RAD TOLERANT, ADVANCED SCALABLE SOLID STATE RECORDER

Advanced EO, IR, and RF payload sensors on modern satellites produce significant volumes of data at Gigi-bit rates.

This data is required to be temporarily stored on-board to support data processing, downlink, or cross-link operations. Data files and associated metadata necessitates efficient management systems to support quick access to areas of interest within data files.

To support these needs, modern processors and memories paired with high speed optical or copper interfaces, executing file management/ database software is a necessity.

Moog has invested significantly in components, architectures, and automated manufacturing equipment to provide state-of-the-art, radiation tolerant data processing and storage solutions for the space market.

Moog has leveraged state-of-the-art radiation tested commercial components, standard architectures such as VPX, and modern software data management capabilities to provide a high performance, high capacity Solid State Recorder.

FEATURES

- Rad Tolerant, multi-core ARM Network Processor – 2.1GHz
  - Supports multiple 1G and 10G Ethernet
  - Data-path accelerators
  - Trust architecture capable
- Rad Tolerant FPGA implements high speed DMA engines to Flash memory boards
- Data striping to multiple Flash memory boards provides ultra-fast access speeds
- RAID like ECC for multiple (>3) Memory board configurations
- FMC like mezzanine board provides flexible payload interfaces (Optical or Copper based)
- Rad Tolerant, SLC Flash based memory board
  - 6U version supports > 1TByte User Storage
  - 3U version supports > 400GByte
  - Multi-Gbit sustained access speeds
  - 2 Layer ECC approach mitigates native and radiation induced data errors
- Scalable architecture allows
  - Storage capacities from 1TByte to 10TByte
  - Ingress rates up to 100Gbps
- Innovative file system + metadata database provides fast, efficient date retrieval
- Flexible interfaces to downlink, cross-link, and C&DH

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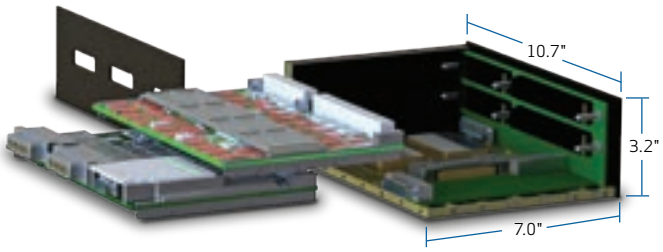
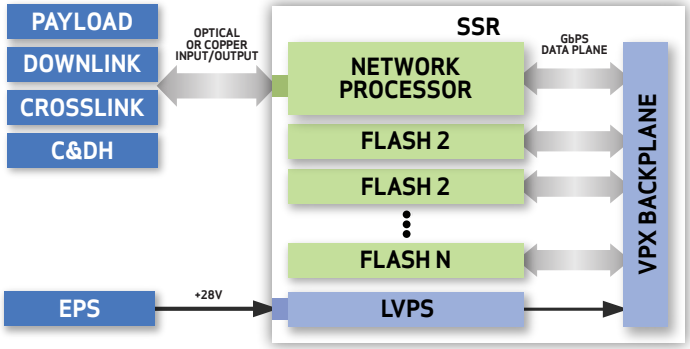
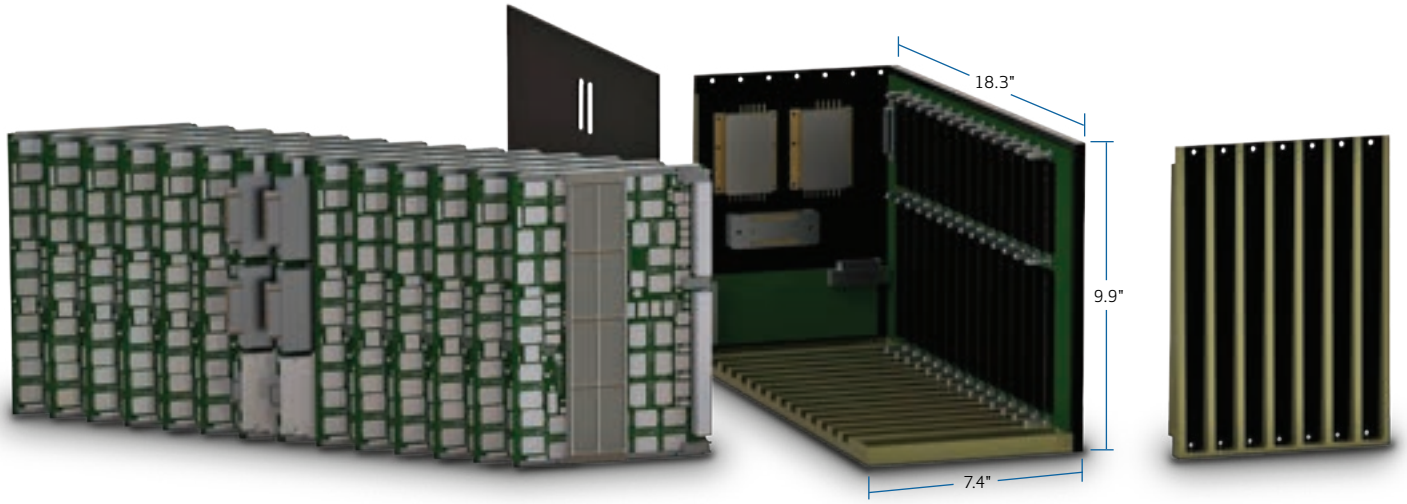
1TBYTE SOLID STATE RECORDER



SIMPLIFIED BLOCK DIAGRAM SHOWING SCALABILITY OF MEMORY CAPACITY



10TBYTE SOLID STATE RECORDER



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