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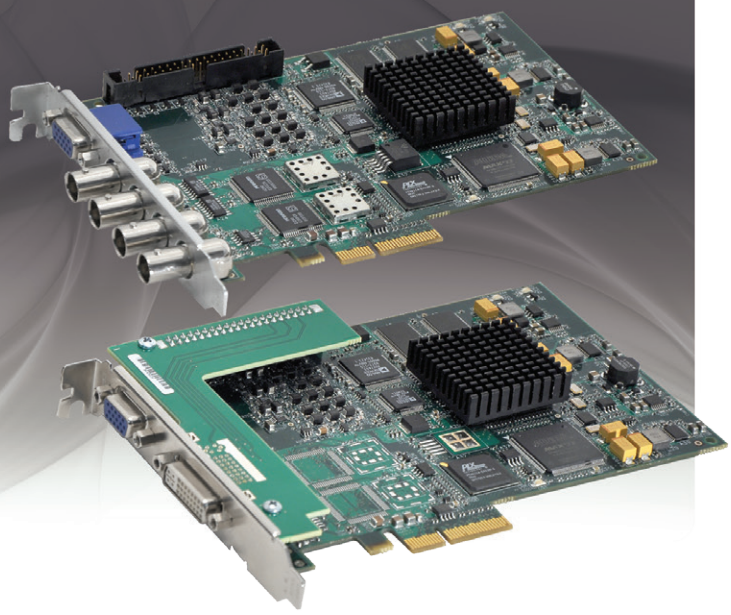
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Find the *Matrox VIO7ISAOSA/C9* at our website: ***Click HERE***

Matrox **Vio**

Family of HD/SD analog/digital[1] video capture/display[2, 3, 4] boards.



Key features

- PCIe® x4 short card
- analog HD/SD input and output[2, 3, 4]
- HD/SD SDI input and output[1, 2, 3, 4]
- low-latency video output
- video output synchronized to video input
- 20-bit video quality throughout[5]
- video source presence detection
- graphics overlay composition
- simultaneous digital and analog output[1, 4]
- programmed using Matrox Imaging Library (MIL) or DirectShow®
- supports 32-bit Windows® XP, 32/64-bit Windows® 7/8.1/10 and 32/64-bit Linux®

No longer just for broadcast

The Matrox Vio is a family of video capture and display[2, 3, 4] boards delivering the superior quality and definition of state-of-the-art broadcast video to medical imaging and high-end video surveillance. A versatile design enables Matrox Vio family to handle new high definition (HD) and traditional standard definition (SD) broadcast video formats transmitted over Serial Digital Interface (SDI) or analog form. In addition to video capture and display[2, 3, 4] the Matrox Vio family provides graphics overlay capabilities and the ability to stream high-definition video to/from the host PC through a four lane (x4) PCI Express® (PCIe®) interface.

HD/SD analog/digital video capture

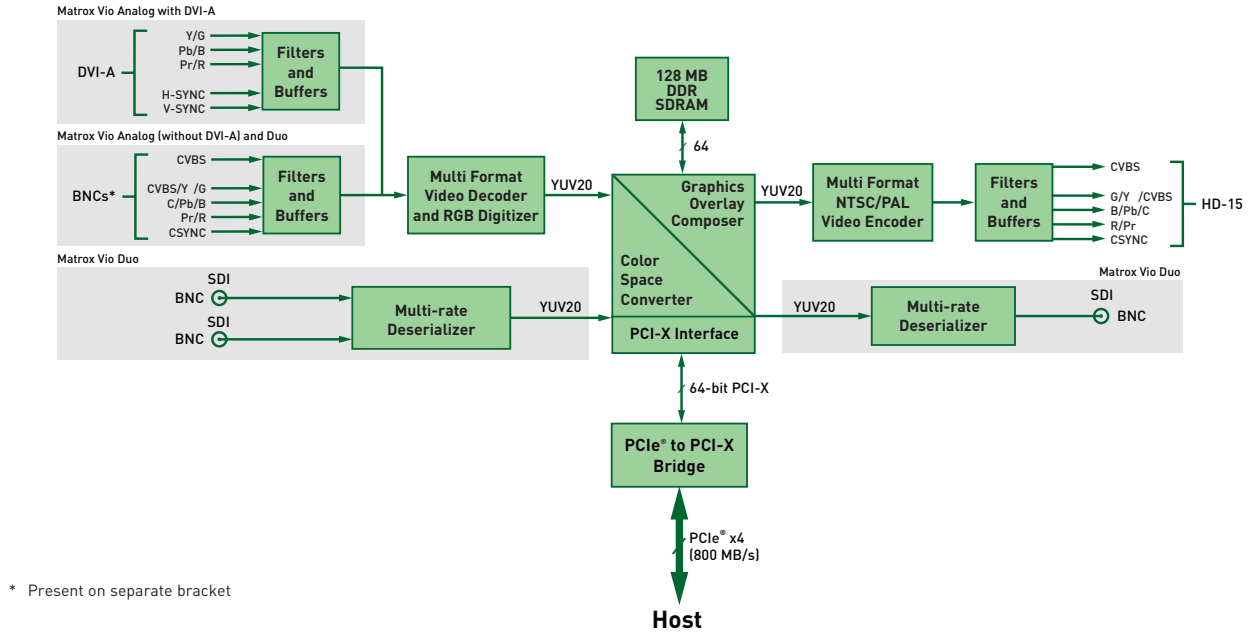
Members of the Matrox Vio family are capable of capturing standard definition (i.e., NTSC/PAL) or high definition (i.e., 720p/1080i) video signals[3] in either analog form (i.e., CVBS, Y/C, YPbPr or RGB) with the Matrox Vio Analog or analog or digital (i.e., SDI) form with the Matrox Vio Duo making them an ideal solution for system configurations that must be made to handle both new cutting-edge and legacy video probes and cameras.

All color acquisition is performed with 20-bit accuracy[5], which helps to expose the subtle details in an image. In addition, all members of the Matrox Vio family are able to detect the presence (or absence) of a video source and can be made to display a custom attention (i.e., "splash") screen to alert the operator in the event of a video input malfunction.

The Matrox Vio family can output standard definition (i.e., NTSC/PAL) or high definition (i.e., 720p/1080i) video signals[3] in analog form (i.e., CVBS, Y/C, YPbPr or RGB) with the Matrox Vio Analog or both analog and digital (i.e., SDI) form with the Matrox Vio Duo enabling it to connect to both new cutting-edge and legacy video monitors and recorders. 20-bit color fidelity[5] is maintained from input to output, preserving subtle image details. The video output is synchronized to the video input, which eliminates tearing artifacts. Moreover, the video input to output circuitry is designed for low-latency providing the operator with immediate visual feedback. Video outputs on the Matrox Vio family can also be used for playback of archived video. Furthermore, the Matrox Vio family handles the application of graphics overlay (e.g., annotations), generated by the host PC, to the video output in live or playback operation (see insert).

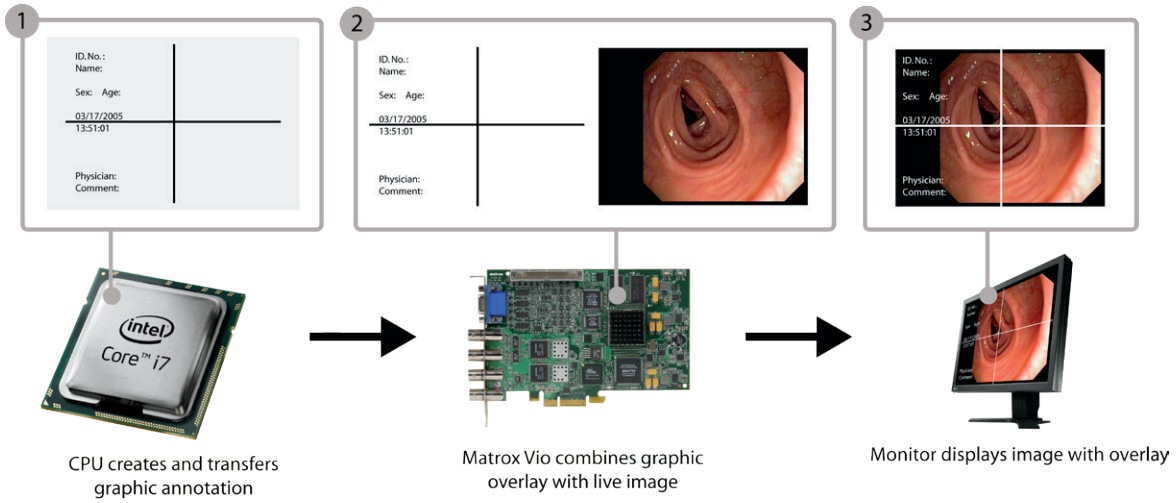
MATROX IMAGING

Matrox Vio family



* Present on separate bracket

Applying graphics overlay to the live video output



CPU creates and transfers graphic annotation

Matrox Vio combines graphic overlay with live image

Monitor displays image with overlay

Field-proven application development software

Matrox Vio is supported by the Matrox Imaging Library (MIL), a comprehensive collection of software tools for developing imaging applications. MIL features interactive software and programming functions for image capture, processing, analysis, annotation, display and archiving. These tools are designed to enhance productivity, thereby reducing the time and effort required to bring your solution to market. Refer to the MIL datasheet for more information. Applications for the Matrox Vio can alternatively be developed using the DirectShow® API with an available MIL-based video capture filter.

Specifications

Hardware

- PCIe® x4 short card
- 128MB DDR SDRAM shared memory
- analog or digital[1] (SDI) video acquisition
- simultaneous analog and digital (SDI) video output[1, 3]
- video output synchronized to video input
- HD/SD analog input/output[2, 3, 4]
  - 1080i at 60/50 fields/sec
  - 720p at 60/50/30/25/24 frames/sec
  - VESA display modes[6] (input only)
    - 1024x768/1280x720/1280x1024 @ 60 Hz
  - NTSC/PAL
  - CVBS[7] (NTSC/PAL only), Y/C[7] (NTSC/PAL only), YPbPr and RGB (sync. on G or separate sync.)
  - CCIR-601 or square pixel digitization and display
- HD/SD SDI input/output[1, 2, 3, 4]
  - 1080i at 60/50 fields/sec (SMPTE 292M)
  - 720p at 60/50/30/25/24 frames/sec (SMPTE 296M)
  - 480i at 60 fields/sec and 480p at 60 frames/sec (SMPTE 259M)
  - 576i at 50 fields/sec
  - connect and switch between two inputs
- 20-bit (YUV20) input and output accuracy
- video output composition (graphics overlay on top of actual video)
- connectors
  - BNCs for SDI inputs and output[1]
  - DBHD-15 for analog output
  - BNCs for analog input (on separate bracket)[7]
  - DVI-A for analog input[6]

Dimensions and environmental information

- 16.3 cm x 10.7 cm (6.4" x 4.2") from bottom edge of goldfinger to top edge of board and without bracket
- operating temperature: 0 C to 55 C (32 F to 131 F)
- power consumption (typical): 2.48A @ 3.3V, 0.73A @ 12V or 16.94W total
- relative humidity: up to 95% (non-condensing)
- FCC class A
- CE class A
- RoHS-compliant

Specifications (Cont.)

Software Drivers

- Matrox Imaging Library (MIL) drivers for 32-bit Windows® XP and 32/64-bit Windows® 7/8.1/10
- MIL-based DirectShow® video capture filter for 32/64-bit Windows® 7/8.1/10
- MIL drivers for 32/64-bit Linux®

Ordering Information

Hardware

Part number & Description	
VIO 7 IA 0A*	Matrox Vio Analog HD/SD analog video capture and display board for PCIe® x4 with 128 MB DDR SDRAM.
VIO 7 IA 0A/G*	Matrox Vio Analog DVI-A HD/SD analog video capture and display board for PCIe® x4 with 128 MB DDR SDRAM.
VIO 7 ISA 0SA*	Matrox Vio Duo HD/SD SDI/analog video capture and display board for PCIe® x4 with 128 MB DDR SDRAM.

Software

Refer to MIL datasheet.

Notes:
1. Present only on Matrox Vio Duo.
2. Still requires the presence of a primary display adaptor. Cannot be used to display operating system's desktop.
3. No support for audio channel.
4. No support for transcoding (i.e., video output resolution and rate is identical to video input resolution and rate).
5. YUV20 format.
6. Available only on Matrox Vio Analog with DVI-A.
7. Not available on Matrox Vio Analog with DVI-A.

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or e-mail: imaging.info@matrox.com or http://www.matrox.com/imaging

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