The ULLStreamCorder-SD4 is an intelligent, stand-alone, ultra low latency H.264 Streaming solution that accepts 4x NTSC/PAL/RS-170 composite video sources and records and streams them over 100/1000MBit Ethernet. This SWaP optimised solution is ideal for rapid deployment in demanding applications in Military, Communications, Transportation, Mining and Energy industries.

The ULLStreamCorder-SD4 features a dedicated hardware compression engine capable of encoding all 4 video channels at full size and full frame-rate with Ultra Low Latency (under 40ms). The flexible streaming engine can stream each channel direct from the on-board Ethernet port as well as save direct to locally attached storage for later retrieval. The ULLStreamCorder-SD4 also supports 4 channels of audio that can be captured and streamed with the video data.

The ULLStreamCorder-SD4 is an intelligent stand-alone device with it’s own on-board CPU and does not require a host CPU or any driver or OS software. For mechanical convenience the module can be mounted on a PC/104 stack without consuming host CPU resources.

PRELIMINARY INFORMATION (Rev A.01)
Subject to change without notification
ULLStreamCorder-SD4
Ultra Low Latency Standalone 4xD1 H.264 Video Streamer

Applications

Real-time video feedback for remote platforms
Unmanned vehicles (UAV, ROV)
Real-time IP video distribution
Remote Video Surveillance
All-round Real-Time Situational Awareness
Rapid Deployment Video Recording solutions
Rugged video recorders for marine, aviation
Border Security
Traffic Monitoring and Control
Video Acquisition and Analytics
Features

4x PAL/NTSC/RS-170 composite video inputs
Real-time 4x D1 H.264 encode at full frame rate
 Ultra Low Latency technology with video latency below 40ms
4 channels of audio encoding
H.264/MPEG-4 AVC (Part 10) Encoder
Single, rugged, real-time video streaming solution
SATA support for extended local storage
Stand-alone operation
Operating system neutral
Standard PC/104 mechanical form factor
ULLStreamCorder-SD4
Ultra Low Latency Standalone 4xD1 H.264 Video Streamer

Analog Video Input
Up to 4 concurrent PAL / NTSC / RS-170 composite video inputs
Four 10bit Analog-to-Digital converters
Anti-aliasing filter on inputs

Audio Input
4x mono inputs
Provides audio/video synchronization

H.264 Video Encoding
ITU-T H.264 (ISO/IEC 14496-10), supported profiles:
  - Baseline profile
  - Main profile (I-P frame coding only)
  - High profile (I, P frame coding only) at level 4.1
4x D1 encode @ full frame rate
Supports Variable Bit Rate (VBR)
Supports Constant Bit Rate (CBR)
Real-time multi stream H.264 Ultra Low Latency capture

Ultra Low Latency
Less than 40ms video encode latency (1)

Network Interface
100/1000MBit Ethernet for RTSP/RTP streaming and control

Data Storage
SATA - For external storage
SD-Card slot - On-board storage

Mechanical
Intelligent stand-alone module, does not require host computer
Standard 4.55 x 3.775in PC/104 form factor
Mechanical mounting for PC/104 stack
Single +5V supply
Operating temp 0˚C to 60˚C
Operating temp -40˚C to +85˚C (extended temp option)

Ordering Information
ULLStreamCorder-SD4
- H.264 Ultra Low Latency Video Streamer (0 to 60˚C)
ULLStreamCorder-SD4-EXT
- H.264 Ultra Low Latency Video Streamer (-40˚C to +85˚C)

(1) Streaming latency of ULLStreamCorder-SD4 is less than 40ms. When audio is included in the stream, overall system Glass-to-Glass streaming latency can be higher due to audio buffering at the remote client.

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