



## QUAD CHANNEL CAPTURE CARD

Professional Video Capture Card

### + HIGH PERFORMANCE CARD

The VisionHD4 is a high end, four channel, high definition video capture card delivering high performance and flexibility in demanding environments.

The VisionHD4 has four independent video capture channels, supporting high definition capture and analogue video. The signals are input on four DVI-I connectors and can support HDMI, DVI, VGA and

analogue Component (YbPr) at all resolutions up to 4096 x 2048, at 165 MHz Pixel Clock (digital modes) or 170 Msp/s in analogue modes. The VisionHD4 captures all four video channels simultaneously and triple buffers them into onboard storage for tear free video, alongside an audio stream that can be selected from four of the HDMI audio ports. This data can then be processed and copied using DMA transfers to the host system for display, storage or streaming.



### + FEATURES

#### General Capture Card Features:

- 8 Lane PCI Express Gen.3 bus
- 3.2 GB/s total capture bandwidth in 4 PCIe lanes Gen.3 or 8 Lanes Gen.2
- Frame buffer memory 4 x 256 MB
- Datapath unified Windows and Linux driver support

#### Quad DVI-I Capture Channel:

- Max Resolution up to 4096 x 2048, at 165 MHz Pixel Clock (Digital modes) or 170 Msp/s in analogue modes.
- HDMI audio capture with streaming from each DVI Channel
- ~800 MB/s bandwidth per capture processor, 3.2GB/s for the card

## + SOFTWARE CAPABILITIES

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### Timestamp support for streaming synchronisation

- Synchronisation of multiple inputs across multiple cards
- Synchronise systems using network clock synchronisation
- For edge blending and other applications

### Flexible and configurable EDID Management

- Allows programming of custom EDID parameters for Capture cards

To see our full range of Vision features, please visit our product section on our website [www.datapath.co.uk](http://www.datapath.co.uk)

## + AUDIO FEATURES

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HDMI Audio capture and streaming from each DVI Channel

Supports audio capture to the PCI Express bus at popular sample rates from 44.1 to 96 ksamples/s at 16 bits/sample.

The card supports playback and mixing of HDMI embedded audio.

## + GRAPHICS CARD INTEGRATION

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When the VisionHD4 is used with a Datapath graphics card, it is able to transfer the data directly to the graphics card thereby increasing performance and allowing both sources to be viewed at full frame rate.

When the video data is displayed on a non-Datapath graphics card, the VisionHD4 may still be able to boost performance by using the graphics card's DirectGMA interface to transfer directly to its off-screen memory, for example AMD DirectGMA and Nvidia GPUDirect. This is dependent upon the graphics card driver software capabilities.

The VisionHD4 is an ideal solution for applications that require both a real time camera feed, with synchronised audio, as well as high resolution image capture at full frame rates.

## + DATAPATH VISION SOFTWARE

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The VisionHD4 is supplied with a powerful software application for configuring the format of the input sources and displaying the data.

Simply connect your video source into the card, run the VisionHD4 application to automatically detect the video source format and display the captured video in a window on your desktop.

### Low Input to Output Capture Latency

- DMA to third party graphics vendors back and front buffers via Direct3D
- Compatibility with AMD DirectGMA
- Compatibility with Nvidia GPUDirect

### User Mode filter for source selection

- Enables cropping support in DirectShow on all inputs
- Supports Start and Stop trigger interface on all Vision inputs

### Datapath Unified Vision Driver

- Multiple cards per system, 16 streams per input
- Frame sync and time stamping
- DirectShow interface
- The RGBEasy API for advanced audio and video control
- Fully integrated for use with Datapath Wall Control software for video wall applications

## + MODELS AVAILABLE

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Order Code: VisionHD4  
Quad Channel HDMI/ DVI/ RGB/YPbPr capture card

Order Code: DVI/VGA  
DVI-A to VGA adapter

Order Code: DVI/COMPONENT  
DVI to YPbPr adapter

Order Code: DVI/HDMI  
DVI to HDMI adapter

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

## + SPECIFICATIONS

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|------------------------------|--|
| Board Format                 | Full size, 8 Lane PCIe 3.0 interface<br>PCI Express card, 111.15mm x 312mm   |
| Connectors                   | Two DMS59 high density video connectors  |
| Maximum Sample Rate          | 170Mpixels per second analogue RGB or 165 MHz DVI.<br>Analogue modes up to 340MHz pixel clock can be captured using dual-pass sampling.  |
| Maximum Data Rate            | 800 MB/s bandwidth per capture processor, 3.2 GB/s for the card.   |
| Video Sampling               | 24 bits per pixel / 8-8-8 format.  |
| Video Capture Memory         | 256MB per capture channel, triple buffered   |
| Analogue RGB Mode Support    | 640 x 480, 800 x 600, 1024 x 768, 1280 x 1024, 1600 x 1200, 1920 x 1080, 1920 x 1200, custom modes.  |
| DVI Single Link Mode Support | 640 x 480, 800 x 600, 1024 x 768, 1280 x 1024, 1600 x 1200, 1920x1080, 1920 x 1200, and custom modes.  |
| HD Modes                     | 1080p, 1080i, 720p, 576p, 576i, 480p and 480i using a Component-DVI connector<br>For HDCP support, contact the Sales department for more information   |
| Input Mode Detection         | Automatic detection of input modes in hardware, enabling the tracking of mode changes in the source signal. DirectShow streams are maintained at a fixed resolution across mode changes.                                     |
| Pixel Transfer Formats       | RGB: 5-5-5, 5-6-5 or 8-8-8 (24bit/32bit) pixels.<br>YUV: 4:2:2.<br>MONO: 8bit.   |
| Update Rate                  | User defined, captured frame rate will match the source providing max data rate (800MB/s) is not exceeded.<br><br>Multi-buffered to eliminate tearing artifacts.   |
| Video Format Options         | Analogue RGB plus HSync and VSync (5 wire).<br>Analogue RGB with Composite Sync (4 wire).<br>Analogue RGB with Sync on Green/YPbPr (3 wire).<br>DVI Single Link. HDMI 1.3  |
| Operating System Support     | Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows Server 2012, Windows 7, Windows 8 and Linux* support (not audio)<br>See <a href="http://www.datapath.co.uk">www.datapath.co.uk</a> for updates. |
| Power Requirements           | Max current at 1.9A @ 12V<br>Max current at 2.5A @ 3.3V<br>Max power 31 Watts  |
| Operating Temperature        | 0 to 35 deg C / 32 to 96 deg F   |
| Storage Temperature          | -20 to 70 deg C / -4 to 158 deg F  |
| Relative Humidity            | 5% to 90% non-condensing.  |
| Warranty                     | 3 years.   |

*We are continuously developing the technology used within our product ranges delivering outstanding innovative solutions, therefore the specification may change from time to time.*