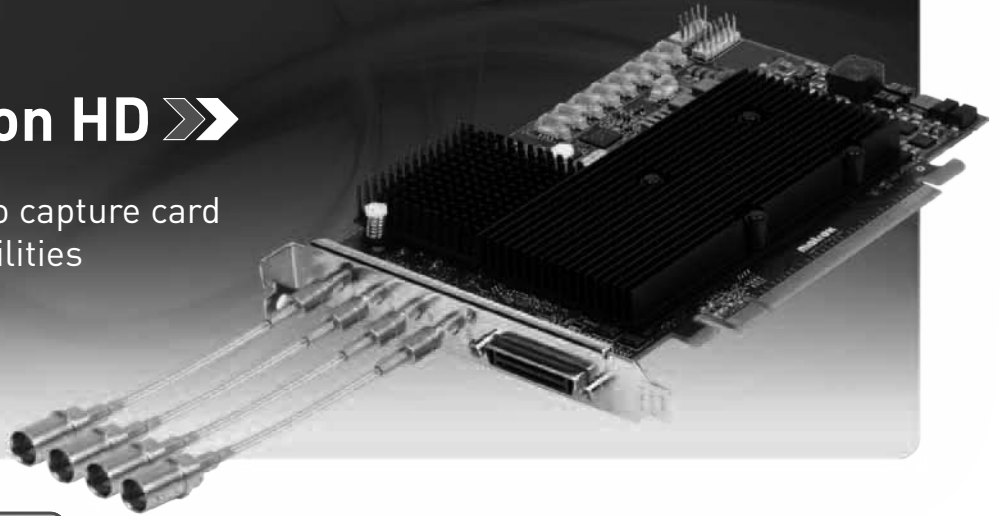


# Matrox Orion HD

Graphics and video capture card with SD/HD capabilities



Preliminary

## Benefits

**Maximize performance and compatibility** by way of a PCIe® x16 half-length card design

**Capture from a variety of legacy and state-of-the-art video** sources with support for SD/HD analog/digital (DVI and SDI) video formats

**Optimize multi-channel applications** via dual independent video inputs and outputs on a single card

**Maximize existing application development knowhow** through support for standard graphics overlay

**Implement video capture with ease and confidence** using Matrox Imaging Library (MIL) application development kit

**Deploy using a contemporary platform** with support for 32/64-bit Microsoft® Windows® 7

## Versatile SD/HD acquisition

Matrox Orion HD, a high-performance graphics adapter with video capture capabilities, provides the ideal solution to the legacy standard definition (SD) and advanced high definition (HD) video needs found in many medical imaging, video surveillance and simulation/training applications. The Orion HD features two independent video input paths. Each video input path can connect and switch between RGB / CVBS (3) / YPrPb, DVI-D / HDMI<sup>1</sup> and SDI signal types through DVI-I<sup>2</sup> and BNC connectivity<sup>3</sup>. The Orion HD can handle different resolutions and rates: SD (NTSC/PAL), HD (720p, 1080i and 1080p at up to 60Hz), PC (up to 1920 x 1200 @ 60Hz) and non-standard<sup>4</sup>. The Matrox Orion HD includes a programmable color space converter for obtaining the most accurate color representation of the original image.

## Dual-headed display

In addition to two independent video input paths, the Matrox Orion HD features two independent video outputs. The video outputs are not only independent from each other but are also independent from the video inputs for maximum configuration flexibility. The video outputs can be used for a single extended Windows® desktop or a separate Windows® desktop and exclusive display for the application<sup>5</sup>. Just like the video inputs, the video outputs support RGB / CVBS / YPrPb, DVI-D / HDMI<sup>1</sup> and SDI signal types through DVI-I<sup>2</sup> and BNC connectivity<sup>3</sup>. The Orion HD outputs can support various resolutions and rates: SD (NTSC/PAL), HD (720p, 1080i and 1080p at up to 60Hz) and PC (up to 1920 x 1200 @ 60Hz). Using a Matrox-designed graphics controller, the Orion HD can overlay standard Windows® graphics on the video outputs.

### Host interface to match

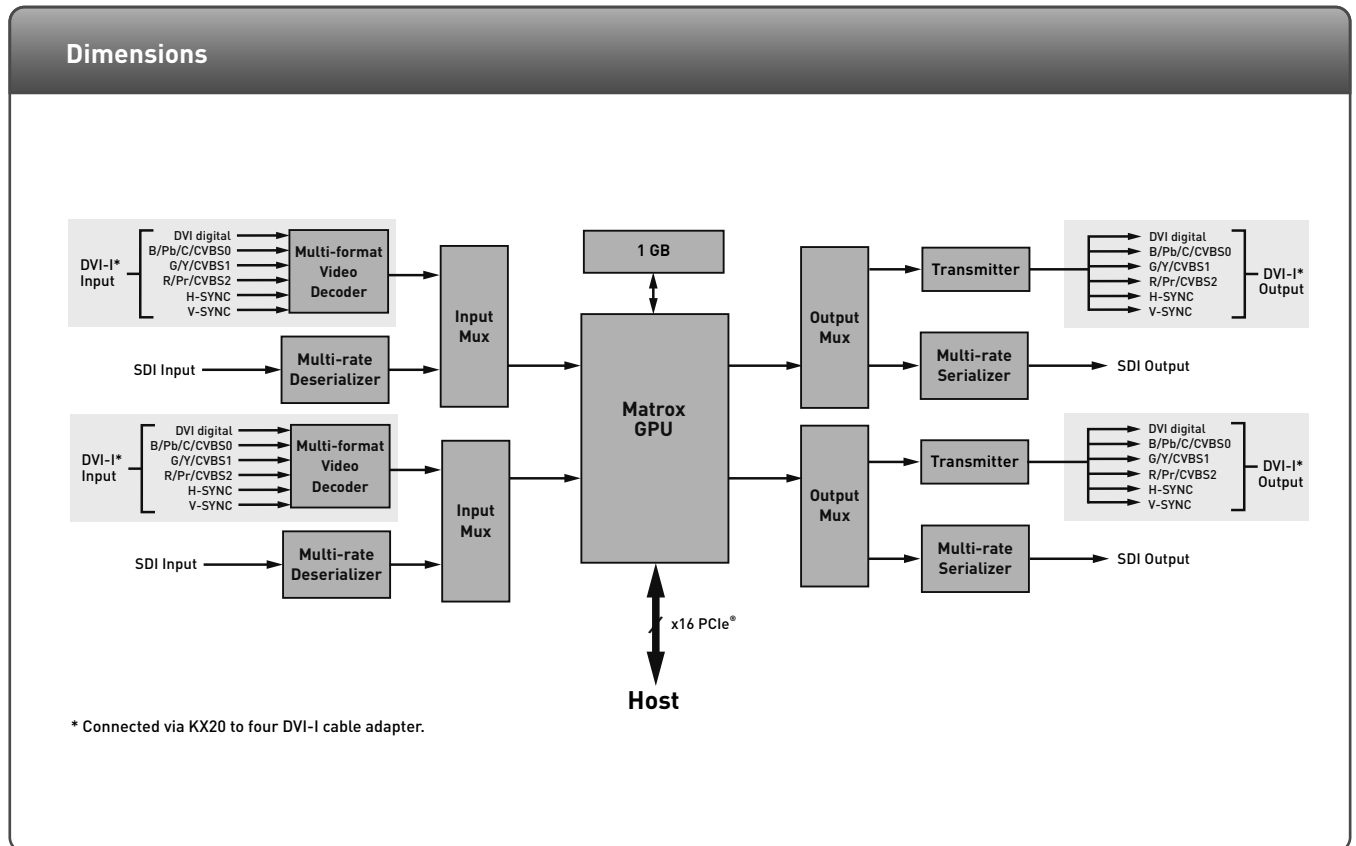
A PCIe® x16 host interface provides the Matrox Orion HD with the throughput necessary to handle the transfer of two HD video streams to host memory. With a peak bandwidth of up to 4 GB/s, the Matrox Orion HD's host interface prevents video data from inadvertently being discarded while the point-to-point connectivity of PCIe® stops other add-in devices from consuming valuable bandwidth between the card and the host PC.

### Lifecycle managed for consistent long term supply

Matrox Imaging not only carefully selected each component in the Matrox Orion HD to ensure product availability in excess of five years, but also exercises strict change control to provide consistent supply. Longevity of stable supply lets OEMs achieve maximum return on the original investment without incurring the additional costs associated with the repeated validation due to constantly-changing products.

### Application development with Matrox Imaging Library (MIL)

Complementing the Matrox Orion HD is the Matrox Imaging Library (MIL), which provides a comprehensive collection of software tools for developing industrial 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. The MIL API is not only intuitive and straightforward to use but it is also portable. It allows applications to be easily moved from one supported video interface or operating system to another, which provides platform flexibility and protects the original development investment.



Specifications	
<b>Hardware</b>	
PCIe® x16 half-length board	
1GB DDR SDRAM shared memory	
Matrox-designed Direct®X 9-compatible GPU	
Dual independent video acquisition and display paths	
Analog or digital (DVI-I, SDI) video acquisition	
SD/HD DVI-I and SDI input/outputs	
1080p at 60/59.95/50/30/29.97/25/24/23.97 frames/sec (SMPTE 274M)	
1080i at 60/59.95/30 fields/sec (SMPTE 274M)	
720p at 60/59.95/50/30/29.97/25/24/23.97 frames/sec (SMPTE 296M)	
NTSC/PAL	
VESA modes (up to 1920x1200 @60Hz)	
Connect and switch between multiple inputs : RGB / CVBS (3) / YPbPr, DVI-D / HDMI <sup>1</sup> and SDI	
<b>Connectors</b>	
SMBs for SDI inputs and outputs	
KX20 for analog and digital (DVI-D) inputs and outputs	
MIL license fingerprint and storage	

Endnotes:

1. Through third-party DVI-D to HDMI adaptor.
2. Through supplied KX20 to 4 DVI-I adaptor cables.
3. Through supplied SMB to BNC adaptor cables.
4. Horizontal resolution must be a multiple of 8.
5. Matrox Orion HD must be a primary or secondary Windows® display device.

**Corporate headquarters:**

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Specifications	
<b>Dimensions and environmental information</b>	
167.65 mm x 111.15 mm	
power consumption (typical): 4.3mA @ 3.3V, 1.32A @ 12V or 15.85W total	
operating temperature: 0 C to 55 C (32 F to 131 F)	
relative humidity: up to 95% (non-condensing)	
FCC class A pending	
CE class A pending	
RoHS-compliant	
<b>Software Drivers</b>	
Matrox Imaging Library (MIL) drivers for 32/64-bit Microsoft® Windows® 7	

**Ordering Information**

Hardware	
Part number	Description
<b>OHD 1G 2S*</b>	PCIe® x16 graphics card with two (2) DVI-I (analog & digital) video inputs, two (2) SDI video inputs, two (2) DVI-I (analog & digital) video outputs and two SDI video outputs. Includes KX20 to 4 DVI-I and four (4) SMB to BNC cable adaptors.



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