SABRECOM 4 Rugged x86-Based Computers with Easy Customization

SabreCom-4 is Diamond's new rugged platform for applications requiring custom I/O. Three connector positions are provided to support standard I/O options as well as customer-specific I/O. High-speed interfaces such as HDMI and USB 3.0 are supported via dedicated connectors. I/O expansion can be provided by a combination of PCIe/104 and PCIe minicard I/O modules.

The system is based on Diamond's Jasper SBC which utilizes a COM Express CPU core. This design yields several important benefits. The system can be configured for a wide range of performance and power consumption levels by choosing from a variety of prequalified COMs. If the currently chosen COM reaches end of life, the program's lifetime can be easily extended by selecting a newer one, avoiding the cost and risk associated with purchasing obsolete / EOL products or designing a new system that is backward compatible.

Generation	Type	Processor	PassMark* (approx.)	Max RAM
11 Tiger Lake	Core i7	1185GRE	8,000	32GB
11 Tiger Lake	Core i7	1185G7E	10,300	64GB
13 Raptor Lake	Core i7	1365URE	10,300	64GB
11 Tiger Lake	Xeon	11865MRE	19,600	96GB or ECC 32GB

SabreCom-4 contains a suite of features making it ideal for the most demanding military and rugged applications. Diamond's **rugged DC/DC power supply** with MIL-STD-461/704/1275 compliance provides up to 80 watts of isolated power for internal electronics, providing ample capacity for almost any I/O configuration. Rugged D38999 or D38999-style connectors are used for all I/O. The rugged enclosure provides IP67 protection with seals at every joint. Both the embedded processor board and the power supply are conduction-cooled with direct mounting to the top and bottom surfaces of the

enclosure. The product is built using the same materials, components, and methods of our **Geode** system which has passed MIL-STD-810H testing (see test results **here**).

◆ I/O Connector Scheme

Ref Des	J1	J2	J3	J4	J5	J6
Function	Power in	HDMI	2x GbE, 2x USB 2.0, 4x Serial, Audio, Utility	Expansion (Analog I/O)	Expansion (Digital I/O)	Expansion (USB 3.0)
Connector	38999 C	SJT 19	38999 F	38999 D	38999 D	38999 D

B1: Power button
A1, A2: SMA connector locations

SabreCom-4 contains 6 connectors for power and I/O. The left three connectors J1, J2, and J3 are standard and are used for power input and all standard SBC I/O, including HDMI, gigabit Ethernet, USB 2.0, serial ports, audio, and utility signals. The remaining three connectors J4, J5, and J6 are 38999 D size and are available for standard and/or custom I/O.

The SBC used in SabreCom-4 can be provided with a built-in data acquisition circuit. When this configuration is selected, J4 is used for analog I/O and J5 for digital I/O, leaving J6 free for a USB 3.0 connector or customer-selected I/O. The three expansion I/O connectors can however be used in a mix-and-match method to support any combination of anything that can fit in the available

- 3 38999-D
- 2 DAQ + 1 38999-D
- 1 DAQ + 2 38999-D

2 USB 3.0 + 1 38999-D

- 1 USB 3.0 + 2 38999-D
- 2 DAQ + 1 USB 3.0

3 USB 3.0

◆ **I/O Expansion and Mass Storage**

◆ **Ordering Information**