FDR-300B
Avionic Data Bus Recorder

Built as Form Fit and Functional replacement for the FDR-300 on Fighters, helicopters and UAVs. The FDR-300B supports high speed recording of avionic data buses; MIL-STD-1553, Ethernet, RS-422, CAN, and discrete signals. The platform of the FDR-300B is BES Electronic Systems' Flight Worthy AMC-300 rugged PC. The Recorder's Operating system is XP Embedded loaded on a SATA SSDs. A removable 1.8" SATA SSD is used as a Recording Memory Module (RMM). The RMM is made from Flash (SLC Technology of up to 128GB).

The FDR-300B operates autonomously and continuously. The unit is ready for recording shortly after power is applied. Recording of flight data can be started and stopped by controlling one of the discrete signals or RS-232/422 channels.

Salient Features of the FDR-300B

♦ FDR-300B recorder monitors non-intrusively the data of one or two dual-redundant MIL-STD-1553 buses, one or two 100BaseT Ethernet channels. Each LAN could be configured as promiscuous monitor .

♦ The Sniffer works at low level (Ethernet), it does not need the interface to be connected at IP-level. For future applications, the Ethernet could be set via Windows standard interface.

♦ DC In 18-36VDC approx 20W per MIL-STD-704A.

♦ Optional I/Os
  - Open collector drivers 5-36VDC (ULN)
  - 4 A/D 10KHz per channel.
  - 2 x Opto isolated x 28VDC inputs
  - 4 x TTL discrete inputs
  - 4 x RS-232 or RS-422

♦ All or selected portions of this data may be recorded continuously with options to manually or automatically start/stop recording.

♦ During a flight, the recorder can start recording automatically (i.e. unattended operation), or it may be manually controlled to start or stop recording.

♦ On the ground, the Recorder may be used for data analysis, offering a familiar Windows-based graphical user interface (requires a standard LCD screen, a mouse and a keyboard).

Mechanical Characteristics
♦ Weight 2.5Kg

♦ 100x100x255 (WXHXL) [mm]

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RMM Adapter

The RMM adapter provides a convenient way to connect the Removable RMM via a USB 2.0 to any standard PC or Laptop.

BES Electronic Systems can supply a set of laboratory harnesses for interface with standard commercial connectors.

Reliable and rugged
The FDR-300B withstands severe environment conditions. The unit is fan-less, compact and easy to install.

Construction
The FDR-300B is designed and constructed in accordance with the requirements of MIL-STD-454.

Thermal Design
The cooling of the components of the CPU and Power Supply is by conduction through the aluminum enclosure of the unit .

External Connectors
External connectors are used for interfacing with other equipment and are MIL standard per the requirement of MIL-STD-454.

RELIABILITY

10,000 hours MTBF of at +40°C .
Mean Time To Repair (MTTR)does not exceed 30 minutes.

Environmental

Temperature:
Per MIL-STD-810E
Operating: from -40°to +71°C
Non-operating from -54°to 85°C.

Relative humidity:
Per MIL-STD-810E 95% relative humidity (RH) with no condensation.

Vibration
Per MIL-STD-810E for airborne environment.

Shock
Per MIL-STD-810E, Method 516.4 proc. 1.

Sand and Dust
Per MIL-STD-810E.

Salt Fog
Per MIL-STD-810E method 509.3 proc. 1.

Fungus
FDR-300B is non-nutrient to fungus growth per MIL-STD-810E requirements.

EMI/RFI
FDR-300B as specified, complies to MIL-STD-461E

CE101 Conducted Emissions, Power Leads, 30Hz-10kHz

CE102 Conducted Emissions, Power Leads, 10kHz-10MHz

CS101 Conducted Susceptibility, Power Leads, 30Hz-50kHz

RE102 Radiated Emissions, Electric Field, 100kHz-10GHz

RS101 Radiated Susceptibility, Magnetic Field, 30Hz-100KHz.