

# XStream-VPX

3U VPX Ultra Low Latency H.264/H.265 Video Streamer



**Advanced Micro  
Peripherals**

THE EMBEDDED VIDEO EXPERTS

The XStream-VPX is an intelligent 3U VPX ultra low latency H.264/H.265 Streaming solution that accepts 8x NTSC/PAL/RS-170 composite video sources, 1x HDMI/DVI input, 1x RGB/STANAG/RS343 input, 1x HD-SDI input and records 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 XStream-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 XStream-VPX also supports 4 channels of audio that can be captured and streamed with the video data. This makes the XStream-VPX a powerful, flexible platform ideal for rugged systems requiring optimum SWaP in a compact package.

The XStream-VPX is supported by drivers for Windows and Linux.

## 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@amp ltd.com](mailto:sales@amp ltd.com)  
<http://www.amp ltd.com>

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

**OpenVPX**™

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

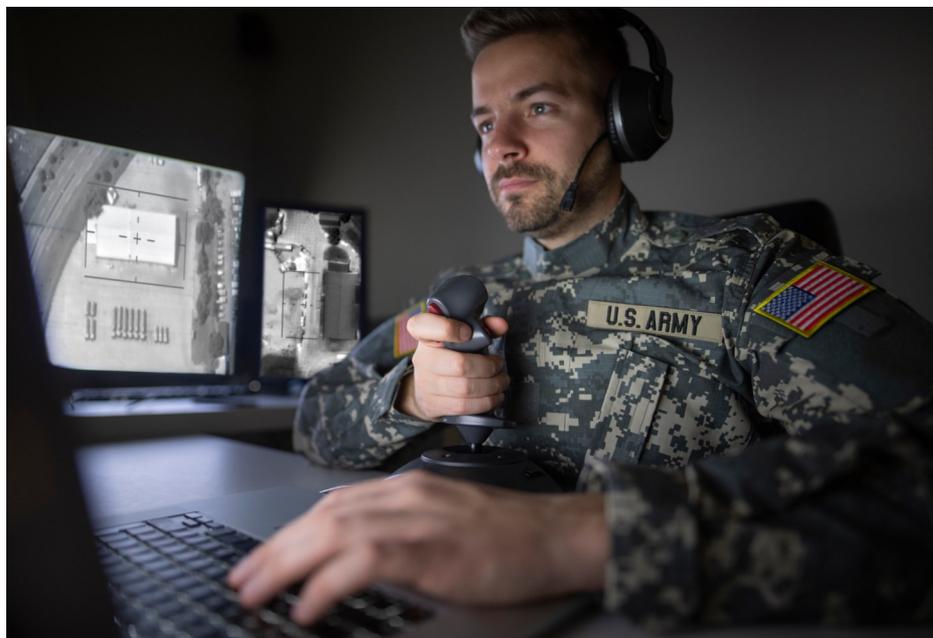
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Conduction cooled

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

## Features

- 8x PAL/NTSC/RS-170 composite video inputs
- 1x HDMI/DVI, RS343/RGB/STANAG input
- 1x HD-SDI input
- H264/H265 video encoding
- Ultra Low Latency technology with video latency below 40ms
- 4 channels of audio encoding
- Drivers for Windows, Linux
- 3U VPX form factor
- Conduction cooled

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### Digital Video Input

- HDMI/DVI input up to 1080p60
- HD-SDI input up to 1080p30
- Front I/O DVI connector for HDMI/DVI input
- Front I/O MCX connector for HD-SDI input

### Analog HD Video Input

- VGA / STANAG3350 / RS-343 analog video input
- Front I/O DVI carries analog RGB signalling

### Composite Video Input

- Up to 8 concurrent composite PAL or NTSC video input channels
- Eight 10-bit Analog-to-Digital converters
- Anti-aliasing filters on inputs
- NTSC-M, NTSC-Japan, NTSC (4.43), RS-170 PAL-B,G,N, PAL-D, PAL-H, PAL-I, PAL-M, PAL-CN, PAL-60 SECAM

### Analog HD Video Input

- 4 mono audio inputs
- Provides audio/video synchronization

### H.264/H.265 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
- HEVC / H.265 / MPEG-H Part 2
- Supports Variable Bit Rate (VBR)
- Supports Constant Bit Rate (CBR)
- Real-time multi stream H.264/H.265 Ultra Low Latency video encoding

### Streaming Protocols

- RTSP (RFC2326) and RTP (RFC3350) support
- RTSP/RTP over TCP
- RTP over UDP

### VPX Interface

- 3U VPX (VITA 46)
- 1x PCIe x1 on VPX-P1 (VITA 46.4)
- 8x Composite video input on VPX-P2
- 4x Audio input on VPX-P2
- 1x HD-SDI on VPX-P2
- 1x HDMI on VPX-P2
- 1x VGA / STANAG3350 / RS343 on VPX-P2

### Mechanical

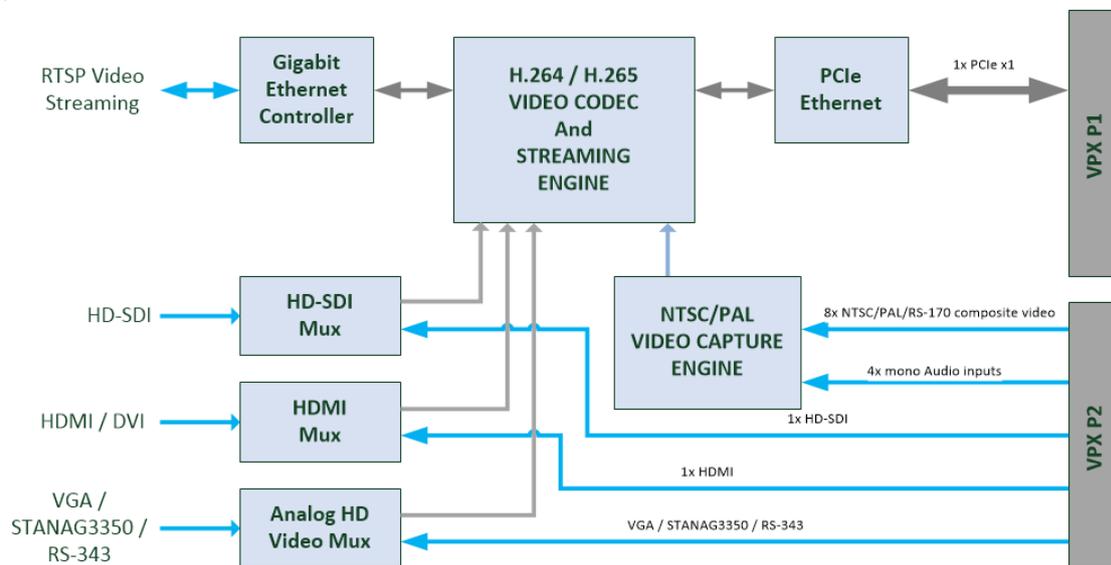
- Operating temp -40°C to +85°C (extended temp option)
- Conduction cooled 3U module

### Software Drivers

- Drivers for Windows, Linux

### Ordering Information

- XStream-VPX-EXT**  
H.264/H.265 Ultra Low Latency Video Streamer (-40°C to +85°C)



**XStream-VPX Functional Diagram**

(1) Streaming latency of XStream-VPX 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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