



OBR-16SD On-Board Recorder

The OBR-16SD series On-Board Recorder is a light weight, cost effective modular designed data storage solution, capable of massive payload data and bulk telemetry data storage on board the satellite. Adopting and based on a SDRAM technology, the OBR-16SD offers high data capacity and high bandwidth storage to support today's highly demanding mission storage requirements.

The OBR-16SD is designed to be scalable and is equipped with memory scrubbing and EDAC capabilities to ensure overall mission data integrity, with user options for compression and encryption capabilities, so as to offer improved operational flexibility and mission robustness.

Key Features

- Light weight, cost effective modular design
- High mission flexibility for expansion beyond 16 GB, with flash based FPGA for re-programmability
- Memory scrubbing and EDAC capabilities to enable overall mission data integrity
- Increased capacity and high bandwidth with adoption of SDRAM technology
- High speed data I/O up to 400 Mbps
- CCSDS packet formatting for payload data downlink to CCSDS compliant high data rate receivers



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Technical Specifications

PHYSICAL CHARACTERISTICS

| | | |
|--------------------|---|---|
| Dimensions | 350 mm (L) x 250 mm (W) x 30 mm (H) | (Per tray) |
| Power | 3.3V & 5V inputs 4.5W standby power 17W peak power, during data storage or transmission | |
| Mass | 1.7 Kg | (Inclusive of mechanical chassis) |
| Temperature | -20°C to +70°C operating -40°C to +85°C non-operating | |
| Memory | SDRAM memory (3D plus) | (Option for IB, IS and MS grade memory) |
| FPGA | ProAsic3 re-programmable FPGA | (Up to 3M gates) |
| Controller | C515C integrated micro-controller with FPGA interface | (With built-in latch up protection) |

PERFORMANCE SPECIFICATIONS

| | | |
|-------------------------|---|--|
| Storage Capacity | 16 GBytes Effective data capacity: 13.8 GBytes (less EDAC and storage management overheads) | |
| Data Interface | 3 channels of 8-bit parallel LVDS inputs @ 50 MHz, 400 Mbps per channel 2 channels of 8-bit LVDS outputs @ 37.5 MHz, 300 Mbps per channel Direct OBC/TTC data interface using synchronous serial links, for housekeeping data storage | |
| EDAC | Reed-Solomon (255, 223) code, interleaving depth of 4, to protect against burst errors up to 1 byte Periodic and autonomous memory scrubbing to remove single bit upsets Autonomous removal of bad lines/sectors from OBR memory | |
| TC/TM Interface | Interface to CAN bus @ 500Kbps | |

Note: All specifications are subject to change without notice.
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