDI

Inputs
- Dual analog stereo line inputs
- Microphone input

Outputs
- Dual analogue stereo line outputs.

PCI/104 Bus Interface
- Compliant with PCI Rev 2.1
- 132 MBytes/sec bandwidth at 33.33 MHz bus speed
- Single +5 V supply

System Requirements
- x86 PC-Compatible PCI/104 Computer
- 2 Spare REQ/GNT on PCI/104 Bus
- 3.3V signalling PCI/104 bus

Mechanical
- Standard 3.6 x 3.8in PCI/104 form factor

Operational characteristics
- Operating temperature 0˚C to 60˚C
- Extended temperature -40˚C to +85˚C (option)

Software
- Drivers for Win-XP, Linux
- Comprehensive video recording SDK
- Sample video recording application in C/C++ source code

Ordering Information
- HDAV2000
- HDAV2000-Ext

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