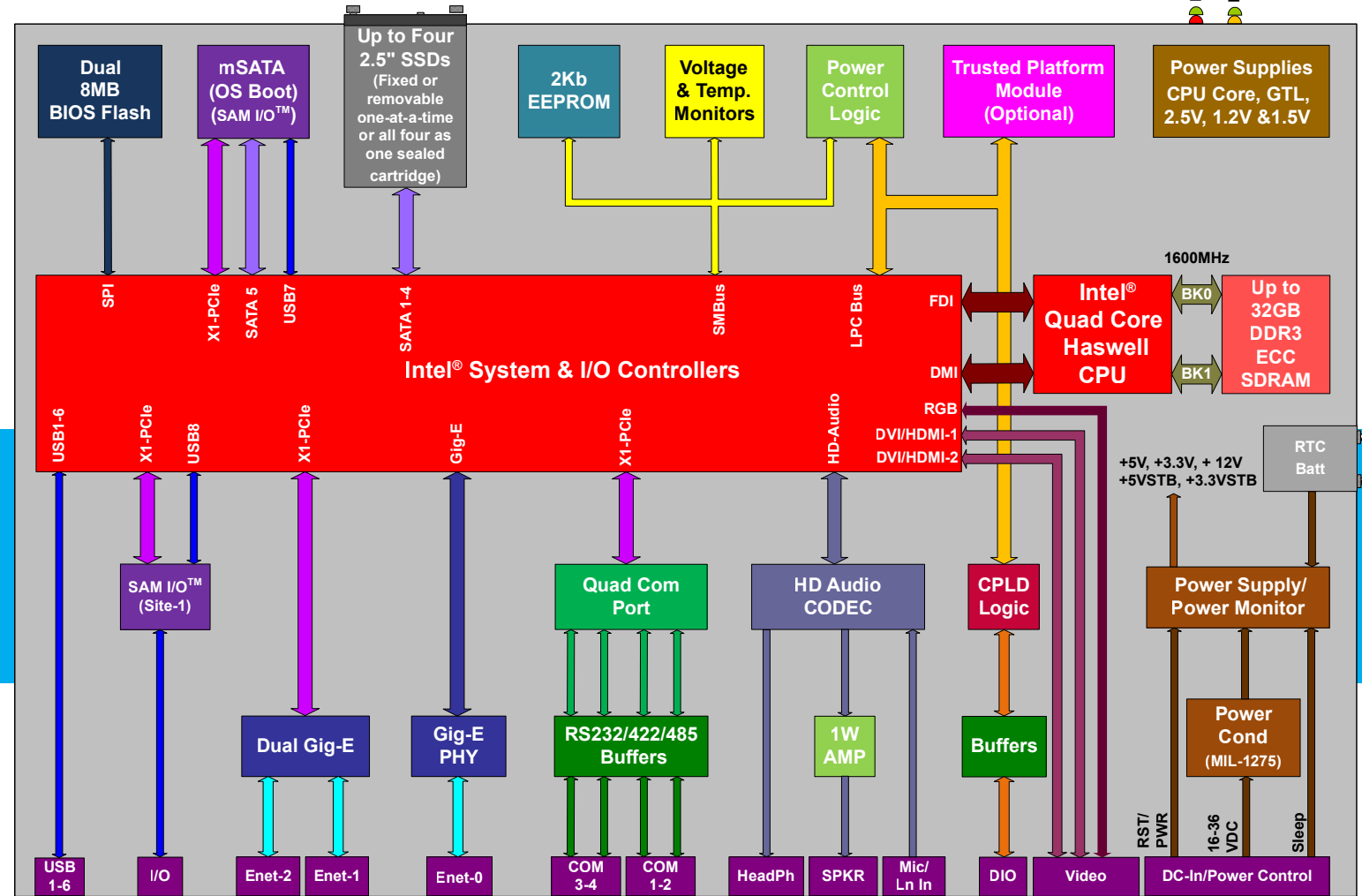




“SEAHAWK” SB1002-FSS

Rugged, Lightweight NAS with Removable Storage, Ultra-High Insertion Cycles

- Up to 2.4GHz Intel® Quad Core™ i7 Haswell processor with 6MB of L2 Cache
- Up to 32GB of 1600MHz DDR3 memory with ECC
- Up to 8TB removable storage canister, withstands ~10,000 insertion cycles (optional)
- Fully sealed drive bay when canister is removed
- Up to 1TB of fixed SSD for OS boot
- Up to three GigE ports with TCP/IP Offloading Engine (TOE)
- Up to six USB 2.0 ports and four Serial ports with RS-232/422/485 options
- Dual DVI/HDMI ports and one RGB video port
- Eight buffered General Purpose I/O lines



- Support for one SAM™ site for custom I/O
- Full HD-Audio support with onboard 1W mono amplifier
- Real Time Clock (RTC)
- Dual BIOS boot devices with write protect
- Intel Virtualization Technology (VT-x/VT-D2)
- Trusted Execution Technology
- Trusted Platform Module (TPM) for secure operation (optional)
- Support for Active Management Technology (AMT) for remote KVM functions
- Full power management control for Sleep/Hibernate operation

- CPU temperature and voltage monitoring with status LED indicators
- Reset and power On/Off signal with suspend support
- Support for Windows®, Linux® and VMware®
- Fully operates from -40°C to +85°C at full load with no throttling
- Ultra-low SWaP only 5.02" x 9.11" x 4.21" @ 5 lbs. and as low as 40W total
- Fully compliant to MIL-STD 810G, MIL-STD 1275D, MIL-S 901D, DO-160D, MIL-STD 461E and IP66
- Operates at standard temp -20°C to +75°C or extended temp -40°C to +85°C (optional)
- Available in ruggedization levels R3-R5

General Description

The SB1002-FSS “Seahawk” is a fifth-generation, ultra-rugged, small, lightweight computer system. It is designed to provide up to 8TB of removable SSD storage as a single canister with ultra-high insertion capabilities for an extended product life cycle, while providing the highest level of workstation performance possible in a fully ruggedized, conduction-cooled, sealed system operating from -40°C to +85°C (-20°C to +75°C standard).

The Seahawk supports the latest, most power-efficient Intel® Quad Core™ i7 Haswell processor with Hyper-Threading for a total of 8 logical cores, each operating at up to 2.4GHz with the ability to TurboBoost up to 3.4GHz. To harvest this incredible CPU performance, the CPU is coupled with up to 32GB of RAM organized in two banks that support error correcting code (ECC). The ECC RAM provides 2-bit error detection and 1-bit error correction and supports up to 1600 mega-transfers per second (MTS) between CPU and memory.

The I/O subsystem for the Seahawk is designed to support a wide array of standard and custom I/O functions. The SB1002-FSS supports three Gigabit Ethernet channels with TCP/IP offloading engine, six USB 2.0 ports, up to 8TB of removable SSD storage, eight buffered digital I/O lines, four COM ports with RS-232/422/485 options, dual DVI/HDMI ports, one RGB video port, and an HD audio headset with a one-watt audio amplifier to drive an 8-ohm speaker directly. Additional I/O functions include up to 1TB of onboard SSD for OS boot with write-protect, as well as one SAM™ I/O sites for custom I/O such as Wi-Fi/Bluetooth, GPS, Quad Video capture, CANbus, MIL-STD-1553, FireWire, etc.

The Seahawk also supports the most secure storage subsystem possible. The system supports mSATA as a boot device, as well as a dual redundant BIOS Flash with hardware write-protect. These data security functions, along with the Trusted Platform Module (TPM) and the Trusted Execution Technology (TXT), make the Seahawk the most secure NAS system on the market.

Applications

The Seahawk is designed to provide the ultimate Network Attached Storage (NAS) or data-logging rugged computer system for defense and UAV applications, as well as industrial and commercial applications, specifically for those that require frequent insertion and desertion of removable data drives. The Seahawk is the next generation of the Golden-Eye III, which is widely deployed in Army WIN-T vehicles, robots for hazardous applications where the computer is exposed to harsh environments, and UAVs, where power, weight, and size are the main considerations. The SB1002-FSS is ideal for outdoor applications where it may be fully exposed to rain, sun, dirt, and radiation. This system may be ordered from the factory with operating systems such as Windows®, Linux®, or VMware® pre-installed. The SB1002-FSS is fully compliant to MIL-STD 810G, MIL-STD-1275D, MIL-S-901D, DO-160D, MIL-STD-461E and IP66.

Technology Used

The Seahawk utilizes the Intel® Core™ i7 Haswell CPU, which is the newest and most powerful, efficient processor from Intel® with advanced thermal management and graphics. The Haswell Core™ i7 processor supports Hyper-Threading for a total of eight logical cores and supports 6MB of L2 cache shared among the cores. Haswell supports up to 32GB of DDR3 RAM with error correcting code (ECC) and 1600 mega-transfers per second (MTS) between the CPU and RAM. Another major improvement of the Haswell processor over the Ivy Bridge Core™ i7 is the graphics performance. The Haswell processor provides three independent video outputs and better-than 40% improvement in 3D acceleration. Haswell is also coupled with Lynx Point™ and is a fourth-generation Core™ i7 with a fully integrated memory controller for the best memory performance possible. This CPU is considered the workhorse of the workstation market with many added power saving features and peak performance with controlled thermals, as well as security functions such as Intel’s second-generation Virtualization Technology VT-x, Trusted Execution Technology (TXT), and Active Management Technology (AMT) for remote KVM functions. The Haswell platform also supports PCIExpress Gen3, USB 3.0 and SATA 3 for the highest performance possible on a workstation platform.

Additional Views and Variations

SB1002-FSS (Showing removable canister)



Cooling

The Seahawk system is equipped with GMS’ patent pending RuggedCool™ technology, which is the most unique cooling system in the industry and is the only system that operates up to -40°C to +85°C at full load without throttling the CPU! This cooling approach provides the lowest thermal resistance to the case while providing the highest shock specifications known in the industry. The SB1002-FSS is a fan-less system for reliable operation and can be mounted directly to a metal surface or used as a stand-alone system.

Full Environmental Specs

The Seahawk is available in ruggedization levels R3-R5. Additional information regarding the ruggedization levels and full environmental specifications for this product can be found on our website at www.gms4sbc.com.

