H264ULL-ENCODER

Ultra Low Latency Quad H.264 Encoder

Advanced Micro Peripherals
THE EMBEDDED VIDEO EXPERTS

The H264ULL-ENCODER is an ultra low latency, quad channel, H.264 encoder on a single PCI/104 form factor board. The H264ULL-ENCODER provides a powerful and flexible solution for capturing and compressing up to 4 analog video inputs at full size and at full frame rate to the H.264/MPEG-4 AVC (Part 10) standard.

The ultra low latency full frame rate encoding of four NTSC/ PAL analog video sources offered by the H264ULL-ENCODER can be combined with Advanced Micro Peripherals H264ULL-DECODER to produce an end-to-end ruggedized low latency video streaming solution.

The high performance H.264 video compression and efficient bus utilization allows the H264ULL-ENCODER to be hosted on a low power, fanless CPU, PCI/104 system.

The H264ULL-ENCODER is supported by a set of well-documented and established SDKs that minimize development risk and shorten time to market for applications requiring video recording or streaming.

40ms Ultra low latency

Ideal for

Surveillance

Remote vehicle platform

Situational Awareness

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

Advanced Micro Peripherals Ltd
Cambridge, CB6 2HY, England
Tel (+44) 1353 659500
Fax (+44) 1353 659600
sales@ampltd.com
http://www.ampltd.com

Advanced Micro Peripherals Inc
New York, NY10016, USA
Tel (+1) 212 951 7205
Fax (+1) 212 951 7206
sales@amp-usa.com
http://www.amp-usa.com

Windows® Embedded Partner

EMBEDDED-PC PC/104 MODULES

H264ULL-ENCODER

Ultra Low Latency Quad H.264 Encoder

H264ULL-ENCODER

H.264 compression

Quad channel

Low Power

Low CPU load

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

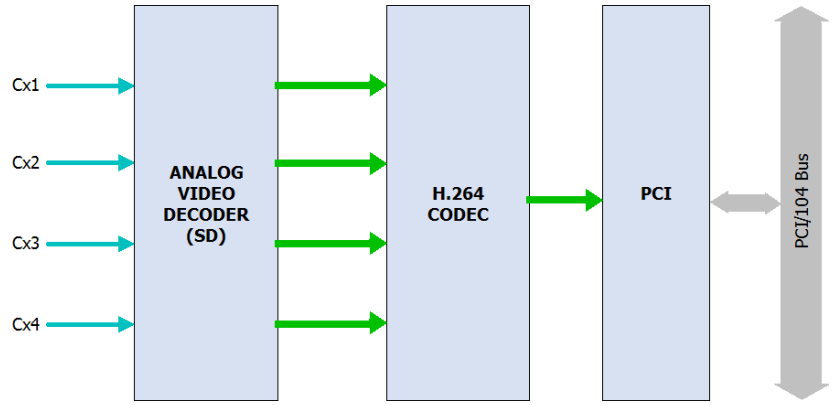
Intranet/Internet video streaming

Advanced Micro Peripherals Ltd
Cambridge, CB6 2HY, England
Tel (+44) 1353 659500
Fax (+44) 1353 659600
sales@ampltd.com
http://www.ampltd.com

Advanced Micro Peripherals Inc
New York, NY10016, USA
Tel (+1) 212 951 7205
Fax (+1) 212 951 7206
sales@amp-usa.com
http://www.amp-usa.com

H264ULL-ENCODER

Ultra Low Latency Quad H.264 Encoder



H264ULL-ENCODER Block Diagram

Comprehensive SDK

Sample Applications

Features

Real time 4x full size H.264 encode at full frame rate

Composite NTSC/PAL/RS-170 video input

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 H264ULL-ENCODER boards per system

Standard PCI/104 form factor

Drivers for WinXP-E and Linux

Advanced Micro Peripherals Ltd
Cambridge, CB6 2HY, England
Tel (+44) 1353 659500
Fax (+44) 1353 659600
sales@ampltd.com
http://www.ampltd.com

Advanced Micro Peripherals Inc
New York, NY10016, USA
Tel (+1) 212 951 7205
Fax (+1) 212 951 7206
sales@amp-usa.com
http://www.amp-usa.com

H264ULL-ENCODER

Rev A.00

Ultra Low Latency Quad H.264 Encoder

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

Analog Video Input

4 composite NTSC/PAL/RS-170 video input channels
Anti-aliasing filters on inputs

Video Input Formats

Standard 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

Video Input Adjustments

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

Ultra Low Latency

Less than 40ms encode latency

Video Encoding

H.264 ISO/IEC 14496-10 baseline and Main Profile up to L4.2
Interlaced and progressive video encode support
Real-time multi stream H.264 Ultra Low Latency capture
4 channel NTSC D1 (720x480) at 30fps
4 channel PAL D1 (720x576) at 25fps

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

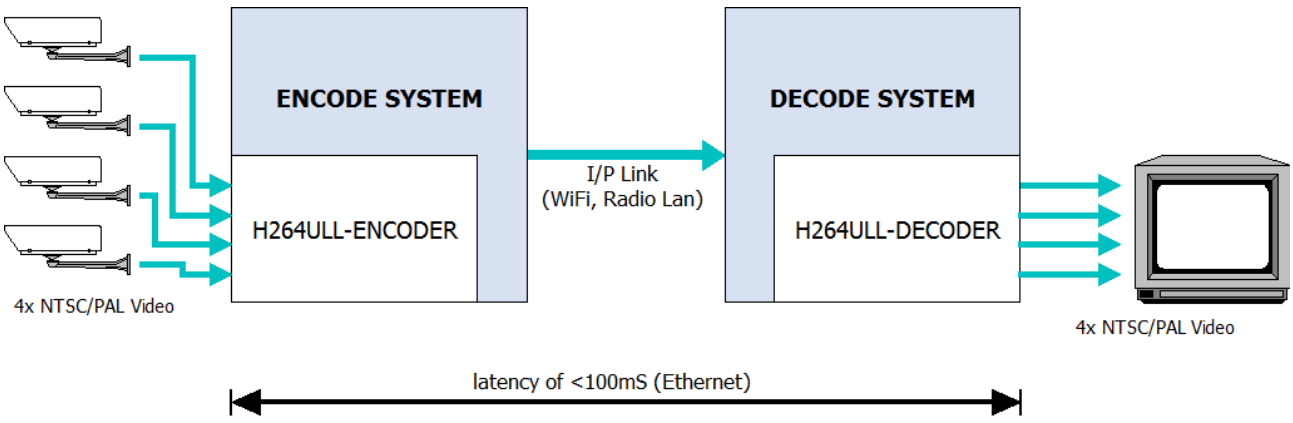
Drivers for Win-XP, Linux
Comprehensive video recording SDK
Sample video recording application in C/C++ source code

Related Products

H264ULL-ENCODER-VStream RTSP Video Streaming SDK

Ordering Information

H264ULL-ENCODER	Video Encoder Card (0 to 60˚C)
H264ULL-ENCODER-Ext	Video Encoder Card (-40˚C to +85˚C)



H264ULL-ENCODER Low Latency Streaming Application

Advanced Micro Peripherals Ltd
Cambridge, CB6 2HY, England
Tel (+44) 1353 659500
Fax (+44) 1353 659600
sales@ampltd.com
http://www.ampltd.com

Advanced Micro Peripherals Inc
New York, NY10016, USA
Tel (+1) 212 951 7205
Fax (+1) 212 951 7206
sales@amp-usa.com
http://www.amp-usa.com

Advanced Micro Peripherals
THE EMBEDDED VIDEO EXPERTS