

# Datapath VisionRGB-E2

# Dual Channel RGB/DVI Capture Card

## Advanced Graphics Display Technology

- Dual channel RGB/DVI capture card (PCI-Express)
- Four Lane PCIe interface with a maximum data rate of 480MB/sec
- Maximum analog RGB capture resolution of 2048 x 1536 x 24bit
- Maximum DVI capture resolution of 1920 x 1200 x 24bit
- HD modes (using a Component-DVI connector, HDCP not supported)
- On card processor for real time mode and sync detection
- Support for multiple cards allowing up to 64 capture channels. (32 cards)
- Direct DMA driver software and streaming driver
- High quality down scaling
- Support for YUV 4:2:2, RGB 5:5:5, 5:6:5 and 8:8:8 video formats
- High performance DMA to system memory or direct to graphics memory with scatter gather
- Support for separate H/V sync, Composite sync or Sync on Green
- 16 cropping windows per capture channel
- Includes WDM streaming drivers and the Datapath VisionRGB application software
- Fully integrated with the Datapath Wall Control software for video wall applications.
- VisionRGB-E2 is also optimised for operation with the Datapath range of graphics cards
- Support for Windows® XP/Vista/Server 2003/Server 2008
- Datapath SDK included for software developers



The VisionRGB-E2 is an ideal solution for applications that require the capture of Analog or DVI sources in real time. Typical applications include:

- Viewing Analog or DVI sources from PCs, MACs, Industrial/medical equipment, cameras and other video equipment
- Recording Analog or DVI video sources
- Streaming video applications
- Video/Data Wall Controllers

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### RGB Streaming

For streaming applications, the VisionRGB-E2 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 VisionRGB-E2 due to its built-in WDM support.

### VisionRGB Software:

The VisionRGB-E2 is supplied with a powerful software application for configuring the timing and format of the input sources and displaying the data. Simply connect your external DVI or Analog source into the card, run the VisionRGB-E2 application to automatically detect the video source format and display the captured video in a window on your desktop. You can also use the software application to record and capture the Analog data at high frame rates and play it back using the Datapath VisionRecorder and VisionPlayer applications.

### Hardware Overview:

The VisionRGB-E2 has two complete capture channels supporting up to 1920x1080 DVI or 2048x1536 Analog resolution.

The VisionRGB-E2 captures the Analog/DVI data and triple buffers it into onboard storage. This data is then copied using DMA to the host system for display, storage or streaming.

When a Datapath graphics card is used, the VisionRGB-E2 transfers the data directly to the graphics card thereby increasing performance. The VisionRGB-E2 sends the relevant portions of each captured image to each display channel and instructs each channel to use its graphics engine to render the data. This fully utilises the hardware and dramatically increases performance.

When the RGB/DVI data is displayed on a non Datapath graphics card, the VisionRGB-E2 sends the data to system memory or direct to the graphics card, dependant on the software used for display.

### Models

VisionRGB-E2 - A dual channel PCI Express capture card.

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### Specifications:

- **Board Format:** PCI-e x4 half size plug-in card, 110mm x 170mm  
PCI-e bus master with scatter gather DMA providing maximum data rate of 480MB/s
- **Connectors:** Two DVI-I type connectors
- **Maximum Sample Rate:** 170Mpixels per second analog RGB or 165 MHz DVI  
Analog modes up to 340MHz pixel clock can be captured using dual-pass sampling
- **Video Sampling:** RGB: 24 bits per pixel / 8-8-8 format
- **Video Capture Memory:** 32 MB, triple buffered
- **Analog RGB Mode Support:** 640x480, 800x600, 1024x768, 1280x1024, 1600x1200, 1920x1080, 2048x1536, custom modes.
- **DVI Single Link Mode Support:** 640 x 480, 800 x 600, 1024 x 768, 1280 x 1024, 1600 x 1200, 1920x1080, 1900 x 1200, and Custom modes.
- **HD Modes** 1080p,1080i, 720p, 576p, 576i, 480p and 480i using a Component-DVI connector (HDCP not supported).
- **Input Mode Detection:** Automatic detection of input modes in hardware, enabling the tracking of mode changes in the source signal.
- **Pixel Output Formats:** RGB: 5-5-5, 5-6-5 or 8-8-8 pixels.  
YUV: 4:2:2
- **Update Rate:** User defined, captured frame rate will match the source providing max data rate (480MB/s) is not exceeded.  
Multi-buffered to eliminate tearing artifacts
- **Video Format Options:** Analog RGB plus HSync and VSync (5 wire). )  
Analog RGB with Composite Sync (4 wire). )- Progressive  
Analog RGB with Sync on Green (3 wire). )  
DVI Single Link.
- **Operating System Support** Windows® XP Professional (x86 and x64), Windows® Server 2003 (x86 and x64), Windows Vista® (x86 and x64) and Windows® Server 2008 (x86 and x64)
- **Power Requirements:** Max current at +3.3V – 0.25A  
Max current at +12V – 1.2A  
Max power – 15 Watts
- **Operating Temperature:** 0 to 35 deg C.
- **Storage Temperature:** -20 to 70 deg C.
- **Relative Humidity** 5% to 90% non-condensing.

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For details on how to purchase the VisionRGB-E2 contact our sales department [sales@datapath.co.uk](mailto:sales@datapath.co.uk)

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