

H264-ULL-cPCI

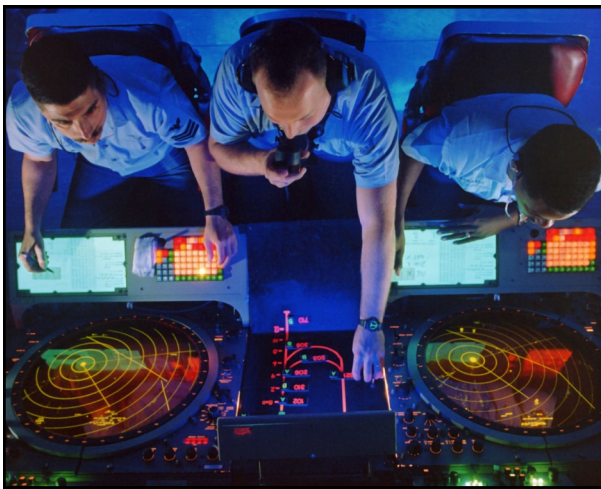
Dual-channel 3U CompactPCI HD H.264 Encoder



**Advanced Micro
Peripherals**

THE EMBEDDED VIDEO EXPERTS

The H264-ULL-cPCI Encoder board is a dual channel, high definition, ultra low latency H.264 encoder for CompactPCI systems. It allows system builders to easily add high definition video capture and H.264/MPEG-4 AVC (Part 10) encoding to their embedded CompactPCI equipment.



The H264-ULL-cPCI is ideal for time-critical applications as it offers Ultra Low Latency encoding of below 40ms across the entire capture resolution range. The H264-ULL-cPCI can do dual H.264 encodes at resolutions up to 1080p30 or a single encode at 1080p60. The H.264 encoding can be flexibly configured to suit a range of bandwidth and storage requirements

The H264-ULL-cPCI has two analog HD video input channels. Each channel can be independently configured for analog YP_BP_R HD, analog RGsB (Sync on Green), analog VGA (separate HSync, VSync).

PRELIMINARY INFORMATION (Rev A.01)

Subject to change without notification

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40ms Ultra Low Latency

1080p High Definition

H.264 compression

Dual channel



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Applications

Remote moving platforms

Remotely guided vehicles

UAVs

Vehicle cameras

Remote video surveillance

Electronic news gathering

Multi-camera systems

Video acquisition and analysis

Traffic monitoring and control

Solid-state digital video recorder

Intranet/Internet video streaming

Ideal for -
Hi-Res Surveillance
Remote Platform
Real-time control
Gaming
Simulation

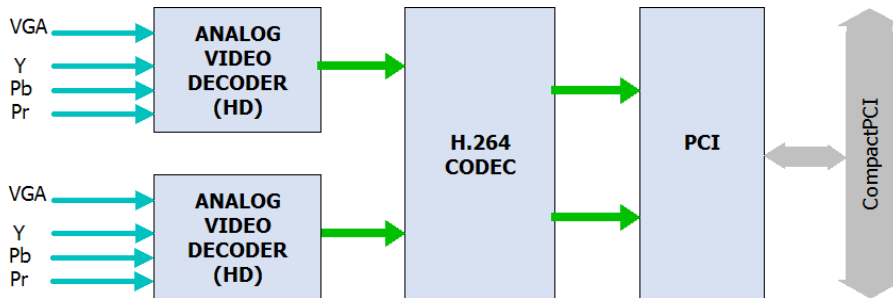
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Dual-channel 3U CompactPCI HD H.264 Encoder



H264-ULL-cPCI Block Diagram

Advanced bit rate
control modes
enhance bandwidth
and storage
capacity

Features

- Dual channel encode at up to 1080p30
- Single channel encode at up to 1080p60
- Dual Analog HD inputs (YPbPr, VGA, RGB)
- H.264/MPEG-4 AVC (Part 10) encoder
- Ultra Low Latency encoder (below 40ms)
- Intra-refresh to improve bandwidth utilization
- Motion detection with motion vector information
- Multiple H264-ULL-cPCI boards per system
- 3U CompactPCI form factor
- Drivers for Win-NT/2000/XP-E, Linux, QNX

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CompactPCI Bus Interface

CompactPCI® Core Specification PICMG-2.0 Rev 3.0
32-bit bus width, 33.33 MHz bus speed
Peripheral slot

Video Input ports

2 x high definition Analog video input ports
Analog HD from:
YPrPb, RGB (Sync on Green),
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 Technology

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 dual 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

Configuration support per stream

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

System Requirements

X86 PC-Compatible CompactPCI Host Computer
3.3V and 5V from CompactPCI backplane

Mechanical

Standard 3U CompactPCI form factor
Optional 6U CompactPCI faceplate and mounting

Operational characteristics

Operating temperature 0°C to 60°C
Extended temperature -40°C to +85°C (option)

Software

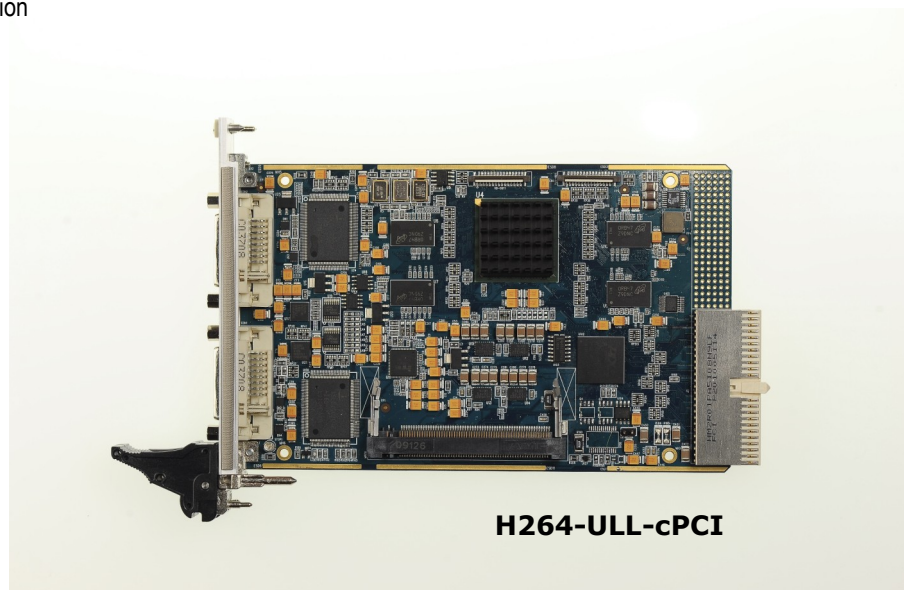
Drivers for Windows-XP, Linux
Comprehensive video recording SDK
Sample video recording application in C/C++ source code

Related Products

H264-ULL-cPCI -VStream RTSP Video Streaming SDK

Ordering Information

H264-ULL-cPCI Video Encoder (0 to 60°C)
H264-ULL-cPCI -Ext Video Codec (-40°C to +85°C)

**H264-ULL-cPCI**