

» Vision processors



	Matrox Odyssey eA/XA	Matrox Odyssey eCL/XCL	Matrox Odyssey eD/XD	Matrox Odyssey Xpro	Matrox Odyssey Xpro+
Form Factor	<ul style="list-style-type: none"> x4 PCIe™, PCI-X® 	<ul style="list-style-type: none"> x4 PCIe™, PCI-X® 	<ul style="list-style-type: none"> x4 PCIe™, PCI-X® 	<ul style="list-style-type: none"> PCI-X® 	<ul style="list-style-type: none"> PCI-X®
Acquisition Format	<ul style="list-style-type: none"> standard and non-standard analog monochrome or component RGB frame or line scan 	<ul style="list-style-type: none"> Camera Link® (Base, Medium and Full) monochrome or component RGB frame or line scan 	<ul style="list-style-type: none"> 64-bit LVDS/RS-422 monochrome or component RGB frame or line scan 	<ul style="list-style-type: none"> standard and non-standard analog, Camera Link® (Base, Medium and Full) and 64-bit RS-422/LVDS monochrome or component RGB frame or line scan 	<ul style="list-style-type: none"> standard and non-standard analog, Camera Link® (Base, Medium and Full) and 64-bit RS-422/LVDS monochrome or component RGB frame or line scan
Acquisition Rate	<ul style="list-style-type: none"> up to 160 MHz analog 	<ul style="list-style-type: none"> up to 85 MHz 	<ul style="list-style-type: none"> up to 60 MHz LVDS up to 32 MHz RS-422 	<ul style="list-style-type: none"> up to 200 MHz analog up to 85 MHz Camera Link® up to 60 MHz LVDS up to 32 MHz RS-422 	<ul style="list-style-type: none"> up to 200 MHz analog up to 85 MHz Camera Link® up to 60 MHz LVDS up to 32 MHz RS-422
Display	<ul style="list-style-type: none"> use in conjunction with Matrox line of graphics boards 	<ul style="list-style-type: none"> use in conjunction with Matrox line of graphics boards 	<ul style="list-style-type: none"> use in conjunction with Matrox line of graphics boards 	<ul style="list-style-type: none"> use in conjunction with Matrox line of graphics boards 	<ul style="list-style-type: none"> use in conjunction with Matrox line of graphics boards
On-board Processing	<ul style="list-style-type: none"> freescale™ G4 PowerPC™ microprocessor, and Matrox Oasis ASIC 	<ul style="list-style-type: none"> freescale™ G4 PowerPC™ microprocessor, and Matrox Oasis ASIC 	<ul style="list-style-type: none"> freescale™ G4 PowerPC™ microprocessor, and Matrox Oasis ASIC 	<ul style="list-style-type: none"> freescale™ G4 PowerPC™ microprocessor, and Matrox Oasis ASIC 	<ul style="list-style-type: none"> freescale™ G4 PowerPC™ microprocessor, and Matrox Oasis ASIC, customizable co-processor FPGA
Memory	<ul style="list-style-type: none"> 512 MB image acquisition frame buffer processing memory (shared) 	<ul style="list-style-type: none"> 512 MB image acquisition frame buffer processing memory (shared) 	<ul style="list-style-type: none"> 512 MB image acquisition frame buffer and processing memory (shared) 	<ul style="list-style-type: none"> up to 2 GB image acquisition frame buffer processing memory (shared) 	<ul style="list-style-type: none"> up to 2 GB image acquisition frame buffer processing memory (shared)
Additional Features	<ul style="list-style-type: none"> simultaneous capture from up to four fully independent video sources video synchronization (including trigger input and exposure output) and auxiliary digital I/Os RS-232 serial ports 	<ul style="list-style-type: none"> simultaneous capture from up to two fully independent Base configurations video synchronization (including trigger input and exposure output) and auxiliary digital I/Os serial ports 	<ul style="list-style-type: none"> simultaneous capture from up to four fully independent video sources video synchronization (including trigger input and exposure output) and auxiliary digital I/Os serial ports 	<ul style="list-style-type: none"> pair of dedicated board-to-board interconnects PMC site (for frame grabber modules, etc.) simultaneous capture from up to four fully independent video sources video synchronization (including trigger input and exposure output) and auxiliary digital I/Os serial ports 	<ul style="list-style-type: none"> pair of dedicated board-to-board interconnects PMC site (for frame grabber modules, etc.) simultaneous capture from up to four fully independent video sources video synchronization (including trigger input and exposure output) and auxiliary digital I/Os serial ports

Frame grabbers



	Matrox CronosPlus	Matrox Morphis	Matrox Morphis QxT	Matrox Meteor-II/ Multi-Channel	Matrox Meteor-II/Digital	Matrox Meteor-II/ Camera Link	Matrox Solios eA/XA	Matrox Solios eCL/XCL-B	Matrox Solios eCL/XCL	Matrox Solios GigE	Matrox Helios eA/XA	Matrox Helios eCL/XCL	Matrox Corona-II	Matrox Vio
Form Factor	• PCI	• x1 PCIe™, PCI(-X®), PC/104-Plus™ ³	• x4 PCIe™	• PCI, PC/104-Plus™	• PCI, PC/104-Plus™	• PCI, PC/104-Plus™	• x4 PCIe™, PCI-X®	• x1 PCIe™, PCI-X®	• x4 PCIe™, PCI-X®	• x4 PCIe™	• x4 PCIe™, PCI-X®	• x4 PCIe™, PCI-X®	• PCI	• x4 PCIe™
Acquisition Format	• standard analog • monochrome or color	• standard analog • monochrome or color	• standard analog • monochrome or color	• standard and non-standard analog • monochrome or component RGB • frame scan	• 32-bit RS-422/LVDS • monochrome or component RGB • frame or line scan	• Camera Link® (Base and Medium ⁴) • monochrome or component RGB • frame or line scan	• standard and non-standard analog • monochrome or component RGB • frame or line scan	• Camera Link® (Base) • monochrome or component RGB • frame or line scan	• Camera Link® (Base and Medium) • monochrome or component RGB • frame or line scan	• GigE Vision™ • frame or line scan	• standard and non-standard analog • monochrome or component RGB • frame or line scan	• Camera Link® (Base, Medium and Full) • monochrome or component RGB • frame or line scan	• standard and non-standard analog or 24-bit RS-422/LVDS ⁵ • monochrome or component RGB • frame scan	• HD (720p or 1080i) or SD • analog including component RGB • optional SDI
Acquisition Rate	• square pixel	• square pixel	• square pixel	• up to 30 MHz	• up to 25 MHz RS-422 • up to 40 MHz LVDS	• up to 50 MHz	• up to 65 MHz	• up to 85 MHz ⁷	• up to 85 MHz	• 10/100/1000 Mbps	• up to 160 MHz	• up to 85 MHz	• up to 30 MHz analog • up to 25 MHz RS-422 • up to 40 MHz LVDS	• CCIR-601 for HD • CCIR-601 or square pixel for SD
Display	• use in conjunction with Matrox line of graphics boards	• use in conjunction with Matrox line of graphics boards	• use in conjunction with Matrox line of graphics boards	• use in conjunction with Matrox line of graphics boards	• use in conjunction with Matrox line of graphics boards	• use in conjunction with Matrox line of graphics boards	• use in conjunction with Matrox line of graphics boards	• use in conjunction with Matrox line of graphics boards	• use in conjunction with Matrox line of graphics boards	• use in conjunction with Matrox line of graphics boards	• use in conjunction with Matrox line of graphics boards	• use in conjunction with Matrox line of graphics boards	• on-board display up to 1280 x 1024 with true-color capabilities • true-color non-destructive overlay • digital VGA output [DVI compliant] • video encoder for separate composite, Y/C or RGB NTSC/PAL video output	• auxiliary (not for OS desktop) • HD (720p or 1080i) or SD ¹ • analog including component RGB • optional SDI • true-color non-destructive graphic overlay
On-board Processing	• no	• JPEG2000 accelerator ²	• multi-channel MPEG-4 encoder (16 CIF or 4 D1)	• no	• no	• no	• optional customizable FPGA-based processing core	• no	• optional customizable FPGA-based processing core	• optional customizable FPGA-based processing core	• Matrox Oasis ASIC	• Matrox Oasis ASIC	• no	• no
Memory	• n/a	• 16 MB image acquisition frame buffer • 16 MB processing memory	• 128 MB image acquisition frame buffer • 128 MB processing memory	• 4 MB image acquisition frame buffer	• 4 MB image acquisition frame buffer	• 32 MB image acquisition frame buffer	• 64 MB image acquisition frame buffer • up to 256 MB optional processing memory	• 64 MB image acquisition frame buffer	• 64 MB image acquisition frame buffer • up to 256 MB optional processing memory	• 64 MB image acquisition frame buffer • up to 256 MB optional processing memory	• 256 MB image acquisition frame buffer and processing memory (shared)	• up to 1 GB image acquisition frame buffer and processing memory (shared)	• 16 MB image acquisition frame buffer • 32 MB imagedisplay and overlay buffer (shared)	• 128 MB image acquisition and display buffer (shared)
Additional Features	• connect up to four video inputs • auxiliary digital I/Os (including trigger input ¹)	• simultaneous capture from up to four fully independent video inputs • connect up to 16 video inputs • auxiliary digital I/Os (including trigger input ¹) • RS-485 serial port	• simultaneously capture from up to 16 independent video sources • 16 audio inputs ⁴ • auxiliary digital I/Os • watchdog timer	• connect up to six video inputs • video synchronization (including trigger input and exposure output) and auxiliary digital I/Os • power output ⁵ • RS-232 serial port ⁵	• video synchronization (including trigger input and exposure output) and auxiliary digital I/Os • RS-232 serial port ⁵	• connect up to two video inputs • video synchronization (including trigger input and exposure output) and auxiliary digital I/Os • serial ports	• simultaneous capture from up to four fully independent video sources • video synchronization (including trigger input and exposure output) and auxiliary digital I/Os • RS-232 serial ports	• PoCL (Power Over Camera Link) • video synchronization (including trigger input and exposure output) and auxiliary digital I/Os • serial port	• simultaneous capture from up to two fully independent Base configurations • video synchronization (including trigger input and exposure output) and auxiliary digital I/Os • serial ports	• up to four independent (GbE) ports • filters packets from up to eight GigE Vision™ streams • video synchronization (including trigger input and exposure output) and auxiliary digital I/Os	• simultaneous capture from up to four fully independent video sources • video synchronization (including trigger input and exposure output) and auxiliary digital I/Os • RS-232 serial ports	• simultaneous capture from up to two fully independent Base configurations • video synchronization (including trigger input and exposure output) and auxiliary digital I/Os • serial ports	• low latency video output • video output synchronized to video input • 20-bit video quality throughout • video source presence detection • simultaneous SDI and analog video output ⁷	<ol style="list-style-type: none"> 1. Synchronized to video. 2. Morphis Quad only. 3. Morphis Dual only. 4. Only available as part of the MPEG-4 stream. 5. Not on PC/104-Plus™ version. 6. 4 x 8-bit only. 7. x1 PCIe™ versions support a maximum acquisition rate of 80 MHz under continuous use. 8. Requires separate companion board. 9. No support for transcoding (i.e. video output resolution and rate is identical to video input resolution and rate).