SABRECOM 300 Rugged Integrated Mission Computer with Core i7 / Xeon SBC + Managed Gigabit Ethernet Switch

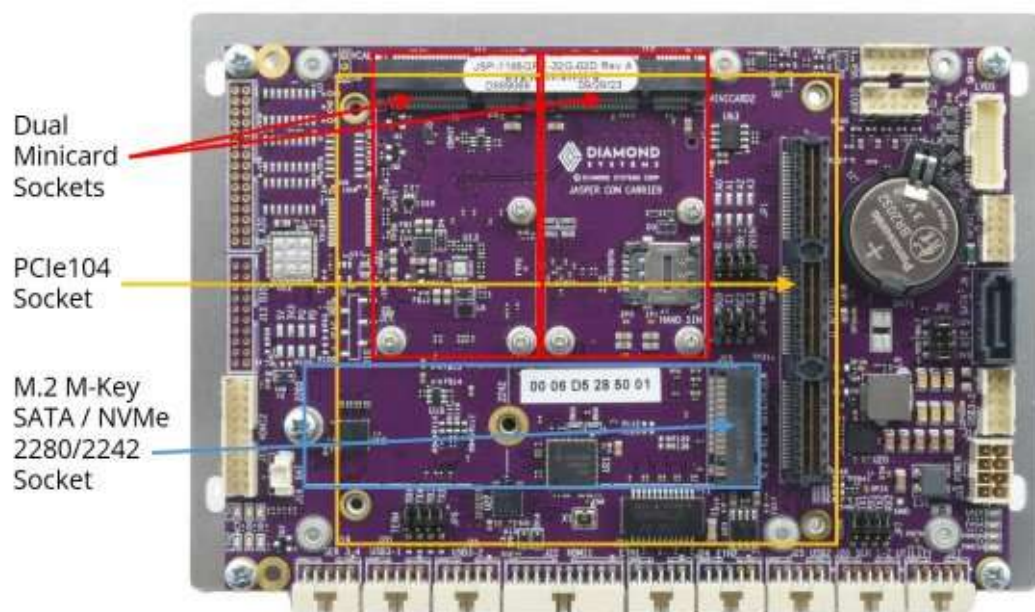**DIAMOND SYSTEMS**

COM — Express®   PCIe104

FEATURES

Intel Core-i7 7th , 11th , or 13th gen processor

20-64GB RAM

128GB-2TB integrated solid state flashdisk

Choice of Linux or Windows 64-bit OS

7 or 15 1Gb copper Ethernet ports with Layer 2 management software

HDMI, USB3, USB2, RS-232/422/485, and GPIO (quantity varies by SBC)

Optional 16-bit data acquisition with autocalibration

Customizable with I/O expansion modules

Choice of MIL-STD-461 filter or isolated power supply with MIL-STD-461/704/1275 filtering

Rugged enclosure with IP67 rating

MIL-DTL-38999 connectors for power and general I/O

Specialized high-speed connectors for HDMI and USB 3.0

Designed to meet MIL-STD-810H shock and vibration requirements

Internal boards qualified for MIL-STD-202H shock and vibration requirements

-40 to +75C operating temperature

Dimensions W x H x D (overall including mounting feet): 111 x 174 x 237mm / 4.4 x 6.9 x 9.3"

SabreCom-300 series systems combine a full-featured x86 SBC with a managed Ethernet switch in a rugged, sealed enclosure designed to withstand the harshest of environments. All boards and components are tested or designed to meet MIL-STD-202 and -810 levels of shock and vibration. The flexible architecture supports multiple
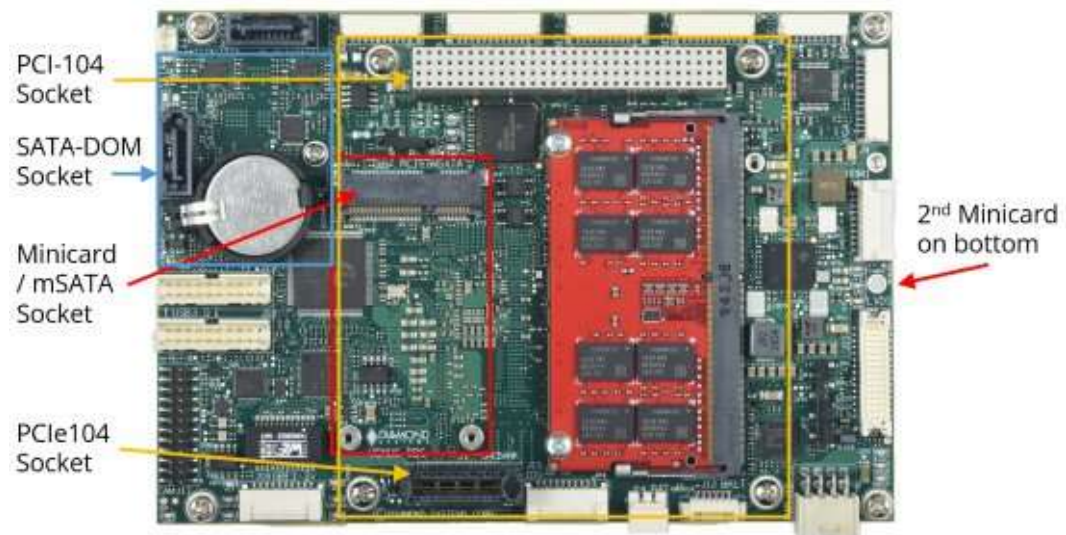
options for SBC configuration, solid-state mass storage, operating system, Ethernet switch, power supply, and I/O:

SBC	Sabrecom-300 is designed around Diamond's **Jasper** and **Venus** rugged SBCs. Choose from a variety of Intel Core i7 processors from 7th up to 13th generation, with 20-64GB RAM, depending on your power, performance, and budget.
Mass Storage	Choose from a range of solid state SATA mass storage devices ranging from 128GB up to 2TB.
Operating System	Choose from Linux or Windows 10 64-bit OS with full BSP support for all I/O available on the SBC.
Ethernet Switch	Choose from 7 or 15 1Gb copper ports with Layer 2 management software built in.
Power Supply	For full performance a rugged power supply with 9-60VDC input, MIL-STD-461/704/1275 filtering, and isolation is available. For more economical solutions a MIL-STD-461 filter board can be installed, reducing the input voltage range to the SBC's native input range.
I/O	Each system includes most or all available I/O on the integrated SBC. On systems using the Jasper SBC, an optional 16-bit analog I/O circuit is available. I/O expansion can be accomplished by installing up to 1 PCIe104 module or up to 2 PCIe/USB minicards. Space is available on the front panel to install I/O connectors for the additional I/O. High- speed interfaces such as USB3.0 and HDMI are supported via dedicated high-speed connectors.

SabreCom-300 can accommodate up to 1 PCI-104 / PCIe104 I/O module or up to 2 PCIe/USB minicards. Depending on the nature and number of added I/O signals, the I/O may be combined onto existing connectors, or a new connectors may be added to the front panel, involving a nominal design fee. The integrated SSD mass storage options range from 128GB to 2TB.
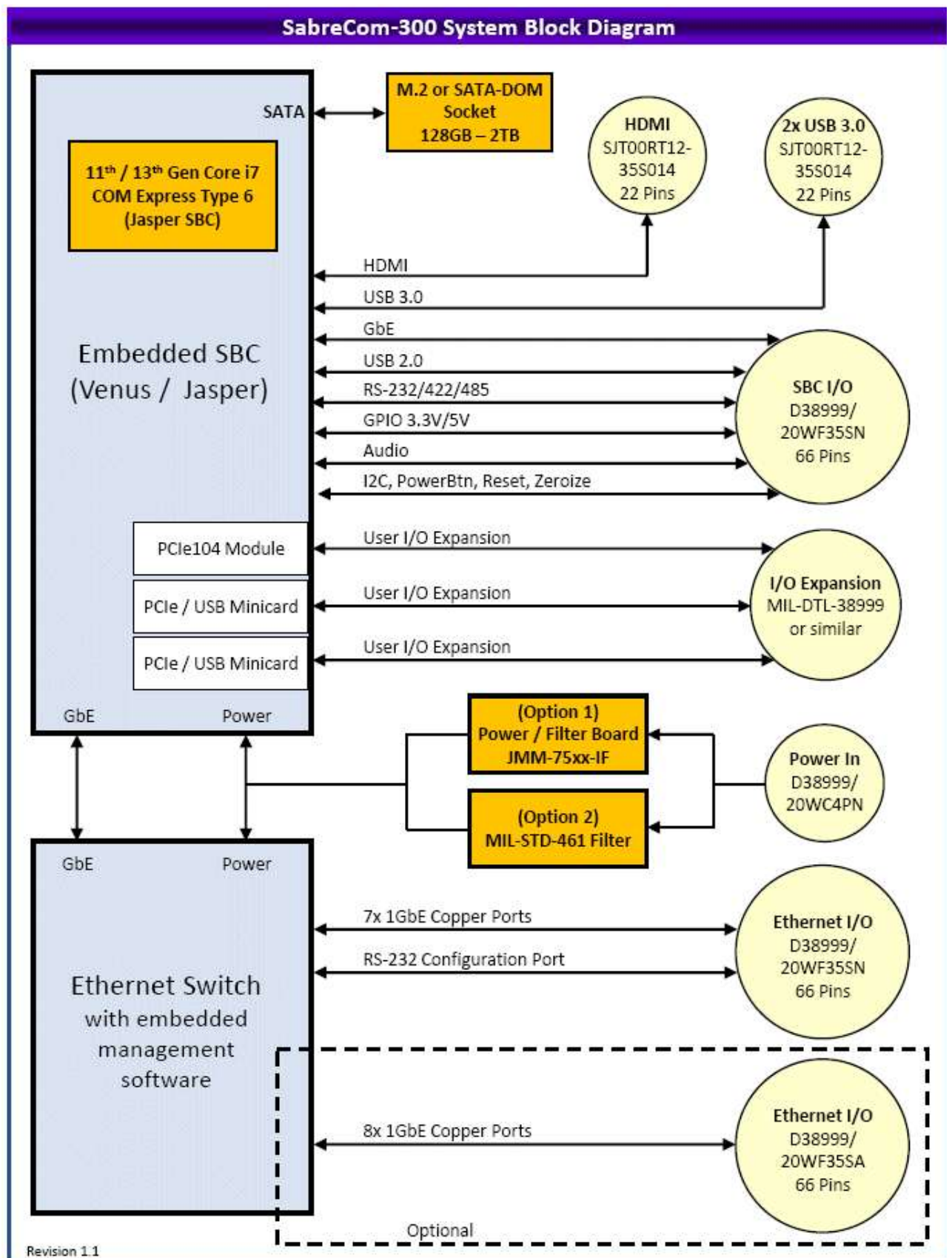

Jasper SBC expansion and mass storage sockets

Venus SBC expansion and mass storage sockets

◆ **Block Diagram**

SabreCom-300 System Block Diagram

- 11th / 13th Gen Core i7 COM Express Type 6 (Jasper SBC)
- Embedded SBC (Venus / Jasper)
- SATA — M.2 or SATA-DOM Socket 128GB – 2TB
- HDMI SJT00RT12-35S014 22 Pins
- 2x USB 3.0 SJT00RT12-35S014 22 Pins
- HDMI
- USB 3.0
- GbE
- USB 2.0
- RS-232/422/485
- GPIO 3.3V/5V
- Audio
- I2C, PowerBtn, Reset, Zeroize
- SBC I/O D38999/ 20WF35SN 66 Pins
- PCIe104 Module
- PCIe / USB Minicard
- PCIe / USB Minicard
- User I/O Expansion
- I/O Expansion MIL-DTL-38999 or similar
- GbE
- Power
- (Option 1) Power / Filter Board JMM-75xx-IF
- (Option 2) MIL-STD-461 Filter
- Power In D38999/ 20WC4PN
- Ethernet Switch with embedded management software
- GbE
- Power
- 7x 1GbE Copper Ports
- RS-232 Configuration Port
- Ethernet I/O D38999/ 20WF35SN 66 Pins
- 8x 1GbE Copper Ports
- Ethernet I/O D38999/ 20WF35SA 66 Pins
- Optional
- Revision 1.1

◆ **Ordering Information**

◆ **How to Order**

SabreCom-300 systems offer a large number of standard configuration options. They can also be customized with more I/O or modified connector types and pinouts. All the standard options are shown in our configuration worksheet. You can **download the worksheet**, fill it in, and submit it to us to request a quote.

Available options include:

- Choice of processor and RAM capacity
- Operating system (Windows 10 / Ubuntu Linux)
- Ethernet switch port count
- Integrated power supply
- Integrated SSD
- Custom I/O using PCIe minicard and PCIe104 modules