SABRECOM Rugged Mission Computers with Core i7 CPU and I/O Expandability

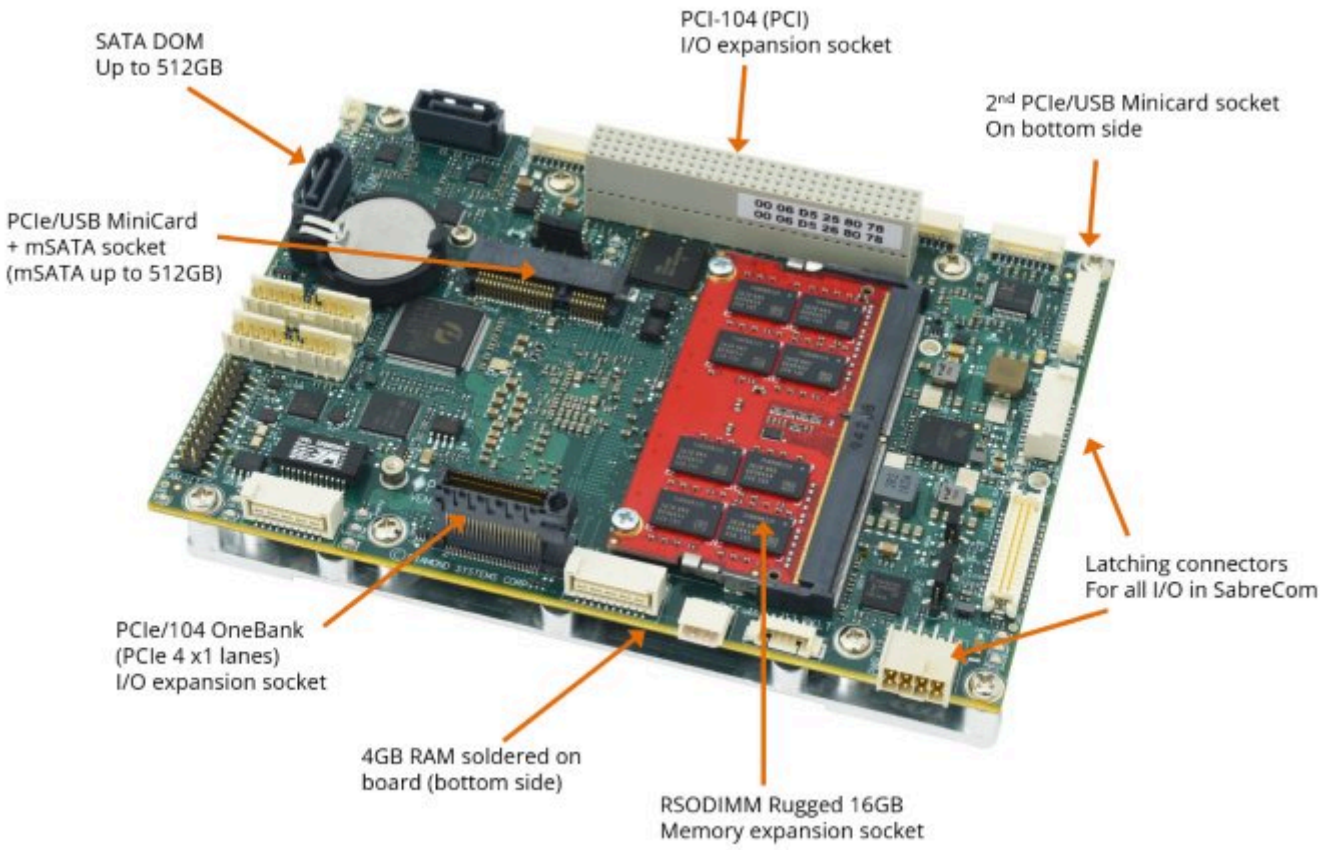
FEATURES

- Intel Core i7 processor with 20GB RAM
- Windows 10 and Linux OS options
- Rugged sealed aluminum enclosure featuring IP67 protection
- D38999 connectors for all I/O
- MIL-STD-202G shock/vibration qualification
- MIL-STD-61, 704, and 1275 compliance
- 6 USB 2.0 ports, 4 RS-232/422/485 ports
- 2 Gigabit Ethernet ports
- 16 GPIO 3.3V
- VGA display
- Easily expandable with minicard I/O modules, up to 30 I/O signals available
- -40 to +75C operating temperature

The **SabreCom** series of rugged mission computers brings a competitive level of price/performance to the market. These systems are based on Diamond's line of rugged, I/O-rich single board computers. SabreCom-VNS is the standard model and is based on our **VENUS** rugged SBC with 7th Generation Intel Kaby Lake Core i7 processor with a combination of features making it ideal for rugged environments. Latching I/O connectors, thicker PCB, soldered + ruggedized SODIMM memory, and integrated heat spreader / mounting plate make Venus the perfect platform for mid-to high-level CPU performance in a compact and affordable package.

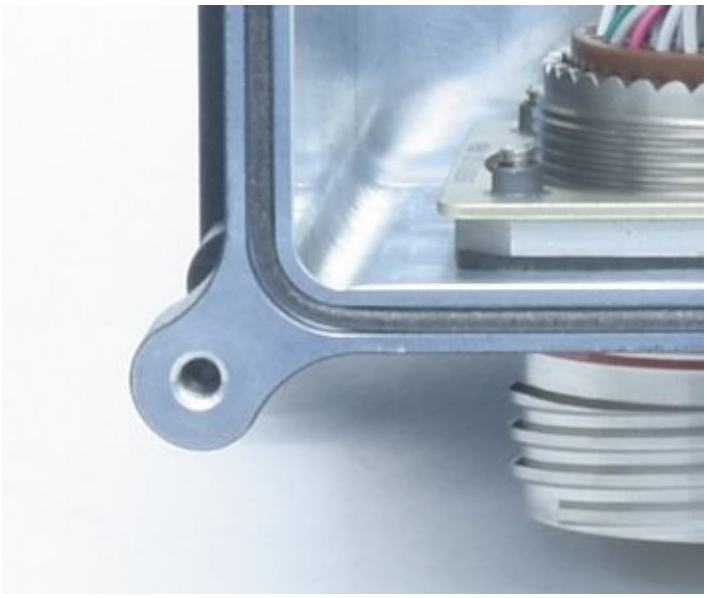
SabreCom Venus is available in a standard configuration with competitive leadtime and without minimum order quantity or NRE charges. Customization with additional I/O modules and power supplies, as well as custom connectors and case designs, is available with moderate design fees and low minimum order quantities. Contact us to learn how Diamond is changing the game for cost-effective yet high-quality and high-reliability rugged computer systems and Ethernet switches.

Venus SBC Highlights



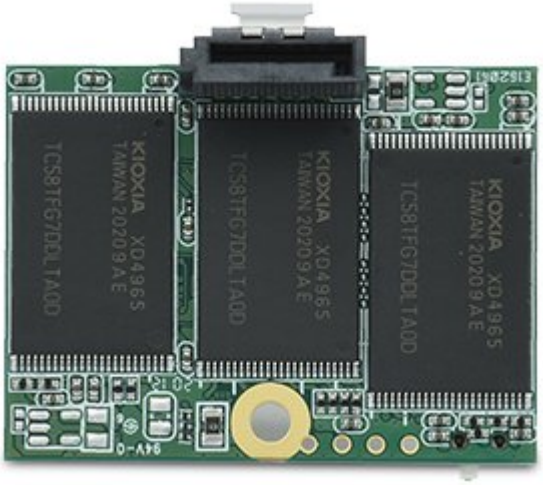
Environmental Qualification

SabreCom systems have been tested and qualified to MIL-STD-202G shock and vibration levels to assure reliable performance in the most rugged vehicle applications. The sealed enclosure design features gaskets on all mating surfaces as well as all connector mounting screws to provide IP67 environmental protection. Unlike other rugged enclosures, the main body consists of a single block of aluminum milled to create a seamless 4-wall structure, eliminating the T joints that can be a source of leakage. All SabreCom systems are operational up to the full temperature range of the embedded SBC due to the efficient conduction cooling of the CPU directly to the top heat sink cover of the enclosure.



Mass Storage

Mass storage of 256GB TLC technology is included as standard. Storage can be increased up to 1TB as an option using SATA DOM and mSATA modules. SLC technology is available.



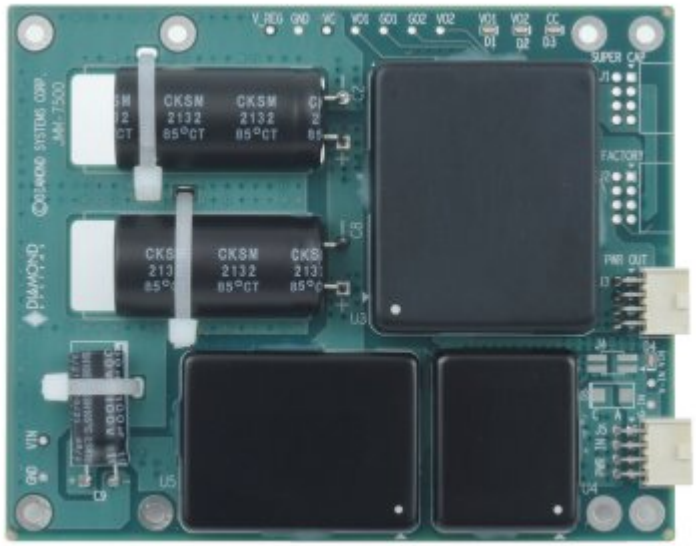
The SATA DOM module plugs onto a SATA connector and is fixed in place with a screw for shock and vibration resistance.

The mSATA module plugs into the top side minicard/mSATA socket and is fixed in place with 2 screws.

Power Supply

SabreCom systems are powered by Diamond's rugged **JMM-7500** power supply. This power supply features 80 watts output power with optional isolation and MIL-STD-461/704/1275 compliance.

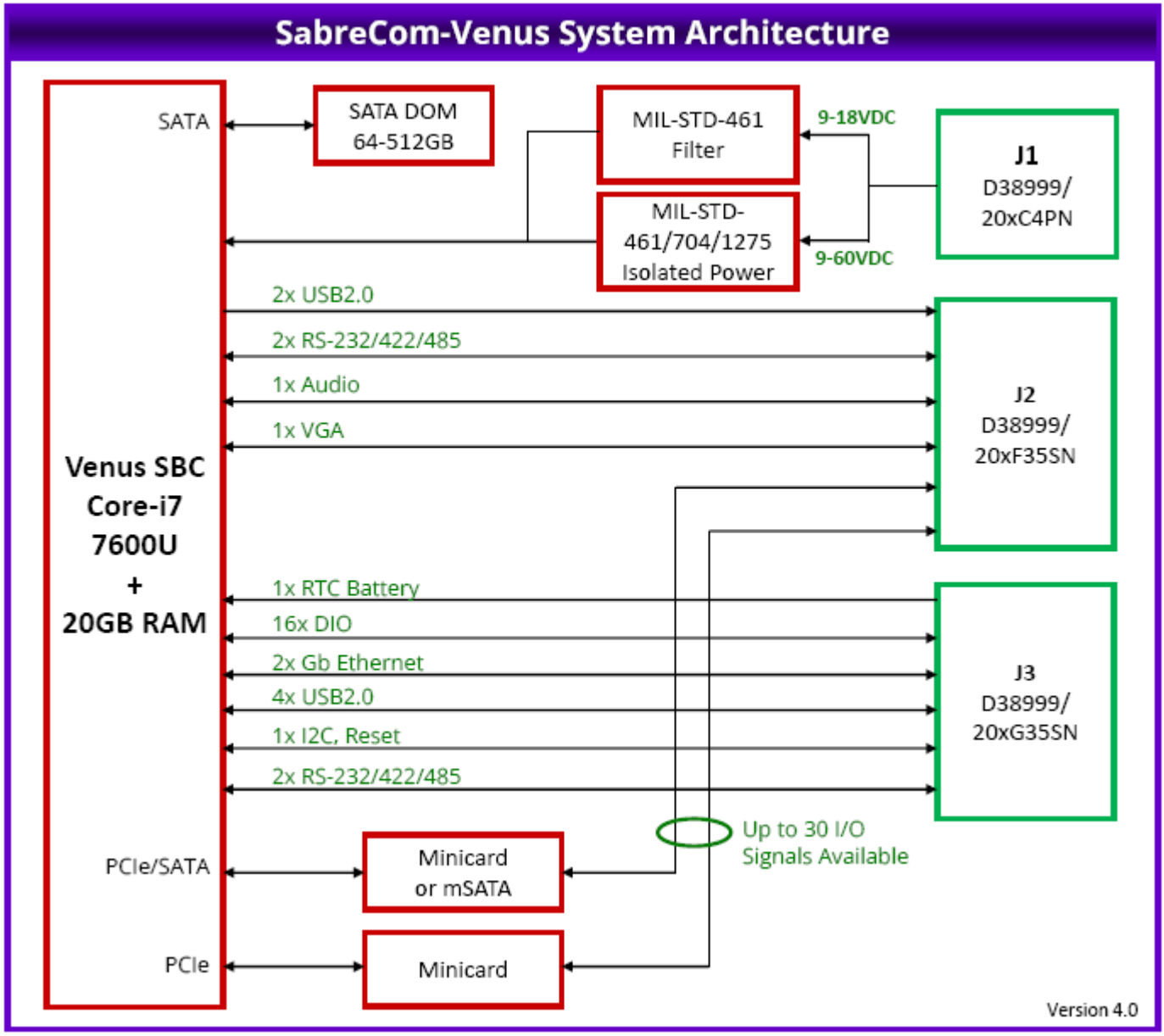
Top view showing power supply mounted on conduction cooling mounting plate



Inner view showing power modules providing filter, regulation, and isolation functions

Operating Systems

Your choice of Linux or Windows 10 64-bit OS can be preloaded onto the flashdisk. Windows 10 OS features Diamond's **Power Loss Protection** feature that survives repeated instant removal of power without requiring to wait for the normal Windows shutdown process.



I/O Expansion

I/O expansion / feature customization can be easily accommodated in two ways:

- The Venus SBC contains a PCI/104-Express (PCIe + PCI) expansion socket, allowing use with dozens of rugged I/O modules from Diamond and other vendors.
- Venus contains dual Mini PCIe sockets with both PCIe and USB host interfaces to accommodate industry standard I/O modules of all types.

Depending on the number of I/O signals added by the I/O boards, an additional I/O connector may be required on the front panel, involving an NRE charge for cable design and enclosure design updates.

This custom board stack for SabreCom includes an 8-port serial port PC/104 module using PCIe interface (middle) and a dual port CAN PC/104 module using PCI interface (top). The taller gap between the Venus board and the first PC/104 module allows for installation of PCIe minicards and cabling in that area for further "zero height" I/O expansion.

Examples of PCIe/104 and minicard I/O boards that can be installed in SabreCom:

Diamond's **EMM-8EL-XT** PCIe/104 module offers 4 or 8 RS-232/422/485 serial ports with or without opto-isolation.

Diamond's **DS-MPE-DAQ0804** minicard features 8 16-bit analog inputs, 4 16-bit analog outputs, and 18 GPIO, with a C programming library.

Ordering Information

Models and Accessories

SabreCom

	Available Models:	Availability:
SABRECOM-VNS-001	SabreCom Venus rugged system, Core i7 7th Gen CPU, 20GB RAM, 9-18VDC input, MIL-STD-461, Windows 10 64-bit OS	Build to order

SABRECOM-VNS-002	SabreCom Venus rugged system, Core i7 7th Gen CPU, 20GB RAM, 9-18VDC input, MIL-STD-461, Ubuntu Linux 64-bit OS	Build to order
SABRECOM-VNS-011	SabreCom Venus rugged system, Core i7 7th Gen CPU, 20GB RAM, isolated 9-36VDC input, MIL-STD-461/704/1275, Windows 10 64-bit OS	Build to order
SABRECOM-VNS-012	SabreCom Venus rugged system, Core i7 7th Gen CPU, 20GB RAM, isolated 9-36VDC input, MIL-STD-461/704/1275, Ubuntu Linux 64-bit OS	Build to Order
CK-SC-VNS001	External cable kit for SabreCom-VNS-001; Power in, I/O 1, I/O 2	Build to order