

# Flight Data Recorder for General Aviation

## PRODUCT INFORMATION

The Midé/PSI Flight Data Recorder (FDR) is a low-cost, lightweight, autonomous, user-friendly flight data recorder that simplifies record-keeping and instruction.

Co-developed with Payload Systems Inc. (PSI) it provides two distinct functions: an electronic Training Assistant and/or an automated Maintenance Log\*. In either configuration, the FDR unit uses a Flash Memory card to record aircraft position, altitude (GPS and pressure), 3-axis magnetic heading, 3-axis acceleration, time, temperature, cockpit acoustics and intercom (audio recording can be switched on or off, as desired). The system consists of an electronics box and a GPS antenna. Weighing less than one pound, the electronics box and all the sensors contained inside measures only 3.0" by 3.2" by 5.2".

Essentially, the Training Assistant and Maintenance Log differ only in installation and use. The Training Assistant is installed in the cockpit area so the pilot has easy access to the memory card, while the Maintenance Log is mounted in the aircraft fuselage so that it is readily accessible to the maintenance crew. Otherwise, both share the same hard-

ware and software configuration, including data security measures to protect aircraft records from accidental revision or tampering.

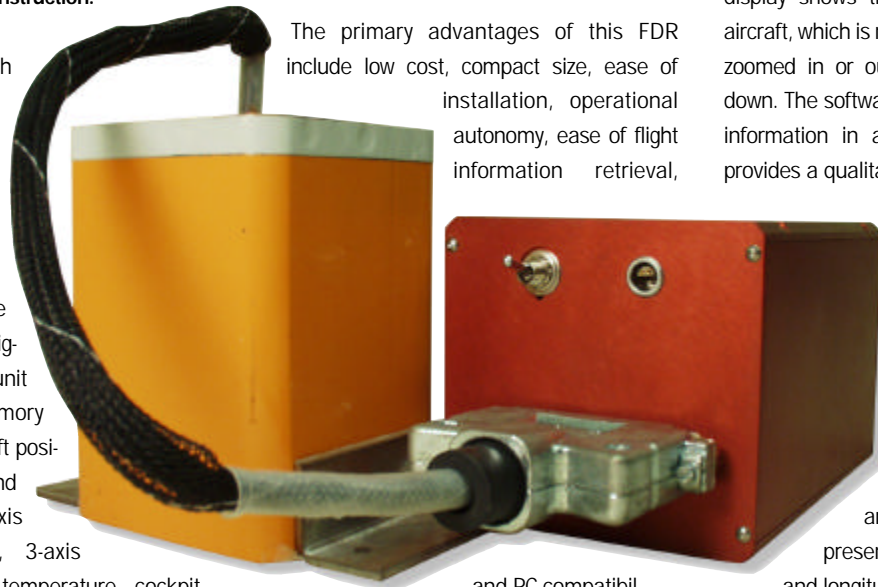
The primary advantages of this FDR include low cost, compact size, ease of installation, operational autonomy, ease of flight information retrieval, and PC-compatibility for playback and analysis. The hardware utilizes commercial off-the-shelf electronics, ruggedized for use in most GA aircraft.

The user can store any recorded flight on his/her PC for display and/or archival purposes. This offers straightforward and quick access to the data, thus simplifying maintenance scheduling, log entry and tutorial purposes. To view a recorded flight, the user simply removes the user-accessible CompactFlash card, inserts it into a CompactFlash-PCMCIA adapter, and then inserts the adapter into a standard PCMCIA slot on a PC. The included software program

extracts the recording, separates voice information from the flight data, and prepares the information for playback. The flight path display shows the relative heading of the aircraft, which is not to scale. The map can be zoomed in or out, speeded up, or slowed down. The software also displays the altitude information in a histogram format, which provides a qualitative visual indication on the rate of ascent and descent. Aircraft attitude information (i.e., roll, pitch and yaw) is post-processed by the software and displayed in the attitude gauge. Other circular gauges show altitude, airspeed and heading. The display also presents the date, time, altitude and longitude in numeric format.

The FDR was first debuted at the AOPA Expo '99, and cited in AOPA Online News. Prototype units are available for demonstration, and commercial production is in negotiation.

\* With the optional crash-survivable box attached, the unit is hardy enough to serve as a flight data recorder / cockpit voice recorder (FDR/CVR). The system's survivability design is based on a scaled version of the commercial CVR specification, EUROCAE ED-56A. It has demonstrated survivability at 260°C for at least four hours and survived at least 5,000 pounds of static crush. The system is designed to survive impact with terrain, a short duration of fuel fire (estimated up to 15 minutes), and extended immersion in seawater and other fluids, such as fuel, oil, hydraulic fluid and fire extinguishing agents.



### Midé Technology Corporation

200 Boston Ave • Suite 2500  
Medford • MA 02155 • USA  
Ph: +1 781 306 0609  
Email: [contactus@midé.com](mailto:contactus@midé.com)  
Website: [www.mide.com](http://www.mide.com)

### Company Background

Midé, active primarily in the aerospace, automotive and manufacturing industries, is known for its ability to conceptualize, design and deliver high performance systems that are tailored to the user's specific application. System components, whether custom designed or sourced from suppliers, are integrated through Midé's extensive suite of expertise in the fields of electronics, actuation, sensing, control, system design & integration.