

VStream-VPX

Dual HD-SDI Ultra Low Latency VPX Video Streamer



**Advanced Micro
Peripherals**

THE EMBEDDED VIDEO EXPERTS

The VStream-VPX is an intelligent 3U VPX ultra low latency H.264/H.265 Streaming solution that accepts dual HD-SDI input and records and streams them over Ethernet. There is the option of 8x NTSC/PAL/RS-170 composite video sources. Additionally, there is also STANAG 4609 KLV metadata capture from HD-SDI. This SWaP optimized solution is ideal for rapid deployment in demanding applications in Military, Communications, Transportation, Mining and Energy industries.



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

The VStream-VPX features a dedicated hardware compression engine capable of encoding all 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. The VStream-VPX also supports embedded audio. This makes the VStream-VPX a powerful, flexible platform ideal for rugged systems requiring optimum SWaP in a compact package.

PRELIMINARY INFORMATION (Rev A.00)

Subject to change without notification

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Conduction cooled

3U VPX module

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

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OpenVPX™

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VStream-VPX
Board image is for illustrative purposes

SWaP optimized for
applications in the
Military,
Transportation,
Mining and
Energy Industries

Features

- 2x HD-SDI input at up to 1080p60
- 8x Composite NSTC/PAL/RS-170 video inputs (option)
- STANAG 4609 KLV metadata capture from HD-SDI
- H.264/MPEG-4 AVC (Part 10) Encoder
- H.265/MPEG-H Part 2 HEVC Encoder
- Rugged, real-time video streaming solution
- Front panel Gigabit Ethernet for RTSP/RTP streaming
- Operating system neutral
- 3U OpenVPX (VITA65) conduction cooled form factor

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Digital Video Input

Dual HD-SDI input at up to 1080p60
 HD-SDI with KLV metadata and embedded audio
 Standard resolutions supported include:
 1080p60, 1080p50, 1080p30, 1080p25
 720p60, 720p50, 720p30, 720p25

Analog Video Input (option)

8x Composite NTSC/PAL/RS-170 video inputs
 Eight 10-bit Analog-to-Digital converters
 Anti-aliasing filter on inputs

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
 Dual HD encode at full frame rate
 Supports Variable Bit Rate (VBR)
 Supports Constant Bit Rate (CBR)
 Real-time multi-stream H.264 ultra low latency encode

H.265 Video Codec

TU-T H.265 (ISO/IEC 23008-2), supported profiles:
 Main profile (I, P frame coding only)
 Dual HD encode at full frame rate
 Supports Variable Bit Rate (VBR)
 Supports Constant Bit Rate (CBR)
 Real-time multi-stream H.265 ultra low latency encode

STANAG4609 KLV

Extraction of KLV metadata from HD-SDI as per MISB 0605.3
 Synchronization of Video / Audio and KLV metadata

Network Interface

Primary GigaBit Ethernet for RTSP/RTP streaming and control
 RJ45 on front panel or RTM
 Secondary GigaBit Ethernet for control
 PCIe Ethernet controller

VPX Interface

3U VPX (VITA 46)
 1x PCIe x1 on VPX-P1 (VITA 46.4)

Environmental

Operating temp -40C to +85C
 Conduction cooled 3U VPX module

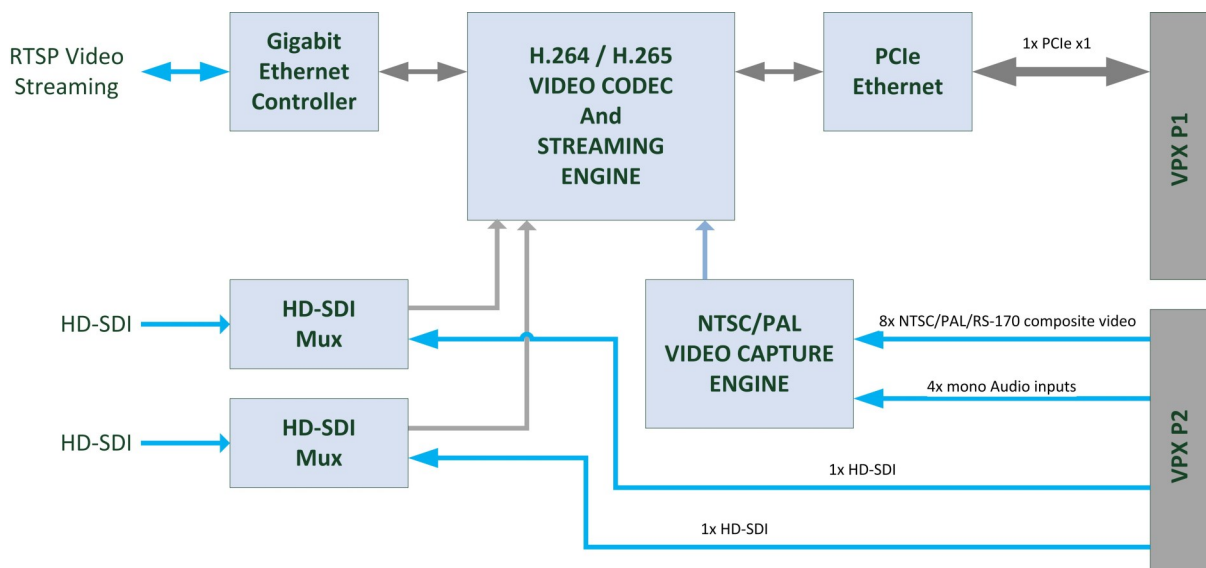
Mechanical

3U OpenVPX (VITA 65)

Ordering Information

VStream-VPX-EXT

Dual HD-SDI Ultra Low Latency Video Streamer



VStream-VPX Functional Diagram

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