

Military Aircraft Accident Data Recorder Systems



Solid-State Flight Data Recorder

Accident Data Recorders (ADR), also known as Flight Data Recorders (FDR), is fitted to many military aircraft and often provides the only evidence available to determine the probable cause of an incident or accident.

QinetiQ has the facilities and the expertise to successfully recover and present aircraft and audio information recorded on ADRs to Service Inquiry teams, defence contractors and other appropriate bodies. We have access to sophisticated data analysis tools and can provide expert advice on the assessment of aircraft behaviour during an incident or accident. In addition QinetiQ ***routinely checks the serviceability of ADR systems fitted to many military aircraft types*** and also provides advice on related asset and obsolescence management.



Damaged System Monitoring Equipment

Facility Capabilities

For over 20 years QinetiQ and its predecessor organisations have successfully recovered and processed information from more than **200** military incidents and accidents. This service is provided to the UK Armed Forces, the UK Ministry of Defence and other Armed Forces worldwide. QinetiQ's ADR processing capabilities are based on specialist data recovery systems and equipment supported by a small group of very experienced staff. In this context one of QinetiQ's key capabilities is the recovery of recorded information from severely damaged recorders, including mission video recorders and other devices containing data.



Damaged Video Recorder Equipment

The data is normally presented as traces or tabulations of numerical values but if required they can be used to drive our proprietary visualisation system known as the Graphical Data Analysis System (GDAS). Aircraft specialists also using GDAS **can** carry out *independent* detailed analysis of the data recordings. QinetiQ also has considerable knowledge and experience of military ADR systems and routinely provides advice to the RAF, MOD and Defence Contractors. Full operational support is also provided to maintain a large inventory of Penny & Giles Multipurpose Flight Recorder (MPFR) equipment, which is fitted to aircraft operated by QinetiQ

Graphical Data Analysis System – (GDAS)

GDAS is an advanced interactive data analysis system that allows the user to view, analyse, derive, manipulate and present all common forms of engineering data in a variety of 2D and 3D visual formats. The user-friendly and intuitive nature of the software speeds data analysis and also allows a multitude of 'what if' scenarios to be evaluated in the minimum of time. The layouts can be developed quickly and easily, saved or edited for re-use, and linked with other sources of information such as in-flight video and audio recordings, ground based radar head recordings, wreckage survey information and witness material. For the experienced user, a suite of software interfaces combined with the full power of a high level language is also available. Report quality presentations can be produced as part of the analysis process, saving valuable time during report preparation.



GDAS 2D/3D visualisation offers easy assimilation by linking together and presenting in a single view different data sources.

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