

» 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"> • <i>freescale™</i> G4 PowerPC™ microprocessor, and Matrox Oasis ASIC 	<ul style="list-style-type: none"> • <i>freescale™</i> G4 PowerPC™ microprocessor, and Matrox Oasis ASIC 	<ul style="list-style-type: none"> • <i>freescale™</i> G4 PowerPC™ microprocessor, and Matrox Oasis ASIC 	<ul style="list-style-type: none"> • <i>freescale™</i> G4 PowerPC™ microprocessor, and Matrox Oasis ASIC 	<ul style="list-style-type: none"> • <i>freescale™</i> 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 and processing memory (shared) 	<ul style="list-style-type: none"> • up to 2 GB image acquisition frame buffer and processing memory (shared) • up to 64 MB QDR-II processing memory (FPGA)
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 Morphis	Matrox Morphis QxT	Matrox Solios eA/XA	Matrox Solios eCL/XCL-B	Matrox Solios eCL/XCL(-F)	Matrox Solios GigE	Matrox Helios eA/XA	Matrox Helios eCL/XCL	Matrox Helios eD/XD	Matrox Vio	
Form Factor	• x1 PCIe™, PCI(-X®), PC/104-Plus™ ²	• x4 PCIe™	• x4 PCIe™, PCI-X®	• x1 PCIe™, PCI-X®	• x4 PCIe™, PCI-X®	• x4 PCIe™	• x4 PCIe™, PCI-X®	• x4 PCIe™, PCI-X®	• x4 PCIe™, PCI-X®	• x4 PCIe™	
Acquisition Format	• standard analog • monochrome or color	• standard analog • monochrome or color	• 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, Medium and Full) • 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	• 64-bit LVDS/RS-422 • monochrome or component RGB • frame or line scan	• HD (720p or 1080i) or SD • analog including component RGB • optional SDI	
Acquisition Rate	• square pixel	• square pixel	• up to 65 MHz	• up to 85 MHz ⁴	• up to 85 MHz	• 10/100/1000 Mbps	• up to 160 MHz	• up to 85 MHz	• up to 60 MHz LVDS • up to 32 MHz RS-422	• 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	• auxiliary (not for OS desktop) • HD (720p or 1080i) or SD ⁵ • analog including component RGB • optional SDI • true-color non-destructive graphic overlay	
On-board Processing	• JPEG2000 accelerator ²	• multi-channel MPEG-4 encoder (16 CIF or 4 D1)	• optional customizable FPGA-based processing core	• not available	• optional customizable FPGA-based processing core	• optional customizable FPGA-based processing core	• Matrox Oasis ASIC	• Matrox Oasis ASIC	• Matrox Oasis ASIC	• not available	
Memory	• 16 MB image acquisition frame buffer • 16 MB processing memory	• 128 MB image acquisition frame buffer • 128 MB processing memory	• 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	• 128 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)	• 256 MB image acquisition frame buffer and processing memory (shared)	• 128 MB image acquisition and display buffer (shared)	
Additional Features	• 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 ³ • auxiliary digital I/Os • watchdog timer	• 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	• handles two fully independent Base or a single Medium (eCL/XCL), or a single Full (eCL-F/XCL-F) Camera Link® 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 four GigE Vision™ streams • video synchronization (including trigger input and exposure output) and auxiliary digital I/Os • RS-232 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	• 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	• 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	• 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 ⁵	<ol style="list-style-type: none"> Morphis Quad only. Morphis Dual only. Only available as part of the MPEG-4 stream x1 PCIe™ versions support a maximum acquisition rate of 200 MB/s under continuous use. No support for transcoding (i.e. video output resolution and rate is identical to video input resolution and rate).