HDAV2000

Ultra Low Latency High Definition Video Codec

Advanced Micro Peripherals
THE EMBEDDED VIDEO EXPERTS

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

Video and Audio capture from HDMI, SDI, and Composite NTSC/PAL

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Windows® Embedded Partner

EMBEDDED-PC PC/104 MODULES

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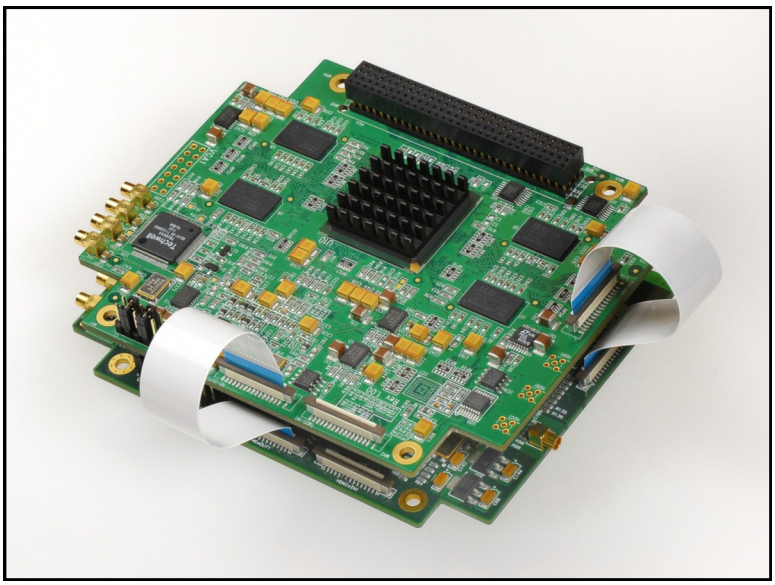

HDAV2000 2-Board Stack

Ideal for -

Surveillance,

Remote Platform,

Electronic News

Gathering

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

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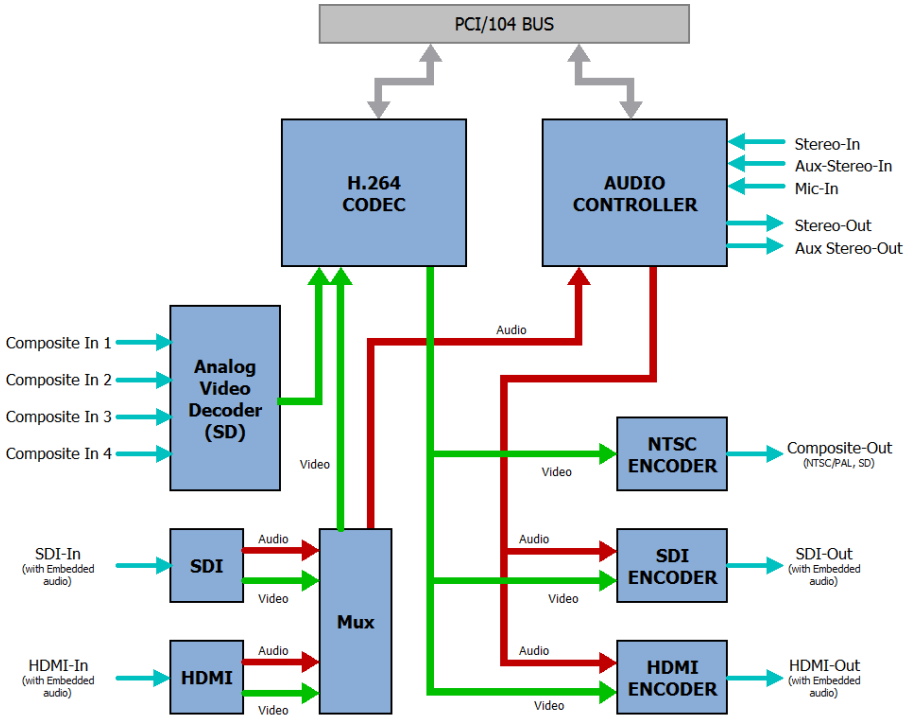

HDAV2000 Block Diagram

Ultra low latency

40ms H.264

compression

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°
Birightness (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	(0 to 60˚C)
HDAV2000-Ext	(-40˚C to +85˚C)

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