Stand-alone vision systems

Matrox **4Sight XB**

Ruggedized PCIe™ system for image capture, processing, display and I/O.

Key features

- embedded Intel® Celeron® M or Core™ 2 Duo CPU
- small footprint and rugged construction
- accommodates full-height, half-length PCI-Express® boards
- native GigE Vision™ and IEEE-1394 IIDC support
- connect external equipment using Ethernet, IEEE 1394, RS-232/485, USB or general purpose digital I/Os
- archive video with integrated mass storage
- monitor system integrity with a watchdog timer[1]
- available pre-installed with Microsoft® Windows® XP Professional for Embedded Systems
- develop applications using standard Microsoft® development tools and Matrox Imaging Library (MIL)

Industrial and medical imaging platform

Matrox 4Sight XB is an industrial and medical imaging platform featuring an Intel® single/multi-core CPU with standard PCIe® expansion slots. Carefully selected embedded components ensure long term availability, making it ideal for OEMs looking to maximize their return on investment. The combination of Matrox 4Sight XB hardware with Matrox Imaging Library (MIL) software ensures interoperability and time to market.

Strong imaging performance

Featuring an Intel® Celeron® M or Intel® Core™ 2 Duo processor, the Matrox 4Sight XB provides enough power to handle mainstream imaging applications. Capable of supplying vast amounts of image data to the system for processing, the x4 PCIe® connectivity provides the bandwidth required to keep pace with today's high resolution and frame rate cameras.

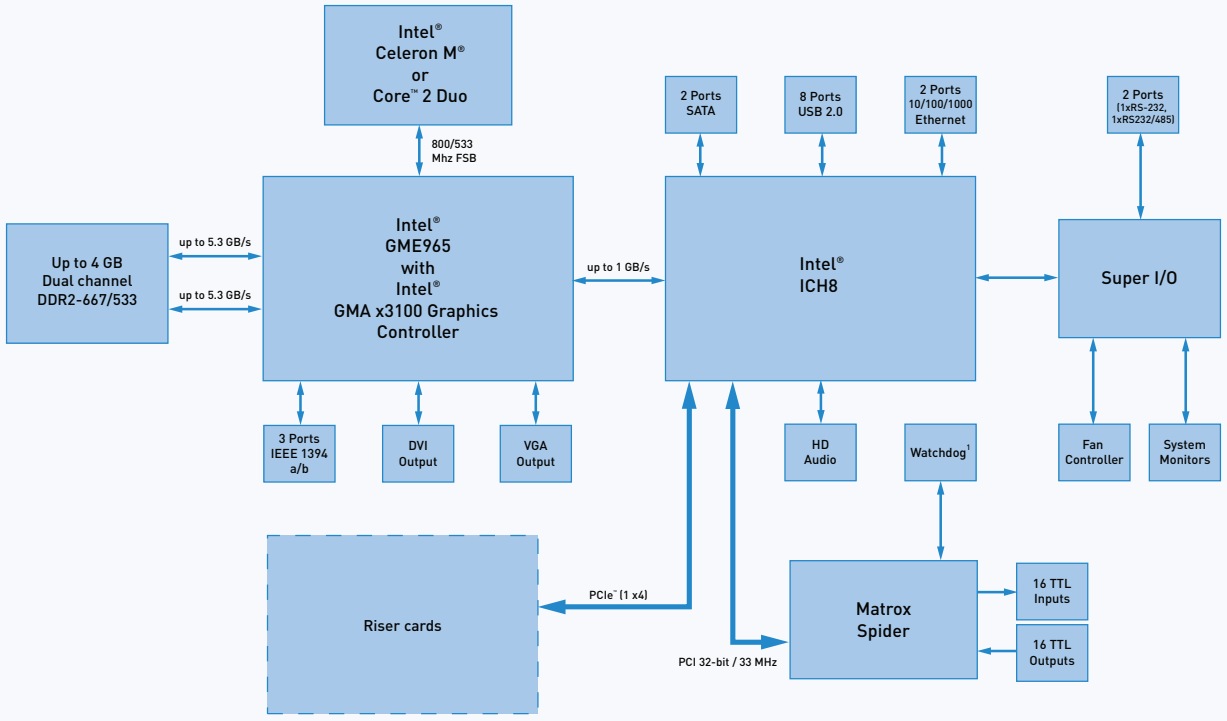
Designed for embedded imaging

The small size of the Matrox 4Sight XB makes it easy for OEMs to incorporate it into their systems. System health monitors including temperature, voltage and fan speed, in combination with a watchdog timer[1], allow the Matrox 4Sight XB to detect, report and recover from errors and failures, and quickly return the system to operational status.

Matrox Imaging not only carefully selected each component in the Matrox 4Sight XB 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 of the constantly-changing mainstream commercial platforms.

MATROX
IMAGING

Matrox 4Sight XB



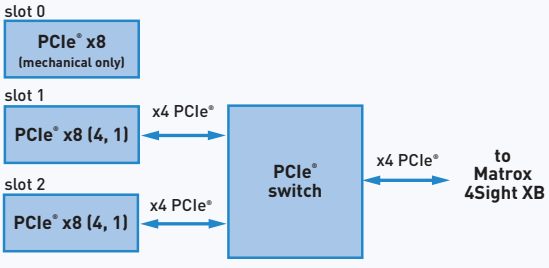
Industrial strength

The Matrox 4Sight XB housing is made of 1.2mm thick, cold rolled steel, which can withstand routine abuse. The chassis design and fan ensure adequate cooling by channeling airflow throughout the Matrox 4Sight XB, allowing the highest levels of computing performance throughout the entire standard temperature range. Moreover, adaptive fan control minimizes power requirements and noise. Optional flash disks further enhance the Matrox 4Sight XB for use in continuous vibration or high-shock environments.

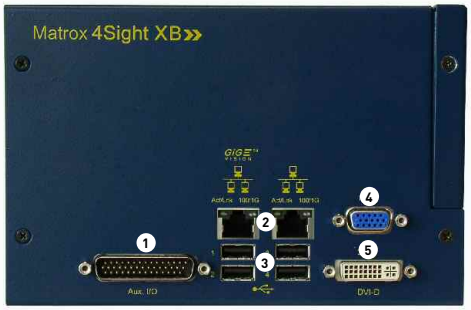
Extensive connectivity

Communicating results outside the box is an integral part of any imaging system, so connecting to modern and legacy equipment in the field requires the right interfaces. With Gigabit Ethernet, IEEE 1394a/b, RS-232/485, USB 2.0 and digital I/Os, the Matrox 4Sight XB can directly interact with critical process automation devices. With the ability to host up to three standard full-height, half-length slots, riser cards can provide various combinations of conventional PCI, PCI-X® and PCIe® slots[1] so that OEMs can create systems flexible enough to meet their evolving needs. Dual head display capability on the Matrox 4Sight XB allows the creation of a rich human-machine interfaces (HMIs) whereby the finest details are clearly communicated to the operator.

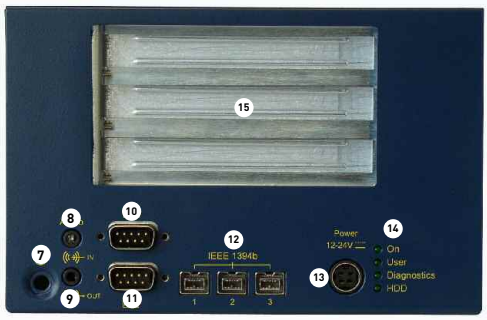
Matrox 4Sight XB Riser Card



Matrox 4Sight XB front and back



1. Auxiliary I/Os
2. 10/100/1000 Mbit Ethernet
3. USB 2.0 ports
4. Analog VGA output
5. Digital VGA (DVI-D) output



7. Power switch
8. Audio Input
9. Audio Output
10. Serial Port 1
11. Serial Port 2
12. IEEE 1394b Ports
13. Power Input
14. Status LEDs
15. PCI/PCI-X/PCIe slots

All encompassing video capture and more

There have never been so many ways of transmitting video: analog, digital, Camera Link®, Gigabit Ethernet, IEEE 1394, SDI and USB. The Matrox 4Sight XB supports them all, either directly or through add-on Matrox frame grabber modules.

See the full line of Matrox frame grabbers at www.matrox.com/imaging

IEEE 1394, USB and GigE Vision™ interfaces

IEEE 1394a/b, hi-speed USB and GigE Vision™ have made a major impact on the imaging industry. Matrox 4Sight XB embraces these technologies by providing integral support for these interfaces with every system. Software applications acquire images over these interfaces using the IEEE 1394 IIDC and GigE Vision™ support provided in the Matrox Imaging Library (MIL) or through third-party application programming interfaces (APIs), which comfortably coexist with the rest of MIL.

Software Environment

Microsoft® Windows® XP Professional for Embedded Systems

Matrox 4Sight XB can come pre-loaded with Windows® XP Professional for Embedded Systems, which provides the same user interface, reliability, performance, security, networking and remote management capabilities as Windows® XP Professional but with long term availability and support. Microsoft® Windows® XP Professional for Embedded Systems easily accommodates standard Windows® XP device drivers for third-party hardware. Matrox 4Sight XB can also run Windows® XP Professional and Windows® Vista (32-bit and 64-bit).

Field-proven application development software

Matrox 4Sight XB is supported by the Matrox Imaging Library (MIL),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. Refer to the MIL datasheet for more information.

Specifications

Motherboard
- EBX form factor (8" x 5¾" or 20.32 cm x 14.61 cm)
- Intel® GME 965 chipset
- Intel® x3100 GPU
  - up to 256 MB of shared memory
- two (2) 200-pin DDR2-667/533 SO-DIMM slot (dual channel)
- dual-head graphics support
  - one (1) DVI display output
    DVI-D 1.0 compliant
    Up to 1600 x 1200 @ 60 Hz
  - one (1) RGB (VGA) display output
    Up to 2048 x 1536 @ 60 Hz
- three (3) bilingual (9/4-pin) IEEE-1394b ports
- two (2) Gigabit Ethernet ports (10/100/1000)
- eight (8) USB 2.0 ports
  - four (4) external
  - four (4) internal
- two (2) SATA 2.0 ports
- two (2) serial ports
  - one (1) RS-232
  - one (1) RS-232/RS-485
- one (1) 20-bit stereo audio input and 24-bit output
- thirty-two (32) auxiliary I/O's
  - TTL compatible
  - sixteen (16) inputs
    up to 9 V tolerant
  - sixteen (16) outputs (open collector)
    100mA max. @ 5 to 24VDC
    compatible with OPTO 22 Snap I/O and G4 series
- one (1) watchdog timer[1]
- riser card expansion
  - one (1) PCIe® x4 connection

CPU options
- Intel® Celeron® 550
  - 2.0 GHz
  - 533 MHz front side bus
  - 1 MB L2 cache
- Intel® Core® 2 Duo (T7500)
  - 2.2 GHz
  - 800 MHz front side bus
  - 4 MB L2 cache

Memory options
- 512 MB Dual-channel DDR2-667[2] or DDR2-533[3]
- 1 GB Dual-channel DDR2-667[2] or DDR2-533[3]
- 2 GB Dual-channel DDR2-667[2] or DDR2-533[3]
- 4 GB Dual-channel DDR2-667[2] or DDR2-533[3]

Hard disk options
- 40 GB SATA disk drive
  - 40 GB capacity
  - SATA 2.0
  - 5400 RPM
  - 8 MB cache

Chassis
- material
  - 1.2 mm (0.048") cold rolled steel
- cooling
  - integrated 42 CFM fan
- dimensions
  - length: 20.828 cm (8.200")
  - width: 18.415 cm (7.250")
  - height: 12.034 cm (4.738")
- mounting
  - four (4) x #6-32 UNC x 0.125" (3.2 mm) deep
- expansion
  - up to three (3) conventional PCI, PCI-X® or PCI-Express® full-height, half-length cards

PCIe® riser card
- two (2) x8 PCIe® mechanical (x4 or x1 electrical) slots
- one (1) x8 PCIe mechanical-only (no electrical) slot

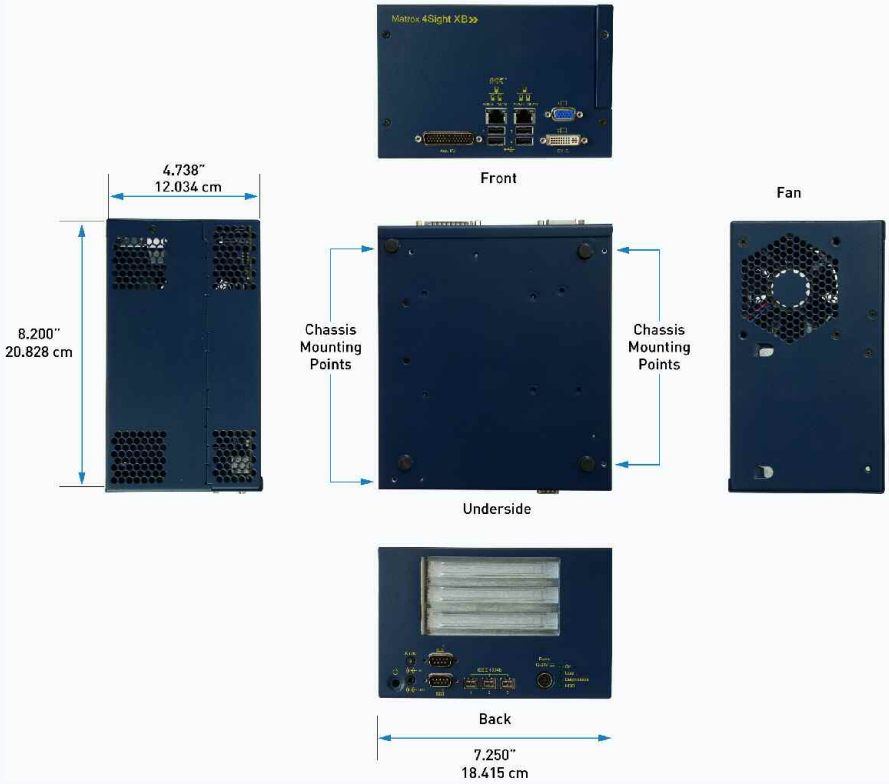
Power
- latching power connector
- 12 to 24 V_{DC} input
- 65- 120 Watts

Power supply
- latching connection
- 100-240 V_{AC} input
- 12 V_{DC} @ 8.3A (100W) (for Core™ 2 Duo Models)
- 12 V_{DC} @ 6A (72W) (for Celeron™ M models)

Matrox 4Sight XB environmental information
- 10° C (50° F) to 50° C (122° F) operating temperature
- -40° C (-40° F) to 85° C (185° F) storage temperature
- up to 90% (non-condensing) relative humidity

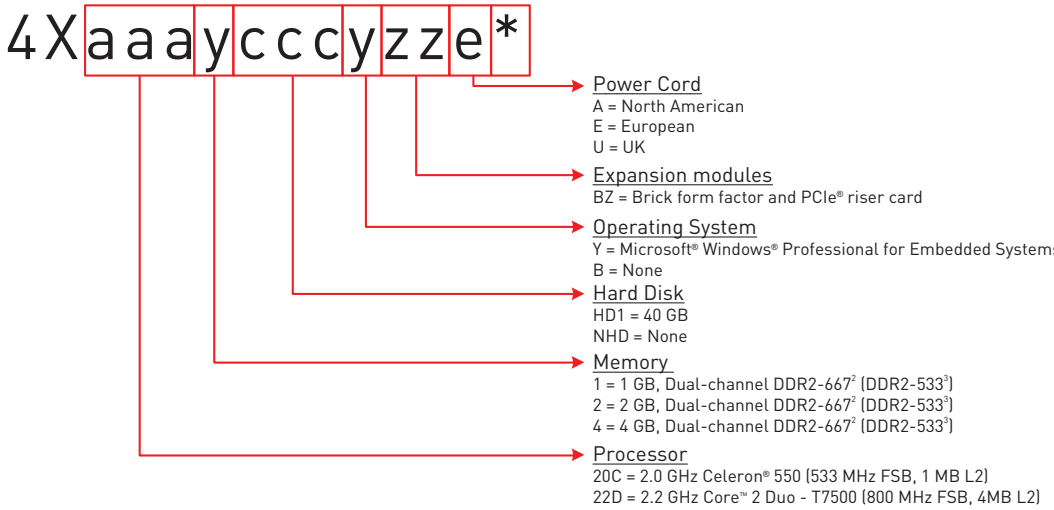
Certifications
- UL/CUL TUV pending
- FCC part 15 class A pending
- CE class A pending
- RoHS-compliant pending
- EN55022:1995 class B pending
- EN61000-3-2:1995 class D pending
- EN61000-3-3:1995 pending
- EN61000-4-2:1995 operating class A pending
- EN6100-4-3:1995 operating class A pending
- ENV50204:1995 operating class A pending
- EN6100-4-4:1995 operating class A pending
- EN6100-4-5:1995 operating class A pending
- EN6100-4-6:1996 operating class A pending
- EN6100-4-11:1994 operating class A/B pending
- EN60721 3M5 operating (industrial vibration) pending

Matrox 4Sight XB chassis



Ordering Information

Hardware



Ordered separately
Software

Refer to MIL datasheet.

Notes:
1. Contact Matrox Imaging or your local sales representative for availability.
2. Available for Intel® Core™ 2 Duo processor options.
3. Available for Intel® Celeron® processor options

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