The H264-ULL-SD4 is an ultra low latency, quad channel, H.264 encoder on a single PCI/104 form factor board. The SLL-H264-SD4 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.

In addition to the ultra low latency full frame rate encoding of four NTSC/PAL analog video sources, the H264-ULL-SD4 can also perform stream duplication 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 high performance H.264 video compression and efficient bus utilization allows up to four H264-ULL-SD4 to be fitted in a PCI/104 system.

The H264-ULL-SD4 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.

PRELIMINARY INFORMATION (Rev A.00)
Subject to change without notification
H264-ULL-SD4

Ultra Low Latency Quad H.264 Encoder

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
Real-time control
Gaming
Simulation
H264-ULL-SD4

Ultra Low Latency Quad H.264 Encoder

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 H264-ULL-SD4 boards per system

PCI/104 form factor

Drivers for WinXP-E and Linux
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 (4:4:3), 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°
Brightness (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
H264-ULL-SD4-Stream RTSP Video Streaming SDK

Ordering Information
H264-ULL-SD4 Video Compression Card (0 to 60˚C)
H264-ULL-SD4-Ext Video Compression Card (-40˚C to +85˚C)

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