H264-HD2000

Dual HD PCI/104 H.264 Compression Card

Advanced Micro Peripherals
THE EMBEDDED VIDEO EXPERTS

The H264-HD2000 is a low latency H.264 encoder available on a single PCI/104 form factor board. It allows system builders to easily add high definition analog and digital video capture with H.264/MPEG-4 AVC (Part 10) encoding to their embedded PC equipment designs.

The powerful encoding engine supports ultra low latency full frame rate encoding of two HD video sources at up to 1080p30. The H264-HD2000 can also do a single channel encode at full 1080p60 and perform stream duplication of the Digital Video input to provide multiple encodings of the same input. This allows streams to be created at different resolution, compression settings dependent on requirements and available bandwidth.

The H264-HD2000 accepts both analog and digital video input. Digital video is received from DVI/HDMI sources at a full range of resolutions from 480p60 up to 1080p60. High definition (HD) analog video data can be taken from YP_bP_R, RGsB (Sync on Green) or VGA (separate HSync, VSync).

40ms Ultra low latency

1080p High definition

H.264 compression

Dual Channel

PRELIMINARY INFORMATION (Rev A.00)
Subject to change without notification

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EMBEDDED-PC PC/104 MODULES

H264-HD2000

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Ideal for -

Hi-Res Surveillance

Remote platform

Real-Time control

Gaming

Simulation

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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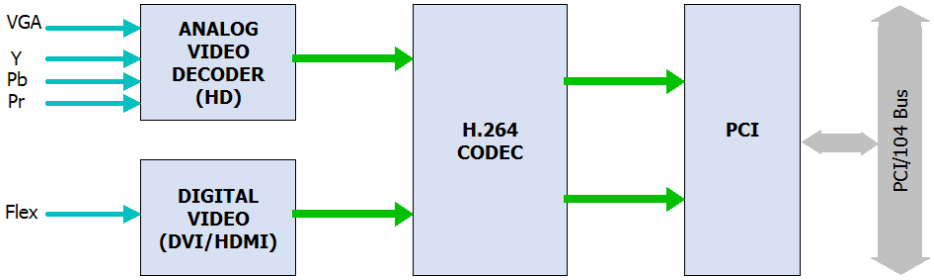

H264-HD2000 Block Diagram

Advanced bit rate control modes enhance bandwidth and storage capacity

Features

Dual channel encode at up 1080p30

Single channel encode at up to 1080p60

Analog HD input (YPbPr, VGA, RGB)

Digital HD input (DVI,HDMI)

H.264/MPEG-4 AVC (Part 10) encoder

Ultra Low Latency technology with a latency below 40ms

Intra-refresh to improve bandwidth utilization

Multiple encodes of same input with different settings

Motion detection

Video Masking

Up to four H264-HD2000 boards per system

PCI/104 form factor

Drivers for WinXP-E and Linux

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H264-HD2000

Rev A.00

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Technical Specification

PCI/104 Bus Interface

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

Video input ports

Digital DVI input (DVI/HDMI)
Analog HD input:
- YPbPr
- OR analog RGsB (Sync on Green)
- OR analog VGA (separate HSync, VSync)

Video capture resolutions

Flexible capture resolutions, 16x16 pixel granularity.
Standard resolutions supported include:
- 1080p60, 1080i60, 1080p50, 1080i50
- 720p60, 720i60, 720p50, 720i50
- 480p60, 576p50

Ultra Low Latency

Less than 40ms encode latency

Video compression

H.264 baseline and Main Profile up to L4.2
Interlaced and progressive video encode support
Real-time multi stream H.264 Ultra Low Latency capture
Dual channel encode at up to 1080p30
Single channel encode at up to 1080p60

Bit rate control

Constant bit rate (CBR)
Variable bit rate (VBR)

Motion detection

Motion detection at macroblock granularity
Motion vector information

Pre- and post-processing

Trans-rating and trans-sizing
Selective blocking of video input regions
Stream duplication

Configuration support per stream

Frame rate
Resolution
Bit rate control
Key frame interval
Intra-refresh mode

System Requirements

x86 PC-Compatible PCI/104 Computer
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

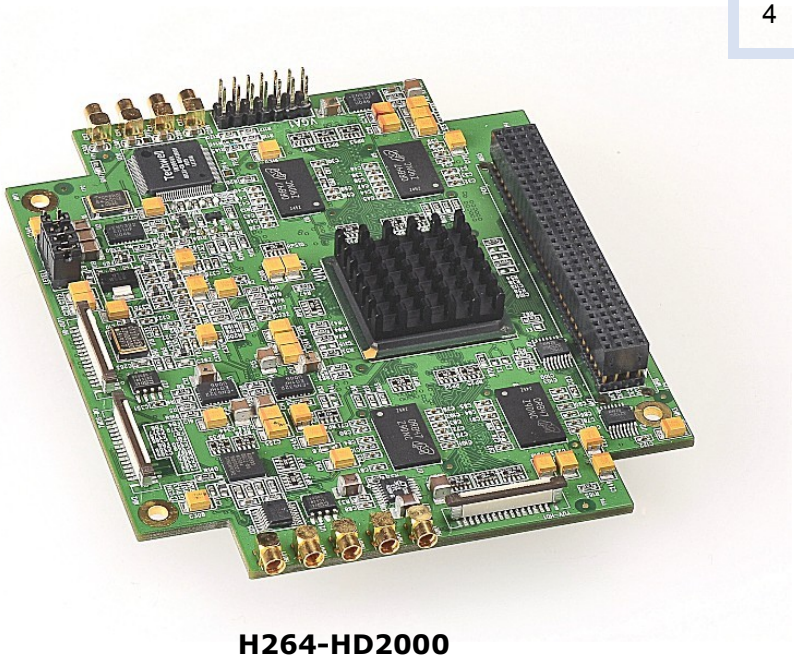
Drivers for Win-XP, Linux
Comprehensive video recording SDK
Sample video recording application in C/C++ source code

Related Products

H264-HD2000-VStream RTSP Video Streaming SDK

Ordering Information

H264-HD2000	Video Compression Card (0 to 60˚C)
H264-HD2000-Ext	Video Compression Card (-40˚C to +85˚C)



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