

MultiStream-HD-SD8

Ultra Low Latency Multi Channel Video Streamer



**Advanced Micro
Peripherals**

THE EMBEDDED VIDEO EXPERTS

The MultiStream is an intelligent, stand-alone, ultra low latency H.264/H.265 Multi channel video streaming solution. The MultiStream accepts 1x HD-SDI input and 8x NTSC/PAL/RS-170 composite video inputs and encodes and streams them over Ethernet. This SWaP optimized solution is ideal for rapid deployment in demanding applications in Military, Communications, Transportation, Mining and Energy industries.



The MultiStream features a dedicated hardware compression engine capable of encoding multiple channels at full size and full frame-rate with Ultra Low Latency. The encoding engine supports Intra-refresh encoding for efficient bandwidth utilization. The flexible streaming engine can stream user configurable combinations of the channels as required by the application. Each video channel is streamed direct from the on-board Ethernet port of the MultiStream. This makes the MultiStream a powerful, flexible platform ideal for rugged systems requiring optimum SWaP in a compact package.

The MultiStream 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. A web-interface allows configuration of the streaming and encoding parameters. 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

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Ultra low latency,
Rapid Deployment,
Rugged, solid-state
multi-channel
video streaming



PC/104

Embedded PC Modules

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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

HD-SDI at up to
1080p60

8x NTSC / PAL /
RS-170

Composite

video inputs

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PC/104

Embedded PC Modules

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MultiStream

SWaP optimized for
applications in the

Military,

Transportation,

Mining and

Energy Industries

Features

- 1x HD-SDI input at up to 1080p60
- 8x NTSC / PAL / RS-170 composite video inputs
- H.264/MPEG-4 AVC (Part 10) Encoder
- H.265/MPEG-H Part 2 HEVC Encoder
- Rugged, real-time multi channel video streaming solution
- Gigabit Ethernet for RTSP/RTP streaming
- Operating system neutral
- Web control interface
- Standard PC/104 mechanical form factor

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PC/104

Embedded PC Modules

Digital Video Input

HD-SDI input at up to 1080p60 (SMPTE 292M, SMPTE 424M)
 Standard resolutions supported include:
 1080p60, 1080p50, 1080p30, 1080p25
 720p60, 720p50

Analog Video Input

Up to 8 concurrent PAL / NTSC / RS-170 composite video inputs
 10bit Analog-to-Digital converter per channel
 Anti-aliasing filter on inputs

Audio Inputs

4x mono inputs
 Provides audio/video synchronization

Multi-Channel Encoding

User configurable channel settings
 Flexible channel selection examples:
 H.264: 1x HD 1080p60
 H.264: 1x HD 1080p30, 8x PAL/NTSC
 H.265: 1x HD 1080p30, 2x PAL/NTSC

Multi-H.264 Video Codec

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
 Supports Variable Bit Rate (VBR)
 Supports Constant Bit Rate (CBR)
 Supports Intra-refresh mode with recovery SEI
 Real-time multi-stream H.264 ultra low latency encode

H.265 Video Codec

ITU-T H.265 (ISO/IEC 23008-2), supported profiles:
 Main profile (I, P frame coding only)
 Supports Variable Bit Rate (VBR)
 Supports Constant Bit Rate (CBR)
 Supports Intra-refresh mode with recovery SEI
 Real-time multi-stream H.265 ultra low latency encode

Streaming Protocols

RTSP (RFC2326) and RTP (RFC3550) support
 RTSP/RTP over TCP
 RTP over UDP

Network Interface

Gigabit Ethernet for RTSP/RTP streaming and control

Power

9V to 20V DC Input

Environmental

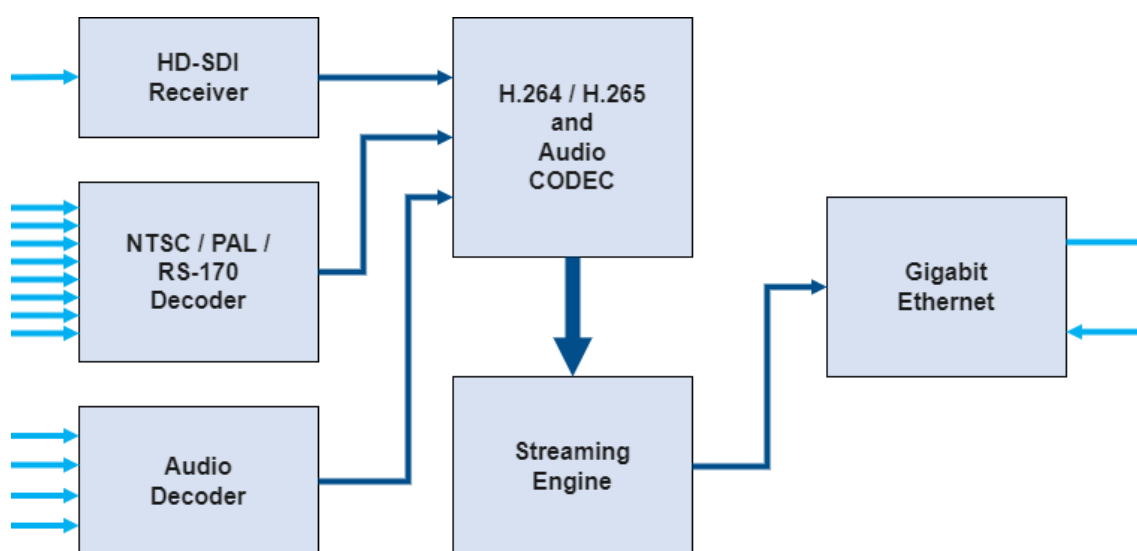
Operating temp -40°C to +85°C

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

Ordering Information**MultiStream-HD-SD8-EXT-V**

Ultra Low Latency Multi Channel Streamer (-40°C to +85°C)



MultiStream Functional Diagram

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