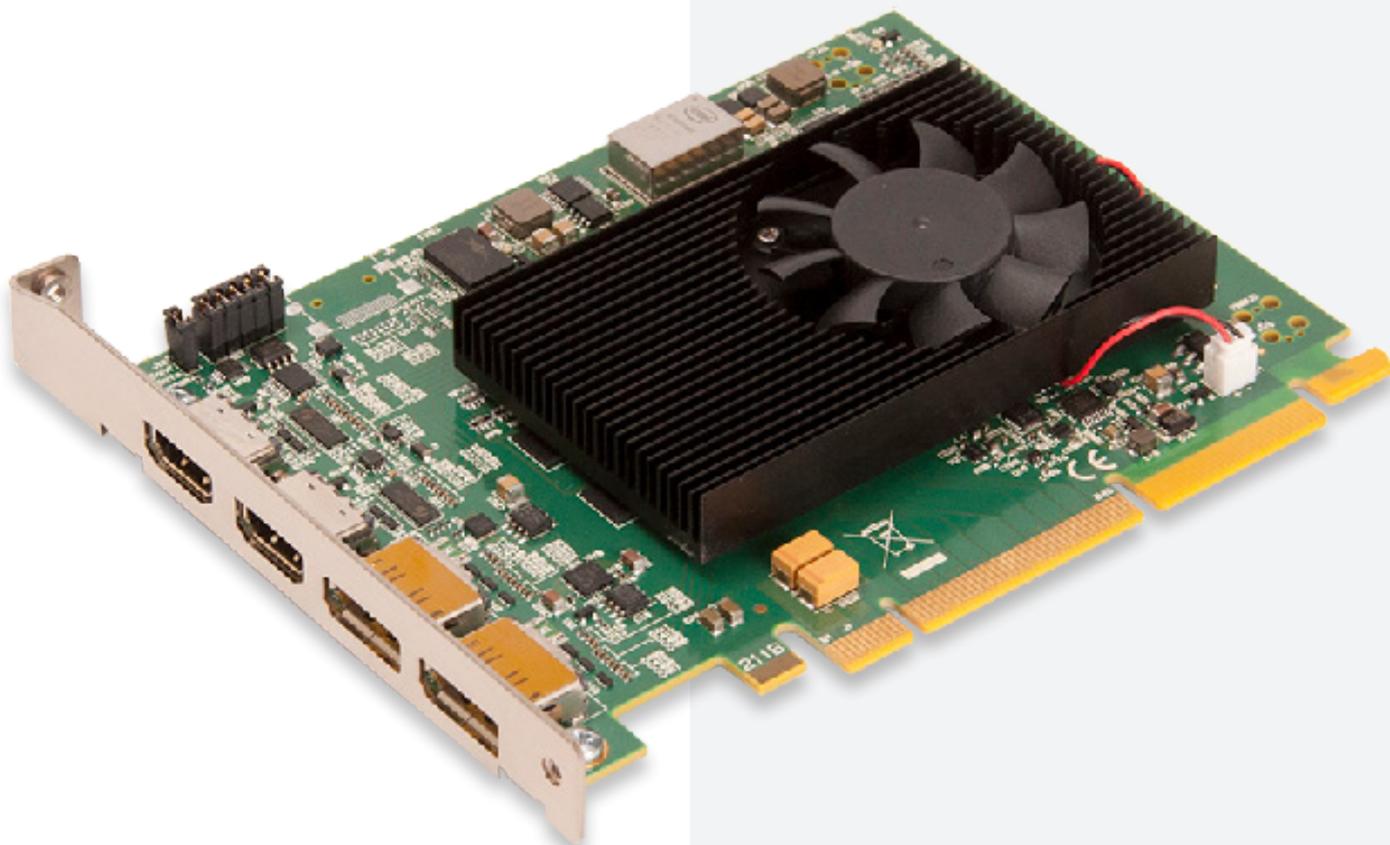# VisionIO-XD2

Dual format video capture card

LIVE MONITORING AND AUGMENTATION

Today's most popular 4K video standards are inherently point-to-point in nature, yet systems are required to split video pipelines whenever capture and monitoring is required simultaneously. Duplicating frames in software adds latency and uses system resource, whilst external signal splitters are often too cumbersome and unreliable for many professional applications.

The Datapath VisionIO-XD2 provides two 4K capable zero latency loop through ports, each with alpha-blended overlay capability. When connected in series between the video source and the local monitor, the VisionIO-XD2 is capable of capturing video at full quality whilst mixing in overlay data into the live monitoring path without adding latency.

The VisionIO-XD2 offers a unique solution for the operator who needs both live video and overlay data to be displayed on a single monitor, whilst recording the stream in the background. Whether in a Medical Operating Room overlaying patient data onto surgical camera inputs, or whether adding overlays in Augmented Reality (AR) based applications, the VisionIO-XD2 offers a uniquely unparalleled and professional solution to the market.

FEATURES

- 1 x HDMI 2.0 input and 1 x HDMI 2.0 output (zero latency loop through)
- 1 x DisplayPort 1.2 input and 1 x DisplayPort output (zero latency loop through)
- Real time hardware overlay
- Eight lane PCI Express 3.0 - Providing 6 GB capture bandwidth
- All the features of Datapath's latest VisionSC range of capture cards

Engineering the **world's best** visual solutions

DATAPATH
EXCELLENCE BY DESIGN

Zero latency loop through with overlay

MISSION CRITICAL 24/7 OPERATION

The VisionIO-XD2 provides a fail-safe mechanism for the loop through ports, requiring only power for video pass through to be operational. Additionally, the overlay hardware contains a timeout mechanism to prevent applications from corrupting the main video feed in the event of a software crash or other system failure.

VISION PERFORMANCE FEATURES

The VisionIO series is supported by the Datapath Vision Performance Driver. Optimised at the lowest level to work efficiently with proprietary Datapath hardware, the Vision Performance Driver provides users with a variety of features including Livestream, Multi-Stream, Precision Hardware Timestamping, Efficient DMA Transfer, Flexible Signal Detection and Automatic Mode Changing.

VIDEO STREAMING

DirectShow drivers for WDM Streaming supports the following applications, to encode, record and stream video over networks or the Internet:

- Microsoft Media Encoder
- VLC
- Telestream WireCast
- vMix
- Opencast Matterhorn
- Vidblaster
- OBS Project
- Adobe Flash Media Encoder
- Dataton Watchout

Any application compatible with Windows® DirectShow technology can use the VisionIO due to the built-in WDM support. The latest Windows Media Foundation Framework is also supported under the AVStream minidriver framework, allowing application development suitable for the Windows 10 App Store®.

COMPATIBILITY

The VisionIO-XD2 is supported by the following operating systems: Linux, Windows XP, Windows Vista, Windows Server 2003, Windows Server 2008, Windows 7, Windows 8/8.1 and Windows 10.

MODELS AVAILABLE

Order Code: VisionIO-XD2
Dual format video capture card

SPECIFICATION

BOARD FORMAT
PCIe Gen 3 x8 plug-in card

DIMENSIONS
110mm x 177mm (incl heat sink)

CONNECTORS
1 x Locking DisplayPort 1.2 and 1 x HDMI Type A for input
1 x Locking DisplayPort 1.2 and 1 x HDMI Type A for output

MAX CAPTURE RESOLUTION
616MPixel/second capture bandwidth per channel
Captures up to 4096 x 2160p at 60Hz

FRAME BUFFER MEMORY
2 GB (Capture frame buffer)
1 GB (Overlay buffer)

INPUT MODE DETECTION (DISPLAYPORT)
Main Stream Attribute (MSA) decode

INPUT MODE DETECTION (HDMI)
Datapath Signal Measurement and AVI Infoframe

PIXEL CAPTURE FORMAT
RGB: 18, 24, 30 bits per pixel YUV (4:2:2): 8bit (16 bits/pixel), 10bit (20 bits/pixel), 12bit (24 bits/pixel)

PIXEL TRANSFER FORMATS
RGB: 5-5-5, 5-6-5 (16 bit), 8-8-8 (24 bit), 8-8-8-alpha (32bit), 10-10-10 (30 bit RGB10) or YUV: 4:4:4; 4:2:2; 4:2:0

COLOUR SPACE CONVERSION
RGB32, YUY2, NV12, YV12, BT.709, BT.2020

UPDATE RATE
User defined. Captured frame rate will match the source providing max data rate is not exceeded. Multi-buffered to eliminate tearing artefacts

VIDEO MODES
Any custom resolution within a 4K canvas and 616MP/s bandwidth limit

POWER
12V at 1.75A 3.3V at 1.2A Total power ≈ 25W

OPERATING TEMP
0 °C to 35 °C / 32 °F to 96 °F

STORAGE TEMP
-20 °C to 70 °C / -4 °F to 158 °F

RELATIVE HUMIDITY
5% to 90% non-condensing

WARRANTY
3 years

All products are shipped with the latest software available, unless stated otherwise. Special requirements may be organised by contacting our Sales team.

DATAPATH
EXCELLENCE BY DESIGN