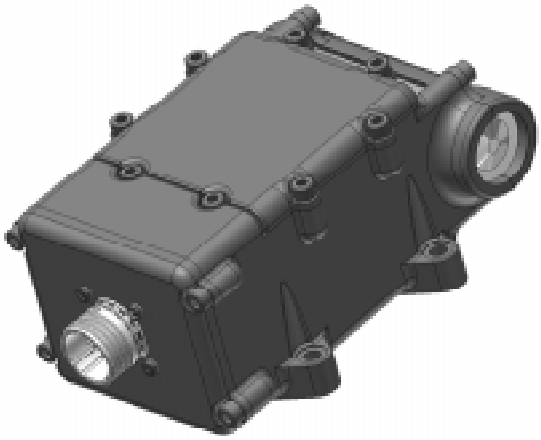
Crash Survivable Memory Unit

CSM

L-3 communications
Electrodynamics, Inc.



FEATURES

- 4 MB to 192 MB Flash EEPROM memory
- 100,000 memory write cycles
- Power fail protection, memory management, and error detection for high integrity
- Interfaces: RS-422, MIL-STD-1553B, 10 Base-T Ethernet, IEEE 1394A/B, Universal Serial Bus
- Extraction per B-1, B-2, T-45, F-22 methods and equipment
- Can be driven from any processor
- Less than one bit error per million
- BIT: power-on, commanded, periodic
- Operational software uploadable
- RS-422 test bus
- Exceeds EUROCAE ED-55 Crash survivability
- Underwater locator beacon with replaceable battery
- Suitable for Data, Audio and/or Video recording

UNIT DESCRIPTION

The L-3 Communications/Electrodynamics, Inc. (L-3/EDI) Crash-Survivable Memory Unit (CSM) receives vehicle, subsystem and environmental parameters via several available communication interfaces, and stores these parameters in uncompressed form in EEPROM solid-state memory. It protects the data records from incidents and mishaps, to levels exceeding EUROCAE ED-55. The CSM can be easily adapted to any aircraft. L-3/EDI also supplies a Flight Data Acquisition Unit suitable for operation with the CSM

The CSM mounts in a survivable and accessible area of the vehicle, up to 100 feet from its data source. It contains a micro-controller, communication interfaces, power conditioner, up to 192 megabytes of EEPROM memory and an externally mounted acoustic beacon. This highly reliable unit contains no moving parts or adjustments. It is suitable for circular loop rewrites as often as every 20 minutes or as long as 25 hours, for up to 17,000 operating hours. The memory format handles periodic and aperiodic parameters and events, with read-after-write and CRC error-detecting codes. All records are independent and self-documenting as stored. The unit is also suitable for audio and video recording.

Unit built-in test is performed on power-up or on external command. BIT status is available on the communication buses. Downloading can be performed after an incident or at any time. Card-level and chip-level data extraction equipment and test equipment are available at L-3/EDI. The unit is not field-repairable due to its unique construction. Cooling is by convection.

Electrodynamics, a leader in solid-state recorder technology, has also produced recorders for the B-1, B-2, F-4, T-45, and F-22 aircraft.

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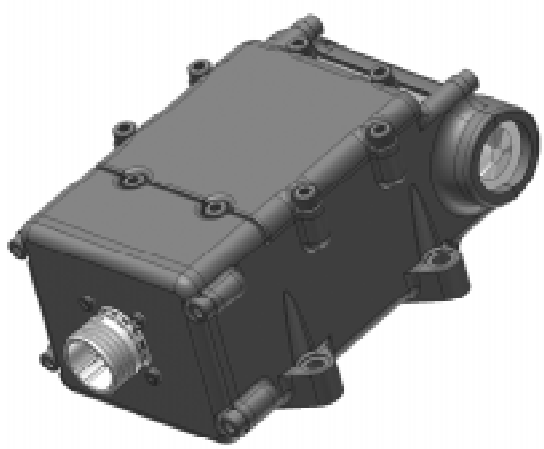
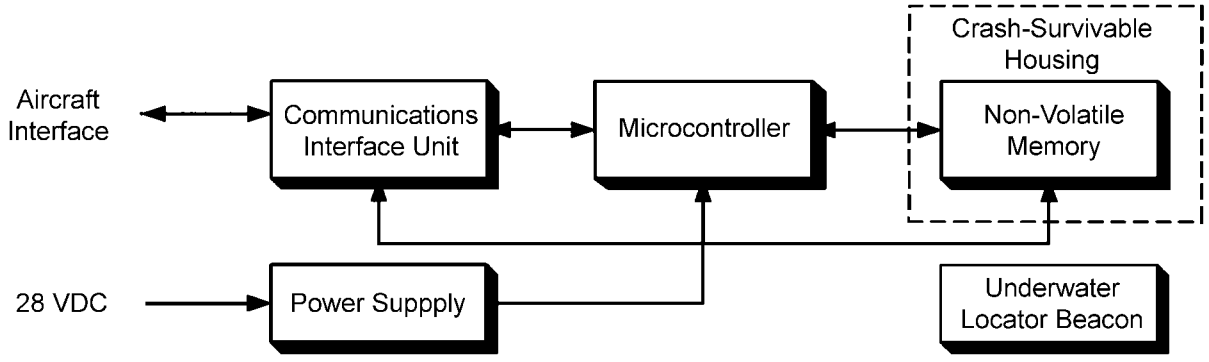


SPECIFICATIONS

- Size: 3.0"H X 4.5" W x 6.5" L
- Weight: <6 lbs. (24MB)
- Power: +7 to +15 @ 150mA, or 28VDC
- Operating Temperature Range: -40o C to +71o C
- Shock: 3400g/5-8 ms, six axis
- Penetration: 10-foot drop of 500-lb weight, six-axis, 0.05 in2
- Crush: 5,000 lbs. for 5 minutes, six-axis
- Fire: 1100oC for 60 minutes
- Seawater immersion: 20,000 ft, 30 days
- Fluids: Fuel, glycol, hydraulic, fire extinguishing, for 48 hours
- MTBF: 30,000 hours (MIL-HDBK-217E)
- Life: 17,000 hours operating, 30 years useful.



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