Matrox Supersight Solo accommodates a broad range of image-acquisition interfaces into a single, pre-validated high-performance computing (HPC) platform; this allows OEMs to focus on developing applications with cutting-edge performance instead of working to integrate components together. Matrox Supersight Solo is fully supported by the Matrox Imaging Library (MIL), an established collection of software tools for developing industrial imaging applications that helps developers deliver a complete solution in a timely manner. Backed by a carefully managed lifecycle and long-term availability, Matrox Supersight Solo provides a solid foundation for demanding machine vision applications.

Flexible development platform
The Matrox Supersight Solo system delivers a high degree of image-acquisition flexibility and performance. It readily accepts up to 13 full-length full-height PCIe® 2.0 cards to suit a wide range of image-acquisition requirements. Matrox Supersight Solo supports image-acquisition boards for the major interfaces—whether analog, Camera Link®, Camera Link HS™, CoaXPress®, Camera Link®, DisplayPort™, DVI, GigE Vision®, HDMI, and SDI—as well as FPGA-based image processing. Combine any and all to build a robust, flexible platform for intensive image capture and processing tasks.

Consistent long-term availability
Carefully selected components are coupled with strict change control to ensure consistent long-term supply of the Matrox Supersight Solo. This lets OEMs maximize return on the original investment without incurring the additional costs associated with repeated validation of constantly changing mainstream commercial platforms.
Matrox Supersight Solo system host board (SHB)-Q170

1. Four DDR4-2133 DIMM
2. Intel® Core™ i7-6700 processor
3. Two SATA III interfaces
4. One USB 2.0 port
5. Intel Q170 chipset
6. DVI-I port
7. Two 10/100/1,000 Ethernet ports
8. Two USB 3.0 ports
9. Two serial ports
10. Two USB 2.0 headers
11. SATA III
12. DisplayPort 1.2 connector

Matrox Supersight Solo chassis

Front view

Rear view
Matrox Supersight Solo backplane configurations

Matrox SHB-Q170 in 8-slot PCIe backplane

Matrox SHB-Q170 in 13-slot PCIe backplane

**Backplane**
An 8-slot PCIe 2.0 backplane provides good expansion opportunities for Matrox and third-party video capture, accelerator/coprocessor, graphics and general I/O boards to fulfill the demands of many imaging applications. An optional 13-slot backplane supports more add-in boards divided in two segments, with a PCIe 2.0 x16 and a PCIe 2.0 x4 pathway to the SHB, for added data throughput capability.

**Power and storage**
A 1,000 W power supply lets the system accommodate multiple frame grabber, accelerator/co-processor, and graphics boards. Integrated 2.5 in hard drives provide a greater level of shock and vibration resistance over standard desktop models. Quick-release, hot-swappable drive bays with RAID support increase system reliability and facilitate maintenance.
PCIe 2.0 backplane

PCIe 1-1 to PCIe 2-5

8-slot backplane

PCIe 1-x slots present on 8-slot backplane

13-slot backplane

PCIe 1-x and 2-x slots present on 13-slot backplane

USB hub

USB0/1, USB2/3, USB4/5

SATA1, SATA0

PCIe 2.0 Switch

Mux/Demux

x16/x8

x16/x8/x16

x16/x8/x16

x16/x8/x16

x16/x8/x16
Image acquisition
Matrox Imaging offers the industry's most comprehensive line of image acquisition boards for all major interfaces including Camera Link, Camera Link HS, CoaXPress, DisplayPort, DVI, GigE Vision, HDMI, and SDI as well as standard and non-standard analog. Refer to the individual Matrox Imaging frame grabber datasheets for more information.

Processing offload
FPGA-based image processing is a powerful addition to an image acquisition board, providing substantial offload of the host processor for image processing primitives without consuming additional slots. Refer to the individual Matrox Imaging frame grabber datasheets for more information.

Software environment

Operating system
Matrox Supersight Solo comes pre-loaded with Microsoft Windows® 7 Professional for embedded systems, which provides all the features of the standard operating system with an extended life cycle needed to ensure longevity of supply. Native 64-bit support enables the handling of large amounts of system memory.

MIL software
A complete imaging platform must include not only hardware but also robust software tools. MIL is a high-level programming library with an extensive set of optimized functions for image capture, processing, analysis, display, and archiving. Refer to the MIL datasheet for more information.

MIL is licensed for the Matrox Supersight Solo on a per-chassis basis. Matrox Supersight Solo automatically grants access to MIL-Lite and distributed MIL functionality.
### Memory
- 16 GB DDR4-2133

### Hard disk
- Up to four (4) hard disks
- Up to 500 GB
- SATA III
- 7,200 RPM
- 32 MB cache

### Optical drive
- One (1) slim optical disk drive
- 24x CD R/W
- 8x DVD-ROM
- SATA I

### Chassis

#### Dimensions
- Length: 52.4 cm (20.6 in)
- Width: 48.2 cm (19.0 in)
- Height: 4U, 17.8 cm (7.0 in)

#### Mounting
- 19 in rackmount
- Removable rack ears
- Removable rack handles

#### Drive bays
- Front-accessible
- Four (4) 2.5 in, hot-swappable hard disk bays
- One (1) slim CD/DVD bay

#### I/O interfaces
- Six (6) USB 2.0 ports
  - Two (2) front accessible
  - Four (4) internal

#### Additional features
- Hinged front panel
- Push-button power switch
- Recessed reset button
- Power and HDD notification LEDs
- Fifteen (15) slots
### Specifications (cont.)

#### Power supply
- 1,000 W power supply
- AC input
  - 100-240 VAC
  - 47-63 Hz
- 14 A / 7 A at any low/high range input voltage
- 80 Plus Bronze rated
- Power-factor corrected
- DC output
  - +3.3VDC @ 25 A
  - +5 VDC @ 25 A
  - +12V1DC @ 50 A
  - +12V2DC @ 50 A
  - -12VDC @ 0.8 A
  - 5VSB @ 3.5 A
- Supplemental power connectors
  - Six (6) 4-pin peripheral (12 V DC & 5 V DC)
  - One (1) 8-pin EPS CPU
  - Five (5) 6-pin PCIe power 75 W (12 V DC) or 8-pin PCIe power 150 W (12 V DC)

#### Certifications
- FCC class A
- CE class A
- RoHS-compliant

#### Operating system
- Pre-loaded with Microsoft Windows 7 Professional 64-bit for embedded systems

#### Environmental
- Operating temperature: 10°C [50°F] to 35°C [95°F]
- Storage temperature: -40°C [-40°F] to 85°C [185°F]
- Up to 90% (non-condensing) relative humidity

### Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>4U</td>
<td>176.8 mm (7.0 in)</td>
</tr>
<tr>
<td>Height</td>
<td>427 mm (16.8 in)</td>
</tr>
<tr>
<td>Width</td>
<td>482.6 mm (19.0 in)</td>
</tr>
<tr>
<td>Depth</td>
<td>524.2 mm (20.6 in)</td>
</tr>
</tbody>
</table>
### Hardware

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SL-MTRX-02*</td>
<td>Matrox Supersight with single SHB featuring a single Intel Core i7-6700, 16 GB DDR4 SDRAM, 500 GB HDD, and Microsoft Windows 7 Professional 64-bit for embedded systems. Includes 13-slot single-segment PCIe 2.0 backplane and 1,000 W power supply. Prelicensed for MIL interface and distributed MIL packages.</td>
</tr>
<tr>
<td>SL-MTRX-03*</td>
<td>Matrox Supersight with single SHB featuring a single Intel Core i7-6700, 16 GB DDR4 SDRAM, 500 GB HDD, and Microsoft Windows 7 Professional 64-bit for embedded systems. Includes 8-slot single-segment PCIe 2.0 backplane and 1,000 W power supply. Prelicensed for MIL interface and distributed MIL packages.</td>
</tr>
</tbody>
</table>

### Software

Refer to the [MIL datasheet](#).

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**Endnotes:**
1. Using the 13-slot backplane. The 8-slot backplane provides only a PCIe 2.0 x16 interface.
2. PCIe connectors are all x16 mechanical but not electrical, not all 13 slots can draw 75 W at the same time.
3. Unit ships with two dual-port I/O brackets.
4. With the 75 W available from the slot, then a total of 150 W and 225 W is available to the board, respectively.

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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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