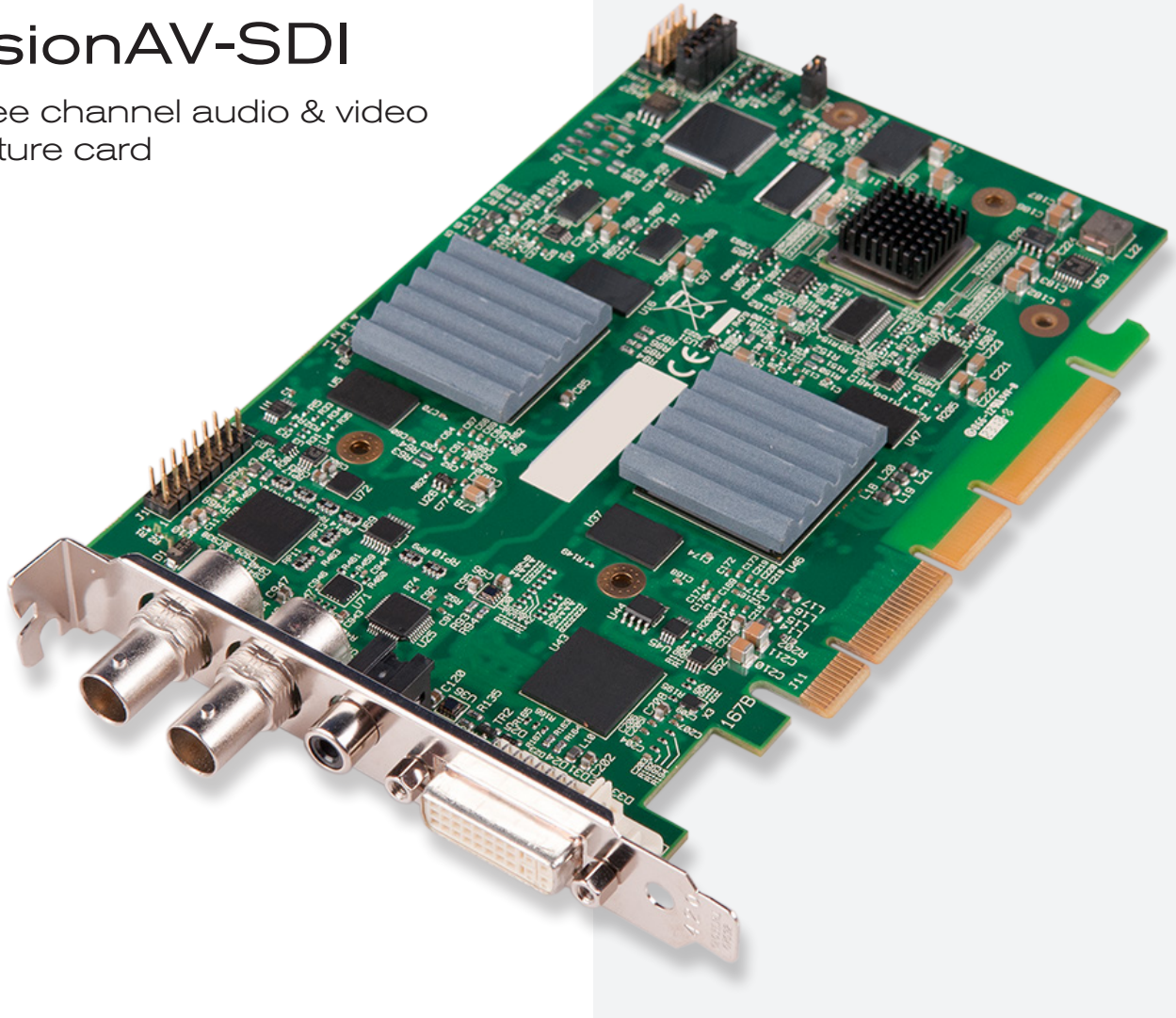


# VisionAV-SDI

Three channel audio & video capture card



## HIGH PERFORMANCE CARD

The VisionAV-SDI has three independent video capture channels. All channels can be captured simultaneously, one supporting High Definition DVI capture, a second decoding Standard Definition composite video and the third, a High Definition SDI video.

The DVI High Definition channel supports HDMI, DVI, RGB and analog component (YPbPr) input via a DVI-I connector\*, at resolutions up to 4096 x 4096 pixels and supports 1080p (1920 x 1080) at 60 frames per second.

The Standard Definition channel is input as composite video on a single RCA connector and can auto-detect between PAL, NTSC and SECAM formats.

The SDI channel supports SD-SDI, HD-SDI and 3G-SDI (including 2K Digital Film Resolution modes).

The VisionAV-SDI also adds embedded HDMI and SDI audio capture, which can be perfectly synchronised with either video capture channel.

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## FEATURES

- 4 Lane PCIe bus, Net 1.6 GB/s total capture bandwidth
- Frame buffer memory - 2 x 256MB
- Direct DMA to graphics memory of third party graphics cards
- Balanced (XLR) and Unbalanced (RCA) audio capture from optional audio module (AM2)
- Datapath unified Windows® driver supports XP and later operating systems and all Datapath PCIe capture cards
- Datapath Linux driver supports common Linux distributions (audio support)

### DVI-I capture channel

- HDMI/DVI/RGB/YPbPr video capture
- HDMI embedded Audio Capture and streaming
- Low input to output capture latency

### SD/Composite capture channel

- PAL, NTSC, SECAM up to 720 x 576 at 16 Bit colour

### SDI capture channel

- SDI embedded Audio Capture and streaming
- Loop through SDI BNC connection

## VIDEO STREAMING

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

- Microsoft Media Encoder®
- VLC
- VirtualDub
- Any other DirectShow encoding software

For streaming applications, the VisionAV-SDI can be used with Windows Media Encoder to compress and stream captured video. To replay the video, use Windows Media Player.

Any application compatible with Windows DirectShow technology can use the VisionAV-SDI due to its built-in WDM support.

## AUDIO FEATURES

- Flexible input/output mixing capabilities
  - Supports audio capture at popular sample rates from 44.1 to 96k samples/s at 16 bits/sample
  - Playback and mixing of Analog, embedded HDMI and SDI audio
- Input and output connection via the Audio Breakout Cable which is supplied with the optional AM2 audio module attached to a 15 pin high density D-type connector on the Audio Module. The physical connections comprise of:
- Left and right balanced audio input on female XLR jacks
  - Left and right unbalanced line inputs on female RCA connectors
  - Left and right unbalanced line outputs on female RCA connectors for direct passthrough of selected analog input

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).

## SOFTWARE CAPABILITIES

### 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

### Low input to output capture latency

- Direct DMA to graphics memory of Datapath and third party graphics cards
- 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

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## COMPATIBILITY

The VisionAV 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.

Datapath SDK is included for software developers.

## SPECIFICATION

### BOARD FORMAT

PCI-Express x4 half length, full height card,  
110mm x 170mm

### CONNECTORS

DVI-I, RCA and 2 x BNC connectors: Input  
(Green LED) and loop through output  
(Blue LED)

### HDMI CAPTURE

Supports HDMI 1.3 to 225MHz (including deep  
colour modes)

For HDCP support, contact the Sales

Department at Datapath for more information  
HDMI audio can be selected as source for audio  
streaming

Incorporates TMDS equalizer to support up to  
20m cables

### DVI CAPTURE

Supports DVI 1.0 RGB 24bit capture to 165MHz  
Incorporates TMDS equalizer to support up to  
20m cables

### VGA / YPBPR CAPTURE

Triple ADCs sampling up to 170MSPS  
Full 4:4:4 sampling, 8 bits per colour  
5-wire, 4-wire or sync-on-green signal formats

### DVI-I MODES

1920 x 1200/60fps. 32 bit colour, up to  
4096 x 4096 resolution

### COMPOSITE VIDEO CAPTURE

CCIR601 sampling. PAL, NTSC, SECAM formats  
automatically detected

### SDI CAPTURE

SD-SDI (480i/576i), HD-SDI to 1080i, 3G-SDI up  
to 1080p and 2K Digital cinema modes  
SDI audio can be selected as source for audio  
streaming

### ANALOG AUDIO CAPTURE

Balanced and unbalanced analog Audio  
Capture (through optional Audio Module)

### VIDEO CAPTURE MEMORY

256MB high bandwidth frame buffer supports  
triple buffering of HD and SD video  
Local storage of complex scatter-gather tables  
for DMA engine (eliminates read overhead)

### VIDEO PROCESSING

Polyphase FIR scaling engine (7 x 5) for  
hardware downscaling and upscaling  
Colour space conversion allows captured data  
to be transferred in any format:  
RGB 16 bit (5-5-5, 5-6-5), 24 bit (8-8-8) or 32 bit  
(8-8-8-alpha)  
YUV 16 bit (4:2:2)  
Mono: 8bit

### DMA ENGINE

Direct DMA to physical or virtual memory  
buffers with full scatter-gather support  
DMA bandwidth: up to 800MB/s  
16 independent DMA streams any mix of HD  
and SD sources, colour space, cropping and  
scaling parameters

### POWER REQUIREMENTS

Max current at +3.3V – 0.9A  
Max current at +12V – 0.5A  
Max power – 15.5W (typical)

### OPERATING TEMPERATURE

0 °C to 35 °C / 32 °F to 96 °F

### STORAGE TEMPERATURE

-20 °C to 70 °C / -4 °F to 158 °F

### RELATIVE HUMIDITY

5% to 90% non-condensing

### WARRANTY

3 years

## MODELS AVAILABLE

Order Code: VisionAV-SDI

Triple channel HD/SD/SDI capture card

*\* Adapters for other types of video connectors such as DVI/HDMI, DVI/VGA or DVI/Component are not included with the VisionAV-SDI but are available from Datapath, contact our Sales team for details.*

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

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