Matrox **Concord** »»

Series of Gigabit Ethernet NICs and IEEE 1394b adaptors

Overview

Digital video interface cards for industrial imaging

Matrox® Concord is a series of Gigabit Ethernet network interface cards (NICs) and IEEE 1394b adaptors that are pre-licensed for use with Matrox Imaging Library (MIL) X drivers for the GigE Vision® and IEEE 1394 IIDC protocols. The Matrox Concord series offers a long and stable lifecycle, eliminating the burden associated with sourcing and qualifying consumer-grade boards.

Support for established interface standards

The Matrox Concord G-series are Gigabit Ethernet NICs that provide optimum support for the GigE Vision camera interface standard. By way of MIL X, these NICs are optimally configured to minimize GigE Vision protocol loading on the host card through default enabling of jumbo packets as well as optimal settings for the interrupt throttling rate and number of receive buffers. Unlike generic NICs, using the Matrox Concord G-series with MIL X does not require manually adjusting advanced driver properties. Auto medium-dependent interface crossover (MDIX) further simplifies setup by automatically detecting and crossing over signals for peer-to-peer connections, thereby eliminating the need for special cables.

Matrox Concord F-series are IEEE 1394b adaptors that, through MIL X, enable the use of leading IEEE 1394 industrial cameras implementing the standard IIDC protocol. By way of MIL X, these adaptors offer support for the S400 and S8003 modes of IEEE 1394a and 1394b, respectively, ensuring maximum camera performance and minimal transfer latency. In addition, Matrox Concord F-series provides bilingual copper connectivity for cost-effective cabling.

Matrox Concord at a glance

Use as PCIe® x1

Employ for the long run with assurance as a result of a managed, extended lifecycle

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Support for GigE Vision or IIDC through MIL X

Deploy pre-licensed for GigE Vision or IIDC driver support in MIL X

Optimize GigE Vision performance with pre-licensed board (Matrox Concord G-series)

Avoid the need for a separate hardware key through a license fingerprint and storage of supplemental MIL X run-time license(s)[1]

Program using MIL X (sold separately)

Deploy on platform of choice with support for 32-bit Windows® XP, 32-/64-bit Windows 7/10, and 64-bit Linux®[2]
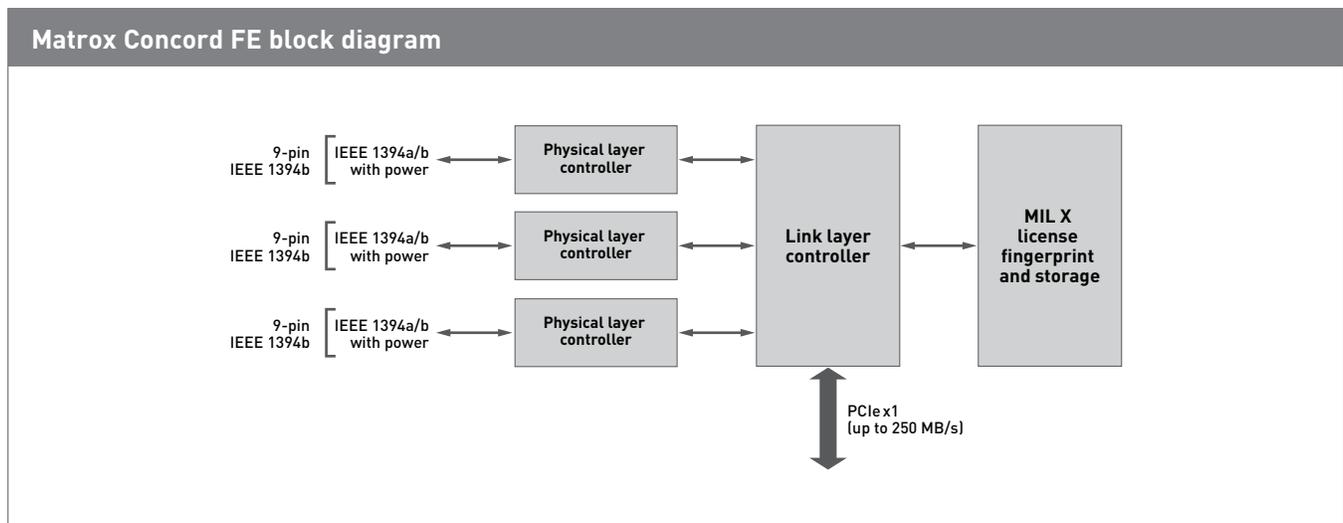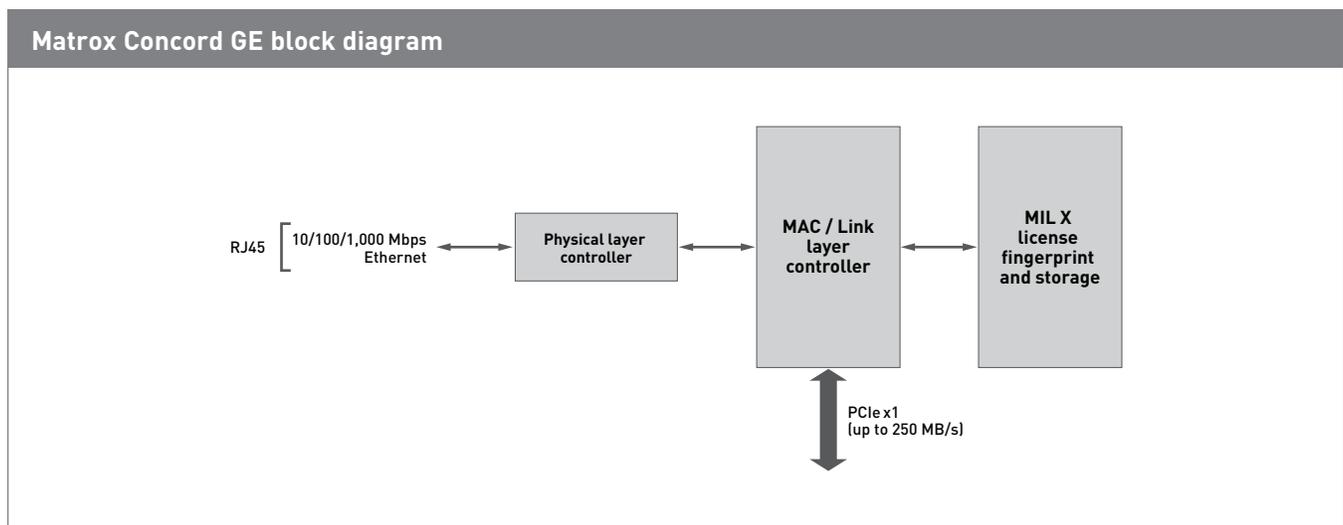
Software Environment

Field-proven application development software

Matrox Concord is supported by MIL X, a comprehensive collection of software tools for developing industrial imaging applications. MIL X 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 solutions to market. Refer to the MIL X datasheet for more information.

Managed lifecycle

Matrox Concord boards are manufactured with strict change control to ensure a consistent supply through a long life cycle. Longevity of stable supply lets OEMs achieve maximum return on the original investment without incurring additional costs associated with qualifying new boards.

Connectivity

Matrox Concord GE block diagram

RJ45 — 10/100/1,000 Mbps Ethernet → Physical layer controller → MAC / Link layer controller → MIL X license fingerprint and storage

PCIe x1 (up to 250 MB/s)

Matrox Concord FE block diagram

9-pin IEEE 1394b — IEEE 1394a/b with power → Physical layer controller

9-pin IEEE 1394b — IEEE 1394a/b with power → Physical layer controller

9-pin IEEE 1394b — IEEE 1394a/b with power → Physical layer controller

Link layer controller → MIL X license fingerprint and storage

PCIe x1 (up to 250 MB/s)

Specifications

Matrox Concord		
Hardware		
Model	Matrox Concord GE	Matrox Concord FE
Host Interface		
Interconnect	PCIe x1	PCIe x1
Camera/video interface		
Type	Gigabit Ethernet (10/100/1,000 Mbps)	IEEE 1394a/b
Standard	GigE Vision	IIDC
Configuration	One port	Three ports
Power		
Power output	N/A	12 W per port
	Supports Jumbo frames/packets up to 9014 bytes	OHCI compliant
	Selectable interrupt moderation rate	
	Resizeable receive buffers/descriptors	
	Supports auto MDIX (signal crossover)	
Power consumption	1.45 W (typical)	1.1 W (typical)
	3.3 V @ 0.44 A	3.3 V @ 0.33 A
Physical		
Form factor	Sub-half-length, low-profile, PCIe add-in card[4]	Half-length, low-profile, PCIe add-in card[4]
Product dimensions (L x W x H)	7.4 x 1.6 x 6.9 cm (2.9 x 0.62 x 2.7 in) from bottom edge of goldfinger to top edge of board and without bracket	8.6 x 1.6 x 6.9 cm (3.4 x 0.62 x 2.7 in) from bottom edge of goldfinger to top edge of board and without bracket
Environmental		
Operating temperature	0°C to 55°C (32°F to 131°F)	
Storage temperature	-40°C to 85°C (-40°F to 185°F)	
Relative humidity	Up to 95% (non-condensing)	
Certifications		
	FCC Part 15 Class A	
	CE Class A	
	RoHS-compliant	
Software		
Compatible software	MIL X	
Operating system support	Windows XP (32-bit)	
	Windows 7 (32-/64-bit)	
	Windows 10 (32-/64-bit)	
	Linux (64-bit)[2]	
Licensing provisions	MIL X license fingerprint and storage	

Ordering Information

Part number	Description
Hardware	
CON 1G E*	Matrox Concord GE single-port PCIe x1 Gigabit Ethernet NIC pre-licensed for MIL X interface package (GigE Vision driver). Acts as a fingerprint for—and handles storage of—supplemental MIL X license(s).
CON 3F E*	Matrox Concord FE triple-port PCIe x1 IEEE 1394 adaptor card pre-licensed for MIL X interface package (IEEE 1394 IIDC driver). Acts as a fingerprint for—and handles storage of—supplemental MIL X license(s).
Software	
Refer to MIL X datasheet.	

Endnotes:
1. Feature not supported under Linux.
2. Only with Matrox Concord G-series.
3. S800 mode is supported under 32-bit Windows XP with a partial roll-back to SP1 if using SP2.

The Matrox Imaging advantage

Assured quality & longevity
Adhering to industry best practices in all hardware manufacturing and software development, product designs pay careful attention to component selection to secure consistent long-term availability. Matrox Imaging is able to meet Copy Exact and Revision Change Control procurement requirements in particular circumstances, backed by a dedicated team of QA specialists.

Trusted industry standards
Matrox Imaging champions industry standards in its design and production. Leveraging these standards to deliver quality compatible products, Matrox Imaging protects its customers' best interests by ensuring hardware and software components work with as many third-party products as possible.

Comprehensive customer support
Devoted front-line support and applications teams are on call to offer timely product installation, usage, and integration assistance. Matrox Professional Services delivers deep technical assistance to help customers develop their particular applications in a timely fashion. Services include personalized training and device interfacing as well as application feasibility, prototyping, troubleshooting, and debugging.

Tailored customer training
Matrox Vision Academy comprises online and on-premises training for Matrox Imaging vision software tools. On-premises intensive training courses are regularly held at Matrox headquarters, and can also be customized for onsite delivery. The Matrox Vision Academy online training platform hosts a comprehensive set of on-demand videos available when and where needed.

Long-standing global network
Matrox Imaging customers benefit from a global network of distributors who offer complementary products and support, and integrators who build customized vision systems. These relationships are built on years of mutual trust and span the globe, ensuring customer access to only the best assistance in the industry.

About Matrox Imaging
Founded in 1976, Matrox is a privately held company based in Montreal, Canada. Imaging, Graphics, and Video divisions provide leading component-level solutions, leveraging the others' expertise and industry relations to provide innovative, timely products.

Matrox Imaging is an established and trusted supplier to top OEMs and integrators involved in machine vision, image analysis, and medical imaging industries. The components consist of smart cameras, vision controllers, I/O cards, and frame grabbers, all designed to provide optimum price-performance within a common software environment.

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