

BES Systems Ltd.

Flight Data Recorder FDR-300

FDR-300 is a miniature Flight Data Recorder system for fighter planes, helicopters and long range UAV.

The FDR-300 unit provides 'All-In-One' recording capabilities for various airborne parameters via interface to up to three dual redundant 1553 channels, Analog, Discrete and Serial communication.

The system is programmed for the specific parameters that need to be monitored and recorded during the flight; the data is stored on removable PCMCIA PC card.

Post flight debriefing is done by removing the recorded PCMCIA to Desk Top Computer loaded with dataMars powerful analysis tool that accompanies the FDR-300.

The recorder is hooked to one, two, or three MIL-STD-1553 data buses, to one up to 8 discrete lines, to one up to 4 analog signals, one up to 4 RS-232/422 channels and to a DC power source. In addition, the FDR-300 has 8 output discrete lines (signals).

The FDR-300 operates autonomously and 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. Removable recording media (PCMCIA) enables immediate retrieval and analysis of the data.

The FDR's Operating System is stored in a Disk On Chip. Data is stored in a PCMCIA/PC Cards (up to 8GB).



RECORDING CAPACITY

Recording time may vary depending on actual data sample rates. 8GB disk can store data from 2 MIL-STD-1553 buses (20% bus load) for at least 25 flight hours. Exact calculations can be made based on an exact specification

I/O

- ◆ 8 x open collector 5-36VDC (ULN)
- ◆ 4 A/D 10KHz per channel.
- ◆ 4 x Opto isolated x 28Vdc inputs
- ◆ 4 x TTL discrete inputs
- ◆ Ethernet 10Base 2
- ◆ 4 x RS-232 or RS-422

Storage Medium

Up to 8GB solid State Flash.

Mechanical Characteristics

- ◆ Weight 2.5Kg
- ◆ 4" high x 6.4" wide x 10.5" deep (including the mounting tray).



Input Voltage

- ◆ 18-36VDC according to (MIL-STD-704A)



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Thermal Design

Cooling of the components is accomplished by natural heat convection from the surface.

Environmental Conditions

Temperature:

Complies with **MIL-STD-810E**

Operating:temperatures from -54°to +71°C

Non-operating:(Storage/transportation)
from -54°to 95°C.

Relative humidity

Complies with **MIL-STD-810E** 95%relative humidity (RH) with no condensation.

Vibration

According to MIL-STD-810E for airborne environment.

Shock

According to MIL-STD-810E,Method 516.4 procedure 1.

Electromagnetic Interference

The FDR-300 complies with MIL-STD-461C requirements and 462 test procedures.

Fungus

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

Sand and Dust

Complies with **MIL-STD-810E**.requirements.

Salt Fog:

Complies with **MIL-STD-810E** method 509.3 procedure 1.

R ELIABILITY :

10,000 hours MTBF of at 25°C .

Mean Time To Repair (MTTR)does not exceed 30 minutes.

MIL STD 1553

2 channels dual redundant (3l channels are optional).

Supports MIL-STD-1553A, B

Operates as BC,RT,&RT .(programmable)

32K x 16 per channel Dual Port RAM

Polling or Interrupt Driven Bus Controller

- Major &Minor Frames
- Programmable Intermessage Gap

Bus Monitor

- Monitor All or Selected Messages
- 16 Bit Time Tag

E THERNET F UNCTION D ESCRIPTION

10Base-2 (thin coax)

