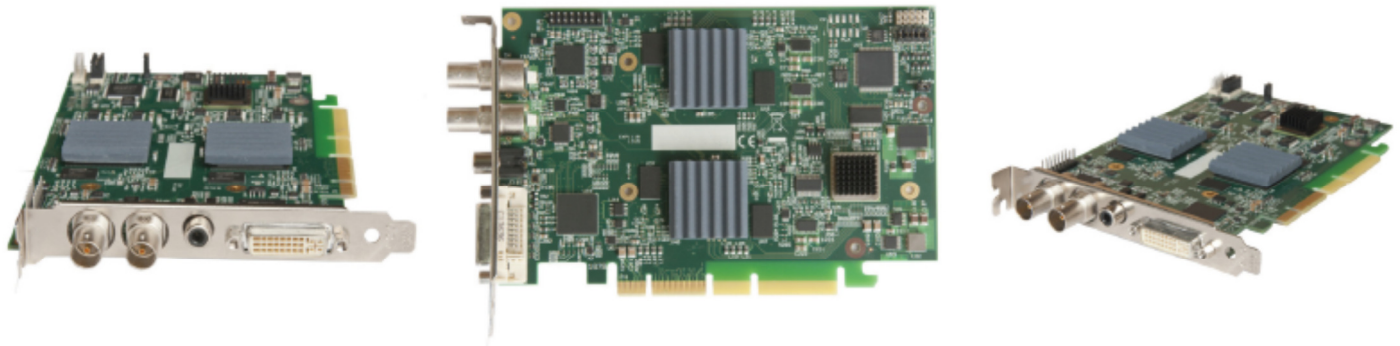# VisionAV-SDI

Three Channel Audio and Video Capture Card
Advanced Graphics Display Technology

DESCRIPTION

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.

- A single card solution for distance learning, lecture capture and web casting
- Viewing sources from a wide range of PCs, MACs, Industrial/Medical equipment, cameras and other video equipment.
- Videoconferencing
- Multi-display presentation software
- Broadcasting
- Digital Signage

FEATURES

- Triple channel PCI Express capture card
- 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)
- All standard Vision range features
- 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 @16 Bit colour

SDI Capture Channel:

- Single channel 3G/HD/SD-SDI capture card
- SDI embedded Audio Capture and streaming
- Loop through SDI BNC connection
- Input status indicator lights

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 it built-in WDM support.

AUDIO FEATURES

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

Flexible input/output mixing capabilities.

Supports audio capture at popular sample rates from 44.1 to 96 k samples/s at 16 bits/sample.

Playback and mixing of Analog, embedded HDMI and SDI audio.

DATAPATH VISION SOFTWARE

The VisionAV-SDI is supplied with a powerful sofware application for configuring the format of the input sources and displaying the data.

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

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

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 Dept 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
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*) See www.datapath.co.uk for updates.
Power Requirements	Max current at +3.3V – 0.9A. Max current at +12V – 0.5A. Max power – 6.5W (typical)
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 continously developing the technology used within our product ranges delivering outstanding innovative solutions, therefore the specification may change from time to time.

* Denotes not yet available, contact sales for details