

MPFR

Multi Purpose Flight Recorder

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WRIGHT**

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Key Features

- Compact size, low weight
- Meets and exceeds EUROCAE ED-112
- EASA and FAA approved to ETSO-C123b and ETSO-C124b
- 90 day Underwater Locator Beacon
- Installation in any attitude
- Remote diagnostics capability and fast data recovery (FDR data < 1.5 min, CVR data < 2 min) using Ethernet interface direct to network or PC

Applications

- Crash Protected Recording

Overview

Current and anticipated FAA and EUROCAE requirements for crash protected recorders could be a considerable burden to your fleet and your business. A combined solution for the future also provides operational benefits today. Curtiss-Wright has developed a versatile recorder, in a compact. On-aircraft download is achieved in less than two minutes and can be networked directly to a remote operational base for remote diagnostics and fault reporting.

The MPFR has the following features:

- 90 day Ultrasonic Locator Beacon (ULB)
- Less than 7.0 lb (3.2 kg) including under water locator beacon
- Attaches directly to airframe
- Maximum 12W of power at 28 VDC
- Fast Ethernet and wireless data recovery options
- 25,000 hours MTBF

The MPFR is packaged as a compact unit ideal for the rotary wing or small/medium aircraft market. Importantly, this compact unit may be attached directly to the airframe without the need for bulky equipment racks or anti-vibration mounts, thus permitting optimum aircraft performance to be attained for lower operating costs. Based on state-of-the-art solid state memory systems, the MPFR features also include 4 channel voice recording for 120 minutes (one wide band, 3 narrow band audio channels), a rotor tachometer interface, 25 hours of flight data recording at 512 words/second and provision for HUMS data recording.

Higher FDR data rates up to 1,024 words per second are available, making MPFR ideal for general aviation or flight test recording. Information retrieval is made via a 10/100 MB Fast Ethernet interface directly to a portable transfer device or analysis PC using standard network hardware and protocols, alternatively connection may be made to transfer FDR data via an aircraft Wireless Data Link (WDL).

The MPFR exceeds the requirements of EUROCAE and FAA requirements ED-112, ETSO-C123b and ETSO-C124b, and is qualified to RTCA/DO-160F and designed in accordance with RTCA/DO-178B.

Specifications

Interfaces

Cockpit voice recorder (CVR) function

- Recording duration: 4 channels x 120 minutes
- Audio bandwidth:
 - + 150 Hz to 3.5 kHz (3 voice channels)
 - + 150 Hz to 6.0 kHz (single area microphone channel)
- Playback:
 - + Off-aircraft high-speed download of complete CVR record using Ethernet interface to portable PC or recovery device
- Fault reporting:
 - + Via discrete output or via web status pages
 - + Internal CVR/FDR synchronization
 - + 18V output power for CCU

Flight data recorder (FDR) function

- Duration: 25 hours (at 512 words/sec)
- FDAU interface: Harvard bi-phase in accordance with ARINC 573/717
- Data rates: 64, 128, 192, 256, 384, 512 and 1,024 wps
- Replay:
 - + Real-time output of recorded data using ARINC 573/717 interface
 - + On-or off-aircraft high speed downloads of complete FDR record using Ethernet interface into portable PC or recovery device
- Fault reporting: Via discrete output or via web status pages

MPFR Common to All Configurations

- Cooling: Free air convection, no forced cooling
- Connector: MIL-C-38999 Series III

Optional Equipment

- Miniature cockpit area microphone (CAM)
- Slimline cockpit control unit (single or dual recorder support), NVG option
- Mounting adapter for ARINC 757 retrofit installations
- Portable Replay Equipment (PRE)
- Recorder independent power supply

Electrical and Mechanical

- Power
 - + 28 VDC
 - + 13W max
- Mass
 - + 7.0 lb (3.2 kg) including Underwater Locator Beacon
- Dimensions (H x L x W)
 - + 3.5 x 10 x 4.6" (89 x 253 x 118 mm)
- Underwater Locator Beacon
 - + Beacon to TSO-C121b, battery and bracket included

Environmental

- Temperature
 - + Operating: -55 to 71°C
 - + Storage: -55 to 85°C
- Altitude: -1,500 ft to 55,000 ft
- Lightning protection: AC2Ø-136
- Crash protection: Exceeds ED-112, TSO-C123b, TSO C124b
- Impact: 3,400 g for 6.5 ms
- Temperature fire:
 - + High: 1,100°C for 60 minutes
 - + Low: 260°C for 10 hours
- Static crush: 2,270 kg for 5 minutes
- Penetration: 227 kg from 3 m
- Deep water immersion: 60 MPa (20,000 ft)
- MTBF: 25,000/10,000 for fixed/rotor wing
- Software level: RTCA/DO-178B Level D
- Field reprogrammable: Via Ethernet interface
- Configurable as:
 - + Flight data recorder (FDR)
 - + Cockpit voice recorder (CVR)
 - + Combined voice and flight data recorder (CVFDR)

Ordering Information

Please contact Curtiss-Wright Defense Solutions.