Matrox **4Sight XV6** »

Expandable entry-level vision controller

Overview

Ideal for intensive machine vision applications

Matrox® 4Sight XV6 is an expandable imaging computer designed for demanding imaging workloads. Its reliable platform is ideal for video acquisition, offering four full-height, half-length PCIe® expansion slots designed to host multiple cards, including frame grabbers operating at full performance. It can support up to three displays—VGA, DVI-D, HDMI, and/or DisplayPort—from the available outputs.

This powerful vision controller is the latest iteration of the Matrox 4Sight series, delivering desktop-level processing performance and substantial expansion capabilities, all packaged in a small, rugged casing. Powered by an eighth-generation Intel® Core™ processor, the Matrox 4Sight XV6 is capable of supporting intensive machine vision applications.

Wide range of expansion options

Camera interfaces abound and Matrox 4Sight XV6 provides support for these either directly or with one or more expansion boards. The addition of Matrox Imaging frame grabber boards enables video capture from Camera Link, CoaXPress, DisplayPort, HDMI, and SDI sources including cameras.

Frame grabbers from the Matrox Radient eV-CL series provide Camera Link connectivity. Adding Matrox Rapixo CXP series cards delivers up to four CoaXPress 2.0 connections, as well as FPGA processing offload. Use of a Matrox Clarity UHD card allows for capture of eight independent video streams.

Gigabit Ethernet connectivity with Power-over-Ethernet (PoE) support, perfect for interfacing to GigE Vision cameras, is available with Matrox Concord PoE and Matrox Indio frame grabbers and I/O cards, respectively. Matrox Concord PoE can also provide optional Trigger-over-Ethernet (ToE) capability while the Matrox Indio can alternatively deliver hardware-assisted PROFINET® communication and provides real-time I/O capabilities. Finally, an NVIDIA GPU can be used to accelerate deep learning training.

Rugged, industrial-grade construction

The Matrox 4Sight XV6 fits readily into tough industrial environments, including warehouses, plants, and manufacturing or fabrication facilities. A full steel chassis protects the system from rough conditions; efficient cooling ensures steady functioning for consistent maximum performance. Serviceable air filters keep the interior of the unit free of foreign particles.

Matrox 4Sight XV6 at a glance

Tackle demanding imaging applications using an eighth-generation Intel Core processor

Capture directly from GigE Vision® and USB3 Vision® cameras

Broaden support for Camera Link®, CoaXPress®, DisplayPort, HDMI, and SDI video interfaces using Matrox Imaging frame grabbers

Customize I/O capabilities through four PCIe slots accepting full-height, half-length cards

Install in space-limited industrial environments given its small footprint and rugged design
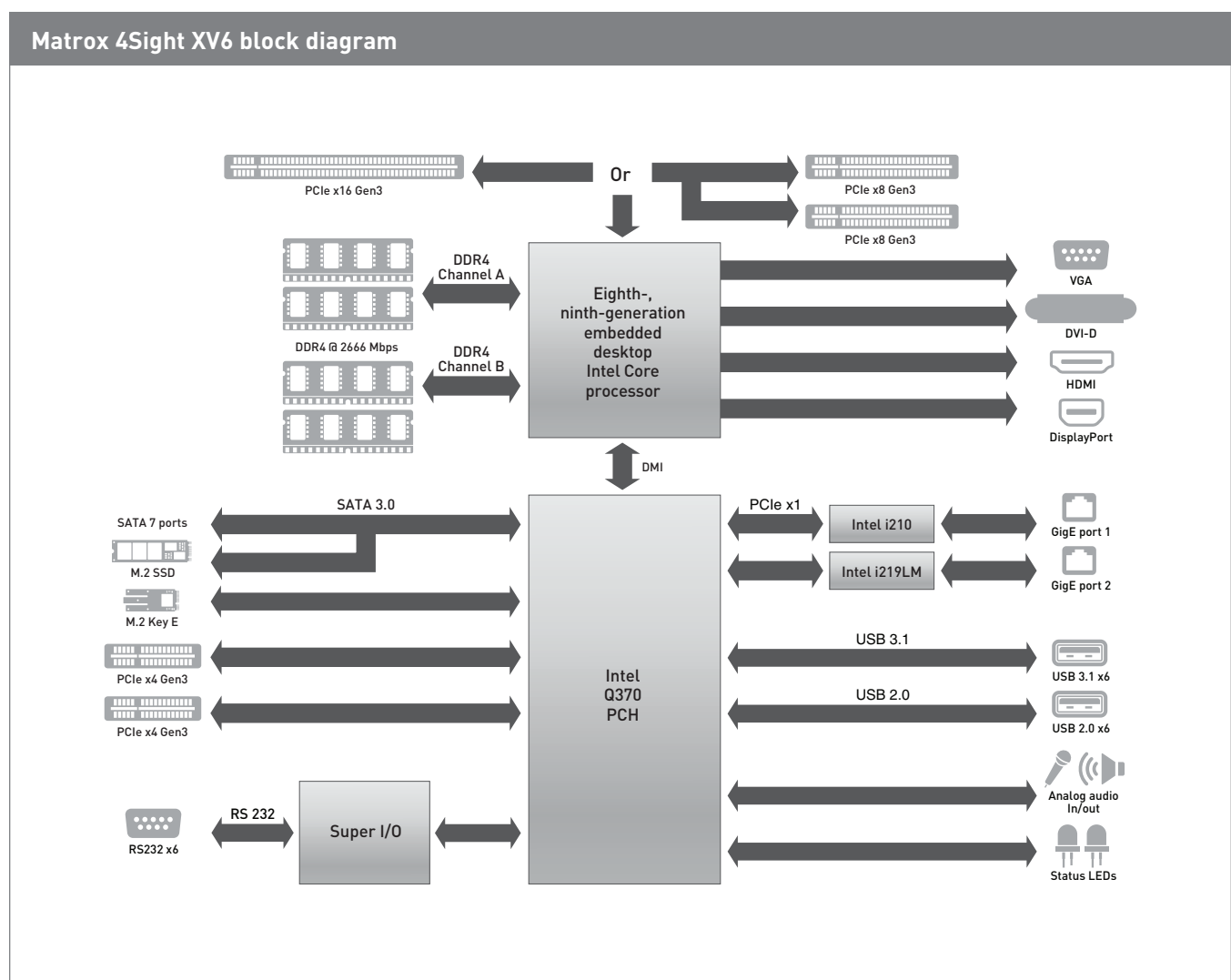

Software Environment

Microsoft Windows 10 IoT Enterprise

Matrox 4Sight XV6 comes pre-installed with Microsoft Windows 10 IoT Enterprise 2019 (64-bit), which provides the familiarity, performance, and reliability of Windows 10, including multi-language support.

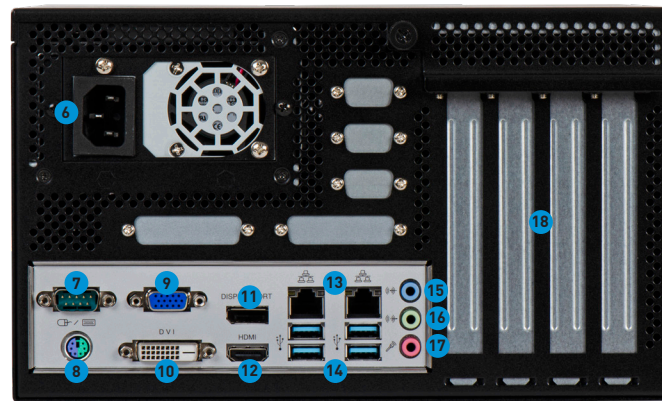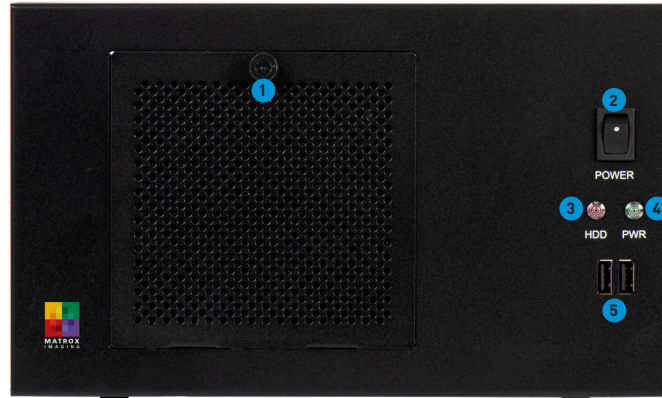### Field-proven application development software

Matrox 4Sight XV6 is supported by Matrox Imaging Library (MIL)[1] software—a comprehensive software development kit (SDK) with a 25-year history of reliable performance. This toolkit features interactive software and programming functions for image capture, processing, analysis, annotation, display, and archiving operations, with the accuracy and robustness needed to tackle the most demanding machine vision applications. Refer to the MIL datasheet for more information.
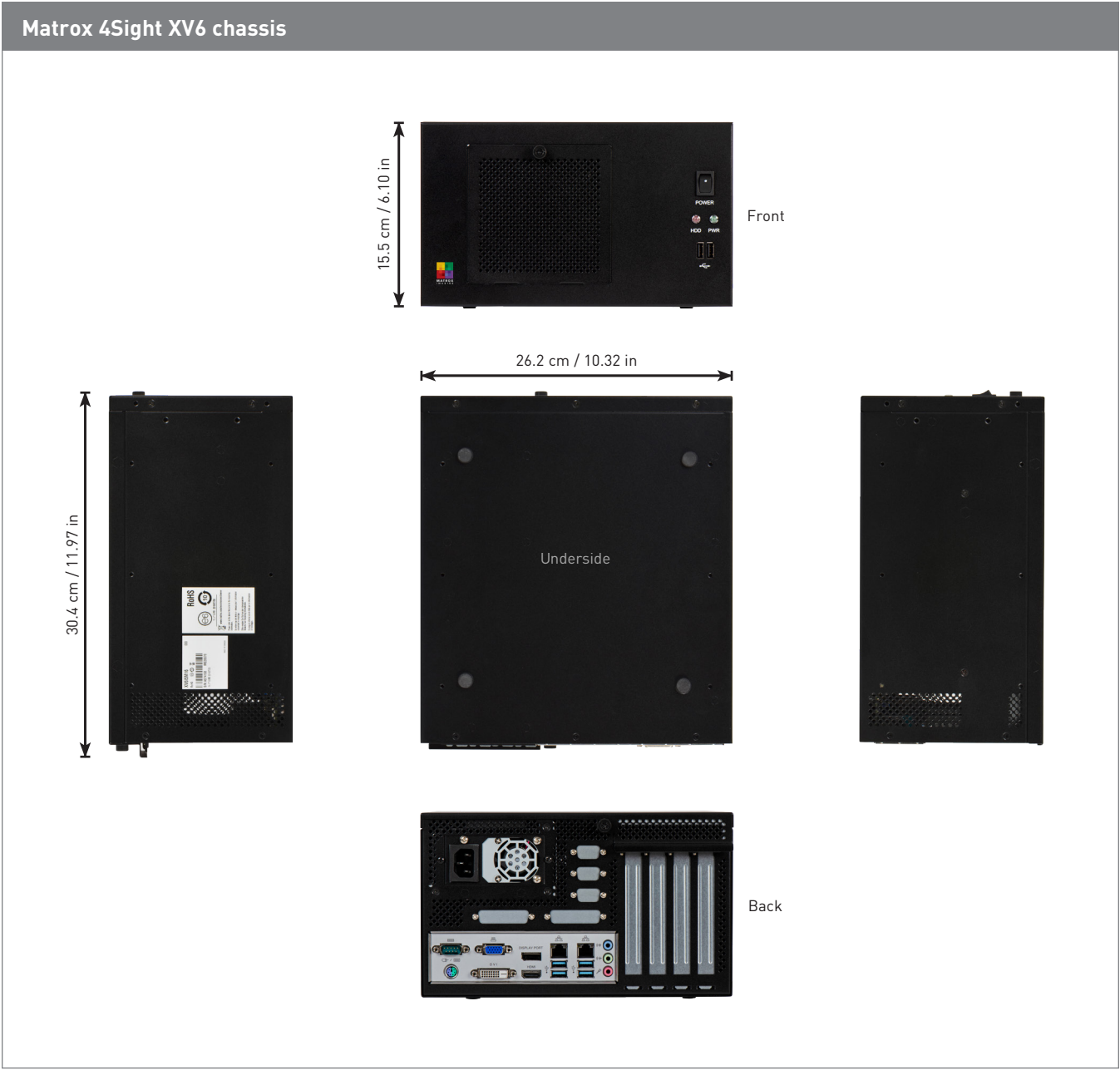
Connectivity

Matrox 4Sight XV6 block diagram

Connectivity (cont.)

1. Fan filter door	5. USB 2.0 ports	9. VGA output	13. Gigabit Ethernet ports	17. Microphone in
2. Power switch	6. Power input	10. DVI output	14. USB 3.1 ports	18. PCIe slots
3. HDD LED	7. Serial port	11. DisplayPort output	15. Audio in	
4. Power-on LED	8. PS/2 port	12. HDMI output	16. Audio out	

Connectivity (cont.)

Matrox 4Sight XV6 chassis

15.5 cm / 6.10 in

POWER

HDD PWR

Front

26.2 cm / 10.32 in

30.4 cm / 11.97 in

RoHS

Underside

Back

Specifications

Matrox 4Sight XV6
Motherboard
Micro-ATX form factor (24.4 x 24.4 cm or 9.6 x 9.6 in)
Intel Q370 Platform Controller Hub (PCH)
Four (4) 288-pin DDR4 long-DIMM sockets
Up to 64 GB DDR4-2666 SDRAM
Triple display
One (1) VGA output
Up to 1920x1200 @ 60 Hz
One (1) DVI-D output
Up to 4096x2304 @ 60 Hz
One (1) HDMI 1.4 output
Up to 4096x2160 @ 24 Hz
One (1) DisplayPort 1.2 output
Up to 4096x2304 @ 60 Hz
Two (2) Gigabit Ethernet ports (10/100/1,000)
One (1) Intel Ethernet Connection I210
One (1) Intel Ethernet Connection I219-LM
Twelve (12) USB ports
Four (4) USB 3.1 ports
Two (2) USB 2.0 ports
Two (2) USB 3.1 ports (internal)
Four (4) USB 2.0 ports (internal)
Eight (8) SATA3 ports (one shared with M.2 Key M)
Support for RAID 0, 1, 5, and 10
One (1) mini-PCIe (full/half) connector
One (1) M.2 Key M (2242/2260/2280) connector (used by 128 GB SSD)
One (1) M.2 Key E (2230) connector
Stereo line-in
Stereo line-out
Mic-in
Six (6) serial ports
One (1) RS-232/RS-422/RS-485 port
Five (5) RS-232 ports (internal)
One (1) PS/2 combo connector
Four (4) PCIe Gen3 slots
Slot 1: PCIe x16 (x8 if slot 3 used in x8)
Slot 2: PCIe x4
Slot 3: PCIe x8 (mechanically x16)
Slot 4: PCIe x4

Specifications (cont.)

Matrox 4Sight XV6
CPU Options
Intel Core i5-8500 processor
Six (6) cores
3.0–4.1 GHz
9 MB cache
Intel UHD Graphics 630 (350 MHz–1.1 GHz)
Intel Celeron G4900 processor
Two (2) cores
3.1 GHz
2 MB cache
Intel UHD Graphics 610 (350 MHz–1.05 GHz)
Memory
8 GB DDR4-2400
16 GB DDR4-2666
Storage
128 GB M.2 2280 SATA3 SSD
Chassis
Dimensions (L x W x H): 26.2 x 29.2 x 15.5 cm (10.3 x 11.5 x 6.1 in)
Heavy-duty steel
Horizontal or vertical mounting
120 mm 138 CFM cooling fan
Four (4) PCIe full-height, half-length expansion slots
Two (2) USB ports in the front
Power switch
Power and HDD notification LEDs
Mounting
Horizontal or vertical
Power Supply
Integrated 400 W power supply
AC input
100–240 VAC
50–60 Hz
80 Plus Gold rated
Power-factor corrected
Supplemental power connectors
Two (2) SATA power (12 VDC & 5 VDC)
Two (2) 6-pin + 2-pin PCIe power

Specifications (cont.)

Matrox 4Sight XV6
Certifications
FCC Class A
CE Class A
RoHS-compliant
Environmental
Operating temperature: 10°C to 45°C (50°F to 113°F)
Storage temperature: -40°C to 85°C (-40°F to 185°F)
Relative humidity: Up to 90% (non-condensing)
Software
Pre-loaded with Microsoft Windows 10 IoT Enterprise 2019 (64-bit)
Pre-loaded with MIL 10 (run-time)

Ordering Information

Part number	Description
Hardware	
XV6I5M16	Matrox 4Sight XV6 integrated unit with Intel Core i5-8500, 16 GB DDR4 RAM, 128 GB M.2 MLC SSD, and Microsoft Windows 10 IoT Enterprise (64-bit). Note: The use of this product is governed by Microsoft Software License Terms , among others.
XV6CM8	Matrox 4Sight XV6 integrated unit with Intel Celeron G4900, 8 GB DDR4 RAM, 128 GB M.2 MLC SSD, and Microsoft Windows 10 IoT Enterprise (64-bit).
Software	
Refer to MIL datasheet. Note: Complete MIL SDK sold separately.	

Endnotes:
1. The software may be protected by one or more patents; see www.matrox.com/patents for more information.

The Matrox Imaging advantage

Assured quality & longevity
We adhere 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 our dedicated team of QA specialists.

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

Comprehensive customer support
Our 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. 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.

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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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