

BES Systems Ltd.

Flight Data Recorder FDR-300

The FDR 300 is a miniature Airborne Flight Data Recorder and Mission PC computer based on Windows NT Embedded (NTE). The FDR 300 is designed for recording flight data for accurate and extensive flight debriefing. The FDR-300 wide variety of input selection such as 1553 Mux Bus data, 4 x RS-232 or RS-422 serial communication, GPS 1PPS interface as well as 4 analog inputs, combined with the user defined programming provides full flexibility for user changing need in post-flight debriefing.

The system is preprogrammed for the specific parameters that need to be monitored/recorded in flight using the supplied PCMCIA cassette or through Network connection (external Computer).

Throughout the flight the system provides real-time audio alerts based on user predefined threshold for chosen parameters.

The system has a significant growth potential for additional boards that will enhance the system capability as a stand alone unit or as part of a network through dedicated Data link communication. The FDR 300 design allows for easy to install upgrades with future building block versions (CPU ,Memory etc).

Major FDR-300 Features :

- ◆ Pentium 300MHz CPU
- ◆ 128-256MB Synchronous DRAM
- ◆ 48MB -256MB Disk on Chip



I/O

- ◆ 4 x open collector 5-36VDC (ULN)
- ◆ GPS 1 PPS sync.
- ◆ 4 x Opto isolated x 28Vdc inputs
- ◆ 4 x TTL discrete inputs
- ◆ Ethernet 10Base 2
- ◆ 4 x RS-232 or RS-422

AUDIO

- ◆ Audio for pilot's audio line.
- ◆ Level up to 40VPP into a load >20KOHM, 1KHz nominal.(Sound Blaster compatible)

Storage Medium

Up to 2GB solid State Flash.

Mechanical Characteristics

- ◆ Weight 2.5Kg
- ◆ Dimensions L=253 W=100 H=85 <mm>

Input Voltage

- ◆ 28VDC 0.6A 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

Single channel dual redundant (dual channel is 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

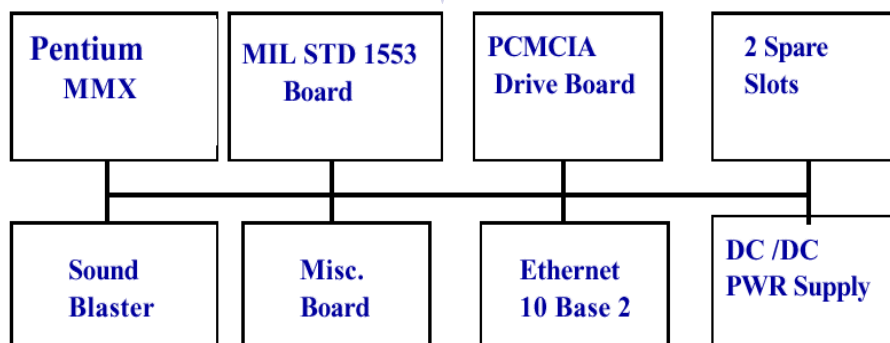
- Major &Minor Frames
- Programmable Intermessage Gap

Bus Monitor

- Monitor All or Selected Messages
- 16 Bit Time Tag

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10Base-2 (thin coax)



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